



MVDIT TECH BOOK

JUNE 2017

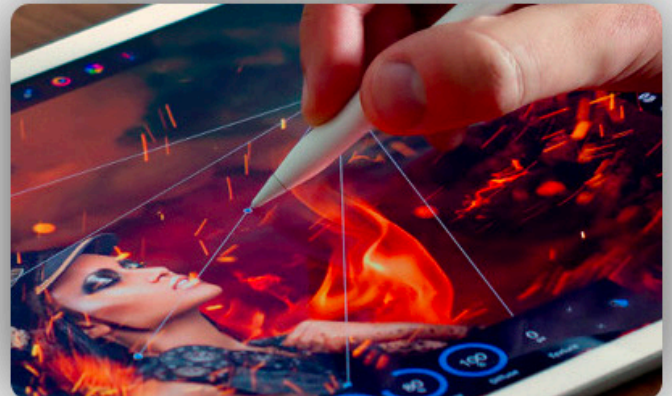
ALL THINGS WWDC 2017

Highlights from
the Keynote

A deeper look at
HomePod

Nokia enters health
and IOT space

&MORE!



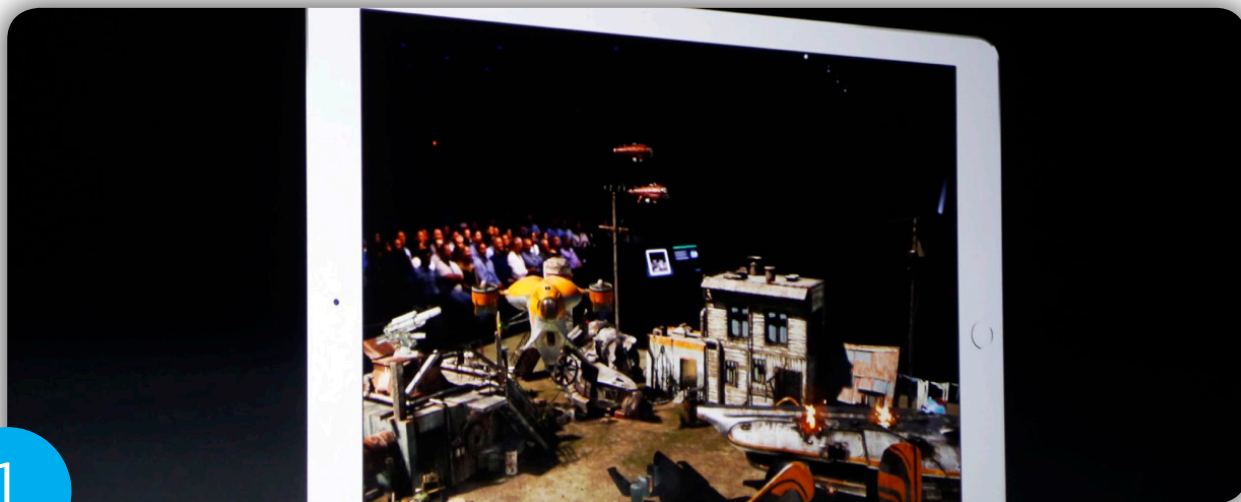
“If you do something and it turns out pretty good,
then you should go do something else wonderful, not
dwell on it for too long. Just figure out what’s next.”

- *Steve Jobs*

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WWDC 2017



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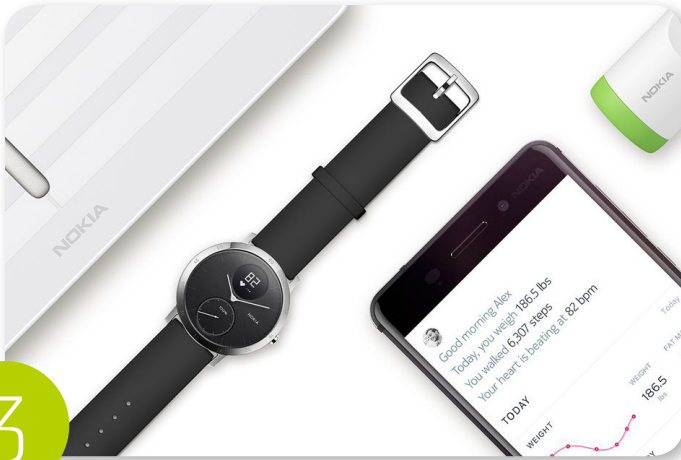
Get a preview of the biggest announcements from WWDC



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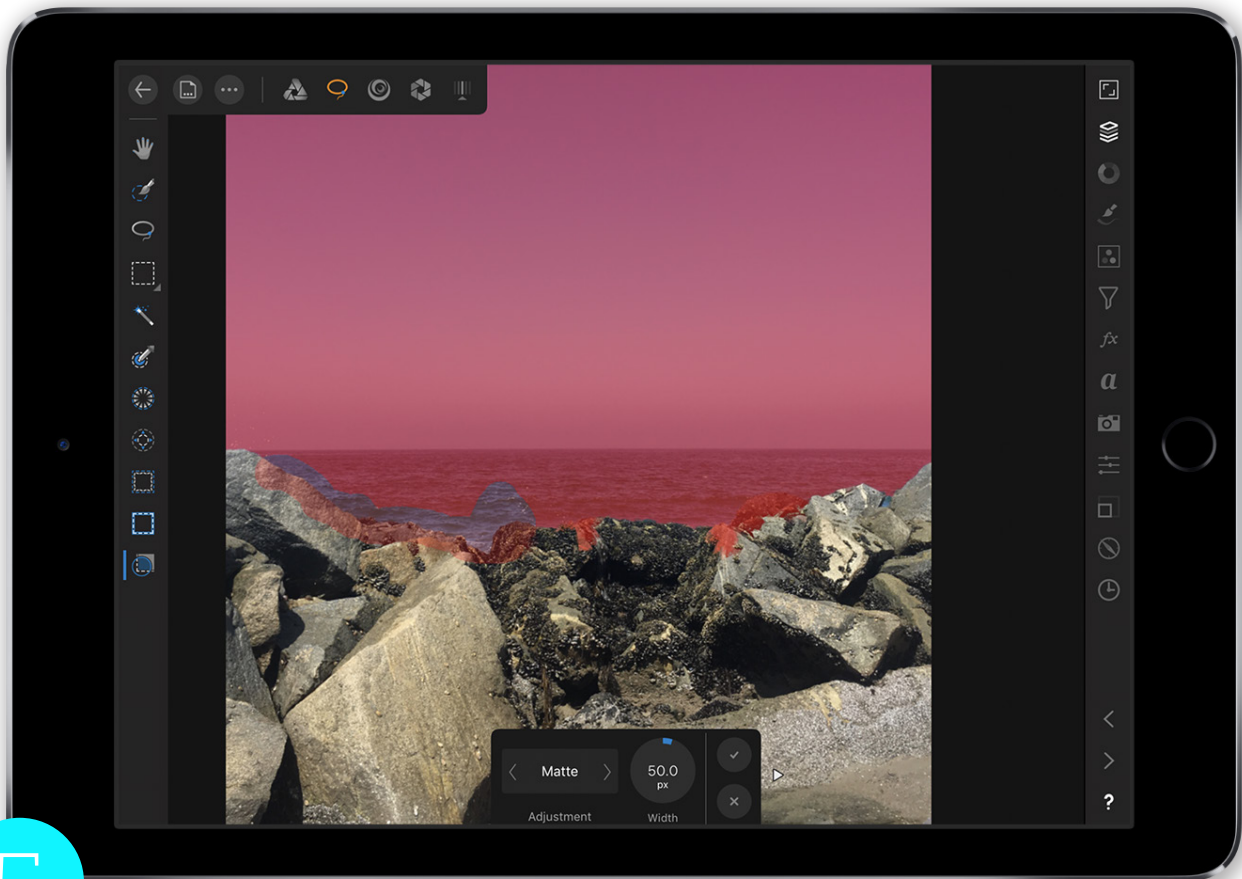
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COVER STORY

WWDC 2017

1 iOS 11 more pro-tools to iPad

With iOS 11, Apple brings a ton of pro features to the iPad, and enhancements to iOS on iPhone.

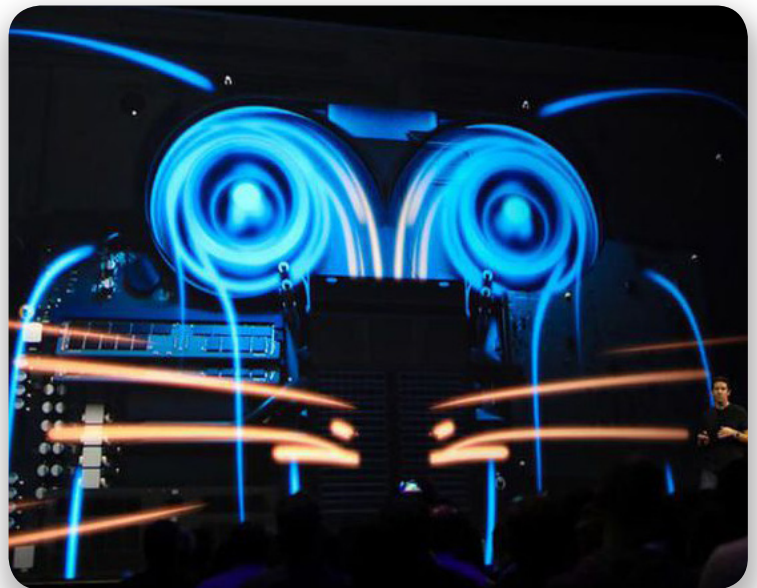
With the iPad, the tools make it easier to create workflows around multiple apps, and leverage multi-touch to achieve capabilities like drag and drop

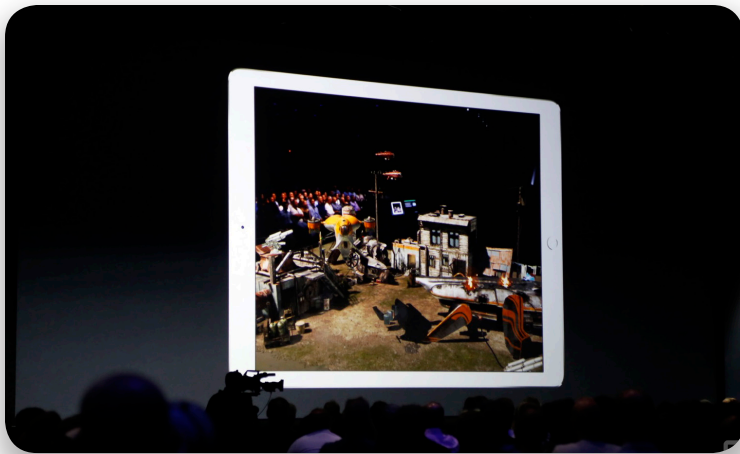


2 Focus on VR... 'Development'

Showing a renewed focus on professional development on the mac, Apple updated its mac lineup, and introduced a host of new capabilities which make it easier for developers to make software for VR headsets.

Along with that, Apple also announced a new pro-desktop, called iMac Pro, which offers professional grade desktop hardware, in the form factor of an iMac.





3

ARKit draws first blood in AR

With the introduction of ARKit for iOS, Apple's moving ahead with its push into making it easier for developers to create *Augmented Reality* applications. The focus here is on getting the spatial arrangement, surface recognition and light recognition, right. Graphics are open to third party rendering engines like Unity.



4

Proactivity comes Apple Watch

In a welcome push, Proactive Siri suggestions are coming to the Apple Watch, via the Siri Watch Face. The idea here is to provide the right information at the right time. Proactive Suggestions intend to ease out the process of navigating to a specific app to perform a task, and provide relevant information at a glance.



5

HomePod: Apple's Smart-Speaker

Coming at it from a slightly different angle, Apple offered a sneak peak at HomePod, it's smart speaker offering, which focuses on Music and HomeKit instead of the assistant that controls it. There's little that's known about a HomePod, but the initial response from those who've used it, is that the sound quality is terrific.



AT WWDC

APPLE HOMEPOD

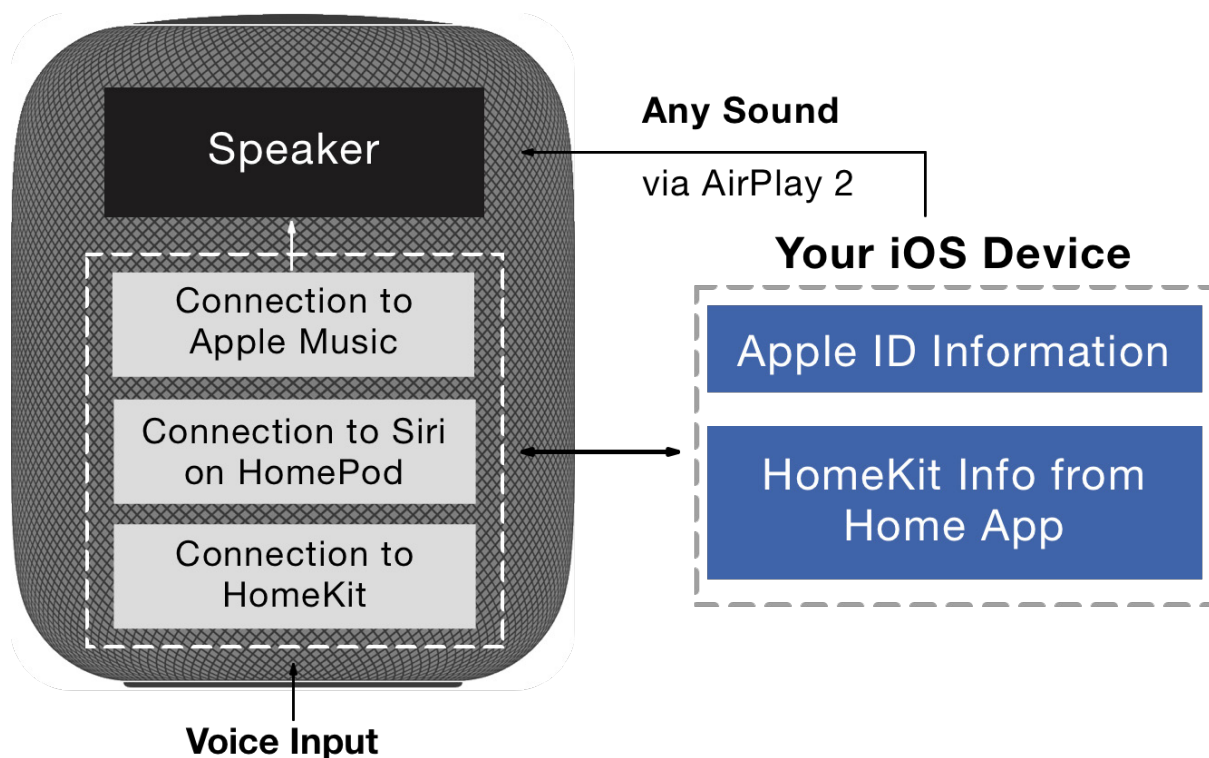
HOW DOES IT WORK?

Vidit Bhargava

This year at WWDC, Apple announced that it's working on a home speaker called HomePod. It's a device that intends to be a great music player, along with the capabilities of a smart speaker.

On the technical end, the HomePod, packs in a 7 tweeter array, 6 microphone array and a high-excursion woofer, that aims at providing a better quality sound which is more spatially aware.

But what's intriguing is as to how would the experience of using an HomePod be like? There's not much on the internet about the experience of using an HomePod, and the flow of actions, so I read through whatever's available on the internet and drew some graphics on how this thing would work in practice.



In essence, I think this is how the HomePod would work, when you get a HomePod, you connect it to your iOS Device (Like you'd connect your AirPods) and it establishes a secure connection with the iOS Device, to get your Apple ID details, for your Apple Music and Siri details) and HomeKit preferences.

Once set up, the HomePod on its own, can be asked to play music, control HomeKit devices, and use Siri.

If the HomePod is near to the iOS Device, the device can use AirPlay to send audio to the speaker.

SiriKit Domains

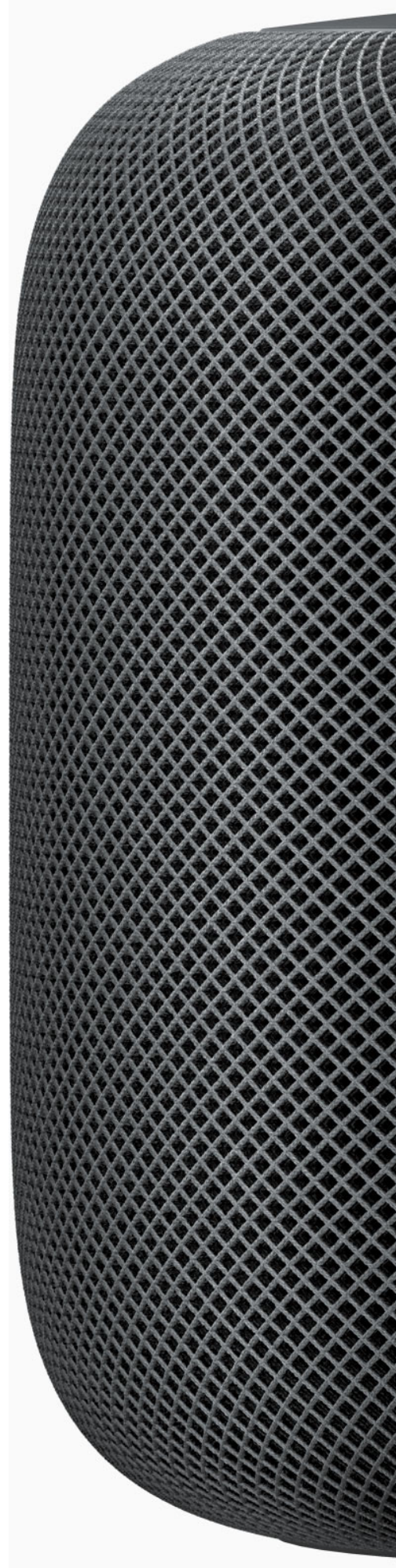
One of the biggest excitement about the rumours on a "siri speaker" was the ability to create apps for it. However, as it stands, the first HomePods won't be including much of SiriKit. They'd instead be running on a modified version of Siri, which works with a limited set of capabilities.

Music	Translation
News	Stocks
Unit conversion	General Knowledge
Messages	Weather
Reminders	Traffic & Nearby
Podcasts	Sports
Alarms & Timers	Home

But what's interesting here is, HomePod isn't a personal computing device, it's one that is meant to be used by more than one person. But if Apple's relying on a single iOS device, or a single iCloud ID, it is going to be difficult to sync preferences that'll help everyone.

The true test of HomePod and something that we aren't aware of right now, would be in how it understands more than one person around it.

We'll know more about the HomePod later this year and then we can get more details on how the thing works in practice.



 handgloves

 handgloves

Fine Print


San Francisco Pro

Iterative improvements on Apple's default typeface

Vidit Bhargava

With iOS 11, Apple's making updates to its system fonts. Previously called SF UI, the system font is available in two different options, SF Display and SF Text.

Difference between Display and Text Fonts

 In general, Display fonts are used for anything greater than 19 pts. This would comprise of headings, sub-headings, captions etc. The new title bar headings fall into this category.

Text fonts, are used for body text. They have a slightly greater tracking (seen above), a greater x-height and larger counters (seen left). This is done to increase legibility in smaller sizes.

Difference between SF Pro and SF UI

With SF Pro, Apple's made iterative changes to their default type. The differences are more profound between Pro display and UI display. Pro

display has a shorter x-height, a slightly different modulation, and broader counters.



SF UI Text and SF Pro Text are way more similar. There's just a minor difference in the shoulders for some characters.



Apple updated the iOS UI in iOS 11, to have large titles. It appears that apple decided to tweak these fonts for an increased legibility for the large title labels in iOS 11.

These changes also make more sense if a user is using a dark background or has certain accessibility settings turned-on. In that case, smaller counters would be worse, so it makes sense to change that.

It's important to remember that when Apple introduced the SF UI fonts, these weren't the intended uses. The iPhone UI looked different back in iOS 9. But as the UI requirements for the default typeface has changed, Apple's tweaked its fonts to work more legibly for its OS. Affinity



WITHINGS IS NOW NOKIA

With a single purchase, nokia's managed to get significant mindshare

*Comments on
Nokia's acquisition
of Withings*

Vidit Bhargava

Nokia is now an IOT health and fitness brand with some really cool weighing scales and watches. This is one of the finest transition from a has-been to a “fun-and upcoming devices” brand.

That analysis aside, I feel Withings will benefit a lot from Nokia's industrial design team. Most of Withings products are already well designed, but Nokia's experience will help them design better variants of their existing products (and hopefully avoid thing like the smart hairbrush). Nokia the IOT company is here!



TV SHOW REVIEW

SILICON VALLEY SEASON 4

WARNING: SPOILERS AHEAD

Vidit Bhargava

When Silicon Valley started off in April this year. It began on the excitement it had built with the previous seasons. The last season had ended on a high-note, and sure enough Silicon Valley began where it left. Still hilarious, founders still working on something great but then stumbling on problems which were all too familiar in the valley (In the real world as well). But as the season progressed, one bland episode followed the other. Resulting in an underwhelming series.

Much of Silicon Valley's fun comes from the satire on the tech industry, and that's aplenty here. Data collection, Privacy policies, burst-

ing phones, there's no mistaking that the show knows its audience well in terms of the comedy. But then it gets too satirical, to the point that it doesn't feel funny by the end of the show.

Unfortunately, the problem of overwhelming content doesn't end there.

Silicon Valley needs to be more than a mish-mash of tech references.

With this season, the founders don't have one thing to deal with. They have a plethora of problems dropped on them, everyone getting devoted a maximum

of two episodes. Jin Yang's efforts with the Hot-Dog or Not app were significant enough to put on the App Store, but they the screen space that the entire sub-plot had was not more than 30 minutes, and ultimately, none of it amounted to

anything. Gavin Belson's ouster and then the wacky partnership with Richard seemed like a turning point in the show, which'd eventually lead up to something, but then that got dropped too. Eventually, nothing really stuck, except for a tiny deal, to show a proof of concept. Humble beginnings, I liked it, but the show lead up to greater expectations.

The many subplots of the show amount to very little in the end.

That's not to say, Silicon Valley is a terrible show. It's a good show. There were some truly great episodes this summer. But being as a periodical, I found it hard to ignore the fact that all of it didn't amount to much when the show ended, and yet

there was quite an overwhelming amount of subplots introduced with this season. I really hope, the next season brings a stronger storyline.



Erich Bachman, played by TJ Miller, wouldn't be returning for the next season.

Jin Yang's app got major buzz, but the show never really went back to it, after a short stint in a single episode.

App Reviews

Affinity Photo for iPad

Can the latest photo editing app, compete with Photoshop

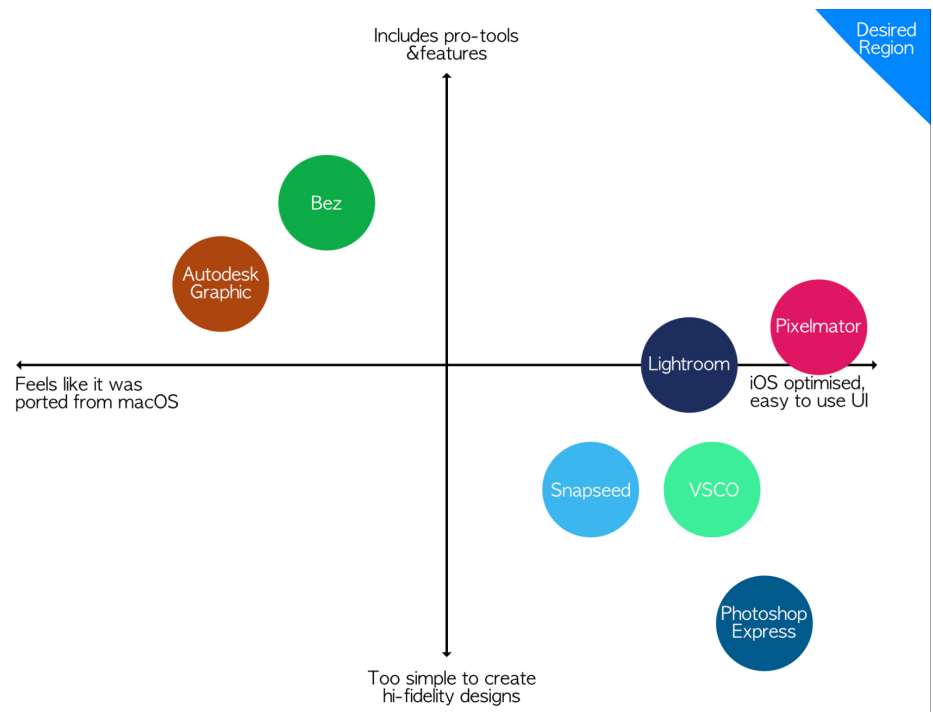
Vidit Bhargava

Back in 2014, with the announcement of the iPad Air 2, Apple demoed Pixelmator, the photo editing app that wowed users with its retouch tools and an easy to use iOS-first interface, which made it an ideal prosumer application for photo editors and people looking to do more and more of their computing tasks with the iPad. However, Pixelmator was no photoshop. There were a lot of effects, settings and tweaks that photoshop offered on a mac. While Pixelmator didn't eventually widen its offerings, another big player did. Serif, the makers of Affinity Photo, released the software for iOS this month. And with a complete pro feature set.

Usually when there's a piece of "productivity" software for the iPad, it's either easy to use, but limited in the feature set it provides, or it's professional grade but one that's based on an interface for the mac. The workflow isn't quite "made for the iPad", interactions that are more ideal for a mouse based device are pasted on a touch-device, but never really translate well And eventually we have a product that could theoretically do the desired task, but it would be much slower and more combursome, and eventually not worth the switch.

Where would Affinity photo fall in this spectrum?

It needs to be iPad optimised and professional enough to be a worthy switch from photo editing on the mac to the iPad.



Selection Tools

Affinity Photo offers a host of selection tools which are extremely precise. But more importantly they are tools optimised for iOS. They'd be faster on iOS than on a mac. If you've ever used design tools on your computer one of the trickiest part of the process is using a selection tool on a complex part of an image. On the iPad, combined with the Apple Pencil the selection tools on affinity photo provide a quick way to select complex shapes. I particularly liked the refine tool, which allowed me to get a rough cut followed by a precise one.

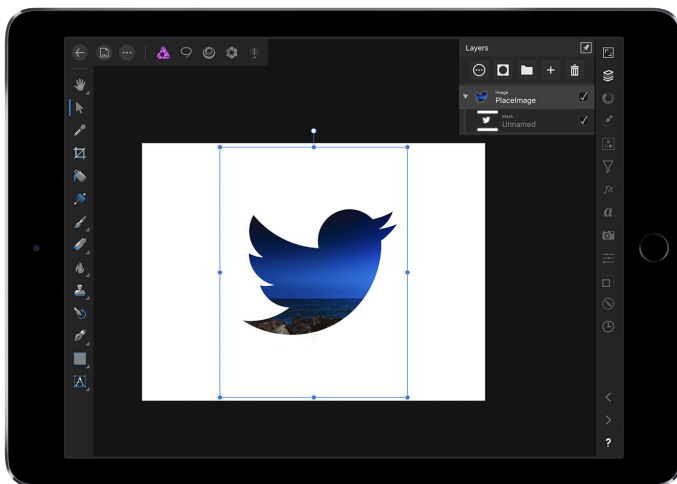
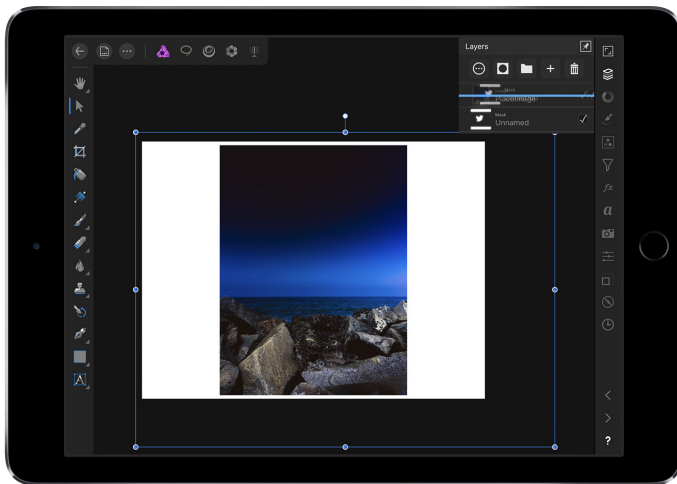
If you were to start image editing today, you'd have a far easier time doing a lot of this stuff on Affinity Photo instead of photoshop, solely because of selection tools. They may not be technically superior but they are far easier to get a hang of, than something like photoshop on a computer, which takes some time to get used to.



Layers

The layer management on Affinity Photo includes things like the ability to mask objects, which is a happy inclusion in the app, since there are very few on iOS that'd actually do it (Apart for the the iWork apps, and Bez, I don't recall many doing that).

Selecting Multiple Layers offer Boolean operations that allow for creating complex objects and shapes. There are Layers effects like Bevel and Emboss, 3D, Shadows, Glows, Overlays, etc. to provide a good host of editing opportunities to create decent renders. In my experience with the software, while these may not be efficiently grouped (Boolean Operations are in the three dots menu on top corner, blending effects like multiply, appear in the three dots menu in layer manager, and there's a separate menu for layer effects which contains the shadows and glows etc.), they do offer a good catalog of options which were otherwise not available on iOS previously.



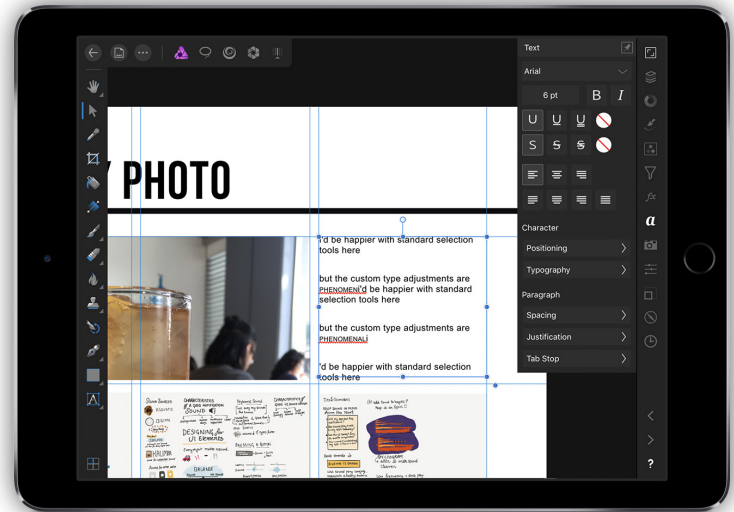
With enough tools to offer, Affinity Photo certainly gets the pro factor right and with decent import and export support, Affinity

If Pixelmator is
GarageBand, this
feels more like
Logic Pro.

Photos is certainly one of those apps, which even if they don't constitute of a primary workflow, would make sure you don't need to fetch your laptop every time you want to tweak a shadow change the tone balance of an image you just clicked on your iPhone.

It's not as though there haven't been apps in the past that could do this sort of stuff, the name of Pixelmator comes up often, when we discuss about photoshop like on an iPad .

However, Affinity Photo's feature set pretty much blows all its iPad competition out of the water. You could look at it this way, If Pixelmator is GarageBand, Affinity Photo feels a lot like Logic Pro.



USER INTERFACE

Precision is easy to achieve

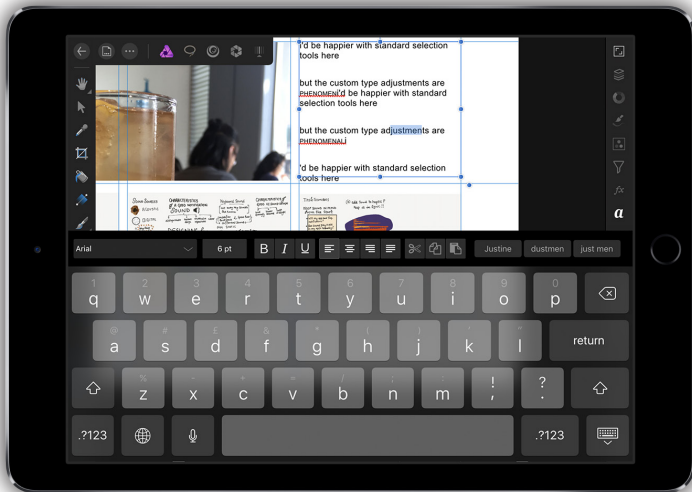
One of the nice things about the Affinity Photo interface is the fact there are enough precision tools to keep the app from being handicapped while maintaining an iPad like interface. Moreover, the interface for precision tools is really nice, with preset suggestions for values which are most oftenly used, along with a number pad for more control.

Typographic options are great.

There are enough typographic options in here to keep a type nerd engaged. You can change the tracking, leading, kerning, or enable ligatures, small caps, subscripts, super scripts, et all. If you are someone who cares about type, there are enough options to make things look great. Add to that, the makers of the software have added a range of custom typefaces as well.

However, typing is the worst feature of Affinity Photo. Even with a host of options, typing text on Affinity Photo is a horrid nightmare. Given Affinity Photo's utter disregard for platform conventions, they've built in a custom clipboard for their app, which allows only the text from their app to be copied and pasted.

A custom clipboard, text selection tool and the absence of proper quick type suggestions, makes the experience feel flaky and half baked. Add to that, if you were hoping to use Affinity Photo to create miniature fliers or posters on the go, when you export in PDF, the text is rasterised! Making it unselectable on any other editor.



A custom clipboard for typing makes the experience annoying;

Poor grouping of Layer based options, leaves users juggling between different menus;

Simple things like rename and delete have their own conventions

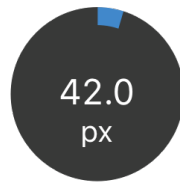
Unfortunately, Affinity Photo's disdain for platform conventions leads its UI into making a mess of simple things like deleting and renaming files. Infact much of Affinity's interface is so far off the iOS paradigms that it feels almost alien to the platform at first. While some of these decisions do pay off, Most of them feel overdone.

One of the biggest casualties of shunning iOS interfaces is the inclusion of circular sliders. Sure,

they're the coolest looking UI elements for a pro app. But they're astronomically hard to use. Add to that, these sliders are very sensitive to random taps. They can drastically change their values, due to a single accidental tap on the screen. Making it even more difficult to work. I almost always end up using the precision controls. Which shouldn't be the case if only minor tweaks were to be done.

Off the three sliders,
that perform roughly
the same task.

It's easy to identify
the hardest one to
use on a touch screen



Affinity Photo



Pixelmator



iWork Apps

Affinity Photo is a powerful tool. There's no doubt about it's capabilities. But it's also one that feels over designed. It's a software which would have benefited a lot from better grouping, smarter interactions, and a better understanding of the platform it's being built for. There's no mistaking that Affinity Photo's UI Design leaves a lot to be desired.

DOES IT HELP IN CREATING A WORKFLOW

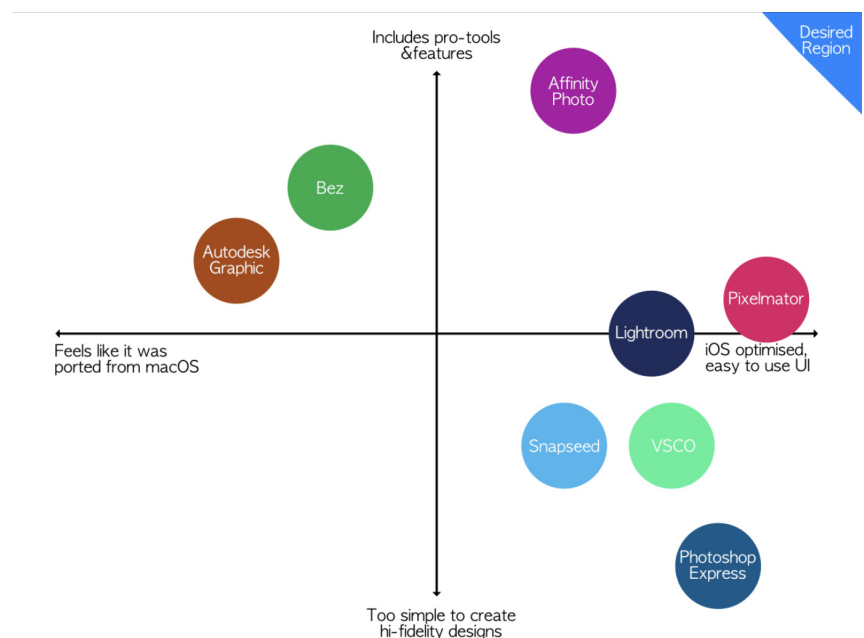
All said and done, if an app is usable enough, if its professional enough to provide users with what they "need", in a package that's not catastrophically bad, I think there can be some workflow that can be formed around it to achieve certain tasks which it can do faster than its computer counterparts.

Affinity Photo allows that to a large extent. It makes some of the complex image editing tools easier, just because of their focus on a touch-screen optimised interface for selections, retouching and image manipulation.

Having said that, Affinity Photo has a long way to go to displace photoshop on a computer as a primary design tool.

*Affinity Photo has all the
professional tools you'll
need from an image editing
software.*

*But it needs a better user
interface to be a truly great
product!*



Pixel Quiz June 2017

Vidit Bhargava

Q1. According to it's creator Y, X was inspired from his own adventures around the hillsides of a village called "Sonobe". In an interview Y explained, "When I was a child, I went hiking and found a lake. It was quite a surprise for me to stumble upon it. When I traveled around the country without a map, trying to find my way, stumbling on amazing things as I went, I realized how it felt to go on an adventure like this."

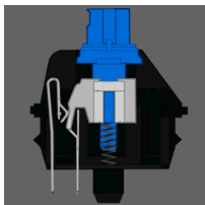
There was this one time when Y on one these Sonobe trips, discovered a cave entrance. Y explored the inside of the cave through a lantern. All of these, eventually make it to the gameplay of a very popular game X. Identify X and Y.

Q2. Ben Curtis, an actor, got really popular in the early 2000s, for playing the role of Slacker Steve, or popularly known as X, in a series of highly successful commercials. The commercials would usually feature Steve informing prospective buyers of all the perks of owning a Y, and when they were sold on the idea, Steve would close with the catch phrase, "Dude, You are getting a Y". ID X.

Q3. A popular surveillance device by the Harris Corporation, X is named after a species of marine animals. An X basically, gathers information from phones by sending out a signal that tricks them into connecting to it. The naming of the device to X works in two ways, first it's a word play on the nature of signals transmitted to the cell-phone. Secondly, you could associate the sending of signal to that of a "whip-like action", akin to an X's attack. ID X.



Q4. These are switches of a particular kind, made by a german brand called Cherry. Generally available in 4 different varieties, Blue, Black, Red and Brown. While Red and Black offer a linear action. They aren't loud. On the other hand, Cherry Browns are more "Tactile. For which products are the switches classified in this manner?



Q5. The name AIRA comes from a combination of AI and the "Eye of Ra" an Egyptian mythological symbol, that symbolises, "protection, and the power to perceive and interpret both the seen and unseen in the universe.". AIRA is the name of an organisation that uses technological platforms, to achieve something. So, recently, AIRA came out with a Google Glass app (and an app on other AR Platforms) that would allow the users to share real-time, first person video. The app is way for people to use AIRA's product. Simply explain what does AIRA do.