

Course Name : Android Development

Course Type : DSE

Course Credits : 3+1 credits

Objectives:

- The objective of this course is to make students able to create robust mobile applications and be able to integrate them with other services. Students should be able to create intuitive, reliable mobile apps using the android services and components and create a seamless user interface that works with different mobile screens

Learning Outcomes:

After the successful completion of this module, students will be able to:

1. Understand Android OS, gradle, Android Studio.
2. Debug Android Application
3. Develop UI based Mobile Application using Android Studio.
4. Design application for Mobile using various sensors.
5. Design and develop an application using Database.
6. Adapt to learn new mobile technologies.

Unit I : Introduction to Android

A little Background about mobile technologies, Overview of Android - An Open Platform for Mobile development, Open Handset Alliance.

What does Android run on – Android Internals?, Why to use Android for mobile development?

Unit II : Android Activities

How to setup Android Development Environment. Android development Framework - Android-SDK, Eclipse.

Emulators – What is an Emulator / Android AVD ?, Creating & setting up custom Android emulator, Android Project Framework, My First Android Application: Understanding Intent, Activity, Activity Lifecycle and Manifest, Creating Application and new Activities, Expressions and Flow control, Android Manifest.

Unit III : UI Design

Simple UI -Layouts and Layout properties, Fundamental Android UI Design, Introducing Layouts, Creating new Layouts, Drawable Resources, Resolution and density independence (px,dip,dp,sip,sp).

XML Introduction to GUI objects viz., Push Button, Text / Labels, EditText, ToggleButton, WeightSum, Padding, Layout Weight

Unit IV : Advanced UI Programming

Event driven Programming in Android (Text Edit, Button clicked etc.), Creating a splash screen, Event driven Programming in Android, Android Activity Lifecycle.

Creating threads for gaming requirement, Understanding the Exception handler

References:

1. Programming Android by Zigurd Mednieks, Larid Dornin, G. Blake Meike, Masumi Nakumara.
2. Android: A programming Guide, J. F. DiMarzio.
3. Hello, Android: Introducing Googles Mobile Development Platform, Ed Burnett.

Lab on Android Development

- • Push Button,
- • Text / Labels,
- • EditText,
- • ToggleButton,
- • WeightSum,
- • Padding, Layout Weight,
- • Event driven Programming in Android (Text Edit, Button clicked etc.),
- • Creating a splash screen,
- • Event driven Programming in Android, Creating threads for gaming requirement,
- • Custom Vs. System Menus ,
- • Creating and Using Handset menu Button,
- • Android Themes,
- • Dialog, create an Alter Dialog,
- • Toast in Android,
- List & Adapters,Manifest.xml File Update