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1. What are the popular Mobile operating systems?

   Ans- 1. ANDROID OS - GOOGLE INC.

   2. IOS - APPLE INC.

   3. SERIES 40 [S40] OS – NOKIA INC.

   4. BLACKBERRY OS – BLACKBERRY LTD.

   5. WINDOWS OS - MICROSOFT CORPORATION

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 or the signs 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 arsenal of 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 carrier's network can have a huge impact on the functionality of the app. Be it 3G, 4G or 5G,Wi-Fi users 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 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 background without us even noticing. This all requires cpu cycles which on it's turn require power and thus the batteries tend to dry.

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

Ans- **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.

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. It 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-   iOS- .IPA file

Android- .APK file

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.

Benefits :

Easy access.

Easy Development: Developing responsive design and restructuring the   content to be properly displayed on a smaller screen/hardware will   make any desktop website mobile friendly.

Easy update: Just update in one location and all the users automatically   have access to the latest version of the site.

No installation required, as compared to native or hybrid app.

Downside :

Mobile websites cannot use some of the devices features. For example,   access to the file system and local resources isn't available in   websites.

Many   existing websites don't support offline capabilities.

Users   won't have the app's icon on their home screen as a constant   reminder. The website needs to be opened in a web browser only.

While   native and hybrid apps appear on the App Store and Google Play, web   apps won't. So redistribution is not that sensible.

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

Benefits :

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 so on. They can also incorporate gestures (either   standard operating-system gestures, and app-defined gestures).

Native apps can use the device's notification system and can work   offline.

Downside :

High cost for building the app : Native apps developed for one platform will not run on another platform. An App built for Android will not   run on iOS. We need to build a different App altogether for iOS. Because of this reason, we need to maintain multiple versions of 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.

Benefits :

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.

Downside :

Graphics are less accustomed with 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

   • Certification Testing

   • Mobile UI Testing

   - Screen Orientation

   - Resolution

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

   - Soft and Hard Keys

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

Ans- The best way is to weigh up how much virtual testing will achieve the desired amount of consistency you want between all possible device screens, testing on as many devices as possible would simply be a waste of your time because many devices have similar screen densities, resolutions and features that don't really affect how your view is presented unless you have placed your objects at static points. For example using pixel (px) measurements instead of density independent pixel (dp) measurements when setting your views.

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

Ans- 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. Google gives priority to the mobile-friendly sites in their search results and hence it becomes important to design your website by keeping this in mind.

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

Ans- Everytime when we launch the app, it gives notification regarding connect to the wifi to mark attendance, this can not 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 the broader term "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- Yes. It is advisable to have them test using their own devices. This eliminates issues associated with an unfamiliar, device or operating system. Encourage 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 accessible via mobile device's Web browser as well as desktop Web browser.

Testing related to gestures and other usability becomes more important in case of mobile app as compared to web app.

Mobile app testing could be offline as well as online.