



Android Programming

• Introduction

- Android Stack Introduction.
- Installing Android and creating first app on emulator
- Android Architecture and building blocks
- Android App builds process.
- Java overview– Data types, Loops, Conditionals and Operators
- Android UI– resources, themes, threads etc
- Debugging in android
- Assignments on Java Classes, Objects, Methods, Instances etc
- Activities, Receivers, Adapters and Providers
- Telephony System Architecture of Android

• Systems Programming and JNI Concepts

- Introduction to System programming in Android
- Java interface
- Native library implementation
- Building the sample native library
- Using native functions in Java code
- Security and Permissions.

• Android Graphics and Multimedia

- Basic Graphics - Input Handling, Audio / Video playback
- Assignments on playing audio and playing video
- Accessing Files system, SD Cards
- SQLite overview, Data Binding, Content Provider
- Assignments and exposure to Lab infrastructure
- UI design aspects of Apps
- Gestures/touch/click handling
- Instantiate UI elements at runtime
- Views and Interacting with views

• 3D graphics in OpenGL and Android Widget

- OpenGL Introduction
- Using Threads and Models
- Texture in OpenGL
- Making a application in OpenGL
- Other standard views in Android
- Android Widget Development



- **Android Networking**
 - Accessing the Internet
 - Using Web services
 - Using Java and Java Script
 - Location Sensing
 - Client Server Programming
 - Working with XML/JSON
 - SMS

- **Complete App Development**
 - Developing live App and modules
 - Exposure to development on Phones/Tablets/Set top box.
 - Developing custom launchers and skins.
 - Full software lifecycle exposure from requirement to market launch.
 - Applications utilizing location and maps