Home Assignment: Software Engineering Project Plan

Assignment Overview

In this assignment, your task is to create a short project plan for your software engineering project. The plan should be structured according to the sections outlined below. You must submit your completed project plan in PDF format to the designated Dropbox on Oma by **25th August**.

Note: Remember to include your group number at the top of your report.

Group 9

Plan Sections

1. Introduction

- **Project Title**: I-SPY-U
- **Project Description**: Monitoring of properties or valuables.
- **Objectives**: A functional and reliable system for sensor management.
- **Scope**:
  - **Included**:
    - Server for handling sensor data, client UI for representing and managing sensor devices.
  - **Excluded**:
    - Sensor device is currently excluded in the scope for the 4 first sprints.

2. Project Organization

- **Team Structure**:
  - Eino Ruuth: UI
  - Joonas Karppinen: Server
  - Toni Hirvikallio: Client business logic
  - Niko Meriluoto: DB
- **Communication Plan**: Daily scrums, weekly meetings and sprint meetings at the beginning of every sprint.
- **Stakeholder Involvement**: Team members are the sole stakeholders, fully engaged in planning, designing and developing of the product.

3. Risk Analysis

- **Risk Description**:
  - Inadequate timeframe
  - Device malfunctions for sensors, microcontrollers or computers
  - Server malfunctions or breakdowns
  - Software limitations

  - Supply chain issues for sensors and chips
- **Likelihood**:
  - Timeframe medium
  - Hardware low
  - Software medium
- **Impact**:
  - Timeframe low
  - Hardware high
  - Software medium
- **Mitigation Strategies**:
  - Timeframe: careful planning
  - Hardware: backup server, microcontroller and sensors
  - Software: thorough research

4. Hardware and Software Resource Requirements

- **Hardware**:
  - Server
  - Microcontroller(s)
  - Sensor(s)
- **Software**:
  - Docker
  - Ide
  - Spring boot
  - JDK
  - JavaFX
  - MQTT
  - ESP8266 FreeRTOS SDK
  - Jenkins
  - Websocket
  - Discord API

5. Work Breakdown

- **Task Description**: 1.0 Sensor management system 1.1 Client side software 1.1.1 UI 1.1.2 Businesslogic 1.2 Server side software 1.2.1 Backend API 1.2.2 Database 1.2.3 1.3 Microcontroller 1.3.1 Microcontroller software 1.3.2 Sensors
- **Dependencies**:
  - UI is finish-to-finish dependent on businesslogic
  - Backend is finish-to-finish dependent on DB
  - Businesslogic is finish-to-finish dependent on backend
- **Team Member Assignment**: Responsibilities will be shared

6. Project Schedule

- **Timeline**:

  - requirement gathering
  - design
  - development
  - testing
  - deployment
- **Milestones**:
  - Project setup
  - Backend/API endpoints
  - Basic client interface
  - User authentication
  - Functioning sensor

Important deadlines and checkpoints. - **Gantt Chart or Timeline**:

Task name	Start date	End date	Duration	Sprint 1.1	Sprint 1.2	Sprint 2.1	Sprint 2.2	Sprint 3.1	Sprint 3.2	Sprint 4.1	Sprint 4.2
Project planning	xx	xx	xx	X	X						
Setup	xx	xx	xx		X						

Visual representation of the schedule (optional but recommended).

7. Monitoring and Reporting Mechanisms

- **Progress Tracking**: Trello How you will track the completion of tasks and milestones.
- **Reporting**:
  - To team members through daily scrums
  - To stakeholders through sprint reviews

Submission Guidelines

- **Format**: The report should be well-structured and submitted as a PDF.
- **Length**: Aim to keep the report concise and to the point.
- **Submission**: Submit your project plan in the designated Dropbox on Oma by **25th August**.

Evaluation Criteria

Your project plan will be evaluated based on: - **Clarity and Structure**: How well-organized and clear the report is. - **Comprehensive Coverage**: The completeness of each section. - **Feasibility and Realism**: How realistic and achievable the plan is. - **Risk Awareness**: How well potential risks are identified and managed. - **Adherence to Guidelines**: Whether the plan is submitted on time and follows the required format.

Good luck with your assignment! If you have any questions, feel free to reach out for clarification.