Project Approach to Application Development

Study programme: **Applied computing/Software Engineering**
Study year: **Second**
Semester: **Summer**

General Instructions

The main goal of this course is to familiarize students with the process of creating an application solution through the phases of gathering requirements, creating a prototype, planning tasks, testing, development and deployment. Students must work in teams to develop a solution to a given problem assignment.

Since this is a project-based course, there are no defined midterm exam and the course is taken project-based, with an oral defense at the exam terms. At the oral defense, it is necessary to describe and demonstrate the workflow of the applications and demonstrate a basic and advanced understanding of the material defined in the outcomes. All team members must be present during the oral defense.

It is important to emphasize that each member of the team must apply for the the exam individually in order to enable the acquisition of points and entering the final grade. Subsequent appeals and applications are not accepted, as this instruction is clearly communicated at the beginning of the course and before the start of the exam terms. During the exam terms, it is important to follow the official announcements on Infoeduca regarding the schedule of oral defenses.

Students who defend their work on the exam terms in July can receive a maximum grade of **excellent (5)**. Students who defend the project on the exam terms in September can get a maximum grade of **very good (4)** Students who defend their work on the exam terms in February can get a maximum grade of **good (3)**.

Before you can attend the project defense, you need to implement 50% of the required functional requirements.

Project Task

In order for the team to approach the defense, it is necessary to send a compressed folder containing the necessary documents listed through the learning outcomes. To submit the project, team must send the comprossed zip archive containing the following files:

- Team[number]_FunctionalSpecification.pdf
- Team[number]_Wireframes.pdf
- Team[number]_AzureDevopsWorkItems.csv
- Team[number]_GitLog.txt
- Team[number]_UserInstructions.pdf
- Team[number]_Project

Where **Team[number]_Project** is directory containing project's source files. If the archive does not contain all of the listed files, the submission is not considered valid.

LEARNING OUTCOME 1 (Documentation, 17 points)

In this document, it is neceesary to list all functional and non-functional requirements (MINIMUM, 10 points), as well as analysis of **assumptions**, **terms** and **restrictions** (DESIRED, 7 points).

Document: **Team[number]_FunctionalSpecification.pdf**

LEARNING OUTCOME 2 (Wireframes, 17 points)

This document contains basic wireframes that need to be implemented (MINIMUM, 12 points) as well as description of application workflow (DESIRED, 5 points).

Document: **Team[number]_Wireframes.pdf**

LEARNING OUTCOME 3 (Planning, 17 points)

This document contains CSV export of Azure Devops work items containing project's task **epics** and **functionalities** (MINIMUM, 12 points) as well as accurately described **user stories** and **tasks** (DESIRED, 5 points).

Document: **Team[number]_AzureDevopsWorkItems.csv**

LEARNING OUTCOME 4 (Code versioning, 17 points)

On github.com, it is necessary to create a public remote repository where it is possible to see the activity of each team member during the development of the application. The activities include **opening a repository**, **commits**, **branches (MINIMUM, 10 points), pull requests** and **merge conflicts resolution (DESIRED, 7 points).** Document should include result of the following command: "git log --decorate --graph --all".

Document: **Team[number]_GitLog.txt**

LEARNING OUTCOME 5 (Testing, 16 points)

The following document contains CSV export of work items describing **test cases** for each user story (MINIMUM, 9 points). Source code contains **unit tests** for all important features (DESIRED, 7 points).

Document : **Team[number]_AzureDevopsWorkItems.csv**

LEARNING OUTCOME 6 (User instructions, 16 points)

This document contains written user instructions for the developed application (MINIMUM, 12 points) as well as instructions for application deployment and release (DESIRED, 4 points).

Document: **Team[number]_UserInstructions.pdf**