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❖ Android Course Content & Full Syllabus:

❖ Introduction to Mobile Apps

- Why we Need Mobile Apps
- Different Kinds of Mobile Apps
- Briefly about Android

❖ Introduction Android

- History Behind Android Development
- What is Android?
- Android API levels (versions & version names)

❖ Android Architecture

- **Overview of Android Stack**
 - Linux Kernel
 - Libraries
 - Android Runtime
 - Application Framework
 - Dalvik VM and .apk file extension

- **Android Features**

❖ Installing Android Machine

- Configuring Android Stack
- Creating Android Studio Environment
- Integrating Android with Android Studio IDE
- Exploring Android Studio IDE

❖ Creating First Android Application

- Creating Android Project
- Debugging Application through DDMS
- Setting up environment
- AVD Creation

❖ Android Components

- Activities
- Services
- Broadcast Receivers
- Content Providers

❖ Hello World App

- Creating your first project
- The manifest file

- **Layout resource**
 - Resources & R.java
 - Assets ,Layouts
 - Drawable Resources
 - Application Framework
 - Dalvik VM and .apk file extension
- Running your app on Emulator

❖ **Building UI with Activities**

- Activities
- Views, layouts and Common UI components
- Creating UI through code and XML
- Activity lifecycle
- Intents
- Communicating data among Activities

❖ **Advanced UI**

- Selection components (Grid View, List View, Spinner)
- Adapters
- Complex UI components
- Building UI for performance
- Menus

❖ **Notifications**

- Toast, Custom Toast
- Dialogs
- Status bar Notifications

❖ **Multithreading**

- AsyncTask
- Handler

❖ **Styles and Themes**

- Creating and applying simple Style
- Inheriting built-in Style and User defined style
- Using Styles as themes

❖ **Intent, Intent Filters and Broadcast Receivers**

- Role of filters
- Intent-matching rules
- Filters in your manifest
- Filters in dynamic Broadcast Receivers
- Creating Broadcast receiver
- Understanding Broadcast action, category and data
- Sending Broadcast

❖ **Data Storage**

- Shared Preferences
- Internal storage
- External storage
- **SQLite**
 - IntroducingSQLite
 - SQLiteOpenHelper and creating a database
 - Opening and closing a database

➤ Working with cursors Inserts, updates, and deletes

- Network

❖ **Content Providers**

- Accessing built in content providers
- Content provider MIME type
- Searching for content AND creating content provider

❖ **Services**

- Overview of services in Android
- Implementing a Service
- Service lifecycle

❖ **Multimedia in Android**

- Multimedia Supported audio formats
- Simple media playback
- Supported video formats
- Simple video playback

❖ **Location Based Services and Google Maps**

- Using Location Based Services
- Finding current location and listening for changes in location
- Working with Google Maps
- Showing google map in an Activity

❖ **Web Services and WebView**

- Consuming web services
- Receiving HTTP Response (XML, JSON)
- Parsing JSON and XML
- Using WebView

❖ **Sensors**

- How Sensors work
- Using Orientation and Accelerometer sensors

❖ **WiFi**

- Monitoring and managing Internet connectivity
- Managing active connections
- Managing WiFi networks

❖ **Telephony Services**

- Making calls
- Monitoring data connectivity and activity
- Accessing phone properties and status
- Controlling the phone
- Sending messages

❖ **More**

- Fragments
- Material Design
- Camera, Bluetooth

❖ **Android Application Deployment**

- Android Application Deployment on device with Linux
- Android Application Deployment on Android Market

