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Assignment Mobile Application Testing Day 1

1. What are the popular Mobile operating systems?

Ans:

➔ Android OS (Google Inc.)
➔ iPhone OS / iOS (Apple)
➔ Windows Mobile (Windows Phone)
➔ BlackBerry OS (Research In Motion)

2. Five key challenges in mobile application testing?

Ans:

➔ **Touch Screen**: It is a major source of user interaction today and these touch screens enable the display and input of data. The signals which form an indication in the process of data input also cause a challenge in the testing process wherein the testing of touch screens needs to be more intricate and stable.
➔ **One-size doesn't fit all:** One of the biggest problems in mobile testing is selecting the right tool. Though there is an open source and third-party tools for mobile testing, they often have limitations and need to be customized to business needs. For instance, some of the popular open source tools have limitations like no image comparison, slow script execution for the iOS platform etc.
➔ **Real-time, anytime and offline:** Apart from the hardware and software issues, the performance of the carrier's network can have a huge impact on the functionality of the app. Be it 3G, 4G or 5G, APIs areas expect apps to work flawlessly. Some apps are expected to work the same in no-network condition, too. The connection APIs are designed after considering these factors, but the real world environment can have its own daunting set of issues.
➔ **Different OS versions:** iOS users are known to be upgrading quickly to the newest versions (iOS 8.0 uptake has been around 50% during the first two weeks). On the contrary, Android uptake has historically been very slow and the fragmentation is wide. This means that app developers need to support older OS versions and older API's, and testers need to test for those.
➔ **Power consumption and battery life.** The innovation in the battery storage capacity field hasn't been as quick as in the app consumption. We are running lots of apps during the day and several processes are running on the background without us even noticing. This all requires CPU cycles which on its turn require power and thus the batteries tend to dry.

3. Two categories of Mobile Testing and the difference between them?

Ans: Types of Mobile Testing are Mobile Device Testing and Mobile App Testing.

Mobile Device Testing: Mobile device testing is a process where the newly launched mobile device is tested to check the functionality of the component whether it is working in a right way, that is all the new features they provide in the component is working according to the requirements or not.

Mobile App Testing: Mobile app testing is nothing but the testing of a developed app usually done by mobile app development companies to see whether it is working with all features they are newly launching and also checking whether the developed app is running correctly in different devices like mobiles, tablets etc., and also the different platforms like Android, iOS, Blackberry and Windows.

Difference between the Mobile App Testing and Mobile Device Testing:

- ➔ Mobile device testing includes hardware testing like Battery testing, Bluetooth, Camera features so on and also software testing like OS functionality but mobile app testing includes only software testing like functionality, usability, and performance of the app.
- ➔ Mobile device testing includes testing different parts of the mobile and also the overall component but mobile testing includes testing whether the app is compatible with the different platforms like Android, IOS, Blackberry, and Windows. It also includes testing of different devices like Mobiles and Tablets.

4. What are the extensions for the Android and iOS executable files?

Ans:

- ➔ For Android: .apk
- ➔ iOS: .ipa

5. What are the Pros and Cons of Hybrid, Native and Web app?

Ans:

Web apps are not real applications; they are actually websites that open in your smartphone with the help of a web browser.

Pros :

- ➔ Easy access.
- ➔ Easy Development
- ➔ Easy update
- ➔ No installation required

Cons:

- ➔ Mobile websites cannot use some of the devices features.
- ➔ Many existing websites don’t support offline capabilities.
- ➔ Users won’t have the app’s icon on their home screen and the website needs to be opened in a web browser only.

Native apps are built for use on a particular device and its OS, it has the ability to use the device-specific hardware and software.

Pros :

➔ Native Apps live on the device and are accessed through icons on the device home screen.
➔ They can take full advantage of all the device features they can use the camera, the GPS, the accelerometer, the compass, the list of contacts, and can incorporate gestures.
➔ Native apps can use the device's notification system and can work offline.

Cons:

➔ High cost for building the app
➔ Even though you might publish native Apps, you'll want to keep the mobile website well maintained, as mobile brings more traffic. So maintenance is higher.

Hybrid Apps are a way to expose content from existing websites in App format. They can be well described as a mixture of Web App and Native App.

Pros :

➔ Developing a Hybrid App is cheaper than developing a Native App. It can be built for cross-platforms, i.e., reduced cost for App development.
➔ Maintenance is simple, as there are not many versions to be maintained.
➔ It can take advantage of a few features available in the device.
➔ It can be found in the App Store, which makes the distribution easy.

Cons:

➔ Graphics are less accustomed to the operating system as compared to Native Apps.
➔ Hybrid Apps are slower than Native Apps.

6. List down the types of testing we perform for mobile apps?

Ans:

➔ Functional Testing
➔ Compatibility Testing
➔ Localization Testing
➔ Performance Testing
➔ Security Testing
➔ Power Consumption Testing
➔ Interrupt Testing
➔ Usability Testing
➔ Installation Testing
➔ Uninstallation Testing
➔ Mobile UI Testing

- Screen Orientation
- Resolution
- Gestures (Multi-touch, single touch, Long touch, short touch, swipe etc.)

7. What is the best way to test different screen sizes of the devices?

Ans: The best way to test different screen sizes of the devices is to use an emulator or virtual environment instead of using multiple devices because generally different versions have similar pixel density.

8. What is meant by Responsive testing in Mobile sites?

Ans: Responsive Testings is fundamentally related to websites. Mobile responsive web design is an approach followed in the website development to give the users a decent viewing experience on whatever device they are viewing be it a tablet or mobile phone but the web design should adapt itself with the screen size and pixel density and hence display the content accordingly so that all the content is visible and in readable and user-friendly form.

9. Use Newerworlds app for the testing and log at least 5 bugs.

Ans:

- ➔ Every time when we launch the app, it gives a notification to connect to the wifi to mark attendance, this cannot be customized.
- ➔ This app doesn't provide functionality related to actions regarding absent marking etc.
- ➔ We can view the attendance of last 30 days only.
- ➔ Leave Summary functionality is not working.
- ➔ On connecting with any wifi namely TTN, it gives notification.

10. What do you understand by usability? Why it is more important to be taken care? Give 3 points of usability from real-time apps you have in your phones.

Ans:

Usability is part of "user experience" and refers to the ease of access and/or use of a product or website. It should be taken care so that it should be easy for the user to become familiar with and competent in using the user interface during the first contact with the website.

Three points of usability from real-time apps you have in your phones.

- ➔ Fields should not be hidden behind the keypad.
- ➔ Proper and easy navigation should be there.
- ➔ It should be platform independent whether Android and iOS.

11. Should the user use their own devices or provided devices to perform usability testing? Give the reasons for "Yes/"No" or both "Yes and No" together.

Ans:

It is advisable to have them test using their own devices. This eliminates issues associated with an unfamiliar, device or operating system. Encourage the user to use the device as normally as possible and adapt the camera as possible or needed.

12. What do you mean by Soft Keys and Hard Keys in mobile?
Ans:
Soft keys provide a way to customize the phone's user interface depending on the context as well as your personal preferences
Soft Keys are different from Hard Keys because they are dynamic and can be changed.
Hard Keys always have the same function and cannot be changed. An example of a hard key is the Hold Button, or the Volume up or Down Button.

13. Difference between Mobile application testing and web application testing?
Ans: The main difference is :

- ➔ A Mobile App is essentially for one particular mobile device platform and it can be installed directly onto the particular devices itself. A Web App is basically an Internet-enabled app that can be accessed via a mobile device's Web browser as well as a desktop Web browser.
- ➔ Testing related to gestures and other usability becomes more important in case of the mobile app as compared to the web app.
- ➔ Mobile app testing could be offline as well as online whereas web application testing is only online