Nairobi Developer School Android Development Curriculum (Provisional).

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I've designed this curriculum to address the fundamental knowledge required of a competent Android developer. Here's a guide to the subject areas covered, and some pointers to further applicable reference material.

1. **01/12 Android Ecosystem [History, development and positioning in market]**

   ● Introduction to Android (Platforms)
   ● Android Releases (G1 to Jellybean)
   ● Platform Distribution
   ● Developer Support
   ● Environment Setup (ADT, SDK)

2. **02/12 App Framework [Measures understanding of the architecture of an Android app, components and interaction]**
   ● Android and Linux
   ● JVM (Java Virtual Machine)
   ● Data Passing Mechanisms
   ● Synchronous/ Asynchronous processing
   ● ADB (Android Debug Bridge)
   ● Documentation
   ● Android Libraries
   ● Reference

3. **03/12 Tools [key Android tools]**
   ● AVD Manager
   ● Logging (Logcat)
   ● DDMS
   ● Profiling
   ● Hierarchy Viewer
   ● ADT Plugin for Eclipse
   ● SQLite tools

4. **04/12 User Interface [Usage patterns, common design techniques and best practice UI]**
   ● Navigation
   ● Views
   ● ViewGroups
   ● Layouts
   ● XML/ Programmatic Techniques
   ● Menus

- Event Listeners
- Lists
- Dialogs

5. **05/12 Application Components [Understanding essential components of an android app]**
   - Activities
   - Broadcast receivers
   - Service
   - Content Providers
   - Threads
   - Orientation Changes

6. **06/12 Intents [Data passing process, filtering and Intent handling]**
   - Component Relationship
   - Managing data using Intents
   - Explicit vs. Implicit Intents
   - Activity Invocation
   - URI Matching
   - Pending Intents

7. **07/12 Data Storage [Various data storage and mgt. systems]**
   - Content Providers
   - SQLite
   - Shared Preferences
   - Internal vs. External Storage
   - Network Storage Techniques

8. **08/12 Communications [best practices regarding background comm.]**
   - HTTP
   - Bluetooth
   - Network REST Calls
   - JSON
   - WebView
   - Async Best Practice

9. **09/12 Location [Location fixes, mapping, GPS usage]**
   - Google Mapping API's
   - Location Providers
   - Mapping Overlays
   - Coordinate management

- Proximity Alerts
- Geocoding

10. **10/12 Media Framework [Image, Audio, Video control]**
    - Media Player
    - Video playback
    - Audio Playback
    - Camera Management
    - Media App Architecture

11. **11/12 Security [User Preferences, Permissions implementation]**
    - Permissions
    - Android/Linux Security Relationship
    - Rooting Devices
    - Signing Considerations
    - Per-URI permissions
    - Attack Vectors
    - Defensive coding

12. **12/12 Publishing [Registration, Dashboard]**
    - Signing
    - App Versioning
    - Managing Screen Densities
    - Managing Forward/backward Compatibility
    - Revenue Models