

**CETPA INFOTECH PVT. LTD.**  
**CURRICULUM OF ANDROID**

**DURATION: 6 MONTHS**

**INTRODUCTION TO ANDROID**

- Overview of Android and Android SDK
- Overview of OOPS
- The Role of Java in Android
- History of Android
- Versions of Android
- Android Features
- Applications and APK files
- Inter- Process Communication

**ANDROID ARCHITECTURE OVERVIEW**

- Introduction to OS Layers
- Linux Kernel
- Libraries
- Android Runtime
- Application Framework

**SETUP OF ANDROID DEVELOPMENT ENVIRONMENT**

- System Requirements
- Configuring the Emulator
- Resources , Build Process, R class, Assets
- The Android Log and Log Cat
- The Dalvik Debug Monitor Services
- Eclipse and SDK installation, AVD creation
- Creating first Android Application
- Project Structure
- Creating, Compiling & Executing By Cmd

**ANDROID APPLICATION FUNDAMENTALS**

- Android Application Building Blocks
- Activities , Life Cycle
- Activating Components
- Layouts and Views
- The Find By View Id Method
- Toast and Web-kit and custom Toast
- Intents and Results
- Start Activity and Related Methods
- Shutting Down components
- Development tools, Manifest File

**USER INTERFACE DESIGN**

- XML Layouts
- Layout Parameters
- The Box Model, Gravity
- The Layout Inflater Service
- Linear Layout, Relative Layout, Frame Layout , Scroll View
- Views and Adapter

**WORKING WITH LISTS**

- Java Collection Framework with Android
- Adapter view and subclasses
- Adapter and sub interface
- Simple Cursor and Adapter
- List View and List Adapter
- Spinner and Spinner Adapter
- Handling Item Selection
- Custom Adapters
- Expandable List View & Expandable List Adapter

**MENUS**

- Menus, View & Resources
- The Options and the Context Menus
- The <Menu>
- Handling Menus Selections
- The Escape from Switch/case
- Using of Dispatch Map
- Building Menus Dynamically

**DATA STORAGE**

- Shared Preferences
- SQLite Databases
- Creating databases and using SQLite
- Querying Database-Create ,Update ,Delete, Insert
- Using Cursors,SqliteOpenHelper

**MULTIMEDIA**

- Playing Sounds
- Managing Images
- Storage and Retrieval
- Gallery and other Image Views

**ANDROID TOOLS**

- Android UI and Advance Java
- Dialog Box
- Splash
- Web View
- Switch
- Scroll Bar
- Toggle Buttons
- Time and Date
- Progress Bar
- Tablet / Mobile Gallery
- Slider on Activity
- Threads and Synchronization
- Android Graphics and Multimedia
- Data Binding
- Using Java and Java Script
- OpenGL Introduction
- 3D graphics in OpenGL and other views
- Using Threads and Models
- Android Widget Development

## LOCATION SERVICES AND MAPS

- Location Services
- Location Notifications
- Selecting a Best Location Provider-GPS
- Finding Your Location-latitude & longitude
- Tracking Your Position.
- Creating Map -Based Activities
- Using the Geocoder
- Using Itemized Overlay.

## HOW TO DESIGN AND BUILD ANDROID BASED MOBILE APPS

- Application Architectures
- Connection Types
- Synchronization
- Mobile Device Components
- Connection Methods
- Mobile Client User Interface
- Mobile Application Development Management
- Mobile Design and Usability Factors
- User Interfaces Design and Specification
- Building Effective UI for Mobile Applications
- Managing client-server data transfer
- Social Network Using in Android (Facebook and LinkedIn )

## ANDROID MEDIA API

- Playing Audio/Video
- Media Recording
- Controlling Camera Settings
- Taking a Picture

## TELEPHONY MANAGER

- Reading the phone, network, data connectivity, and SIM states
- Fetching Phone Book
- Making Phone Calls
- Controlling the Phone

## WI-FI

- Managing Network and Your Wi-Fi
- Monitoring and Managing Your Internet Connectivity
- Managing Active Connections
- Managing Your Wi-Fi

## BLUETOOTH

- Introducing the Bluetooth Service
- Controlling the Local Bluetooth device
- Managing Bluetooth Connections
- Communication with Bluetooth
- Using a Bluetooth Headsets

## FRAGMENTS

- Introduction To Fragments, Types & its Features
- Fragment Life Cycle & its callbacks
- Building Flexible UI
- Communication with Other Fragments
- Tab Layout Implementation with Swipes
- View Pager Title Strips

## SEARCHING WITH GOOGLE SEARCH MANAGER

- Search Yourself
- Searching for Meaning in Randomness

## WEB SERVICES

- Introduction to HTML5
- Introduction to web services
- SOAP web service introduction
- SOAP web service example in java using eclipse
- JAXWS web service in eclipse
- JAXWS web service deployment
- RESTfull web service introduction
- Create RESTful web service in Java(JAX-RS)
- Introduction to JSON
- XML , CSS

## CUSTOM TOOLS

- Custom List View & Grid View
- Custom Tab Design
- Custom Multimedia
- Multilayer Expandable
- Advance Database Design
- ANDROID C/C++ LIBRARIES introduction
- Phone Gap Introduction
- Overview of Android Gaming using libgdx

**Application (Tablet and Mobile (both) Based)**

**Project Work**

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