Introduction to Morden Application Development

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Module - 15
Lecture - 27
Introduction to mobile apps

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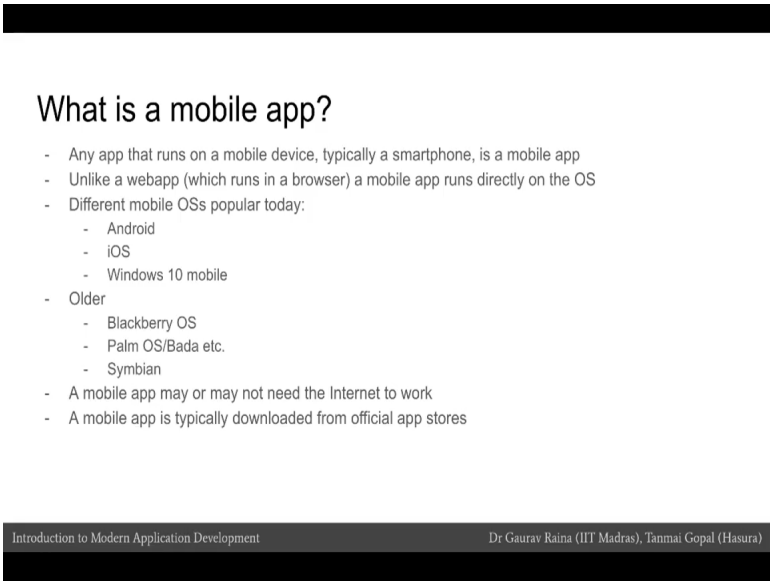

In this module in the short module we are going to take a quick introduction to mobile apps. So, a mobile app is actually any app that runs on a mobile device it typically runs on a Smartphone unlike a web app which runs in a browser a mobile app runs directly on the operating system mobile app may not actually need to connect to the internet to work. For example, games or also mobile apps and they might not need to connect to the internet to love the user play the game, unlike a web app which is used by going to a particular website or a domain name, a mobile app is typically downloaded from official app stores. So, popular mobile operating systems today are android, iOS in windows ten some older mobile operating systems that used to exist or Blackberry OS, Palm OS, Bada and Symbian for Nokia.

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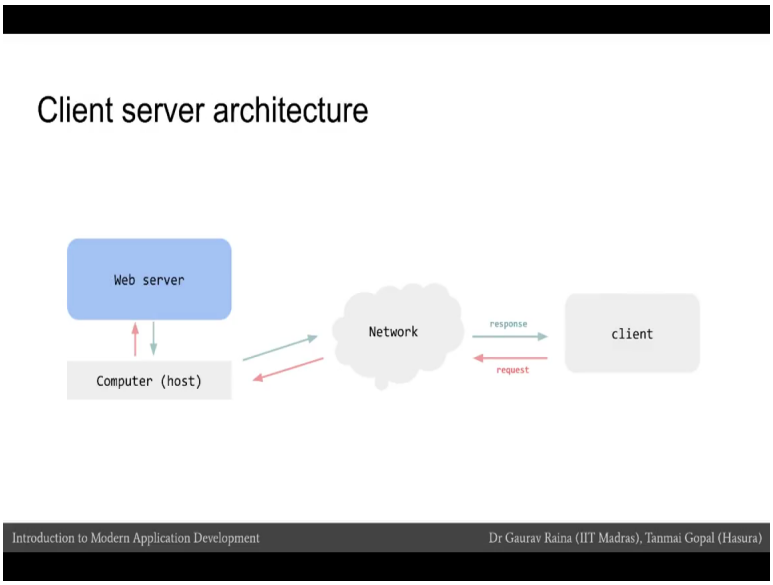

If we remember the client server architecture we have the client on the right that makes you requests. So, the network to the server and the server response back through the network so that was the client server architecture that we have understood in a fair amount of detail so far.

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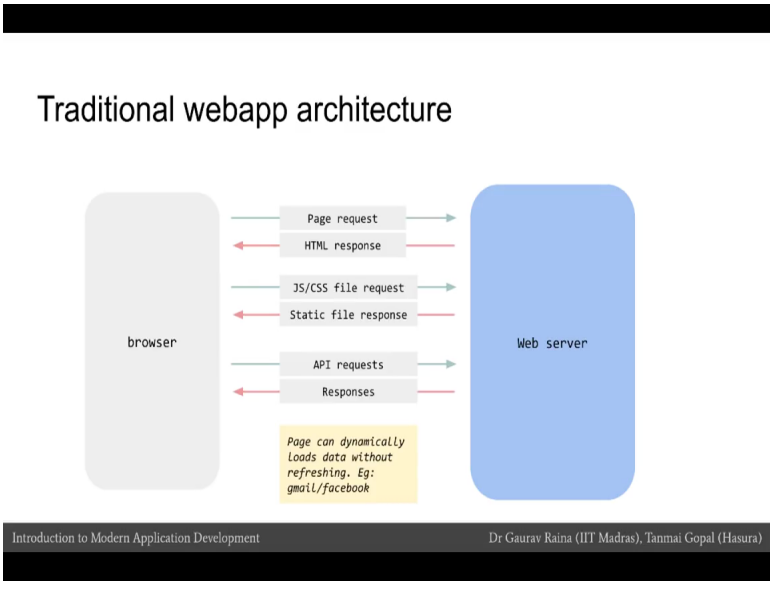

A traditional web app works as follows. So, on the left there is a web app that is making a request to the web server on the right. The first thing the browser is used for is making a page request. So, we say for example, we say let us go to Google dot com. So, it

requests a particular page the web server response only with HTML data the HTML contains links to JavaScript and CSS file. So, the browser passes that HTML figures out that it needs to make request to JavaScript and CSS files makes those request the web server.

The web server response with those particular static files and the browser injects those files into the context of the HTML page that it is created so far or the web app source code might make further API request. So, the web server and the web server would respond with responses typically in JSON or XNL and this is the way that a page can dynamically load data and it does not even need to refresh as the user browsers the particular page or uses the app. So, for example, if we use modern applications like Gmail and Facebook you will notice that the pages almost never go through a full refresh and all of the content keeps changing while the user is on that same page itself.

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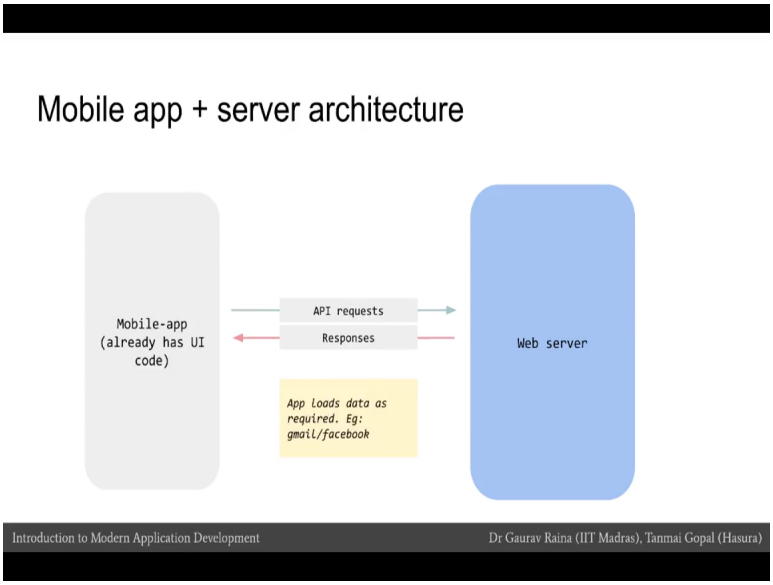

Mobile app works a little differently in the case of a mobile app mobile app is downloaded on the mobile phone mobile app already has the UI code. So, it is not need to make a request the web server to fetch the UI code; however, a mobile app may necked API request the web server and the web server we will respond with data that the mobile app can use to change its content dynamically. So, Gmail and Facebook apps have the UI in built in to the app, but they contact the web server to fetch emails or new emails or fetch new items from the news feed which requires an internet connection.

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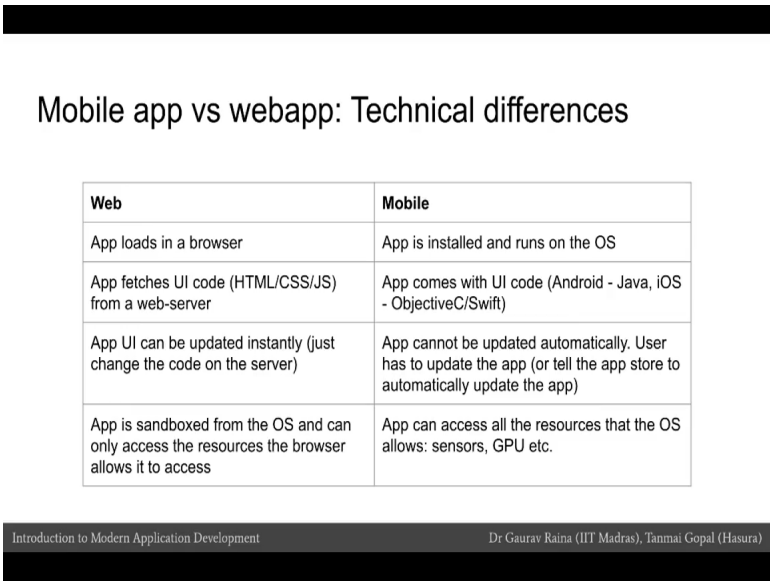

So, the technical differences between the mobile app and the web app can be listed as follows web app runs in a browser whereas, a mobile app runs directly on the operating system the app fetches UI code from a web server and the UI code is written in HTML CSS and JavaScript. On a mobile app the app contains the UI code so for android the code is written in the java language and for iOS code is written in objective c or the swift language web app UI can be updated instantly. So, for example, if you want to update what a page looks like all we need to go and do is change the end point that is handling that particular page and that way the UI will get updated instantly.

However mobile apps cannot be updated automatically by the developers the user has to update the app or has to tell the app store to automatically update the app and only then we will the new UI sort of be available to the user. In web apps the app is sandboxed from the operating system so that means, that the web app can only access those resources that the browser allows the web app to access; however, in a mobile app the access the mobile app can access all resources with the operating system allow. So, for example, sensors GPU is external devices all of these are possible for mobile app to access.

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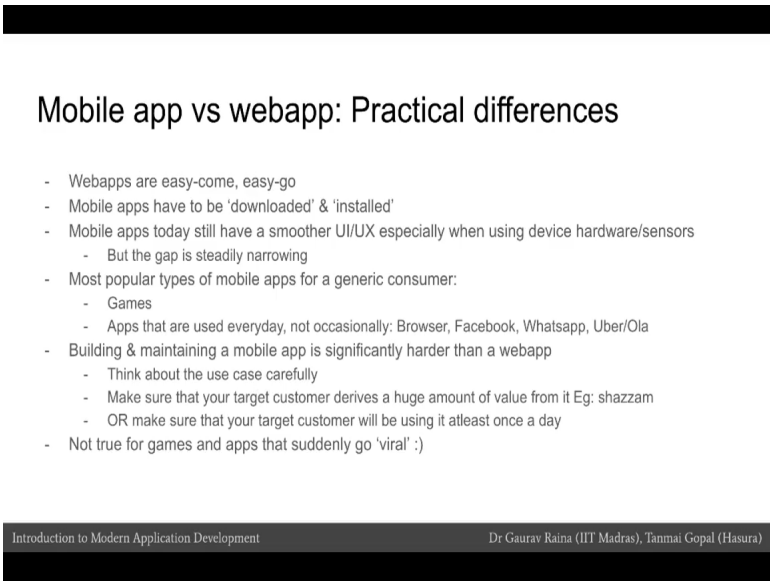

Practically this boils down to quite a few differences between the mobile app and the web app most web apps are easy come easy go meaning its very for users to visit a web app use it and then they will forget about the web app is well.

However mobile apps have to be downloaded and installed; that means, it is much harder to get users to use mobile app because there is a lot of friction or inconvenience in going and downloading an app this has business implications, this has business implications. Mobile apps today have a smoother UI and UX especially because they are able to use device hardware especially when the app uses device hardware or sensors, but the gap between the experience of mobile app and web app is steadily narrowing as browsers on the mobile become much better.

The most popular types of mobile apps for a generic consumer or games or apps that are used everyday not apps that are used occasionally for example, the web browser is a mobile app Facebook, Whatsapp, apps like Uber and Ola; these are used very frequently and these kinds of apps a very popular candidates for mobile apps. Building and maintaining a mobile app is significantly harder than a web app, so if we are developers in a team that is building a mobile app we should think about the use case very very carefully we should make sure that the target consumer that is using the mobile app did I have a huge value. So, even if the mobile app is not being used every day the value that is provide from the mobile apps should be men. So, for examples Shazzam is a mobile

app that allows you to take your phone and listen to a song that is playing on a speaker and the app tells you the song that is playing.

In case the amount of value that is provide by the mobile app is not huge we should teach make sure that are target customer will be using the mobile app at least once a day. So, that the user does not feel like deleting the mobile app from his or her phone. Now these points that I have talked about so far are more business and product development related points and these points might change in the future as mobile phones become better and as browser become better.

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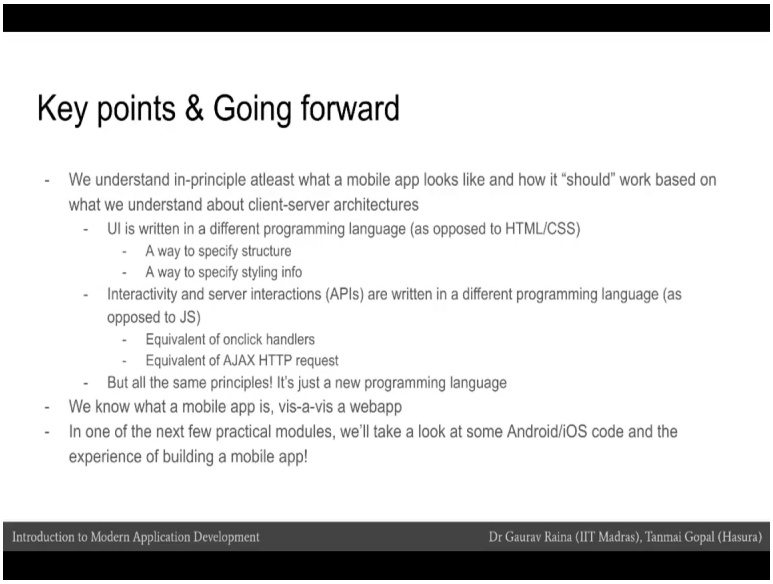

Key points to take away from these quick such a points are to understand that in principle we have a clear understanding of what a mobile app looks like we also know what it should what a mobile app should look like. So, for example, we know that if the mobile app has a UI component it must have some equivalent of HTML CSS that allow us to write the UI. We know that a mobile app if it has features that provide the interactive it to the user or talk to the server to fletch data they must at the equivalent of unclick handle us that we used in JavaScript or must have an equivalent of AJAX and HTTP request.

So, the same principles applied to a mobile app as a web app; however, the programming language and their environment is a little different. In some of the next few practical

modules we will be taking a look at some android and iOS code and what the experience of building a mobile app is like.