**Below are concepts of android development both with java & kotlin.**

**Tell me which concepts are missing in detail.**

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04:45

Sign In Functionality

07:45

Testing & Debugging the App

11:03

Fixing User ID

09:06

Running the App

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Your list is comprehensive, covering many essential aspects of Android development with Java and Kotlin. However, there are some important concepts and advanced topics that are not included. Here is a detailed list of missing concepts:

**Basic Android Development Concepts**

* **Android Jetpack Components:**
  + Lifecycle-aware components
  + Navigation Component
  + WorkManager for scheduling tasks
* **ViewModel and LiveData:**
  + Lifecycle-aware components to manage UI-related data

**UI and UX**

* **Material Design:**
  + Implementing Material Design components and guidelines
* **Animation and Transitions:**
  + Property animations
  + Shared element transitions
* **Custom Views:**
  + Creating and using custom views

**Advanced Android Development**

* **Advanced Layouts:**
  + CoordinatorLayout
  + AppBarLayout
  + CollapsingToolbarLayout
* **Performance Optimization:**
  + Profiling tools (Android Profiler)
  + Memory management and leak detection (LeakCanary)
  + Battery optimization
* **Concurrency:**
  + Advanced usage of Coroutines (Kotlin)
  + Threading and Handlers
  + AsyncTask (Java, deprecated)

**Networking and Data**

* **Advanced Networking:**
  + WebSockets
  + GraphQL integration
* **Data Storage:**
  + Advanced Room concepts (Migrations, Relation annotations)
  + NoSQL databases (e.g., Realm)
* **Cloud Integration:**
  + Firebase Analytics, Crashlytics, Performance Monitoring

**Security and Permissions**

* **App Security:**
  + ProGuard and R8
  + App signing and Play Store distribution
* **Advanced Permissions:**
  + Runtime permissions for complex use cases

**Testing and Debugging**

* **Testing:**
  + Unit testing with JUnit
  + UI testing with Espresso
  + Mocking with Mockito
* **Debugging:**
  + Advanced debugging techniques
  + Analyzing ANR reports

**Third-Party Libraries**

* **Dependency Injection:**
  + Hilt (newer version of Dagger)
* **Image Loading Libraries:**
  + Coil (Kotlin)
  + Picasso (Java)
* **Reactive Programming:**
  + RxJava
  + Kotlin Flow

**Build and Deployment**

* **CI/CD:**
  + Setting up Continuous Integration/Continuous Deployment pipelines
  + Using tools like Jenkins, GitHub Actions
* **Gradle Advanced:**
  + Custom Gradle tasks
  + Multi-module projects

**Kotlin-Specific Features**

* **Kotlin Coroutines:**
  + Advanced coroutine concepts (Channels, Flows)
* **Kotlin Multiplatform:**
  + Sharing code between Android and other platforms
* **Kotlin DSL for Gradle:**
  + Writing Gradle scripts using Kotlin

**User Engagement**

* **Notifications:**
  + Advanced notification techniques (grouping, inline replies)
* **In-App Purchases:**
  + Implementing in-app purchases with Google Play Billing

**Miscellaneous**

* **Wear OS Development:**
  + Developing apps for Wear OS
* **TV and Auto:**
  + Android TV
  + Android Auto

By covering these additional topics, you can ensure a more complete understanding of Android development, both for Java and Kotlin.