MOBILE APPS

QA Testing for mobile applications

How familiar are you with Apple devices?

- This question can be asked for apple devices as well as Android devices - depending on the company your interviewing at. They just want to gauge your level of experience with their device.

- Anyone have a good answer?

- You don't want to eliminate one in case you don't know which one they will have you working on. So for those of you who don't have a lot of experience - I would say something like I use ____ in my personal life and I've tested___ at work.

- (If you really don't know, LEARN FAST!)

- you want to make them feel that you have good working knowledge of both Apple and Android phones.

- What is a mobile application?

mobile application:

Also called mobile apps, it is a term used to describe Internet applications that run on smartphones and other mobile devices. Mobile applications usually help users by connecting them to Internet services more commonly accessed on desktop or notebook computers, or help them by making it easier to use the Internet on their portable devices.
A mobile app may be a mobile Web site, utility, a mobile-based instant messaging client, banking app, games, skype, music, and many other applications.

- SHORT ANSWER:
- A mobile application is software written for mobile devices that performs a specific task . Such as a game, music player, instant messaging, etc.

- What phone are you using right now?

- iPhone, or any android based phone would be the best answer.

- Here again, they want to get a feel of what you know and are familiar with.

- To the interviewer, If you are a user of Apple or android, then you will at least have some knowledge of the devices in today's market.

- Even if you really use an older feature phone, I recommend that you borrow a friends or go to best buy and play with an android or iphone and get familiar with the flow of the OS.

- What Mobile platforms are you familiar with?

- This is similar to the 1st question about being familiar with devices except this one is asking you about the operation systems (OS).

- Anyone have an answer?

- First lets take a look at the OS versions (platform's) of Apple and Android...

APPLE

For Apple iOS, they mark their mobile versions as 1.x, 2.x, 3.x, 4.x, 5.x (current) 6.x (the next one)

ANDROID

Android is similar to apple in the OS version names 1.x, 2.x , 3.x, 4.x etc. But at google and many other companies, we refer to them by their dessert nicknames or “flavors”:

1.5 = cupcake,
1.6 = donut,
2.0/2.1 = eclair,
2.2 = froyo,
2.3 = gingerbread,
3.x = honeycomb,
4.0 = ice cream sandwich (ICS)

- So to answer the question "what platforms are you familiar with?"
- You want to give an answer that shows you have at least a little knowledge of both Apple iOS and Android flavors

NATIVE APP VS. WEB APP

Does anyone know the difference between a native app and a web app?

- NATIVE APP:
- Is an application that is designed to work on a specific platform/device

- WEB APPS:

- Are sometimes called “non-native apps”, “web based applications”or browser applications.

- They are not designed for a specific platform and are essentially a shortcut to a mobile version of that website. when using a web app, your going to that website and downloading the software every time you visit.

TECHNICAL DIFFERENCES

- A native iPhone application will need to run specifically on the iOS platform

- A web app is coded in a browser language like html combined with JavaScript

- The differences between native and web apps are becoming smaller now that most native apps require a web connection and web apps are providing an offline mode.

- These are sometimes referred to as “hybrid apps”

- Which came first, the native app or the web app?
- Anyone have an answer?

- Definitely the native app came first.
- Think of the preinstalled apps or programs on a device: calander, address book,calculator, etc. these were all here before web apps.

What was it about the smart phone that changed everything?

Game changer

- The smart phone really revolutionized not only the phone and mobile industry but also the computer industry.
- It gave users the power to use their mobile devices as a computer. With the ability to access the internet and download apps, they could now use their smartphone to do virtually everything they could do on their desktop computer

- Interviewer hands you an Android or iPhone and asks you to enable “flight mode” (also called “airplane mode”)
- Does anyone know how to answer this?

- This goes back to what I was saying before. play with both devices and get familiar with them so you can answer these types of questions.

- “airplane mode” or “flight mode” is turning off the data and wifi network as to not interfere with the flight.

- on both devices, it can be done from the settings menu

- When did 3rd party developers really start to get interested in native apps? and web apps?
- what were their motives and how have those motives changed/evolved?

- 3rd party developers really started getting interested in native apps when the itunes app store came into the picture
- the reason is most likely because they could make money by people paying for their app in the app store

- 3rd party developers interest in web apps came more recently than the interest in native apps

- The interest in web apps is increasing because they can reach more people - remember a web app is not designed for a specific platform, so anyone can use it from any device

MARKET SHARE OF APPS

- There is no official number of native apps to web apps but there are currently many more native apps than there are web apps.

- it is expected that over the next 5 years many companies who currently offer only a native app will also offer a web app version

- Why havent most people heard of web apps?
- most people havent heard of web apps because they are not marketed as much as native apps.
- Native apps generate more revenue(make more money) for a company because they can charge for the app and typically web apps are free
- the fact that web apps are typically free is another reason why app stores dont promote/market web apps as much as native apps.

WHAT DO NATIVE APPS DO BETTER THAN WEB APPS?

At this time, research shows that users prefer Native applications because its more user friendly, have a better UI, and can easily integrate with other native apps on the users device, like gps, camera, calander, etc.

WHAT DO WEB APPS DO BETTER THAN NATIVE APPS?

- the benefits to a web app over a native app is primarily experienced by the company. A web app is cheaper and faster to develop and maintain.

- Also, there are more developers readily available to create web apps because to created a native app on iphone for example, the developer would have to code in the iphone programming language which is objective c

- Most think that in the near future, more and more web apps will be able to easily integrate with the native apps on the users device like camera or gps.

Why do many companies do both?

- This is still a relatively new industry so many companies do both to see which will be the best for their users and for them, as the mobile space evolves.
- Can anyone think of a company that does both?

- Google is a great example of a company that does both.
- Google develops native android apps for its android users, and also develops web apps so users on other platforms can access their popular products like gmail, maps, and google voice.

SOME OTHER COMPANIES THAT DO BOTH:

- ebay
- twitter
- facebook
- Usually bigger companies with larger budgets can afford to do both

- Which business organizations can/ should do one type instead of the other?

- Research shows that games, social networking, lifestyle, entertainment, technology, and travel apps tend to prefer the native app approach. while web apps are more common for news and weather apps.

- There is no defined type of business organization that would choose one type of app over the other. The main driving factor would come down to budget to determine which one they can afford to do.

- Apps that are **paid** for or **ad funded** are more likely to choose a native app approach

- While something that is **free**, **new channel** in the market, or something that is **purely marketing** is more likely to have better luck with a web app

- Those in bold are the main types of apps.

- anything that the user pays for is best as a native app because billing and payments can easily be handled through the integrated app store

WHICH IS MORE SECURE- NATIVE OR WEB APP?

- Native apps are definitely more secure than web apps. they dont need to connect with a network as much as a web app or sometimes they dont need a connection at all.

- Think about it- which has more risk, using a calculator on your device or doing mobile banking through a web app via a wifi connection?

WHAT WILL BE THE FUTURE OF APPS?

- Any prediction will only be a guess because its hard to know what the mobile market will dictate

- But one thing for sure is that technology is growing and changing and allowing users to do more

- Apps are slowly integrating into many more devices besides mobiles and tablets. printers, tv's, refrigerators, etc.

WHAT ARE THE MOBILE SECURITY ISSUES ?

- Mobile devices are vulnerable to attacks just like regular computers:

- phishing: criminals try to trick users into giving them your passwords, etc.

- Spyware: program that tracks (and usually sells) users activity data

- There can even be fake versions of games/apps that you willingly download and install

DO USERS CARE?

- Research at this time shows that users dont feel that their mobile device is as much at risk as their desktop computers or laptops.
- This isnt true so users need to be careful !

- the biggest myth about mobile security is that users think there is nothing worth stealing from their mobile device.

Heres some of what they can get their hands on:

a. Messaging (SMS and Email)
b. Audio (calls and open microphone recording
c. Video and photos
d. Location
e. Contact list
f. Call history
g. Browsing history
h. Data files

Will it get worse? WhatsThe Solution?

- Yes, since the mobile industry is rapidly expanding and growing everyday, the security issue will get worse before it gets better.
- At this time, the best solution for mobile security would be a collaboration of users being careful and companies putting industry standards of security measures and practices in place.

- Interview question: When you send a yahoo message from a mobile device to another device, they don't get the message. how do you test?

- Basically, the question is: how do you test a messaging app?

- You test it positively

- If your testing something like a messaging app, its best to have two devices. each with a different account

- make sure they are both running the messaging app, signed in, both friends are online and active on each other's friends list.

- you also want to be sure both devices are connected to a network

- Do you know how to use an iPhone?

- this is just like the earlier questions.

- they just want to see if you already know how to use the devices you'll be testing

- Say yes !

- REMEMBER: before going to an interview, play with an iphone or android and get familiar with the flow of the device

- Do you know how to download an app from the computer to an iPhone?
- Anyone know the answer?

- your answer should be: Yes! :)
- the more detailed answer is: yes, you can sync the apps on your computer with your iphone through itunes

- Do you know how to do it with android?

- android is similar, you just connect your phone and it will appear as a drive on your computer, then you can drag and drop the files onto your phone

- However, if they want a very technical answer of how to manually install an app from a computer to your android

- its done through a command line terminal with the following command: adb install “filename”.apk

- “apk” (android application kit) is the extension for android applications. all android apps will have “.apk” at the end of the filename

- “ipa” (iphone application) is the extension for all iphone applications. all iphone apps will have .ipa at the end of the filename

- What do you know about SDK?
- Anyone have the answer?

- SDK stands for software development kit (sometimes referred to as “dev kit”)
- its a programming package that enables a programmer to develop applications

ANDROID VS. IOS

- which is better? - It depends who you ask and you can debate for hours but heres some differences and similarities:

- ios is only available on apple devices

- android can be used on many different hardware devices - samsung, htc, sony, lg, motorola, etc. (“open source”)

- both have app stores with 3rd party apps

- Can anyone give me some simple test cases for the following:

- You have a mobile device with three buttons 1,2,3 that make sounds when pushed. thats it. nothing els.

- anyone know some?

- tapping on each button should have a corresponding sound

- double tapping on a button

- tapping on two buttons at the same time

- all of the above now with the device rotated in landscape mode

- If the interviewer hands you a mobile device and asks you to give him the major test cases for the device.

- Can anyone give me some simple test cases for a mobile phone?

- You want to test the basic functionality of the device. start with the basics:

- making/receiving a phone call, network connections, airplane mode, changing the menu settings, volume/vibrate, powering on/off, taking a photo, sending a text message

- How would you approach testing a mobile app that is a game?
- Does anyone know an answer for this?

- Start by saying positive functionality test cases

- then you can get into details like testing the game while is on a mobile network(3g) and testing on wifi

- You can also give examples of corner cases or negative test cases like if you are playing a game and someone calls you - how will the game behave.

HOW WOULD YOU TEST THIS APP PAGE?

- How do you usually explore a new device/phone?

- Does anyone have an answer?

- The interview wants to see how you would approach the devices your testing.

- everyones answer might be a little different

- a safe answer might be something like: learning the basic flow of the phone through exploratory / ad hoc

- how do you see and kill the last process in and iphone?

- Does anyone know the answer?

To see the last process in an iphone, you double tap on the home button. then tap an hold on one of the icons. It will look like this, then to kill the process, tap on the red circle

- Have you used android? can you play around with the android phone ?

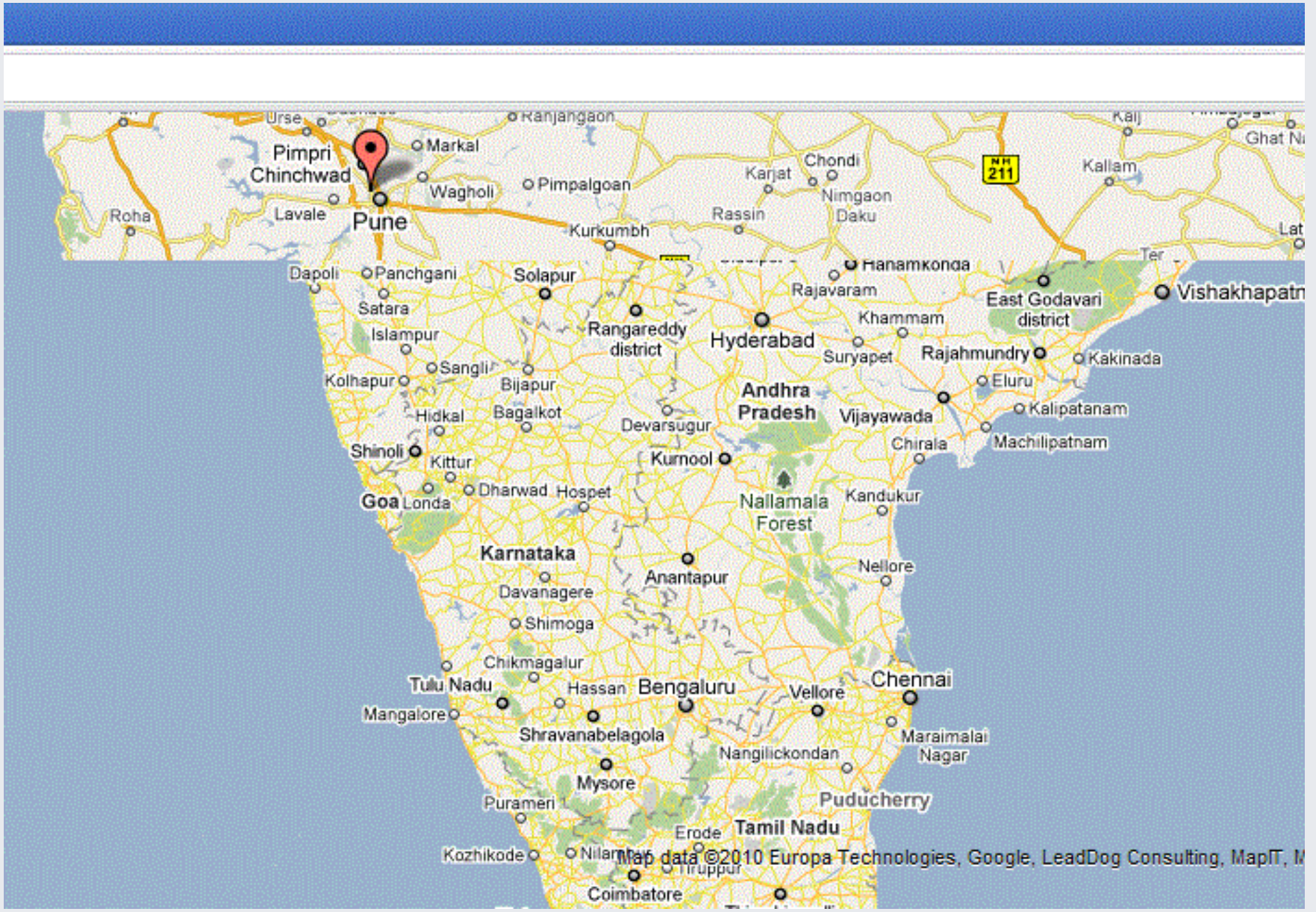
- this again, is a question where they want to gauge your level of knowledge and experience with an android or apple device

- How would you test the UI of an app?
- Does anyone know the answer?

- Testing the UI of an app means to test the user interface.

- this could mean anything the user see's: incorrect images, things in the wrong place, text not showing correctly, etc.

- You will test this based on what the app is supposed to look like during usage of the app. you can base this on design specifications, mocks, or your knowledge of the app.



Here is an example of a UI bug on google maps

- How would you troubleshoot networking issues on an iphone?
- Does anyone know the answer?

- To see if you have a mobile data connection (a 3g or 4g etc.) or wifi connection it will show at the top of the screen.

- A way to check if you have a mobile data connection is try to make a phone call- this will work with a mobile data connection but not wifi

- To see if you have a wifi connection, try to open safari and do do google search (this one will work on both types)


cingular
9:41 AM
SMS
Tuesday
9
Text
Calendar
Photos
Camera
Calculator
Stocks
280
Maps
73°
Weather

- What do you know about the android operating system?
- does anyone have an answer?

- To answer this question, you can talk about the history of android : the versions (flavors) or you can talk about how it compares with apple iOS

DO YOU USE SKYPE?

How do you use it? do you like it?

- This question is aimed to see what kind of user you are and what kind of apps you use in your personal life.

- its good if you have used it

- And its even better if you've used it enough that you can explain how you use it, and why you like it, or can identify areas of improvement

- How do you get a screenshot from a connected device in android os with SDK?

- Does anyone know the answer?

- One of the tools in SDK is called “ddms” (dalvik debug monitor server.)

- if you open this file while the device is connected, you can search/find the connected device and take a screenshot by clicking on the device you want.

- A simple yet correct answer would be just “with ddms”

- how can we get a log file in android os with SDK?

- Does anyone know the answer?

- There are a few different options you have when generating a log file but I will give you the one we use at google:

- If you have SDK and a connected device, you can run the following command which will generate a log file of the device and upload it to your computer(whichever directory your in):

- adb bugreport > ”filename.txt”

- How do you run virtual device emulator by using the command line?
- Does anyone know?

- To create each AVD, you issue the command-android create avd, with options that specify a name for the new AVD and the system image you want to run on the emulator when the AVD is invoked. You can specify other options on the command line also, such as the emulated SD card size, the emulator skin, or a custom location for the user data files.

- Here's the command-line usage for creating an AVD:

- Here is the command:
- android create avd -n <name> -t <targetID> [-<option> <value>] ...
- however the places i've worked have never used emulators

- When testing facetime on iPhone, what is your stress testing approach?

- Does anyone know the answer?

- Stress testing is basically testing the app beyond its limits (based on the specs)

- Here are some examples:

- Use facetime as well as other apps simultaneously, having facetime in the background while using another app, changing from landscape to portrait mode many times, try listening to your music in the background, leave facetime on and idle for hours etc.

- How do you do boundary testing to verify a battery's life - if a game app is supposed to last for 24 hours?

- does anyone know the answer?

- This is a simple answer: You want to test that the game doesn't kill the battery before 24 hours if the battery is full

- You could then talk about corner cases: having the game being actively played for 24 hours or just sitting idle for 24 hours, playing the game while another app is in the background or having the game run in the background while your using another app

- At google, we did these battery tests once in a while

- the way we did it was to turn on the device, charge it to full battery, kill all the other apps, open the app we were testing, and let it sit for 24 hours and we would check the battery level the next day.

- Do you know how to install and uninstall an application from XCode? (XCode is used for iPhone)

- Does anyone know the answer?

- Lets start with what is XCode?

- Xcode is an Integrated Development Environment (IDE) containing a suite of software development tools developed by Apple for developing software for iOS.

- At google, we are android so we dont use xcode at all because xcode is apple (iOS) only.

- Short answer is: you can do it through itunes

- the long answer is ...

- you first connect your device that you want to install the build on and open the project in XCode, itunes will also open

- select “Device” from Project > Set Active SDK in the Xcode menu bar

- Also select the device from Project > Set Active Executable.

- Click the “Build & Run” icon, and Xcode should take care of the rest.

- To delete an app from the iPhone, you would delete it just like any other app.
- (long press on the app, then tap the “X” to delete)

THE END !