



## **Mobile App development (Java and Android Studio)**

### **UNIT 1:**

**Overview of Mobile Technologies**  
**History of Mobile Phones**  
**The Use of Mobile Phones**  
**Manufacturers of Mobile Phones**  
**Mobile phone Features**  
**Common Mobile phone Features**  
**Modern Mobile Phones**  
**Modern Mobile Phone Features**  
**Mobile Phone Operating Systems**  
**Android Architecture**  
**Jre?Jdk**  
**Exercise**  
**Self-Assessment**

### **UNIT 2:**

**Setting Up Android Studio In a Windows Environment**  
**Pre-Requisites for Android Studio**  
**Downloading Android Studio**  
**Opening and Viewing Android Studio for the First Time**  
**Exercise**  
**Self-Assessment**

### **UNIT 3:**

**Inside Android Studio in a Windows Environment**  
**Android Devices**  
**Android Operating System**  
**Android Operating Versions**  
**Which Android Version Does My App Target?**  
**Project Setup**  
**Android Studio Developer Window Layout**  
**Menu Bar**  
**Close A project in Android Studio**  
**Open Project Explained**  
**Project File Structure Explained**  
**Android Project View**  
**Project Structure Settings**  
**Project Structure Window**



**App Manifest File Explained**  
**Activities Explained**  
**Gradle**  
**Saving Your Android Studio Project**  
**Re-Opening an Existing Android Studio Project**  
**Exit The Android Studio Ide**  
**Widgets Overview**  
**Other Features Which can be Done in Android Studio**  
**Troubleshooting Android Studio**  
**Exercise**  
**Self-Assessment**

**UNIT 4:**

**Virtual Devices**  
**Emulator**  
**Virtualization**  
**Android Virtual Device Hardware Requirements**  
**Configuring Android Studio For Virtual Devices**  
**Configuring your Virtual Device**  
**Starting Up Android Virtual Device**  
**Switching Avd Off and On**  
**Sending an SMS to the Avd**  
**Closing Avd and Android Studio Project**  
**Troubleshoot the Emulator**  
**Exercise**  
**Self-Assessment**

**UNIT 5:**

**Interacting with a New Project and the Avd**  
**Emulator and Android Project**  
**Create Hello World Project**  
**Running Your first Project through the Avd**  
**Adding an Interactive Control to the Project**  
**Exercise**  
**Self-Assessment**

**UNIT 6:**

**Android Components and Constraint Layout**  
**Designer Tool Window**  
**User Interface Components**  
**Concepts of Screens**  
**User Interface**



**Measurement and Units**  
**Exploring Ui Objects**  
**Constraint Layout**  
**Event Handling**  
**Source Code Editor**  
**Hiding and Showing Objects**  
**Enabling and Disabling Objects**  
**Simple Calculator Project Constraint Layout**  
**Exercise**  
**Self-Assessment**

**UNIT 7:**

**Android Project Layouts**  
**Declaring of Layouts**  
**Writing Xml**  
**Load Xml Resource File in an Activity**  
**Attributes**  
**Layout Parameters**  
**Layout Position**  
**Size, Padding and Margin**  
**Common Layouts**  
**Using an Adapter to Build Layouts**  
**Grid Layout**  
**Frame Layout**  
**Linear Layout**  
**Horizontal**  
**Table Layout**  
**Table Row Layout**  
**Relative Layout**  
**Conclusion on Layouts**  
**Basic Calculator Project (Layout) Part 2**  
**Backup Projects**  
**Exercise**  
**Self-Assessment**

**UNIT 8:**

**Working with Activities**  
**Activity Life Cycle**  
**Fragments**  
**Activity Life Cycle with Dialogue Box**  
**Conclusion**  
**Multiple Activities**



**Backup Projects**

**Exercise**

**Self-Assessment**

**UNIT 9:**

**Material Design**

**User Interface**

**User Interface Developer Guidelines**

**Material Design**

**Shadows**

**Material Motion**

**Duration and Easing**

**Transforming Material**

**Icons**

**Colour**

**Imagery**

**Typography**

**Writing**

**Components**

**Tabs**

**Text Fields**

**User Interactions**

**Text Field Types**

**Formating Inputs**

**Toolbars**

**Widgets**

**Patterns**

**Data Formats**

**Xml (Extensible Mark-Up Language)**

**Exercise**

**Self-Assessment**

**UNIT 10:**

**Working with I/O (Input/Output)**

**Smart Phone Storage**

**Internal Storage Vs External Storage**

**Android Storage**

**Internal Storage**

**Internal Cache Files**

**External Storage**

**Shared Preferences**

**Databases**



## **Android Security and Permissions**

**Toast Overview**

**Viewing App Security Permissions**

**Read Contact From Phonebook**

**I/O File**

**Back Up the Projects from this Unit**

**Exercise**

**Self-Assessment**

## **UNIT 11:**

**Sqlite**

**Overview of Structured Query Language**

**Mobile databases**

**Sqlite**

**Fragments**

**Creating the Database and Table**

**Read Information for Database**

**Update Information to the Database**

**Delete Information from the Database**

**Testing the App**

**External App Backup**

**Exercise**

**Self-Assessment**

## **UNIT 12:**

**Case Study**

**Overview of this Unit**

**Scenario Explained and Current Infrastructure**

**Questions often Asked in Mobile Development**

**Mobile Development Iterative Prototyping Explained**

**Market Research Explained**

**Back to the Scenario**

**Project Plan**

**Features**

**Revision History**

**Conclusion**

**Exercise**

**Self-Assessment**

## **UNIT 13:**

**Gui Design**

**Case Study Continuation**



**Case Study Summary**  
**Concluded Meeting**  
**Process Flow and User Story**  
**Project Initiation**  
**Exercise**  
**Self-Assessment**

**UNIT 14:**

**Navigation of Application**  
**Continuation of Giles Supermarkets Case Study**  
**Navigation Layout in the Mobile App**  
**Navigational Menu Implementation**  
**Test Results of the Gui**  
**Conclusion**  
**The Reason**  
**Add Activity**  
**Update Activity**  
**Exercise**  
**Self-Assessment**

**UNIT 15:**

**Storage → Writing I/O**  
**Crud (Create Read/Retrieve Update Delete)**  
**Test Results to be Submitted to Management**

**UNIT 16:**

**Deployment to the App Store**  
**Continuation of Giles Supermarkets Case Study**  
**Preparing the Project for Deployment Onto the App Store**  
**Setting Up Play Store Account**  
**Exercise**  
**Self-Assessment**