

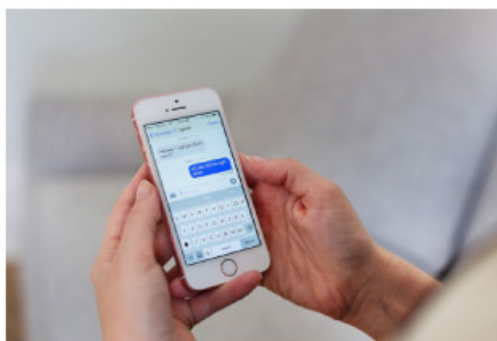
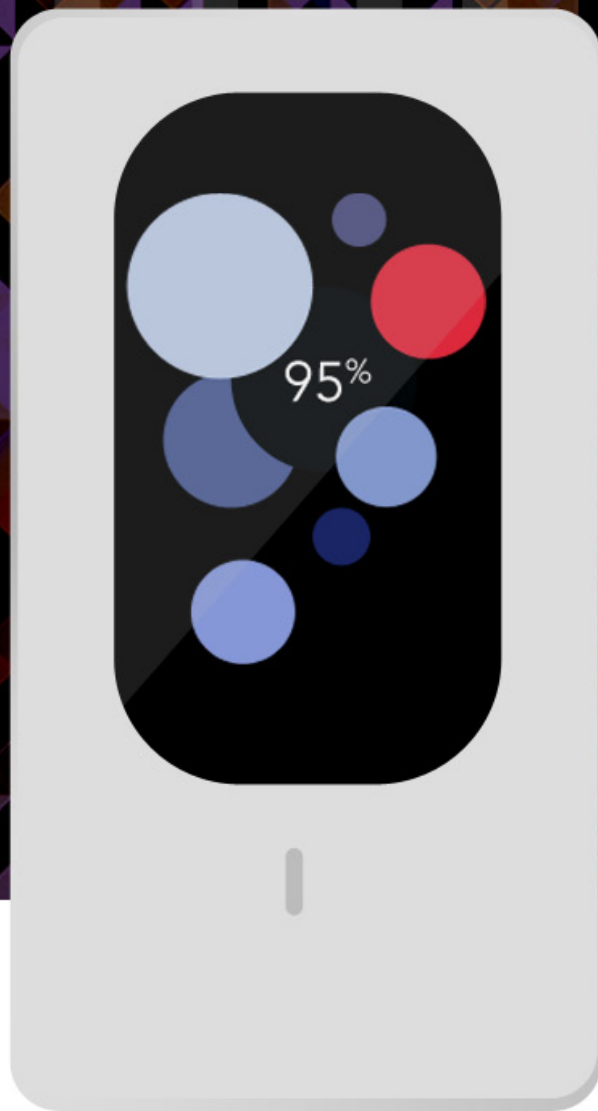


MAY 2016

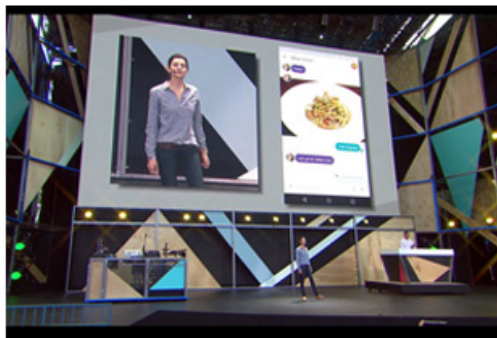
HOW DOES INTERNET WORK?

STARRY™

CAN CHET KANOJIA'S LATEST
HELP HIM TAKE ON ISPs



KNOW MORE ABOUT
GOOGLE ALLO
IPHONE SE
QA CHECKS
TYPOGRAPHY



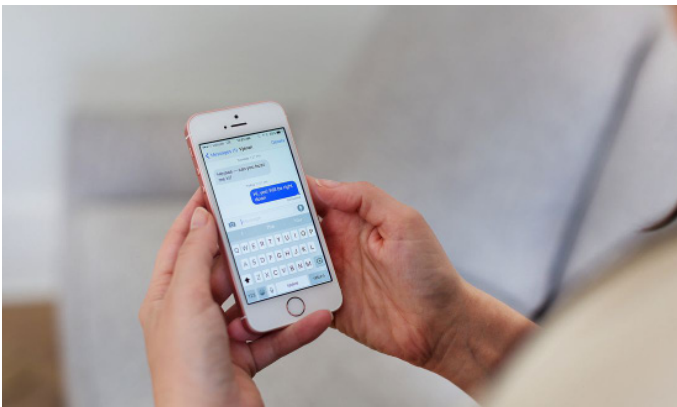
“If you do something and it turns out pretty good, then you should go do something else wonderful, not dwell on it for too long. Just figure out what’s next.”

- Steve Jobs



COVER STORY

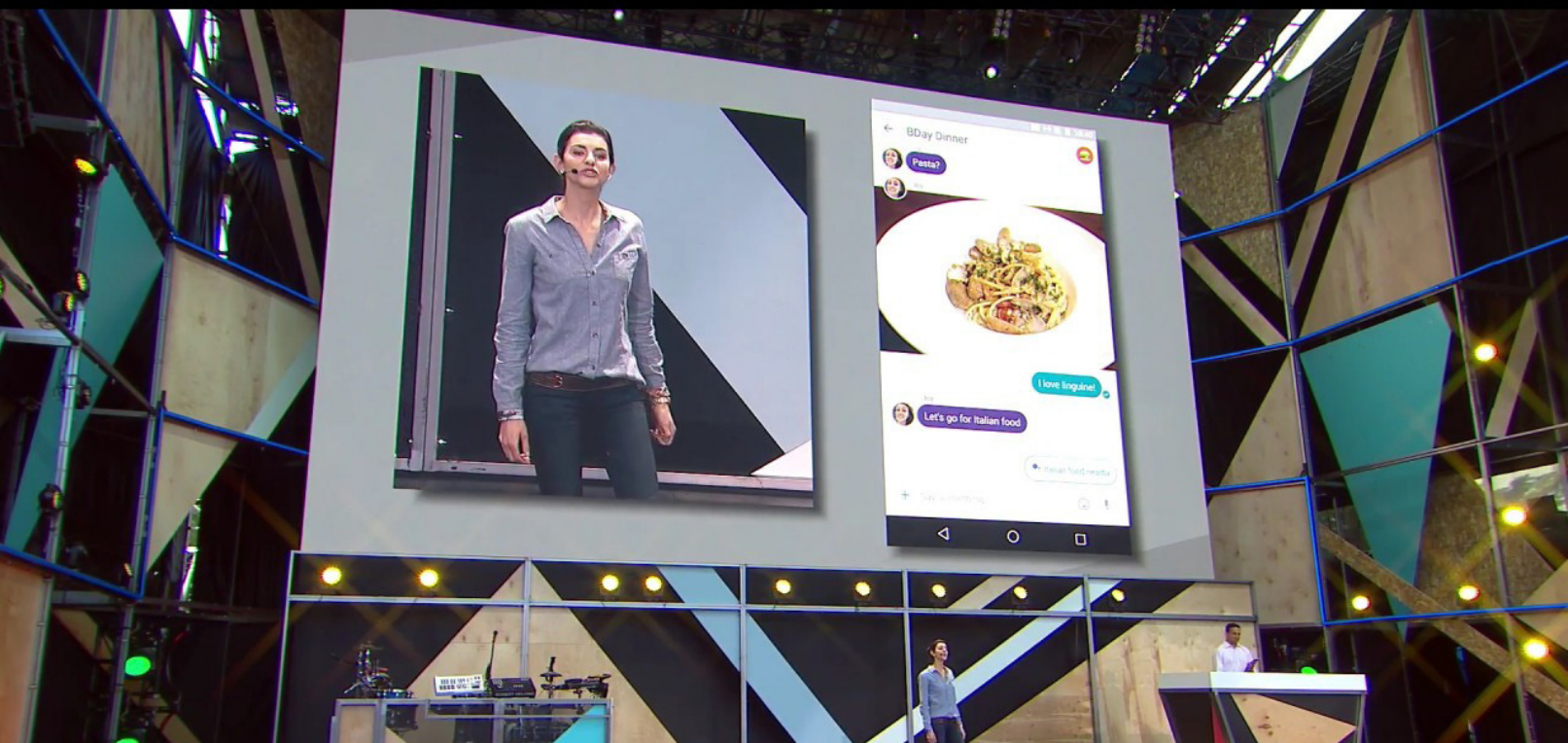
HOW DOES STARRY INTERNET WORK



New iPhones
**APPLE PUTS USERS
FIRST AGAIN!**



typography 101
**BASIC TYPOGRAPHY
TIPS AND TRICKS.**



GOOGLE IO 2016 ALL YOU NEED TO KNOW ABOUT ALLO



developer tips
QA CHECKS WORTH
PERFORMING.



can you get all 6?
PIXEL QUIZ
MAY 2016

HOW DOES

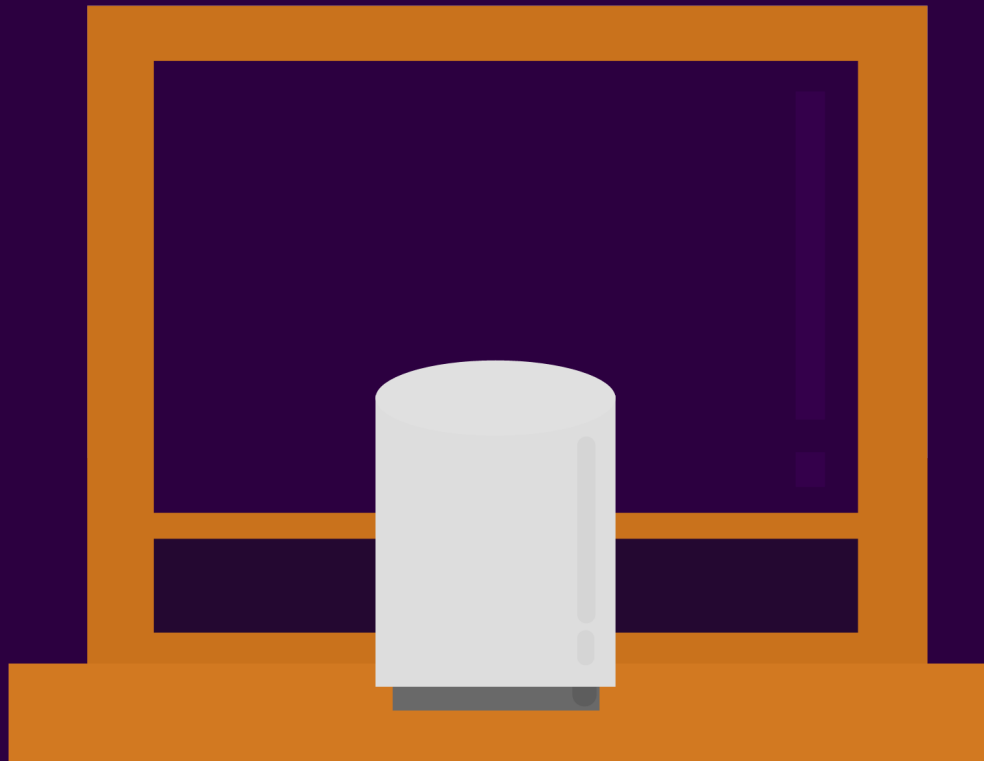


STARRY

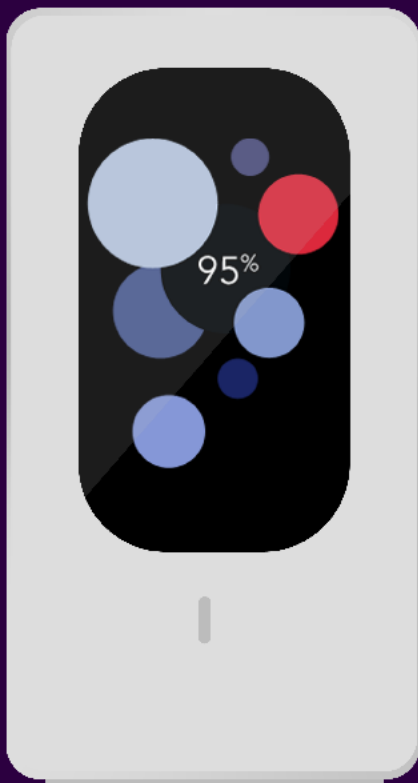
WORK?



A STARRY BEAM BROADCASTS INTERNET
ALL OVER A CITY, VIA MILLIMETER WAVES



A STARRY POINT ATTACHED TO THE WINDOW
RECEIVES THE WAVES GENERATED BY STARRY BEAM
AND SENDS THEM TO THE WIFI ROUTER.



YOU CAN THEN
ACCESS INTERNET

USING YOUR OWN
WIFI ROUTER

OR A PROPRIETARY
STARRY ROUTER.

WHAT ARE MILIMETER WAVES?



**MILIMETER WAVES
ARE EXTREMELY HIGH FREQUENCY RADIO WAVES**
FREQUENCY RANGE: 30-300 GHZ
WAVELENGTH RANGE: 1CM TO 1MM

WIFI
FREQUENCY RANGE: 2.4 - 5 GHZ
WAVELENGTH RANGE: 12 TO 6 CM

TELEVISION BROADCAST (VHF)
FREQUENCY RANGE: 41 TO 250 MHZ
WAVELENGTH RANGE: 7.2 TO 1.1 M

FM RADIO
FREQUENCY RANGE: 88 TO 108 MHZ
WAVELENGTH RANGE: 3.4 TO 2.7 M

TELEVISION BROADCAST (UHF)
FREQUENCY RANGE: 3 TO 30 MHZ
WAVELENGTH RANGE: 99 TO 9.99 M



iPhone SE

APPLE PUTS USERS FIRST AGAIN

Vidit Bhargava

Back in 2011, Samsung began a trend of Large smartphones with its Galaxy Note line-up, although buzzare at the time, it turned out that some people really preferred larger phones, and for a lot of others it was a psychological effect that compelled them to use larger phones once they had used them. At that time Apple offered one phone, with a screen size of 3.5".

I think it's around that time that the notion of a one size fits all iPhone changed for Apple.

SE Stands for Special Edition

But to achieve that they needed to make some serious changes to both their hardware and software before they could really provide a decent experience of using the larger phones for their users. It's not surprising then that the company has decided to the create another smartphone based on the people's demand.

Here's why the notion of a one size fits all phone breaks after you've got to larger screen sizes. At smaller sizes, the phones are generally hold-able in one hand and can be used without a problem but as you move to a larger hand,

The Notion that
one size fits all,
has gone away
for good.



your size of hands start to affect the reachable zone of your Smartphone. So, if you've got very small hands, you might have issues gripping your larger devices with a single hand. This is hard to ignore if you've got 300 million people holding onto

their old phones because the new ones are just too big for them. And thus the need for a smaller phone.

Contrary, to how some of the technology blogs feel about this, I feel this is just one of those decisions where Apple has put the user ahead of itself in designing their product. They could simply have stopped caring about the 5s' size and a lot of people would have given up their older phones in favour of a bigger one for the lack of a better option, and that while that would have meant a lot of unhappy users, it wouldn't have been very bad for the company, because the majority is fine with the size of a 6s or 6sPlus.

But there's another reason why as to why I feel that the iPhone SE will become a popular choice, It's the fact that the SE is also Apple's lowest cost phone available in today's hardware, I.e. You are getting the guts of the iPhone 6s in a 5s casing at a price that's

lower than what the 5s is currently retailing for. This is especially, going to be very lucrative for those who are looking for a cheaper iPhone. The last time Apple attempted this, they came up with the iPhone 5c. That

The iPhone SE is
5s outside, and
6s Inside.

phone, although one of my favorite devices in terms of the Industrial Design (I still hope Apple makes such a unibody enclosure again), was slightly underpowered and had underwhelmed a lot of buyers because of the impression that this would be Apple's cheaper phone. The SE doesn't come with any such baggage. It doesn't look or feel like a cheaper iPhone, even though it's retailing at just \$399.

This is something that I feel will make the iPhone quite popular in places like India, Romania or Brazil, and while it may initially sell for not a very low cost, the price is set to come down in a few months post its release, so while not initially, the iPhone SE should eventually gain

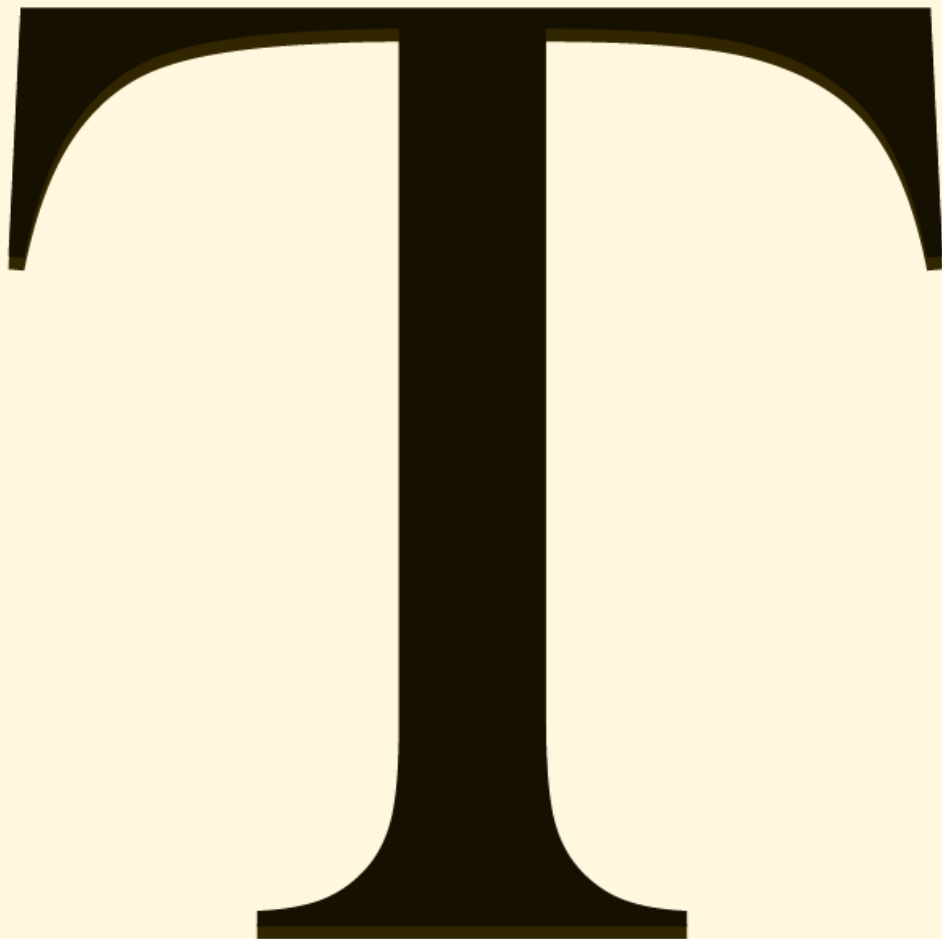
a lot support over here, because you'll be getting a one year old hardware for a price at which we get some of the similarly powered Android devices.

4 Months In, the iPhone SE could retail at a price competing with some of the more successful budget Android Phones.

Personally, I still prefer the slightly larger iPhone 6s for because of the screen size, but I'm sure a lot of people have been waiting for a smaller phone and lots of others are also looking for something that's more economically. Either way, the SE seems to be like a solid device that is tailor stitched for the User. The notion that one size fits all no longer holds true, it's only sensible then to

make phones that are catering to people's needs.





typography
basics

The Anatomy of Typefaces

T

Serif

T

Sans-Serif

T

Slab-Serif



High x-height: Easier to read when at *lower point sizes* and *low resolution displays*.

Examples: Lucida Bright, Georgia.

Low x-height: Used for shorter forms of text, generally in a manner to display elegance.

Not Recommended for a large amount of text.

Examples: Baskerville

Difference between Typeface and Font

Baskerville

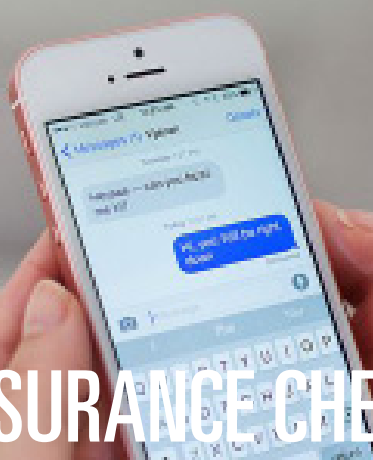
Georgia

Different Typefaces

Baskerville Regular 20pts

Baskerville Regular 14pts

Different Fonts



QA TIPS: QUALITY ASSURANCE CHECKS WORTH DOING!

Vidit Bhargava

The App Store has tons of applications and it can be hard to stand out amongst the big players.

A great app is one that stays great in all conditions. As a user I wouldn't be pleased with an interface that breaks if there's a double height status bar on screen, or if the text on the screen is not selectable.

While I was completing the development for LookUp, I started looking for tips that could help me improve the user experience. I came across a lot of interesting resources that helped me build a small list of items I could test each time I submitted to the App Store.

More importantly, there were a few things that were so easy to miss during a regular test of the app that I've made a Separate checklist for them:

Accessibility Basics

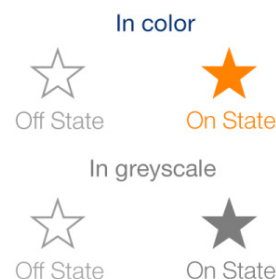
The iPhone takes great care in making all its content accessible to everyone. So users

should be able to expect the same from third party applications as well. Here are some tests you should know how to perform in terms of accessibility:

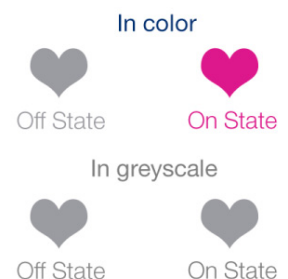
Grey Scale Test

A grey scale test is a simple user interface test that makes sure that the visibility of all elements remains unchanged when using the

GOOD FOR ACCESSIBILITY



BAD FOR ACCESSIBILITY



phone in grey scale mode.

This is particularly helpful to those who are color blind. Elements that use different hues of color to differentiate between the on and off state are the best example of grey scale violators. In general it is good practice to add

a stroke or have good color contrast between the on and off states to give clear feedback as to what state the element is in.

VoiceOver

VoiceOver is a great accessibility feature that allows users with visual impairments to navigate through iOS easily, but a lot of apps skip implementing it or sometimes implement it in a manner which isn't very helpful to the user.

It doesn't take much effort to implement though; so here's a checklist that might help:

Label your Element – *Labels are generally succinct. For instance, if it's a search button, Search is a much better label than "A button to find things".*

Define its trait – *Define what kind of element it is. Is it a button or a slider? This might seem trivial but it is a great design practice, and something that's helpful when using voice over.*

For Value Based Elements – *Let's say the app has a slider to set the percentage of opacity for a box. When I do a voiceover on the element, it's much more useful if it says "Opacity: 30%" instead of just "Opacity."*

Provide Hints! – *Remember when adding labels: Were we succinct about them? What if some buttons need an explanation? Hints do the job for that! In fact, I believe it's a good design practice to provide hints for every usable interface element, not just the complex ones. "Look for items" as a hint for search? Sure!*

Test With Screen Curtain On – *Closely related to VoiceOver, iOS has a lesser known feature called Screen Curtain. With Screen Curtain turned on, iOS turns off the display on the iOS device. Making the app be used entirely on VoiceOver. And it's not just about correctly labeling the buttons.*

It's also about following the right hierarchy for switching between UI elements. That is, what happens when a user swipes towards right on his screen? Which interface element does VoiceOver go to? Does swiping right take me to the next element on the right side? Or does it take me to something completely different? Believe it or not, for a lot of people this can be the difference between a delightful user experience and one that is annoying.

Screen Curtain tests also give you an idea on how the app would function for users who use switch control to navigate iOS. And while there's no replacement to actually test an app with a switch controller, correct navigational hierarchy is always a positive and an indication that the app would do well with Switch Controller too.



Support for Speech Functionality in LookUp, a key accessibility feature

The accessibility menu on iOS has become a really useful tool over the years, from providing dynamic text to enabling the use of devices via switch control. And in general, it's a great design practice to make the app compatible with all of these accessibility features.

Support for Bluetooth Keyboards

One of the things that can be easily missed is the support for third party keyboards. How does the interface change when the user is not typing on the screen but from a keyboard?

Sometimes, apps have extra UI elements which they add over the keyboard to make it more usable for the app's purpose (for example the extra pane over the keyboard layout in Editorial provides some essential markdown shortcuts). Personally, I feel that testing the app on a Bluetooth keyboard could be a great opportunity for developers to tweak and customize the interface in a meaningful way.

And there's always the standard check to make sure that the interface doesn't fall apart when you're typing without an onscreen keyboard.

Background Audio

What happens when your app plays an alert and there's a song playing in the background? Does it stop playing the song or just reduce its volume?

Believe it or not this is a real situation for all the apps that support Speech functionality for text. I faced a similar situation during the development of LookUp where the background audio would stop playing every time I pressed the speak button for reading out the text. At first it felt like a standard iOS thing, but then I looked at the Instapaper app, and they had a much better experience where they'd merely dim the background music and still let you use the speak functionality.

This is just one of the many ways in which the audio from your app can interfere with any kind of audio playing in the background!

No Configured Accounts

What happens when there's no email account configured for the device and the app has a feature to say, send feedback? How does the app react then?

The desired responses could vary with different interfaces, but at the very least, the app should inform the user that there are no accounts configured with the device and tell them where that can be changed. Since we use Twitter for feedback in LookUp, I didn't encounter this issue, but it is one scenario I feel is very easy to skip. I had no idea that this was even a possible situation until I read one of Nick Arnot's slides on quality analysis.

Speech Functionality

iOS has this great feature which allows users to let their iPhone read the text for them. Unfortunately not every app supports it, even though it's a great accessibility feature.

If there's selectable text in iOS it's a good idea to have the speak option as well. More importantly it should be tested properly. I remember when some apps had a weird bug where the speak functionality would scroll the text slightly upwards when activated. This is just the kind of bug that could go unnoticed in a quick test, and would be great to catch before shipping the app.

Multiple Language Support

A lot of apps have localization support. That is, they support the interface to work in multiple languages. To begin with, the very option of localization can be missed out. So, if your app is global and doesn't necessarily

rely on the English language, it's a great idea to support multiple languages. iOS itself has great APIs to allow that.

As a standard practice, translations aren't usually encouraged but basic Navigational Elements and App's Generic Interface text are supposed to be in the User's Language.

A great example of this is the Podcasts app by Apple. Where elements such as "Number of Unplayed Podcasts" and basic Navigational Options are displayed in the local language.

It's a great idea to display Dates, Numbers and Actions like Cancel, Done, etc. in local languages. It's also important to test whether the interface works smoothly in all the supported languages. This is especially important for Arabic languages that are read right to left and languages like Hindi and Tamil which follow a completely different typographic layout from languages like English. It's important that the apps function well for all of these interfaces.

Some final thoughts

Quality Analysis for an app can be a tricky process. It's hard to catch all the bugs at once. Even harder is to make sure your app works in all conditions. The above list is just some of the small things we usually miss while testing an app. There are a lot of other cases which need to be checked before one can really say an app has passed quality assurance tests.

Thankfully though, there are a lot of resources on the Internet.

If you have any quality assurance tests you think are worth doing, I'd love to hear about them in the comments.



Allo

KNOW MORE ABOUT GOOGLE'S NEW CROSS
PLATFORM INSTANT MESSAGING SERVICE

SMART REPLIES

SMART REPLIES USE

MACHINE LEARNING

TO SUGGEST REPLIES

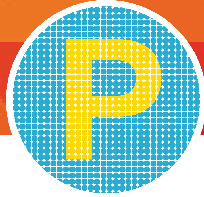
INCOGNITO MODE

FOR END TO END ENCRYPTED CONVERSATIONS

A CHAT BOT FOR GOOGLE SEARCH



WHISPER-SHOUT: ABILITY TO INCREASE OF DECREASE THE SIZE OF TEXT



Pixel Quiz May 2016

Vidit Bhargava

Q1. The idea of the name X, came to Robert Kalin while he was transcribing an episode of Fellini's 8 1/2 (to decide on a name for his startup), which is when he came across X. According to him, "In italian, you say, 'X' a lot. It means, "Oh Yes!", and in latin and french it means, "What if." ". What is X?

Q2. A merger of two of its kind, XY was founded in 2015, when two companies, backed by Tencent and Alibaba, respectively, merged. XY was initially called, X Kaudi. Kaudi means "quickly", while Y means "Commuter". The change of name was partly because XY had expanded into broader services. What is XY?

Q3. An Cui, a PHD student at Columbia University, coined the term X for a hack he and his team built to turn any internet of things device into a bug. X is used to describe the potential capability of malware using the off-hook switch in a VoIP phone as an antenna to transmit data over Radio Frequency. At the demo, Cui made the the Laser Printer sing for a reporter, to demonstrate the transmission capabilities, a result of the hack. What is X?

Q4. In a recent post by it's creators, they shared some stats about the game X. According to them, X was played by 1 Fictional US President; Featured in 13 Museums, Galleries and Art Festivals; \$23,931 in Digital Soundtrack Sales and Infinite Times, they've been asked for more 'levels'. The game is an example of indie-dev success. According to the creators, somehow X has become a unit of measurement of success. Where people would say, "if we can only make 10% of a X we can break even." What is X?

Q5. X by Google's Picasa was a free computer program that enabled users to send images across the Internet and publish them to their blogs. It was similar to an instant messaging program because it allowed users to send text, but X focused on digital photographs. Recently google introduced another similar service Y. Y is a french corruption of the word X. What is X and Y?

Q6. *#trivia*: How do we better know The Device called Dynamic Adaptive Total Area Coverage?