Professional Android development agenda

Android Architecture
- System architecture and Android Components
- Important configuration files

Building user interfaces development
- Views and Layouts
- View interaction
- Component lifecyle

Component communication via Intents
- Intents and intent filter
- Android component integration via intents

Using Gradle as the Android build system
- What is Gradle?
- Running a headless build
- Defining dependencies
- Extending the build system

Using Libraries
- Using Java and Android libraries
- Using the support library
- Targeting Android 2.x with compatibility libraries

Multi-screen and multi-pane development
- Screen sizes and densities
- Resource selectors
- Multi-pane layouts with fragments
- Designing layouts for tablets and phones

Using the toolbar
- User interaction concepts
- Defining and using actions
- Using the Toolbar

Displaying lists and grids
- Using RecylerView and ListView
- Performance optimization tips

Styling and Themes

- Using existing styles and themes
- Creating own themes
- Material design

Security
- Android security concept
- Using and defining permissions

Asynchronous processing in Android
- Multitasking in Android
- Using Handler for message communication
- Using AsyncTask

Network Communication
- Accessing the Internet
- Processing JSON and XML
- Efficient image downloading with external libraries
- Optimizing network access with libaries like OkHttp, GSon, Moshi
- Accessing REST based webservices with Retrofit

File based persistence
- Preferences
- File and Access restrictions
- Permissions

Database persistence with ORM and Room
- Using the SQLite database
- Using the Room library for simple and fast persistence

Services
- Using Android system services
- Defining local services
- Communicating with services
- Outlook: Definition cross component communication

Event processing via broadcast receiver
- Androids event system
- Registering broadcast receiver for system events
- Registering and triggering custom events

Notifications
- Using the notification manager
- Building rich notifications

The Android lifecycle
- Application lifecycle

- Activity lifecycle
- Fragments lifecyle
- Service lifecyle
- Using the ViewModel and LiveData libraries for view data persistence

Custom widgets and the canvas API
- Defining custom widgets
- Compound widgets
- Canvas API
- View state persistence

Deployment
- Deployment to Google Play
- Deployment Options

Outlook: Important libraries and trends in Android development
- Using Kotlin
- Using Dagger 2 for dependency injection
- Using RxJava