Easy Attendance

LAM  Software LLC

EA

(Will insert logo when one is created)

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**Introduction:**

Easy Attendance is an automatic attendance checking system. The system will utilize Bluetooth technology to take class attendance. The application will run on a moderator’s (teachers, professors, business owners, etc.) computer and connect to the devices of participants (students, employees, etc.). It will run through a list of active participants and mark them automatically as present if the Bluetooth signal is detected. The user interface will show a window of events (classes, work hours, meetings, etc.) that can be created by the moderator. Each event will have a list of participants that can be added to and edited. The system will show the attendance status for the event currently in session and record all attendance status that have been taken. An option to export the attendance data to a spread sheet will be available to the moderators. If a participant does not have a Bluetooth device, it can be selected as an option in the participant's information; additionally manual attendance will be available also.

**Purpose:**

The purpose of this project is to make attendance checking easier. It is a utility application that will reduce the amount of time it takes to check participant attendance statuses and is less likely to make mistakes, which will improve work efficiency. Participants that are aware of a more efficient attendance system will be more encouraged to attend events because it will be more difficult for an absence to be overlooked.

**Platform:**

The program itself will run on a computer, but the participants will need a Bluetooth compatible device to connect to said computer. We intend to create the initial product for Windows, but other operating systems are a future development plan.

**Audience:**

The audience includes teachers, business owners, staff managers, etc. who need to check participant attendance status. This program will be able to be very flexible in that it can check attendance for any event that is regularly scheduled with constant members. The participants involved are those with Bluetooth devices, but as stated in the introduction, there will be an option to mark that person as exempt from this system, in which case manual attendance will still be necessary.

**Team Dynamic:**

Our group will organize meetings through the Outlook email system. Austin will be in charge of group scheduling. Each member will be independent in creating their own code, but will regularly check the code of another member; Austin will check Mitchell, Mitchell with check Liam, and Liam will check Austin. Our group plans to meet every Sunday at 7:00pm and Thursday at 7:00pm. Configuration will be handled through GitHub.

**Description:**

Upon startup, the moderator see a list of classes, events, or other meetings of individuals and choose the one that they would like to take attendance for. The moderator can also create a new event or delete events if necessary. There will also be the option to choose how many days a participant can be absent before being placed on a Warning list (students at Ursinus can only miss four days, so is a student reaches four absences they will be placed on this list) and it will have a Warning symbol next to their name in the event. Choosing an event will move the user to the participant list. Participant data would include the first and last name of the participant, whether or not they have a Bluetooth device, and also the Bluetooth Address of the device they pair (this will not be shown to the moderator in the application). The list would show all active participants and symbols next to their names to indicate their status: present, late, or absent. In order to utilize this function, the members will have to pair their device with the moderator’s computer beforehand. In college or university setting, something like this could be handled on the first day of class. If a member does not have a Bluetooth compatible device, there will be an option in the participant creation setting that allows the participant to be excused from having to have a device. Manual attendance will be available next to all participant names. This also helps in the case that the participant is present, but has to let the moderator know they do not have their device on them. The system will run through the list of active participants and check to see if a Bluetooth signal is detected in the area. If so, it will mark them as present, unless the participant arrives late. If they don’t arrive at all, then it marks them as absent. The events created will all require a start and end time. The system will check for participants every minute before the events starts and every five minutes after the event starts, and will stop checking after the event ends. There will be an option to auto-refresh, which will run through the list once if pressed. The application will store class and student data along with the status of the participants attendance every day that the event in session. The moderator can choose an option to see everyone’s total participation throughout the event, which will be exported as a spreadsheet (Excel and .csv files). The user interface will be created using Java GUI and all saved information will be done using text files to keep track of events, participants, and attendance records.

**Very Rough UML Diagram:**

