

9723 - Android Development

- **Android Architecture**
 - System architecture of Android
 - Android Components
 - Android configuration files
- **Android Development Tools**
 - Defining devices and Android emulators
 - Eclipse tooling for Android projects
- **Android user interfaces development**
 - Views and Layouts
 - View interaction
 - Component lifecycle
- **Component communication via Intents**
 - Intents and IntentFilter
 - Android component integration via Intents
 - Activity stack
- **Supporting different screen sizes**
 - Screen sizes and densities
 - Resource selectors
- **Targeting Tablets and Smartphones with Fragments**
 - Multi-Pane Layouts with Fragments
 - Designing layouts for tablets and phones
- **ActionBar**
 - User interaction concepts
 - Defining an ActionBar
- **Displaying lists in Android**
 - Using ListViews in Android
 - Fragments and ListViews
 - Performance Optimization
- **Styling and Themes**
 - Using existing styles and themes
 - Creating own themes
- **File based Persistence**
 - Preferences
 - File and Access restrictions
 - Permissions
- **Security**

- Android security concept
 - Using and defining permissions
- **Network Communication**
 - Accessing the Internet via http
 - Processing JSON
 - Processing XML
- **Asynchronous processing in Android**
 - Multitasking in Android
 - Using Handler for message communication
 - Using AsyncTask
- **SQLite and ContentProvider**
 - Using the SQLite database
 - Outlook: Using and defining ContentProvider
 - Outlook: Loader
- **Services**
 - Using Android system services
 - Outlook: Defining your own 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
- **NotificationManager**
 - Using the NotificationManager
 - Building rich notifications
- **Canvas API for custom widgets**
 - Defining custom widgets
 - Canvas API
 - Outlook: View state persistence
- **Location services and Google Maps**
 - Location based Services and Geocoding
 - Using Google Maps
 - Enhancing Google Maps with custom drawings (Overlays)
- **Homescreen Widgets**
 - Creating interactive widgets for the home screen
 - Updating widgets and widget lifecycle
- **Using Android Sensors**
 - Accelerometer
 - Orientation

- Camera
- **Build Management**
 - Building Android application on the command line
 - Outlook: Integration into a continuous integration build process
- **Professional Testing**
 - Android test restrictions
 - Using the Robotium and Robolectric libraries for efficient testing
- **Webservice integration into Android**
 - Using SOAP based webservises
 - Using REST based webservises
- **Targeting Android 2.x with compatibility libraries**
 - Using Fragments on Android 2.x devices
 - Using the ActionBar in Android 2.x
- **Deployment**
 - Deployment Options
 - Markets (Google Play / Amazon)