Project Plan

Group 9

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 and cycled

6. **Project Schedule**

  - **Timeline**:
    - requirement gathering
    - design

- – development
  - – testing
  - – deployment
- **Milestones**:
  - – Project setup
  - – Backend/API endpoints
  - – Basic client interface
  - – User authentication
  - – Functioning sensor
- **Gantt Chart or Timeline**:

Task name	Start date	End date	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	13.01	20.01	X	X						
Setup	20.01	27.01		X						
UI Design	27.01	03.02			X					
DB Design	20.01	27.01		X						
Business Logic	03.02	10.02			X	X	X			
IOT Dev	10.02	17.02					X			

7. Monitoring and Reporting Mechanisms

- **Progress Tracking**: Trello
- **Reporting**:
  - – To team members through daily scrums
  - – To stakeholders through sprint reviews

Appendixes

UI Design prototype

First drafts of the UI Design prototypes

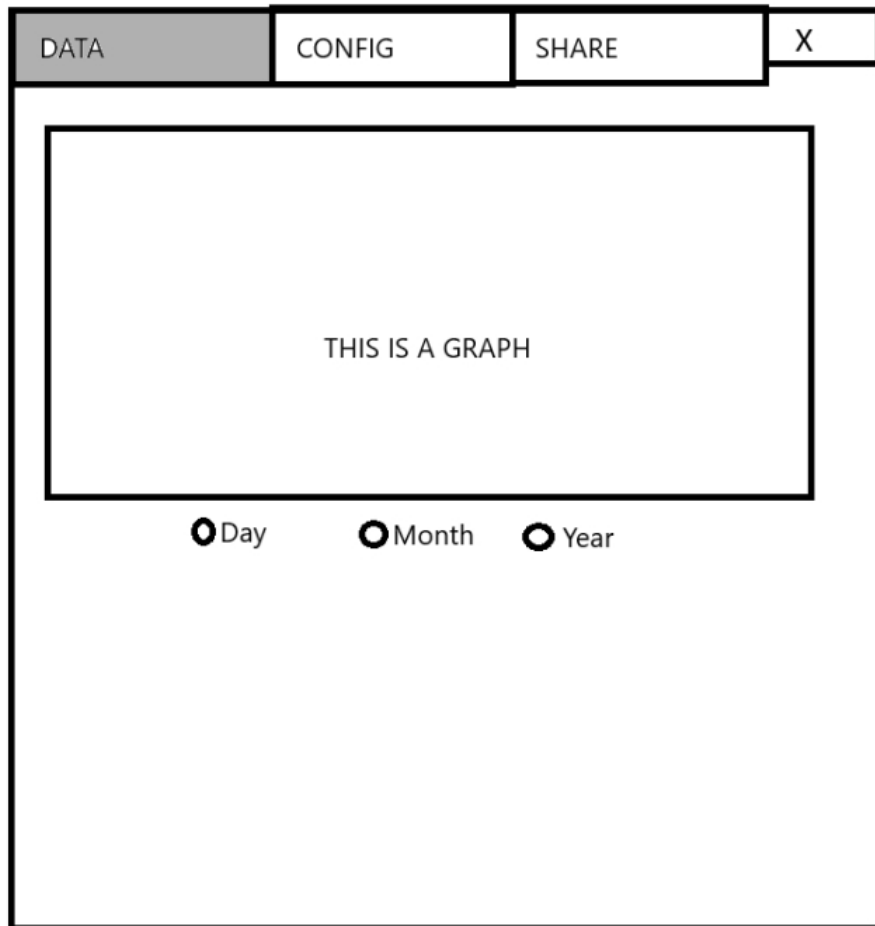| My devices	Shared devices		X

Device
Device

Device name

Log of few last measurements

15.1.25 15:77 this happened
15.1.25 15:70 this happened
15.1.25 14:50 this happened

OPEN

The main view of the client, showing user's devices

DATA	CONFIG	SHARE	X

THIS IS A GRAPH

O Day   O Month   O Year

Device view showing graph of logged measurements

DATA	CONFIG	SHARE	X

Set limiters

Max: [   ]

Min: [   ]

Action

Select action ⌄
| Discord webhook |
| Email |

linput
for action [   ]

Config view allowing user to configure thresholds and actions

DATA	CONFIG	SHARE	X

Sharing

Who: [   ]

What can shared person do

Choose ∨
View data
view and edit

Share view allowing user to configure sharing of the device