Course code: ANDROID1

The course is intended for developers who want to start developing applications on the Android mobile platform. In the course, you will get to know the development environment and learn how to develop modern applications. We will explain the basic principles of development for Android, you will learn the basics of designing a user interface in Android, structuring an application and its settings, you will use Activities, Intents, Adapters and Fragments and you will learn how to store in a database (SQLite).

What we will teach you

- We will explain the basic principles of development for Android
- You will learn the basics of UI design in Android
- You will learn how to structure the application and its settings
- Use Activities, Intents, Adapters and Fragments
- You will use modern design
- You will learn to store in a database (SQLite)

Required entry skills

- The course assumes knowledge and experience with programming in Kotlin at the level of the course [KOTLIN1]
- It is advisable to have programming experience at the level of smaller projects (dozens of classes)
- It is advisable to know the basics of the SQL language

Teaching methods

- Expert interpretation with practical examples, exercises on computers. The course is led by a lecturer with developer experience

Studying materials

- Presentation of the material discussed in printed or online form

Syllabus:

Introduction to Android
- System architecture
- Application development capabilities
- Application structure

Development environment
- The basics of working with the Android Studio development environment
- Application debugging
- Using your own device to debug applications

Creating a simple application
- Basic UI elements, layouts and event reactions

Activities and Intents
- Starting another activity using an implicit or explicit intent, an activity with a result
- Intent filters and their use
- Work with activity lifecycle

Action bar and modern Navigation Drawer
- Principle, definition in sources
- Navigation in the Android application, up vs. back button
- Using the support library, Navigation Drawer

Dialogues

Storage of data on the device

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- SharedPreferences, PreferenceScreen and its usage, PreferenceFragment
- Working with the file system
- SQLite database
- SQLiteOpenHelper
- Queries, browsing cursors

Adapters
- Connecting the data structure with the user interface
- SQL adapter
- ListView, GridView, Spinner
- Modern RecyclerView and RecyclerView.Adapter

Fragments
- Why fragments
- Fragments and support library
- Fragments and initialization
- Fragments and manipulation of data belonging to the activity (via interface)

Something extra
- Practical advice programmer versus project versus management
- Testing and testing
- Important factors in the design and start of the project