Introduction to Morden Application Development

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Module - 16
Lecture - 28
Introduction to Mobile Application Development Part 2

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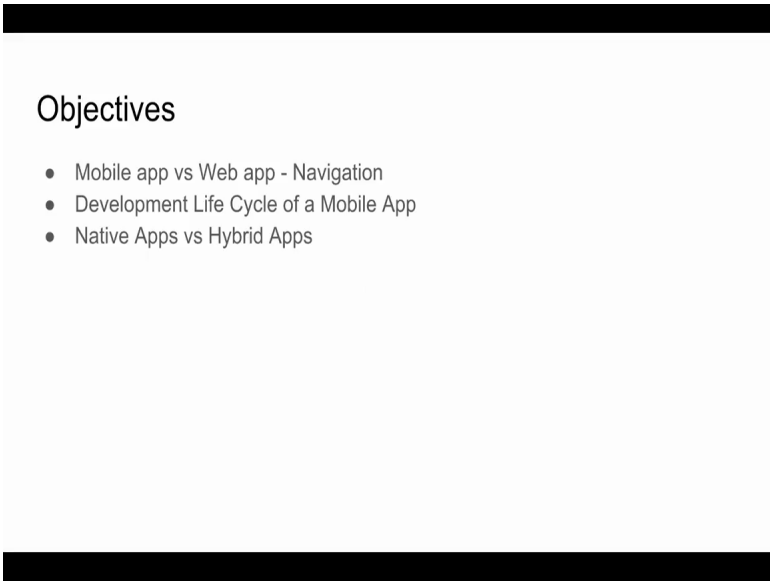

In this module, we are going to talk about the basic navigation pattern that a mobile app follows and compare that to a web app we have, then we are going to discuss in brief the development life cycle of a mobile app, finally we are going to talk about native and hybrid apps what they are, how they differ from each other and their advantages the disadvantages etcetera.

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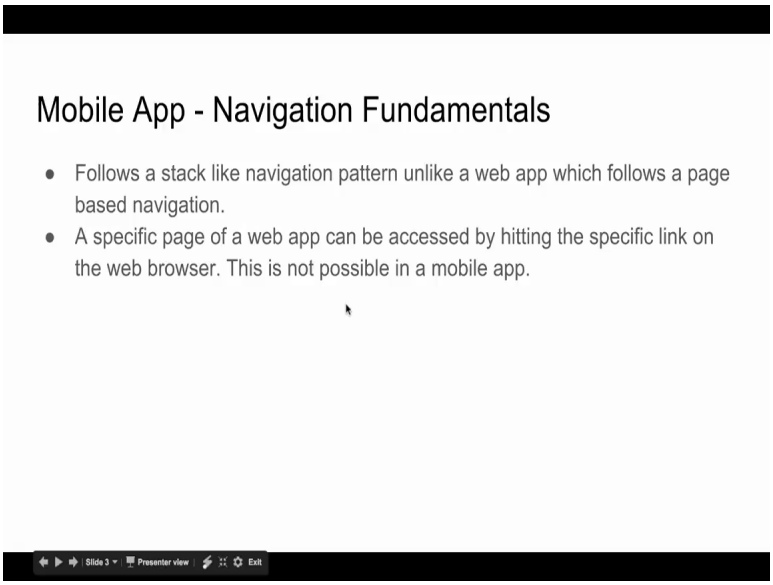

Mobile app follows stack based navigation each page in navigate to a start on top of the previous page and to get to a specific page you always have to follow a certain setup of allowed rules and I am navigating back each pages are simply popped of the stack. For example, if you wanted to get a specific page on the Flipkart app on your phone say the detailed page for an i-phone 7 you would have to either search for an i-phone 7 from the search bar or browsers the categories and find the i-phone 7.

At this point if you close the app and reopen it you will have to follow the steps from earlier to get to the i-phone 7 page this does not happen on a web app you can simply bookmark on note down the address of the page and easily come back to later you can try this out on any e commerce website and mobile app of your liking. It helps to understand and know about this type of navigation while developing mobile apps and we have be seeing this in action later in the coming modules.

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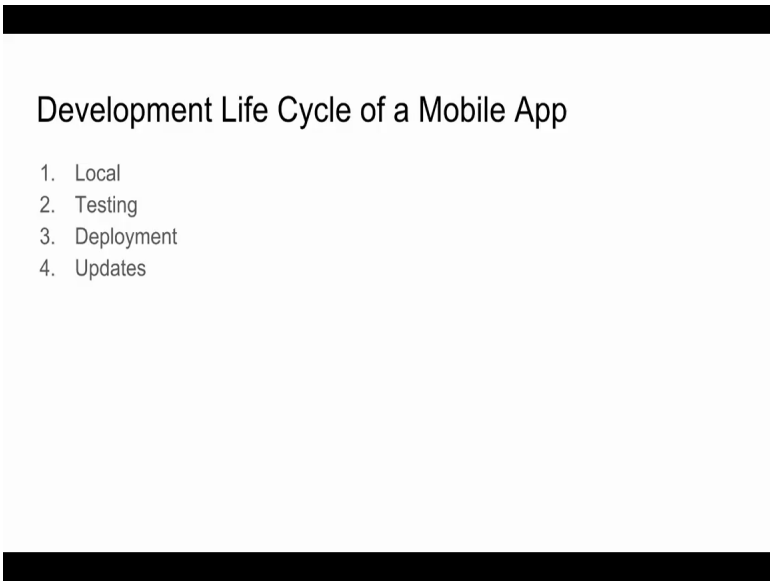

Next let us talk about the development life cycle of a mobile app. Basically there are 4 major steps the first one is local development.

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Local development involves setting up the project and getting started with development this comes after the ideation and designing phase of the app once you have the UI and the features ready you start by deciding your development environment each user IDE and IDE stands for integrated development environment and IDE is basically a very

powerful text editor with very useful features like a debugger, code completion, source control, simulators, emulators, etcetera.

We would be talking about simulators and emulators in more detail in the latest slides of course, there are a various instances where you can easily make do with simple text editors, but for mobile application development using an IDE is certainly recommended. The recommended IDE for android is android studio and that for IOS is XCode android studio supports java and a language called code length. Code length is basically an open source a statically type programming language that runs on the JVM is developed by a team of jet brings programmers and as per IOS we have objective C or Swift; Swift is a new language develop by Apple and was open source recently, in this series we will be using android studio and Java to build your android applications as for IOS we will be using XCode and coding the app in Swift.

Now, let us move on testing one thing is self explanatory in case of mobile testing to perform mobile testing you need a mobile device.

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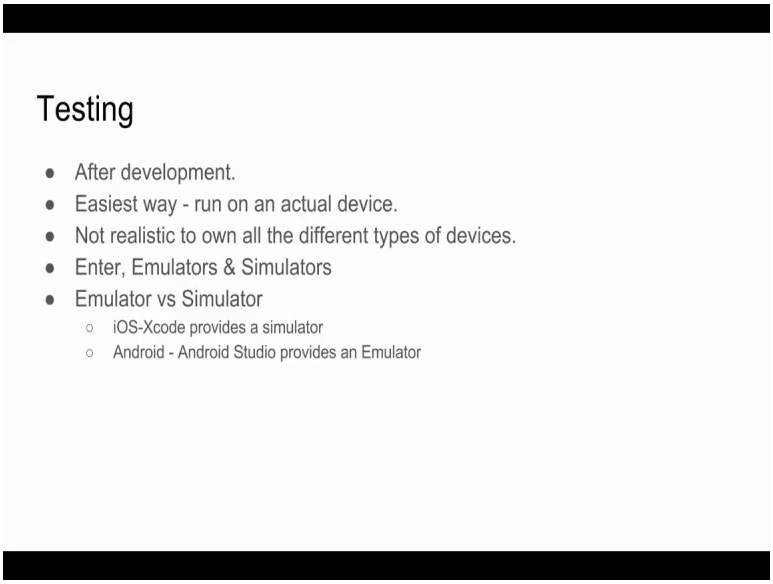

This is to see how a product will work and look like on a given device. Once a product is entirely developed as a part of mobile testing we need to check if the product is working as expected with all the majorly use devices. To do this kind of check we need to acquire each device and then check if the application behaves as per expectation it is definitely very expansion to procure such a large number of mobile devices and carry out testing

the solution to this problem is to use mobile simulators and emulators these are primarily software programs design to provide simulation for important features of the Smartphone they are very similar in nature. So, sometimes they used interchangeably and emulator mimics the mobile device software, hardware and the operating system whereas the simulator only mimics the internal behavior of the device and not the hardware.

Emulators in simulators have a few disadvantages they cannot mimic the mobile device battery they cannot mimic the mobile devices camera it is also very difficult to mimic interruptions like incoming calls or SMS is also it does not provide a very realistic simulation on device memory usage. But on the whole emulators and simulators are very helpful while developing a mobile application as I mentioned earlier IDE is come with emulators and simulators android studio provides an emulator while XCode provides a simulator.

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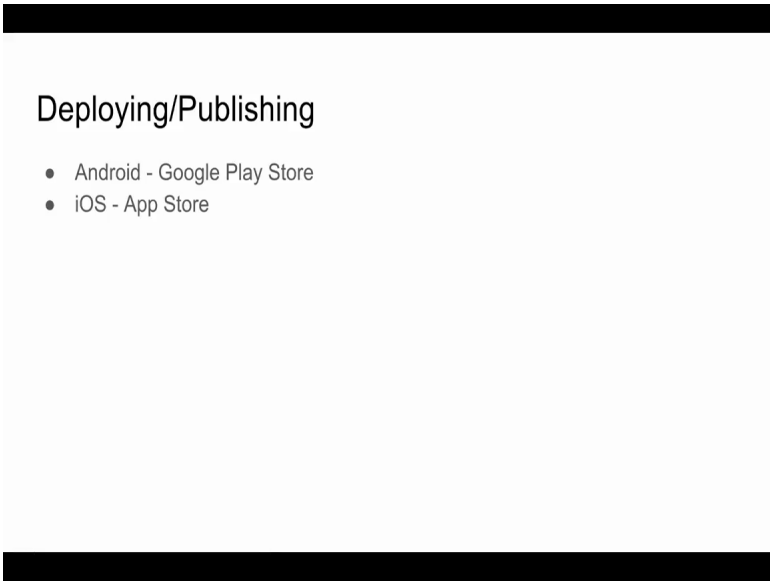

Deploying in publishing your app to the Google Play or the apple store is the pretty straightforward and simple process we just need to get an account in the respective store write a short description for the app upload a few screenshots and then find the upload the APK or the IPA file, we will talk about this in more detail in the coming modules.

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Finally updates there are multiple reasons as to why we would want to update your app the most common one is to add new features like a new level to a game or something based on the feedback received on the app. They can also be scenarios where certain bug has come up which was missed or not encountered during testing in this case and update with the fix needs to be released as soon as possible, how we release updates are also quite similar to deploying the app on the store my is the bit where you need to create an account. Deploying updates we are also be accounted for in the in more detail in the coming modules. Let us now move on to native and hybrid apps native app is basically an app develop specifically for a mobile operating system.

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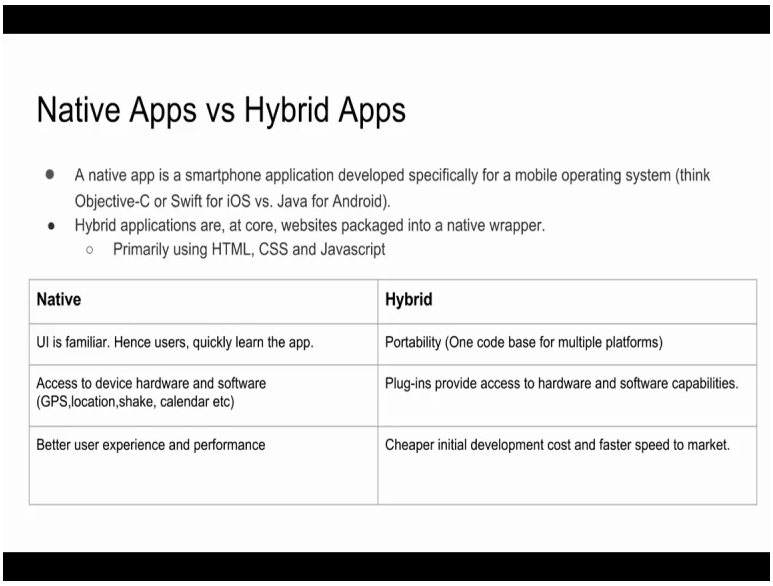

In this series we will be building native apps a hybrid app on the other hand is coded using HTML CSS and Javascript they have then talks to run on mobile devices with the help of a native rapper. Softwares like phone gap do this, native and hybrid apps have their respective advantages and disadvantages, while developing a native app the android or the IOS SDK is provide native elements to be used easily in the app these include status bars, buttons, etcetera, also these apps will then look very familiar and we will provide the user with a very intuitive user experience.

Since they look and feel very similar to the in-built apps on the user's phone like the messaging app, the camera or the phone app. Hybrid apps on the other hand do not provide the same look and feel as native apps and hence the user we will have a certain long curve to use your app the major advantage there are hybrid app provides over a native one is a speed in cost of development. You are essentially maintaining one code base from multiple apps and it totally develop and release your apps unlike native once where you have to maintain different code basis for different apps and each change needs to be deflected individually on each code base. Native apps also have the advantage of providing easy access and full support for the device hardware and software this includes things like GPS, accelerometer meter etcetera. This is maintained in supported officially whereas, in hybrid apps this is not provided to you and you have to relay and external plug ins or write your own plug ins to access these features.

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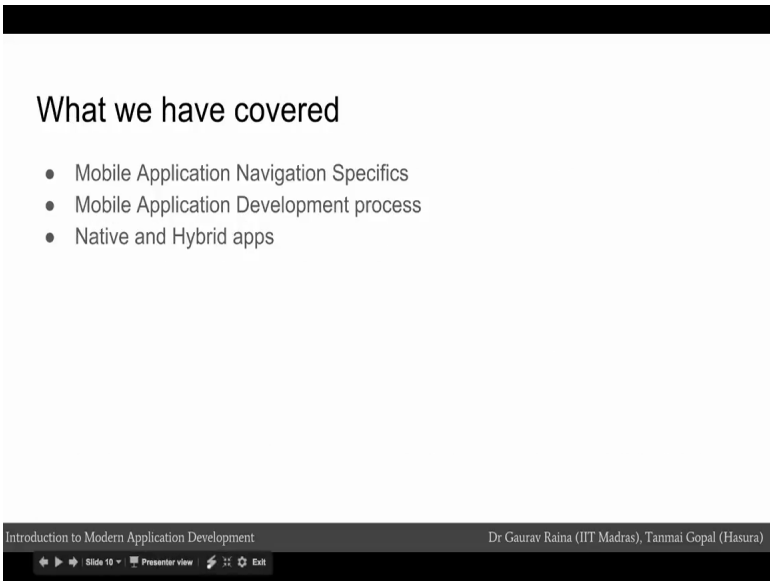

Native apps also have better performance and just provide a better user experience.

With this we come to the end of this module. You should have now a better understanding of the mobile application eco system, understand on native and hybrid apps are a no of the difference.

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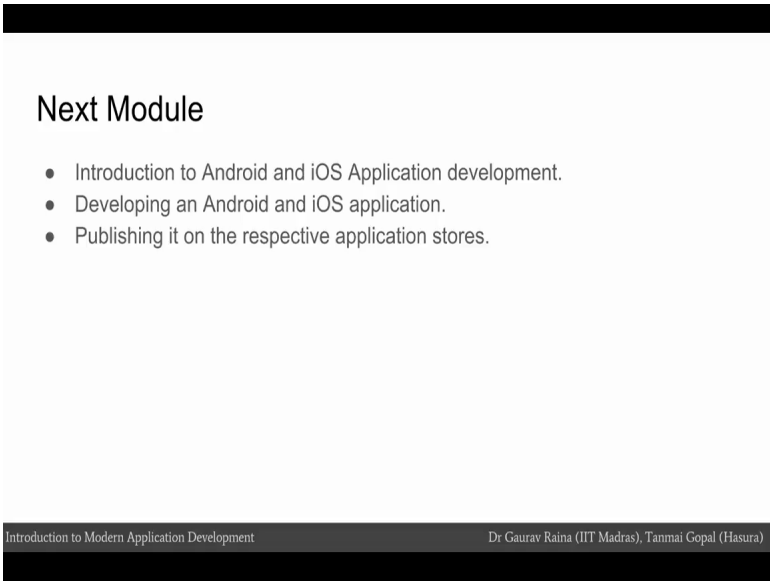

In the coming modules we will be getting into deeper details about the android and IOS eco system and finally, develop and deploy an IOS and android app to the app and Google play store respectively.