

Apple CEO Tim Cook hosted Worldwide Developer Conference (WWDC) 2016 opening keynote event in San Francisco, California on Monday, June 13. Following is the full transcript of the whole event.

Speakers:

Tim Cook - CEO, Apple Inc.

Kevin Lynch - VP Technology

Stacey Lysik - Director of Apple Watch Software

Jay Blahnik - Apple's Director of Fitness and Health

Eddy Cue - SVP, Internet Software and Services

Craig Federighi - SVP, Software Engineering, Apple Inc.

Bozoma Saint John - Apple Music's Head of Global Consumer Marketing

Bethany Bongiorno - Director of iOS software program

Imran Chaudhri - Director of the design team

Cheryl Thomas - Apple VP of Software Engineering

MP3 Audio:

<https://singjupost.com/wp-content/uploads/2016/06/Apple-CEO-Tim-Cook-Keynote-at-WWDC-2016.mp3>

YouTube Video:

Tim Cook - CEO, Apple Inc.

Thank you. Thank you. Thank you. Thank you. Thank you. Thank you.
Thank you.

Before we start with the keynote, we'd like to take a moment to talk about the tragedy that occurred yesterday in Orlando, Florida. We offer our deepest sympathies to everyone whose lives were touched by this violence. It was senseless, unconscionable act of terrorism and hate, aimed at dividing and destroying. The Apple community is made up of people from all around the world, from all different backgrounds, and all different points of view, we celebrate our diversity. We know that it makes us stronger and moves everyone forward. Please rise and join us in a moment of silence to honor the victims and the people who love them.

Thank you, thank you.

Hello and welcome to WWDC 2016. It's great to be here at the legendary Bill Graham auditorium in beautiful San Francisco. We have a really big and jam-packed morning planned for you and we couldn't be more excited. Let me give you some details on the conference this year.

This is our 27th Worldwide Developers Conference. The developer community has never been more vibrant. We now have 13 million registered developers with 2 million added in the last year alone. The conference this year sold out over 5000 attendees and millions more watching on the live stream. This is truly a worldwide conference. We have people here from over 74 countries.

We're excited that we're attracting so many new developers. Over 70% of the attendees at the conference this year are attending the conference for

the very first time, and we're investing in the next generation of developers. We've awarded 350 scholarships this year. These guys are incredible. If you see them, make sure that you congratulate them.

We have over 100 attendees at the conference this year that are under 18 years of age. The youngest - the youngest is only 9. Wow! I met her yesterday and she is going to make one heck of a great developer.

Now, this week is about helping you get the most out of our platforms. So we have over 100 engineering-led sessions and over 150 hands-on labs with over 1000 Apple engineers on site here to help you through the week.

The App Store started eight years ago with only 500 apps. Recently we passed a major milestone. We now have 2 million apps on the App Store. Your 2 million apps have been downloaded 130 billion times. And as you know, the App Store is the best business opportunity for developers. We're about to pass \$50 billion paid directly to developers. This is absolutely amazing. And of course, successful developers translates to us having the best apps on our platform for users and this is what really matters.

Now we have a busy morning planned but I'd like to take a moment to talk about why we do what we do at Apple. Our North Star has always been about improving people's lives by creating great products that change the world. And we've been doing this for a long time. But today for the very first time we're going to talk to you about four Apple platforms. Each of these platforms is category-defining and world-changing.

The Macintosh changed personal computing. Today it's the most innovative and loved personal computer on the planet.

iPhone changed phones forever. It's the best smartphone experience and the gold standard by which everything else is measured.

The iPad magically transforms a glass canvas into anything that you want

it to be. It's our clearest expression of the future of personal computing.

Apple Watch, only one year old, it's already the ultimate device for a healthy life. And Apple TV, just announced last fall based on the idea that the future of TV is apps, it's already transforming the biggest screen in our homes.

Now, we love creating great apps. We love creating great products that change the world, but we can't do it alone. Developers are a crucial part of that journey. You are about — you are a part of everything that we do and everything that we will do going forward, because it's together that we enrich people's lives.

Now we offer you four incredible platforms that power these world-changing product experiences — watchOS, tvOS, OS X, iOS, we're going to move each of these platforms forward today. And we'd like to get started with watchOS. And to do that, I'd like to invite Kevin Lynch up. Kevin?

Kevin Lynch - VP Technology

Thank you, Tim. So I'm really excited to talk with you about watchOS and show you some of what's ahead. Now people who are using Apple Watch love it, particularly for quick glances at information and quick interactions. And our top focus is performance, and we've made optimizations across the entire system, including a serious acceleration in app launch time. Your app should actually respond instantly. And the information you look at should be updated before you go look, so it's ready the instant that you are, so you're not waiting. In watchOS 3 your favorite apps can respond instantly.

So let's take a look. So we're going to accomplish this by keeping your favorite apps in memory. We're going to support background updates of data and refresh the information so it's ready the instant that you are. And

then we support quickly launching these apps and interacting with them. This is going to work for both the built-in apps and third-party apps.

Let's take a look at an example. This is watchOS 2 and we're going to look at an app called *Onefootball*. We're going to launch it from a complication in the bottom left. We're going to see how long it takes. So here we are, launching the app, takes a few seconds to launch, and then once it launches, it loads some data and it updates, there we go. So that is pretty typical example of watchOS 2.

Now we're going to take a look at Onefootball launching in watchOS 3. You guys ready? Okay, don't blink. That's it. So that example is about 7 times faster but it feels like a million times faster. So we've made it really easy to access your favorite apps. You could just press the side button below the crown to show what we call the *Dock*. You can choose which apps go here and you can quickly scroll through them. The apps are now both glanceable and interactive rather than separate concepts. And this is a dramatic improvement in how it feels to use the watch. So this increased performance allowed us to have access to our favorite apps quickly. We want to be able to access them anywhere. So by using the side button gets them easily.

Now another key design goal we had was to make the watch feel more familiar. And so we've done with the watch face, now we've added control center. You just swipe up from the bottom, just like on iOS in very familiar. This is a giant improvement in how it feels to use apps and to navigate the watch very simply and easily in watchOS 3.

Now we've also made it more powerful to reply to messages. So now when you receive a message, you can see the ways to respond right there. We've removed the step. You don't have to actually press reply now, you can just pick the way you'd like to reply. And if you just scroll down, you'll see your smart replies right below the message. So you can just tap to reply in less

than a second.

Now sometimes you don't see exactly the response you like and you're not in a situation where you can use dictation. So would it be great if you could just write your message on the watch? Well, we're introducing a new way to do that with something that we call Scribble.

With Scribble, you have a new way to respond just by writing what you like on the screen. You can just quickly draw the letters for your message right there, like writing something like Starbucks. You can see the letters go right on top of each other. So that's a great new way to respond with just the response you like on your watch.

Now the watch face is great for quick looks and it reflects your style. And it's also the character of the device. And we've had Mickey as a fun watch face that I like to use on weekends. But I know what my daughter's going to really love is Minnie is coming to the watch now. And of course you can choose from a variety of colors for her outfit that match her fans perfectly.

Now one of the most frequent things people do is look at their activity rings and we're adding a new watch face specifically for that called Activity. So it's a great beautiful way to see your rings throughout the day. That comes not only in the analog version but also a really nice chronograph version and a digital version. So a super good way for looking at your progress during the day.

We've also added a really simple new face that we call *Numerals* which is very beautiful and the hours actually go around the dial during the day and you can choose from a variety of fonts that match your style. So really simple to watch face called *Numerals*.

Now there's a lot of watch faces to choose from and we're finding that people are actually switching between faces for different occasions. So we're going to make that super easy. You can now just swipe to switch the

face you like to use and you can choose which faces you like and how they're configured so you can easily get to them.

We've also added the ability to add more complications to faces, like weather here on the photos face. So now really simple to navigate and use your watch faces as well.

Let's see all the stuff running live. For a demo, please welcome Stacey Lysik.

Stacey Lysik - Director of Apple Watch Software

Thank you, Kevin. Good morning. I could not be more excited to have the opportunity to show you watchOS 3 today. I wake up to my favorite new face, just the girl I've been looking for. Now in watchOS 3 you have a place to keep all of your favorite apps. You choose which apps go in your Dock and you choose the order.

I can bring up my Dock by pressing the side button and I can swipe through my apps one at a time or lay my finger down in these dots at the bottom of the screen and fly through my Dock to get to any app. And apps in my Dock are live. So I can get a quick glance at information without even launching an app, like how close I am to closing my Activity rings and the apps have been redesigned to put me within one tap of the thing I most want to do.

Let's take a look at the Timer app, one tap to launch it and it's right there waiting for me. I can still set a custom timer if that's what I want to do but the most common choices for a timer are right here on the screen. So with one tap I can set a ten minute timer and get right back to what I was doing.

Even my favorite apps from the App Store can be in my Dock, like what with *Sweat With Kayla* and Lift and they are lightning fast too. Let's take a

look. With one tap I can call a car. Yikes three minutes. I have so much to show you, like new apps, *Reminders* and *Find My Friends* that have been designed specifically for this kind of quick interaction.

Let's look at *Reminders*. Now I can keep all my lists with me throughout the day and just check things off as I get them done. Here's my bucket list. You don't get to do this very often but today is just one of those days. *Find My Friends* takes advantage of background updates to ensure I always have the latest and greatest location for my friends and family. Now I never have to worry about whether my kids got to their activities on time.

And we wanted to make changing your watch face as easy as swiping through apps on your Dock and while Minnie is fabulous for a casual weekend, sometimes I want to wear something simple and elegant. Now with an edge-to-edge swipe I can get to my Numerals face. And for those of you as obsessed with closing your rings as I am, we now have the Activity face. Every time I raise my wrist I get to see those big beautiful rings reminding me to get up and get moving. And I can launch my workout right from the face with a new quick start feature; I can bypass setting up a goal and just get started. I didn't really come dressed for a workout today. So I'm going to swipe over and that and take us back to our watch face. Notifications are still right where you think they'd be, pulled down from the top of the screen. This is a message I say from my friend Isabel. She's been teaching me a little Mandarin and she wants me to reply about dinner tonight in Chinese. I can do that with a new Scribble feature.

Scribble works in English and Chinese and it knows what language my keyboard has been set to. So with my finger, I can write out a quick message. *Bā diǎn* or eight o'clock. Those are just a few of the features of watchOS 3 but of course there's more. Back to Kevin.

Kevin Lynch - VP Technology

That was awesome, Stacy. Thank you. And it's so exciting to achieve this new level of performance on the watch and we're finding that people who are wearing up a watch wear it all the time and this opens up some new great ways that we can help. And one of these is actually getting help in critical situations, just by pushing a button that's actually on you. So you might be a having a medical emergency, for example, or a safety situation and we're going to be able to help with that with SOS on the watch. We're going make it easy to call for help. To activate it, you just press and hold the side button. It's going to count down to let you know it's calling 911. And then you're going to be on a live call with emergency services right on your watch. And this works either as a cellular call via your iPhone or directly from the watch if you're connected to Wi-Fi. And after you're done talking on the phone as emergency services, the watch will automatically notify your emergency contacts. We'll send them a message and the message also will include a map of your current location so they know where you are and they can coordinate with each other.

And after sending the message your watch will actually now show your medical ID which is also a new feature in watchOS. It has things like, for example, your age and allergies and other information you'd like to put there. And SOS works not only just in the US but it works internationally. So, for example, you might be traveling to some place like Hong Kong and you might not know what the emergency number is to call. But your Apple Watch does. So in this case it calls 999 rather 911. So this is an emergency feature that isn't one that you'll use often. But when you need it, it's going to be there and that's SOS.

Now one of the primary reasons people are wearing the watch today is for fitness and health. And we're enhancing the Activity and workout apps and we're adding a new app that we think you're going to love. Take a look at this, please welcome Jay Blahnik.

Jay Blahnik - Apple's Director of Fitness and Health

Thanks Kevin. So we know that one of the most popular apps on the Apple Watch is the Activity app. And as Kevin and Stacy have mentioned many people have told us that they actually become more active because they've become addicted to closing the Activity rings. And we love hearing that.

But we also know that many people are motivated by other things. Some people are motivated by getting support from their family and friends. And if you're like me, you're motivated by good old fashioned competition. And we wanted to make that possible as well.

So with watchOS, we're introducing Activity Sharing and it couldn't be simpler. All you have to do is swipe to the right of your own Activity rings and there you will see your selected family and friends rings as well. Now you can sort by whatever metric is most important to you. So you can sort by steps, you can sort by workouts. You can even sort by exercise minutes. Here you'll see that I've sorted by the move ring and I'm right where you expect me to be. I'm getting my butt kicked by Stacy. But I am annihilating Jess which makes me very happy.

If you want to see more details, all you do is tap on anyone in your Activity list and you'll get an up close look at their Activity rings but you can also see things like their daily step count and their workouts even from third parties. But one of my favorite features is that you can communicate directly with the people that you're sharing activity with right in the Activity app through messages. And when you do, you'll get smart replies that are geared around fitness and activity. Some are supportive. Some are a little more competitive but you can also do some fun things. For example, at the end of a workout you could send your racing heart rate to one of your Activity friends. Or your racing heart rate to one of your Activity friends — or you can also send smack talk in your own voice right through audio messages. So we think this is going to be a great way for you and your friends to stay motivated to keep each other active and we can't wait for you to try it.

Now our team has been working hard to enable features that would allow more people to use the Activity and Workout apps. And one group we've been thinking a lot about is wheelchair users. Now many wheelchair users already have an Apple watch and they've written us and told us that they love it, because it gives them instant access to messages and notifications right from the wrist. And this is particularly important because many wheelchair users have to tuck away their iPhones securely throughout the day.

But to do a great Activity and Workout experience, we also recognize that we couldn't just use the same algorithms that we've used for non-wheelchair users because the biomechanics are completely different. For example, many wheelchair users use a semicircular technique when they're pushing their wheelchair throughout the day. But as the train changes and the speed changes, they may switch to an arc technique or a single loop over technique. And this is what makes it complicated. These are only a few of the techniques that they may use.

We knew that to do this right, we not only have to do a lot of studies but we would also need to enlist the help of experts. So we worked with the Challenged Athletes Foundation and the Lakeshore Foundation. These are two of the world's largest organizations that are dedicated to promoting physical fitness for people in wheelchairs. With their help, we were able to conduct the studies and we were able to do it on a wide variety of wheelchair users, including some veterans.

And now wheelchair users will have a setting, the time to stand notifications will be changed to time to roll. There will be two workouts in the Workout apps specifically dedicated to wheelchair users and of course the Activity rings will be optimized for wheelchair pushes. We could not be more excited about this feature and we're incredibly thankful to our partners for helping make it possible.

Now one of the things that we've learned about health and Apple Watch is that simple things like the Activity rings can be very powerful in helping people change behavior. But we also know that there is a lot more to health than just fitness. And we've been thinking way beyond that.

So with watchOS, we're launching a brand new app for health. It's called *Breathe* and it's designed to guide you through simple deep breathing sessions that can help you quiet your mind, relax your body and just better deal with everyday stress. Now yoga practitioners have been using deep breathing exercises for thousands of years as a way to positively impact the body and mind. But the medical community has also embraced deep breathing as a great way to improve daily health. Dr Deepak Chopra, one of the early advocates of body mind medicine has said, "*Taking a moment every day to do some deep breathing can reduce stress, calm the body mind as well as have long term health benefits*".

Now to get to the app it's easy. You can launch it from your watch face. You can launch it from the Dock or like the stand reminders. You can actually set smart notifications to remind you and start building this as a habit every single day. When you open the app you can easily change the amount of time you want to do your session from one to five minutes just by turning the *digital crown*. And when you're in the app experience you'll be guided by beautiful visuals that make it really easy to follow along. And if you prefer to do this with your eyes closed, you can turn on the *haptic feedback* and gentle taps will guide you and you can do without even looking.

When the session is over, you get a summary and you'll also get your heart rate from the last few seconds of the session you just did. Now if you already do deep breathing, we think this is going to be a great way for you to fit into your day more often. But for those of you that don't, we think this is going to be a great way to get started and just one more simple way that it can help you live a better day. These are just a few of the exciting

updates we have planned for fitness and health in watchOS. Now I am going to get back to Kevin.

Kevin Lynch - VP Technology

Thank you, Jay. That was really terrific. I was actually using the Breathe app backstage. It helped me a bit.

So watchOS 3 is a giant step forward for you as developers. When someone adds your apps to Dock, or to the watch face, it benefits from all the instant launch experience that we were showing and you get background time to update your information before someone goes and looks. And that will enable really quick interactions with your app on the watch.

Now you can already build apps that are native to watch, so you can run independent of iPhone. But we're also adding a number of new APIs you can take advantage of when you're building apps for the watch. One of those is Support Now for Apple Pay within your app on the watch. So you can do purchases right there.

Fitness apps will now be able to run in the background during workouts, enabling access to real time heart rate information and motion data. This is going to enable a whole new category of fitness apps on the watch. Also, we're enabling a much richer and expressive apps in watchOS, including support for SpriteKit and SceneKit, native event support from the crown and for touch gestures. You can clap; it's good.

Audio video can be embedded right inside your app UI and you can connect across devices with Game Center and CloudKit. So we're really excited about what new apps now can be created on the watch and they're going to be amazing. This is a great new opportunity for all of you and the preview release for you is available today so you can get going. And the free upgrade is coming to all watch users this fall and it's going to feel like

a whole new watch. That's just some of what's coming in watchOS. Thank you very much.

So now that, to give you a look at tvOS, please welcome the one and only Eddy Cue.

Eddy Cue - SVP, Internet Software and Services

So let's talk about tvOS and Apple TV. Last fall we introduced the next generation of Apple TV and for the first time developers had a modern platform like iOS to develop for in the living room. And we said the future of TV is apps. And the response to Apple TV has been incredible.

Here is what Chris Albrecht, the CEO of Starz had to say: *"tvOS has allowed Starz to create an experience on Apple TV unlike anything we've done before and our subscribers are loving it"*.

Here is what the CEO of BoomBit, a very popular iOS game developer had to say: *"We easily extended our iOS game experience to the living room, something that is incredibly difficult to do on traditional consoles"*.

Our last generation Apple TV had 80 video channels and thanks to many of you, we now have over 1300 video channels. And we have over 6000 native apps in just seven months and I've got some new apps to tell you about. First, *Sling* which offers a great selection of live cable channels is coming to Apple TV today. *Fox Sports Go* — I'm a huge sports fan - four sports games all at the same time on one screen coming this summer to Apple TV. *Molotov*, a revolutionary new TV service in France with over 100 live channels video-on-demand exclusively on iOS and Apple TV coming next month. Great sports games like NBA 2K, adventure games like Minecraft Story Mode and Sketch Party use your iPhone or iPad to draw and then you sit around the TV to guess. It's a lot of fun to do this with your group of friends.

Now we've got great updates to tell you about for tvOS and let me start with the Apple TV Remote app. Now Apple TV comes with the incredible Siri Remote. It uses touch for navigation Siri to tell it what you want to watch and motion to play games. But a lot of our customers have told us that they would love an app on their iPhone that had all those same capabilities. And so we're making a new version of the Remote app. This is what it looks like. It's got a beautiful now playing screen with playback controls. But most importantly all the features of the Siri Remote. You have touch for navigation, Siri to give it commands and it uses the accelerometer and gyroscope to play games. And of course you can enter texts with the keyboard.

Next, let's talk about Siri. Siri changed the way we interact with our television because now we just tell it what we want to watch. And we're making it even better because now you can search movies by topics. And my daughter is actually going to high school this fall and I remember back when I went to high school, it's been a while, there are some great movies that I'd love to watch with her. And now Siri makes this really easy because I can just say find high school comedies from the '80s - I am sorry, we will do that one again — *find high school comedies from the '80s* and there are some of my favorites. I actually have watched them all. Let's take a look at *Ferris Bueller's Day Off* and with just one tap we can start watching.

Siri actually searches over 650,000 movies and TV shows now. But what about YouTube? Well, that's easy too because now you just ask Siri: *Search YouTube for Steph Curry's three pointers*. Siri launches YouTube and shows you the results.

But a big part of your TV experience is live channels and we've got some great channels on Apple TV like ABC, CBS, FX and a lot more that give you live channels. But to start watching you've got to find the app. You've got to launch it and then you've got to find the channel where we've got a

great new feature called Live Tune-In and all you have to do: *Watch ESPN2*. Taken straight to the action. And this is already working with a lot of great channels and we're making Live Tune-In available on both your iPad and Apple TV as well. And one problem with this is — let's be honest — when you go in and you launch a video channel app for the first time, you get something like this. And you've got to go find a browser, authenticate with the code and then authenticate to your TV provider.

Well, we're going to make this change a little bit. But it's worse because you've got to do it for each and every app. And now we're going to make it all go away with a feature we call *Single Sign-on*. You sign in once on your Apple TV and you get access to all of your network apps and we make it even better. A page on the App Store will show you all of the apps that you now have access to. And of course, we're bringing this to iOS as well.

Now in addition to Single Sign-on, we've got some other great updates. Now Apple TV looks beautiful but there are times where you wish it was darker because you're in a home theater or a dark room. And now that's really easy, because you can just switch to *Dark Mode*.

And we want to make it even easier for customers to get your apps. And so just like when you download an app on your iPhone, it automatically downloads to your Apple TV, it now automatically downloads to your Apple TV. And this is really great and I'm going to show you.

So I get the Major League Baseball app on my iPhone. You do nothing and there it is right on your Apple TV. There has never been a better time for all of you to build apps for the big screen and we've got some great new features for you as well. First of all, *ReplayKit* where you can live broadcast your gameplay or save the video to share it later. We've got *PhotoKit*, gives you access to your complete iCloud Photo Library, all the videos, all the photos. And of course, *HomeKit* where you can create apps to control all the devices at home. And that's just some of the many

features. We've got things like support for four-game controllers, multiplayer game sessions and a lot more.

And that is a quick update to the tvOS: a new Apple TV Remote app, great Siri enhancements with topic search, YouTube and Live Tune-In, obviously Single Sign-on, so now you get access to all your network apps and great tools for developers. And all of you will get a developer preview today. I can't wait to see all of the apps that you start building and our customers will get it this fall. And that is tvOS.

Now, to talk to you about OS X, here is Krag Federighi

Craig Federighi - SVP, Software Engineering, Apple Inc.

Good morning. Good morning. It's great to be back at WWDC to talk to you about OS X and of course, no presentation at WWDC about OS X will be complete without some kind of naming controversy. Now I'm not talking about some allegedly vague members of our marketing team going on some kind of vision quest around California looking for a special name. I'm actually talking about the name OS X itself.

You know, OS X has been with us a name for over 15 years and it served us so well. But as we look at it alongside its younger brethren, something sticks out. We realize that there is a name that would be so much clearer and so much more elegant. And so we're making it, so the name of the world's most advanced desktop operating system is now macOS.

Now, of course, each version of macOS does have a special name after a place that's especially important to us here in California. And this year's macOS is no different. But the choice this time was obvious. Our latest newest OS X is macOS Sierra.

Now Sierra is a fantastic new release with a big focus on Continuity, the iCloud and the fundamentals of the Mac experience. I want to start with

Continuity, because Continuity is like a magic. Your devices are able to sense themselves around you and use secure peer-to-peer wireless protocols to enable you to move from one task to another across your devices just seamlessly. What we wanted to take on this year, one task that we all do many times a day every time we start using our Macs. And that feature is called *Auto Unlock*.

So today when you first approach your Mac to use it the experience is something like this. When you open it up, you're confronted with a password field and you type and then maybe mistype and then retype your password. And then you're in and using your Mac. But you know for many of us we already have a device securely authenticated to our wrists that already knows who we are and could tell our Mac. And so then when we open our Mac, it could be a little bit more like this. And we're in. It's that simple. And we made this really secure using *time of flight* networking to make sure it's you who is that close to the machine, who is unlocking it. So it's really great.

Now the next Continuity feature in macOS Sierra is Universal Clipboard. But I know copy and paste is so fundamental to the way that we use our Macs for so many years now. But what if when you are on even your iPhone and you found some texts and you just went to copy it, that when you then went to your Mac where you could just paste it right in. And now you can, with images, video everything, completely automatic.

ALSO READ: [Apple is Sex, Google is God, Facebook is Heart, & Amazon is Consumptive Gut, with Scott Galloway \(Transcript\)](#)

Now I'd like to move on to iCloud and specifically iCloud Drive. Now today with iCloud Drive, you can put documents into your iCloud Drive that you explicitly want to make available to you across your other systems as well as your iOS devices. And customers have done quite a bit of this — actually 10 billion customer documents in iCloud Drive today but we want

to take this a step further. We want all of your documents and your desktop accessible to you everywhere so that when you're on one Mac, maybe you're putting things in your normal Documents folder, well, of course those should be available to you on your other Macs. But you know, for 30 years now we've all learned to do the work, the things that we're working on right now where do we put those? So often it's on our desktop. So let's make our desktop available on our other Macs as well and have those files be available to us on the go on our iPhones. Now you can.

Next up, Optimized Storage. We love using our Macs and we fill them with so much stuff but you can end up with a situation like this. And what do you do about it? Well, it turns out we're going to give you a solution. And it works in two ways. First, it helps you make room for the files that — your new files by keeping your older ones up in the cloud. So whether it's your full resolution photos when your Others are in iCloud Drive or movies that you already watched in iTunes or even those old mail attachments, we can clear off that space locally and make those things available to you on demand. But we also want to make it easy for you to get rid of files you'll never use again automatically, things like your Safari Web cache and maybe the trash that you keep forgetting to empty, and redundant data that's stored by mail, well, we can get rid of all of that as well. And we provide a really simple user interface to help you do it.

Now as a test, we took a system that was nearly full - had about, let's say, 20 GB free and we put it through the pace. Now it had a lot of photos and a lot of documents. It had movies that were already watched, mail with lots of attachment, apps, system files and so forth. And we turned on all the switches for Optimized Storage and we went from 20 GB free to 150 GB free. So we think this is going to make a big difference for all of you.

Next, Apple Pay. So we all love using Apple Pay in stores to pay with our phones and our Apple Watch at the cash register and to shop inside apps on our iOS devices. So, of course, we wanted to bring this experience to

the Mac. We thought long and hard about exactly the right way to do it and I think we've nailed it. I think we might have an accessory business with some carrying straps could be very helpful. This is not how people are going to shop on their Macs, right? We shop online, on the web, actually prompts you to securely authenticate your purchase using Continuity right on your iPhone with Touch ID. And of course, this works with your Apple Watch as well. So you can authenticate with just a tap on your wrist and already many many merchants are signed up to bring their web storefronts to support Apple Pay on the web.

And Apple Pay is expanding hugely geographically. It's now available in apps, you can organize those in tabs. But because it's built into the system you can do that for third party apps as well. In fact, we've implemented it in a way that the apps you already have installed can support this out of the box without any modification, so Tabs Everywhere.

So next *picture-in-picture*. We love watching video on the web but sometimes we like to keep track of a video while we're doing other work. Well, now you can. You can push the picture-in-picture button, your video goes into a nice little pip. You can move it around the screen and it works great in full screen as well.

So these are seven great features in macOS Sierra. But there is one more. And this year, I'd like to take the unusual step of letting this feature introduce itself.

[Siri: Hi, it's me. It sure is great to be on the Mac. How about a demo?]

That's right. Siri is coming to the Mac. And it looks like Siri would like to give a demo. So let's get to it.

So we have macOS Sierra right here and the first thing you'll notice is right here on the Dock, we have access to Siri. So I can ask Siri a question, let's say: *How do you like being on a Mac?*

[Siri: Pretty awesome. Lots of space, aluminum unibody walls and no complaints about the lack of windows.]

So it's the same Siri that we know and love but now on the Mac, it can do so much more — things like sophisticated queries for files, like: *show the files I worked on last week about the offsite.*

[Siri: Have I ever told you your filing is so styling.]

So we have my search results but what's really incredible is I can refine that sophisticated query with a follow-on like: *Just the ones Ken sent me that I tagged with draft.*

[Siri: For your filing pleasure.]

See, I have just the files I'm looking for right there. But what's great is this is a useful result that I may want to use throughout the day as I work. So I can actually click on this *plus* button and pin it right here in my notification center. And that's - yeah, it's really great. This works for lots of your Siri results.

So I'm going to actually open this team offsite presentation just working on a little project here. I'll take this one full screen. We see we're planning an offsite, there are bunch of activities. But while I'm working in full screen, Siri is there for me and helps me multitask. So I can do things like: *play my power ballads playlist.*

[Siri plays]

Oh yes, so Siri to the rescue with some awesome tunes. I can let this play all day but I think we'll get on with the demo. So I can actually use my Siri results here to help me complete this presentation. So I have an image result here for slack lining. Let me just click in my Siri result, drag it right into my presentation.

And I can also have Siri search the web for me. So let's do: *search the web for pictures of falconry.*

[Siri: *Here are some images of falconry I found on the web.*]

OK, that looks like some good fun. So I can actually take the results right out of Siri and drag them into my document. It's pretty epic.

But you know, I'd like to actually replace this map with one that I've been working on here on my iPad. My iPad is so great because I can actually use my Apple Pencil to do some drawings. So let's say, I am going to take my Apple Pencil here and I am going to draw a path, maybe we'll take a hike like this, maybe out over here, just like that. OK, that looks like just the drawing I want but of course, I'd like to now get it on my Mac. So how do I do that? Well, why don't I just copy it — but I'm not just copying it to my iPad because when I return to my Mac, I can paste it just like I would anything else actually wirelessly transfers it automatically into my document.

So now that I look at this trip, I realize that it's a horrible idea. So I can actually use Siri to message my friend: *Tell Ken, maybe we should just see a movie.*

[Siri: *Here is your message ready to send it.*]

You bet.

[Siri: *Sent*]

So I can use Siri, of course, to do messaging at any time and it can also help me find that movie. *What new movies are playing this Friday?*

[Siri: *I found 8 movies playing on Friday.*]

All right. So Siri is giving me some results and *Finding Dory* looks pretty good, so let's open that up. Now I can go play the trailer. But I can also drop right here into picture-in-picture. You see in picture-in-picture, I can actually resize if I want. I can reposition the pip window to any corner. And of course, it works great in full screen right on top of my other content. So this movie looks pretty good. So I think I'll go back into the browser and let's actually buy some tickets.

So I see there's a showing here at 7:15, I'll select that. Select the amount. Let's go with 10 of us. And here you see a *buy* with Apple Pay button. So watch what happens when I click *buy* with Apple Pay. I'm prompted to confirm here on my iPhone. I just use Touch ID with my fingerprint and I can securely authenticate my transaction. Just like that. And that's a quick look at macOS Sierra. So Sierra — some great features for Continuity, the Cloud, Apple Pay, user experience and of course Siri. And there's much more that you'll be hearing about later today.

Now Sierra is available to you developers in developer preview from today and we're doing a public beta in July. You can sign up now at beta.apple.com and they'll be available to everyone else in the fall across all of these systems. That is your update on macOS.

Next, let's turn to iOS. So iOS, we're hitting a big milestone because now I'm pleased to introduce iOS 10. Now iOS 10 is a huge release for developers and it is the biggest iOS release ever for our users.

Now there are 10 big features I want to talk about today. And let's start off with number one, that's *user experience*. Now in iOS 10 we've redesigned the experience of the lock screen with rich notifications that give you quick interaction with apps through the expanded use of 3D Touch. But rather than just talk about it, how about I just show it to you right now. Let's do a demo.

Now one thing a lot of us have noticed, now that we have our iPhone 6Ss with the incredibly fast Touch ID sensor is that we can just blow past our notifications on our lock screen. We never even get to see them. And so in iOS 10 we have a great solution. It's called *Raise to Wake* and it lets you see what's on your lock screen without ever touching a button. Let me show it to you now. I just raise my wrist and my phone wakes up just like that.

Now the first thing you'll notice is these beautiful notifications are no longer causing us to darken your wallpaper, so you get to look at that. But much more important they're really interactive through 3D Touch. So for instance, with this calendar notification I can just 3D Touch on it and I can jump right in to get all this rich detail about this invitation. I can see my calendar and I can accept it right here.

Now this is especially great with messages. Let's 3D Touch into that one. And here you see, I see the message that was sent to me. I can respond right here the keyboard but what's great is I can stay in the conversation right here on the lock screen and even get rich responses like images right in line. And this works really well with third-party apps as well. So for instance, if I get a notification from Uber, I can just press in and I get this completely interactive and animated live status update on my car as it comes in. Really great.

Now, of course, as always you can get your notifications right here from the top of the screen. But now with 3D Touch, if you want to clear them, you can just press in and clear them all with a tap. It's really great.

Now, Control Center is available from the bottom of the screen as well. We can just swipe up from the bottom, you see it's beautifully redesigned, gives me great access to all my controls. But if I swipe over, you see we have a special area for our music with nice big controls and beautiful album art right there.

Now we've made it easier than ever to get at your camera from the lock screen. So I can just slide over from the right. And there's my camera and it's easy to take a picture of my demo notes right there. That's good. And we've made it easier than ever to get your widgets just slide over the other way, you can see I have my weather. I have my calendar. I get my news, top stories and you notice these widgets have the ability for me to get more information. So I can do *show more* and see the rest of my day, you'd like to think and I can even get more information right here from apps on my home screen. So for instance, it looks like I have a decent number of unread e-mail messages. And now if I 3D Touch there I can see who it is I've been ignoring this whole time, my VIPs.

Now if I swipe over here I can also get great information on Activity without even launching the app. I just 3D Touch in and get a look at my rings and this can work really well with third-party apps as well. So I am going to jump into ESPN, can see information about my latest team. And if I want that widget available to me at all times on *my today view* I can just add that widget like that, and I go over my today view and there it is. And I can get that *show more* information and you see I get a graphical update on the highlights from the last game. And if I tap in, live action. Oh yeah so that is a quick look at the new lock screen and home screen experience in iOS 10. You have a beautiful new Control Center, interactive notifications and great ways to use your widgets. It's great on the iPhone and the iPad as well.

Next, number two, Siri — huge part of the user experience in iOS. Now Siri services over 2 billion requests a week from customers, and there are so many things that you can ask Siri. But now in iOS 10, Siri is going to be able to do so much more because we're opening up Siri to developers.

Now you'll be able to ask Siri things like send a WeChat to Nancy saying *I'll be five minutes late* and Siri can summon up the WeChat UI right inside of the Siri environment. Now, of course, Siri because it understands

the domains, things like messaging allows you to say things in so many different ways. I could've said WeChat Nancy that I'll be five minutes later. I need to send a message to Nancy via WeChat saying I'll be five minutes late and I could do that in all sorts of different languages.

But because now in iOS 10 we have an intense API, it allows Siri to take on that part of the work and lets the extension do what it does best, like messaging. And so now we support messaging with apps like Slack and WhatsApp and of course, WeChat can do things like ride booking in Siri with services like Uber, Lyft and Didi in China. Photo search in apps like IM, Shutterfly and Pinterest. And you could start pause and stop your workouts in apps like MapMyRun, Runtastic and Runkeeper and even do payments to send money to friends with things like number26, Square Cash and Alipay in China. And do VoIP calling through apps like Cisco Spark, Vonage and Skype. And it works great in the car as well because with CarPlay, you can now safely send your messages as well as make VoIP calls all inside the CarPlay environment with your favorite apps. And that's a quick update on Siri.

Number three, QuickType. The big news this year is we're bringing Siri intelligence to the keyboard. So today QuickType is able to use context to help predict what words you might type next. Well, now we're using *deep learning* and a technique specifically called LSTMs to enable much more intelligence in longer context. So we can tell the difference between the "*Orioles are playing in the playoffs*" and "*the children are playing in the park*" automatically. And Siri can help you do responses more intelligently than ever.

So you might get asked where are you? Well, Siri can suggest right there on the suggestion bar that you supply your current location, tap it and you can get your location with a map right into your transcript. And people might ask you about contact information for a friend. Well, Siri can automatically offer up the most relevant contacts.

Now right locally on your device, Siri has information about what you've been doing. And so it can extract information from a message that maybe says, oh, *you're talking about dim sum at 11 A.M. on Sunday*. Well, when you go to automatically create a calendar event, Siri can pre-fill it for you with things like oh, that must be brunch, fill out the location, pick the time. It's really smart.

And Siri does so much more — can check your calendar availability for you automatically, help you paste a recent address automatically, fill it in based on addresses you were browsing in other apps. It can help you look up terms that recognizes, things like movies and restaurants. With one tap you can get more information.

And Siri now - the QuickType keyboard supports multi-lingual typing. So if you like typing alternating maybe between English and Spanish or Italian, you don't have to switch keyboard, QuickType will follow you automatically. So that's QuickType.

Next, number four is Photos. Now we love capturing so much of our lives on our cameras on our iPhones. They're so great and with iCloud Photo Library, we have those photos with us across all of our devices. Well, we wanted to give you easier ways of course to find and experience the photos that you've taken. And one of those is with places. So now we let you see all of your photos on a map; it's a great way to relive a trip for instance.

But the big news in Photos this year is advanced computer vision. We're applying advanced deep learning techniques to bring facial recognition to the iPhone and it's all done locally on device taking advantage of the power of the advanced silicon in all of our iOS devices. You can get all of your most important people automatically built into people albums for you automatically and all done with your privacy protected.

Now we're applying the same kind of technology with deep learning to

object and scene recognition as well. In fact, we do 11 billion computations per photo to be able to detect things like there's a horse, there's water, there's a mountain. And with this you can do really powerful searching on your device.

But you know, sometimes the magic and experience in your photos isn't just about finding the photo that you know you're looking for; it's about being reminded serendipitously of a memory that would be so special. And so now we're using advanced artificial intelligence to analyze across your entire photo library, all done locally on device, to cluster together photos and relate them based on location, the people involved, the scenes and out of this be able to surface memories that would be most relevant to you at any given moment. We can bring forward things like trips, we can spot trips that might be important to you. We can figure out that you might want to see photos of a highlight reel of the last weekend or the last year and offer those to you at just the right time.

We can bring forward memories of people that are special to you or groups of people and topics, special photos you took for instance when you're on the water at the beach, at the mountains. These can make wonderful memories to survey over time. But most important, we pull these together into a intuitive user interface that makes these so engaging. And I'd like to show you that experience now.

So let's take a look at Photos. So we see there's a photo album here of a family. But what you'll notice at the bottom is this new tab called *Memories*. Let's take a look. So we can see here there are number of memories that have been offered up into this memory speed, and at the top there's a vacation system spotted where the family took a trip to Tahoe City. Let's dive in and take a look at a memory.

Now you see there's actually a movie up at the top, we'll talk more about that later, down below there is this beautiful layout of highlights of the

photos. Now I can tap *show all* and actually see a grid of every photo that was taken but you can see how the summary intelligently draws out the most special photos into these highlights that are really great to browse.

Now if we go further down, we see that it's actually pulled out a set of people that are in the photo: the family, grandma, grandpa and uncle and a map of the location where all of those photos were taken. And down here at the bottom, we have related other memories I might want to see related to this one and it's really smart. So you see the Santa Cruz and Fourth of July memories. Both Grandma and Grandpa were both on the trip in Tahoe City and in these, so those are offered up as related. And this Tahoe City trip was an outdoor vacation, so it offered up another one like Alaska. And you can see there's another time the family was also at Tahoe City but this time in the winter.

Now I'm going to jump in to that related memory. And you see once again we have photos and videos at the bottom. But I want to highlight the movie up here at the top. You know, we all take so many pictures and movies and we never go back to actually assemble them into something we want to watch. But now our iPhone can do that for us automatically. Let's see what the iPhone has created for this memory.

[Video clip]

So isn't that great? The advanced computer vision of Photos app is now doing analysis of just the right parts of the video to include, the right photos and it's editing them together with the right mood and with the right music. Now when you have a memory like this, you often want to share it. Sometimes you might want to make it a little shorter safer sharing. So I can just use the slider at the bottom, and say, I'd like it to be shorter. And maybe I want to change the mood a little bit. You know, there's a mood slider just up above there and that was a pretty great snowball fight. So I'll pick *Epic* and based on these changes it's going to

completely re-edit the movie to new music. Let's take a look.

[Video clip]

That's pretty *Epic*. And that's a quick look at Memories in iOS 10. It's really fantastic on your iPhone and it's great on your iPad as well. And Mac gets many of these new features as well. The great new face recognition engine, scene and object recognition search and the ability to browse photo and video galleries of your memories and the Apple TV is just such a great way to experience those memory movies on the biggest screen in your house. So that is Photos.

Now, next, want to talk about the big news in all of our biggest services here at Apple. And to do that, I'm going to bring up for number five, six and seven, Eddy Cue back to the stage. Eddy?

Eddy Cue - SVP, Internet Software and Services

Thank you, Craig. I love the new photos. Can't wait to do it. So let's talk — let's get started with Maps. Last year we introduced Nearby, a great way to find places and transit with an incredible amount of detail, including all the entrances and exits from every station. But for iOS 10, we've got an all new design for Maps. It starts with making it easy to access controls and details on locations and we're making Maps do more for you in advance. It's more proactive.

So you slide up from the bottom and you can see suggestions. Maps knows that usually at this time I usually go to work, or it can look at a calendar event and find a location. It also gives convenient ways to filter down on the places you might want to go. For example, let's take a look at restaurants nearby. But we're in San Francisco, I feel like seafood. So I can slide across the bottom. And now I can see all the seafood restaurants right in San Francisco.

Now we're applying all of these new designs to navigation as well, so you get more information. It makes it easier to follow and control and we even include traffic on route. Now when you're driving it will automatically zoom in and as you get to a long straight away it will automatically zoom back out. And you can even pan and zoom way further ahead to see what the traffic conditions are. And we give you quick controls to let you see route details. So now you can even look and see on your route where food or gas stations are. And Maps will tell you how much longer it'll take if you go to any one of those.

And of course we're making this available on CarPlay and if there's a lot of traffic ahead, Maps will proactively give you alternate routes and tell you how much time it'll save. And we're making it safer to follow directions while keeping your eyes on the road because now you can get turn by turn right in the instrument cluster of your car. And we think you're going to love these updates but there's more because we are opening Maps up to developers.

Now with Map extensions you can enable all new capabilities in Maps. For example, you can make a reservation using a popular app like OpenTable. You pick the number of people, the time right inside of Maps. And because these are extensions, they're open to all developers around the world like Ding and Ping in China and Zomato around many countries around the world. And when you're ready to leave, you tap on directions and now you're offered the new option to book a ride. And with app extensions like Uber, you can pick any kind of car, pay for it with Apple Pay and see the status.

So again I can find a restaurant, I can book a reservation. I can request a car. I can pay for it and I can see when it's going to arrive all without leaving Maps. And these extensions are open to all developers. Here's the Chinese ride service app Didi and that is Maps.

Number six: *Music*. So Apple Music lets you play for millions of songs, thousands of playlists curated by our team of experts. And it's been an incredible year. We now have over 15 million paid subscribers. This is the fastest music service ever in its first year. And we've learned a lot along the way. And so today we've got an all new Apple Music redesigned from the ground up.

We want to give greater clarity and simplicity to every aspect of Apple Music and here is what it looks. It has a beautiful — it has a beautiful new design language that allows the music to be the hero. Nothing shows this more than now playing. Now the new structure makes it clear where you are and also emphasizes the features that you use every day. And all of these changes come together to create a new music app that's both more intuitive and familiar. And now to give you a demo of it, I'd like to invite up Bozoma Saint John.

Bozoma Saint John - Apple Music's Head of Global Consumer Marketing

Thank you, Eddy. All right, ladies and gents, I'm so excited to show you the all new Apple Music. Now lots of people listen to their music from their library. So now when we open up the Music app, you'll see that the first tab is the library. People also have a huge music library. So now it's easier to navigate with simple sections, like playlists, artists, albums, songs and now a new section called *downloaded music*. When I tap on to *downloaded music*, you'll see that this is where all of the music which is on my iPhone sits.

Now I call myself a super execu-mommy because I'm flying all over the place and now it really makes it easy for me to see all the music that's on my iPhone. There's also the *recently added* section and this includes the albums, songs and playlists that I've recently added to my library. You'll see that there's tons of awesome music here, like this classic *The Sugarhill*

Gang and it kind of feels appropriate to get this party started with a little bit of *'Rapper's Delight'*, right? Come on, let's listen to something.

Come on, yo, now you recognize me, right? Come on, we're going to make this whole auditorium rock. Come on, on one, two, three, let's go. One, two, three, rock! Yeah, there you go.

All right. Now we're going to mold this app. Okay, look at the bottom of the screen, you see the artwork, the title and control so that you can skip. And when we open it you'll see that there is a beautiful detail on the artwork, the controls and now they're lyrics. Come on, we're going to rap. Let's go. Come on, yo! OK, you know what, no, we're going to pause this. OK, because some of you guys are not rapping to the beats. OK, but you will have plenty of time on your own to study the lyrics. OK, all right, let's go to the next tap. *For You* — I love *For You*, it's my favorite part of Apple Music. And you know why, because it's all about me. Yes, that's correct.

So now you'll see that at the top of *For You* there's a *discovery mix*. Now this contains the songs that have been picked just for me so I can discover new artists and new music. There's also the *recently played* but we just listened to *The Sugarhill Gang*, so it's right there, I can navigate easily to it and daily curated playlists. Now it's Monday. I usually like to strut into the office on a Monday and look at the play with today. It's called the fashion runway strut, that's all about me, it's right here. OK.

Now this is not a typical Monday but I still want to know what I'd be strutting to. So let's listen. What have we got? Yeah, that's right. she said Get it girl. OK. Now listen I could be getting it, right? I could get my strut on up now on the stage. That's too early for that. I don't want to hurt you guys. OK, so we're going to pause this. OK, all right.

All right. But we are going to get back to this. OK. So the rest of *For You* as you'll see has awesome music that again is, for my tastes I've got

playlists here, albums and there's even *Connect*. Now the artists that I'm following have posted art and music and videos and all kinds of awesome stuff for me to connect to. Browse, this tab is for all of us. OK, the Apple music editors have taken so much time, listened tons of music to tell us what is the most recent and most important. But you'll see right now the hot album, Nick Jonas, all right, you all pay attention. Now we've also got this easy navigation down here with New Music, Curated Playlists and even Top Charts.

So when we tap on Top Charts, you can see who is — look at that, it's Drake. I mean Drake has been at the top of the chart for a little bit OK, but you can see who else is on there.

Now let's go to Radio. Radio is live in almost 100 countries. You guys know that, radio is live. All right, and Beats One is becoming the largest radio station in the entire world. Now we can explore Beats One and see what's live and listen right now. We can also see the upcoming shows and we can even see featured shows by legendary artists like Dr Dre, Ralph Williams, Mary J. Blige, Sir Elton John. Have you guys listened to a show, it's called the *Rocket Hour*. It's amazing, and if you haven't listened to it, you can tap right there and listen on demand at your leisure. So that's awesome.

Now when I want to listen to non-stop music, I can go to *view all stations* and listen to genre based stations like pure pop, because I like to listen to pop music all day long; why not? But I think since we're coming to the end here, I would like to do something a little bit different and play something for the world. Let's play some world hits. See what we've got.

Now that sounds like the beginning with some good Ghanaian Highlife music. All right, guys, that's the all new Apple music. I hope you enjoyed it. Thank you.

Eddy Cue - SVP, Internet Software and Services

Wow, wow, wow! Thank you, Boz. That's the all new Apple Music. It is incredible on your iPhone, iPad, your Mac and PC, your Apple TV and Android too, and that is Music.

Number 7, let's talk about News. Last fall we introduced the Apple News to bring you the best stories from the best publishers all personalized for you. And we introduced it with a great set of publications. But we've got a lot more. We now have over 2000 publications in Apple News and our readers are loving it. In fact, we have over 60 million monthly users reading in News and with iOS 10, we've got some big changes. It starts with an all new design.

Here's what it looks like. We've taken all of the stories in *For You* and broken them up into clear sections which makes them easier to follow. Here's Top Stories. Here's Trending where you can see the most popular stories right now, all the topics you follow like sports and News is even smart enough to create new topics for you based on what you read. Here's one for me on Formula One racing, and you're going to love our *Featured Stories* where our editors handpick the best stories. But we wanted News to be the place where you read all of the stories from your favorite publications. And that's why we're introducing Subscriptions.

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I'd like to turn it back to Craig now.

Craig Federighi - SVP, Software Engineering, Apple Inc.

Thank you, Eddy. Some fantastic new designs.

Now on to number 8, and it's HomeKit. Before we announced HomeKit two years ago, the home accessory space was a massive incompatible and insecure protocols and accessories that required you to download a separate app that you needed to learn just to control each individual accessory.

But with HomeKit we've been changing all that, making sure that your home automation products work together easily and securely. And this year we've rounded out the set of accessory types supported by HomeKit to include important new categories, like cameras and door locks. And in fact, essentially every major maker of home accessories has shipping — or has announced support for HomeKit and home builders are getting on board as well. Some of the biggest builders of homes here in the United States and in China are now building new homes with HomeKit built right in, so you can move in and just start controlling your home.

But you know, this year we're taking the next big step for HomeKit and iOS in the home. We're building on the HomeKit framework with a great new app we call Home. It's right on your iOS home screen.

Now when you launch the Home app, you get to see your own personalized wallpaper and all of your accessories no matter who they're made by. And you can control them so easily. If you want to turn on the light, of course, just tap it. If you want to adjust the dimmer, we're just pressing a little harder and slide and you can adjust the dimmer, just like that. So you can tap, tap, tap, across all the accessories in your Home.

But sometimes you'd like to trigger a change to all of them and for that we have something we call Scenes. So for instance if you want to get ready for bed, you can tap Goodnight. You see, then close the living room

shades, lock the front door, adjust the thermostat all in one step.

Now, Siri knows how to interact with Scenes as well. So in the morning you say good morning to Siri. Well, Siri can automatically get your Home all ready for you for the day. And you can also control your accessories without launching an app at all, because HomeKit is actually built right into Control Center. Swipe up Control Center. You can swipe over to see your Home controls. With just a tap, for instance, open up your garage door.

Now HomeKit takes advantage of our interactive notifications as well. So if someone rings the doorbell, for instance, you can tap in and actually get a live feed of your front door camera, talk to them on the intercom if you want and even unlock the door, all right from the lock screen of your iPhone.

Now, since your Apple TV is always on, always plugged in and always on the network in your home, it can serve as a secure point for remote access and automation within your home. So when you're on the go, you can actually access all of your accessories securely end-to-end encrypted. And you can set up automation like Geofences so that when you roll into your driveway can make sure that the garage door will open, the lights will turn on and maybe even the hot tub will start up in the back for you, all automatically.

Now the Home app is great on the iPhone. It's also fantastic on the iPad as well. So many people like using the iPad as the ultimate home control device, whether mounted on the wall or on the coffee table. And of course, there is nothing beating the remote that you always have with you right on your wrist, the Apple Watch, it comes with a built-in Home control support as well. So that's a quick update on Home.

Next - yes, thank you — number nine, Phone. We all receive a lot of calls

but we want to make sure that when you miss their calls, you have the best experience possible. So now you can actually get voice mail transcription of your incoming calls, so you can see what it's about without having to listen. Of course, sometimes we are there and we receive a call like this, and we wonder what the heck it's about. Unfortunately, in China, this can be a real problem where there's a lot of voicemail spam. So now we're supporting an extension API where third parties like Tencent can provide information automatically to tell you a possible phone spam. This is going to be super useful for a lot of people around the world.

Now, of course, people love doing calling for many many different sorts of apps. And today the experience is something like this when you receive a call — a notification on your lock screen. Well now in iOS 10, we have a great new VoIP API, that means your experience for incoming calls instead can be like this. VoIP apps can now integrate into the lock screen. They're integrated into your phone recents. They're in your phone favorites and your contact card has been enhanced so it remembers how you like to call each person and you can access them that way with just a tap.

So we've been working with our partner Cisco on elevating mobility in the enterprise. And now using our VoIP API combined with their Cisco Spark app, it's never been easier to use your iPhone with work, because in addition to receiving calls made to your personal cell number, you also can receive calls made to your work number right from your iPhone whether you're at your desk or on the go. It's really handy. And that's Phone.

Next. OK thank you — so next number 10. And this one is a doozy. It's Messages. Now, Messages is the most frequently used app on iOS and people love sharing things with Messages whether it's photos or links to their favorite websites. But they look like this but not any longer, because now we have rich links. So when you share links you get artwork from the website, extract a title. It's really great. And it's especially awesome when you get shared with things like video, because they can play right in line

inside the transcript. Look at that guy go.

Now, of course, we love using our camera to share and we've made the camera better than ever in Messages. Now when you bring up the camera, you immediately see what's right in front of your camera like someone in marketing thought that's what someone sees when they bring up with the camera. And you can also slide over and see your family, it's such an incongruent set of images. So you can just tap those and insert them right into your transcript. It's really convenient.

Now people really love emoji and now we've made them three times bigger in the transcript which is fantastic. And to help you always reach for the right emoji, we're providing emoji predictions as you type; super handy. But you know, sometimes you type the whole message and you realize at the end that you're totally lacking in emojiification. And so we've provided the solution. When you tap on the emoji button will highlight all the emojiifiable words there and you can just tap, tap, tap, tap and emojiify. Children of tomorrow will have no understanding of the English language.

So these are some great new features in Messages. But you know we wanted to do something more fundamental with messaging, because today no matter what you say, it's always the same bubble. It always is this comes across the same way but no longer, because now we have bubble effects. So if you want to say it loud, you can say it loud. And if you want to say it more gently, well now you can do that as well.

And sometimes you want to get across something personal, and *invisible ink* gives you the way to do that. You can just slide your finger across the bubble and clear away the message like that. And it's a really great way to share a surprise, a little scared to see what's behind that. You can just slide across. OK.

So sometimes you just like to send a quick affirmation, a quick tap back,

and now you can. Just tap and your thumbs up can go right there in the transcript but you know there's nothing more personal than your own handwriting. And so now it's more handwritten messages than handwriting bubbles. You see when it comes across the care there as the ink just settles in to the transcript. It's really beautiful. And of course, we support Digital Touch as well, so you can send these very lively sketches but also with video, photos, even things like your heart beat.

And sometimes what you say really deserves using the whole screen. So now Messages can do that as well. Making all of this possible in Messages has been a huge effort, cross-functional effort across Apple. And so for our demo today, I wanted to bring up some leads from both our engineering team and our human interface design team to give you a demo. So let's give a warm welcome to Bethany and Imran. Come on up.

Bethany Bongiorno - Director of iOS software program

Thanks, Craig. We are so thrilled to finally be able to show you what we've been working on. Now Imran and I are going to show you the different ways that we use Messages but I'm going to kick things off by jumping first into a thread with my sister Lori, who just got through graduation. So let's bring her back and say, give her my love and tell her I said happy graduation day.

OK, now typically I would hunt for the perfect emoji to tag in the end. But now when I tap on the emoji button, switch to the emoji keyboard, words throughout my message that can be swapped for emoji are automatically highlighted. And all I have to do is tap to replace them. So I'm going to tap to replace *love*, and I am going to choose the type of parts I want to send. I am going to do the dazzles, I think and I can type on happy, and I choose how happy I want to be. What do you think?

Imran Chaudhri - Director of the design team

Why don't you go with the upside down?

Bethany Bongiorno - Director of iOS software program

No. I am going to -

Imran Chaudhri - Director of the design team

Hey, you be you, Bethany.

Bethany Bongiorno - Director of iOS software program

I'm going to do eyes closed kind of happy and I tap on graduation and it switches to the cap for which there is no chance I would have found that.

Imran Chaudhri - Director of the design team

None. We would have enhanced the days.

Bethany Bongiorno - Director of iOS software program

True story. So I'm going to go ahead and send that off. So Lori just sent through a digital touch video and what's so awesome about this is that she created this entire thing using digital touch right from within Messages.

Imran Chaudhri - Director of the design team

And it's so much fun to make, okay.

Bethany Bongiorno - Director of iOS software program

Yeah, and really really fun to watch. And I'm going to let her know how I feel about it using tap X which is as easy as double tapping and sending back a heart. It's that quick and that fun and honestly it is my favorite way to communicate now. So Lori says she can't wait to see me the summer

and I feel the same way. So I'm going to let her know, I am going to say, *me too* and I am going to send this using a Bubble effects. So I just press and hold on the send button, and I think gentle will really let her know how I am feeling. So I am going to choose that one.

Imran Chaudhri - Director of the design team

So great, Bethany. All right, so -

Bethany Bongiorno - Director of iOS software program

That sounded a little sarcastic, I think.

Imran Chaudhri - Director of the design team

Well, I think Lori felt it, that's for sure. So now the both of us are going to show you just how fun things have become with a group of friends. I am going to go in and revive a chat here by sending a digital touch photo. Now Bethany just showed us how fantastic those digital touch videos looked. Let's take a look at how easy it is to make one. I am going to launch the camera here.

Bethany Bongiorno - Director of iOS software program

You have some space up here.

Imran Chaudhri - Director of the design team

Yes, just a bit, it's a process, you know. All right. Pick a color. I am going to say - what do you think, what color?

Bethany Bongiorno - Director of iOS software program

Yellow.

Imran Chaudhri - Director of the design team

All right. Now add my usual shoutout, and send. It is that easy.

Bethany Bongiorno - Director of iOS software program

Looks good on the big screen.

Imran Chaudhri - Director of the design team

It looks like Freddie is here and as usual loud and always ready to talk about some music and he sent over an Apple Music link. And what's great about these is I can just play them right in line without ever having to leave my conversation. It's simply the best way to share music. Let's give it a listen.

[Music]

We have a CD sound system always sounding so good, especially at Bill Graham, and she said so using a handwritten message and these things are always so personal, always so fresh. Let's write back and say — and I'm going to do so sending a bubble effect. I'm going to choose my favorite which is slam. Bam, always gets my point across.

Bethany Bongiorno - Director of iOS software program

I think it will be used that one a little bit.

Imran Chaudhri - Director of the design team

You know what, it never gets old, right? It's fantastic that one. Looks like I may have smashed the demo for a moment. All right. Let's try a different one here. Oh, looks like it might be back up. Let's see it here — smashed it, one more time.

Bethany Bongiorno - Director of iOS software program

One more time.

Imran Chaudhri - Director of the design team

What do you say? Bam always looks good. I really do use it all the time, don't I?

Bethany Bongiorno - Director of iOS software program

Yeah. OK, so there we go.

Imran Chaudhri - Director of the design team

You know what our friends are always late to the game every year.

Bethany Bongiorno - Director of iOS software program

That's true.

Imran Chaudhri - Director of the design team

Looks like they're playing in San Francisco and as you might expect with a band like that sold out, now Bethany sent over an effect with *invisible ink*. This is fantastic but when you want to keep something as surprise which it looks like you may have. So now to reveal the contents, all I have to do is use my finger to swipe away the particles. Let's have a look. Bethany, you got us to kids, always coming through, always coming through. Seems like everyone else agrees. I'm going to show my appreciation by sending some big emoji here. Make sure I put myself in there. And to close things off, let's do this with a full screen effect. We've got some lovely ones here like lovely balloons, swipe over to confetti. But I'm going to go with this one.

Bethany Bongiorno - Director of iOS software program

Nothing this a full screen moment.

Imran Chaudhri - Director of the design team

That's iOS 10 Messages, everyone. We cannot wait for you to try it. Thank you.

Craig Federighi - SVP, Software Engineering, Apple Inc.

Thank you, Bethany and Imran, it's just incredible work. Well, so those are some highlights from Messages but you know, we thought when it comes to expressing yourself that there was so much more we could do if we could tap into all of the creativity of all of you developers. And so we're opening up Messages to developers as well, with iMessage apps.

With iMessage apps - iMessage has an app drawer — with all of your iMessage apps you can tap a plus and get to the app store and find other apps, you can download them of course. They're here in your drawer and there are so many different kinds of apps you can create from things, like stickers. An artist can create stickers as well without even writing any code. But for developers who do want to write code you have access to the full iOS SDK, including access to the camera. So you can do incredible animated effects with apps like JibJab, can accomplish more sophisticated tasks as well, like payment with Square Cash allowing you to pay someone right through the Messages thread. They can receive it and redeem it on the receiving end right inside of Messages. There's so much you can do with iMessage apps. Like to show you a couple of the possibilities in a demo right now. Let's take a look.

So let's dive here into a conversation. So here's a thread with a family. Now I can respond with a text of course but now with iMessage apps, I can just bring up my app drawer and I can get to all of my different iMessage

apps, including some great stickers. So let me dive into these Mickey stickers. We can see that they're all animated. I can actually look through them like this, can swipe between my stickers, so maybe some from inside out.

Here's some from Finding Dory, if I want to send one, just tap, drop it right in, just like that. It's really easy and really fun. And now here I received another photo and the great thing about stickers is you can actually peel them off and attach them to bubbles. So this one would look cool if I could just take the sun over here. If you put that up there in the corner and then maybe a little seal off here on the side, just like that. It's really pretty cool what you can do with these messages.

Well, oh, look I got a message from Bryan here. Let's take a look at this. He says, *we're placing an order for lunch after the keynote* and we can see he's doing that actually within iMessage app. So he has used DoorDash and he is placing an order at Curry Up Now. So you just tap in and see what's going on. Now there is a group cart that we're all collaborating on through the iMessage apps, I am going to look at that. Looks like Phil has ordered the Naughty Naan and Joe has ordered, Bryan has ordered. Well so I can put in my order, I am going to go for this deconstructed samosa. That looks pretty good and I'm sure Tim would like one as well. And well, it would be rude if we ate in front of you guys without getting you some. So we'll just up this up a little bit here and we can just add that to our cart like this. And then drop it right in the Messages and a fortune that Bryan will be paying for this.

So a final thing I'd like to show you with iMessage apps are these really fun interactive kinds of apps. And one example is JibJab. So let's jump right into JibJab here. We see there are whole bunch of fun things. You can scroll through and see the options. I can also, of course, select from a gallery of faces. Let's pick Eddy maybe. And I can just drop him in to the transcript. Just like that. And I think this gives you the sense of the power

of iMessage apps in iOS 10.

So this is the new Messages. It's, of course, fantastic on your iPhone. All of this is available to you on your iPad as well and your Mac and your Apple Watch can receive all of this interactive content as well. So that's Messages, part of 10 huge features in iOS 10. But of course, there is so much more that we can't have talk about right now but I can't help myself but mention just a couple more things, like Notes Collaboration. You now can work live with multiple people in the same Note. Conversation View in Mail, so you can scroll from message to message in a single thread on your iPhone and iPad. Live Photos are better than ever; we have digital video image stabilization. So they're buttery smooth and they're editable now as well. And finally, Split View in Safari and iPads, you can fit two websites side by side in Safari on your iPad.

Now iOS 10 is a fantastic release for our users. It's also a gigantic release for our developers. When you think about it, experiences like the Lock Screen with notifications, the Phone, Maps, Messages, every major area of iOS now open to developers and so many other options. But you know, all of this great work in iOS 10 would be meaningless to us if it came at the expense of your privacy. And so in every feature that we do, we carefully consider how to protect your privacy. With apps like FaceTime and Messages and HomeKit, we make sure to use end-to-end encryption by default and always to protect your communication.

And when it comes to performing advanced deep learning and artificial intelligence analysis of your data, we're doing it on device using the incredible power of the silicon on your iPhone and your Mac, keeping your personal data under your control. And when you do do searches of the Internet maybe for a route in Maps, or search for information in Spotlight, we don't build any user profiles.

Now of course, one of the important tools in making software more

intelligent is to spot patterns on how multiple users are using their devices. For instance, you might want to know what new words are trending, so you could offer them up more readily on the QuickType keyboard.

Well, differential privacy is a research topic in the area of statistics and data analytics that uses hashing, subsampling and noise injection to enable this kind of crowd sourced learning while keeping the information of each individual user completely private. Now Apple has been doing some super important work in this area to enable differential privacy to be deployed at scale and we brought in the professor and researcher who literally co-wrote the book on differential privacy for a quick peek at what we were doing. And he described the work as groundbreaking. He went on to say that incorporating differential privacy broadly into Apple's technology is visionary and positions Apple as the clear privacy leader among technology companies today.

We believe you should have great features and great privacy. You demand it and we are dedicated to providing it.

So that - well, actually there is one more thing. We are so excited about everything you've just seen with iOS 10. We couldn't help ourselves, we made a video. I'd love to show it to you now. Let's do it.

[Video Clip]

And that is iOS 10. All of you developers get the developer preview today and again we're doing a public beta this July. Sign up now at beta.apple.com and to let you know when you can download it. And iOS 10 will be available to all of our users this fall as a free upgrade across all of these devices. That is iOS.

Now I'd like to hand it back to Tim. Thank you very much.

Tim Cook - CEO, Apple Inc.

Thanks, Craig. iOS 10 is fantastic and it's an enormous release. I couldn't be more proud and more excited about the incredible advancements across all of our platforms.

As we said earlier, an important part of making these platforms so capable is our developers. We believe it's crucial that we provide the best tools, so you can create the best apps. That's why we created Swift. Swift is a powerful and intuitive programming language for iOS, macOS, watchOS and tvOS. And writing Swift code is fun and interactive and apps written in it are lightning fast.

Since we released Swift less than two years ago, we've seen an amazing response from the developer community. There is already more than 100,000 apps that have adopted the use of Swift code, including great apps like Twitter and Strava and Lyft. Now we wanted everyone to use Swift. So we released it as open source in December. And since then the adoption has been amazing. It's already the number one language project on GitHub.

Swift is powerful but it's also simple and it's approachable. So it can be your very first programming language. This is a very important point for us because Swift is so easy to learn. It has the potential to bring many more people into coding. And this is an idea we would like to take even further.

So today we're introducing a new app for iPad. We call it Swift Playgrounds. Swift Playgrounds will revolutionize the way people learn to code. And they'll be able to do it right on their iPad which instantly makes it accessible for hundreds of millions of people around the world. There has never been anything like this. We believe it's the absolute best way to teach everyone to code, combining the powerful Swift programming

language and the powerful capabilities of iPad. To show it to you, I'd like to invite Cheryl Thomas up. Cheryl?

Cheryl Thomas - Apple VP of Software Engineering

Thank you, Tim. I am thrilled to show you Swift Playgrounds and incredible new apps that transforms how kids learn to code. I will launch it right now.

We land on this gorgeous screen full of custom content from Apple, up at the top our lessons and down below we have challenges. I'm going to start with the very first lesson in the fundamentals of Swift. We see a preview of the content with graphics and a description and I'll open it.

It starts with an introduction to the coding concept I will be learning and when I'm good and ready, I can just tap in the lower corner to start coding. Over on the right, you can see we have an interactive world that I can explore using Touch. I will swipe it, looks good and pinch to zoom. This is Byte. He is my character. I think he's irresistible. And I'll be controlling him with code.

Over on the left are instructions that explain and help guide me through the problem I will be solving and down below is where I enter my code. Byte has been waiting patiently. So I will tap to enter Swift code. You can see commands have appeared at the bottom. These are just like QuickType suggestions but for code. My objective in this lesson is to get him to the end of that path and collect the gem. So I'll tap move forward three times and then collect gem.

Watch the world on the right as I run my code. Byte moves forward. He follows the commands in the exact order I've entered, gets the gem and I've completed my very first lesson. Kids are going to love them.

Now I can continue to the next lesson in the series, or I can jump around

to wherever I'd like. To do that, I tap in the top left to open the table of contents. And you can see we include a ton of great content here to engage and motivate learners. This one on loops, looping all the sides looks a little interesting. I am going to check it out.

Now we have a few lines of code already filled in. I'll go ahead and run it and see what happens. Byte moves forward. He gets the gem. But then he stalks. Oh, poor little guy. He is going to need some help. The solution here — and I know you've all got this is that I need to repeat that block of code 4 times to get Byte around all four sides of the world. To do that I am going to need a four loop. I'll tap the plus up top to open my code library. And all I have to do is just drag a four-loop right in to my code. Now watch this. I can tap that loop. Grab the end of it and just drag it all around my code.

All right. I'll tap the number placeholder, set this loop to repeat four times; looks good. OK, keep your eyes on Byte as I run my code. He moves forward, gets the gem, makes it turn and this time with the added four-loop, he just keeps on going. I finished another lesson and I'm well on my way to mastering loops. Wouldn't this have been cool when we were all learning to code? I mean come on, you students. Let me hear, come on!

Swift Playgrounds is a fantastic app to master the basics but it doesn't stop there. Let me show you. I will tap in the top left corner to go to my library of playgrounds. I can also explore advanced coding and use the power of the iOS SDK to do almost anything I'd like. I happen to have something I've been working on. It combines my two favorite things: physics and emoji interestingly.

OK, you can see that this is a lot more sophisticated than what we've been doing. I have some emoji on the right, thank goodness. I can tap to add more. That's a big B. OK, now I can also fling them around because this is physics emoji they create a nice little reaction. But you also notice they're

all just falling down to the bottom, and that's because right now gravity is fixed.

So I'm going to go ahead and play around with gravity a little bit, because who doesn't like to do that. I'm going to double tap to bring up the keyboard. We've built a completely new coding keyboard and it is awesome. The keyboard has the numbers and symbols we use in Swift programming and they're right at my fingertips.

I'm going to quickly set the world's angle - world.angle equal to the gyroscope's angle; looks good. OK, now look at the bottom of the keyboard, there is a B key, it also has an asterisk on it. Watch what happens when I press and drag down. I get an asterisk for multiplication. You're going to get to see that again. I bet you knew that.

All right. Look at the W key, I am going to press and drag down for a number two. OK, let's see what kind of impact this had. Let's take this full screen and write my code. Of course, because my playground now has access to the iPad hardware, as I pick up the iPad and I tilt it all my emoji reacted. And that's how they like it I have to tell you.

OK, so I've shown you just a taste of what you can create on your own and a small sample of amazing lessons. That is Swift Playgrounds - a fun and powerful new way for kids to learn to code.

Back to you, Tim.

Tim Cook - CEO, Apple Inc.

Thank you, Cheryl. Looks absolutely incredible. And because we're combining basic coding skills with real life code, Swift Playgrounds can profoundly impact the way kids learn to code. So we're releasing it with a developer preview today. It will be in the public beta next month. And it will be in the App Store when iOS 10 ships in the fall.

Now we believe coding should be a required language in all schools. So to help make this the case, we're going to make Swift Playgrounds free. And we hope that this gift to kids in schools around the world will help make coding a part of the school day. That is Swift Playgrounds. Powerful tools like these enable developers to create great apps. They also help the next generation of developers who seek out on their journey to change the world. To motivate this new generation of developers, we created a video about what first inspired some great Apple developers to start coding. And I'd love to show it to you now.

[Video Clip]

It's really incredible to see the inspirations of so many amazing developers. And I can't wait to see what this next generation of developers are going to create to make the world a better place.

So I told you it was going to be jam packed. What a great morning! Great updates from — to all of the platforms.

Starting with watchOS, faster performance, better navigation, all new fitness and health features to help you live a better life.

tvOS, the future of TV is apps and it now just got a whole lot better with expanded Siri Search and Single Sign-on.

macOS Sierra, bringing Siri and Apple Pay to the Mac along with some other incredibly powerful features.

And a gigantic release of iOS — the mother of all releases, incredible new features for Messages, all new designs for Photos, Apple News and Apple Music and incredible new opportunities for developers to integrate their apps with Siri, Maps and Messages.

At Apple, we believe that technology should lift humanity and should

enrich people's lives in all the ways they want to experience it, whether it's on their wrist, in their living room, on their desk, in the palm of their hand, in the car, or even automating their home. This is a huge moment for us - four great platforms that become even more capable with working with all of you.

I'd like to thank all of the developers here today and all of those watching us that have partnered with us in our quest to change the world for the better. And of course, I'd like to thank everyone at Apple, all the teams that worked so hard to make this day happen. Thank you very much and have a fantastic week.

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