

StudyFlow

Ohjelmistotuotantoprojekti 1:

Product Plan

Ryhmä 7

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1. Introduction

1.1. Objectives

The project aims to help students to plan their studies by creating an application for organizing study sessions, tracking progress on assignments, and managing deadlines. The application also allows students to integrate their class schedules which simplifies academic planning and helps students to better focus on their studies.

1.2. Scope

Key goal for the project is to build a functioning and user-friendly study planner application. The goal is to include sufficient unit testing and integrate Jenkins for continuous integration and Docker to help automate the deployment of the application.

2. Project Organization

The team is constructed of two team members. The scrum master will change after every sprint. The scrum master for the first sprint is Veera. Figure 1 shows how the tasks are divided between team members.

Hilda	Veera
<ul style="list-style-type: none">• Works on frontend using Scene Builder• Testing• Backend• Project documentation	<ul style="list-style-type: none">• Works on database using MariaDB• Backend• Project documentation

Figure 1: Project tasks divided between team members

The tasks that are not mentioned in figure 1 will be divided equally between team members. The team will communicate and divide these tasks as the project continues.

The team will hold daily scrum meetings to ensure that the project is progressing according to the plan, identify and address any roadblocks, and align priorities

to maintain steady workflow. The team will communicate through discord in its own discord server. The team will use both text chat and voice chat to communicate. Having worked previously on projects together, the team has proven to be effective working together. Implementing Scrum principles will be a challenge that the team will welcome.

3. Risk Analysis

As the team is significantly smaller than other teams, there is a moderate risk of having a too wide scope for the project compared to team size. Task management needs to be planned carefully, as there is plenty to do. Team resources compared to the scope of the project may present some time management challenges that need to be prepared for. Team will counteract this risk by planning thoroughly, communicating effectively and prioritizing tasks pertinent to this course.

As understood by the team, the focus is not on the scope of the project, but on implementing Scrum principles and working as a Scrum Team. Scrum framework will enable the team to adjust priorities quickly and ensure that project stays on track.

4. Hardware and Software Resource Requirements

The hardware requirements for the project are personal computers for initial development and testing.

The project is going to use Java programming language to write the application, JavaFX library for the front-end implementation, JDBC library for the database connection, and CSS for appearance. The team will use Scene Builder to create the FXML-file for the front-end. The database is going to be constructed using MariaDB.

5. Work Breakdown

The work breakdown of the project will follow the structure of figure 2.

Task Description	Dependencies	Team Member Assigned
Product vision	None	Hilda, Veera
UI/UX design	Product vision	Hilda
Database design	Product vision	Veera
Back-end integration	Database design	Hilda, Veera
Front-end integration	UI/UX design	Hilda, Veera
Unit testing	Back-end and front-end implementation	Hilda
Testing automation	Unit testing	Hilda, Veera
Final deployment	Testing	Hilda, Veera
Documentation	Final deployment	Hilda, Veera
Project presentation	Documentation	Hilda, Veera

Figure 2: Project work breakdown

6. Project Schedule

6.1. Timeline

The first sprint will focus on project planning, including creating Trello workspace, creating backlogs, creating product vision and finishing the project plan. In the end of week 2, one team member will start designing the database schema for the project.

The second sprint will focus on the database design, the UI/UX design, and the initial development, including integration of the front-end and the back-end. During week 4, one team member is going to implement the unit testing for the project.

The third sprint will focus on building automation and testing automation using Jenkins. During week 6, the team is going to get familiar with Docker and implement the server side in the project.

The fourth sprint will focus on the final deployment, the documentation and the presentation of the project.

6.2. Milestones

The important milestones in the project will be the Sprint deadlines. Sprint reviews are checkpoints, where the team will analyze the work pace and the remaining workload.

Large functionalities and their associated tasks will be documented and tracked on Trello. The completion of each major functionality in its entirety, such as a fully implemented database or a finished user interface, will be considered a milestone.

7. Monitoring and Reporting Mechanisms

The team will utilize multiple platforms to monitor progress and to ensure efficient communication. Daily scrums will be conducted via Discord. Trello will be used as a primary tool for task tracking and project management. Trello boards will be created for each sprint, where large goals will be divided into smaller, manageable tasks. These tasks will be divided into three categories: “To Do”, “Ongoing” and “Completed”.

The team will track work hours by recording them in a shared Excel spreadsheet. Sprint reviews will be conducted at the end of each sprint, to analyze completed work, identify areas of improvement and plan future tasks. Final project documentation will be provided at the end of Sprint 4.