Software Requirement Specification
ECE651 Project Evolution 1
Team 5
Haolou Sun, Hiep Nguyen, Hunter Shen, Yuyu Hsieh

1. Introduction

The attendance management system is designed to facilitate the attendance taking process for the professors. This system will help to automate the process for taking attendance and managing student enrollment. It aims to help the professor save time and energy, and ensure accuracy and security of attendance records.

2. Functional Requirements

a. **User Authentication**: Professors must be able to sign up and log in into the system using their credentials. After logging in, professors can edit information for students who are enrolled in their course.

b. **Attendance Management**: Professors can use the system to take attendance for their courses. Everytime when the professor wants to take attendance, the system will create a new session based on the time when the attendance was taken. It will display the enrolled student names' one by one, allowing the professor to mark them as present, absent, or tardy with a keypress. The system will record the attendance information.

c. **Course Management**: Professors are able to create courses and switch between different courses. They can input the student list for the newly created course via a roster csv file. The system will support various formats of the CSV file, accommodating different header structures and data arrangements.

d. **Student Management:** Professors can use the system to manage the student information for students who are enrolled in their courses. They can update the student's preferred name, edit the student's enrollment status, or change individual student's attendance record. They will be able to navigate the system to get to one student by either browsing or searching.

e. **Report and Notification System**: The system should be able to automatically generate weekly reports and status update notification.

f. **Data Management:** The attendance records will be stored in json files with encryption to ensure security. The system will also provide an export option to save attendance records in formats such as JSON, XML, or custom formats.

3. Non-functional Requirements

a. **Security:** The system will implement security mechanisms to protect sensitive student information. User authentication will be required for accessing the system and managing attendance records.

b. **Usability:** The system should be easy to understand, use and navigate. Professors will be able to use a keyboard to interact with the system.

c. **Reliability:** The system will ensure the reliability and accuracy of the attendance records.