

INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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Android

Introduction to Android Development

- Overview of Android OS and its architecture
- History of Android versions and updates
- Setting up Android Development Environment (Android Studio, SDK Manager)
- Understanding Android Components: Activities, Services, Broadcast Receivers, Content Providers

Android UI Design

- User Interface Layouts: LinearLayout, RelativeLayout, ConstraintLayout
- Views and ViewGroups: TextView, EditText, Button, ImageView, ListView, RecyclerView
- Fragments: Fragment lifecycle, Fragment transactions
- Material Design principles and guidelines

Android Programming Basics

- Java programming fundamentals (if necessary)
- Kotlin programming basics (if Kotlin is chosen as the language)
- Handling Activities and Intents
- Working with Resources: Strings, Drawables, Layouts, Menus

User Interaction and Multimedia

- Event Handling: onClick, onTouch, etc.
- Handling User Input: Forms, Validation
- Multimedia: Audio, Video playback
- Camera integration and handling images

Data Persistence

- SharedPreferences for saving simple data
- SQLite Database: CRUD operations
- Using Room Persistence Library (optional)
- Working with Content Providers for data sharing

Networking and Web Services

- Making network requests using HttpURLConnection, OkHttp
- Consuming RESTful APIs: Retrofit library
- Parsing JSON and XML responses
- Handling network errors and asynchronous tasks

Background Processing and Services

- Introduction to Services: Started, Bound, and IntentService
- Background tasks using AsyncTask, Handlers, Threads
- Implementing background processing with WorkManager (optional)

Location-Based Services

- Getting device location using GPS, Network Provider
- Using Google Maps API for displaying maps and markers
- Geocoding and Reverse Geocoding

Notifications and Broadcast Receivers

- Creating notifications: Toasts, Status Bar Notifications
- Using NotificationCompat API for richer notifications
- Broadcast Receivers: System broadcasts and custom broadcasts

Advanced Topics

- MVVM Architecture with LiveData and ViewModel (optional)
- Dependency Injection with Dagger Hilt (optional)
- Testing Android Applications: Unit testing, UI testing (Espresso)
- Performance Optimization and Memory Management

Publishing and Monetizing Android Apps

- Signing and preparing APK for release
- Publishing on Google Play Store: Store listing, pricing, distribution options
- Monetization strategies: In-app purchases, ads integration

Emerging Trends and Future of Android Development

- Android Jetpack components and libraries
- Android App Bundles and Dynamic Delivery
- Kotlin Coroutines for asynchronous programming (optional)
- Android Instant Apps and Wear OS development

Project Work

- Real-world project development to apply learned concepts
- Guidance on project planning, implementation, and documentation
- Peer review and feedback sessions

Job Preparation

- Resume building and interview preparation tips
- Freelancing opportunities and remote work options
- Networking with industry professionals