

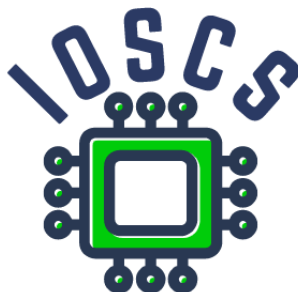
Project: Innovative Open Source Courses for Computer Science

Mobile Application Development Project

**Radosław Maciaszczyk
West Pomeranian University of Technology in Szczecin**

30.05.2021

Innovative Open Source Courses for Computer Science



This teaching material was written as one of the outputs of the project “Innovative Open Source Courses for Computer Science”, funded by the Erasmus+ grant no. 2019-1-PL01-KA203-065564. The project is coordinated by West Pomeranian University of Technology in Szczecin (Poland) and is implemented in partnership with Mendel University in Brno (Czech Republic) and University of Žilina (Slovak Republic). The project implementation timeline is September 2019 to December 2022.

Project information

Project was implemented under the Erasmus+.

Project name: **“Innovative Open Source courses for Computer Science curriculum”**

Project nr: **2019-1-PL01-KA203-065564**

Key Action: **KA2 – Cooperation for innovation and the exchange of good practices**

Action Type: **KA203 – Strategic Partnerships for higher education**

Consortium

ZACHODNIOPOMORSKI UNIWERSYTET TECHNOLOGICZNY W SZCZECINIE

MENDELOVA UNIVERZITA V BRNE

ZILINSKA UNIVERZITA V ZILINE

Erasmus+ Disclaimer

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Copyright Notice

This content was created by the IOSCS consortium: 2019–2022. The content is Copyrighted and distributed under Creative Commons Attribution-ShareAlike 4.0 International License (CC BY-SA 4.0).



Co-funded by the
Erasmus+ Programme
of the European Union



Project

This part of the Mobile Application Development course aims to build an Android application based on your own or the instructor's suggested topic. The project consists of two elements of documentation and a created application. The assessment consists of the following:

- Documentation score of up to 10 points
- The grade for the application depends on the complexity:
 - Basic application 20-30 points
 - Medium application 25-35 points
 - Advanced application 30-40 points

Overall score of 50 points.

The documentation shall consist of the following:

1. Brief description of the purpose of the project
2. List of functional requirements
3. List of non-functional requirements
4. Layout design
5. List of libraries used
6. Specification of the rights used and a description of the functionality for which the right was used
7. Description of the testing methods used

The first four documentation points are created during the first two classes, the others ongoing during the application development.

Complexity requirements

- I. Basic application:
 - Consists of several activities/fragments
 - Requires the use of one of the sensors or databases
 - The use of the MVVM pattern is recommended

Examples of basic applications:

- Application to draw by shaking the phone
- Application for memorising encrypted notes
- Puzzle game with the result history

- II. Medium Basic application
 - Several activities/fragments
 - Use of one of the sensors or database is required





- Requires use of internet connection, e.g. by accessing data via API or using a GNSS system
- The use of MVVM pattern is required
- Use of Google services is recommended, e.g. maps

Examples of medium applications:

- Application for memorising located notes, search by specifying the area on the map
- Generation of captions on photographs based on EXIF data (e.g. date and place of taking the photo)
- Application using NASA's API, e.g. for displaying "Astronomy Picture of Day" photos with caching of queries and responses.

III. Advanced application

- Several activities/fragments
- Use of one of the sensors or database is required
- Requires use of a web connection, e.g. by accessing data via an API or using a GNSS system
- Use of MVVM pattern is required
- The use of Google services is required, e.g. maps or databases

Example of an advanced application

- The interactive game between users with data history in the cloud
- Application for accounting for shared expenses with data synchronisation in the cloud
- Application to check weather based on position or city given. The memory of several recently searched locations.

