7 Developing Apps

LEARNING OUTCOMES

After the lesson, students will be able to:

- Understand apps and their types.
- Install apps on Android.
- Create apps using MIT APP INVENTOR.
- Select components and set properties for your app.
- View your app on a mobile/tablet.
- Package your app.

WARM UP

Write down the various arithmetic operations we use in mathematics and their formulas.

Ans. Do it yourself.

CHAPTER NOTES

- App is an abbreviated form of the word 'application'.
- An application is a software program designed to perform a specific function directly for the user or, in some cases, for another application program.
- There are three types of apps: Native apps, Hybrid apps and Web apps.
- Native Apps: These apps are developed for a single mobile operating system and therefore they are 'native' for a particular platform or device.

Apps built for systems like IOS, Android, Windows phone, Symbian, Blackberry, etc., cannot be used on a platform other than their own, i.e., you won't be able to use Android app on iPhone.

» Advantages of Native Apps: Natives are very fast; easily distributed in Google, Apple app stores; more interactive and intuitive; easy interaction with any feature of the phone.

» Disadvantages of Native Apps: Built for a single platform; languages like Swift and Java used to build these types of apps are hard to learn; expensive to develop; hard to maintain.

» Hybrid Apps: They are built using multi-platform web technologies (for example HTML5, CSS and Javascript). Hybrid apps are mainly website applications disguised in a native wrapper. Apps possess usual pros and cons of both native and web mobile applications.

» Advantages of Hybrid Apps: Easy to build; much cheaper than a native app; single app for all platforms; no browser needed; can usually access device utilities using an API; faster to develop than native apps.

» Disadvantages of Hybrid Apps: Slower than native apps; more expensive than web apps; less interactive than native apps

» Web Apps: These are software applications that behave like native applications. Web apps use a browser to run and are usually written in HTML5, JavaScript or CSS. These apps redirect a user to the URL and offer the 'install' option by simply creating a bookmark to their page.

» Advantages of Web Apps: Reduced business cost; no installation needed; better reach as it can be accessed from anywhere; always up-to-date

» Disadvantages of Web Apps: Dependent on Internet speed; take longer to develop; greater security risk.

» Gaming Apps: By far the most popular category among types of apps, as more than 24% of all mobile applications, available in the App Store, fall into this section.

» Mobile gaming has always been thriving, prompting app developers to invest more time and resources into creating new games and mobile versions of well-known stationary games.

» Business Apps: Also referred to as productivity apps, they hold the second place with a considerable 10% share.

» Modern-day smartphones are capable of performing many complex tasks on the run -- billing, buying, booking, sending e-mails, tracking working progress and much more.

» Educational Apps: An app can be educational to some extent and still not fit in this category.

» Entertainment Apps: Here, we are talking about streaming, chatting, searching events, watching videos online, posting photos on Instagram and so on.

» Entertainment apps are often closely related to gaming due to same goal – to agitate your mind.

» Utility Apps: Utility software is used on a daily basis by literally every one of us, we don't even realise it. Though unlike others types of apps, utility apps display the shortest user session times. People use these to just get things done and move on. For example, taxi apps. However, most popular types of applications here are scanners, trackers, healthcare, first aid manuals, etc.

» MIT App Inventor is a visual programming environment that allows everyone to build completely functional apps for smartphones and tablets.

» Blocks-based tool facilitates the creation of complex, high-impact apps in significantly less time than traditional programming environments.

» The MIT App Inventor project seeks to empower all people, especially the younger generation, to move from technology consumption to technology creation. Blocks-based coding programs also inspire intellectual and creative empowerment.

DEMONSTRATION

» Installing apps on Android

» Creating apps using MIT APP INVENTOR

» Selecting components and setting properties for your app

» Viewing your app on mobile/tablet
» Packaging your app

LAB ACTIVITIES

Create a mobile app for your school (according to its website).

ASSESSMENT

Label the parts of the MIT App Inventor interface.

SUGGESTED CLASS ACTIVITIES

Draw a logo for your mobile App.