

The iPhone Finds Its Voice

Features in the 4S Include a System That Answers Questions Out Loud and Learns a User's Speech

By WALTER S. MOSSBERG



Facing increasing competition from smart phone competitors, Apple has released the iPhone 4S. After testing the phone, WSJ's Walt Mossberg finds a lot to like about it but says owners of the iPhone 4 may not need to upgrade.

Sometimes, as we all know, looks can be deceiving. While Apple's latest iPhone doesn't look different, and may not be the kind of blockbuster people expect from the late Steve Jobs's company, it thinks different, to quote one of Apple's old ad slogans. Inside its familiar-looking body there lurks a nascent artificial-intelligence system that has to be tried to be believed.

Apple's fifth-generation iPhone, the \$199 iPhone 4S, goes on sale Friday with a new operating system and a new cloud-synchronization service called iCloud. But, while its insides have been significantly improved, the phone's exterior design is identical to that of last year's iPhone 4, which Apple says is the best-selling smartphone in the world.

I've been testing the 4S for about a week to see how it differs from the previous model. I also evaluated the key features added by the new operating system, called iOS 5, including a new, free text-messaging service; deep integration with Twitter; and the ability to edit photos right on the phone. This new software will be available as a free upgrade for owners of the iPhone 4 and the 2009-vintage iPhone 3GS, as well as for Apple's iPad tablet and its iPod Touch.

I focused on the handful of new features unique to the 4S, notably the new voice-controlled artificial-intelligence system called Siri; a brilliant new camera for stills and videos; and faster, 4G-class download speeds. The iPhone is now available from Sprint, AT&T and Verizon, but I tested the AT&T version, because it is the only one which offers the faster download speeds.

The standout feature, not available in other iPhones, or in any other phone I've seen, is Siri. It answers questions and provides information using natural language and an intelligent understanding, not just of words, but of context and colloquial phrasing. It isn't perfect, and is labeled a beta, but it has great potential and worked pretty well for me, despite some glitches.

Despite Siri, the iPhone 4S isn't a dramatic game-changer like some previous iPhones. Some new features are catch-ups to competitors. I sense Apple chose to focus more on software and cloud service than on hardware. But, in my tests, the iPhone 4S performed very well. It's a better iPhone for the same \$199 entry price, at a time when some competitors are pricing their flagship smartphones starting at \$299.

While some analysts and commentators were disappointed the new iPhone didn't offer an external redesign, consumers so far don't seem to care. Apple announced Monday that pre-orders for the iPhone 4S hit one million in the first 24 hours, a record that was 67% higher than the previous single-day high set by the iPhone 4 last year.

My advice is that owners of the iPhone 4 needn't rush to upgrade; they can get the new operating system. But owners of older iPhone models, or those with basic phones, will find this latest iPhone a pleasure and a good value.

While many of the new features in the iPhone 4S had to do with hardware tweaks, the main feature of the phone could well be "personal assistant" Siri, AllThingsD's Ina Fried says. She joins Digits to tell us how it works.

Apple received over one million pre-order sales in a single day for the new iPhone 4S, besting the previous record of 600,000 set by the iPhone 4. Dan Gallagher has details on investor reaction to the news.

Artificial Intelligence

Some other phones, including earlier iPhones, have rudimentary voice recognition, for limited terms and responses. But Siri does much more. It offers too much to fully describe here, but it isn't a simple voice-command system. It understands a wide variety of ways to ask a question, grasps the context, and returns useful information in a friendly way, either audibly or by displaying results on the screen. It learns your voice as it goes along.

It starts up when you either hold down the home button—even from the phone's lock screen—or when you place the phone up to your ear when you're not making a phone call.

Siri can find information in Wikipedia, Yelp and Wolfram Alpha. It successfully answered when I asked it, "Who's the president of Iran?" (though it misunderstood me the first time) and "Who stars in 'Boardwalk Empire?' " When I asked for a "French restaurant in Bethesda, Maryland," it instantly returned a list from Yelp, ranked by user reviews.

In my tests, I was able to dictate emails and text messages, even in the car over Bluetooth, without looking at the screen. Accuracy wasn't perfect—about 20% of the time I had to try twice to get all the words correct. But, in most cases, Siri didn't make more errors than I do typing on a virtual keyboard.

Siri can read incoming text messages and let you reply via voice. If the message is about a date, Siri will even consult your calendar and tell you if you're busy at that time, and then remember to return to the message reply.

The system understands multiple, colloquial forms of a question. I asked, "Will the weather get worse today?" and Siri answered, "I don't think the weather is going to get worse" and displayed a weather chart. You can check stock prices, addresses, map directions and much more. It also answers in a friendly fashion, saying things like "Coming right up" or "I'm not sure what you said, Walt." And it has some cute answers built in. When I asked it "What's the best phone?" it said, "Wait... there are other phones?"

Siri has limitations, in addition to imperfect accuracy. It can't read the contents of email. It can't provide flight information or movie times. But Apple says it intends to link Siri to more databases over time. Also, Siri can reveal private data you'd rather it didn't unless you adjust your passcode permissions.

Hardware

The iPhone 4S now comes with the same, dual-core processor found in the iPad 2. I didn't notice a dramatic speed gain, but the phone operated rapidly and surely, with smooth scrolling and swiping.

There is now an 8-megapixel rear camera, with a greatly improved sensor, a new five-element lens and a wider aperture. Other phones boast 8-megapixel cameras, but the 4S takes the best pictures and high-definition videos I have seen on a phone. The colors were gorgeous, everything was sharp and the camera can detect up to 10 faces. Plus, it's fast, both in taking the first shot and subsequent pictures.

Also, Apple finally has matched some competitors by allowing you to quickly get to the camera, even when the phone is locked, by just pressing the home button twice; and by letting you use the volume button to snap the picture. (These features are part of the free software and aren't unique to the 4S.)

When combined with the new software feature that allows editing right on the phone, the iPhone 4S offers a camera experience I find unmatched on any other phone.

Though the 4S isn't labeled as a 4G phone, and the Verizon and Sprint models can't use those carriers' 4G networks, the AT&T model, in my tests, achieved 4G speeds in areas where AT&T has deployed its 4G network.

In numerous tests at three different locations in the Washington suburbs, I averaged download speeds of nearly 7 megabits per second—better than in prior tests on Sprint and T-Mobile 4G phones. By contrast, a colleague's tests of the Verizon version of the iPhone 4S yielded average download speeds of less than 1 mbps.

All models of the iPhone 4S are "world phones," meaning even the Verizon and Sprint versions, which use a technology rare outside the U.S., can switch to the global standard cellphone technology and be used in most other countries.

Apple claims to have improved voice-call reception in the iPhone 4S, allowing the phone to switch between two antennas to pick up the best signal. But my AT&T model dropped too many calls, just as earlier AT&T iPhones do. My colleague's Verizon iPhone 4S dropped none.

In my tests, voice quality was very good, even on conference calls and over Bluetooth in the car. Apple says the 4S has as good or better battery life than the prior model. While I didn't run a formal battery test, the phone lasted all day, every day, even when I was doing heavy testing and, thus, using it more than I typically would.

Also, there is a 64-gigabyte model of the iPhone 4S, for \$399. A 32 GB version is, as in the past, \$299.

Software

Apple claims the new iOS 5 operating system has 200 new features. These include some catch-ups, like a pull-down panel that combines your notifications of alerts and reminders, and new messages, plus a stock ticker and weather info. Also, like some other phones, the new system will allow you to swipe on an alert and go to the content, even if the phone is locked.

You can Tweet from within many apps, like photos, maps and the Web browser. The new, free, texting system, called iMessage—similar to BlackBerry Messenger service—lets you text to anyone with an iOS5 device, and automatically detects if they have one.

A new Reminders app seems like any other task list, but, on the iPhone 4 and 4S, it allows you to use location instead of time to trigger a reminder. For instance, you can tell it to remind you to call your spouse when you leave work. If it knows your work address, it will trigger the reminder when it detects you've left.

Perhaps the nicest feature is on-phone photo editing, which allows you to crop, and auto-enhance any photo. In my tests, it worked great.

Bottom line

The iPhone 4S is one of Apple's less dramatic updates, but, when combined with the Siri, iOS 5 and iCloud features, it presents an attractive new offering to smartphone users. Some may be content to skip the new hardware and just enjoy the software and cloud features with older models. But those buying the phone will likely be happy with it.

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