1. Introduction

The objective of this project is to develop an application that facilitates attendance tracking for university teachers and students. The project is conducted as part of the Software Engineering “Ohjelmistotuotanto”-course. It applies the knowledge and practices introduced in the course, including the Software Development Lifecycle (SDLC) and Agile methodologies.

The project is expected to be completed by TBA

2. Project organization

Team Members and Roles. The Lead Developer role rotates in each Sprint.

- Lead Developer: Ilkka Sinkonen
- Developer: Daniel Juntunen
- Developer: Veikko Jokinen

Stakeholders:

- Course Instructor: Amir Dirin

3. Risk analysis

1. Technical Risks:
    - Integration Issues: Difficulty in integrating various software components.
2. Project Management Risks:
    - Scope Creep: Potential for additional features being added beyond the original scope.
    - Time Management: Risk of falling behind schedule due to underestimated task durations.
    - Absence: Risk of developers being absent from work, would it be by being sick or unavailable.
3. Mitigation Strategies:
    - Regular Code Reviews: To identify and resolve integration issues early.
    - Time-Boxing: Enforcing strict deadlines for each phase to minimize scope creep.
    - Notifying Schedule Change: Keeping all developers updated about their current schedule and possible absences that can occur.

4. Hardware and software resource requirements

1. Hardware
   - Development Workstations: Minimum
   - Testing Servers: Local

2. Software
   - Development Tools
     - Integrated Development Environment (IDE):
       - Visual Studio Code (VsCode)
       - IntelliJ IDEA Ultimate
     - Version Control: Git with GitHub
     - Database: MariaDB
     - Pipeline: Jenkins
     - Container: Docker

   - Design tools
     - UI/UX Design: SceneBuilder

   - Testing Tools
     - Automated Testing Framework: JUnit

   - Project Management
     - Project Management Software: Trello

5. Work breakdown

1 Requirement Analysis
   - Gather and document requirements
   - Stakeholder review and approval

2 Design
   - System architecture design
   - UI/UX design
   - Database tree design

3 Development
   - Backend development
   - Frontend development
   - Database setup and integration

4 Testing
- Unit testing
- Integration testing

5 Deployment
- Setup production environment
- Deployment of application
- Post-deployment monitoring

6 Documentation
- Technical documentation
- User manuals

6. Project schedule

- Project Kick-off: Week 1
- Sprint 1 Complete: Week 3
- Sprint 2 Complete: Week 5
- Sprint 3 Complete: Week 7
- Project Presentation: Week: 9
- Sprint 4 Complete: Week 11

7. Monitoring and reporting mechanisms

- Weekly meetings: Daily team meetings conducted via Discord and face to face
- Progress reports: Bi-weekly reports showing development progress
- Project management tools: Trello, Discord
- Stakeholder reviews: Bi-weekly with stakeholders to ensure alignment and address any changes in requirements.
- Final presentation: A project demonstration and final report submission at the end of the course.