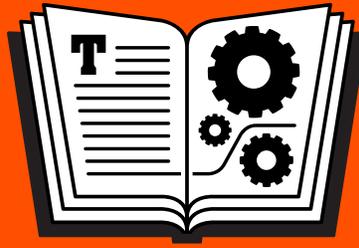


EBOOK EXTRAS: v1.1
Downloads, Updates, Feedback



TAKE CONTROL OF

iOS 11

by JOSH CENTERS

\$15

Table of Contents

Read Me First	4
Introduction	7
What's New in iOS 11	8
Explore the Lock Screen	30
Take Control of Control Center	40
Hone the Home Screen	51
Search with Spotlight	58
Switch Apps on the iPhone	62
Speak to Siri	65
Command Keyboards	71
Use Share Sheets	79
An Introduction to iCloud	85
There's an App (Store) for That	92
All in the Family Sharing	95
Special iPad Features	100
Capture Camera Basics	112
Get to Know Photos	120
Master Messages	130
Make Calls	145
Go on Safari	149
Find Yourself, Your Stuff, and Your Friends	153
Organize Your Wallet	161

Control Your Home	165
Additional Apple Apps	174
Guard Your Privacy	179
iOS Accessibility	186
Manage Data Usage	192
Improve Battery Life	195
About This Book	201
Copyright and Fine Print	204

Read Me First

Welcome to *Take Control of iOS 11*, version 1.1, published in September 2017 by alt concepts inc. This book was written by Josh Centers and edited by Joe Kissell.

If you want to share this ebook with a friend, we ask that you do so as you would with a physical book: “lend” it for a quick look, but ask your friend to buy a copy for careful reading or reference. Discounted [classroom and Mac user group copies](#) are available.

This book explains the new features in iOS 11, helps you pick the optimal settings for your needs, and describes a handpicked selection of interesting and important features from prior versions of iOS.

Copyright © 2017, Josh Centers. All rights reserved.

Stop! Attention! Achtung!

Before you update to iOS 11: Be aware that it does not support 32-bit apps. Developers have received plenty of warning, so most apps have been updated, but older apps may be locked out. To see a list of apps that will not work in iOS 11, look at Settings > General > About > Applications in iOS 10. If you see any apps on that list, be sure to get the latest update from the App Store. If there aren't any, hold off on installing iOS 11 until you've migrated away from those apps.

Updates and More

You can access extras related to this ebook on the web (use the link in [Ebook Extras](#), near the end; it's available only to purchasers). On the ebook's Take Control Extras page, you can:

- Download any available new version of the ebook for free, or buy any subsequent edition at a discount.

- Download various formats, including PDF, EPUB, and Mobipocket. (Learn about reading on mobile devices on our [Device Advice](#) page.)
- Read the ebook’s blog. You may find new tips or information, links to author interviews, and update plans for the ebook.

If you bought this ebook from the Take Control website, it has been added to your account, where you can download it in other formats and access any future updates. However, if you bought this ebook elsewhere, you can add it to your account manually; see [Ebook Extras](#).

Basics

You can find basic instructions for checking what iOS version your device is running and for updating iOS in [What iOS Version Am I On?](#), part of the *Read Me First* book by Tonya Engst.

Touch and Hold vs. Press

Throughout this book, I use the terms *touch and hold* and *press*.

Here’s what they mean:

- **Touch and hold:** Lightly place your finger on the screen and hold it there for a few moments.
- **Press:** Press firmly on the screen (for iOS devices equipped with 3D Touch) *or* touch and hold (for devices without 3D Touch). I use the same term in both cases because the gestures are usually interchangeable. I note the places in which they are not.

There are situations in which pressing firmly (on devices equipped with 3D Touch) does something different than a touch-and-hold. Indeed, 3D Touch recognizes two levels of firm pressure—you can apply moderate pressure to preview something (a “peek”) and stronger pressure to open it all the way (a “pop”). When I need to make that distinction, I say *press firmly*.

What's New in Version 1.1

This edition has been revised to reflect the official release of iOS 11 on September 19, 2017. Here's an overview of the major changes:

- I list a handful of new features in [What's New in iOS 11](#): HDR movies on 2017 iPad Pro models, buying ringtones in iOS, and the necessity to enter a passcode before trusting a computer to sync with your iOS device.
- I discuss the upcoming [iPhone X](#), which will behave very differently from previous iPhones.
- Under [Learn Spotlight Features](#), I refer to the new Knowledge feature with its official name, Siri Knowledge.
- Apple has [officially confirmed](#) that person-to-person Apple Pay (see [Messages](#)) will not arrive with iOS 11.0, but will instead be added in an update to iOS 11 scheduled for later this year.

Introduction

At a glance, iOS 11 may not seem much different than iOS 10, but there are major changes afoot.

Two things might throw you for a loop: Control Center has been redesigned from the ground up to cram a new array of customizable controls into a single page, and Notification Center has been done away with, having been merged with the Lock screen.

The new Control Center offers a slew of new capabilities, such as screen recording, taking notes from the Lock screen, and quick access to the Apple TV remote. Don't let its strange look fool you—it's a huge improvement over the old design.

There are numerous improvements for all iOS devices, but this year the iPad is the star of the show. Apple has rethought how multitasking works in iOS 11, with a more efficient App Switcher, a Mac-like Dock, and improved Slide Over and Split Screen views.

Additionally, iOS 11 offers new markup capabilities for email attachments, PDFs, screenshots, webpages, and more. These features, marketed as Instant Markup, are highlighted on the iPad, but work on all iOS devices. But if you have an iPad Pro paired with an Apple Pencil, they work all the better.

For years, Apple fought Finder-like access to the filesystem on iOS. It finally relented somewhat with iOS 8 and the iCloud Drive app, but in iOS 11, Apple has replaced it with the Files app, which offers access to not only files stored in iCloud, but locally stored files as well, if the app that created the file supports it.

iOS 11 offers niceties for every iOS device, but it pushes the iPad one step closer to being a peer to the Mac.

This is a preliminary release of the book, prior to iOS 11's official launch. After it's released to all iOS users, I'll update the book as needed.

What's New in iOS 11

iOS 11 brings big changes to how you use your iPad, but it also features numerous tweaks for all iOS devices. The Notification Center and Lock screen have merged, Control Center is customizable and more compact, and you can now directly manipulate files stored locally on your device. Let's dive in...

General

iOS 11 features a number of refinements that don't fit in any specific category:

- **No more 32-bit apps:** iOS 11 no longer supports 32-bit apps, so if you depend on older apps that haven't been updated in a while, be aware that they may not work. See [Stop! Attention! Achtung!](#) to learn how to discover incompatible apps before updating to iOS 11.
- **Aesthetic:** Many apps have new looks, including Calculator, Mail, Messages, and Wallet. Mail, Messages, and other apps now have the big, bold text look that Music and News adopted in iOS 10. Also, signal bars are back, replacing the dots.
- **Instant Markup:** Marketed as an iPad feature, Instant markup also works on the iPhone, and it lets you quickly mark up screenshots and other graphics.

When you take a screenshot in iOS 11, by pressing the Home and Sleep/Wake buttons simultaneously, it now appears as a thumbnail in the lower-left corner of the screen. Take multiple screenshots in rapid succession and those thumbnails stack. Tap the thumbnail or stack to draw on the screenshot(s) (**Figure 1**).

Instant markup is also found in Share sheets. For instance, in Safari, tap the Share  icon to bring up the Share sheet and choose Create PDF to create a PDF of the current webpage that you can draw on. See [Create PDF](#).

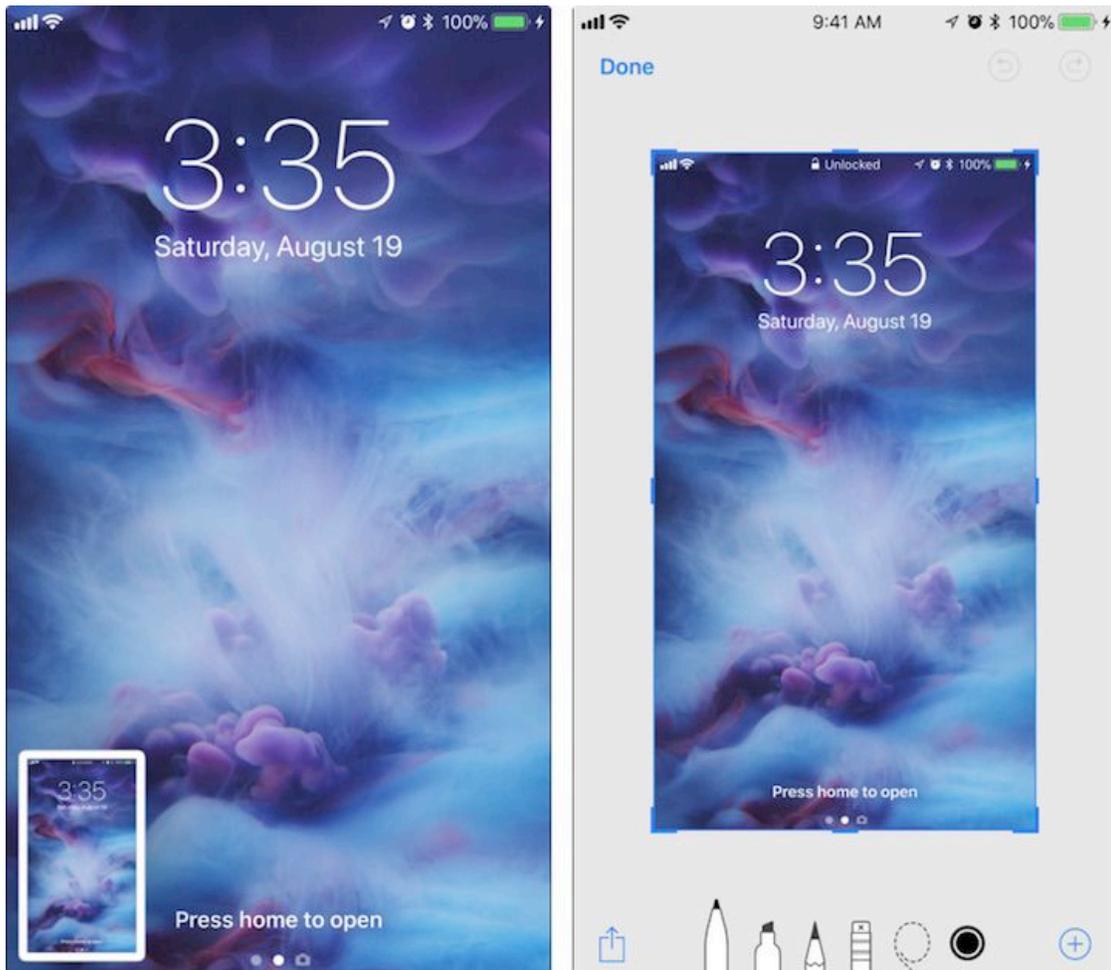


Figure 1: After you take a screenshot, it now appears as a thumbnail in the lower-left corner. Tap the thumbnail to draw on it.

- **Inline drawing:** Many apps now let you draw in them. For example, while composing a new Mail message, tap inside the message area to reveal the popover and choose Insert Drawing to draw directly in the message.
- **Quick Start:** When setting up an iOS 11 device from scratch, you can place another iOS 11 device near it to transfer many settings automatically.

During setup, when prompted, place your old iOS device near the new device. You should see a Set Up New iPhone (or iPad) prompt on the old device and a code that looks like a blue cloud on the new device, which you will scan with the old device after tapping Continue—you may need to unlock the old device first (**Figure 2**).

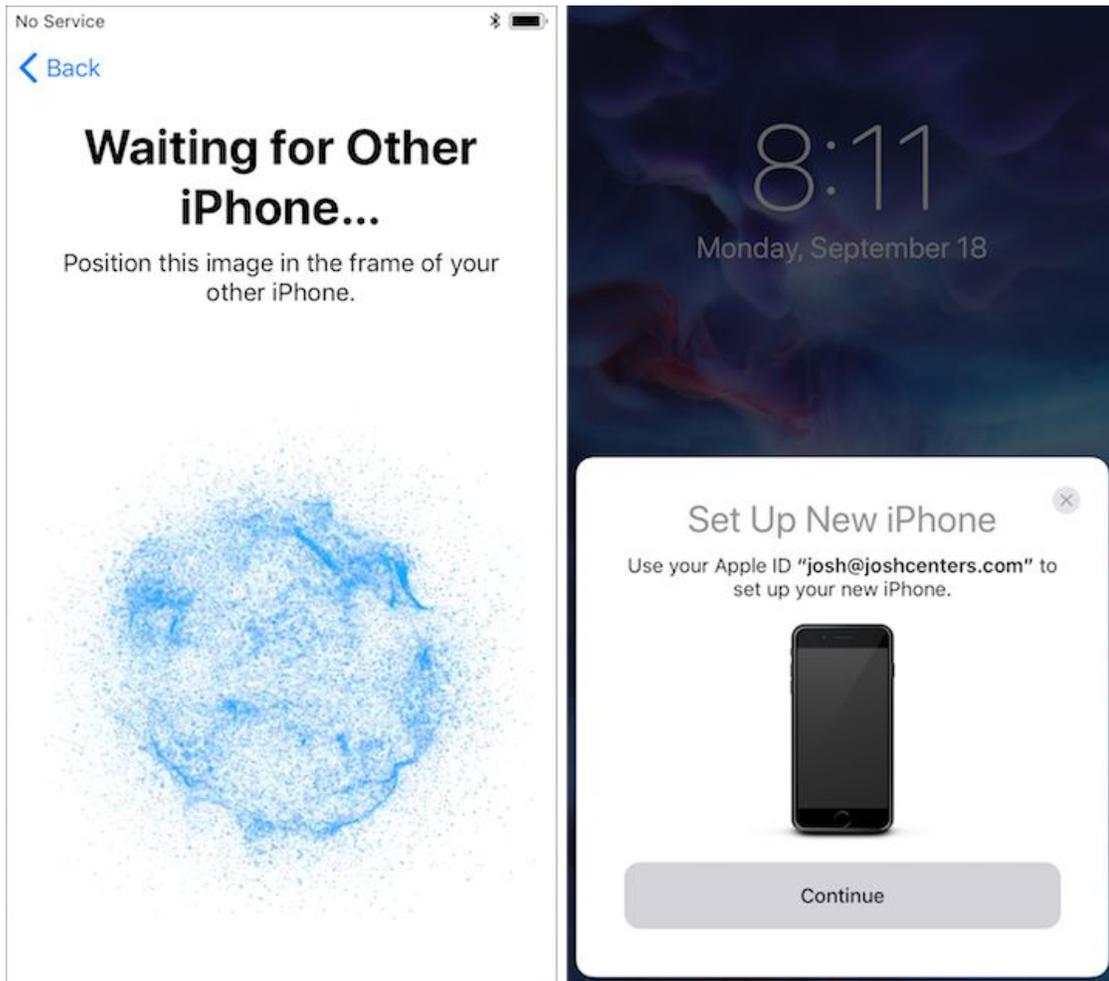


Figure 2: During Automatic Setup, you scan the visual code on the old device (the blue cloud on the left) with the old device, which establishes a link between the two devices.

When prompted on the new device, enter the passcode from the old device. Be sure to keep the old device near the new one and unlocked until you're told that Automatic Setup is complete. Quick Start transfers your Apple ID, iCloud, and Wi-Fi logins to the new device, but you'll still have to set up Touch ID manually.

- **Location:** Apple has changed the meanings of the Location Services icons in the status bar. See [Understand Privacy Settings](#).
- **Media player:** The system media player has been redesigned. Notably, the volume indicator now stays out of the way of your media when you adjust the volume (**Figure 3**).



Figure 3: The redesigned media player puts the volume control in the upper-right corner instead of plastering it all over the video.

- **Rating prompts:** Tired of annoying app review prompts? In iOS 11, developers have to use Apple’s interface, which can prompt you only three times per year, lets you rate the app without leaving it, and will never bother you again after you rate the app. It can also be turned off entirely by disabling In-App Ratings & Reviews in Settings > iTunes & App Stores.
- **3D Touch:** You can no longer access the App Switcher by pressing on the left side of the screen.
- **Emergency SOS:** In iOS 11, you can quickly call emergency services by pressing the Sleep/Wake button five times and swiping right on the SOS  icon. You can configure who you call and notify in Settings > Emergency SOS. See [Deal with Emergencies](#).

iPad

The iPad is a major focus of iOS 11, with a number of features specific to Apple’s big-screen iOS devices:

- **Dock:** The Dock has been refactored for the iPad to more closely resemble the Mac Dock. It now holds up to 15 apps, and it has a section on the right that displays Handoff and recently used apps.

The new Dock is persistent, and can be accessed from most applications by swiping up from the bottom of the screen. It also plays a key role in the iPad's new multitasking features. See [Manage the Dock](#).

- **App Switcher:** The App Switcher is now optimized for the iPad. Instead of swiping through one app at a time, the iPad App Switcher displays several apps at once, along with the redesigned Control Center (**Figure 4**). See [Multitask on the iPad](#).



Figure 4: iPad multitasking is supercharged in iOS 11 with a larger and more persistent Dock and a more efficient app switcher. On the right, you can see the new Control Center.

- **Slide Over and Split Screen:** These multitasking features have been overhauled to be more flexible. See [Multitask on the iPad](#).
- **Drag and Drop:** The iPad now lets you use drag and drop in several interesting ways. For instance, if you have, say, Safari and Notes both open in Split Screen, you can drag URLs from Safari into Notes. Also, you now add a second app to the screen by dragging it from the Dock to the right side of the screen. See [Drag and Drop](#).

- **Instant Notes:** If you have an iPad Pro and an Apple Pencil, you can place the Apple Pencil on the Lock Screen to quickly jot down a note. See [Work with Instant Notes](#).
- **Keyboard Flick:** Keys on the iPad’s onscreen keyboard now feature secondary characters that you can type by flicking down on the key instead of pressing it. For instance, you can flick down on “r” to type a 4. Note that this isn’t available on the 12.9-inch iPad Pro, since it already has a full-size keyboard. See [Keyboarding on the iPad](#).
- **Aesthetic changes:** In landscape mode, the time display on the Lock screen is centered again. Also, Lock screen widgets always display as one column, instead of two in landscape mode as they did in iOS 10.
- **HDR movies:** On 2017 iPad Pro models, HDR-enhanced movies are now available from the iTunes Store. See the TidBITS article [HDR Movies Now Available for 2017 iPad Pro Tablets](#).

To learn more about these new features, see [Special iPad Features](#).

Lock Screen

The Lock screen sees some major changes in iOS 11:

- **Goodbye, Notification Center:** The Lock screen replaces Notification Center in iOS 11. Instead, you swipe up on the main Lock screen to see previous notifications.
- **New Locking Mechanism:** So what happens when you swipe down from above the screen? Instead of pulling down Notification Center, it now takes you back to the Lock screen, though it doesn’t necessarily lock your device—Apple calls this the Cover Sheet, but it’s practically identical to the Lock screen.
- **Redesigned media player:** The Lock screen media player has been redesigned to look more widget-like.

For more on the changes to the Lock screen in iOS 11, see [Explore the Lock Screen](#).

Control Center

Control Center sees some enormous changes in iOS 11. Refer back to **Figure 4** to see how it looks:

- **Back to One Page:** In iOS 10, Apple split Control Center into two pages—three if you had HomeKit Accessories. Apple has completely redesigned Control Center in iOS 11, merging everything back into a single page.
- **Minimalist Controls:** You may find the new Control Center baffling at first. Apple has shrunk the old controls down into a set of minimalist controls, which often reveal more controls and information if you press them.
- **Customization and new toys:** Control Center can now be customized in Settings > Control Center > Customize Controls. Apple has also added a number of new widgets, including Apple TV Remote, the new Do Not Disturb while Driving, Low Power Mode, Screen Recording (finally!), and more.

See [Take Control of Control Center](#) to learn how to use it.

Home Screen

The Home screen sees a couple of small changes in iOS 11:

- **Move multiple apps at once:** Once you drag an app to move it, you can tap as many app icons as you like to move them all at the same time.
- **Dock:** The Dock no longer shows app names under the icons.

For more, see [Hone the Home Screen](#).

Files

The iCloud Drive app has been replaced by the new Files app, which not only manages your iCloud Drive files, but also files stored locally on your device and even in other cloud services. It also lets you use tags to label and sort files and folders (**Figure 5**). See [Say Hello to the Files App](#).

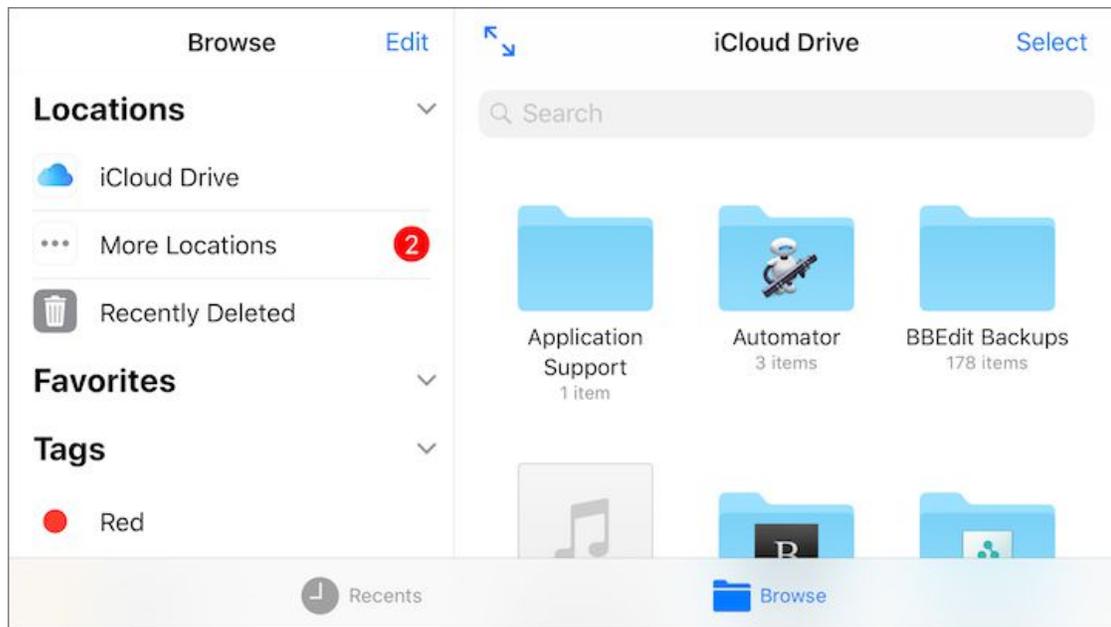


Figure 5: The new Files app can manage local files in addition to those in iCloud Drive.

Siri

Siri sees its largest changes since iOS 9, with a new look, new voices, new capabilities, and new artificial intelligence features:

- **New voices:** Apple has redone Siri's voices to sound more natural and less robotic. For example, Siri now uses different inflections while speaking.
- **Artificial Intelligence:** Siri now uses on-device learning to understand you better. Siri also works throughout iOS to help recommend things you may like. For instance, Siri may suggest Safari searches it thinks you'll be interested in, words in the Quick-Type keyboard, and relevant articles in News.

- **Translation:** You can now ask Siri something like, “How do you say ‘Welcome to Costco, we love you.’ in Spanish,” and it will speak out the translation.
- **More Results:** Siri can now offer multiple choices when responding to a query, including alternative sources.
- **Personal DJ:** If you subscribe to Apple Music, Siri will pull your music preferences from it so you can say “Play something I like” and Siri will play a song at random that it thinks you’ll like. You can also ask Siri questions about the currently playing song, like “Who’s the drummer on this song?”
- **SiriKit additions:** Developers can now create app plugins that let Siri modify lists, display QR codes, and start workouts. See [Use Third-party Apps with Siri](#).
- **One Siri to rule them all:** Siri data now optionally syncs across all the devices associated with your Apple ID, so you’re always talking to the same Siri.
- **Type to Siri:** There’s a new accessibility setting in Settings > General > Accessibility > Siri that lets you type queries to Siri instead of speaking them. Unfortunately, with this setting enabled, you can no longer speak to Siri by pressing and holding the Home button, since this only allows typing, but Hey Siri still lets you speak with Siri.
- **Disable Siri:** You can disable Siri in Settings > Accessibility by setting Press and Hold to Speak to Off.

[Speak to Siri](#) teaches you the basics of Siri and suggests commands to try.

Keyboard

Text editing gets some nice tweaks in iOS 11:

- **Text selection is fixed!** Perhaps the greatest feature of iOS 11 is that text selection works as it should. The insertion point no longer

goes bonkers while trying to select text on certain webpages. If you're just trying to select a word, sentence, or paragraph, it won't try to select the entire page or other nonsense. Finally!

- **Password autofill for apps:** Previously, iOS could store usernames and passwords, but it could fill them only in Safari and some apps. Now you can insert those login credentials from any app via the QuickType keyboard. See [Autofill Passwords](#).
- **One-handed typing:** Typing on an iPhone with one hand can be vexing, especially with the large Plus models. Touch and hold the Emoji or Globe key to reveal a popover that lets you push the keyboard to the left or right of the screen for easy one-thumb access. See [Type One-Handed](#).
- **Dictation:** If you have multiple language keyboards enabled in Settings > General > Keyboards, you can quickly switch between dictation languages. See [Dictate Text](#).
- **Number pad:** The number pad has a new look in iOS 11 (**Figure 6**).



Figure 6: The number pad has a slightly different look in iOS 11.

See [Command Keyboards](#) for tips and tricks for the onscreen keyboard.

HomeKit

Not much has changed on the surface with HomeKit, Apple's home automation framework, but there are some big changes under the hood which could drastically increase the number of supported devices:

- **AirPlay 2:** Apple is updating its AirPlay protocol and including it in the Home app, so you can use it to send audio to multiple devices at once. However, as of iOS 11.0, this doesn't seem to be fully implemented.
- **Zones:** The Home app now lets you assign rooms to zones, like Upstairs and Downstairs. For instance, you could tell Siri, "Turn off my upstairs lights."
- **Multi-person automations:** HomeKit automations can now trigger based on the locations of multiple people. So you could set up an automation that turns the lights off if both you and your partner are away from home.
- **Faster Bluetooth response:** Bluetooth HomeKit accessories will respond faster in iOS 11 once their manufacturers update their firmware.
- **Enhanced device setup:** When setting up an accessory, instead of waiting for the accessory to appear in Home, you first scan the accessory and then choose it on the screen. Device manufacturers can now also use QR codes and NFC tags for setup. Additionally, accessory setup now seems to be more reliable than it was in iOS 10.
- **Relative time offsets:** Now you can set an automation to not only trigger at sunrise or sunset, but 15-minute increments before or after. So you could turn your Good Morning scene on 30 minutes before sunrise.
- **Additional conditions:** You can now use time and people's locations as conditions for automations. For instance, you can have an automation trigger when everyone's left the house, but only after sunset. Or you can have an automation trigger at a certain time, but only if everyone's home.

- **Timers:** You can set an action to trigger for only a set amount of time, like turning your porch light on for five minutes when you get home.
- **New devices:** HomeKit now works with sprinklers and faucets. Also, device manufacturers no longer need to get Apple's approval before manufacturing a HomeKit device, so existing devices on the market could potentially gain HomeKit support. And hobbyists are now allowed to use HomeKit on their own non-commercial projects.

See [Control Your Home](#) to learn HomeKit fundamentals.

App Store

The App Store has been completely redesigned in iOS 11, with more emphasis on curated content and daily featured apps. See [There's an App \(Store\) for That](#).

Camera

The Camera app gets a few improvements in iOS 11:

- **Better photo and video compression:** In iOS 11, photos are now stored in the standard High Efficiency Image File Format (HEIF) and videos are stored in High Efficiency Video Coding (HEVC), which uses drastically less storage space.
- **New filters:** The Camera app now includes several new filters to stylize your photos.
- **QR codes:** The Camera app can now (finally) read QR codes! Just point the camera at a QR code and a notification appears with the code's contents, whether that be a contact, an email address, web address or something else. You can even join a Wi-Fi access point automatically if it has a QR code you can scan (**Figure 7**)!

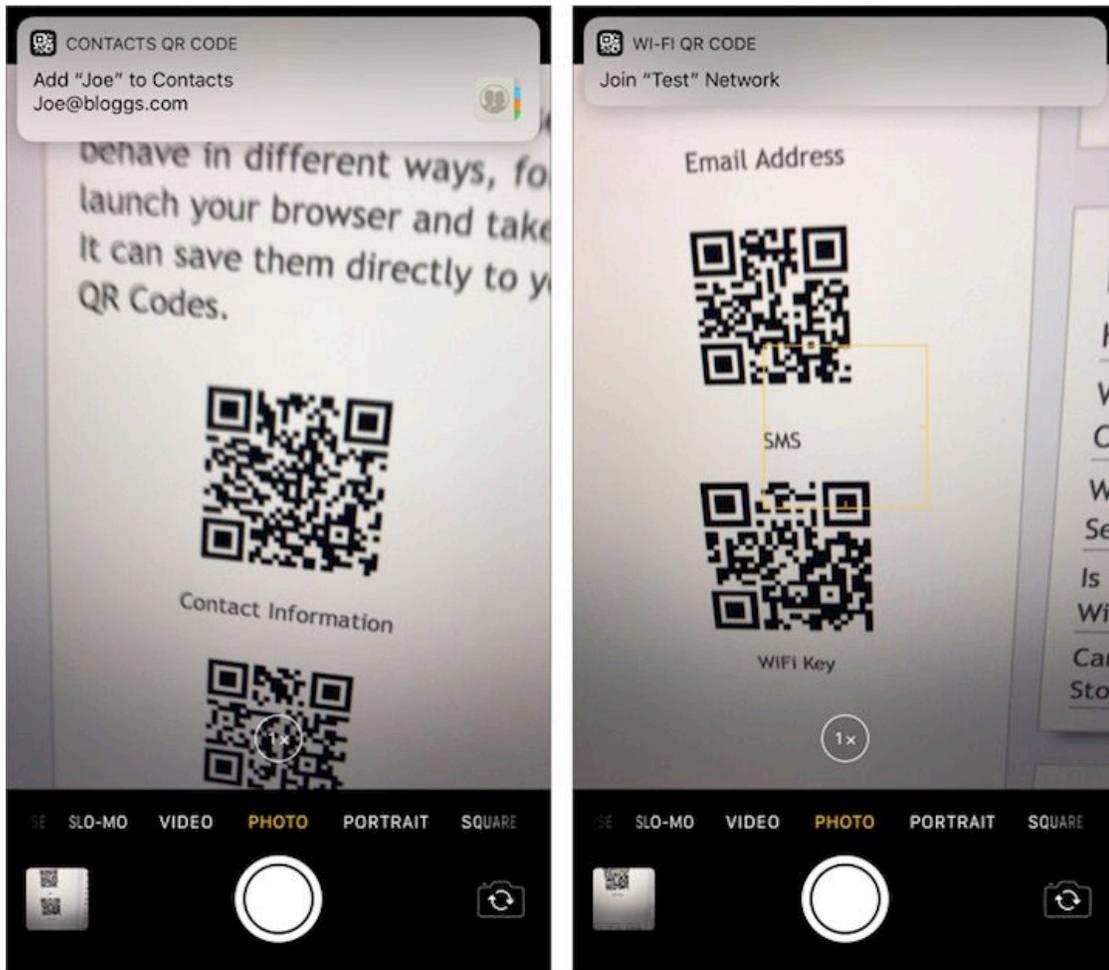


Figure 7: Camera in iOS 11 can extract contacts and Wi-Fi logins from QR codes.

- **Improved Portrait mode:** If you take photos with an iPhone 7 Plus or other device that supports Portrait mode, you'll enjoy better image quality and low-light performance, as well as optical image stabilization.

See [Capture Camera Basics](#) for more on using the Camera.

Maps

Maps in iOS 11 features a few welcome new features:

- **Indoor Maps:** Maps now features maps of selected indoor places like airports and malls (**Figure 8**).

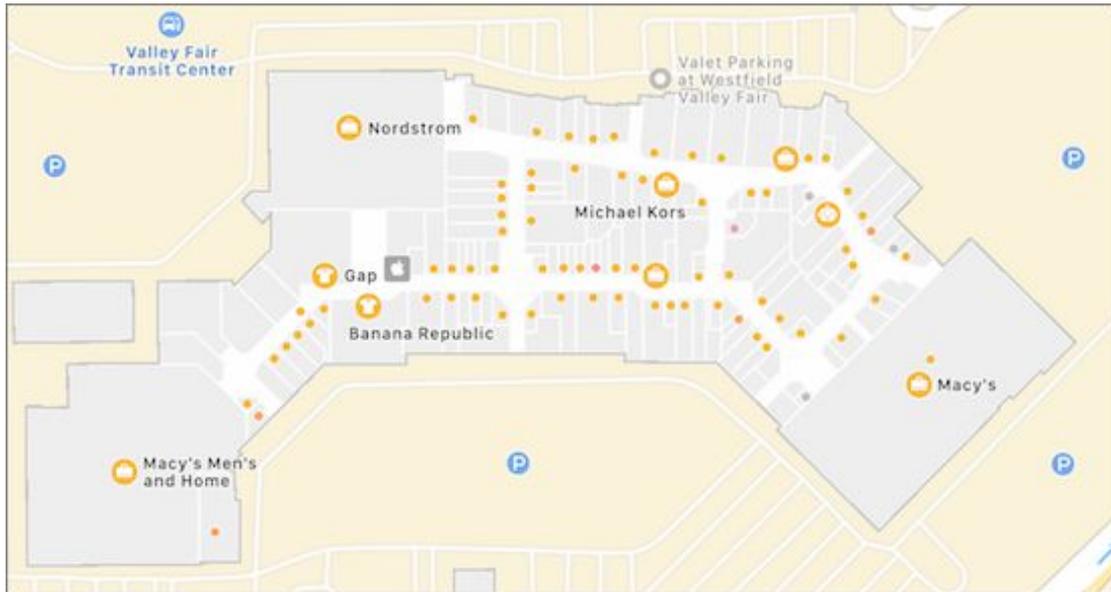


Figure 8: Westfield Valley Fair in San Jose, California is just one of many indoor areas now detailed in Maps.

- **Speed Limits:** Maps shows you the current speed limit while navigating.
- **Lane Guidance:** Maps will let you know which lane you need to be in so you don't miss your exit.
- **VR Flyover:** If you have an iOS device with an A9 or later processor, navigate to a [city that supports Flyover](#), and you can tap the new Flyover button to see a VR view of that city.

See [Find Yourself, Your Stuff, and Your Friends](#) to learn about Maps, [Find My iPhone](#), and [Find My Friends](#).

Messages

Messages sees far fewer changes than it did in iOS 10:

- **App drawer:** Remember Messages apps? iOS 11 features a re-designed app drawer so they're easier to access and less likely to be forgotten (**Figure 9**).

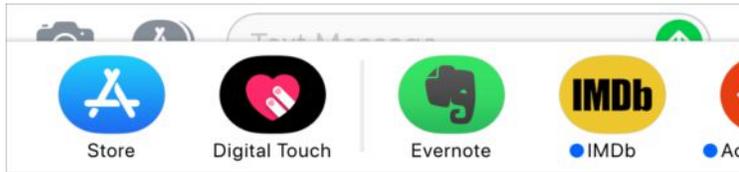


Figure 9: Apple hopes the new app drawer makes Messages apps a little less forgettable.

- **Message effects:** Messages has four new effects: Echo, Spotlight, Love, and Celebration. See [Use Screen Effects](#).
- **Person-to-person Apple Pay:** Apple has promised a new Messages app to enable person-to-person Apple Pay payments, but it's not implemented in iOS 11.0. We'll update this book in the future to discuss it.
- **Messages in iCloud:** Apple also said earlier this year that the Messages app in iOS 11 will be able to store iMessage conversations in iCloud and sync them across your devices, but this feature, too, is missing in iOS 11.0. I will update this book with information about that feature when it's available.

See [Master Messages](#) to learn the ins and outs of the Messages app.

Photos

Apple focused mainly on Live Photos and Memories for Photos in iOS 11:

- **Live Photos:** You can now edit the video portion of a Live Photo, and even change the still photo by choosing a new key frame from the video. There are also three new effects you can apply to Live Photos: Loop, Bounce, and Long Exposure. See [Work with Live Photos](#).
- **Memories:** The Memories feature has been enhanced with more selectors, so it can create collections around things like birthdays and the family dog. Also, Memories videos now look better when viewed in portrait orientation. Finally, you can now block Memories of a day or place.

- **Animated GIFs:** Photos can now play animated GIFs, and there's a new Animated smart album to help you corral them.

See [Get to Know Photos](#) to learn more about working with the Photos app.

Notes

Notes has received a lot of love from Apple in the last few iOS updates, and that continues in iOS 11:

- **Document scanner:** Notes can now use your iOS device's camera to scan a document, automatically detecting its edges and deskewing it.
- **Formatting improvements:** You can now insert simple tables, and there are now dedicated buttons to format text. You can also indent and outdent lists, and there's a new monospaced type option. Finally, you can change the background paper style to ruled or grid lines.
- **Pin notes:** You can pin a note so that it stays on top of your list of notes.
- **Instant Notes:** Not exclusive to the iPad, you can create Instant Notes on any iOS 11 devices from the Lock screen if you add Notes to Control Center. However, if you have an iPad Pro and an Apple Pencil, you can create or edit Instant Notes with a tap. See [Discover Control Center Functions](#) and [Work with Instant Notes](#).
- **Handwriting recognition:** While sketching in Notes, if you jot down some words, Notes will recognize them and include them in search results and note names (**Figure 10**). It works with printing as well as cursive, but it works better with printing.
- **New typeface:** No, your eyes aren't playing tricks—Notes has a slightly different typeface.

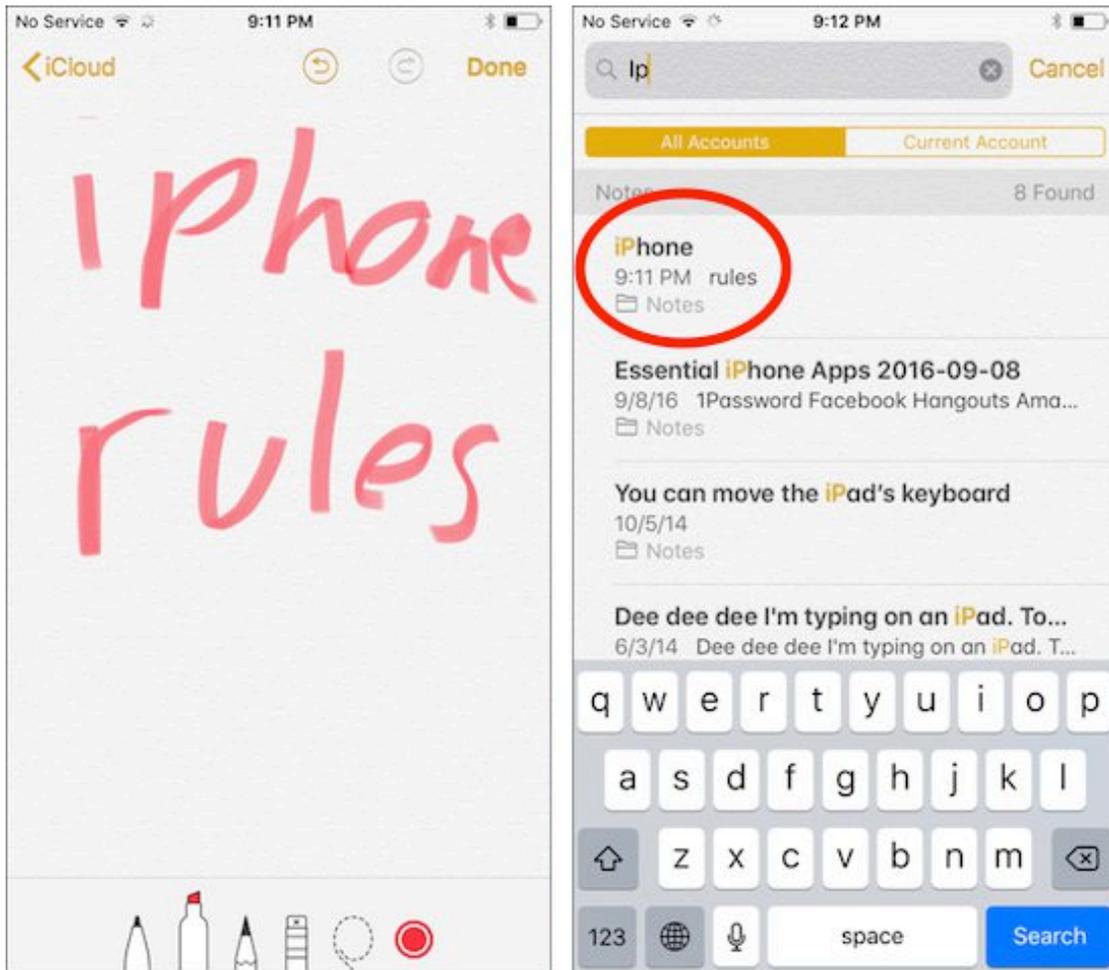


Figure 10: Text recognition in Notes is impressive—it instantly deciphers my chicken scratch.

To learn more about these new features, see [Additional Apple Apps](#).

Settings

There are a number of new settings in iOS 11:

- **Do Not Disturb while Driving:** The iPhone is great in the car, but it also distracts drivers and causes car accidents. The new Do Not Disturb while Driving feature can block text messages while you're driving, sending an automatic response explaining why you're not answering. See [Enable Do Not Disturb While Driving](#).
- **Siri settings:** The Siri and Spotlight Search Settings menus have been merged. Find them under Settings > Siri & Search.

- **Safari:** There's a new entry under Settings > Safari called Prevent Cross-Site Tracking that's on by default. I recommend leaving it on, as it prevents websites from tracking your internet journeys.
- **Shut Down:** You can now shut your iOS device down from Settings by choosing Settings > General > Shut Down.
- **Social accounts:** Special entries in Settings for Twitter, Facebook, Flickr, and Vimeo are gone. Those apps will now have to integrate with iOS like all other apps.
- **Storage Optimization:** iOS now offers a number of storage management recommendations under Settings > General > iPhone (or iPad) Storage. See [Control Device Storage](#).
- **Offload Unused Apps:** You can now set iOS to automatically Offload Unused Apps in Settings > iTunes & App Store. iOS will automatically uninstall apps that haven't been used in a while, but will retain the apps' data, so you can access them again after reinstalling them from the App Store. See [Control Device Storage](#).
- **Disable Auto-Join for Wi-Fi access points:** While viewing a Wi-Fi access point under Settings > Wi-Fi, tap the info ⓘ icon to reveal a new Auto-Join switch that you can turn off.
- **AirPods:** You can now customize the double-tap action for each individual AirPods, so double-tapping on the right AirPods can activate Siri and double-tapping on the left can pause your music. To do so, connect your AirPods to your device, go to Settings > Bluetooth, tap the info ⓘ icon next to your AirPods, and change the settings for Left and Right.
- **Background App Refresh:** You can now disable Background App Refresh while on mobile data. See [Manage Data Usage](#).
- **Accessibility:** There are new Accessibility settings to answer calls automatically and a new Smart Invert feature that doesn't invert the colors of images. See [iOS Accessibility](#).
- **Location:** All apps listed under Settings > Privacy > Location Services now offer a While Using option.

- **Share Your Wi-Fi:** If you're using an iOS 11 device and another iOS 11 device tries to connect to your Wi-Fi network, you'll receive a prompt that lets you send over the password by tapping Send Password (**Figure 11**).



Figure 11: iOS 11 makes it easy to share your Wi-Fi password with friends and family.

- **iCloud Storage:** You can now share iCloud storage with those in your Family Sharing circle. Also, the 1 TB tier has been upgraded to 2 TB for the same price. See [All in the Family Sharing](#).
- **Ringtones:** You can now buy ringtones directly from iOS, under Settings > Sounds & Haptics. For more, see the TidBITS article [iTunes 12.7 Giveth, but Mostly It Taketh Apps and Ringtones Away](#).
- **Trust:** You must now enter the passcode on the iOS device before you can "trust" a connected computer.

Other Apple Apps

Other Apple apps see small changes:

- **Clock:** You can now set timers down to the second.
- **Health:** You can now sync Health data via iCloud, and can optionally share your health data with Apple. Graphs have been redesigned. The Today and Health Data tabs have switched places.
- **Mail:** Message threads in Mail now collapse read messages by default—you can change this behavior with the Collapse Read Messages switch in Settings > Mail.
- **Music:** The Music app is more social—you can create a public profile so your friends can see what you're listening to, and you can share playlists on Apple Music. Also, there's a new API so developers can tap into Apple Music.
- **News:** The News app now uses Siri to recommend stories and sources based on your preferences. The Explore tab is gone—instead, there's a Spotlight tab for editor-curated stories and a Following tab for your favorite sources.

See [Additional Apple Apps](#).

Under the Hood

There are some behind-the-scenes changes that aren't immediately noticeable, but could lead to some powerful new apps:

- **ARKit:** Augmented Reality (AR) uses the input from a camera to overlay virtual elements on live images of the real world. ARKit is a new framework to make AR apps better and easier to create. Objects placed with ARKit can interact with real-world objects like floors and are affected by room lighting. See my TidBITS article [ARKit: Augmented Reality for More Than Gaming](#).
- **Metal 2:** Apple's 3D graphics framework has been updated, which should make apps like 3D games run better.

- **Core ML:** Machine learning is the focus of Core ML, which Apple claims will make artificial intelligence easier for developers to implement.
- **Core NFC:** For years, iOS devices have included Near Field Communications (NFC) chips, but they could be used only for Apple Pay. Now, Apple is granting developer access to these chips, so, at least in theory, you'll be able to use NFC tags to automate actions.

iPhone X

The upcoming iPhone X will abandon the Home button, and provide an almost entirely edge-to-edge display, with the notable exception of a “notch” at the top of the screen, which contains the phone’s sensor package. To each side of the “notch” are “ears” (**Figure 12**).



Figure 12: Other than the “notch” in the top-center, the iPhone X’s display spans the length and height of the device. Note the two “ears” on each side of the notch.

Here’s how the iPhone X will change how you interact with the iPhone:

- **Unlock:** The iPhone X will use [Face ID](#) in lieu of Touch ID, which uses an array of sensors to identify your face and unlock your phone.
- **Cover Sheet:** Swipe down from the left ear.
- **Control Center:** Swipe down from the right ear.

- **Return to the Home screen and multitask:** Swipe up from the bottom of the screen to return to the Home screen. Stop mid-swipe to bring up multitasking.
- **Siri:** Press and hold the Sleep/Wake button.
- **Apple Pay:** Double press the Sleep/Wake button.

Explore the Lock Screen

The Lock screen is the first thing you see when you power on or wake up your iOS device, and it contains a wealth of functionality, especially now in iOS 11, since it now takes Notification Center's place for notification management.

Dissect the Lock Screen

Let's look at each element of the Lock screen (**Figure 13**).

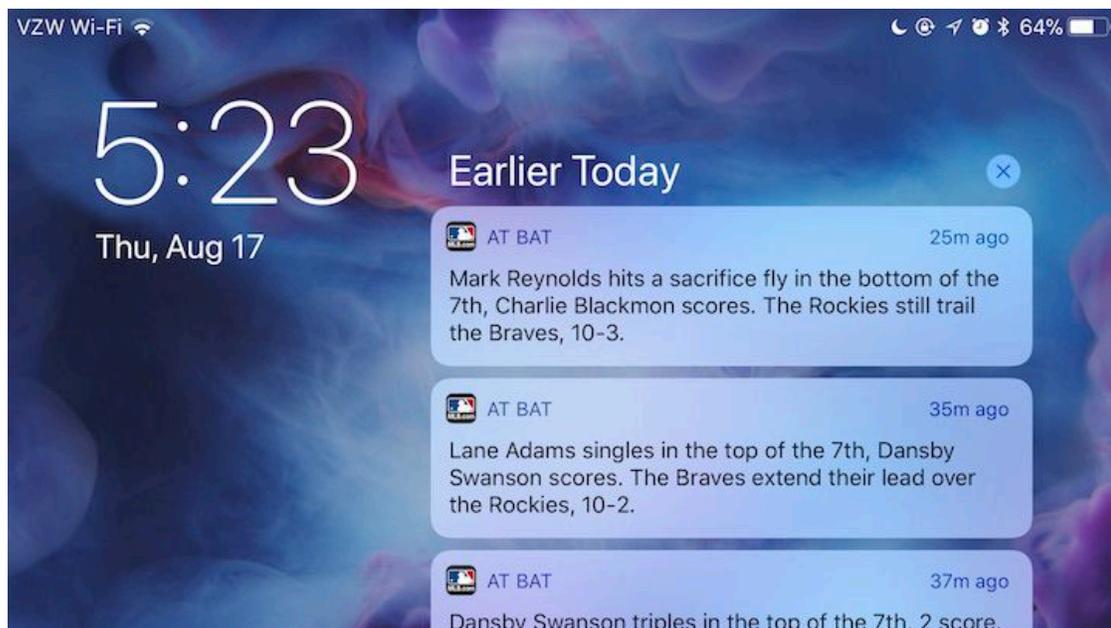


Figure 13: The Lock screen features a number of status icons.

The icons at the left of the status bar signify your device's networking status:

- **Wi-Fi:** This  icon indicates that the device has a Wi-Fi connection. More bars means a stronger connection.
- **Cellular:** If you see a carrier name, then your device has a cellular connection. More bars  next to the name means a stronger connection.

Note: If you use Wi-Fi calling, your carrier might appear with a different name, such as VZW Wi-Fi.

- **Airplane mode:** If you see an airplane  icon, the Airplane Mode switch in Settings is on and all radio-frequency connectivity is off unless you've re-enabled a radio individually.

Partial Airplane Mode

You can manually re-enable the Wi-Fi and Bluetooth radios while in Airplane mode, which is handy if you want to take advantage of in-flight Wi-Fi or use Bluetooth to communicate with a keyboard while keeping your cellular connection off.

Turn them back on by tapping their buttons in (swipe up from below the bottom of the screen). See [Networking Platter](#).

Here's a look at the most common icons that you may see at the right of the status bar:

- **Do Not Disturb:** A moon  icon indicates that Do Not Disturb mode is active—your device will not vibrate or make noise.
- **Orientation Lock:** This lock  icon means the device's screen orientation is locked in portrait or landscape view.
- **Location:** If an app is using Location Services, you see an arrow  icon here. You can find out which apps are using Location Services in Settings > Privacy > Location Services. See [Location Services Arrow Icons](#).
- **Alarm:** If you've set an alarm in the Clock app (directly or by using Siri), you see a clock  icon here.
- **Bluetooth:** If Bluetooth is enabled, your device displays the Bluetooth  icon. If a Bluetooth device is connected, the icon is white; otherwise, it is light gray.

- **Battery:** This  icon represents the remaining battery life. The fill color in the icon serves as a quick status indicator:
 - ▶ *Green:* The battery life is good.
 - ▶ *Yellow:* The iPhone is in [Use Low Power Mode](#).
 - ▶ *Red:* You should charge the device.

A lightning  icon to the right of the battery means your device is charging.

You can opt to display battery percentage as well by going to Settings > Battery and turning on the Battery Percentage switch.

- **Headphones:** A headphone  icon indicates that your device is paired with a Bluetooth audio device. If audio isn't playing through your speakers, or if Siri doesn't seem able to hear you, check for this icon!

Apple offers a [full guide to status bar icons](#).

Check Time and Date

The current time appears in big type at the center of the Lock screen with the day and date below.

If you've configured a timer with Apple's Clock app or by using Siri, the day and date is replaced by the remaining timer time. Similarly, if you have snoozed an alarm, you see the remaining snooze time here.

Lock Screen Media Controls

While the screen is locked, you may see playback controls for any media that is playing (**Figure 14**). If you're unfamiliar with these controls, see the section on Control Center's [Media platter](#).



Figure 14: You can control iOS media playback even when the screen is locked!

These controls make it easy to pause playback or change the volume without having to unlock the device.

Lock and Unlock Your Device

Unlock the device with the Home button, followed by either your PIN or Touch ID.

Pay attention to the lock  icon at the top of the screen—your device briefly displays “Unlocked” there after a successful Touch ID scan (set your finger on the Home button, but don’t press in), after which you can press the Home button to leave the Lock screen and go to the Home screen.

To lock your device again, press the Sleep/Wake button. Otherwise, your device locks automatically after the amount of time chosen in Settings > Display & Brightness > Auto-Lock.

To access the Lock screen without locking your device, swipe down from above the top of the screen. Apple calls this the Cover Sheet, but it’s practically identical to the Lock screen. The only key difference is that you can dismiss it by swiping up from below the bottom of the screen.

Deal with Emergencies

If a passcode is set on an iPhone, you can't access most of the iPhone's functions without entering the passcode (or using Touch ID). However, entering a passcode correctly in an emergency, whether on your iPhone or someone else's, could waste precious time.

Luckily, you don't have to: press the Home button and then on the Enter Passcode screen, tap Emergency in the lower-left corner to reveal a dial pad.

You can now call your local emergency services number, but no one else. So, in the United States, you can dial 911, but not Yankee Stadium.

But what if you're indisposed or unconscious? Your iPhone can still come to the rescue! If you set up a Medical ID in the Health app, you or a medical responder can tap Medical ID in the Emergency call screen to reveal vital info.

However, iOS 11 offers an even faster way to do these things: press the Sleep/Wake button five times in quick succession, and then swipe the  icon to the right. That does three things:

- ✦ Calls emergency services
- ✦ Sends messages to your emergency contacts with your location
- ✦ Displays your Medical ID on the screen

Also note that pressing Sleep/Wake five times to bring up the SOS  icon temporarily disables Touch ID. That's good to know if someone ever tries to compel you to unlock your device.

iOS offers several ways to get help in an emergency. Knowing how to access them could save your life.

Manage Lock Screen Notifications

Notifications give you snippets of key status information. While your device is locked, notifications gather on the Lock screen, in the order they are received.

To act upon or remove a notification from the Lock screen, do one of the following:

- Tap the notification to open it in its associated app. For example, tap a Mail notification to open that message in Mail.
- On an iPhone with 3D Touch or an iPad, press on a notification to bring up additional options. To return to the Mail example, you can archive a message or mark it as read (**Figure 15**). On an iPhone with 3D Touch, apply even more pressure to open the item in its associated app.

To dismiss an individual notification, press it to bring up additional options, and then either tap the X  icon or swipe down on the notification.

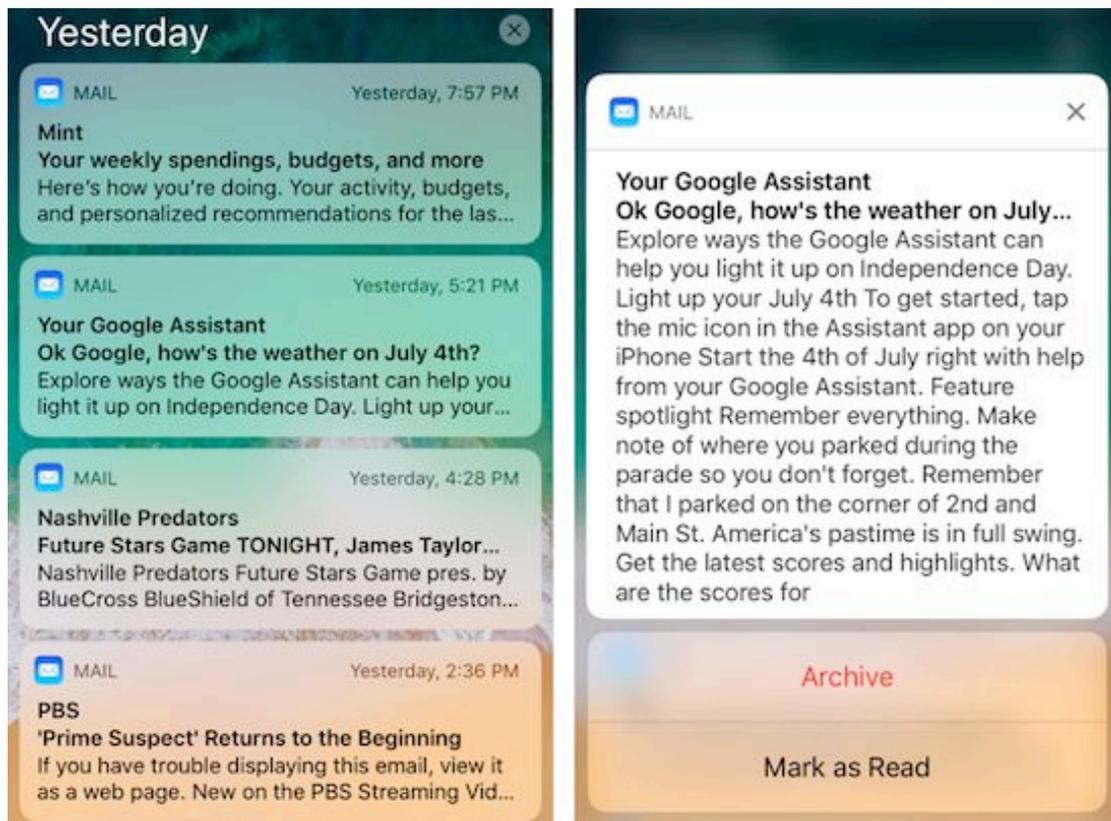


Figure 15: Press a junk mail notification and tap Archive to make quick work of it.

- Right-swipe the notification to reveal Open, which you can tap to open the notification in its app—or keep swiping to the right to open the app automatically.

- Left-swipe the notification to reveal View and Clear (**Figure 16**). View shows the full notification. Keep swiping left on a notification to dismiss it.

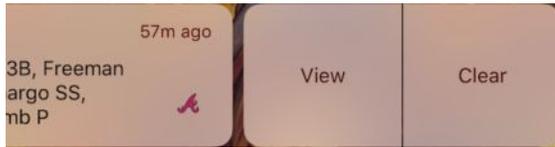


Figure 16: While iOS 11 opens up pressing notifications to iPads, you can still swipe on them to perform various actions.

In iOS 11, you can view all your previous notifications from the Lock screen. To do so, swipe up on the Lock screen. Swipe up and down to scroll through notifications. By default, notifications are grouped according to date.

While viewing past notifications, tap the X  icon adjacent to a group of notifications to clear that group. If you have a 3D Touch device, you can firmly press that X  icon to reveal an option to clear all notifications.

Protect Your Notifications

By default, the Lock screen displays previews of received communications such as text messages and email messages. This could be embarrassing or even a security risk. To prevent such previews, go to Settings > Notifications and set Show Previews to When Unlocked or Never.

You can also choose an individual app from Settings > Notifications to set Show Previews for only that app. Also from that screen, you can turn off Show in History to prevent that app's past notifications from sticking around on the Lock screen.

Access Control Center

Control Center offers quick access to common iOS settings and functions. Access it by swiping up from below the screen—unless you've disabled Lock screen access, as discussed in [Secure the Lock Screen](#), ahead.

Tip: Confused by the new Control Center? See [Take Control of Control Center](#).

Open Camera from the Lock Screen

You can access the Camera app from the Lock screen quickly by swiping from right to left.

While using the Camera app from the Lock screen, you can see previews of pictures you've taken during the current session by tapping the Photo and Video Viewer button. (It looks like a preview of the most recent photo—**Figure 17**.) However, to view any other image in your photo library, you must unlock the device.

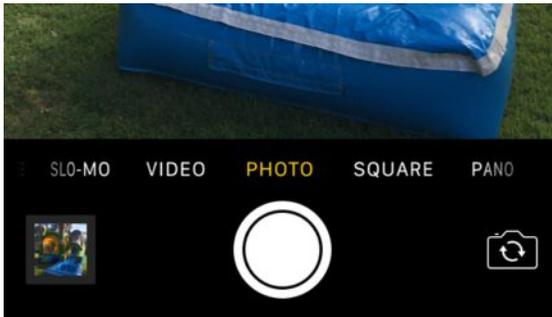


Figure 17: The Photo and Video Viewer button, in the lower-left corner, previews the most recent photo.

Wrangle Widgets

Widgets reside to the left of the main Lock screen, as well as the first Home screen—see [Hone the Home Screen](#). To access widgets from either of these screens, swipe from left to right.

Add a Widget

It's easy to add a widget:

1. On the Widgets screen, scroll to the bottom and tap Edit.
2. Scan your finger with Touch ID or enter your PIN if prompted.

3. Scroll to the bottom of the screen to see the More Widgets list and find the widget you want to add.

4. Tap that widget's green add  button.

The widget's entry moves into the top portion of the list.

5. If you like, adjust the widget's position by dragging the grab handle  at the right of its entry. Drag the handle up or down.

6. At the upper-right corner, tap Done.

Delete a Widget

Removing a widget is equally easy:

1. On the Widgets screen, scroll to the bottom and tap Edit.

2. Tap the widget's red delete  button. Tap Remove.

3. At the upper-right corner, tap Done.

Talk to Siri

While the device is locked, you can talk to and use Siri as usual, but if a passcode is set, there are a few limitations. For example, you can still ask Siri for the time or instruct Siri to call your significant other, but you can't have Siri read your new email messages or open apps without unlocking the device.

Make Payments from the Lock Screen

To bring up Apple Pay on supported devices, double-press the Home button on the Lock screen. To disable this feature, tap Settings > Wallet & Apple Pay > and turn off the switch for Double-Click Home Button. Even with this switch disabled, you can still use Apple Pay by placing your phone near a compatible NFC terminal. See [Organize Your Wallet](#).

Secure the Lock Screen

Unless you set a passcode, anyone with physical access to your device can unlock the Lock screen and have complete access to your device. Set up a passcode by going to Settings > Touch ID & Passcode (or just Settings > Passcode if your device doesn't support Touch ID and tapping Turn Passcode On).

Even with a passcode set, the Lock screen provides access to some settings and personal information. You can reduce, or prevent, this access with switches in Settings > Touch ID & Passcode. For example, you can turn off access to Control Center, Recent Notifications, and Siri (as I write this, the switch for disabling the Widgets screen is *still* called Today View, a holdover from iOS 9).

Take Control of Control Center

Control Center is a handy way to access common controls. To open Control Center, swipe up from beneath the bottom of the screen. In iOS 11, Control Center has been redesigned, compressed back into a single page, and made to be customizable (**Figure 18**).



Figure 18: Control Center gives you quick access to network settings, brightness, audio controls, and more, including the iPhone's flashlight. To see more options, press a control.

Use and Customize Control Center

Control Center is now composed of three types of controls: buttons, sliders, and platters—which are groups of buttons. Many Control Center controls can be pressed to reveal a panel with more functions.

It's possible to add more controls to Control Center than can fit on the screen at once. Swipe up or down to scroll through them, or better yet, remove the ones you don't need.

To customize Control Center, visit Settings > Control Center > Customize. It works just like [Add a Widget](#) and [Delete a Widget](#):

- Tap the green add  button to add a control.
- Tap the red delete  button, and then tap Delete to remove a control.
- Drag the grab handle  up or down to reposition the control.

However, there are seven controls you cannot remove or reposition: the networking platter, media platter, Orientation Lock, Do Not Disturb, Screen Mirroring, Brightness, and Volume.

Discover Control Center Functions

If you're an iOS veteran, many of the controls will be instantly familiar, but some are all-new. Here's what each one of them does.

Networking Platter

The networking platter (**Figure 19, A**) lets you quickly turn various networking features of your device on and off. In the main Control Center view, it displays four controls:

- **Airplane Mode:** Tap the Airplane Mode  button to disable all wireless connections: cellular, Wi-Fi, Bluetooth, and GPS. An airplane  icon appears at the upper-left corner of the screen, in the status bar, when Airplane mode is on.

Note: Once you turn on Airplane mode, you can re-enable Wi-Fi and/or Bluetooth, so an airplane icon in your status bar does not necessarily mean all connections are disabled.

Use Airplane mode to comply with airline regulations or to reduce battery usage.



Figure 19: Here are the controls in the top of the Control Center: networking platter (A), media platter (B), Orientation Lock (C), Do Not Disturb (D), Brightness (E), Volume (F), and Screen Mirroring (G).

- **Cellular Data:** Tap the Cellular Data  button to disable *all* cellular connectivity, including voice.
- **Wi-Fi:** Tap the Wi-Fi  button to turn Wi-Fi connectivity off or on.
- **Bluetooth:** Tap the Bluetooth  button to enable or disable it. If you're not using Bluetooth, leave it off to save battery.

Press the networking platter to see two additional controls:

- **AirDrop:** Tap the AirDrop  button to choose who you can receive AirDrop content from: no one, only your contacts, or everyone. Contacts Only is a safe choice, because you can receive AirDrop content from people you know, but won't get nefarious stuff from strangers.

About Continuity and AirDrop

[Continuity](#) describes a set of features that allow different Apple devices to work together seamlessly. These include Handoff, call and text message forwarding, Instant Hotspot, and AirDrop.

AirDrop allows you to transfer files or bits of data between Apple devices. For example, you could AirDrop a photo from your iPhone to your Mac.

To start an AirDrop transfer, use a Share sheet (see [Use Share Sheets](#)). For the transfer to go through, the recipient should work in Control Center to make their device discoverable for AirDrop transfer.

To AirDrop between iOS devices, both devices must be at least a 4th-generation iPad, iPad mini, iPad Pro, iPhone 5, or 5th-generation iPod touch. These iOS devices can also send and receive via AirDrop to a Mac, so long as the Mac is a 2012 or newer model (other than the Mac Pro, which must be a Late 2013 or newer model).

Handoff, Instant Hotspot, and iOS-Mac AirDrop all rely on Bluetooth 4.0 networking to facilitate certain aspects of communication between devices. (Supporting Bluetooth 4.0 is necessary but not sufficient.)

Relaying calls and text messages from an iPhone to a Mac or other iOS device requires only that the devices be running at least iOS 8.1 or 10.10 Yosemite.

See [Learn About Handoff](#), [Text Message Forwarding](#), and [Call with Wi-Fi](#).

- **Personal Hotspot:** If your iOS device has cellular data connectivity, tap this  button to share that connection over Wi-Fi if your carrier supports this feature. Your other devices will be able to connect to your iOS device just like any other Wi-Fi access point. Devices signed in to your iCloud account will be able to connect without a password. Other devices will need to enter the password, which you can find on your Personal Hotspot device in Settings > Personal Hotspot.

Warning! If your cellular data plan has a cap, you could blow through it quickly using Personal Hotspot! See [Manage Data Usage](#) for more tips on avoiding throttling and overage charges.

Media platter

The media platter (**Figure 19, B**) lets you control background audio, such as music and podcasts. The platter shows the following:

- **Track information:** For music, the platter shows the song and artist. When playing a podcast, it shows the episode title and the show name.
- **Skip buttons:** When playing music, these display as previous  and next track  buttons. If a podcast is playing, they appear as 15-second skip   buttons, which are handy for catching a line you missed or bypassing ads. Other apps may present different icons here.
- **Play/Pause:** These buttons  simply play or pause the audio.
- **Output:** Tap the Output  icon in the upper-right corner to choose an audio or AirPlay video output. Note that after pressing the media platter, that icon changes to this , but it does the same thing.

Pressing the platter reveals two more controls:

- **Scrubber:** This shows how far you are into an audio track and the total duration. Drag the white knob to change the playback position.
- **Volume:** Drag the white knob to adjust the playback volume.

Other Control Center Functions

- **Orientation Lock:** Tap Orientation Lock (**Figure 19, C**) to lock the screen's orientation and prevent it from rotating.

On older iPads with a physical side switch, if you set the side switch to Lock Rotation in Settings > General, the Orientation Lock button in Control Center becomes a Mute button (**Figure 20**). Tap it to

mute audio from alerts, notifications, and sound effects. Media playback will not be muted.



Figure 20: If your iPad has a physical side switch and it's set to Lock Rotation, the Orientation Lock button in Control Center becomes a Mute button (left).

- **Do Not Disturb:** Useful while you are at a performance or asleep, Do Not Disturb (**Figure 19, D**) can be enabled to prevent notification alerts, FaceTime calls, and phone calls from disturbing you with noise, vibration, or your screen's backlight. Timers or alarms set in the Clock app will override Do Not Disturb.

To allow repeated calls or key people (see [Additional Apple Apps](#)) to override Do Not Disturb, visit Settings > Do Not Disturb. There, you can also set Do Not Disturb to operate on a schedule, in order to avoid unnecessary early morning wake-ups.

- **Screen Mirroring:** Unlike most of Control Center's controls, tapping Screen Mirroring (**Figure 19, G**) does nothing, but if you press it, you can select an Apple TV to mirror your device's screen to. To stop mirroring, press Screen Mirroring again and tap Stop Mirroring.

Note: For more about AirPlay, read [Take Control of Apple TV](#).

- **Brightness:** Adjust the slider to a comfortable level (**Figure 19, E**). You can also automatically keep the brightness at an appropriate level: visit Settings > General > Accessibility > Display Accommodations to access the Auto-Brightness switch.

Press the brightness slider to reveal the Night Shift  button. **Night Shift** warms the colors of your display to make it easier to sleep. Tap the button once to either schedule Night Shift or manually turn it on until 7 AM. Tap it again to turn Night Shift off.

On True Tone-equipped iPad Pro models, the brightness slider also reveals a True Tone  button. True Tone adjusts the display to maintain consistent color presentation in different lighting situations.

- **Volume:** Adjust the system volume to a comfortable level. Press the slider to see a full-screen volume control (**Figure 19, F**).

Note: The following controls can be added, removed, or repositioned in Settings > Control Center > Customize.

- **Accessibility Shortcuts:** Press Accessibility Shortcuts to quickly access Accessibility features (**Figure 21, H**). You can choose what appears here in Settings > General > Accessibility > Accessibility Shortcuts.



Figure 21: Here are some optional Control Center controls: Accessibility Shortcuts (**H**), Alarm (**I**), Apple TV Remote (**J**), Calculator (**K**), Camera (**L**), Do Not Disturb While Driving (**M**), Flashlight (**N**), Guided Access (**O**), Home (**P**), Low Power Mode (**Q**), Magnifier (**R**), and Notes (**S**).

- **Alarm:** Tap Alarm to open the Clock app to the Alarm tab (**Figure 21, I**).
- **Apple TV Remote:** Press Apple TV Remote to reveal a virtual Siri Remote that you can use to control your fourth-generation Apple TV (**Figure 21, J**). You can select which device you control at the top of the screen (**Figure 22**).

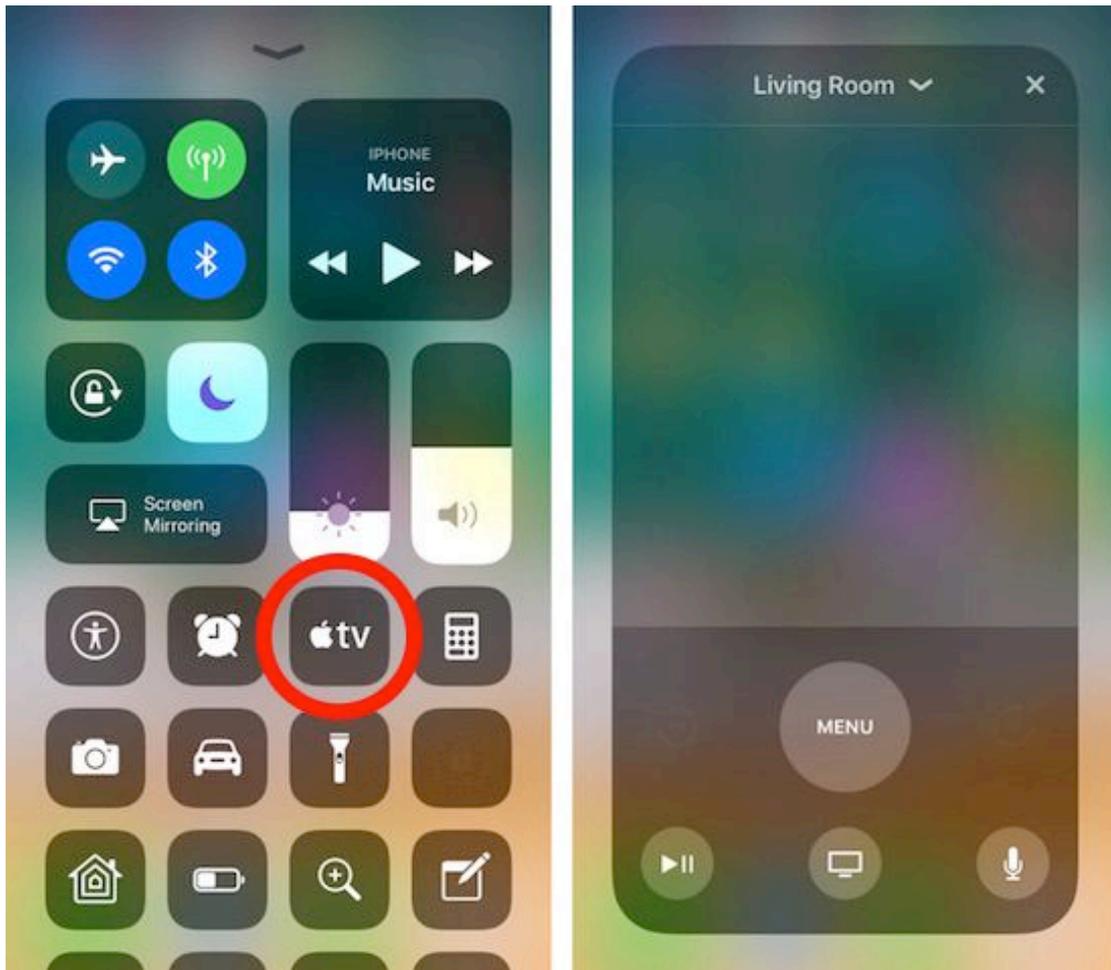


Figure 22: You can finally control your Apple TV from Control Center!

- **Calculator:** Tap Calculator to open the Calculator app. Press it to reveal an option to copy the last Calculator result (**Figure 21, K**). (*Not available on iPad.*)
- **Camera:** Tap Camera to open the Camera app (**Figure 21, L**). Press it to reveal Take Selfie, Record Video, Record Slo-Mo, and Take Photo (or Take Portrait on the iPhone 7 Plus). See [Pick a Camera Mode](#).
- **Do Not Disturb While Driving:** Tap Do Not Disturb While Driving Mode to enable or disable the new Do Not Disturb While Driving Mode (**Figure 21, M**). While enabled, you will not see notifications of new text messages, and anyone who messages you will receive an automatic response informing them of that. See [Enable Do Not Disturb While Driving](#). (*Not available on iPad.*)

- **Flashlight:** Tapping Flashlight turns on the LED flash on iOS devices that have one, turning your device into a flashlight (**Figure 21, N**). Press it to reveal a slider that lets you adjust the flash's brightness.
- **Guided Access:** The Guided Access control enables Guided Access for the current app (**Figure 21, O**). Until Guided Access is turned off, the user is stuck in the designated app, which is handy for young children. See [Other Accessibility Options](#).
- **Home:** Tapping Home opens the Home app (**Figure 21, P**). Press Home to reveal a panel that lets you control Favorite Accessories and Favorite Scenes—switch between the two with the button in the upper-right corner (**Figure 23**). Tap an accessory or scene to turn it on or off. Press an accessory to see additional controls. See [Control Your Home](#).



Figure 23: The Home control gives you quick access to your favorite accessories and scenes. Tap the button in the upper-right corner to switch between the two.

- **Low Power Mode:** Tapping Low Power Mode turns [Use Low Power Mode](#) on or off (**Figure 21, Q**). (*Not available on iPad.*)
- **Magnifier:** Tap Magnifier to open the super-handly Magnifier feature (**Figure 21, R**). See [Accessibility for Everyone](#).

- **Notes:** Tapping Notes while your device is unlocked opens the Notes app (**Figure 21, S**). But tap it while your phone is locked to create an Instant Note, which is like a regular note, except that it's accessible from the Lock screen for an amount of time set in Settings > Notes > Resume Previous Note.

Press the Notes button to reveal these options:

- ▶ **New Note:** Open Notes with a new note.
- ▶ **New Checklist:** Open a new note with a checklist already created.
- ▶ **New Photo:** Create a new note and open the Camera to capture an image for the note.
- ▶ **New Sketch:** Make a sketch in a new note.
- **Screen Recording:** Tap Screen Recording to begin recording your screen (**Figure 24, T**). The control's icon turns red while recording. Tap it again to stop. Press the control to reveal an option to turn Microphone Audio on or off, which is handy if you want to narrate your screen recording. Screen recordings are saved in Photos.



Figure 24: The last of the option Control center controls: Screen Recording (**T**), Stopwatch (**U**), Text Size (**V**), Timer (**W**), Voice Memos (**X**), and Wallet (**Y**).

- **Stopwatch:** Tap Stopwatch to open the Clock app to the Stopwatch tab (**Figure 24, U**).
- **Text Size:** Press Text Size control to reveal a slider that lets you adjust system text size (**Figure 24, V**).

- **Timer:** Tapping Time opens up the Clock app to the Timer tab (**Figure 24, W**). Handy for cooking! Press to quickly set a timer between one minute and two hours.
- **Voice Memos:** Tap Voice Memos to open the Voice Memos app (**Figure 24, X**). (*Not available on iPad.*)
- **Wallet:** Tap Wallet to open the Wallet app (**Figure 24, Y**). Press for shortcuts like payment methods and recent transactions. See [Organize Your Wallet](#) (*Not available on iPad.*)

Hone the Home Screen

Once past the Lock screen, you're presented with the Home screen—the grid of icons that you tap to launch apps. Resting at the bottom of the Home screen is the Dock, which makes it easy to get to a fixed set of your most-used apps regardless of which Home screen page you're on. On an iPhone or iPod touch, the Dock can hold icons for four apps.

Note: For unique attributes of the iPad Home screen, see [Special iPad Features](#).

Learn Home Screen Basics

To return to the Home screen from any app, press the Home button on your device.

The Home screen is divided into pages, which iOS automatically adds and removes as you install and delete apps. The small white dots above the Dock indicate which page is currently visible on the Home screen (**Figure 25**). To flip between pages, flick the screen left or right.



Figure 25: The dots above the Dock tell you which Home screen page you're on.

Tip: To jump to the first ("main") page of the Home screen from some other page, press the Home button.

Manage the Home Screen

From the Home screen, you can move and delete apps, and arrange them into folders.

Move Apps

To move app icons around the Home screen:

1. Touch and hold any icon for a few seconds, until all the icons start to shake.
2. Touch, hold, and begin dragging the app icon you want to move.
3. To move multiple icons, tap them as you're dragging the first icon. They will be added to a stack beneath your fingertip, and a blue badge will appear in the upper-right corner of the stack with the number of apps you're moving (**Figure 26**).

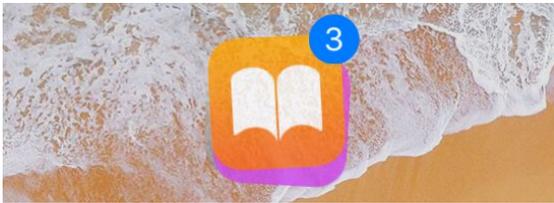


Figure 26: You can now move multiple apps at once. While dragging an app, tap additional apps to add them to the stack. The blue badge tells you how many you're moving.

4. Drag the icon or icons to where you want them. To move an icon to another page, move it to the edge of the screen and pause until the page flips.
5. Once you've moved the icon or icons where you want them, you can move more as long as the icons are still shaking.
6. Press the Home button to exit editing mode.

Tips for Re-arranging Home Screen Icons

Here are a couple of quick tips for getting your Home screen just how you want it:

- ✦ **Use the Dock, Luke:** It can be difficult to move an icon over multiple pages. It's easier to drop it in an empty spot on the Dock, flick to the destination page, and drag it out of the Dock than to drag it across multiple pages.
- ✦ **Start fresh:** Unhappy with your icon layout? Visit Settings > General > Reset and tap Reset Home Screen Layout. iOS moves the icons for the built-in apps to their default locations, and places any others in alphabetical order on subsequent pages. Any folders you've created are removed.

Delete Apps

Deleting an app's icon from the Home screen also removes the app from your device *and* deletes all the data stored in the app, except for anything that might have been stored in the cloud.

Note: To re-download a deleted app, go to the Updates tab in the App Store app, tap your Apple ID profile picture, and tap Purchased. If the app is still available, you'll be able to get it again.

To delete an app:

1. Touch and hold its icon for a few seconds until all the icons start to shake.
2. Tap the delete  button in the upper-left corner of the icon, tap Remove when prompted, and the icon disappears.
3. While the apps are shaking, you can delete another app—or move apps, if you like.
4. Press the Home button to exit editing mode.

Tip: You can also delete apps in Settings > General > iPhone (or iPad) Storage. Instead of deleting an app, you can offload it to save storage space without destroying the app data. See [Control Device Storage](#).

Make and Delete Folders

A folder is a handy way to group apps. To create one:

1. Touch and hold any icon until all the icons begin to shake.
2. Move one app icon on top of another and hold it there for a moment. iOS displays the new folder and suggests a name for it.
3. If you like the suggested name, tap Done on the keyboard. If you aren't enamored of the suggested name, tap the delete  button to the right of the suggested name, type a new name, and tap Done on the keyboard.

You can now tap outside the folder and continue to drag app icons into your new folder. Press Home when you're finished.

Note: iPhone folders can hold a total of 135 icons (15 pages of 9 icons). iPad folders can hold 240 icons (15 pages of 16 icons).

To remove a folder, simply move all of its icons outside of the folder. The folder disappears automatically.

Manage Home Screen Notifications

We've discussed [Manage Lock Screen Notifications](#), but that's not the only place you'll receive notifications. Notification badges appear on the Home screen, and badges and alerts can appear on the Home screen or in any app:

- **Badges:** These small rounded images display on app icons to show how many unread items are in an app (**Figure 27**). Enable these for only the apps that truly need them, so the badges you see are important to you. For example, my email inbox has thousands of

unread junk messages that I haven't pruned, so I disable the badge for Mail. But I leave it on for Messages, since I read all my messages.

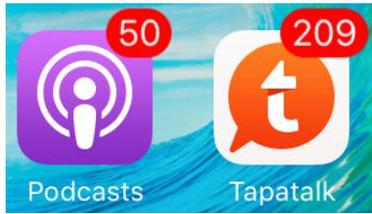


Figure 27: Badges are hard to miss, but if they're overused, they're easy to ignore.

- **Temporary Banners:** Banners drop down from the top of the screen and disappear automatically after a few seconds. This has been the default notification style since iOS 5 and is usually a safe choice.

To open a banner notification in order to interact with it, pull it down like a window shade. Tap it to open its associated app (**Figure 28**).

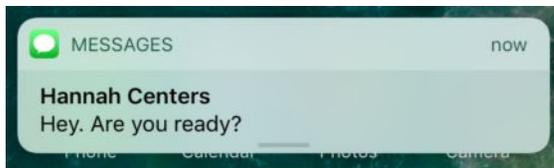


Figure 28: Banners and alerts appear at the top of the screen. Pull them down to open, or tap them to open the app.

- **Persistent Banners:** These are the more annoying version of banners. These banners do not disappear automatically—you must act on them before they'll go away. Persistent banners are useful for notifications that you absolutely don't want to miss, like Calendar events.

When you launch an app for the first time, if it has a Notifications feature, you'll be asked whether you'd like to receive notifications from that app. I suggest denying notifications from apps that you don't need to hear from, like most games.

To specify how (or whether) an app notifies you, go to Settings > Notifications and then tap the app's entry to view its Notifications

screen. This screen offers a collection of options for how the app notifies you.

Use Reachability

To make it easier to use big-screen iPhones with one hand, Apple introduced Reachability. Double-tap the Home button while in portrait orientation—not a double-*press*, but two light taps. The entire screen drops down so you can access interface elements near the top with your thumb. To exit Reachability, tap the empty space at the top.

Reachability works in all apps. If you don't need it, you can disable it in Settings > General > Accessibility.

3D Touch Tricks

On devices that support 3D Touch, such as the iPhone 6s, 7, and 7 Plus, you can use 3D Touch on Home screen icons to access a shortcuts menu. Here are some of the things you can do:

- Firmly press the Camera app icon to quickly take a selfie, record video, record a slow-mo video, or take a regular photo.
- If an app has a corresponding widget, a firm press on its icon displays it.
- Firmly press a folder to rename it.
- If an app inside a folder has a notification badge, a firm press on the folder lets you open that app directly (**Figure 29**).



Figure 29: 3D Touch lets you quickly rename folders and access contained apps with notification badges.

- Firmly press a downloading app to pause or cancel the download.

Search with Spotlight

One of iOS's simple yet powerful features, Spotlight lets you swiftly search your device for apps, contacts, songs, and more (**Figure 30**). Developers can integrate their apps with Spotlight to give it nearly omniscient search powers. You can also see Siri app suggestions when you tap a Spotlight search box.

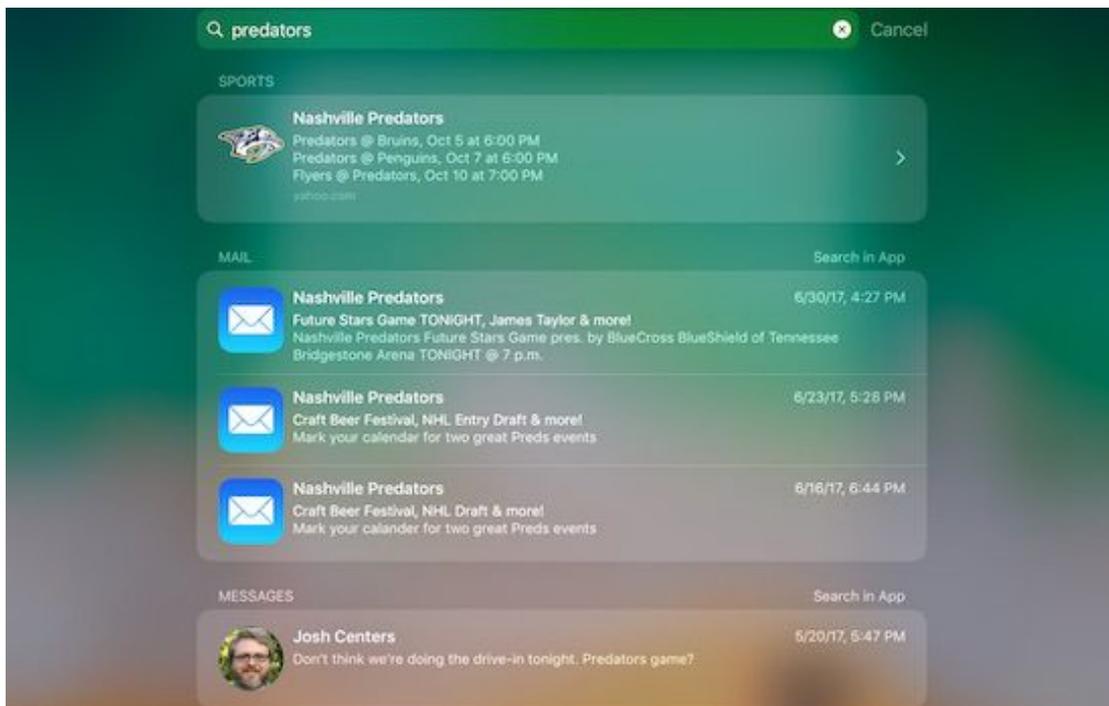


Figure 30: Spotlight can find things like upcoming sporting events, Wikipedia entries, and App Store entries.

Access Spotlight Search

There are two ways to access Spotlight search:

- While on the Home screen, pull down from anywhere between the status bar and Dock (**Figure 31**).

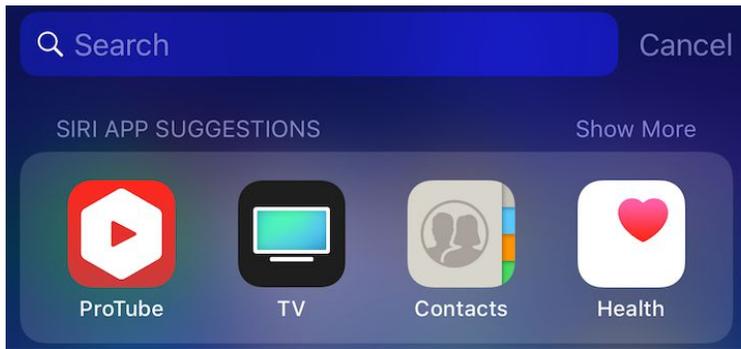


Figure 31: When you pull down on the Home screen to reveal the search box, you also see Siri suggestions for recent and frequently used apps. Siri App Suggestions is also available as a widget.

- From the Lock screen or first page of the Home screen, swipe right to enter the Widgets screen, which features a Spotlight search box.

Either way, tap the search box to begin your search:

- You'll be presented with Siri app suggestions, which is a collection of recent and frequently used apps—tap one to open it.
- You may also see Siri search suggestions below the Search box, which are recent searches you've performed—tap one to search for it again. You may also see Siri search suggestions as you're typing a query.
- To search your device and various services, enter a search term into the Search box and tap Search on your keyboard. In the results list that appears, tap any entry to open it.

Learn Spotlight Features

Spotlight can search app data on your device, as well as a number of bits of information from the web. Here's a partial list of what Spotlight can find:

- **Apple media and apps:** Items in the App Store, iTunes Store, and iBooks Store.
- **Apple Music:** If you subscribe to Apple Music, you can search for songs and play them directly from search results!

- **Apps:** Spotlight can find not only apps on your device, but also content inside supported apps.
- **Bing:** Web pages found by the Bing search engine.
- **Calendar events:** Can't remember when an appointment is? If it's in your calendar, within a year in the past or a year in the future, it'll appear in a Spotlight search.
- **Contacts:** Spotlight can pull up saved Contacts. A contact result includes buttons for placing a call or sending a message (**Figure 32**).

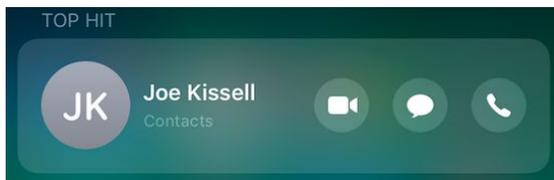


Figure 32: You can FaceTime, message, and call contacts directly from Spotlight results.

- **Conversions and calculations:** Like Spotlight on the Mac, Spotlight in iOS can perform basic calculations and unit/currency conversions.
- **Dictionary:** Spotlight can show word definitions in its results.
- **Email:** Spotlight indexes all email messages in the Mail app for quick access.
- **Files:** You can use Spotlight to find files stored locally on your device in the new Files app. See [Say Hello to the Files App](#).

Tip: Tap Search in App next to search results to leave Spotlight and see the search results inside the source app. You can also tap Show More to see more search results from that app or service.

- **Messages:** Spotlight indexes all chats in the Messages app.
- **Movie show times:** You can get local show times for movies, along with Rotten Tomatoes ratings and MPAA rating (like PG or R).

- **Music, audiobooks, podcasts, and videos:** Spotlight can search by title, artist, and album.
- **Nearby places:** You can search for local businesses, like restaurants.
- **News:** Spotlight keeps track of hot news items and suggests them in search results.
- **Siri Knowledge:** Spotlight can pull data from Wikipedia and other sources, displaying it in a handy table that Apple calls Siri Knowledge.
- **Sports scores:** Search for your favorite team to see how it's faring.
- **Stocks:** Look up stocks, like AAPL, to see their prices and more.
- **Weather:** You can view current weather conditions in a city. For example: "weather in rio de janeiro".
- **Websites:** Spotlight suggests popular websites based on your search.
- **Web videos:** These suggested videos come from YouTube.

Customize Spotlight

Here are a couple of ways to rid Spotlight of things you don't want:

- **Disable search suggestions:** To clear your search screen of proactive suggestions of things you might like to find, open Settings > Siri & Search and turn off Suggestions in Search.
- **Turn off searches per app:** Also in Settings > Siri & Search, you can choose any app that you don't want cluttering up your results list and turn off Search & Siri Suggestions to eliminate that app from Spotlight.

Switch Apps on the iPhone

The way you switch from one recently used app to another remains unchanged in iOS 11, at least on the iPhone. This chapter covers the iPhone App Switcher. For info on the new iPad multitasking features in iOS 11, see [Special iPad Features](#).

Switch Between Apps

Use the App Switcher to switch to a recently used app, to force-quit a crashed app, or to work with Handoff:

1. Double-press the Home button to open the App Switcher (**Figure 33**).

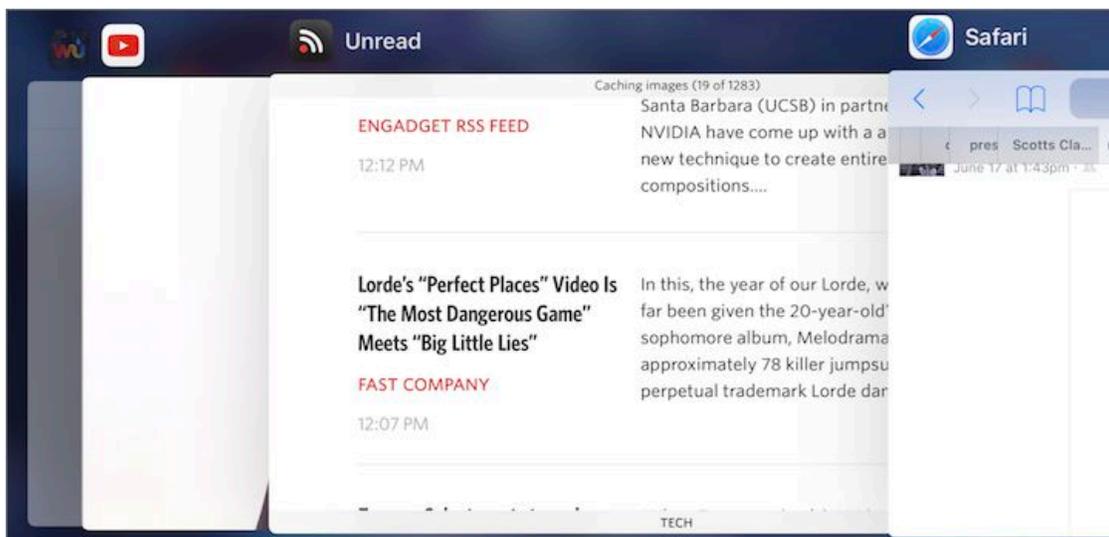


Figure 33: The App Switcher lets you select recently used apps.

2. If you don't see the app you want, flick left or right to find it.

Tip: Spotlight's Siri Suggestions also offer quick access to frequently used and recent apps. See [Search with Spotlight](#).

3. Tap the app you wish to switch to.

To force-quit an app, flick its image toward the top of the screen.

Tip: Force-quitting can be useful at times, such as when you need to restart a frozen app. However, don't make a habit of force-quitting apps, as doing so is usually a waste of time and can hurt battery life. See [Busting Battery Usage Myths](#).

Learn About Handoff

Handoff is a special feature of some apps that lets you seamlessly transfer your work between Apple devices. For example, you can start drafting an email message on your Mac and switch to your iPhone to finish. (Handoff is also a key feature of the Apple Watch, which is covered in [Apple Watch: A Take Control Crash Course](#).)

Apple's Calendar, Contacts, Keynote, Mail, Maps, Messages, Notes, Numbers, Pages, Reminders, and Safari apps support Handoff, as well as many third-party apps, such as PCalc, Pocket, and Things.

You can turn these features off entirely in Settings > General > Handoff.

Set up Handoff

Particular settings are required for Handoff to work. On both iOS devices:

- Sign in to the same iCloud account in Settings > *Your Name* > iCloud.
- Enable Handoff in Settings > General > Handoff.
- Enable Bluetooth in Control Center or in Settings > Bluetooth.
- Connect to the same Wi-Fi network in Settings > Wi-Fi.

Handoff Hardware Requirements

Handoff requires a device with a Lightning connector running iOS 8 or later, so the older iPhone 4s, iPad 2, and iPad 3 can't play.

On the Mac side, Handoff works with any 2012 or newer model, other than the Mac Pro, which must be late 2013 or newer.

Use Handoff

Open an app that supports Handoff and, if applicable, begin working in a message or document. Then switch to the other device and bring up the App Switcher. A bar should appear at the bottom of the screen stating which app wants to transfer Handoff data, and from which device (**Figure 34**). Tap it to switch to that app and pick up where the other device left off.

Note: Handoff can handle only one pair at a time. So if you're working on an iMessage on a Mac and looking at a webpage in Safari on your iPad, your iPhone's App Switcher shows the last compatible app you used.

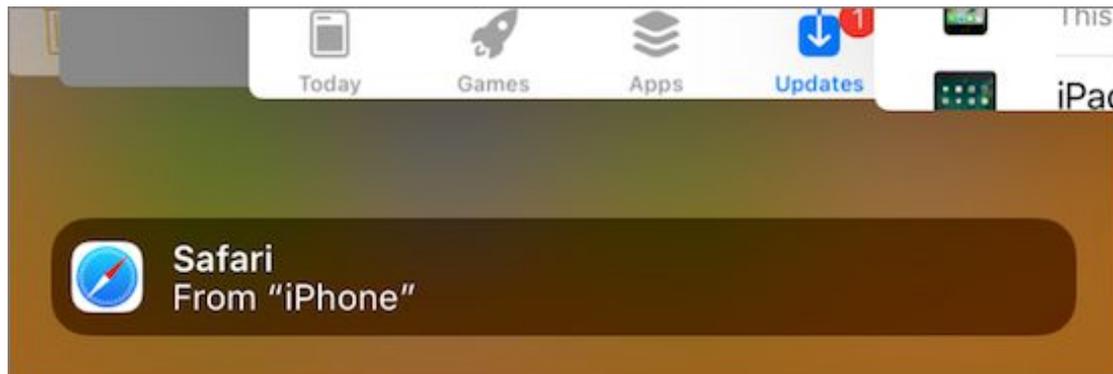


Figure 34: You can accept Handoff data from the App Switcher.

Handoff with a Mac

Here's how to set up Handoff between iOS and macOS:

- ✦ Setting up a Mac to use Handoff requires the same basic settings as iOS—notably iCloud, Bluetooth, and Wi-Fi—but the Mac interface is a little different.
- ✦ Go to System Preferences > General and select “Allow Handoff between This Mac and Your iCloud Devices.”
- ✦ Received handoffs appear in the Mac Dock and Command-Tab App Switcher.
- ✦ For more information, consult Apple's [Handoff support article](#).

Speak to Siri

Siri is your voice-activated personal assistant, capable of making phone calls, playing music, reading your email messages, telling you if it's going to rain, and even booking restaurant reservations. In iOS 11, Siri gets a new look, new voices, greater iOS integration, the option to edit queries, and some other great features.

Summon Siri

There are two ways to summon Siri. First, there's the old-fashioned way using the Home button:

1. Hold down the Home button. When you feel two vibrations or hear a chime and see multicolored wavy lines at the bottom of the screen, Siri is listening.
2. Release the Home button.
3. Speak. Say something like, "Siri, what's it like being you?"
4. Be quiet.

Personally, I prefer the voice-activated Hey Siri, which you can enable in Settings > Siri & Search > Listen for "Hey Siri". All iOS 11 devices can use Hey Siri, but unless you're using an iPhone 6s or later, an iPad Pro 12.9-inch (2nd generation), an iPad Pro (10.5-inch), or an iPad Pro (9.7-inch), your device has to be connected to power for Hey Siri to work.

To use Hey Siri, just say, "Hey Siri" and speak your query—there's no need to wait for Siri to activate.

Edit Siri Queries

If Siri misunderstands you, you can fix that. After speaking a query, tap Tap to Edit to edit your query with the keyboard. Siri also presents suggestions of what it think you might have meant to say (**Figure 35**).

Simply delete the incorrect text and replace it with what you meant. In theory, this helps Siri understand you better.



Figure 35: You can edit botched Siri queries.

Set Up Siri

In addition to Hey Siri, there are other important settings to check in Settings > Siri & Search:

- **Enable or disable Siri:** You can disable Siri entirely by turning off Press for Siri.
- **Your spoken language:** Tap Language to select the language that you want to speak to Siri with. Generally, you should choose the language you are most fluent in, but this is also a fun way to practice speaking in a foreign language.
- **Siri's accent and gender:** Tap Siri Voice. Depending on the selected language, you may see accent options. Tap the accent that you want to hear when Siri speaks. You can also choose a male or female voice for Siri here.

Note: If you don't see a Siri Voice option, try picking a different language.

- **Voice Feedback:** If you're tired of Siri's backtalk, tap Voice Feedback, and then select Control with Ring Switch (or Control with Mute Setting) to disable Siri's voice when Mute is enabled.
- **Introducing yourself:** You can tell Siri, "Take me home" to get directions to your residence, but first, Siri must know who you are.

Tap My Info and then pick your contact entry from the list. If you don't have one, make one in the Contacts app.

To check who Siri thinks you are, you can ask "Who am I?"

Tip: To create a new contact card, whether for yourself or a family member, open the Contacts app and tap the Add  button at the top of the main screen (cancel the Search field if you don't see an Add  button).

Teach Siri About Your Relationships

Siri lets you refer to people by relationship. For example, I can tell Siri to "call my wife" instead of "call Hannah Centers." You can teach Siri the identity of most of your family members and other important people in your life.

To set this up, make sure you have a card for the person in the Contacts app. Then do one of the following:

- **Tell Siri:** Invoke Siri and tell her about the relationship. For example, I can say, "Hannah Centers is my wife"; after confirmation, that relationship is set. You can check this with Siri later with queries like "Who is my wife," and "Who is my boss?"
- **Tell the Contacts app:** Open *your* card in Contacts, tap Edit in the upper-right corner, scroll down, tap "add related name," tap the default relationship to pick the desired relationship, tap the info  icon, and select the person's card. Tap Done.

Learn Some Useful Siri Commands

Siri understands more commands than I can list here, and not every Siri command is the most efficient way to complete a task. Here are some of the ones I've found to be useful:

- **Identify songs:** While a song is playing, activate Siri and ask what song is playing. If Siri finds a match, you see the name of the song,

the artist, and a button to buy the song in the iTunes Store. If you subscribe to Apple Music, you can play the entire song right there.

- **Make phone calls:** You can use Siri to place phone calls, which is especially handy while driving. Just say “Call *contact’s name*” to initiate a call (if your contact has multiple phone numbers, Siri will ask you which one to call—or you can preempt that step by saying “Call Jane Smith’s iPhone.”). If you’ve configured relationships, as explained above, you can instead say, “Call my mom,” or “Call my spouse.”
- **Remind me to...:** You can tell Siri to remind you of things, like “Remind me to take the trash out Tuesday night,” but what I’ve found even more useful is telling Siri to remind me to do a task when I reach or leave a destination. For example, “Remind me to change the cat litter when I get home,” or “Remind me to pick up diapers when I leave.”
- **Remind me of “this”:** Siri can create contextual reminders for Safari webpages, Mail messages, Maps locations, and more. Tell Siri, “Remind me about this,” while looking at a relevant item.
- **Search photos and videos:** You can use Siri to search for photos and videos by time or location. For example: “Show me photos from San Francisco,” or “Show me videos from Christmas 2015.” Photos in iOS 11 recognizes objects, so you can say something like, “Show me pictures of water.”
- **Set an alarm:** There are several ways to set an alarm. You can say, “Set an alarm for 6 AM” before bed. Or when you lie down for a nap, you can say, “Wake me in 30 minutes.” You can also say, “Delete my alarm,” to view a list of alarms to delete.
- **Set a timer:** I use this all the time in the kitchen. Tell Siri to set a timer for however many hours, minutes, or seconds you need. For example, “Set a timer for 5 minutes.”
- **Find sports info:** I’ve found that Siri is the fastest way to find out things like “When do the Braves play next,” “What time is the

Mavericks game,” and “How many touchdowns did Marcus Mariota throw last season?”

Use Third-party Apps with Siri

App developers can hook their apps into Siri, but only for a few types of apps. Here are some examples of what you can say:

- **Messaging:** “Send a text to Jill using Slack.”
- **Ride booking:** “Get me a ride to LAX via Lyft.”
- **Payments:** “Send \$30 to Duane for dinner last night using Square Cash.”
- **Photo search:** “Look for beach photos taken last winter in Pinterest.”
- **Visual codes:** Siri in iOS 11 can be asked to scan and display visual codes like QR codes.
- **VoIP calling:** “Call Marcus on Skype.”
- **Workouts:** “Start my daily run workout from Runkeeper.”

Tip: To disable Siri integration, go to Settings > Siri & Search & Search > *App Name* and disable Use with Siri.

There are also a couple of other ways developers can integrate with Siri:

- **CarPlay:** Automakers can create Siri commands to adjust things like climate control, radio, and seats on CarPlay-equipped vehicles.
- **Lists and notes:** In iOS 11, Siri can now modify lists, like to-do lists, and create and modify notes in apps.

Note: These are just hypothetical examples. These apps may not support Siri functionality immediately.

Apps That Already Work with Siri

Long before Apple opened Siri up to any developer, the voice assistant worked with a few select third-party apps, and still does:

- **MLB.com At Bat:** Siri can give you baseball schedules and stats. Ask for things like, “When is the next Yankees game?” If you have the [MLB.com At Bat](#) app installed, you can summon more details, like player stats.
- **WolframAlpha Viewer:** Siri can call upon WolframAlpha to answer complex mathematical questions, like “What is the square root of 65?” With the free [WolframAlpha Viewer](#) app installed, you can see additional details about your question.
- **Yahoo Sports:** Out of the box, Siri has access to all kinds of fun sports knowledge. You can ask, “When is the next NFL game?” or “Who is taller: Steph Curry or LeBron?” If the free [Yahoo Sports](#) app is installed, you can even tap the Yahoo logo to open the app for more info.

Command Keyboards

Typing in iOS is pretty self-explanatory, but a few tricks are easy to miss. The keyboard gains a few new tricks in iOS 11, including the capability to autofill logins in apps and the option to push the keyboard to the left or right of the screen to make one-handed typing easier.

To learn about special features of the iPad keyboard, see [Keyboarding on the iPad](#).

Look at Special Keyboard Parts

Let's take a look at some of the iOS keyboard's special keys (**Figure 36**):

- **QuickType bar (A):** This automatically suggests words as you type. Tap one to insert it. The iPad offers shortcuts here for common actions like cut, copy, paste, undo, and redo.
- **More/Numbers (B):** Tap here to view numbers and special characters.

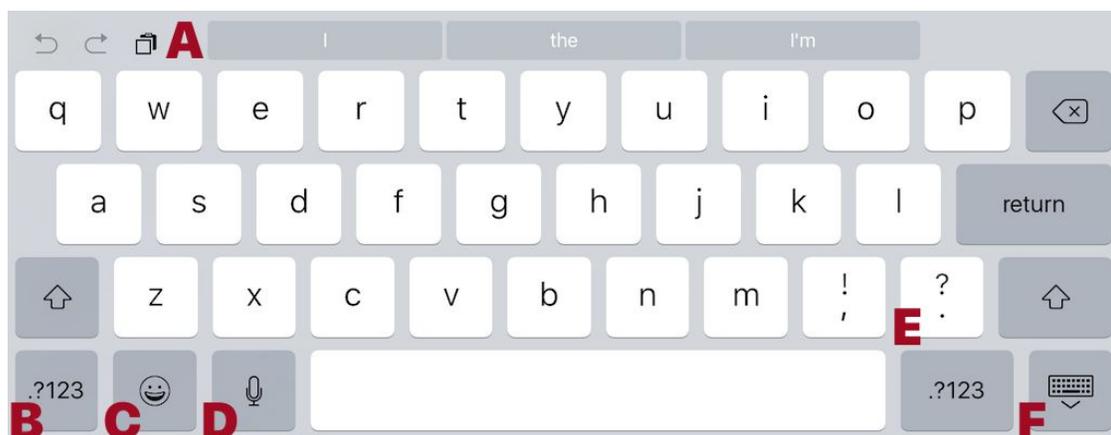


Figure 36: Here's an example keyboard layout from an iPad Pro in landscape typing in a web form in Safari. Keyboard shortcuts and the QuickType bar make typing on a touch screen easier.

- **Next/Emoji (C):** This key appears only if an extra keyboard is installed. Tap it to switch keyboards. Hold it to see a list of installed keyboards. If the only other keyboard installed is Emoji, this key shows a smiley face. If some other keyboard is installed, the key shows a globe.
- **Dictate (D):** Tap to speak words, and have iOS transcribe them, instead of typing.
- **Period (E):** Hold this key while typing a URL in Safari or an email address in Mail to see shortcuts for domains, such as .com and .net.
- **Hide Keyboard (F):** Tap here to dismiss the keyboard.

Learn Basic Keyboard Functions

Here are some basic keyboard functions every iOS user should know:

- **Display the insertion point:** Tap in a text area.
- **Move the insertion point:** Tap where you want it to go.
- **Trackpad mode:** On newer devices, you can use the keyboard area like a trackpad. See [Use 3D Touch to Select Text](#) and [Use Trackpad Mode](#).
- **Move the insertion point with precision:** Touch and hold typed text until a magnifying glass appears. Slide the insertion point where you want it.
- **Type in multiple languages:** You can type in multiple languages in iOS. To add a new keyboard, go to Settings > General > Keyboard > Keyboards, tap Add New Keyboard. To remove a keyboard from the list, swipe left on it and tap Delete. Tap the globe  key to switch between languages. Alternatively, touch and hold the globe  key to see all available keyboards.
- **QuickType:** As you type, the QuickType bar suggests words. Tap one to insert it. QuickType can also suggest things like emojis, names, phone numbers, and places. If you have multiple language keyboards enabled, it can also suggest words in those languages.

- **Hide QuickType:** Go to Settings > General > Keyboard and turn off Predictive.

Save Time Typing

Typing on a piece of glass can be frustrating, but iOS includes some features that make working with text faster:

- **Text replacement:** You can enter commonly used bits of text, such as your email address, by typing only a few characters. For example, I've created a shortcut where, when I type `xtb`, it's replaced with `TidBITS`.

To create a new shortcut, tap Settings > General > Keyboard > Text Replacement and tap the plus **+** button in the upper-right corner. In the Phrase field, type the text you want to be entered; in Shortcut, type a shortcut for it. Tap Save.

- **Copy text:** Touch and hold the text until a magnifying glass image appears. Release your finger and a popover appears. To select all text, tap Select All. Or, tap Select and then drag the handles to highlight the text you want to copy. Tap Copy on the popover (**Figure 37**) or tap the Copy  button on the QuickType bar if it's available on your device.

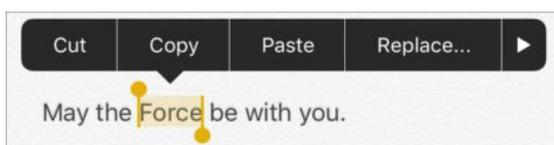


Figure 37: To copy text, touch and hold the text you wish to copy to open a popover; then tap Select, select the desired text, and tap Copy.

- **Paste text:** Touch and hold in the text-entry area where you want to paste text to reveal the magnifying glass image. Release and tap Paste on the popover or tap the Paste  button on the QuickType bar if it's available on your device.
- **Special characters:** Typing special characters, like è or ü, is easy in iOS. Touch and hold the base letter on the keyboard—for

example, e for è—until a popover appears, then tap the character you want to type.

About Universal Clipboard

The Universal Clipboard feature of macOS 10.12 Sierra or later and iOS 10 or later syncs your clipboard between Handoff-capable devices, so if you copy something on your iPhone, you can then paste it on your Mac or iPad. Items on the Universal Clipboard expire after 2 minutes.

If you can't make Universal Clipboard work, check that your sending and receiving devices each meet the [Handoff Hardware Requirements](#) and go through the [Set up Handoff](#) steps.

Dictate Text

iOS lets you dictate text using your device's microphone. Here's how:

1. Tap where you want your text to go.
2. On the keyboard, tap the Dictate key .
3. If you have multiple language keyboards enabled, tap the globe  icon to switch between dictation languages.
4. Talk. Be sure to explicitly speak punctuation and spaces (for example, “Hi comma Tony period”).
5. Tap the keyboard  icon when you're done.

Unfortunately, you can't delete or edit text using dictation—saying “delete” or “backspace” just types those words.

Note: Each word is typed as soon as it is recognized, so you can quickly spot mistakes.

Master Emojis

Invented in Japan, *emojis* are small pictographs. With emojis, for example, instead of typing a colon, hyphen, and parenthesis `:-)` to indicate a smile, you can type a cute smiley face 😊!

Enable Emoji

The emoji keyboard is now enabled by default, but just in case it's not enabled on your device:

1. Open Settings > General > Keyboard > Keyboards.
2. Tap Add New Keyboard.
3. Select Emoji from the list.

Type Emoji

Tap the Next/Emoji key. It looks like either a globe 🌐 or a smiley 😊 face, depending on whether other keyboards are enabled or not. On larger-screen devices, you may see both keys at once, in which case the globe 🌐 key is the Next/Emoji key and the smiley 😊 face key is a shortcut to the emoji keyboard.

Swipe left and right to scroll through emojis.

Tip: The QuickType bar can suggest emojis for you so you don't have to scroll through the enormous wall of emojis. Try typing `100`, `bacon`, `clown`, `pizza`, and `whiskey` to get an idea of how it works.

Type One-Handed

On the iPhone and iPod touch, when you touch and hold the Next/Emoji key, you now see three icons used to adjust the keyboard's position (**Figure 38**).



Figure 38: These keys in the language selection popover let you push the keyboard to the left, middle, or right side of the screen.

Tapping one of those icons shifts the keyboard's position, so if you tap the right-hand  button, it shifts the keyboard to the right so you can easily access all the keys with your right hand (**Figure 39**).



Figure 39: With the keyboard pushed to the right, the keys are easier to access with your right hand.

You can also set the keyboard's orientation in Settings > General > Keyboards > One Handed Keyboard.

Autofill Passwords

For years, Safari has been able to create and manage logins for websites. In iOS 11, this functionality has been grafted onto the keyboard so you can use that data when logging in to apps. Here's how to take advantage of this:

1. When logging into an app, tap a login field. If you see a login in the QuickType bar, tap it to insert it (**Figure 40**).

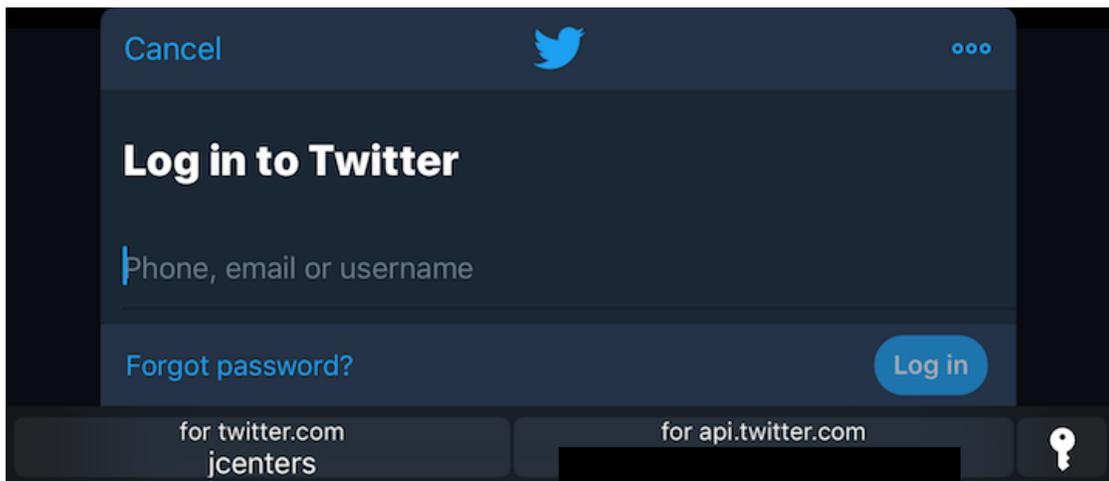


Figure 40: In iOS 11, logging in to an app can be as easy as tapping an entry in the QuickType bar.

2. If you don't see a relevant login, tap the key  icon on the QuickType bar. If you don't see it, you'll have to enter the password either manually or copy it from a password manager like 1Password.
3. After tapping the key  icon, choose Other Passwords. When prompted, authenticate with Touch ID or a passcode.
4. iOS displays your stored logins, and places logins at the top it thinks will be useful for this app. You can use the search box at the top to whittle down the list of logins.
5. Tap a login to autofill it in the app's login prompt.

Manage your stored logins in Settings > Accounts & Passwords > App & Website Passwords.

Install Third-party Keyboards

Does the iOS keyboard not do it for you? The good news is that Apple allows third-party developers to create system-wide keyboards that users can install.

To enable a third-party keyboard:

1. Install the app containing a keyboard, such as [Gboard](#), from the App Store.
2. Open Settings and tap General > Keyboard > Keyboards.

3. Tap Add New Keyboard.
4. Choose the keyboard from the Third-Party Keyboard list.
5. Most keyboards require Full Access to be fully operational. To enable it, still on the Keyboard screen, tap the keyboard's name and turn on the Allow Full Access switch. An alert warns you that with Full Access, the developer can see anything you've typed. Tap Allow or Don't Allow.

To switch keyboards, tap the Next/Emoji key to cycle through keyboards, or touch and hold the Next/Emoji key to see a list of installed keyboards. (This behavior may change depending on the keyboard in use.)

Use 3D Touch to Select Text

With 3D Touch, the keyboard can be used like a trackpad to move the text cursor and select text:

- **Move the cursor:** Press the keyboard with your finger to feel it “click” and then slide your finger to move the cursor (**Figure 41**).

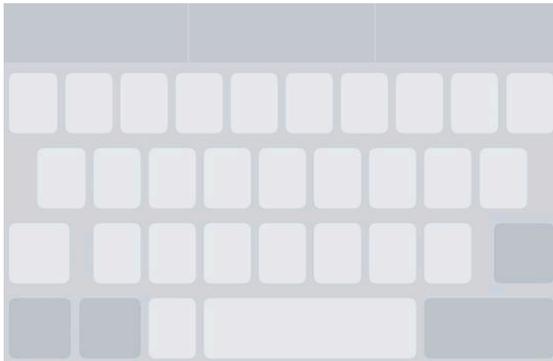


Figure 41: The keys look blank while the device is in Trackpad mode.

- **Select text:** Slide your finger over a word and press more firmly (release slightly and press again) to select the word and see drag handles. Drag to expand the selection, if desired. Let go to finish or press more firmly again to cancel.

See [Use Trackpad Mode](#) to learn how to do this on an iPad.

Use Share Sheets

Share sheets make it easy to transfer something on your device (like a PDF displayed in Safari) to another app (like iBooks), or send something on your device somewhere else (like sharing a link to a webpage with Messages or on Twitter). Share sheets often hide other functionality that doesn't fit anywhere else—see [Share Sheet Tricks](#) later in the chapter. Here are the ins and outs of how Share Sheets work in iOS.

Share with Share Sheets

Whenever you can share content, you see a Share  icon. Tap it to reveal the Share sheet, which displays two rows of buttons. Swipe left and right on each half to reveal more functionality. Tap a button on the sheet to perform that action (**Figure 42**).



Figure 42: Share sheets let you do things like share a webpage from Safari with a text or email message, create a reminder for the webpage, or add a link to the page in Notes. The Share sheet offers other functionality, like searching inside a webpage or creating a PDF for markup.

What You Can Share

Here are some examples of what you can share with a Share sheet:

- Webpages in Safari and other browsers
- Images in the Photos app
- Locations in Maps
- Email attachments from Mail
- Files from the Files app
- Apple Music songs from Music
- Almost anything else, so long as the developer has included Share sheet capabilities and you've enabled the extension—see [Edit Share Sheets](#) later in the chapter.

Share sheets often conflate the idea of sharing with actions like copying and printing. For example, pull up the Share sheet in a note to reveal options to copy and print that note.

Note: To print from an iOS device, you either need a printer that supports the AirPrint protocol or you need to run a desktop app that can act as a bridge, such as [Printopia](#) from Decisive Tactics.

It's worth checking the Share sheet in each app to see what you can do!

Where You Can Share To

Where can you send things from a Share sheet? Here are some examples:

- Messaging apps like Messages, Mail, and Slack. I use this often to share webpages with friends.
- Text editing apps like Notes. You can share an image to insert it in the note or a URL to add a link.

- Social networks like [Facebook](#) and [Twitter](#). (You'll have to install those apps and enable their Share sheet buttons—see [Edit Share Sheets](#), ahead.)
- iBooks, which can hold various PDFs you find around the web and elsewhere. (Tap the Copy to iBooks button, if available.)
- The Files app, which can contain just about any file you find on the web or elsewhere. See [Say Hello to the Files App](#).
- Other Apple devices in your vicinity via AirDrop. See [About Continuity and AirDrop](#).
- Any app or service provided by a third-party extension.

Share from the Photos App

Sharing photos and videos from the Photos app works a little differently than it does in most apps:

1. Select the photo or video you wish to share.
2. Tap the Share  icon.
3. Tap any additional photos and videos that you wish to share. A checkmark  appears next to selected items (**Figure 43**).

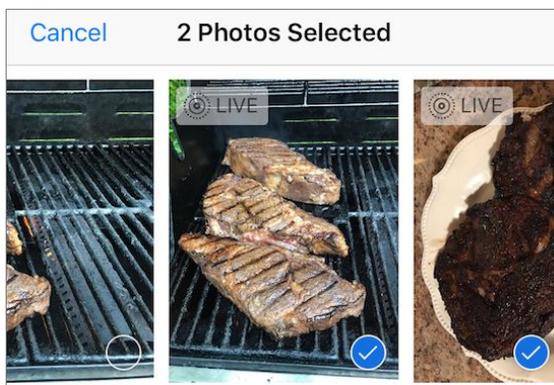


Figure 43: Photos lets you select multiple items to share.

4. Tap the Share sheet extension you wish to use, such as Messages, Mail, or iCloud Photo Sharing.

There are a few unique sharing options in the Photos app:

- **AirPlay:** This broadcasts your photos and videos to an Apple TV without mirroring the entire screen. See my book [Take Control of Apple TV](#) for an in-depth look at AirPlay.
- **iCloud Photo Sharing:** See [iCloud Photo Sharing](#).
- **Slideshow:** Display the selected photos in a slideshow.
- **Use as Wallpaper:** Tap this to use the selected photo as the wallpaper of your Lock or Home screen.

See [Get to Know Photos](#) for more on managing your photos in iOS.

Create PDF

The Share sheet often hides special functions that aren't necessarily related to sharing, and I note some of those throughout this book. However, there's one feature new to iOS 11 that you can find in many apps' Share sheets: Create PDF, which creates a PDF copy of what you're looking at and lets you annotate it. It's available in iBooks, Notes, Photos, Safari, and possibly more apps by the time you read this.

Tap Create PDF and whatever you're viewing is opened up as a PDF that you can modify. There are three main controls here:

- Tap Done to delete the PDF or save it to the Files app.
- Tap the Share  icon to see the usual sharing items, as well as the option to save to the Files app.
- Tap the Markup  button to see markup options, which is why you're here in the first place!

The basic markup tools are pretty intuitive: fine-point marker, chisel-point marker, pencil, eraser, selection tool, and color selection. Tap the plus  button to reveal more options (**Figure 44**):

- **Text:** Tap Text to insert text, which you can adjust with the text settings  icon.

- **Signature:** Tap Signature to insert a signature, either synced from Preview or Mail on the Mac, or one you draw on screen.

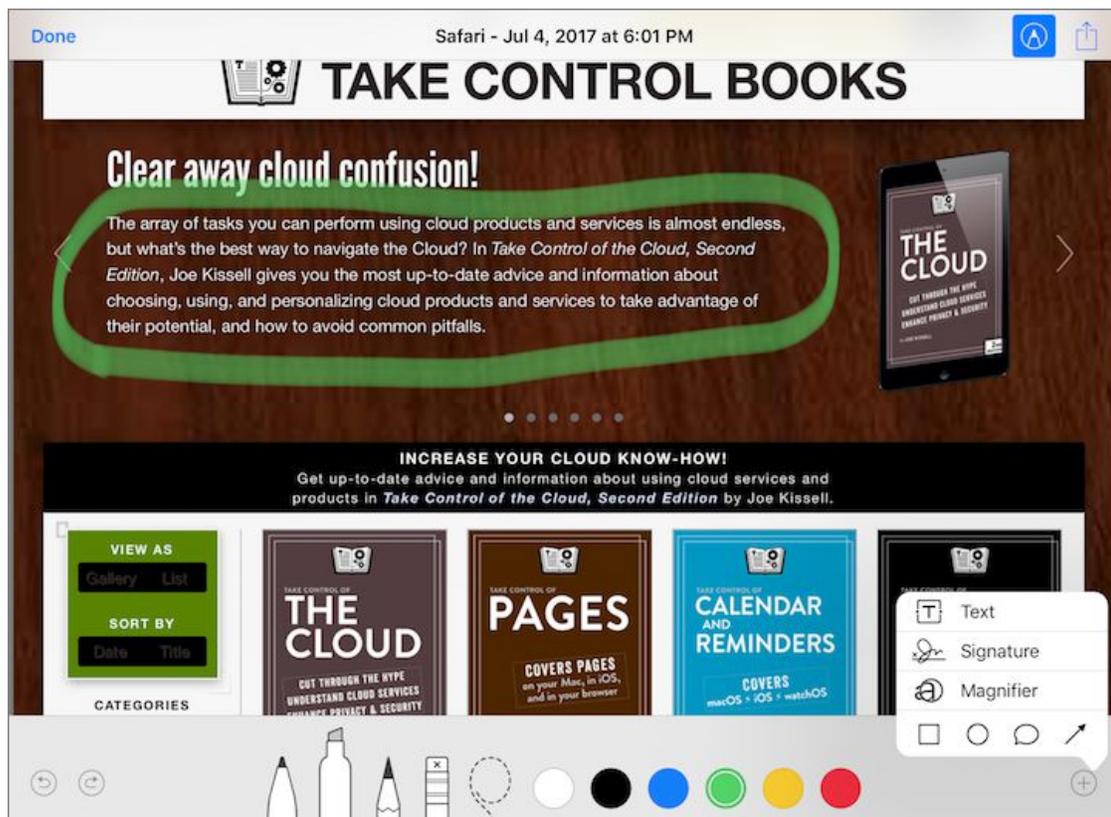


Figure 44: Create PDF offers several tools to add a personal touch to images and webpages.

- **Magnifier:** Tap Magnifier to insert a magnifying loupe to highlight small elements. Drag the green drag handle around the loupe to adjust the magnification. Tap the shape  icon to adjust the magnifier outline.
- **Square, circle, speech balloon, line tool:** Tap the square, circle, speech balloon, or line tool to insert those shapes.

Edit Share Sheets

Once you've opened a Share sheet, you can rearrange the icons on its icons to put the items you use most frequently on the left, so you see them easily:

- **By icon:** Move an icon by tapping, holding, and dragging it.

- **By row:** Tap the row's More button to open the Activities list (if needed, slide the row to the left to reveal the More button). Drag a drag handle ≡ on the right up or down (**Figure 45**). The higher up you drag it, the further left it will be. Tap Done.

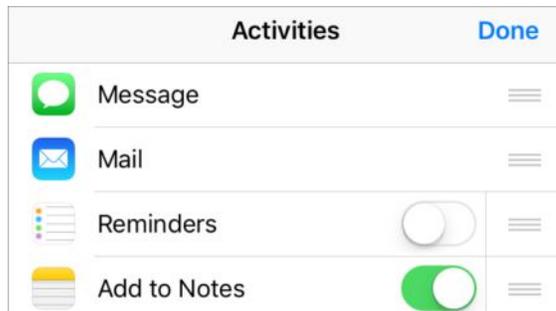


Figure 45: Drag a drag handle to re-arrange a Share sheet row.

To add or remove extensions, open the app whose Share sheet you want to work with, tap the Share  icon, flick left, and then tap More. On the Activities screen, toggle the switches and then tap Done.

Share Sheet Tricks

Many apps cram functions other than sharing into the Share sheet, or sometimes you can share items in a way you may not have imagined. Here are a few ideas:

- ✦ **Maps:** Send a location to a note in Notes.
- ✦ **Music:** Share a song in an iMessage, email message, or tweet.
- ✦ **Notes:** Lock a note with a passcode or Touch ID.
- ✦ **Photos:** Duplicate a photo, start a slideshow, or hide a photo. You can even add a photo to a person's contact card by tapping Assign to Contact on the photo's Share sheet.
- ✦ **Safari:** Save a webpage as a PDF in iBooks, find a search term on the page, or request the desktop version of a website.

An Introduction to iCloud

iCloud isn't a singular thing, but rather a suite of services: email, calendar sync, password sync, file storage, and more, all accessible from and synced between any of your Apple devices signed in to the same iCloud account. With iCloud Photo Library and iCloud Music Library, you can even sync your photo and music collections between devices, although these last two generally require a fee. Here's an overview of the many services it offers to iOS 11 users.

Note: For comprehensive coverage of iCloud, read Joe Kissell's [Take Control of iCloud](#).

Sign in to iCloud and Manage Storage

To sign in to iCloud and work with your iCloud settings, go to Settings, and if you're not signed in, tap Sign In to Your iPhone and follow the prompts.

Your iCloud account includes 5 GB of free disk space—located on Apple's servers—for storing device backups, app data, iCloud Drive files, iCloud Photo Library photos, email, and more. As of iOS 11, you can purchase up to 2 TB of total space—see the Apple article [iCloud storage plans and pricing](#). You can now also share that space with members of your Family Sharing circle if you choose Settings > *Your Name* > iCloud > Manage Storage > Manage Storage > Share With Family. See [All in the Family Sharing](#).

To manage iCloud settings after signing in, go to Settings > *Your Name* > iCloud. An infographic at the top of the screen shows how much of your iCloud storage space has been used, and what's using it.

There are a few different ways to reduce your iCloud storage usage, but the easiest way to do so is to go to Settings > *Your Name* > iCloud > Manage Storage > Manage Storage. Each app and/or service offers

different management options. However, they usually boil down to disabling that service and deleting all the related data.

Here are some effective, specific methods of pruning iCloud:

- If an abandoned device (like a replaced iPhone) has a backup taking up space, tap that device listing in Settings > *Your Name* and tap Remove from Account.
- If an app is hogging iCloud space, open the Files app, go to your iCloud Drive, tap the app's folder, identify the large file, touch and hold it, and then tap Delete from the popover. See [Say Hello to the Files App](#) later in this chapter.
- Clean out your iCloud mailbox in Mail.
- Delete unwanted photos and videos from iCloud Photo Library. See [Deleting Photos and Videos](#).

iCloud Services

For the most part, the iCloud services are listed on the Settings > *Your Name* > iCloud screen with switches that control whether a service is on or off. Let's consider each option, from top to bottom—you can toggle most of these options as you read along:

- **Photos:** Tap Photos to see these options:
 - ▶ **iCloud Photo Library:** iCloud Photo Library sends almost all photos and videos in the Photos app to the cloud—using a cellular or Wi-Fi connection—where they are added to your iCloud storage space and synced to any of your devices that are running at least iOS 8 or 10.10 Yosemite. Edited photos are also synced, and deleted photos are removed from all devices. Hidden photos are not synced. See [Get to Know Photos](#). With iCloud Photo Library on, you can choose Optimize iPhone (or iPad) Storage to store only low-res copies of your photos on your device, thus saving local storage space (originals download automatically when you need them, such as if you want to make edits). Keeping

only low-res copies is essential for devices with smaller storage capacities.

Tip: If you have a slow internet connection or small bandwidth cap, you may prefer to keep iCloud Photo Library and My Photo Stream off. You can transfer your photos to a computer through a USB cable connection.

- ▶ **My Photo Stream:** My Photo Stream automatically syncs new photos (but not videos) to your other Apple devices. It works only over Wi-Fi, and although it can be tricky to grok its 1000-photo/30-day limit, it is free and doesn't take up space in iCloud Drive. It's probably best to leave it off if you use iCloud Photo Library.
- ▶ **iCloud Photo Sharing:** iCloud Photo Sharing lets you share photo albums from the Photos app and see photo albums shared by others. I recommend leaving iCloud Photo Sharing on in case a friend or family member wants to share photos with you.

Note: See the [All in the Family Sharing](#) chapter to learn how to share purchases, iCloud storage space, and photos with members of your family.

- **Mail:** Apple gives all iCloud users a free @icloud.com email address. Leave it enabled even if iCloud is not your preferred email provider, because Apple may use it to contact you.

At the bottom of iCloud settings, there is another entry for Mail that lets you adjust iCloud mail settings.

- **Contacts:** iCloud Contacts syncs your contacts with your iCloud account, and from there to your other Apple devices. You can also view these contacts on the iCloud.com site (as long as you sign in with the same Apple ID).
- **Calendars:** This service syncs your calendars with iCloud and thus with your other Apple devices, much like contact syncing. You can also view these calendars on iCloud.com.

To share a calendar in a read/write fashion with another user (someone not using your Apple ID), you have to go beyond just turning on the Calendar switch. See Scholle McFarland's [Take Control of Calendar and Reminders](#) for how to share calendars.

- **Reminders:** The built-in Reminders app is handy for tracking to-do lists and tasks. This service syncs your reminder lists with [iCloud.com](#) and between your devices.
- **Notes:** This service syncs notes in the [Notes](#) app between devices and [iCloud.com](#). If you don't use Notes, turn it off.
- **Safari:** The Safari service syncs bookmarks and open tabs between copies of Safari on your Apple devices. If you use Safari, it can be helpful to turn on this service, but if your battery tends to drain quickly, constant bookmark syncing may be part of the problem.
- **News:** The News app can use iCloud to sync favorites and saved articles between your devices.
- **Home:** This setting syncs your HomeKit settings between devices. If you're using the Home app, you probably want to leave this on. See [Control Your Home](#) to learn more.
- **Health:** New to iOS 11, you can now sync data from the Health app to your other devices. If you're paranoid about your health data, turn this off. See [Additional Apple Apps](#).
- **Wallet:** Keep this switch on if you want to keep your Wallet cards synced between your devices. See [Organize Your Wallet](#).
- **Game Center:** This enables or disables Game Center sync between devices. If you don't play games, disabling this may help battery life and performance, but it won't likely have a major effect either way.
- **Siri:** In iOS 11, Siri can sync its data between devices to learn more about you. If this gives you the creeps, turn this off. Frankly, I want to give Siri all the help understanding me that I can.
- **Keychain:** Keychain syncs saved passwords between your Apple devices. It also syncs any credit card information that you've stored

in Safari. Note that Keychain requires that you set a passcode for your device.

- **Find My iPhone:** This feature—called Find My iPad or Find My iPod touch on those devices—makes your device discoverable if it's misplaced or stolen. It also shows the location of devices owned by family members if you use Family Sharing. I recommend keeping Find My iPhone on, even if you're not worried about theft. I often use it to make my iPad chime to find it in my house. See [Use Find My iPhone](#).

Find My iPhone also enables Activation Lock, which prevents your device from being wiped or activated with a cellular carrier if it's lost or stolen. Disable Find My iPhone before selling your device or taking it to Apple for service!

- **iCloud Backup:** iCloud Backup automatically backs up your device to Apple's servers once per day if it's plugged in, on a Wi-Fi network, and the screen is locked. You should enable iCloud Backup if you have enough iCloud storage space.

Note: To find out exactly what gets backed up, see Apple's article, [iCloud: iCloud storage and backup overview](#).

- **iCloud Drive:** iCloud Drive provides a cloud-based storage area that works like a normal drive for files created by iOS (and Mac) apps that support iCloud Drive.

Files stored in iCloud Drive are accessible on any Apple device signed in to your iCloud account (or in Windows with [iCloud for Windows](#)), although the details vary by device and operating system.

- **Look Me Up:** Some apps can look up information about you tied to your Apple ID. Any apps that do this are listed here, and it can be disabled entirely. In my experience, developers hardly ever use this feature.
- **Location Sharing:** Under Share My Location, you can choose whether to share your location and from which of your Apple

devices to share your location. If you have an iPhone and iPad, for instance, you probably want to share the iPhone's location, since you are more likely to take it along when you leave the house.

When location sharing is enabled, you can also see who among your family and friends can view your location.

Say Hello to the Files App

The iCloud Drive app has been replaced in iOS 11, or rather updated to a new app called Files. In addition to the capabilities of the iCloud Drive app, Files can manage files stored locally on your device, in other online services, tags, and it allows for true collaboration using iCloud Drive. Here are some tips for using it:

- **Copy or move a file or folder:** You can touch, hold, and drag a file or folder to move it. Another method is to touch and hold a file or folder until the popover appears, tap copy or move, and then select which folder you want to copy or move the item to.
- **Enable third-party services:** From the Browse screen or sidebar, tap edit, and enable the switch for the desired app. It will appear under Locations—tap it to view files from that service. If the service you want isn't listed, you'll need to install the associated app, like [Dropbox](#), assuming it integrates with Files.
- **Use tags:** Tagging is a way to organize files and folders, even if they're not all in the same folder. On the iPad, tags are displayed on the left-hand side of the Browse screen. On the iPhone, tags are listed on the main Browse screen. If you have files in iCloud Drive that have already been tagged on macOS, those tags will be there when you first open Files.

To tag a file or folder, touch and hold on it until the popover appears, and then choose Tags. Tap the tags you want to select, or tap Add New Tag to create a new one. Tap Done when you're finished.

You can also open a file, tap the Share  button, and then tap +Tag on the Share sheet.

- **Create a folder:** Tap the New Folder  icon in the upper-left corner of the file browser.
- **Operate on multiple files:** Tap Select in the upper-right corner. Tap each item you wish to act upon—a checkmark  appears on it—and then choose either Duplicate, Move, Share, or Delete at the bottom of the screen.
- **Mark up images and PDF:** Tapping an image or PDF lets you mark up that file, with the tools described in [Create PDF](#).
- **Collaborate on files:** One of iCloud Drive’s biggest faults has been that it doesn’t let you collaborate on files with others—you could send a copy to another person, but you couldn’t both work back and forth on the same file. That changes with the Files app.

To begin, you must pull up the Share sheet for a file or folder. There are three ways to do that:

- ▶ As mentioned above, tap Select in the upper-right corner, select the files or folders you want to share, and then tap Share at the bottom of the screen.
- ▶ Touch and hold a file or folder and choose Share from the popover.
- ▶ Tap a file to open it and tap the Share  icon.

Choose Add People from the Share sheet. You can tap Share Options to choose who can access or modify the file. Choose a sharing method, such as Message or Mail, enter the contact information for the recipient, and send the invitation.

The recipient will receive a message with a link to the file. iOS 11 users who tap the link will open it in the Files app. Users running older versions of iOS can view the shared file, but not act upon it.

Tip: Apple has a short [video explaining how to use the Files app](#).

There's an App (Store) for That

The App Store is arguably the most important app in iOS, since it's your portal to a treasure trove of over two million apps. It was the App Store and third-party developers that transformed the iPhone from a niche gadget to a world-changing phenomenon. In iOS 11, Apple has redesigned the App Store from the ground up, with a focus on daily updates and human curation of apps.

Tip: Your App Store login can be separate from your iCloud login. You can manage it in Settings > *Your Name* > iTunes & App Store > Apple ID or in Settings > iTunes & App Store > Apple ID.

Tour the New App Store

When you first open the App Store in iOS 11, you'll notice that it's very different than what you're used to. Here's how the App Store is now organized:

- **Today:** Apple updates this tab every day with new suggested content, like daily lists of apps, App of the Day, Game of the Day, and new apps. Tap an individual featured app to see its story—a short article that tells you about the app.
- **Games:** This tab focuses on games, including new games, lists of games the App Store editors love, and lists of the most popular games.
- **Apps:** This tab is just like the Games tab, but for non-game apps.
- **Updates:** Here, you can view recent and pending app updates. Tap Update next to an app to download its update or Update All to update all apps at once.

- **Search:** In this tab, you can search for apps. It also features a list of trending searches, which I've never found terribly useful.

Update Apps Automatically

After you buy an app, there's a good chance the developer will offer free updates with new fixes and features. If you want the latest versions of your apps with the least amount of effort, you can have them update automatically:

1. Go to Settings > iTunes & App Store.
2. Turn on Updates.
3. If your device has a data plan with a data cap, you probably want to turn off the Use Cellular Data switch.
4. Your apps will not update if you run out of local storage space. Turn on Offload Unused Apps here to automatically uninstall unused apps while retaining the app data.

With automatic downloads enabled for Updates, there's no need to check the Updates view in the App Store—iOS automatically downloads and installs updates to apps as they become available. Recent app updates are listed in the Updates tab. Apps will not update automatically if the device is in Low Power mode.

Obtain Apps

When you find an app you're interested in downloading, tap one of these icons:

- **Get:** This indicates that an app is free. However, the app may feature in-app purchases to enable the app's core functionality or additional features—this will be indicated under the Get  button.

Note: Enable Touch ID for purchases by going to Settings > Touch ID & Passcode and enabling iTunes & App Store.

- **Price:** If the button is a price \$1.99, you must pay that up front before the app installs. You will not be charged until you authenticate with Touch ID or your Apple ID password.

Note: To download a free app, you must authenticate with Touch ID or your Apple ID password unless you turn off Require Password in Settings > iTunes & App Store > Password Settings. There, you can also set how often you're prompted to authenticate when obtaining a new app: Always Require or Require After 15 Minutes.

- **Download:** If the app is already registered with your Apple ID, you will see a download  icon. Tapping that icon will re-download that app at no charge to you, without the need to authenticate.

You can access a list of previously “purchased” apps (even those that you paid no money for) in the Updates tab. Tap the picture of your face (or whatever photo is linked to your Apple ID) and tap Purchased to see this list (**Figure 46**).

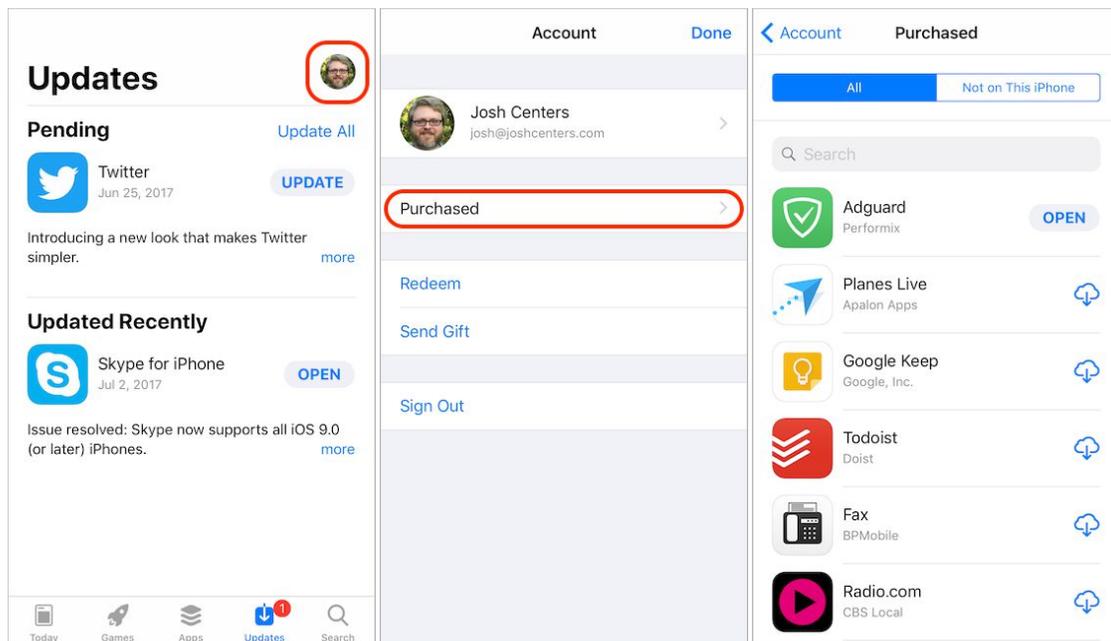


Figure 46: To access your purchased apps in one place, go to App Store > Updates, tap your picture, and tap Purchased. Here you can re-download apps associated with your Apple ID.

Tip: You can pull down on the Updates screen to refresh the list of App Store updates.

All in the Family Sharing

Family Sharing lets up to six family members with separate Apple IDs share apps and media, as well as iCloud storage, photos, a calendar, and locations. It's also required for Apple Music family plans.

Organize Your Family

The family organizer sets up and manages Family Sharing and is responsible for all charges incurred. The organizer can specify who is a parent or guardian, and who is a child.

Warning! An Apple ID can start or join a family group only once per year.

The organizer can also require that all purchases made by a family member under age 18 must be approved by a parent or guardian (the specific age may vary by your location).

Family Sharing Requirements

To set up or join Family Sharing, you must use a device running at least iOS 8, 10.10 Yosemite, or iCloud for Windows 4.0.

Apple TV software 7.0 or later (which eliminates the 1st- and 2nd-generation Apple TV models) is necessary to access shared movies.

You also need a credit or debit card on file with Apple ID.

Set up Family Sharing

To set up Family Sharing:

1. Go to Settings > *Your Name* > Family Sharing.
2. Tap Set Up Family Sharing.
3. Follow the simple prompts and read the informational tips until the setup process is complete.

You can now manage the group in Settings > *Your Name* > Family Sharing. To add additional family members from this screen:

1. Tap Add Family Member and choose either Invite via iMessage, Invite in Person, or Create a Child Account. Follow the onscreen prompts.
2. When your family member receives the notification (in iOS or macOS), they must open it and follow the prompts to be added to your family group.

About Child Accounts

In the United States, children under 13 aren't legally allowed to create online accounts (the law varies by country). You can create an Apple ID for a child, but it's important to note that once a child is in a family group, they can't be removed until they turn 13 (the exact age varies by country); however, they can transfer to another group, if they are invited to it.

Control Child Purchases

Family Sharing lets you control what purchases are made on a child account:

- **Appoint a parent or guardian:** The organizer can specify any group member age 18 or over as a parent or guardian who can approve purchase requests. Go to Settings > *Your Name* > Family Sharing, tap that person's name, and enable Parent/Guardian. An adult who isn't a Parent/Guardian doesn't need permission to make purchases, but can't authorize child purchases.
- **Enable Ask to Buy:** If a group member is under age 18, the organizer, parent, or guardian can restrict purchases (even free ones) for that person by going to Settings > *Your Name* > Family Sharing, tapping that person's name, and enabling Ask to Buy.

How Ask to Buy Works

Here's how Ask to Buy works for both parents and children:

1. The child attempts to make a purchase or in-app purchase in the App Store, iTunes Store, or iBooks Store.
2. In the Ask Permission alert, the child taps Ask.
3. A notification appears on all parent/guardian devices. A parent opens the notification and taps either Decline or Approve. If the parent approves the purchase, they authenticate with Touch ID or their Apple ID password to complete the purchase.
4. The child receives a notification of the decision. If the parent approved the request, the purchase downloads automatically to the child's device.

If an Ask to Buy request isn't acted upon within 24 hours, it will be deleted and must be submitted again.

If your child receives an error like "This iTunes account is not set up to use Family Sharing," try disabling and re-enabling Ask to Buy.

Remove a Family Member

You can remove a family member age 13 or older at any time:

1. Go to Settings > *Your Name* > Family Sharing.
2. Choose the family member you wish to remove.
3. Tap Remove *Name*.

The removed person immediately loses access to shared purchases, the Family photo album, Family calendar, and everything else Family Sharing entails.

What's Shared and Not Shared

Family Sharing can be a bit confusing. Here's a clear list of what's shared:

- **Apple media purchases:** Accounts linked via Family Sharing share most purchases from the App Store, iBooks Store, and iTunes

Store, including apps, books, TV shows, movies, and music. You can turn this off in Settings > *Your Name* > Family Sharing > Purchase Sharing.

Note: Purchases for Adults and Parents/Guardians work the same they always have, except that the organizer absorbs all charges.

- **Apple Music family plans:** If you subscribe to an Apple Music family plan, it will be shared with your group.
- **iCloud storage plans:** New in iOS 11, you can share iCloud storage plan space with your family. To do so, go to Settings > *Your Name* > Family Sharing > iCloud Storage and tap Let Your Family Know. You're then prompted to send a message to your Family Sharing members, who then are given the option to join your plan or to retain their existing plans.
- **Photo album:** Devices in the same Family Sharing group all get access to a shared Family photo album in the Photos app. To view the family's shared photos, open the Photos app, switch to the Shared view and select the Family photo album.

To add photos, tap the plus **+** button while viewing the photo album, select the photos to share, and tap Done.

- **Calendar:** All Family Sharing members can access a shared Family calendar in the Calendar app. The shared Family calendar is automatically added to the Calendar app. To show or hide it, open Calendar, tap Calendars, and either check or uncheck it.

While creating a new event, add it to the Family calendar by tapping Calendar and selecting Family. To move an existing event to the Family calendar, open the event, tap Calendar, and select the Family calendar.

Tip: Set the default calendar for new events in Settings > Calendar.

- **Reminders:** Group members also get a shared Family reminders list in the Reminders app. Open the Reminders app to add and view reminders on the shared Family card.

- **Locations:** By default, group members can see each other in the Find My Friends app (see [Use Find My Friends](#)). Any member can stop sharing their location by going to Settings > *Your Name* > Family Sharing > Share My Location, and then turning off the Share My Location switch.
- **Find My iPhone family view:** By default, group members can locate the devices of all other members, with the Find My iPhone app, described in [Use Find My iPhone](#).

Not all content sold in Apple’s online stores can be shared with a family. [Items that aren’t shared](#) include:

- Songs in iTunes Match that weren’t purchased in the iTunes Store
- In-app purchases
- Items [hidden by a group member](#)
- Some apps from the App Store—this is left up to each developer

Apple Music Family Plans

[Apple Music](#), Apple’s streaming music service, syncs your music library and gives you access to millions of songs. But the \$9.99 individual membership allows you to listen on only one device at a time. (Apple also offers an individual student plan for \$4.99 per month.) The \$14.99 family membership offers unlimited access from your devices, and lets up to six people share the membership. The catch is that all six people must be in the same Family Sharing group.

To upgrade an individual membership to a family membership:

1. Go to Settings > iTunes & App Store.
2. Tap your Apple ID, tap View Apple ID, and enter your password or scan your fingerprint when prompted.
3. Tap Subscriptions and then Apple Music Membership.
4. Select Family.

To change your subscription later, return to the Apple Music Membership screen. Or, to unsubscribe, tap Cancel Subscription here.

Special iPad Features

As iOS has evolved, Apple has made an effort to make the iPad more than just a “big iPhone,” adding features that help you take advantage of its large screen. iOS 11 takes this to the next level with an overhaul of the iPad’s multitasking system and some other new features.

Work with Instant Notes

iOS 11 lets you quickly create or edit a note in the Notes app from the Lock screen—Apple calls this Instant Notes. Contrary to Apple’s marketing, this isn’t an iPad-specific feature, as I explain in [Discover Control Center Functions](#), since you can use the Notes button in Control Center to summon an Instant Note.

However, if you use an Apple Pencil with an iPad Pro, there is an actual instant way to create an Instant Note. Wake your iPad Pro and tap the tip of the Apple Pencil on the Lock screen to create or open an Instant Note.

Tip: Sometimes it takes a second tap of the Apple Pencil to open Notes. If that doesn’t work, your Apple Pencil may need to be charged.

By default, Instant Notes brings up the last note you viewed in the Notes app. To instead create a new note every time you summon Instant Notes, go to Settings > Notes > Show Note on Lock Screen and select Always Create New Note.

If you keep it set to Resume Last Viewed Note, the Require Password setting dictates how long you can return to that note without authenticating with Touch ID or a passcode. The default is 15 minutes.

Tip: Apple has a [video showing off some of the Apple Pencil’s new tricks](#) in iOS 11.

Manage the Dock

Apple has redesigned the iPad's Dock in iOS 11 to make it more like the Mac's Dock. It's split into two sections. The left-hand section holds the apps you place there—up to 15 of them. The right-hand side presents recently and frequently used apps and Handoff apps, denoted by the Handoff  icon on the app (see [Learn About Handoff](#)—**Figure 47**). You can turn that off with the Show Suggested and Recent Apps setting in Settings > General > Multitasking & Dock.



Figure 47: The new iPad Dock holds your favorite apps, and suggests apps iOS thinks you'll want quick access to. It's also now how you access Handoff apps on the iPad.

Apple has a [video showing how to use the new Dock](#).

Reveal the Dock

The Dock is always visible on the Home screen, but is hidden when viewing an app. Swipe up from the bottom of the screen to reveal it. In some apps, you must first swipe up to reveal an arrow , and then swipe up again to reveal the Dock.

Tapping an app in the Dock switches from the current app to the app you tap.

Adding and Removing Dock Apps

To add an app to the Dock, simply drag it from the Home screen to the Dock. You can touch and hold until the icons shake, but there's no need to do that. Items added to the Dock are removed from the Home screen.

Tip: The iPad Dock can also hold folders! Moving them in and out of the Dock works just as it does with apps.

Removing an app from the Dock works the same way—simply tap and drag an icon from the Dock to the Home screen. Note that you cannot do this in an app—you must be viewing the Home screen.

Multitask on the iPad

As with the iPhone, you can double-press the Home button to switch between apps. But the iPad offers gestures to help you switch between apps, and the iPad App Switcher has been completely overhauled in iOS 11. Also, unlike the iPhone, the iPad lets you use multiple apps at once.

Multitasking Gestures

Repeatedly pressing the Home button can contribute to repetitive stress injuries or even wear out your Home button prematurely. On the iPad, there are three gestures you can use to switch between apps:

- **Return to the Home screen:** Place four or five fingers on the screen, and move them in toward each other. (This works better with five fingers.)
- **Bring up the App Switcher:** Place four or five fingers on the screen and move them up toward the top of the screen. (This works better with four fingers.)

Note: The iPad App Switcher shows Control Center alongside a grid of your open apps. To close an app, swipe up on it.

- **Switch between apps:** Place four or five fingers on the screen and move them left or right.

You can turn these gestures on and off in Settings > General > Multitasking & Dock.

Use Two Apps at Once

The iPad lets you use two apps on screen at the same time (plus an optional video using Picture in Picture). There are two distinct, yet interconnected, ways to do this:

- **Slide Over:** While working in one app, this approach lets you bring up a second app in a side column that is overlaid on the first app. You can work only in the app in the Slide Over column while referencing content in the main app. You can hide a Slide Over app off the right side of the screen and bring it back on the screen. Slide Over works on all iPads that support iOS 11.
- **Split Screen:** This approach lets you use two apps side by side simultaneously. A divider in the middle lets you adjust how much screen space both apps get. This only works on the iPad mini 4, iPad Air 2, iPad Pro, and later models.

Tip: Apps joined together in Split Screen will appear together in the App Switcher.

To activate either one, reveal the Dock and drag an app from the Dock onto the app you're viewing. Once you've done that, what you do next will determine if the second app opens as Slide Over or Split Screen:

- **Open the app with Slide Over:** The app you're dragging will be surrounded by a rectangular outline. Release the app to open it as a Slide Over app (**Figure 48**).

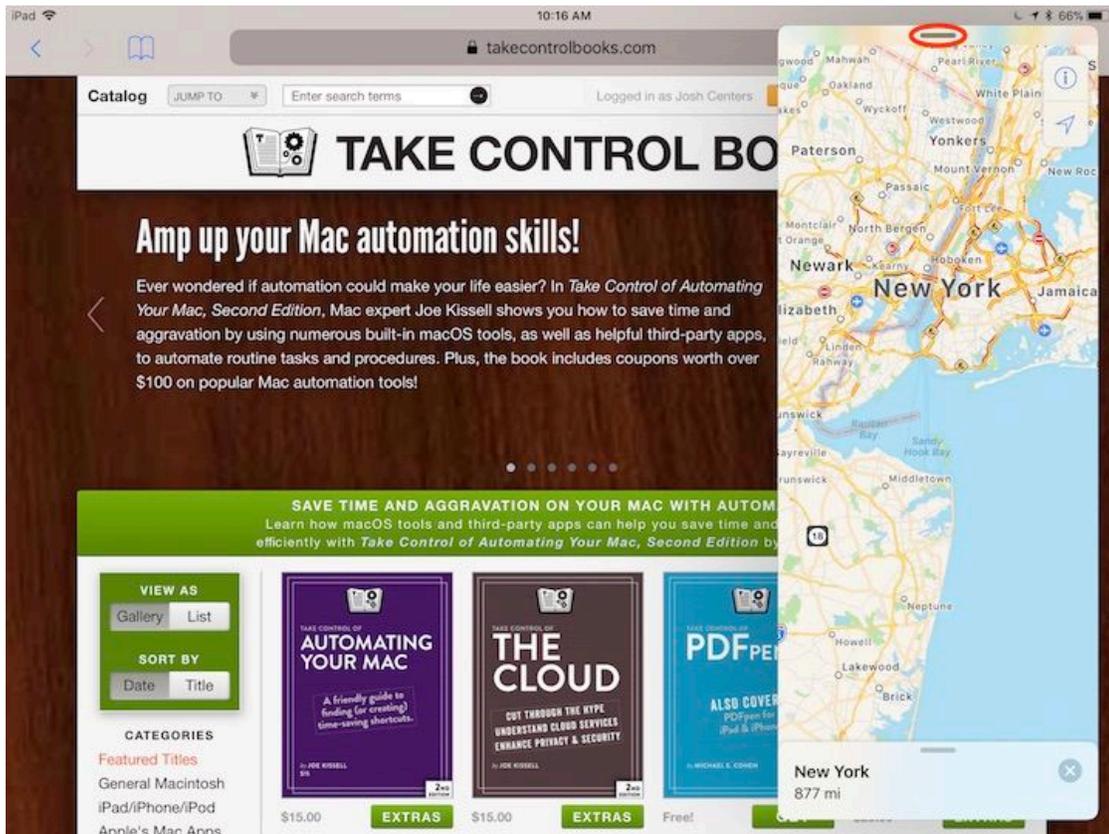


Figure 48: Slide Over apps float over the main app.

- **Open the app in Split Screen:** Drag the app to the far left or right edge of the screen. The main app will shift over to one side. Release the app you're dragging to open it alongside the first app in Split Screen (**Figure 49**).

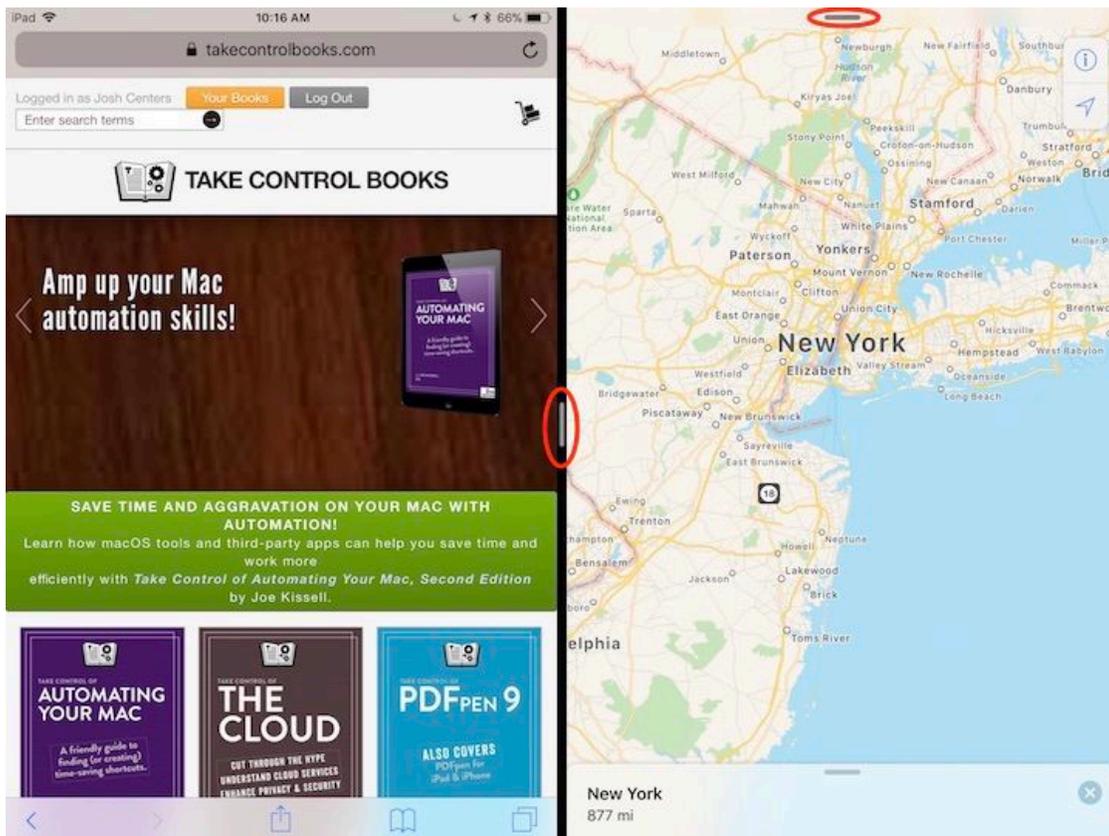


Figure 49: Split Screen apps work side-by-side. The center drag handle lets you adjust how much space each app takes. Pulling down on the top drag handle lets you change it to Slide Over.

Once you've made your choice, you'll want to know how to manage multiple apps on the screen at once:

- **Move a Slide Over app:** Touch and hold the drag handle on top of the Slide Over app and slide it to the left or right.
- **Hide a Slide Over app:** Move it off the right side of the screen with the upper drag handle.
- **Reveal a hidden Slide Over app:** Swipe from off the right side of the screen to the left.
- **Convert a Slide Over app to Split Screen:** Touch and hold the upper drag handle and drag it down until the app shifts to the side.

Tip: If your iPad supports Split Screen, you can split Safari to view two webpages at once while in landscape orientation. Touch and hold the Pages  icon and choose Open Split View from the popover. To merge Safari back into a single pane, touch and hold the Pages  icon and choose Merge All Tabs.

- **Adjust Split Screen panes:** Touch and hold the drag handle in the center of the screen and slide it left or right. You can adjust it so either app fits into one column—making more room for the other app—or you can split the screen equally between the two apps.
- **Close a Split Screen app:** Drag the center drag handle and move it left or right until the desired app fills up the entire screen.
- **Convert a Split Screen app to Slide Over:** Drag the top drag handle down until the other app again fills up the screen.

Tip: Apple has a [video showing how the new multitasking features work](#) in iOS 11.

Watch Picture in Picture Videos

Picture in Picture (PiP) lets you watch a video on your iPad while you use other apps (**Figure 50**). As with the other multitasking features, to work with Picture in Picture, video apps need to explicitly support it.

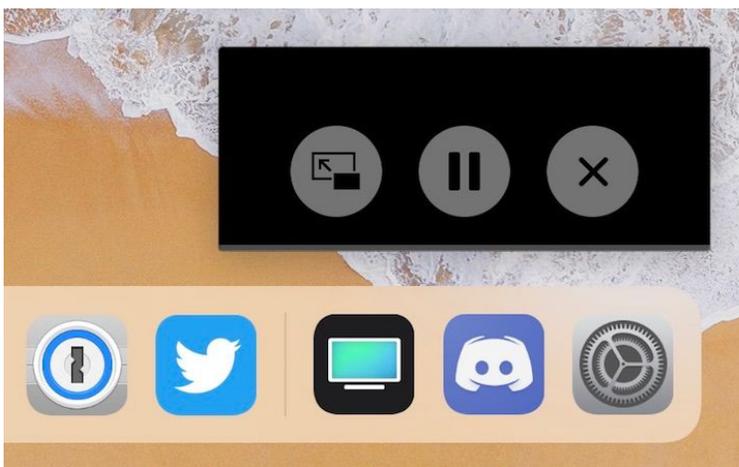


Figure 50: Picture in Picture lets you watch a video on your iPad while you do other things.

Here's how to use Picture in Picture:

- **Activate PiP:** While watching a video in a supported app (such as Videos or FaceTime), press the Home button to leave the app. In some app, you can or should tap the Picture in Picture  button in the video player. The video reappears in a small window.

You can drag the PiP window around the screen to suit your tastes, though it always snaps to the edge of the screen. If you just want to listen to the audio, you can even drag the PiP window off the left or right edge of the screen. iOS replaces it with a small handle. To retrieve it, tap or drag the handle.

- **Adjust the PiP window size:** Pinch out with two fingers to enlarge the window or pinch in to shrink it.
- **Pause the PiP video:** Tap the PiP window and then tap the Pause  button.
- **Resume watching in fullscreen:** Tap the PiP window and then tap the Fullscreen  button.
- **Close PiP:** Tap the PiP window and then tap the Exit  button.

Tip: You can disable PiP with Settings > General > Multitasking & Dock > Persistent Video Overlay.

Drag and Drop

iOS 11 lets you drag and drop elements between apps and even within apps. Here are some examples of what you can drag and drop:

- A headline from News into Notes
- Maps locations into messages
- Attachments between threads in Messages.
- Selected text into Notes.

To use drag and drop, open the apps in Slide Over or Split Screen, touch and hold an element until it seems to lift off the background, and then drag it onto the other app.

Keyboarding on the iPad

The iPad’s large screen size affords some special features that wouldn’t make sense on an iPhone.

Tip: The iPad keyboard can display special keys for working with text: undo ↶, redo ↷, cut ✂, copy 📄, and paste 📄.

Flick Down for Special Characters

iOS 11 makes typing alternative characters more efficient, by allowing you to “flick” down on a key to type an alternate character instead of having to cycle through keyboard layouts.

Look at each keyboard key. Tapping the key will insert the black character. Most keys also display a gray character. To type these, flick down on the key instead of merely tapping it. Think of it like flicking down a light switch.

If you flick slowly, you’ll notice the key rotating down and becoming the key you’re typing (**Figure 51**).



Figure 51: As I flick down on the Q key, it types a 1—observe the upper-left corner.

Split the iPad Keyboard

The standard iPad keyboard is fine if you’re resting the iPad in your lap, but if you’re holding the iPad in your hands and need to type with your thumbs, it can be impossible to reach the middle keys.

Thankfully, iOS lets you split the onscreen keyboard so you can type with your thumbs:

- Touch and hold the Hide Keyboard  key, and then choose Split (**Figure 52**).



Figure 52: You can split the iPad's keyboard, making it easier to type with your thumbs.

- Or, touch and hold the Hide Keyboard  key and immediately drag it up.

Either way, the keyboard splits and moves up to the middle of the screen.

To put the keyboard back together, either drag the Hide Keyboard  key down or touch and hold the Hide Keyboard  key and choose Merge or Dock and Merge.

Use Trackpad Mode

Selecting text can be finicky, so iOS lets you use the keyboard area as a trackpad to move the cursor and select characters:

- **Move the cursor:** Place two fingers on the keyboard and immediately slide them on the keyboard.
- **Select text:** Set two fingers on the keyboard until drag handles appear. Move your fingers to expand the selection. To remove the selection, lift your fingers and then tap the screen in the text-input area.
- **Select a word:** Place the cursor inside the word, and then two-finger tap on the keyboard.

- **Select a line:** Place the cursor on the line, and then two-finger double-tap on the keyboard.

Learn iOS Keyboard Shortcuts

You can technically use external keyboards with any iOS device, but they're particularly well suited for iPads, especially when you pair an Apple Smart Keyboard with an iPad Pro. Here are some shortcuts every Smart Keyboard user should know:

- **Unlock your iPad with the keyboard:** Tap a keyboard key once to wake up the iPad and then again to show the passcode prompt. You can enter your passcode from the keyboard and press Return to unlock the iPad.
- **Go Home:** Press Command-H to return to the Home screen. Note that double-pressing this won't bring up the App Switcher.
- **Switch apps:** Press Command-Tab to bring up an alternative app switcher (which is much like the Mac's App Switcher—**Figure 53**). While holding Command, press Tab to cycle through apps from left to right. To cycle from right to left, hold Command-Shift and press Tab.



Figure 53: Command-Tab brings up a Mac-like App Switcher on the iPad.

- **Search:** Press Command-Space to pull up the Spotlight search box. This also works inside apps. Press Command-Space again to dismiss Spotlight.

Tip: You can use the Command-Space shortcut to quickly launch apps. Press Command-Space to bring up Spotlight, type the app's name, and press Return twice.

- **Page Down and Page Up:** Hold Option and press the up and down arrow keys to move up and down a page at a time. This works in Safari, but may not work in all apps.
- **Home and End:** Hold Command and press the up or down arrow keys to move to the beginning or end of the page.
- **Discover keyboard shortcuts:** Hold Command to see a list of keyboard shortcuts for the current app.

Capture Camera Basics

Camera is one of the most popular iOS apps. Thanks to the ever-improving quality of iPhone and iPad cameras, many people have abandoned point-and-shoot cameras entirely, instead using their iOS devices to capture cherished moments.

Before you take a photo or video, let's quickly review the icons on the main screen of the Camera app (**Figure 54**). Read more about most of these in [Pick a Camera Mode](#), ahead.



Figure 54: Here's a look at the Camera controls on an iPhone (the iPod touch is similar): **(A)** Filters, **(B)** Timer, **(C)** HDR, **(D)** Flash, **(E)** Viewfinder, **(F)** Camera Chooser, **(G)** Take Picture (shutter), and **(H)** Photo and Video Viewer. Camera on the iPad has similar controls, but a different layout.

Pick a Camera Mode

Before you press the round Take Picture  button (**G** above), you'll want to set up your shot. Start by picking a mode.

The mode is indicated by a yellow label next to the Take Picture  button.

You switch between modes by swiping across the Viewfinder (vertically if your device is in landscape orientation, as shown above), or by tapping a label.

Here is a list of the Camera's modes:

- **Time-Lapse:** The camera snaps a series of images at dynamically selected intervals. It then combines the images into a time-lapse video (see [Take a Time-Lapse Video](#)).
- **Slo-mo:** On supported devices, this mode records video at 120 frames per second or up to 240 fps on the iPhone 6 and iPhone 7 models—adjust this in Settings > Camera > Record Slo-mo. During playback, you can choose a snippet of this high-frame-rate video to be played in slow motion (at the normal rate of 30 fps).
- **Video:** This mode lets you record video at 30 fps. On any iPhone 6 or iPhone 7 model, tap Settings > Camera > Record Video to switch to 60 fps (see [Take a Video](#)).
- **Photo:** This mode takes standard rectangular photos.
- **Square:** In this mode, the camera takes square, Instagram-friendly images.
- **Pano:** The camera takes a continuous stream of photos as you move the device horizontally, and then it stitches those images together to create a super-wide image—ideal for capturing landscapes. Follow the onscreen instructions to capture the perfect panorama.

To take a *vertical* panorama, hold the device in landscape orientation and move it up instead of to the side.

Tap the white arrow to reverse the direction in which you move to capture the panorama.

Special Camera Features for Larger-screen iPhones

There's not just one, but two cameras on the back of the iPhone 7 Plus, 8 Plus, and X. This makes two features possible on those phones:

- ♦ **Optical Zoom:** The viewfinder of the Camera app has a 1x button. Tap this to turn it into a 2x button, meaning 2x optical zoom is enabled with the special telephoto lens. You can also drag the button to enable up to 10x digital zoom, which isn't as sharp as the 2x optical zoom.
- ♦ **Portrait mode:** This special mode takes photos in which the subject is in sharp focus, but the background is blurred, emphasizing the subject. Portrait photos need to be taken up close and require a lot of light to turn out well—the onscreen instructions will tell you what to do.

There's also a new beta Camera feature for the iPhone 8 Plus and iPhone X, called [Portrait Lighting](#), which lets you dynamically alter the subject lighting during and even *after* the shot!

In addition to shooting modes, the Camera app provides a number of options for taking and tweaking photos:

- **Flash:** On devices with a rear flash, tap the Flash  button to disable the flash, enable it for all photos, or let Camera make the decision for you, depending on lighting.

Note: Some devices have a flash option when the front camera is selected, even though they don't have an actual flash on the front. Instead, Camera uses the screen as a flash!

- **HDR:** High-dynamic-range imaging, or *HDR*, is a way to capture more light in a photo by combining several photos into one. When HDR is enabled, Camera takes two photos with different exposures and merges them to produce, in theory, a better final image. Taking photos with HDR enabled will leave two pictures in the Photos app: one with HDR and one without.
- **Time delay:** Tap the time delay  button to set a 3- or 10-second timer—then tap the Take Picture button, get in position, and smile.

Camera displays a countdown and flashes the camera flash to indicate how much time is left before the picture is taken. If your device takes Live Photos, and is set to do so, it takes only a single photo; otherwise, it takes a ten-shot burst, so you should always get a usable shot, even if you're not ready in time.

- **Camera swap:** Tap the camera swap  button to toggle between the front and rear cameras. The rear camera takes higher quality photos, but the front one is best for selfies.

Tip: Other apps, like FaceTime, also have this button for switching cameras.

- **Filters:** Tap the filters  button (iPhone and iPod touch only) to see the effects you can apply to your photo as it is being taken. You see a preview of all filters on screen; swipe to see what's available.

Tip: You can later remove a filter effect while viewing the picture in Photos by tapping Edit, and then Revert.

Snap a Photo

Taking a photo isn't rocket surgery, but the Camera app has many subtle features you may miss:

1. Choose a camera mode.
2. Make sure you've set the options described above, like the flash.
3. Tap an object in the viewfinder to focus on it. A square reticule appears, indicating where the camera is focusing. You can change the focus by tapping on another part of the viewfinder. Slide your finger up or down the screen to adjust exposure (**Figure 55**).

To zoom, pinch in or out on the screen. A slider appears to show the zoom level; once visible, you can adjust it manually as well. On the iPad, there's a slider to the side of the viewfinder that lets you adjust the zoom level.

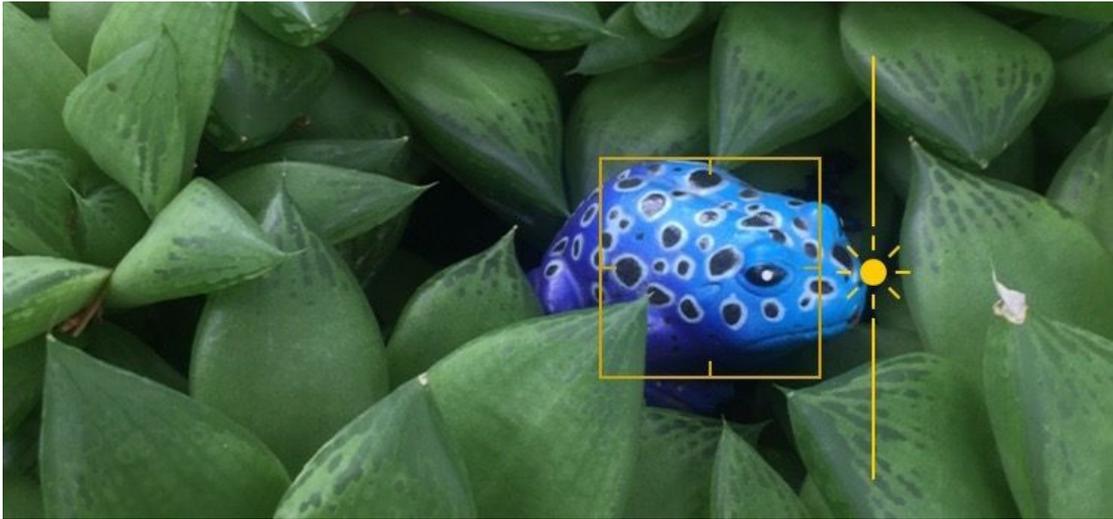


Figure 55: Tap the viewfinder to show the focus reticle, which tells the camera where to focus and lets you adjust exposure manually.

Tip: Touch and hold the viewfinder to lock focus; an AE/AF Lock appears in the viewfinder. Tap the viewfinder to unlock focus.

4. Take the photo: tap the Take Picture  button or press either of your device's volume buttons.

Tip: Touch and hold the Take Picture button for Burst mode (on supported devices), which takes ten photos per second until you let go.

The Camera app saves your photo to the Photos app in Albums > Camera Roll (or Albums > All Photos if iCloud Photo Library is on). Burst-mode photos are collected under a single thumbnail; tap it, and then tap Select to see all photos in the series.

Camera Dos and Don'ts

Camera can do amazing things, as long as you understand its limitations:

- ✦ **Do:** Get close to your subjects, leave the flash off, use Burst mode to capture fast-moving subjects, and take videos in landscape orientation.
- ✦ **Don't:** Try to capture faraway things, snap photos in low light, or ever, ever take video in portrait orientation (though we've all done it).

Live Photos

Newer iOS devices can take *Live Photos*, which are otherwise normal photos that embed a brief video clip (think of the moving pictures in the *Harry Potter* series). When Live Photos is enabled, video is captured automatically whenever you take a photo.

You can toggle Live Photos on and off in Camera by tapping the Live Photos  button.

While viewing a Live Photo in Photos, press the photo to see the embedded video.

Be aware that a live photo can take up to twice as much storage space as a regular photo. For more about Live Photos, see [Work with Live Photos](#).

Take a Video

The iPhone's video camera is no slouch—entire motion pictures have been shot with it! I don't have the skill to help you win film festivals, but I can show you how to get started:

1. Switch to Video mode.
2. To begin recording, tap the record  button or press either of your device's volume buttons.

A counter at the top of the screen lets you know how long you've been recording.

3. Tap the stop  button to stop recording.

Camera saves your video in the Photos app, in Albums > Videos.

Take a Slo-mo Video

A Slo-mo video is great for capturing actions scenes where you want to emphasize the action by slowing it down—like your kid swinging a baseball bat or going down a slide:

1. Switch to Slo-mo mode.

2. To begin recording, tap the record  button or press either of your device's volume buttons.

A counter at the top of the screen lets you know how long you've been recording.

3. Tap the stop  button to stop recording.

Camera saves your video in the Photos app, in Albums > Slo-mo.

Camera automatically sets slow-motion points in the video. To adjust them, open the video, tap Edit, and adjust the drag handles (**Figure 56**).

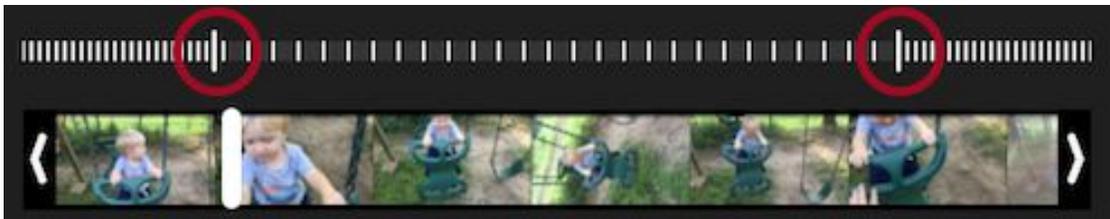


Figure 56: Adjust the drag handles (circled in red) to change the placement of the slow-motion effect in the video. The slow-motion portion is denoted by the widely spaced white lines.

Tip: If you're taking a video in dark surroundings, you can brighten things up with the flash's LED. Tap the Flash  button and then tap On to keep the light on as you film.

Take a Time-Lapse Video

Time-lapse videos let you capture events that happen slowly—like cloud movements—and display them at regular speed. Here's how to take them:

1. Try to rest the device on a ledge or other solid base, or use a tripod.
2. Switch to Time-Lapse mode and either tap the record  button or press either of your device's volume buttons, and hold the device still.

3. Camera starts shooting and continues until your device runs out of space or battery, or you press the stop  button.

The Camera app stitches the images together to make a time-lapse video and stores it in the Photos app, in Albums > Time-lapse.

Get to Know Photos

Once you've taken a photo or video with the Camera app, or saved an image from another app, you can find it in the Photos app. Images from shared albums and iCloud Photo Library also appear in Photos (see [An Introduction to iCloud](#)). This chapter will get you started with Photos and tell you about its new features, but for full coverage, see Jason Snell's [Photos: A Take Control Crash Course](#).

View Your Photos

There are four views in Photos: Photos, Memories, Shared, and Albums, accessed by tapping icons at the bottom of the screen.

The Photos view has three levels. The broadest level, Years, groups photos by, well, years. Tap a group of photos in any year, and you see Collections, which include photos from smaller date ranges, as well by geographic regions. Tap any Collection, and you see Moments, which group photos by small units of time and location.

At any level, tap a photo to drill down; in Moments, tapping a photo opens it full screen. To move back up a level, tap the  arrow at the upper-left corner.

Note: By default, Photos shows only a subset of thumbnails for Years and Collections; to make it show all of them, tap Settings > Photos and disable Summarize Photos.

There's a useful shortcut for browsing your photos: the scrubber. When you're viewing a photo, the scrubber shows tiny previews of other photos taken around that time at the bottom of the screen. Drag the scrubber to scan through them quickly.

Swipe up on a photo to see additional details, such as who's in the photo, where the photo was taken, and associated Memories (see [Walk](#)

[Down Memory Lane](#)). On supported devices, this view also shows Live Photo effects.

Search in Photos with Siri

You can search for photos and videos in the Photos app: tap the magnifying glass at the top of the screen to bring up the search screen.

iOS suggests some searches, like Nearby, Home, and One Year Ago. Tap a suggestion or type a search term, such as a location or date. For example, I can search for *San Francisco* to see the photos I took while I was there.

Even better, you can search for photos and videos using Siri. Try queries like these:

- ✦ "Show me photos from Nashville, Tennessee."
- ✦ "Search for pictures of oak trees."
- ✦ "Display videos from Easter 2016."

Work with Live Photos

When you expose photo details, if you're viewing a Live Photo and your device supports [Live Photos](#), you will see different effects you can apply to a Live Photo:

- **Live:** This is the default effect. It merely plays the mini-video and stops.
- **Loop:** The Loop effect plays the mini-video on a repeating loop.
- **Bounce:** This effect is like a backwards loop. When the mini-video reaches its conclusion, it plays back in reverse.
- **Long Exposure:** This blends the frames of the mini-video to simulate a long exposure photo.

You can also choose a new key photo for a Live Photo in iOS 11. In other words, if you took a photo, but prefer one of the frames of the Live Photo video, you can choose that frame as the still picture instead! Here's how:

1. While viewing a single photo, tap Edit in the upper-right corner.
2. Look for the series of images at the bottom of the screen and drag the white box left or right to scrub through them (**Figure 57**).
3. Tap Make Key Photo to change the key photo. To maintain the same key photo, drag the white box to under the white dot. It should “click” into place.



Figure 57: While editing a Live Photo, drag the white box to browse for a new key photo. Drag it under the white dot to maintain the current key photo.

Select Photos

Before you can perform operations on photos (like moving or sharing them), you must first select them with one of the follow methods:

- **Select a single photo:** Tap the photo you wish to work with, or if another photo is already selected, pick the desired photo from the scrubber.
- **Select multiple photos in an album or Moments view:** Tap Select in the upper-right corner, and then tap each photo you wish to work with. A checkmark  appears on selected photos. Alternatively, you can tap Select All after tapping Select to choose all photos in that view.

- **Drag to select multiple photos in an album or Moments view:** After tapping Select in the upper-right corner, touch the first photo you want, and then drag to keep selecting photos.

You can lift your finger and repeat this process until you've selected all the photos you want.

Note: To learn how to share Photos, see [Share from the Photos App](#).

Organize with Albums

Tap Albums at the bottom of the Photos screen to see the default albums plus any you've created on the device or synced through iTunes.

Default albums that you may see include Camera Roll (or All Photos), Favorite Memories, Favorites, People, Places, Videos, Selfies, Live Photos, Panoramas, Time-lapse, Slo-mo, Depth Effect, Bursts, Screenshots, Animated, Hidden, and Recently Deleted.

Tip: Photos can recognize not only faces, but all sorts of objects as well. A built-in album called People corrals photos of recognized faces. There aren't albums for objects, but you can search for things like flowers, babies, fish, or birds. It can even identify types of trees and dog breeds.

Create an Album

Albums let you group pictures together. There are many automatic albums, but you can create your own by hand:

1. In Albums view, tap the plus **+** button in the upper-left corner.
2. Enter a name and tap Save.
3. Add items to your album. You can add from moments, collections, and years, as well as from other albums.
4. When you've selected the photos you want to include, tap Done.

Tip: To add an image to the Favorites album, view it and tap the heart  icon.

Add Photos to an Album

Adding additional photos to an album is easy:

1. Select some photos you wish to add to an album.
2. Tap Add To.
3. Select the album you want (default albums that are populated automatically are dimmed) or tap New Album, enter an album name, and tap Save.

Hide Photos and Videos

Do you have embarrassing photos or videos you don't want friends and family to see while you show off pictures? Hidden photos don't appear in Moments, albums, or Memories.

Select the items you want to hide, tap the Share  icon to open a Share sheet, and then tap Hide in the bottom row of the Share sheet.

Hidden items are stored in a special Hidden album. To unhide a hidden photo or video, select it, tap the Share  icon to open a Share sheet, and then tap Unhide.

Organize Photos by People

The People album uses facial recognition to organize photos by recognized faces:

- **Favoriting faces:** Tap the heart  icon on a face. You'll be prompted to name the face if you haven't already. As you type a name, Photos will suggest names from your Contacts. Finally, you'll be asked whether other pictures have that person—check or uncheck them as appropriate and tap Done when finished. After you've added one or more favorites, you can hide all other faces.
- **Naming faces:** Tap a face to view its associated photos. At the top of the screen, tap Add Name and enter the name. As you type,

suggested contacts appear. Tap one to associate the contact to that face.

- **Adding faces:** Tap the face, scroll down, and tap Confirm Additional Photos. You will be shown several photos, one a time, and be asked to verify if the selected person is correct.
- **Hide faces:** Tap the face, scroll down, and tap Remove From People Album.

Tip: You can also add a person to Memories. Select their face, scroll down and tap Add to Memories.

Organize Photos by Places

Photos now features a special album that displays your photos by location. The Places album displays photos either on a map, or in a grid divided by location.

In the map view, photos first appear tightly grouped together, but spread out further as you zoom in (**Figure 58**).

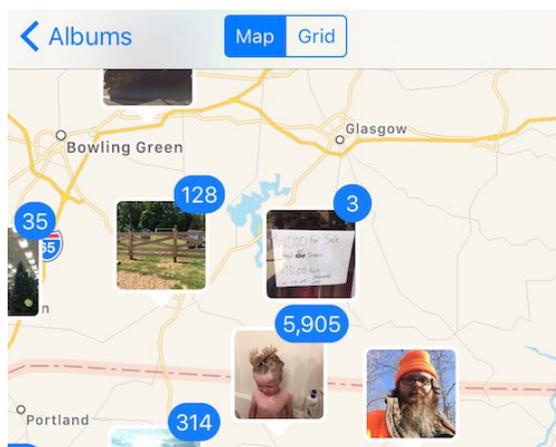


Figure 58: The Places album displays your photos on a map. The further you zoom in, the more spread out your photos will be on the map.

Note: Unfortunately, you can't add a location to a photo in Photos for iOS, although you can in Photos for macOS.

Delete Photos and Videos

We live in an age where it's almost too easy to take a photo! Here's how to delete them to get rid of bad ones and free up space:

1. Select the item(s) that you wish to delete.
2. Tap the Trash  icon.
3. Tap the Delete button.

Note: Deleting a photo or video from an album doesn't delete the photo but instead just removes it from the album.

The Recently Deleted Album

The Recently Deleted album holds deleted photos and videos for 30 days before trashing them forever. A label on each item notes the time remaining.

If you don't want to let them compost out of existence in 30 days, you can recover items from this album or delete them manually right away:

- ✦ **Recover or delete one item:** Tap an item to view it, and then tap Recover or Delete.
- ✦ **Recover or delete multiple items:** Tap Select, select the items you want to recover, tap Recover or Delete, and tap Recover # Items or Delete # Items.
- ✦ **Recover or delete all items:** Tap Select, tap Recover All or Delete All, and then tap Recover # Items or Delete # Items.

Walk Down Memory Lane

Memories use artificial intelligence to automatically gather photos and videos by date, location, people, and objects into collections with names like On This Day, Christmas Day 2016, and San Francisco.

Here's how to work with Memories:

- **Create Memories:** Photos generates Memories automatically. However, you can generate Memories from related photos. Open a photo, swipe up on it to see details, scroll down to Related, and tap one of the related photo collections there. Scroll down and tap Add to Memories to make a memory from those related photos.

Tip: While you can't add photos to a memory manually, you can hide photos to exclude them from all Memories.

- **Favorite Memories:** If you love a particular memory, view it, scroll down, and tap Add to Favorite Memories. You can find Favorite Memories with the rest of your albums.
- **Delete Memories:** Memories are computer-generated and therefore can sometimes be stupid or insensitive in the photos they bring together. To remove a rogue memory, view it, scroll down, and tap Delete Memory.

Tip: Check Memories every day to see pictures that were taken on that day in years past.

- **Block Memories:** There's a new option in iOS 11 to deal with offensive Memories. Under Delete Memory is a Block Memory option. Tap that to see options to block Memories of that day or that place.

Viewing Memory Slideshows

At the top of each memory is a video slideshow; tap it to play, though you'll likely have to wait a minute for it to begin. Tap the screen while it plays to see more controls:

- **Themes:** Apple provides ten text and music themes to choose from, such as Gentle, Chill, and Epic.

Note: You can't add photos or videos to slideshows generated by Memories.

- **Transition Length:** Choose Short or Medium, to adjust how long the slideshow lingers on an image.
- **Share:** Tap the Share  icon to export your slideshow as a movie and send it to others. You can also save a movie of the slideshow like any other video.
- **Pause/Play:** Tap Pause  or Play  to stop or play the slideshow.
- **Edit:** Tap Edit  to adjust slideshow settings: title, music (either from Apple's included tracks or your library), duration, and which photos and videos are included.

iCloud Photo Sharing

iCloud Photo Sharing lets you share an entire album of photos and videos. Friends and family can view the album in the Photos app or on the web.

To share selected photos or videos:

1. Tap the Share  icon.
2. Tap iCloud Photo Sharing in the Share sheet.
3. Tap Shared Album to pick any album or make a new one. If you choose to make a new album, you'll be prompted to name it and enter email addresses of people with whom you want to share.
4. Optionally, enter a comment.
5. Tap Post.

To see the shared album, switch to the Shared view and tap the album's icon.

To manage a shared album, open it and tap People. From here, you can invite or uninvite subscribers, put the album on the web and get a URL to it, allow others to post pictures, and more.

Note: If you have a Family album, it's shared among everyone in your Family Sharing circle and its members can't be changed in Photos. See [All in the Family Sharing](#).

In the Shared view, you can also see albums that others have shared with you. While viewing a shared album, you can “like” photos and videos, add comments, possibly upload your own photos, and more.

Master Messages

Messages has evolved from a simple SMS text messaging app into a capable instant messaging tool. Messages can handle SMS messages, Apple's own iMessage messages, and voice messages. Messages lets you add visual effects to messages, and developers can create apps that integrate with Messages.

Understand Core Messages Concepts

SMS (Short Message System) and MMS (Multimedia Messaging System) are methods of sending short text messages (or, for MMS, text messages with multimedia attachments) over a cellular network. They're fast and convenient, but SMS limits text to 160 characters, these methods work only between cellular phones (except with Apple's [Text Message Forwarding](#)), and some phone carriers charge per message (or provide a limited number of messages per month, charging for any above that limit).

Tip: You can choose the tone that's played when a message arrives in Settings > Sounds > Text Tone.

iMessage is Apple's alternative to SMS and MMS. iMessage allows encrypted messages of unlimited length, those messages are sent over a standard internet connection, and messages can be sent and received by the Messages app on any recent iOS device or Mac. Also, iMessage isn't just tied to your phone number—you can associate it with other phone numbers and even email addresses. The downside is that it works only with other iMessage users—when you send a message to someone who doesn't use iMessage, it falls back to SMS and MMS.

Note: Messages displays SMS/MMS messages in green bubbles and iMessages in blue bubbles.

Here are the basics of using Messages:

- **Enable or disable iMessage:** Go to Settings > Messages and turn on the iMessage switch.
- **Set send and receive addresses:** In Settings > Messages, tap Send & Receive. Select your iPhone number and any email addresses where you wish receive iMessages (messages arrive in the Messages app, not your email). Still on the Send & Receive screen, specify the phone number or email address from which you want your iMessages to originate.

Text Message Forwarding

Your iPhone can forward SMS/MMS “green bubble” messages to other iOS devices (running at least iOS 8) without a phone plan, along with Macs running at least 10.10 Yosemite:

1. Sign in to Messages on your iPhone and the other device with the same Apple ID. (On a Mac, choose Messages > Preferences > Accounts.)
2. On the iPhone, open Settings > Messages > Text Message Forwarding and turn on the switch for the device you wish to forward messages to.
3. That may be all that’s necessary, but if a code appears on the other device, enter it on the iPhone.

This can work over a cellular connection as well, if your carrier supports it.

- **Decide about read receipts:** Adjust the Send Read Receipts switch, depending on whether you want to send *read receipts*, which tell those you’re conversing with if you’ve read their messages.

Tip: If an iMessage fails to send successfully from an iPhone with a phone plan, Messages can automatically send it as an SMS text message instead, if you turn on Send as SMS in Settings > Messages.

Send a Message

Messages gives you a bewildering number of ways to send messages, all the way from simple text messages to voice messages, video messages, hand-drawn messages—you name it. You'll even be able to send money with a message at some point, though that isn't available in iOS 11.0.

Tip: You can block contacts from messaging, calling, or attempting to FaceTime you. Go to Settings > Messages > Blocked to see who you're blocking or add an unwanted contact to the list.

Starting a Simple Message

Let's start with the basics:

1. In the Messages app, tap the Compose  icon.
2. Start typing a contact name, email address, or phone number in the To field. You can keep typing or tap to accept a suggestion.
3. Enter your note in the message field and tap the Send  icon.

Once a message thread is created, tap it in Messages to open it, tap the message field, and type your message as described above.

Tip: An unread message is marked in the Messages view with a colored dot  at its left. To mark all chats as read, tap Edit in the upper-left corner of the Messages view, and then tap Read All.

Use Emojis in Messages

Emojis are fun, but digging through the emoji picker isn't. iOS offers a couple of quick ways to communicate in pictographs:

- **Emoji suggestions:** The QuickType bar suggests emojis as you type (**Figure 59**). Tap one of the suggestions to replace the current word with that emoji.

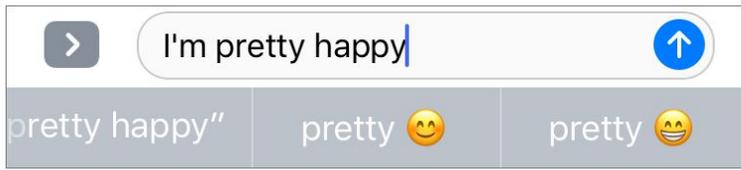


Figure 59: While you type in Messages in iOS 11, the QuickType bar suggests emojis.

- **Word replacement:** Type a message and switch to the Emoji keyboard (see [Master Emojis](#)). Words that you can replace with emojis are highlighted in orange (**Figure 60**).



Figure 60: After you switch to the emoji keyboard in Messages, it highlights words that can be turned into emojis.

Tap a highlighted word to change it to an emoji (**Figure 61**).

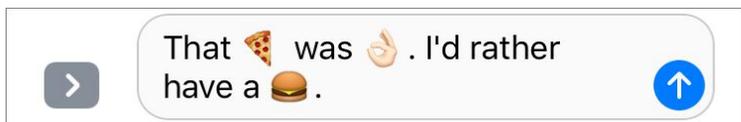


Figure 61: Tap a highlighted word to turn it into an emoji.

Add Bubble and Screen Effects

Messages lets you add bubble and screen effects. Bubble effects affect just the message bubble while screen effects are displayed all over the conversation.

To view effects, touch and hold the Send  icon. Switch between the two types of effects with the bar at the top of the screen.

Use Bubble Effects

Tap the dot  next to a bubble effect to see a preview. Tap the Send  icon to send your message with that effect, or back out with the cancel  button.

Here are the available bubble effects:

- **Slam:** A large message bubble slams on onto the screen—good for driving a point home.

- **Loud:** The message bubble grows, shakes, and shrinks—useful when you need to get someone’s attention.
- **Gentle:** Your message starts small and grows to regular size—helpful for messages that need a soft touch, like apologies.
- **Invisible Ink:** This effect obscures the message until its tapped, which is helpful when you’re sending some private information (**Figure 62**).



Figure 62: Invisible Ink messages remain a mystery until tapped.

Use Screen Effects

Swipe to switch between screen effect previews. Tap the Send  icon to send your message with that effect. Tap the  cancel button to cancel.

Here are the available screen effects:

- **Echo:** Your message is multiplied and swirls around the screen.
- **Spotlight:** The screen darkens and a spotlight is shone on your message.
- **Balloons:** Balloons fly up the screen.

Tip: You can move the balloons by swiping left and right.

- **Confetti:** Confetti falls from the top of the screen **Figure 63**.

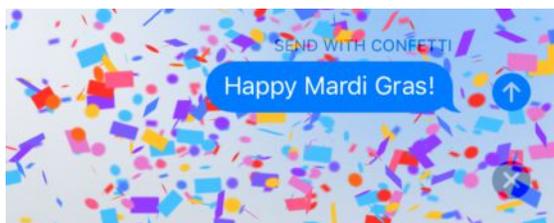


Figure 63: Happily, the Confetti effect is messy only briefly.

- **Love:** A 3D heart expands out of your message and floats up.
- **Lasers:** Lasers shoot across the screen.
- **Fireworks:** Fireworks explode in the background!
- **Shooting Star:** A star shoots across the screen and explodes.
- **Celebration:** Golden sparks fill the screen.

Tip: Tell someone “happy birthday” or “happy new year” and see what happens!

Attach Photos or Videos

Tap the camera  icon to the left of the message field. The photo bar at the bottom of the screen lets you take a new photo on the spot or choose a recent photo from your library.

Using the photo bar, you can:

- **Take a new photo:** Toward the left of the photo bar is a viewfinder. Tap the Take Photo  button to take and insert a photo. Tap the Camera Swap  icon to change cameras.
- **Insert photos and videos:** Tap a photo or video in the photo bar to insert it. You can insert multiple photos or videos.
- **Access Camera or Photo Library:** The Camera and Photo Library buttons let you access the full Camera app or your photo library (**Figure 64**). Swipe the photo bar from left to right to reveal the buttons if you don’t see them.

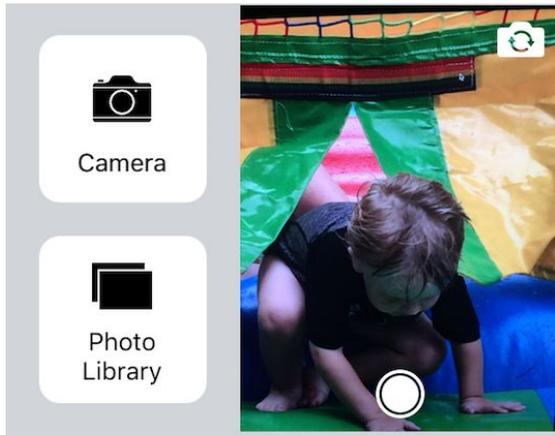


Figure 64: The Camera and Photo Library buttons give you full access to those features.

- **Remove photos:** Tap the delete  button on a photo to remove it.
- **Add a comment:** Once you've inserted a photo in the message field, tap under the photo, where it says "Add comment or Send," and type your message.

Tip: Touch and hold a photo thumbnail in the photos bar to view it fullscreen.

Send and Listen to Voice Messages

You can exchange audio messages with users of iOS 8 or later, users of Mac OS X 10.10 El Capitan or later, and Apple Watch wearers.

Press and hold the mic  icon to the right of the message box (it appears only when there's nothing in the message box). When a controller bar appears, recording starts, and you see an audio wave and a timer to the left. Don't lift your finger until you're done recording. Let go of the icon to stop recording.

Tap the Play  button for a preview, delete the recording by tapping the delete  icon or send it by tapping the arrow .

To hear a voice message that you've received, tap the Play  button on its entry (**Figure 65**). Alternatively, simply hold the iPhone up to your ear.



Figure 65: To listen to a voice message, tap the triangular Play button.

Note: After playback, voice messages disappear after 2 minutes. Change that in Settings > Messages > Expire.

Write a Message by Hand

To add a personal touch, you can send a handwritten note.

Here's what you need to know:

- **Enter handwriting mode:** On the iPad, tap the Handwriting  key on the keyboard. On the iPhone, rotate it to landscape orientation—if doing that doesn't put you into handwriting mode, tap the Handwriting  icon.
- **Write a note:** Draw on the screen with your finger, a stylus, or (on an iPad Pro) an Apple Pencil.
- **Scroll around the canvas:** Drag with two fingers.
- **Leave handwriting mode:** Tap Done to finish your note and insert it in the message. Tap the Keyboard  icon to discard the note.
- **Insert previous or predefined notes:** On the iPhone, tap one of the scripts at the bottom of the screen. On the iPad, tap the History  icon to reveal previous and predefined notes.

Reply with Tapback

Tapback lets you respond quickly to messages without typing: Touch, hold, and release a message bubble to reveal a popover with tapback icons. Tap one to add it to a message (**Figure 66**).

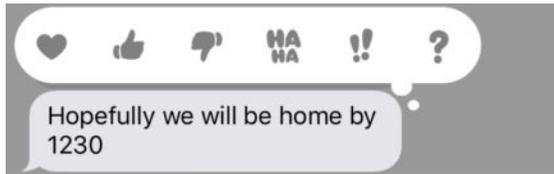


Figure 66: Tap a tapback icon to apply it to a message.

You can have only one tapback response on a message at a time, but you can change it later. Also, you can remove a tapback by opening the popover again and tapping on the current tapback icon.

Discover Messages Apps

Developers can create apps for Messages—it even has its own App Store! While the keyboard is hidden, you can tap icons below the message field to activate an app. Otherwise, tap the App Store  icon to access Messages apps.

Built-in Messages Apps

Messages includes a few apps to get you started:

- ✦ **#images:** The #images app lets you add funny animated GIFs to your messages. You can use the search bar to find specific ones. It suggests GIFs based on trends and your recent conversations.
- ✦ **Digital Touch:** This app lets you use Apple Watch-style messaging features on iOS.
- ✦ **Music:** If you subscribe to Apple Music, you can send recently played tracks to your friends. However, they can play the full song only if they also subscribe to Apple Music.
- ✦ **Recents:** This meta-app displays recently used items across all Messages apps.
- ✦ **Store:** This is the Messages App Store, where you can download apps that work only in the Messages app. See [Access the Messages App Store](#).

Use Messages Apps

Here's how to use Messages apps:

1. If the app drawer isn't showing, tap the App Store  icon to the left of the message field.
2. Tap an app from the app drawer. If the app isn't showing, touch and hold on the bar and swipe left and right to view more apps (**Figure 67**).

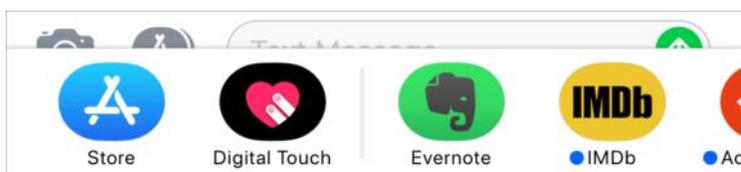


Figure 67: Tapping and holding the app drawer enlarges it and lets you swipe to see more apps.

If the app isn't in the app drawer, tap More to show all apps. You can favorite apps in this view to make them always available in the app drawer. Tap edit and tap the add  button or remove  button to add or remove apps from favorites.

You can also delete apps in the More view by swiping left on an app and tapping Delete.

3. After you tap an app, it displays in Messages, where the keyboard usually is. Tap an icon to insert it in your message. You can also make an app fullscreen by tapping the up  arrow.

Tip: After opening a Messages app, you can swipe between apps.

Use the Digital Touch App

The Digital Touch app brings the unique messaging features of the Apple Watch to Messages.

Note: Digital Touch messages vanish once they're viewed, unless one party taps Keep.

Here's what you can do with Digital Touch:

- **Sketch:** Drag your finger on the Digital Touch canvas. Tap X to cancel or tap the Send  icon to share your sketch (**Figure 68**).



Figure 68: You can use Digital Touch to send silly pictures to your friends.

Tip: Tap the colored circle (or circles in fullscreen mode) to change the Digital Touch color.

- **Tap:** Tap the Digital Touch canvas with one finger to send animated rings that fade away into smoke.
- **Fireball:** Press the canvas with one finger. You can drag your finger around while pressing to move the fireball around the canvas.
- **Kiss:** Tap the canvas with two fingers.
- **Heartbeat:** Touch and hold the canvas with two fingers.
- **Heartbreak:** Touch and hold the canvas with two fingers, and then drag your fingers down.

You can also use Digital Touch to send photo and video messages with onscreen drawings. Tap the video  icon to begin. You can:

- **Sketch:** Drag your finger on the screen to draw, either before, after, or while taking a photo or video. Tap the colored circles to change the line color. You can also use the previously mentioned Digital Touch gestures to overlay the photo or video with kisses, fireballs, and so on.

- **Swap cameras:** Tap the Camera Swap  icon. The front-facing camera is the default.
- **Take a photo:** Tap the Take Photo  button.
- **Record video:** Tap the record  button to record videos up to 10 seconds in length. Tap the stop  button to finish recording.
- **Send the photo or video:** Tap the Send  button.
- **Cancel the photo or video:** Tap the back  button.
- **Exit camera mode:** Tap the delete  button to return to fullscreen Digital Touch.
- **Return to Messages:** Tap the down  arrow to exit fullscreen Digital Touch.

Place Stickers

Some Messages apps offer stickers, which you can tap to insert into a message, or place on top of messages by tapping, holding, and dragging them onto the message bubble.

Note: Stickers are annoying and you should never use them.

Unfortunately, they're a pain to remove:

1. Touch and hold a placed sticker.
2. Choose Sticker Details.
3. On the Sticker Details screen, swipe the sticker you want to delete from right to left to reveal Delete.
4. Tap Delete.

Tip: It's impossible to tell when a Messages app icon is a sticker. Try touching and holding on icons to see if they pop free.

Message Effects and Older OSes

How do these effects show up on older Apple operating systems? Handwriting, Digital Touch, and Stickers all appear as image attachments, though Digital Touch elements may not animate properly (videos work fine).

Effects and tapback are represented with text messages along the lines of “Liked *message*” or “(sent with Slam Effect)”.

Access the Messages App Store

It isn't immediately obvious how you install Messages apps:

1. Tap the App Store  icon.
2. Open the App Store app in the app drawer.
3. Tap Visit Store.

The Messages App Store is like a miniature version of the App Store. It features stickers (see [Place Stickers](#)), games, and other amusements and utilities.

Tip: Many regular apps also include Messages apps.

Manage Message Details

While viewing a Messages chat, tap the info  icon in the upper-right corner to uncover a host of capabilities that apply to both group and individual chats.

Deal with Groups

Certain options are displayed only in a group message:

- **Name a group:** Tap Enter a Group Name to label the group message. The group name replaces the participants' names at the top of the chat's thread and in the chat's entry in your messages list.

- **Leave a group chat:** You can leave a group chat that just won't end. Tap Leave this Conversation; you may need to scroll down to find it.

Tip: If Leave this Conversation is dimmed, enable Hide Alerts instead so you won't receive notifications from the thread.

- **Add a contact to a chat:** Not only can you leave an ongoing conversation, but you can also invite someone else to it. Tap Add Contact.
- **Mute a chat:** To remain in the chat but stop receiving a notification each time a new message arrives, enable Hide Alerts.

Manage All Attachments

All chat attachments appear in a grid in Details view. In iOS 11 (as in iOS 10), attachments are split into two tabs: Images and Attachments. The Attachments tab contains things like saved voice messages, PDF documents, and contact cards.

Here's how to work with Messages attachments:

- **Save and share images and attachments:** Tap an image or attachment to open it. Tap the Share  icon and either choose Save Image or another place to send the image or attachment.
- **Batch-save images:** In the Details view for a chat, touch and hold any photo or video until a popover appears, and then tap More. Select the items you want to save, and then tap Save # Images in the lower-left corner.
- **Batch-delete images and attachments:** Follow the directions just above for saving a batch of images, but tap the Trash  icon to delete them.

Automatically Delete Messages

Tired of message attachments taking up lots of storage space? By default, messages are kept forever. But go to Settings > Messages > Keep Messages, and you can tell Messages to delete individual messages and attachments after 30 days or 1 year.

However, audio messages are a different story. By default, they self-destruct after 2 minutes, but you can opt to keep them forever in Settings > Messages > Expire.

Share Your Location

It can often be useful to share your physical location with others. Here's how:

- **Share your location once:** Tap Send My Current Location to send a map showing your current location to the chat.

Message participants can tap the attachment that appears to open a Maps-like view of your location. From that view, they can start navigating toward you by tapping Directions To Here.

- **Share your location over time:** Tap Share My Location to let message participants monitor your location for 1 hour, until the end of the day, or indefinitely.

Message participants can view a map of your location in the Details view. They can tap the map for more location-related options.

Sharing your location over time shares it with the *people* in the chat, not just within the chat itself. Chat members can see your location in the Find My Friends app (see [Use Find My Friends](#)) and in any other chats you have with them.

Tip: To see who you're currently sharing your location with, go to Settings > Privacy > Location Services > Share My Location.

Make Calls

Whether or not you have an iPhone, this chapter will tell you how to make a “phone” call on your device. There are multiple ways to talk with someone in iOS: FaceTime lets you make crystal-clear audio or video calls on any iOS device, and third-party apps like Skype can integrate with the Phone app.

Make a Phone Call

iOS offers a few ways to initiate a phone call. Note that in this modern world, it’s often good etiquette to message someone before calling:

- **Call a contact from Phone:** The standard way to phone a friend is to bring up the Phone app, go to the Contacts tab, tap a contact, and tap the call  button under their name.
- **Call a contact from Contacts:** Pull up the contact in the Contacts app and tap the call  button under their name.
- **Call with Siri:** Tell Siri something like “Call Fred.” See [Speak to Siri](#).
- **Dial a number:** You can also make a phone call the old-fashioned way: in the Keypad tab in Phone. Tap the digits of the number you want to call and tap the call  icon.

Call with Wi-Fi

In the Phone app, you can make traditional phone calls over Wi-Fi instead of the cellular network using an iPhone 5c, 5s, or any later iPhone model. The good news is that Wi-Fi calls tend to be much clearer and more reliable than cellular calls. The bad news is that this feature is not yet supported by all carriers. In the United States, all four major carriers support Wi-Fi calling.

If your carrier supports Wi-Fi calling, here's how to activate it:

1. Visit Settings > Phone > Wi-Fi Calling.
2. Turn on Wi-Fi Calling on This iPhone.

If your carrier does not have an emergency address registered with you, you may be asked to enter that as you enable Wi-Fi Calling.

Deal with Incoming Calls

If a contact is calling, iOS lets you know who it is. If it's a call from someone not listed in contacts, it searches your email to figure out who it might be. FaceTime and third-party voice-over-IP apps like Skype integrate with Phone too, so when you receive calls on those services, they'll appear like a regular phone call. Here's how you can deal with incoming calls:

- **Accept the call:** Tap the Accept  icon to accept the call or swipe Slide to Answer (**Figure 69**) from left to right.

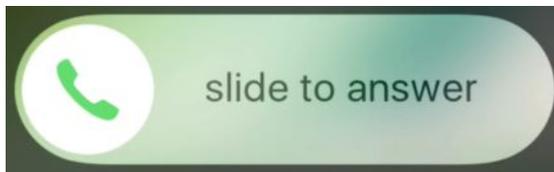


Figure 69: Slide to Answer appears when the device rings while locked. Slide the phone  icon to the right to answer the call.

- **Silence a call:** Press the Sleep/Wake icon once to halt ringing; the call continues ringing on the other end and eventually goes to voicemail.

- **Decline a call:** Tap the Decline  button once or press the Sleep/Wake button twice to decline the call and send it directly to voicemail.
- **Respond with a text:** If you can't take the call, but want to respond with a text message, tap the Message  button. Choose a canned reply, or tap Custom to send your own message.

Modify your canned replies in Settings > Phone > Respond with Text.

- **Set a reminder:** To set a reminder to call the party back, tap the Remind Me  button. The reminder is stored in the Reminders app.

Tip: Siri can announce a caller's name or number when the phone rings. Enable it in Settings > Phone > Announce Calls.

Use FaceTime

FaceTime lets you place an internet-based video or audio call to anyone running at least iOS 7 or 10.9 Mavericks (FaceTime video is supported as far back as iOS 4 and 10.7 Lion).

On the iPhone, you can initiate a FaceTime call from the Phone app using any technique besides dialing on the keypad, just by tapping the appropriate video  or audio  icon, or you can call from within the FaceTime app.

On the iPad and iPod touch, there is no Phone app, so you use the FaceTime app for these calls.

Tip: The iPad's Picture in Picture feature works for FaceTime video chats, too! See [Watch Picture in Picture Videos](#).

If you haven't done so already, go to Settings > FaceTime and sign in. Then:

1. Open the FaceTime app, and, at the top of the screen, tap either Video or Audio.
2. In the text field below, search for a contact. Or tap the plus  button in the upper-right corner to choose a contact. Or tap a recent contact.

FaceTime tries to initiate the call. If all goes well, the recipient taps the green Accept  icon and the call begins. (On the Mac, they see slightly different button.)

3. To end the call, tap the red End Call  button.

Tip: You can contact someone from within Spotlight by tapping the FaceTime , Message , or Phone  buttons in the search results.

Check Voicemail

If you miss or reject a call, callers can leave you a voicemail. To see them, enter the Voicemail tab in Phone. Tap a message, and if playback doesn't begin automatically, tap the Play  button. You can also tap Speaker to hear the message without holding the iPhone up to your ear.

iOS attempts to transcribe your voice messages. If it's not confident about the quality of the transcription, it will ask if the transcription was useful or not.

Tap Call Back to return the call, or Delete to get rid of the message.

Go on Safari

Besides App Store and Messages, Safari is arguably iOS's most important app. Let's start with a look at Safari's controls (**Figure 70**).



Figure 70: Safari controls, from left to right: Back, Forward, Bookmarks, Address/Search, Reload, Share, New Tab, and Pages.

If you can't see the controls shown above, they will reappear as you scroll up the webpage.

Tip: When you're viewing a mobile site but don't want to, tap the Share  icon, and tap Request Desktop Site.

Search in Safari

The Address/Search box allows you to search in several ways:

- **Enter a URL:** To visit a specific webpage, just type its URL into the Address/Search box, such as www.takecontrolbooks.com, and tap Go on the keyboard. Press and hold the Period key to see a popover with common URL suffixes such as .com, .org, and .net.
- **Search the web:** Type your search terms into the Address/Search box, and then tap Go. (To delete all text in the box, tap the Clear Text  icon at the right of the box.)
- **Suggested Sites:** Suggested Sites (sometimes called Top Sites depending on the results) can often save you the trouble of typing a long search query.

For instance, if I type just [obi wan](http://obiwan.com) into the Address/Search box, Safari suggests the Wikipedia page for the fictional character.

Tip: Safari's default search engine is Google, but you can change it to Bing, DuckDuckGo, or Yahoo in Settings > Safari > Search Engine.

- **Search within a page:** There are two ways to do this:
 - ▶ Enter your search term in the Address/Search box, and tap the item in the results list under On This Page.
 - ▶ Tap the Share  icon on the toolbar, and then Find On Page. Enter your query.

Use the arrows to navigate the results, and tap Done when you finish.

Wrangle Tabs

Safari lets you have multiple webpages open at one time, split into tabs. Here's how to use them:

- **iPad:** Tabs work much as they do in Safari on the Mac. Tap a tab to switch to it, tap the Clear  icon to close a tab, or hold and then drag a tab to move it. To view all open tabs, tap the Pages  icon or pinch in with two fingertips. Note that if you're viewing websites in Split Screen on a device smaller than a 10.5-inch iPad Pro, tabs will likely work as they do on the iPhone.

Tip: To open a link in a new tab, touch and hold the link and tap Open in New Tab.

- **iPhone and iPod touch:** The screen is too small to display tabs (except on an iPhone 6 Plus or iPhone 7 Plus in landscape orientation), so to view and manage tabs, you must tap the Pages  icon. This presents your tabs in a 3D overhead view.

Scroll through your tabs and tap one to choose it. To close a tab, slide it from right to left, off the screen.

Tip: Press and hold the Pages  icon to see an option to close all tabs at once.

- **Private mode:** To open a private tab, tap the Pages  icon, tap Private, and then tap the New Tab  button. Private Browsing has a darker theme than regular Safari. To leave Private mode, tap the Pages  icon, and tap Private again.

Note: Websites visited in a private browsing tab won't appear in your Safari web history, which makes the private tab helpful for gift shopping.

Discover and Store Links

Tap the Bookmarks  icon to view Bookmarks, Reading List, and Shared Links:

- **Bookmarks:** *Bookmarks* are shortcuts to websites you want to visit again. To bookmark the current page, tap the Share  icon and then Add Bookmark. To visit a bookmark, tap it in this list. To manage bookmarks, tap Edit.

To access your favorite bookmarks more easily, tap the Address/Search box. To bookmark the current page and add it as a favorite quickly, tap the Share  icon and then select Add to Favorites.

Tip: Your browser history is also available in the Bookmarks view.

- **Reading List:** You can save a page for later reading by adding it to your Reading List. To do so, tap the Share  icon and then tap Add to Reading List. (In many apps, including Safari, you can touch and hold a link to send it to Reading List.)

Tip: Bookmarks and Reading List sync via iCloud, so you can access them from all your Apple devices. To make sure this happens, enable Safari in Settings > *Your Name* > iCloud.

Reader View

Reader View makes articles easier to read by hiding many superfluous visual elements (including most ads) and filling the screen with actual article content. If Reader View is available, a multi-line  icon appears to the left of the URL in the Address/Search box. Tap it to enter and exit Reader View.

You can adjust the background color and typeface in Reader View. Tap  on the right side of the URL field to adjust the look.

Find Yourself, Your Stuff, and Your Friends

Most of this chapter explains how to [Use Maps](#), but I also talk about [Use Find My iPhone](#) and [Use Find My Friends](#). I also discuss the new, potentially life-saving feature, Do Not Disturb While Driving.

Use Maps

Apple's homegrown Maps app is a built-in window to the world, providing maps, satellite images, business information, and directions.

Move around the Map

Here are the basics of how to move around the map manually:

- **Pan:** Drag on the map.
- **Zoom in and out:** Pinch in and out.

Tip: When you zoom in on a location, the current weather is displayed in the corner.

- **Rotate:** Place two fingers on the screen and twist your wrist. To reset the view, tap the compass  in the upper-right corner.

Set Map Views

You can choose a view by tapping the info  icon to access the Maps Settings panel. Views include:

- **Map:** The Map view displays a drawn map showing roads, cities, and basic information (**Figure 71**). It's usually the best view to use with cellular data, since it's not as bandwidth-intensive as the other views.



Figure 71: The Standard view shows just the facts.

- **Transit:** The Map view shows some transit lines (only in supported cities), but the Transit view shows even more, and emphasizes them, displaying routes, route numbers, and stops.

Tip: Enable the Traffic switch in the Map Settings panel to see traffic conditions on the map, if available.

- **Satellite:** The Satellite view provides an overhead picture of the planet, and it can show road names and other information if you enable the Labels switch in the Maps Settings panel. Satellite view changes between day and night themes depending on the time of day.

Note: Drag up with two fingers in Satellite view to enter 3D view.

Find Yourself

Wherever you go, there you are, but if you don't know where you are, you are by definition lost! Here is how to find yourself in Maps:

- **Zero in:** Tap the Tracking ↖ arrow. Maps zooms to your location, which is represented by a blue dot.
- **Orient yourself:** Tap the Tracking ↗ arrow again to align your location on the map with the direction the top of your device is pointing.

As the device rotates, so does map, with a blue cone showing which direction you face. Tap the Tracking ↕ arrow to turn this off.

Find a Location

Once you've found yourself, you next want to figure where you want to go. Here are some tips for doing so:

- **Search:** Tap the Search box to open the Search panel. Tap a Nearby button at the top of the panel (like Food) or type something generic, like *restaurant*, or something specific, like *JJ's Diner*. You can also type the name of someone in your contacts list (a contact appears in search results only you have an address assigned to that contact).

Tap an item in the search results list to show that location on the map. Search results also appear on the map as pins, which you can tap to view more information (**Figure 72**).

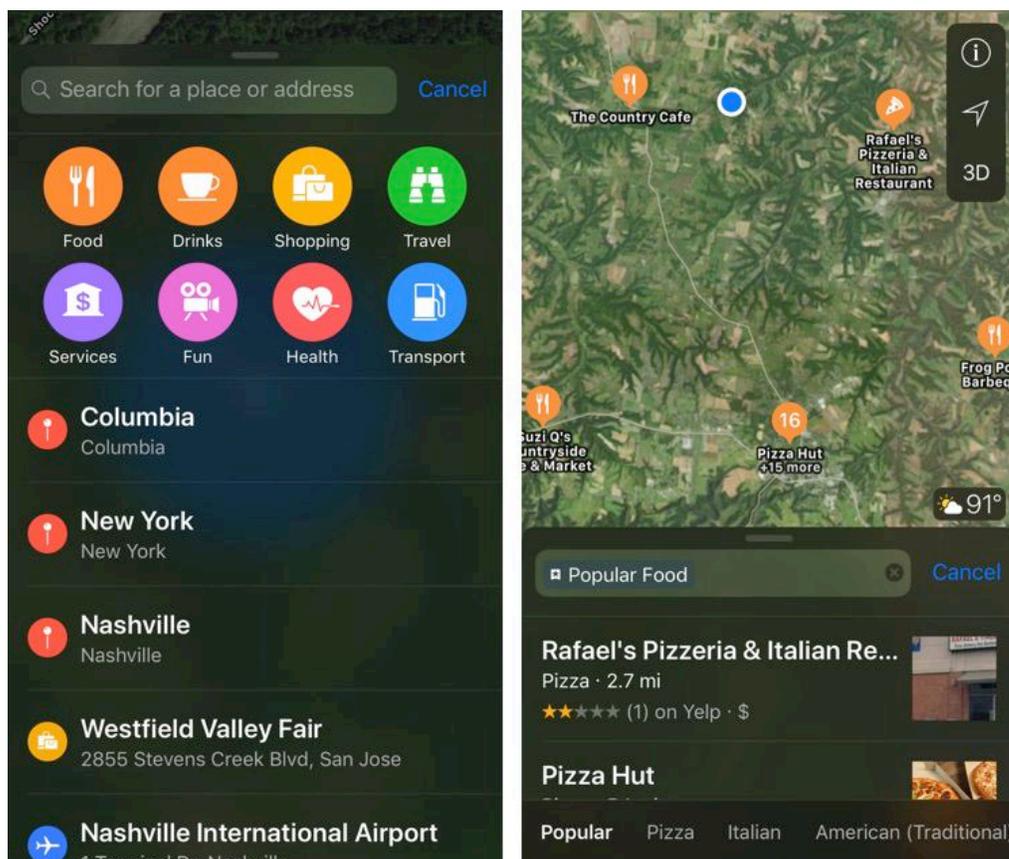


Figure 72: Don't know what to search for? Maps offers suggestions like Food and Shopping. Search results show up in a list and as pins on the map.

- **Business information:** To view data about a business, tap its entry in the list or on its pin on the map. Numbered pins indicate

multiple locations near each other—you can tap a numbered pin to narrow down the list to those entries.

From the business information, you can add it to favorites, share  it, get directions, call it, view its hours, or visit its website, if those things are listed.

Tip: Business info in Maps now indicate whether a business accepts Apple Pay.

When you view information about a business, you see its Yelp star rating alongside a sample of reviews if Yelp data is available. If you've installed the Yelp app, you can also tap Find Out More On Yelp to view the business's full Yelp listing.

Reporting a Problem in Maps

Although Apple Maps has improved since its introduction, it still has issues. If you see something that's incorrect, you can report it:

1. Tap the info  icon.
2. Tap Report an Issue.
3. Choose the kind of problem from the list.
4. Answer the remaining questions as prompted.

With any luck, Apple will address your complaint.

- **Drop a pin:** If you need to mark an unlisted location, you can drop a pin on it by touching the spot until a pin appears. Here's how to modify that pin:
 - ▶ To adjust the location of a pin, tap it, tap Edit Location, pan the map to adjust the pin's location, and tap Done when finished.
 - ▶ Tap the pin to view directions, share the location, and more.
 - ▶ To delete the pin, tap the pin, tap Edit Location, and then tap Remove Marker.

Note: Maps can show only one dropped pin at a time.

Get Directions

Once you know where you're going, you need to know how to get there:

1. Search for a location or tap its pin on the map, choose it from the results, and tap Directions.
2. Choose from driving, walking, mass transit (in supported cities), or ride sharing directions.

Note: Mass transit directions are available only in select cities. Here's [Apple's full list](#). To summon a ride-sharing service within apps, you need to install a supported app like [Lyft](#) and enable it as a ride booking extension in Settings > Maps.

3. Tap Start to receive turn-by-turn directions to your destination.
4. (Optional) Swipe up on the bottom bar and tap Details to view the directions as a text-based list.
5. (Optional) Add a secondary stop along the way by swiping up on the bottom bar and tapping Gas Stations, Dinner, or Coffee. Select your secondary stop and tap GO. Tap the blue bar at the top when you're ready to navigate to your main destination.
6. When you reach your destination, if Maps doesn't stop navigating automatically, tap End and then End Route.

Enable Do Not Disturb While Driving

Distracted driving is a deadly problem. To help combat that, Apple has introduced Do Not Disturb While Driving (DNDWD) in iOS 11. When enabled, it blocks notifications on your iPhone (and your Apple Watch, if you wear one), and anyone who messages you will receive an automatic reply saying that you won't see the message until you've reached your destination. The sender can choose to reply "urgent" to force the original message through.

Tip: You can set who receives an automatic reply in Settings > Do Not Disturb > Auto-Reply To and what the message says in Settings > Do Not Disturb > Auto-Reply.

There are three ways to turn DNDWD on, which you can set in Settings > Do Not Disturb > Activate:

- **Automatically:** This enables DNDWD when your iPhone detects motion that indicates that you're driving. If you're merely riding in a car, you'll have to manually override it.
- **When Connected to Car Bluetooth:** This setting enables DNDWD only when your iPhone connects to your car's Bluetooth system. Note that this only works only with automaker Bluetooth systems, not aftermarket stereos or Bluetooth adapters.
- **Manually:** When this selected, DNDWD does not trigger automatically.

You can enable or disable DNDWD by tapping its Control Center button—see [Discover Control Center Functions](#) to learn how to enable it.

When DNDWD is on, you'll see a single notification on your Lock screen letting you know. To disable DNDWD via the notification, tap it and tap I'm Not Driving.

For more on Do Not Disturb While Driving, check out my TidBITS article [iOS 11 to Bring Do Not Disturb While Driving](#).

Use Find My iPhone

Find My iPhone lets you track errant iOS devices, have them play a locating sound, and even lock and wipe them remotely.

Note: You can also track your devices with the web-based Find My iPhone tool by logging in to [iCloud.com](https://www.icloud.com).

The main screen is split into two sections: a list of devices, and a map showing the location of all of your online devices. To begin, select a device from the list and tap Actions at the bottom of the screen:

- **Play Sound:** The function you'll probably use the most is Play Sound, which plays a continuous sound on the device until you find it and deactivate the sound.
- **Lost Mode:** Putting your iOS device into Lost Mode locks the screen, updates you regularly on its location, and displays your phone number on the missing device's screen, if you like.
- **Lock:** Since Macs don't have a Lost mode, you can instead lock one, using a PIN that you choose while enabling Lock mode.

Tip: On your Mac, to turn on Find My Mac, go to System Preferences > iCloud, make sure you're signed in to iCloud, and select the Find My Mac checkbox.

- **Track Your Device:** If you want to retrieve your device yourself, tap the Car  icon to see driving directions to your device in Maps.
- **Erase:** As a last resort, you can elect to wipe all data from the device.

Note: Learn more about Find My iPhone in the TidBITS article [Setting Up and Using Find My iPhone](#).

Use Find My Friends

Find My Friends lets you and your friends keep track of each other. Like Find My iPhone, it's split into a map view and a list of friends you've exchanged locations with.

Here's how to manage location sharing:

- **Sharing your location:** To share your location with a contact, tap Add, then either select a name or enter an email address, and tap Send. You can choose to share for 1 hour, 1 day, or indefinitely.

Tip: By default, all members of a Family Sharing group share device locations with each other, so you can track them with Find My iPhone or Find My Friends.

- **Ask see a follower's location:** To request the location of someone following you, tap that person's listing and then tap Ask to Follow.
- **Stop sharing your location:** If you want to stop sharing your location with someone, tap that person's listing, tap More, and then tap Stop Sharing My Location.

Organize Your Wallet

Wallet is a storehouse for coupons, reward cards, and tickets. It also manages your Apple Pay cards and settings.

Note: The iPad doesn't have the Wallet app, but you can manage Apple Pay payment methods in Settings > Wallet & Apple Pay.

Manage Wallet Passes

There are two ways to add passes:

- When you encounter a Wallet pass QR code in the real world, open Camera, center the barcode in the viewfinder to scan it. Open the resulting notification to add that pass to Wallet.

Note: As of publication time, this feature isn't quite working as expected, and it may not be fully functional until a future update to iOS 11.

- Tap the Add to Wallet button on a webpage, in an email message, or inside an app. Some apps may add passes automatically.

Tip: With an iTunes Pass card in Wallet, you can add funds to your Apple ID account at any Apple Store: At the bottom of the App Store app's Today view, tap Redeem. Then tap the Get Started link and follow the prompts to add it to Wallet.

Use and Remove Passes

Some passes are location- or time-based. These display a Lock Screen notification at the appointed time or place. Other passes must be pulled up manually by opening Wallet and tapping the card in the stack. Swipe down on the card to return it to the stack.

To delete or edit a card, open it, and tap the info ⓘ icon in the lower-right corner. Tap Remove Pass to remove it, or toggle Suggest on Lock Screen.

Try Apple Pay

Apple Pay lets you use your Apple device in place of your credit or debit card. You can use Apple Pay in stores and apps, as well as on websites that support it. Apple has promised person-to-person Apple Pay, though it hasn't appeared as of iOS 11.0.

To set up Apple Pay on an iPhone for making mobile payments on-the-go, you need an iPhone 6 or later (including the SE), or an iPhone 5S or later paired with an Apple Watch.

For in-app purchases and in-Safari (on the Mac) purchases, you can also use any of these iPads: at least an iPad Air 2, iPad mini 3, or iPad Pro.

Here's how to set up Apple Pay in iOS:

1. Find out whether your credit or debit card is compatible with Apple Pay by checking with the card's bank or looking for it in this [Apple support article](#).
2. Go to Settings > Wallet & Apple Pay.
3. Tap Add Credit or Debit Card.
4. Follow the prompts to add your card(s) to Apple Pay.

If the details are accepted and your credit card issuer supports Apple Pay, the card is added to Wallet—possibly after an additional verification step by your financial institution; if not, an error dialog appears.

Using an Apple Watch?

If you're setting up Apple Pay on an iPhone 5c or iPhone 5S that's paired with an Apple Watch, you must instead open the Apple Watch app, go to My Watch > Wallet & Apple Pay, and tap Add Credit or Debit Card. Note that using Apple Pay on an Apple Watch requires that you set a passcode on the watch.

Use Apple Pay in a Store

Apple Pay works at any Apple Pay [partner location](#) (**Figure 73**).



Figure 73: Look for these symbols at checkout counters to see if you can check out with Apple Pay.

Here's what you need to do to make a purchase:

1. Place your phone near the Apple Pay terminal.
2. While at the Lock screen, double-press the Home button to bring up Apple Pay.
3. If you've set up multiple cards with Apple Pay, tap the one you want to use.
4. Enter your passcode or touch the Home button to activate Touch ID.

Tip: If you don't use Apple Pay and keep bringing it up by accident, you can disable it by going to Settings > Wallet & Apple Pay and disable Double-Click Home Button.

Use Apple Pay in an iOS App

Several apps allow you to pay with Apple Pay, as follows:

1. In the app, tap the Apple Pay button.

2. At the next screen, review the information and edit as needed.
3. When you're ready to pay, enter your passcode or touch the Home button to activate Touch ID.

Use Apple Pay in Safari

If you've set up Apple Pay on your iPhone or iPad, you can use it to pay online when you're shopping in Safari on the device.

If you see a "Pay with  (or similar) option while checking out in a web-based cart, tap it. A payment dialog appears. Confirm your information and then press the iPhone's Home button for a Touch ID fingertip scan. (Or, on an Apple Watch, double-click its side button.)

You can also use Apple Pay to pay online with your iOS device (or Apple Watch) when you're shopping in Safari on a Mac running 10.12 Sierra. The Mac must be Continuity-savvy, meaning a 2012 or newer model, other than the Mac Pro, which must be a Late 2013 or newer model.

To set this up:

1. On your iPhone, go to Settings > Wallet & Apple Pay and enable Allow Payments on Mac.
2. On the Mac, open Safari, choose Safari > Preferences > Privacy, and make sure the checkbox "Allow websites to check if Apple Pay is set up" is selected.

Control Your Home

HomeKit is an Apple framework that allows home automation devices from different manufacturers to work together with iOS, tvOS, and watchOS in the form of Siri commands and the Home app (**Figure 74**).

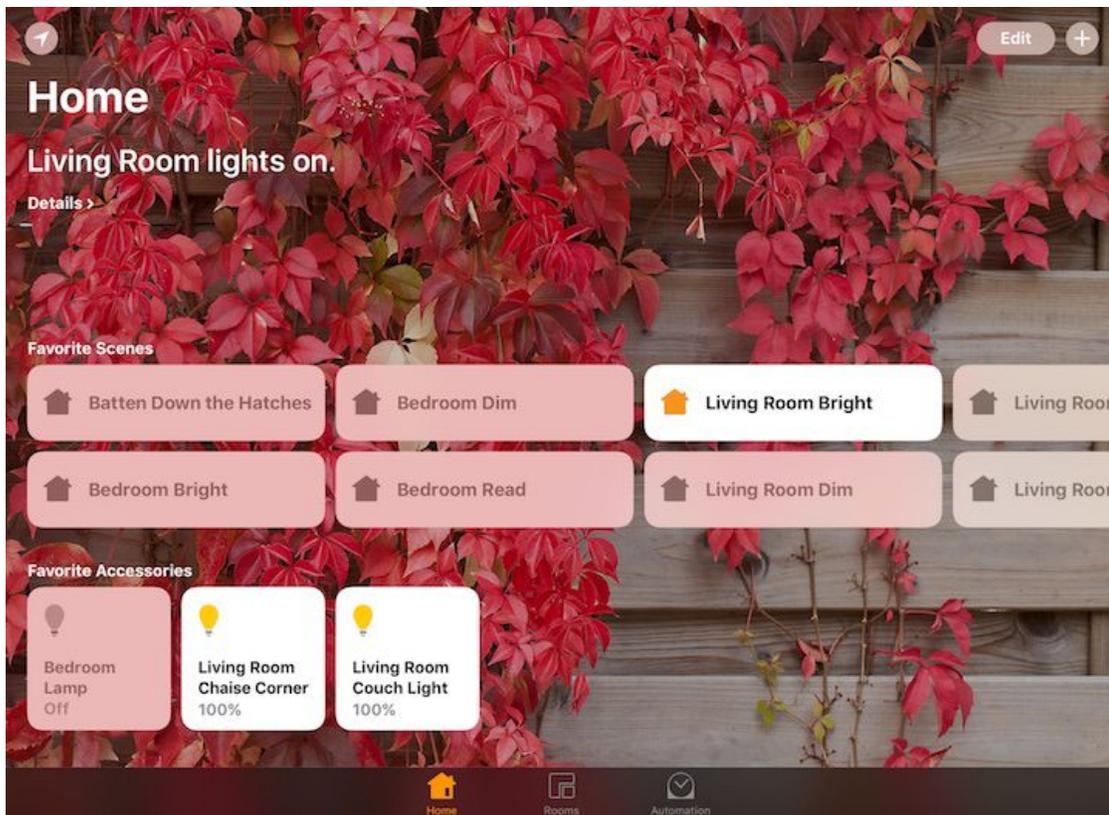


Figure 74: The Home app is a central hub for controlling all your HomeKit devices.

Note: This chapter is a mere introduction to HomeKit. Learn more in my TidBITS series, [A Prairie HomeKit Companion](#).

Apple maintains a [list of compatible HomeKit devices](#). If you're looking at a home automation device, check for the HomeKit badge.

Establish HomeKit Hubs

HomeKit typically works over your home Wi-Fi network or Bluetooth. But a hub allows you to control your devices when you're outside your home Wi-Fi network. It's also required for automations—see [Automate Your Home](#).

There are two types of HomeKit hubs: a third- or fourth-generation Apple TV, and an iPad running iOS 10 or later.

If your Apple TV is signed in to the same iCloud account as your iOS devices, it acts as a HomeKit hub automatically, as long as it's connected to power and your home network (the Apple TV can function as a hub even while asleep).

Your iPad running iOS 10 or later can function as a hub if it's signed in to the same iCloud account as your other devices, and if you tap Settings > Home and enable Use This iPad as a Home Hub. The iPad must remain powered and connected to your Wi-Fi network in order to function as a hub. (If you leave the house with your iPad, it will cease functioning as a hub until you come home!)

Set Up Your Home

In the Home app, a *home* is the top-level container, which encompasses all the other categories that I cover. A home can be a home, an outbuilding, a second home, an office, etc. For most practical purposes, a home is distinguished by a Wi-Fi network.

The Home view in Home lets you control your homes, listing your favorited scenes and accessories on the screen, which you can rearrange by tapping the Edit button. The Home view also shows the status of your devices. Here are some tips to help you get started:

- **Initial setup:** When you first launch Home, what you see depends on your existing HomeKit setup, if you have one from previous versions of iOS. Don't stress about these choices—you can easily change them later.

- **Add another home:** Tap the Home Settings  icon and choose Add Home. Give your home a name and choose a photo for it.
- **Switch between homes:** If you have multiple homes, tap the Home Settings  icon and choose a home from the menu.

Note: From here on, I'll assume that you have only one home. To access home settings if you have more than one home, tap the Home Settings  icon, choose Home Settings from the menu, and then choose the home you want to adjust.

- **Rename a home:** From the Home Settings screen, tap in the text field below the Name header at the top. Enter a name and tap Done.
- **Invite people:** You can invite other iCloud users to control the devices in a home. On the Home Settings screen, tap Invite and enter a contact's email address or tap a Family Sharing member.

If everything goes right, the recipient should receive a notification on their iOS device(s). Once they accept the invitation, they will have access to the home from the Home app.

Note: Sharing is per home, so you can invite a coworker to control your office but not your house.

- **Edit people:** Once another person is added to your home, they appear under People in the Home Settings screen. Tap that person's bubble to see switches to allow or disallow remote access or allow them to edit HomeKit settings. You can also tap Remove Person to remove that person from your home entirely.
- **Change wallpaper:** From the Home Settings screen, scroll down and choose either Take Photo or Choose from Existing. Apple provides only a couple of generic home photos, so if your home is photogenic, you might want to take your own picture.
- **Take home notes:** Near the bottom of the Home Screen, you can insert notes that will be seen by everyone you share that home with.

- **Remove a home:** At the bottom of the Home Settings screen, tap Remove Home and then Delete.

HomeKit Naming Tips

Whenever you're naming objects in HomeKit, whether they're homes, rooms, accessories, or scenes, keep a few guidelines in mind:

- ✦ **Be descriptive:** If you have smart light bulbs throughout your house, a scene named Bright doesn't tell you much. Which room is the scene making bright? However, a scene name Living Room Bright tells you all you need to know.
- ✦ **Be unique:** I might have one smart light bulb in my living room that I name Living Room Light, but what if I install a second smart light bulb in the living room? An accessory name like Living Room Couch Corner tells you exactly what it is.
- ✦ **Be pronounceable:** A great advantage of HomeKit is Siri voice control. If you have a scene name like BRM BRGHT, Siri will have a hard time understanding you. Oddly enough, Siri doesn't like scene names like Bright Bedroom—Bedroom Bright works much better. Your mileage may vary.
- ✦ **Be short:** This might seem to contradict my previous tips, but if you set a scene as a favorite, that scene's name has to fit in a little bubble in Control Center, so keep them as short as possible. However, I consider this my lowest naming priority, as I can figure out that Living Room Chaise Cor... is the accessory Living Room Chaise Corner and Batten Down the... is my Batten Down the Hatches scene.

Manage Rooms

A *room* is, well, a room in a home. It makes the most sense to set up HomeKit Rooms to align with actual rooms in your house.

The Rooms view shows all the accessories and scenes associated with a room. Home starts you with a Default room that cannot be removed, but can be renamed. I like to use it as a sort of staging area for new accessories, but I don't associate it with any rooms in my house.

You want to set up a room for each room in your home that has HomeKit devices installed, for two reasons. First, it makes organization much saner. Second, when your rooms are properly configured, you can give Siri commands like, “Turn the Living Room lights off.”

- **Create a room:** Tap the Room Settings  icon, and then tap Room Settings if need be. Choose Add Room, and then give the room a name and assign a picture to it.
- **Switch between rooms:** Swipe on the screen in the rooms view or tap the Room Settings  icon and choose the room from the list.
- **Adjust Room settings:** Tap the Room Settings  icon and then tap Room Settings. Choose a room, and from there you can rename the room, change the room wallpaper, and remove the room.

Add Accessories

An *accessory* is an actual HomeKit device in your home, like a light bulb, lock, garage door opener, or thermostat.

In the Home or Rooms view, tap the plus  button in the upper-right corner and tap Add Accessory. The app prompts you to enter or scan the HomeKit code for that device, which can be found on the device itself and/or on the package (**Figure 75**). After scanning the code, follow the onscreen prompts to set up your accessory.



Figure 75: When prompted to pair your accessory with HomeKit, look for these labels on the device or package. On the left is the older, larger style. On the right is the new, much-smaller QR code allowed by iOS 11.

Note: iOS 11 also supports HomeKit accessory setup via NFC so that you don't have to scan a code. However, both your iOS device and the accessory must also support that feature.

Sometimes, you need to set up your HomeKit device with the vendor's app before you can use it with Home. For example, if you buy a set of [Philips Hue smart light bulbs](#), you must use the [Philips Hue app](#) for initial setup and pairing with HomeKit. Check the documentation of your HomeKit devices for details.

Note: An accessory can be assigned to only one Room at a time.

To move accessories between rooms, switch to the Rooms view, press an accessory, and tap Details. Tap Location to see a list of rooms you can assign the accessory to.

Control Accessories

By default, Accessories are visible only in the room to which they're assigned, but you can favorite an accessory to have it show up in the Home view and Control Center—see [Discover Control Center Functions](#).

All Accessories are available in the room that you assigned them to, but Favorite Accessories are available in both the Home view and Control Center. To favorite an accessory, go to the Rooms view, press an accessory, tap Details, and enable Include in Favorites.

No matter where you find an accessory, controlling it works the same:

- **Turn an accessory on or off:** Tap the accessory.
- **Adjust an accessory:** Touch and hold an accessory. The adjustments you see will depend on the accessory. With a smart light bulb, there's a brightness slider and a Color button. Tap the Color button to choose from a color palette. To better fine-tune the color, tap Edit in the middle of the palette, which lets you choose from a full range of colors and white color temperatures.

Tip: To leave the accessory adjustment screen, tap the background.

These accessory actions can be performed only in the Home app:

- **Rename an accessory:** Press an accessory, tap Details, tap the name, and edit it as you see fit.
- **Group accessories:** You can group multiple accessories so that they function as one. Press an accessory, tap Details, and choose Group with Other Accessories. Check the other Accessories that you want to group with that accessory, name the group, and tap Done.

Those accessories disappear from the Home and Rooms tabs, replaced with the group you created.

- **Ungroup Accessories:** Press a group, tap Details, and select Ungroup Accessories. The individual accessories will return to the Home and Rooms tabs.

Manage Scenes

Now that you understand the basics of homes, rooms, and accessories, it's time to learn about scenes, which are the most important aspect of home automation.

Scenes are combinations of HomeKit commands. For example, I might have a scene called Chill Out that turns my living room lights blue, lowers the brightness to 40 percent, and turns the thermostat down.

Like accessories, favorite scenes are available from the Home tab and Control Center.

- **Create a scene:** From the Home or Rooms view, tap the plus  button and choose Add Scene. Depending on which accessories you have, Home suggests preconfigured scenes for you, such as Good Morning and I'm Home.
 - a. To create a more advanced scene, tap Custom on the New Scene screen. Give the scene a name and select the accessories to include in the scene, if they're displayed. You can add more accessories by tapping Add Accessories.

- b. Adjust any of the accessories in the scene just as you would normally, by pressing the accessory. Tap Test This Scene to see a preview.
- c. If you want easy access to the scene, enable Show in Favorites.
- d. Finally, tap Done.
- **Activate a scene:** Tap the scene to enable it. Tap it again to turn it off.

Tip: With 3D Touch, press on the Home icon on the Home screen to see a list of scenes.

- **Modify a scene:** Press a scene in the Home or Rooms view and tap Details.
- **Set Favorites:** Enable Show in Favorites in the Scene Details screen.

Control Your Home with Siri

Your careful setup of homes, rooms, accessories, and scenes pays off when you want to control those things via Siri. Here are some examples of things you can do:

- **Turn accessories on and off:** “Turn off every light in my office.” “Turn on the living room.” “Turn the bedroom lamp off.”
- **Adjust accessories:** “Dim the kitchen lights.” “Set the bedroom lights to 30 percent.” “Brighten up the living room.” “Turn the living room green.” “Turn the bedroom blue.”
- **Activate scenes:** “I’m home.” “Set scene Dinner Party.”

Tip: Much of the time, you can simply tell Siri the name of a scene to activate it. But if Siri stubbornly refuses to recognize the scene name, try saying “Set Scene” before the scene name.

For the basics of using Siri, refer back to [Speak to Siri](#).

Automate Your Home

If you have a compatible hub (refer back to [Establish HomeKit Hubs](#)), the Automation view lets you automate your home devices with triggers.

Here's a look at your trigger options:

- **People Arrive/People Leave:** With these triggers, you can turn accessories and scenes on and off when people arrive at or leave a location, such as your house. You can also set the automation to trigger during certain times of the day.
- **A Time of Day Occurs:** This trigger simply enables and disables accessories and scenes based on the time of day. For example, you could set your bedroom lights to turn on when it's time to wake up in the morning.
- **An accessory is Controlled:** This trigger activates a scene or accessory if an accessory is triggered. For example, you could set your living room lights to turn on when the front door is unlocked.
- **A Sensor Detects Something:** To use this trigger, you need a HomeKit-compatible sensor like a smoke alarm, carbon monoxide detector, or environmental monitor. This trigger could literally save your life—for example, you could have your house lights set to red and full brightness if carbon monoxide is detected.

Your automations are listed in the Automations view. Tap one to adjust its settings.

You can enable or disable an automation, adjust the trigger conditions, change how accessories and scenes are affected by the automation, and delete the automation.

Additional Apple Apps

In this chapter, I review a few other Apple apps that are worth knowing about, including Calendars, Mail, and TV. All these apps are either built in or available for free from the App Store:

- **AirPort Utility:** If you own an AirPort base station, you need the [AirPort Utility](#) app, which lets you view and manage recent models of Apple’s AirPort base station, much like the identically named utility on your Mac. It’s particularly handy for checking device status and then restarting the base station if need be. To learn more about working with AirPort Utility in iOS, check out Glenn Fleishman’s [Take Control of Your Apple Wi-Fi Network](#).
- **Apple TV Remote:** Designed with the fourth-generation Apple TV in mind, [Apple TV Remote](#) perfectly emulates the Siri Remote, including Siri voice input. It also has special modes for typing and playing games. However, with iOS 11, I prefer the Apple TV Remote built into Control Center—see [Other Control Center Functions](#). For more on the Apple TV Remote app, read the TidBITS article [Apple Overhauls the Apple TV Remote App](#), and for more on the Apple TV, see my book [Take Control of Apple TV](#).
- **Apple Store:** You can use the [Apple Store](#) app to buy products from Apple’s online store, and you can even use it to pay for products at physical Apple Stores without human intervention. The app also frequently offers a free weekly download from one of Apple’s digital stores, so it’s worth opening every week or so.

Tip: If you’re the type who orders Apple devices the minute they’re available—often in the middle of the night—you’ll want to know that the Apple Store app sometimes lets you make a purchase even when Apple’s site is overloaded.

- **Apple Support:** The [Apple Support](#) app offers support articles, and lets you chat with or call Apple support or set up Genius Bar appointments.

- **Calendar:** If you lead a busy life, the built-in Calendar app can help you organize it. In iOS 11, Siri can suggest calendar events found in Mail, Messages, and Safari, like flight and hotel reservations. If you add an address to an event, Calendar can also tell you when to leave in order to beat the traffic and arrive on time. It'd take an entire other book to tell you all you can do with Calendar—lucky for you, Scholle McFarland wrote [*Take Control of Calendar and Reminders*](#).
- **Calculator:** A basic calculator, quickly available via Control Center (see [Other Control Center Functions](#)). Rotate the iPhone to see Calculator's more advanced functions. *Not available on iPad.*
- **Clock:** Clock is an essential app for setting alarms and timers. It also offers a stopwatch function, and a bedtime timer to help you get more sleep.
- **Contacts:** A storehouse for all of your contacts. Here are a few important things to know about Contacts:
 - ▶ Favorite contacts have special privileges. They can break through Do Not Disturb and Do Not Disturb While Driving and they have their own quick-access view in the Phone app. To add a contact to Favorites, open their card in the Contacts app, tap Add to Favorites, and select your favorite contact method for that person.
 - ▶ A lot of people enter a nickname for a contact instead of their proper name. But that's bad data management, and can cause all sorts of problems. What you can do instead is enter something in the Nickname field in a contact card (tap Edit in the upper-right corner to see it). Messages and other apps will show the nickname (like "Mom") instead of the person's real name, but the underlying data will be correct.
 - ▶ It's also a good to [Teach Siri About Your Relationships](#).
- **GarageBand:** One of the coolest iOS apps is [GarageBand](#). GarageBand is essentially a multitrack recording studio that lets you create music on your devices. GarageBand has a virtual keyboard, guitar,

bass, drums, and more, plus the capability to use MIDI input from external instruments.

Note: The Game Center app disappeared in iOS 10, but the service still exists. Manage it in Settings > Game Center.

- **Health:** Health is the front end for HealthKit, which corrals data from health apps and fitness trackers. Most fitness enthusiasts I know don't care much for the Health app itself, even though they find the underlying data useful. However, if you just want to see how many steps you take in a day, Health can offer that up quickly.
- **iBooks:** This app serves as a library and ebook reader for titles from Apple's iBooks Store. You can also add ebooks to it from other sources, such as the [Take Control website](#) or other online stores. iBooks can import ebooks in EPUB and PDF format.
- **iMovie:** The included Photos app offers some basic video editing functionality, but [iMovie](#) expands on those capabilities, letting you turn video clips into full-featured productions with title cards, video filters, and more.
- **iTunes Movie Trailers:** Do you like movies? Do you want to see trailers for upcoming movies? Then [iTunes Movie Trailers](#) is the app for you.
- **iTunes Remote:** The old Remote app remains in the App Store as [iTunes Remote](#). It can connect to not only Apple TVs, but also iTunes libraries.
- **iTunes U:** If you're at all interested in education, you need [iTunes U](#). The app offers all sorts of courses—at all levels of instruction—(often) for free, and lets teachers and students manage and follow entire classes.
- **iWork:** The iWork suite—[Pages](#), [Numbers](#), and [Keynote](#)—lets you create and edit documents, spreadsheets, and presentations, respectively. To learn about these apps in detail, check out [Take Control of Pages](#), [Take Control of Numbers](#), and [Take Control of Keynote](#).

- **Mail:** The Mail app can connect to your email accounts and lets you view and manage your email. There are a number of third-party alternatives, but Apple's Mail app is so baked in that it's almost impossible to avoid. To learn about it in detail, see [Take Control of Apple Mail](#).
- **Music:** Music is where you play audio content from the iTunes Store, transferred to your device through an iTunes sync from a desktop computer, or stored in the cloud through Apple's iTunes Match or Apple Music service.
- **Music Memos:** A recording app for musicians, [Music Memos](#) offers features like auto-record, backup players, and a pitch tuner.
- **News:** News lets you keep up with your favorite media sources. You can subscribe to media sources and topics and save articles you like for later reading. News renders articles in a format optimized for your iOS device.
- **Notes:** Notes has evolved into a powerful note-taking tool, supporting plain text, attachments, checklists, images, sketches, and web links. You can also collaborate with others on a note. Inside a note, tap the Add People  icon to get started. Here are some of the new features of Notes in iOS 11:
 - ▶ **Document scanner:** Notes can now use your iOS device's camera to scan documents. Tap the plus  button, choose Scan Documents, line up a document, and Notes will automatically detect it, capture, crop the edges, and deskew it.

Tip: This Apple [video shows how to use Notes to scan, sign, and send a document](#).

- ▶ **Tables:** You can now insert simple tables in Notes with the tables  button.
- ▶ **Pin notes:** You can pin a note so that it stays on top of your list of notes by swiping its entry from left to right. Either tap the pin  icon or keep swiping to pin it.

- ▶ **Text formatting:** It's now easier to add styles to text, like bold and italics, because Notes has dedicated buttons to do so (before, you had to choose these from a popover). You can also indent and outdent lists, and there's a new monospaced type option. To see these options, tap the text styles **Aa** icon.
- ▶ **Change paper type:** Choose Lines & Grids from the Share sheet to pick between different paper styles, such as ruled and grid.
- ▶ **Instant Notes:** See [Discover Control Center Functions](#) and [Work with Instant Notes](#) to learn how to quickly create Notes from the Lock screen.
- **Photo Booth:** Just like a photo booth at an arcade, this iPad-only app is all about having fun taking casual snaps with different filters.
- **Podcasts:** Podcasts are the audio equivalent of blogs, and there are thousands to choose from. The built-in Podcasts app is free and mostly competent.
- **Reminders:** The built-in Reminders app lets you create to do lists and reminders that will notify you at an appointed time or even at a given location. To become an expert in it, see Scholle McFarland's [Take Control of Calendar and Reminders](#).
- **Stocks:** A very basic stock tracker.
- **Tips:** Assorted iOS advice from Apple.
- **TV:** The TV app replaced the previous Videos app. It offers your paid iTunes video library, and also integrates third-party services that support it, such as HBO NOW and Hulu. The Watch Now view keeps track of what you're watching, and suggests other titles to watch.
- **Voice Memos:** A useful, but often-forgotten app, Voice Memos lets you make, edit, and share voice recordings.
- **Weather:** An adequate weather app, though there are better alternatives.

Guard Your Privacy

iOS offers many tools to help you protect your privacy, and in this chapter I explain how to take advantage of them.

Set a Passcode

Everyone should use a passcode. The passcode protects your photos, messages, browser history, and more from prying eyes. Here's how to configure it:

1. Go to Settings > Touch ID & Passcode (or just Settings > Passcode).
2. Tap Turn Passcode On.
3. Enter a passcode.
4. Enter the passcode again to verify.
5. Consider enabling Settings > Erase Data. This feature automatically erases everything on a device after ten failed passcode attempts. If you recover the device, you can restore it from a backup, though that might be difficult or impossible while traveling.

About 6-Digit Passcodes

iOS originally used a 4-digit passcode, but Apple changed that starting with iOS 9. Touch ID devices now default to a 6-digit passcode. However, if you already have a 4-digit passcode, you won't be required to change it. And if your device doesn't support Touch ID, a 4-digit passcode still suffices.

To create a shorter or longer passcode, visit Settings > Passcode (or Touch ID & Passcode) > Change Passcode, enter your existing passcode, tap Passcode Options, and then select Custom Alphanumeric Code, Custom Numeric Code, or 4- (or 6-) Digit Numeric Code.

Set up Touch ID

Touch ID, available on newer iPhones and iPads, lets you scan your fingerprint on the Home button instead of typing a passcode. In many cases, it also replaces your having to enter a password, such as the one that goes with your Apple ID.

If you have a Touch ID–equipped device, you were prompted to set up Touch ID when you set up the device. But in case you skipped that step, or want to edit your settings, here’s how:

1. Go to Settings > Touch ID & Passcode. (If you see only Settings > Passcode, either your device lacks Touch ID hardware or something is wrong with your device.)
2. Enter your passcode, if prompted.
3. Tap Add a Fingerprint.
4. When prompted, place your finger on the Home button (without pressing it), lift your finger up, and repeat until scanning is complete.
5. iOS then prompts you to scan the edges of your finger. Follow the onscreen instructions.
6. Repeat for each finger you might want to use to unlock your device. You can scan up to five digits; I recommend scanning at least both thumbs and your primary index finger.

After setup, it’s a good idea to name each finger by tapping its listing in Settings > Touch ID & Passcode and entering a name into the text field.

Warning! Don’t forget your passcodes and passwords! You will still be prompted for them after enabling Touch ID: when you restart your device, when it’s been longer than 48 hours since unlocking your device, and whenever you make changes to Settings > Touch ID & Passcode.

To delete a Touch ID fingerprint, open Settings > Touch ID & Passcode, slide the fingerprint's entry to the left, and tap Delete. Or, tap the entry and tap Delete Fingerprint.

Tip: If you want a loved one to be able to access your device, you can scan one of their fingers, too.

Set Up Find My iPhone

I **strongly** encourage you to enable Find My iPhone in Settings > *Your Name* > iCloud > Find My iPhone.

Note: This feature is called different things on different devices, like Find My iPad, Find My iPod touch, etc. It's all the same.

Then, if you ever lose your device, you can erase it remotely (or possibly even find it) from [iCloud.com](https://www.icloud.com) or the Find My iPhone app on a different Apple device signed in to the same Apple ID or grouped with your lost device through Family Sharing (see [Use Find My iPhone](#) and my TidBITS article [Setting Up and Using Find My iPhone](#)).

But the most important reason to enable Find My iPhone is that it also activates [Activation Lock](#), which makes it extremely difficult for any thief to use or resell your device.

Understand Privacy Settings

Tap Settings > Privacy to access many options for securing your privacy. Let's look at the high points:

- **Disable ad tracking:** If you do nothing else, you should tap Advertising (way at the bottom) and make certain that Limit Ad Tracking is on. If this switch is off, advertisers track information about you (anonymously) and use it to serve personalized ads within certain apps.
- **Analytics:** There are three switches under this listing: Share iPad Analytics (with Apple), Share With App Developers, and Share

iCloud Analytics (with Apple). Apple and app developers use these to help improve their products, and your information is protected with differential privacy. So feel free to leave them on without threatening your privacy, but if you're truly worried, turn them off.

- **Microphone:** It's a good idea to check this setting every now and again to make sure no apps are listening in without your knowledge.

About Differential Privacy

To improve iOS based on usage patterns, Apple needs to collect data from you, but it wants to do so in a way that doesn't risk violating your privacy. Enter a technique called "differential privacy," which addresses the concern that attackers could collate sufficient anonymous data to identify individuals despite the lack of personalized information. With differential privacy, Apple collects certain usage information anonymously and also adds fake data to render the data meaningless in isolation.

- **Enable or disable location tracking:** Tap Location Services to specify which apps can see your geographic location.

You can turn Location Services off entirely, but that's a bad idea—you won't be able to use the Maps app, for example. You're better off adjusting location services on a per-app basis, focusing on apps that don't need to know where you are or don't need to know all the time. For instance, a weather alert app may need to know your location all the time, but Maps only needs to know while you're using it. And a calculator app doesn't need to know at all!

Location Services Arrow Icons

An item on the Location Services screen may display a tiny arrow icon, similar to the Location Services icon in the status bar. This icon can help you assess when an app has last tracked your location:

- ✦ **Hollow**  **arrow:** The app may use your location under certain circumstances.
- ✦ **Purple**  **arrow:** The app has recently used your location.
- ✦ **Gray**  **arrow:** The app has used your location in the past 24 hours.

- **Per app:** The Settings > Privacy screen has several options to limit access to app data from other apps. For example, tap Photos to see a list of apps that have access to your photo library.

Learn About Two-Factor Authentication

Mere passwords are no longer sufficient to guard your Apple account; you also need a second factor—an arbitrary code sent to a secondary device.

iOS 8 introduced two-step verification, but that was only a step en route to full two-factor authentication, which Apple introduced in iOS 9. In iOS 11, you can set up two-factor authentication directly from an iOS device, but you have to disable two-step verification if you enabled it in the past.

Note: Some features in the Apple ecosystem, such as unlocking a Mac with an Apple Watch, require two-factor authentication.

Disable Two-Step Verification

If you still have two-step verification enabled, you'll have to disable it before turning on two-factor authentication:

1. Go to appleid.apple.com and log in with your Apple ID.

2. If you're on a desktop, click Edit under Security.
3. Choose Turn Off Two-Step Verification.
4. Choose Turn Off Two-Step Verification again at the prompt.
5. Create new security questions and answers when prompted.
6. Enter your birthday when prompted.
7. Enter a secondary rescue email address when prompted.

Warning! Turning off two-step authentication will deauthenticate all of your Apple devices signed into that account!

Enable Two-Factor Authentication

Next, you'll want to enable two-factor authentication to secure your account:

1. On your iOS device, go to Settings > *Your Name* > Password & Security.
2. Tap Set Up Two-Factor Authentication.
3. Tap Continue.
4. If any of your devices are running operating systems older than iOS 9 or 10.11 El Capitan, you will be warned that they're not ready for two-factor authentication. Don't worry, you can still authenticate with older operating systems *as long as you append the verification code to the end of your Apple password*. Tap Turn On Anyway to proceed.
5. Enter the phone number you want to use to verify your identity, and whether you prefer a text message or phone call. Tap Next.
6. Enter your Apple ID password. You should also receive an email informing you that two-factor authentication has been enabled.
7. Enter your device passcode.

Use Two-Factor Authentication

When you authenticate one of your other Apple devices, Apple sends a notification to other devices that are already authenticated.

Tap Allow on the authenticated device to see a 6-digit verification code. Enter that code on the device you want to authenticate to complete login. Tap OK on the already authenticated device to dismiss the code.

iOS Accessibility

One of the best things about iOS is Apple's commitment to accessibility. For instance, Apple has made the iPhone usable for the visually impaired. But everyone can benefit from iOS's accessibility features, many of which make things easier for all.

Night Shift

Scientific studies have shown that blue light, like that emitted from an iOS device's screen, makes it harder to sleep at night. Night Shift reduces the amount of blue light.

Here's how to use Night Shift:

- **Enable Night Shift manually:** You can go to Settings > Display & Brightness > Night Shift, but it's far easier to trigger it from Control Center (see [Discover Control Center Functions](#)). When enabled, Night Shift remains on until sunrise.
- **Set a Night Shift schedule:** You can set Night Shift to turn on at night in Settings > Display & Brightness > Night Shift. The default schedule is from sunset to sunrise, but you can change those to custom times.
- **Adjust Night Shift:** In Settings > Display & Brightness > Night Shift, you can adjust a slider to make the effect more or less warm. The warmer the temperature, the more yellow the screen appears.

Accessibility for Everyone

Several accessibility settings are useful for almost anyone. You can find them in Settings > General > Accessibility:

- **Magnifier:** The Magnifier lets you use your iOS device like a magnifying glass. Enable the setting and triple-press the Home button to activate it:
 - ▶ *Zoom:* Use the slider to zoom in or out.
 - ▶ *Get more light:* Tap the flash  icon to turn the LED on (if available).
 - ▶ *Lock the focus:* Tap the lock  icon.
 - ▶ *Freeze the image:* Tap the Take Photo  button to grab a freeze frame. Tap the button a second time to unfreeze it.
 - ▶ *Adjust the color:* Tap the filters  icon to adjust display settings and access a range of color filters.
- **Change text size:** Tap Larger Text. Drag the slider to shrink or enlarge text. If you turn on the Larger Accessibility Sizes switch, you can make text even larger.
- **Bold Text:** Many users have complained that the text in iOS is too light. To fix this, enable the Bold Text switch. Tap Continue when asked whether it's okay to restart the device. Once iOS restarts, all system text will be bold.
- **Button Shapes:** Tired of buttons that are ill-defined text labels? You can add a button outline by enabling Button Shapes.
- **On/Off Labels:** Do you have trouble telling whether setting switches are on or off? Turn on On/Off Labels. Disabled switches show a 0 (zero), while enabled switches contain a 1 (the 1 looks like a vertical line).
- **AssistiveTouch:** Do you have an issue with a repetitive strain injury, arthritis, or perhaps a broken button on your device? Tap

AssistiveTouch and turn on AssistiveTouch to place a virtual button on your screen to simulate the Home button; bring up Notification Center, Siri, or Control Center; emulate gestures like pinches; and many other things.

- **Reduce Motion:** iOS has a lot of neat animations, but they make some people physically ill and other people find them distracting. You can turn off extraneous animations with the Reduce Motion switch.
- **Disable Vibrations:** You can disable all iPhone vibrations by toggling Vibration off.

New! Siri Can Announce Calls

Siri can now announce a caller's name or number when the phone rings.

Enable it in Settings > Phone > Announce Calls. You can set it to always announce calls, or only announce them when you're wearing headphones or are in a car.

iOS for the Visually Impaired

A few of the options already described in this chapter might prove useful to those who have trouble seeing, but the choices noted here, all available in Settings > General > Accessibility, should be especially helpful:

- **Color Filters:** iOS has several screen filters in Display Accommodations > Color Filters. Enable Color Filters and then choose an option. There are special color filters for protanopia (insensitivity to red light), deuteranopia (insensitivity to green light), and tritanopia (insensitivity to blue light).
- **Invert Colors:** If you're colorblind or having difficulty perceiving contrast, enabling Invert Colors in Accessibility > Display Accommodations may help. (Invert Colors disables Night Shift.)

New! Invert Colors now has two options: Classic Invert, which inverts everything on the screen; and Smart Invert, which leaves images alone.

- **VoiceOver:** You don't have to see to be able to use iOS, thanks to VoiceOver, which reads individual screen elements to you. Enable it by tapping VoiceOver. Turn on the switch and configure its options.

Note: You can select one of many voices to use with VoiceOver in the Speech section.

If you are setting up VoiceOver because you need it, refer to Apple's [VoiceOver](#) page to get an idea of what VoiceOver can make possible.

Generally, with VoiceOver on, tap an element to have your device speak its name to you. Double-tap an element to activate it. Use three fingers to scroll. For comprehensive guidance, you'll want a copy of the book [iOS Access for All](#), by Shelly Brisbin.

Note: You can edit VoiceOver's pronunciations in Settings > Accessibility > Speech > Pronunciations.

- **Speak Screen:** In addition to describing interface elements, iOS can read a screen of text if you tap Speech and enable Speak Screen. To highlight text as it's spoken, turn on Highlight Content.

With Speak Screen on, swipe down with two fingers from the top of the screen to have iOS begin speaking. A Settings box appears to let you control playback (**Figure 76**). Tap the x to stop the talking and dismiss the box.

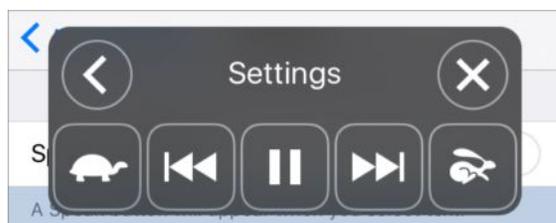


Figure 76: The Speak Screen Settings box lets you control playback and playback speed.

- **Zoom:** The Zoom virtual magnifying glass makes screen elements larger.

Quick On, Quick Off

A triple-press of the Home button can turn an accessibility switch on or off.

To set this up, visit Settings > General > Accessibility > Accessibility Shortcut. Select the options you want available through a triple-press. If you select more than one, triple-pressing the Home button brings up a menu.

iOS for the Hard of Hearing and Deaf

iOS offers several accessibility features for the deaf, hard of hearing, and hearing impaired:

- **Software TTY:** iOS has long supported hardware teletypewriter devices for the hard of hearing, but iOS can place TTY calls without dedicated hardware. Enable Software TTY in Settings > General > Accessibility > TTY and you'll see an option to use TTY the next time you place a phone call.

Note: For more information, see the TidBITS article [New Accessibility Features Coming to Apple's Ecosystem](#).

- **Hearing aids:** You can connect your device to Made for iPhone hearing aids in Settings > General > Accessibility > MFi Hearing Aids, and switch on Hearing Aid Compatibility in Settings > General Accessibility to reduce radio interference.

Hearing Aid Mode Tips

Hearing Aid Compatibility can reduce interference, but it can also hurt 2G cellular reception in GSM phones (like those on AT&T and T-Mobile networks). For details on this and other tips, read the Apple article [About Hearing Aid Compatibility \(HAC\) requirements for iPhone](#).

- **Indicator lights:** On an iOS device with an LED camera flash, you can enable LED Flash for Alerts in Settings > General > Accessibility. When a call or other notification arrives, the LED lights up briefly.

Other Accessibility Options

Here are a few accessibility features that didn't fit elsewhere:

- **Auto-answer calls:** iOS can automatically answer calls. Visit Settings > General > Accessibility > Call Audio Routing > Auto-Answer Calls and turn on Auto-Answer Calls. After enabling it, you can adjust how long iOS will wait before automatically answering the call.
- **Disable Shake to Undo:** Are you always triggering the Shake to Undo functionality accidentally? Turn it off in Settings > General > Accessibility > Shake to Undo.
- **Guided Access:** To lock a device into a single app—so the user (like a young child) can't exit that app—tap Settings > General > Accessibility > Guided Access. There's also a Control Center button to enable it—see [Discover Control Center Functions](#).
- **Subtitles:** You can turn on subtitles in supported apps by tapping Settings > General > Accessibility > Subtitles & Captioning and then enabling Closed Captions + SDH.
- **Switch Control:** One of the more interesting settings in Settings > General > Accessibility is Switch Control, which lets you navigate your device by tilting your head in view of the front-facing camera, with an external Bluetooth switch or by tapping the screen. See the Apple article [Use Switch Control to navigate your iPhone, iPad, or iPod touch](#) for more.
- **Touch Accommodations:** If a motor impairment makes using a touchscreen difficult, check out Settings > General > Accessibility > Touch Accommodations to tweak how the screen responds to touch.

Manage Data Usage

Internet connections without some kind of bandwidth cap or overage fee are difficult to find. Fortunately, there are tricks you can employ to manage your bandwidth usage in iOS. All these tricks can help you reduce your use of cellular data, but some can also help you stay under a general broadband internet cap, too. iOS 11 also offers suggestions to save storage space on your device.

Monitor and Disable Cellular Data Usage

In Settings > Cellular, under Use Cellular Data For, iOS lists every app that has used cellular data, along with a tally of how much data it has used since you last tapped Reset Statistics at the bottom of the screen.

Turn off the switch for any app that you don't want using cellular data. Beware that if you disable cellular data for an app, it won't be able to use cellular data for *any* purpose, possibly rendering it useless when off Wi-Fi.

Tip: Wi-Fi Assist makes your device automatically use cellular data when your Wi-Fi connection is poor, but that can lead to surprise data overages! Disable it at the bottom of Settings > Cellular.

Stop Automatic Downloads

When you buy an app, ebook, or music from Apple, it downloads to your device automatically. These purchases can also automatically download to all your other devices, so long as they are signed in with the same Apple ID. For example, if you bought this ebook from Apple's iBooks Store on your iPad, it may have downloaded automatically to your iPhone. Although this feature is convenient, it can eat data quickly.

To disable automatic downloads—and turn off automatic app updates—toggle the appropriate switch in Settings > iTunes & App Store. If you don't want to disable automatic downloads entirely, you can instead disable Use Cellular Data on this screen.

Tip: If you disable Updates, you should occasionally open the App Store app, tap Updates, and manually download available updates.

Restrict Background App Refresh

Background App Refresh keeps certain apps updated even when they're in the background. While this feature keeps app content fresh and saves you from waiting for data to load when you launch an app, it can also eat data without you realizing.

You can disable Background App Refresh entirely, or on a per-app basis, in Settings > General > Background App Refresh. You can also tap Background App Refresh at this screen and choose Wi-Fi to disable Background App Refresh when on cellular data.

Limit iCloud Data Usage

Some iCloud services (shown in Settings > *Your Name* > iCloud) can use a lot of data, including Photos, Safari, News, and Backup (backups happen over Wi-Fi only). Consider disabling these services if you don't use them—see [An Introduction to iCloud](#).

Turn Down the Music

The Music app can consume an overwhelming amount of data, especially if you use Apple Music, iCloud Music Library, iTunes Match, or listen to online radio.

Tap Settings > Music > Cellular Data to find options for controlling Music's cellular bandwidth usage:

- Turning off Cellular Data not only eliminates the app's mobile data usage, but also leaves you without downloadable tunes in the Music app while you're out and about.
- Enabling Cellular Data in Music lets you control whether Music can use cellular data for streaming or downloads separately.
- If you choose to enable Streaming, you can turn off High Quality Streaming to lessen the impact on your data cap.

You can also enable Automatic Downloads in Settings > Music to automatically download songs in your library for offline playback. This cuts down on data usage, but drastically decreases the free storage space on your device. The Optimize Storage setting in Settings > Music automatically removes downloaded music when your device is low on space.

Tip: Developer Johnny Ixe offers three apps that can help you keep an eye on your data use: [DataMan Next](#), [DataMan Pro](#), and [DataMan Enterprise](#). Visit the [DataMan website](#) for details on each one.

Control Device Storage

Visit Settings > General > iPhone Storage (or iPad Storage) to see how much space you have, what's taking up space, and suggestions for how to reclaim space, such as automatically deleting old Messages conversations, reviewing large message attachments, and automatically offloading unused apps.

Offloading an app, as opposed to deleting it, removes the app from your device, but retains its data, so when you download it again from the App Store you won't be missing anything.

I highly recommend enabling offloading of apps. To enable or disable it at any time, flip the Offload Unused App switch in Settings > iTunes & App Store.

Improve Battery Life

Keeping mobile devices powered is a persistent challenge. As iOS tries to do more and more for you, features like background tasks, Location Services, iCloud syncing, and Background App Refresh can strain a battery. Fortunately, iOS offers some tools that can extend your battery life.

Note: This chapter refers to many Control Center actions. Refer back to [Discover Control Center Functions](#) to familiarize yourself with them.

Tame Battery Usage

In Settings > Battery, under Battery Usage, apps are sorted by how much power they've used, but apps near the top aren't necessarily wasteful. If you use an app often, it will naturally use more battery.

Tip: If, in Settings > Battery, you see a section called Battery Life Suggestions (it suggested Reduce Brightness to my publisher), you would do well to heed the advice.

Apps with the Background Activity label are using a lot of power in the background. In some cases, this is okay. For instance, I want Mail to run in the background so it can notify me of new messages. However, if an app (like Facebook) is draining a lot of battery in the background, consider disabling its background refresh and Location Services.

Tip: Facebook can be an especially egregious juice-sucker. Curb its battery usage by limiting what it can do on the Location Services and Background App Refresh screens. Or better yet, just uninstall it and use Facebook in Safari.

Go to Settings > General > Background App Refresh to turn off background refresh on a per-app basis—or get rid of it completely by turning off the Background App Refresh switch.

To turn off Location Services on a per app basis, tap Settings > Privacy > Location Services and disable location sharing for those apps you don't want wasting power tracking you. You can also set an app to track you only while you are using it.

Find Out if Your Battery Is Draining

It can be difficult to tell whether a battery is draining normally or a particular app is being an energy hog. Here's the definitive way to find out:

1. Charge your battery to 100 percent and unplug your device.
2. Put your device to sleep and don't use it for an extended period—overnight is a good time for this test.
3. In the morning, go to Settings > Battery.
4. Under Time Since Last Full Charge, at the bottom, check the Usage and Standby time. If you haven't used the device since charging it, but the Usage time is close to the Standby time, then an app is preventing the device from sleeping soundly.

If you think an app is the culprit, look for apps with the Background Activity label in the Battery Usage screen.

The Batteries Widget

The Batteries widget tracks the battery life of your device and Bluetooth-connected devices (**Figure 77**).

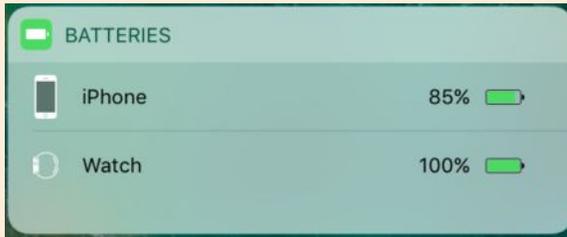


Figure 77: The Batteries widget shows the remaining battery life of all Bluetooth devices connected to your iOS device.

The Batteries widget displays only when a Bluetooth device is connected. To learn how to add widgets to the Widgets screen, see [Add a Widget](#).

Turn Down the Brightness

An iOS device's display is one of the most significant drains on the battery, so you want to keep the screen only as bright as is necessary for comfortable use.

Adjust brightness with the Brightness slider of Control Center. Generally, you can get away with a lower brightness setting while in a dark environment, but brighter situations, such as direct sunlight, call for more brightness.

The Auto-Brightness switch in Settings > General > Accessibility > Display Accommodations can help manage this for you, making adjustments depending on ambient light levels.

Shut Off Radios

The radios in your device eat power:

- **Bluetooth:** Keeping Bluetooth enabled when you're not using it can use battery power unnecessarily.

- **Cellular:** If your device has a voice or data plan, it's a good idea to disable the cellular radio when you have poor connectivity. Otherwise, the device will constantly strain to find a signal, consuming a lot of power while doing so.
- **Wi-Fi:** If you're desperate to improve battery life, you can turn off Wi-Fi. However, if your device has a bandwidth cap, Apple recommends that you leave Wi-Fi on to ensure that your device connects to the internet over Wi-Fi when possible.

Control Center lets you turn all of these off and on quickly (see [Networking Platter](#)). Or, turn them all off by enabling Airplane mode—tap the Airplane Mode  button in Control Center.

Tip: Using an iPhone for turn-by-turn directions while driving—particularly if you have it display the map constantly as well—is terrible for battery life. To avoid draining your iPhone's battery, plug your iPhone into power in the car when relying on GPS-based directions.

Use Low Power Mode

Available only for the iPhone, Low Power mode disables certain services in exchange for adding hours to battery life. iOS prompts you to enable Low Power mode when your iPhone's battery charge falls to 20 percent (and then again at 10 percent, if you ignored the first prompt). iOS disables Low Power mode automatically once the charge reaches 80 percent.

You can also enable or disable Low Power mode at any time in Control Center or Settings > Battery.

With Low Power mode on, the following features will not work:

- Automatic downloads
- Background App Refresh
- Mail fetch

- iCloud sync
- Some visual effects

Tip: Don't leave your device in a hot car or baking in the sun if you can avoid it. Conversely, in the depths of winter, try to keep your device warm or you'll see battery life drop precipitously. Apple's recommended temperature range is 32° to 95° F (0° to 35° C).

Busting Battery Usage Myths

There are many myths surrounding battery life. Let's take a look at the two most prevalent:

You Should Kill Background Apps

Many people recommend closing background apps that aren't in use, but according to [former Apple Genius Scotty Loveless](#), that can make the problem worse. The reason is that when an app is "open" in the background, it's still present in RAM but not consuming any CPU or battery power. If you close that app, it will consume more battery power when you launch it again. So you shouldn't "kill" background apps in the App Switcher indiscriminately. But...

If an app is using a lot of battery power unnecessarily, it's a good idea to close it in the App Switcher—see [Switch Apps on the iPhone](#).

You Should/Shouldn't Overcharge

Modern device batteries don't have problems with over- or under-charging. However, every battery has a limited life span, as defined by complete charge and recharge cycles. So, when an Apple device is charged to 100 percent, you should unplug it and use it until it drops to about 20 percent, then recharge it. It's not a good idea to frequently use a battery until it runs out of power.

The Life and Death of Batteries

To everything there is a season, and even for lithium-ion batteries there is a time to die.

Battery life spans are measured in cycles, and sooner or later, yours will reach its last. If your device rapidly loses charge throughout the day, or suddenly dies, even though the battery display in the status bar shows it as having well over 1 percent remaining, then your battery is likely on its last legs. The only way to know for sure is to have it tested. The Genius Bar at any Apple Store can run a special battery-diagnostic test on your device.

If your battery needs to be replaced, you can either buy a replacement and do it yourself, following a guide like those provided by [iFixit](#), or [pay Apple \\$79 to replace the battery](#). Alternatively, Apple's [AppleCare+](#) plans cover battery replacements, but your battery must be holding less than 80 percent of its original capacity before Apple will replace it for free.

Unfortunately, neither option is ideal. For a first-hand account of DIY battery replacement, see Adam Engst's TidBITS article [Replace a Dying iPhone 5 Battery](#); to read about my experience with getting Apple to replace an iPhone battery, see [Replace a Dying iPhone 5 Battery: Take Two](#).

About This Book

We hope that you found this book both useful and enjoyable to read. We welcome your [comments](#).

Ebook Extras

You can [access extras related to this ebook](#) on the web. Once you're on the ebook's Take Control Extras page, you can:

- Download any available new version of the ebook for free, or buy any subsequent edition at a discount.
- Download various formats, including PDF, EPUB, and Mobipocket. (Learn about reading on mobile devices on our [Device Advice](#) page.)
- Find out if we have any update plans for the ebook.
- Read postings to the ebook's blog. These may include new information and tips, as well as links to author interviews.

If you bought this ebook from the Take Control website, it has been automatically added to your account, where you can download it in other formats and access any future updates. However, if you bought this ebook elsewhere, you can add it to your account manually:

- If you already have a Take Control account, log in to your account, and then click the “access extras...” link above.
- If you don't have a Take Control account, first make one by following the directions that appear when you click the “access extras...” link above. Then, once you are logged in to your new account, add your ebook by clicking the “access extras...” link a second time.

Note: If you try these directions and find that your device is incompatible with the Take Control website, [contact us](#).

About the Author



Josh Centers is the Managing Editor of [TidBITS](#) and author of [Take Control of Apple TV](#). He has been featured in Macworld, Scientific American, the Washington Post, Boing Boing, and other fine publications, as well as on Comedy Central and HuffPost Live.

About the Publisher

alt concepts inc., publisher of Take Control Books, is operated by [Joe Kissell](#) and [Morgen Jahnke](#), who acquired the ebook series from TidBITS Publishing Inc.'s owners, Adam and Tonya Engst, in May 2017. Joe brings his decades of experience as author of more than 60 books on tech topics (including many popular Take Control titles) to his role as Publisher. Morgen's professional background is in development work for nonprofit organizations, and she employs those skills as Director of Marketing and Publicity. Joe and Morgen live in San Diego with their two children and their cat.

Credits

- Publisher & Editor: Joe Kissell
- Cover design: Sam Schick, [Neversink](#)
- Logo design: Geoff Allen, [FUN is OK](#)

More Take Control Books

This is but one of many Take Control titles! Most of our books focus on the Mac and macOS, but we also publish titles that cover iOS and other Apple products, along with numerous general technology topics.

You can buy Take Control books from the [Take Control online catalog](#) as well as from venues such as Amazon and the iBooks Store. But it's a better user experience and our authors earn more when you buy directly from us. Just saying...

Our ebooks are available in three popular formats: PDF, EPUB, and the Kindle's Mobipocket. All are DRM-free.

Copyright and Fine Print

Take Control of iOS 11

ISBN: 978-1-947282-08-7

Copyright © 2017, Josh Centers. All rights reserved.

[alt concepts inc.](#) 4142 Adams Ave. #103-619, San Diego CA 92116, USA

Why Take Control? We designed Take Control electronic books to help readers regain a measure of control in an oftentimes out-of-control universe. With Take Control, we also work to streamline the publication process so that information about quickly changing technical topics can be published while it's still relevant and accurate.

Our books are DRM-free: This ebook doesn't use digital rights management in any way because DRM makes life harder for everyone. So we ask a favor of our readers. If you want to share your copy of this ebook with a friend, please do so as you would a physical book, meaning that if your friend uses it regularly, they should buy a copy. Your support makes it possible for future Take Control ebooks to hit the internet long before you'd find the same information in a printed book. Plus, if you buy the ebook, you're entitled to any free updates that become available.

Remember the trees! You have our permission to make a single print copy of this ebook for personal use, if you must. Please reference this page if a print service refuses to print the ebook for copyright reasons.

Caveat lector: Although the author and alt concepts inc. have made a reasonable effort to ensure the accuracy of the information herein, they assume no responsibility for errors or omissions. The information in this book is distributed "As Is," without warranty of any kind. Neither alt concepts inc. nor the author shall be liable to any person or entity for any special, indirect, incidental, or consequential damages, including without limitation lost revenues or lost profits, that may result (or that are alleged to result) from the use of these materials. In other words, use this information at your own risk.

It's just a name: Many of the designations in this ebook used to distinguish products and services are claimed as trademarks or service marks. Any trademarks, service marks, product names, or named features that appear in this title are assumed to be the property of their respective owners. All product names and services are used in an editorial fashion only, with no intention of infringement. No such use, or the use of any trade name, is meant to convey endorsement or other affiliation with this title.

We aren't Apple: This title is an independent publication and has not been authorized, sponsored, or otherwise approved by Apple Inc. Because of the nature of this title, it uses terms that are registered trademarks or service marks of Apple Inc. If you're into that sort of thing, you can view a [complete list](#) of Apple Inc.'s registered trademarks and service marks.