

SE 216 – SOFTWARE PROJECT MANAGEMENT

Spring 2023-2024

Project Proposal

ECOLIB

Problem Definition

In our school's library, inadequacy has been observed in certain periods due to the low number of tables compared to the student population and the inability of students to use the tables and study areas effectively. One of the main reasons for this inadequacy is that students occupy the tables with their belongings when not in use. In addition, since there is no application that detects the occupancy rate of the library, students make a lot of noise while trying to find an empty seat, which distracts the people who are already studying in the library. Likewise, the noise generated in and out of the library and even around the library creates a focusing problem. Especially during exam periods, when every minute counts, students lose some of the time they spend studying in the library while looking for an empty seat.

Background Information

We aim to reduce these problems with a library reservation application. In this application, it will be possible to control the people who enter and exit through the turnstiles to be placed at the entrance of the library. With the image processing system, the occupancy rate of the study areas, which tables are used outside of their intended purpose, will be determined, and with the images we obtain from the cameras, density and empty table information will be transferred to the students through the application. In addition, with the image processing system we will use, sanctions will be imposed by identifying people who occupy space, damage library items and use the library for other purposes. In this way, students will be able to easily follow the general follow-up of the library, and time loss and noise problems will be prevented by making reservations. In addition, with the separation of tables with/without computers in the reservation system, the most effective use of computers will be ensured.

In addition, during exam weeks, when the library is the busiest, everyone will be able to use the library for equal periods of time through a reservation system. This will ensure that everyone in our school can work in the library with equal rights. There is currently no library reservation system in our school, but there are similar reservation systems in a few universities. As an example Marmara University has a reservation system which is a classic reservation system. You can make a

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reservation with a table number by logging in as a member through a website. In our reservation application we will additionally use image processing technology. In addition, the fact that such an application will be designed by the students of our school will enable direct intervention in case of any problems. In addition, this application can be integrated into different libraries very easily.

Objectives

- Effective use of the desks, group study rooms and desktops
- Providing students to use their study time more effectively
- Identifying students occupying space and applying sanctions
- Informing students about the occupancy rate in the library through camera
- Ensuring equality in the use of study areas and prevent noise in the library thanks to the reservation system

Approval Signatures and GitHub Accounts

Group GitHub Account: <https://github.com/Se216Section1Group7>

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