

FINAL REPORT

CMPE 492

Senior Design Project II

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1. Abstract

Students, academic staff and staff at the school need to check their mailboxes regularly in order to be informed about the events or innovations at the school, and it becomes difficult for everyone to follow all the activities and innovations because many mails are received in a day. At the same time, it takes a long time and is difficult to access group information to get information about that society or to get involved, especially for those who have just entered the university and those who want to join a society. In addition to this, we all want to be able to see our course schedules that we have created on a timetable and to know which course we take on which day and when. As a solution to all of these, we decided to offer an app, upon the request of the university, where users can make announcements about events and innovations, create their course schedules under the timetable, and access the information of all societies.

2. Solution

We divided ourselves into four teams while developing the TEDU APP application: mobile, backend, web, and UX/UI design teams. The mobile and UX/UI teams are directly focused on the application, the web team is focused on the admin panel, and the backend team works collaboratively for both sides. In the application part, there are announcements, TEDU Scheduler/TEDU Class, and communities. In the admin panel, there are features to view and manage user information and permissions, add and edit communities, and enter information for announcements that will be displayed in the application.

2.1. TEDU APP

In the announcements section of the app, administrators can view the announcements they have made through the admin panel. Additionally, even when the app is not open, these announcements are received as push notifications on users' phones. This allows for easy awareness of university events and updates. In the TEDU Scheduler section, students can create their schedules and view customized program options by entering their desired courses and utilizing personalized settings prior to course registration. They can then transfer this schedule to the TEDU Class section, where they can save and view their course timetable on a schedule grid for future reference. The Communities section allows users to view all the communities within the university and easily access their contact information. This enables

seamless communication and interaction with various university-based communities.

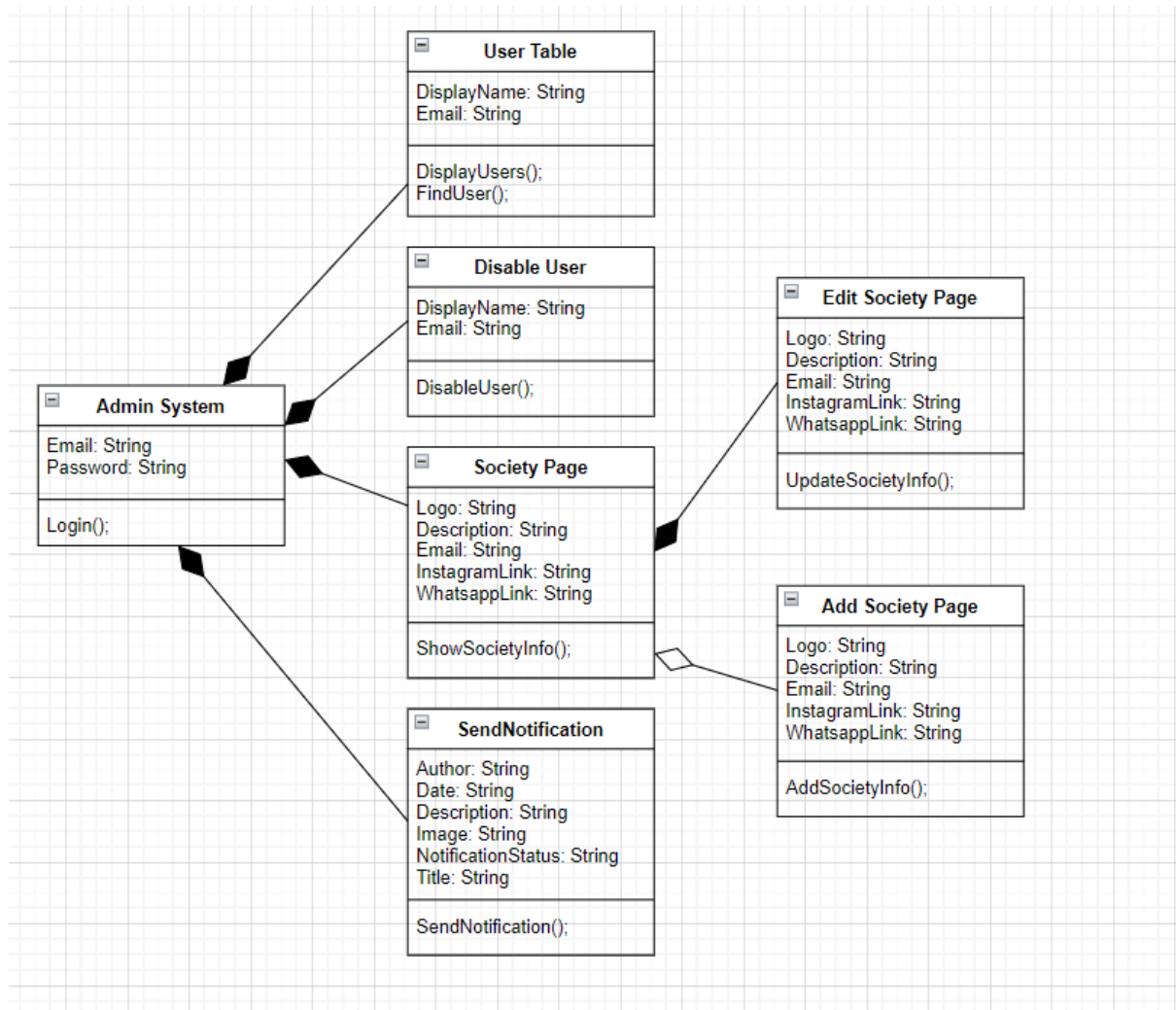
2.2. TEDU ADMIN

The admin panel will be designed as a web-based system, providing the ability to manage user information, societies, and notifications displayed in the application. Upon logging into the system with a username and password, the admin will be directed to the home page. From there, they can access various sections, including the User Table, Society Page, Disable User, Add Society, and Send Notification pages. By selecting the User Table option, the admin can view a list of registered users in the application, along with their names and email addresses. The admin will also have the capability to search and filter user information within this table. Clicking on the Society Page button will allow the admin to access and edit information related to existing societies separately. They can view the current details and make necessary modifications. With the Disable User button, the admin will have the authority to deactivate or disable users from the available user list, based on their discretion. Using the Add Society button, the admin can add newly established communities within the university. This includes uploading logos, providing names, email addresses, descriptions, as well as WhatsApp and Instagram links for the respective societies. Lastly, within the admin panel, selecting the Send Notification button enables the admin to create and submit notifications that will appear on the homepage of the application. They can input relevant details such as author, date, description, image, status, and title for each notification. Overall, the admin panel serves as a comprehensive web interface, allowing the admin to manage user data, societies, and notifications effectively.

2.3. Object design trade-offs

1. **Space vs Time:** In the Tedu App project, the information of the users using the application, the course programs created by each user, the society information within the university, as well as the announcements made by the university will be kept in the database. Unlike the database system where the announcements are kept, we aimed to facilitate the instantaneous change of changes by using the realtime database. Since too much data is collected and used, we need to work efficiently on the allocation of space.
2. **Performance vs Security:** The Tedu App and the admin page will both save data about the users and the university. Therefore, it is essential to work in a highly secure environment. The goal is to offer a safe, dependable, and secure environment for the user without compromising the system's functionality or security in the event of data theft. Unauthorized users should not be able to access the system, according to the system.
3. **Portability vs Useability:** The designed application and admin panel are systems that will be used not only by a specific audience such as students, but also by large audiences such as students, teachers, school staff. Therefore, the interface design and usability of the application should be as simple as possible. There is a micro website called "Step by Step Tedu App" especially for the application to be used. While the Tedu app is available on IOS and Android, the admin page and micro website will only be available on the web. Among these features, usability is more important than portability.
4. **Existing components vs New components:** There will be two useful systems for users. With the changes made from the TEDU Admin system, many features such as sending notifications in the TEDU App application will be affected. Thanks to this connection, we want to create a more reliable, smoother and more systematic operation under the control of certain people.
5. **Reliability vs. Supportability:** Regarding reliability and supportability, reliability is more important in the TEDU Admin and TEDU App system. It is an important criterion in ensuring reliability that the control of the admin panel is accessible to restricted people so that information about the school does not go out.

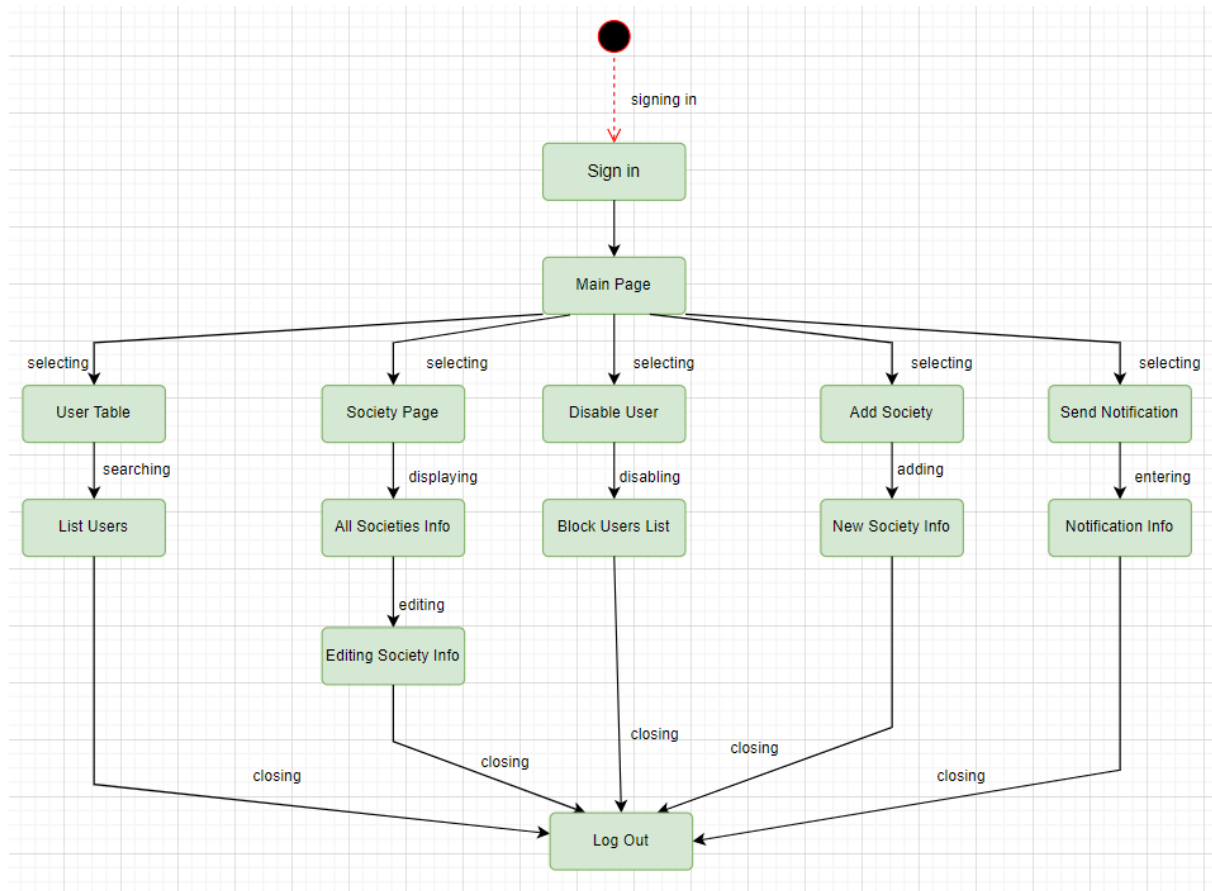
2.4. UML Diagram



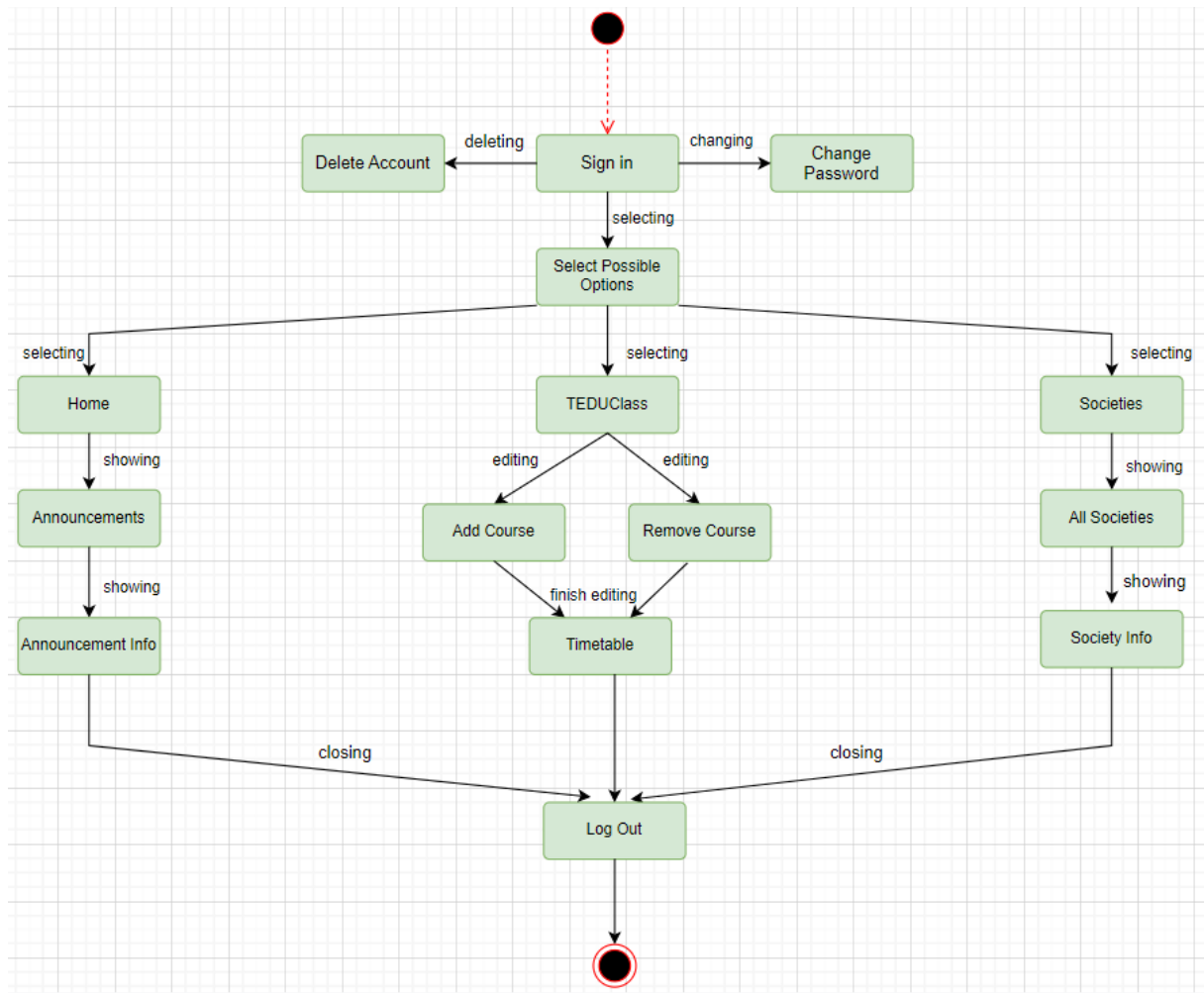
3. Architecture and Design of the System

The primary objective of the system's architecture and design is to provide the necessary software components to build both computer-based and mobile systems. This includes considering the architectural design that the system will employ, the structure and characteristics of its components, and any potential external relationships between the systems as a whole. This project specifically needs to consider two main sections: the admin panel and the mobile application.

3.1. Admin System State Chart



3.2. TEDUApp System State Chart



4. Solution Packages

The project is composed of two different packages, which are Tedu App and Admin Panel packages. The TEDUApp application package contains three components: Home, TEDUClass and Societies. Admin page package contains two components: Sign In and Home. The upper packages will be analyzed generally through their sub-packages in this section.

4.1. TEDU APP

Login Page

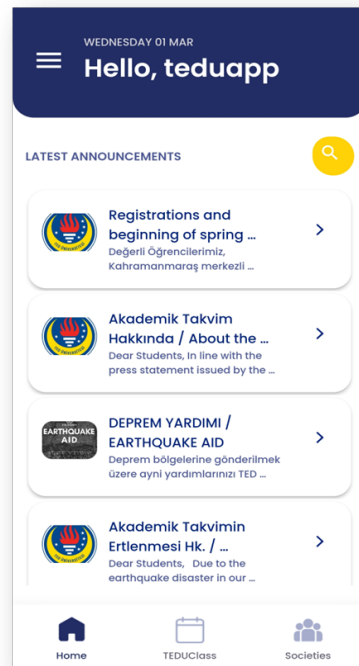
The user starts using the application by logging into the system with TEDUPass (name.surname@tedu.edu.tr - Password).

Credits Page

With the Credits button, the users who developed the application and the contact information of TED university will be found.

Home Page

Registered users will be able to access their home screen with the sign in button from the first login screen that opens when they enter the application. Announcements entered from the admin panel on the main screen will appear in front of the user according to the last sending order. When the user clicks on these announcements, he or she will find the title of the announcement, the image related to the announcement, and if the announcement is an event, the date and description of the event.



TEDUClass Page

If the user is a student or teacher, it is aimed that s/he can easily view her/his weekly lessons by placing them on the timetable. When the user enters the TEDUClass screen, s/he will be able to add or remove courses from the edit courses section. If the add course button is selected, the timetable will be able to select the course s/he wants to enter from a list of all courses, select a color s/he wants and add it to the timetable. When the Remove course button is selected, it will provide an option for the user to delete the courses that the user has previously selected and processed on the timetable.

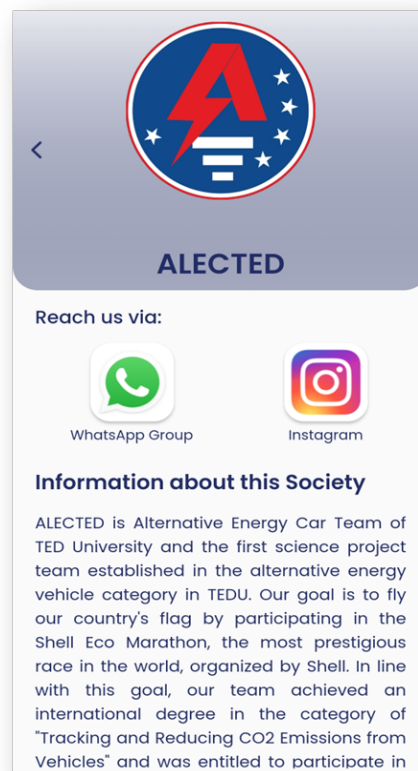


TEDUScheduler Page

When the user clicks on "Go Scheduler", s/he can view the alternative programs by selecting the courses s/he wants to take during the semester from the "Select your courses" section and adding "Advanced Filter" settings to them, or s/he can add the selected program to his/her schedule by pressing the "Import TEDUClass" button.

Societies Page

Users who choose the Societies screen will be able to see the logos and names of all the societies within the university. Users who want to see it in detail will be able to select the society they want and access the logo, society name, whatsapp and instagram links and information about the society.



4.2. TEDU ADMIN

Sign In Page

On this page, the admin needs a user name and a password that he/she has determined in order to sign in to the Admin System. After entering this information into the system and logging in, admin can directly go to the Home Page.

Home Page

After logging into the system and accessing the Home Page, the admin can select the desired option in the menu bar.


User Table Page



If the admin presses the User Table button, s/he will be able to see the names and e-mail addresses of the users registered in the application and will be able to search within the information.



TED UNIVERSITY			User Table
NAME	SURNAME	E-MAIL	
Berfin	Karacay	berfin.karacay@tedu.edu.tr	
Ekin	Ozdogan	ekin.ozdogan@tedu.edu.tr	
Doga	Gulbatai	doga.gulbatai@tedu.edu.tr	
Alp	Keskin	alp.keskin@tedu.edu.tr	
Doguhan	Cumaoglu	doguhan.cumaoglu@tedu.edu.tr	
Hasanalp	Temiz	hasanalp.temiz@tedu.edu.tr	
Oya	Aras	oya.aras@tedu.edu.tr	
Zeynep	Erturk	zeynep.erturk@tedu.edu.tr	
Uras	Ozsoy	uras.ozsoy@tedu.edu.tr	
Zeynepnaz	Acar	zeynepnaz.acar@tedu.edu.tr	
Asli Gunsu	Ozkan	agunsi.ozkan@tedu.edu.tr	
Egehan	Dastan	egehan.dastan@tedu.edu.tr	



Society Page

If the admin clicks the Society Page button, s/he will be able to view the current information of the societies and edit them separately.

**Society Page**

**ALECTED**

ALECTED is Alternative Energy Car Team of TED University and the first science project team established in the alternative energy vehicle category in TEDU. Our goal is to fly our country's

**IAESTE**

The International Association for the Exchange of the Students for Technical Experience (IAESTE): Continuing its activities in our country under the name of the International Association for the

**KAIZEN**

Kaizen Society was established in order to create Kaizen awareness in our school, which will help in all areas of business life, to enrich the theoretical and practical knowledge in the light of engineering


Disable User Page

If the admin clicks the Disable User button, s/he will have the authority to disable the user from the list of available users.

TED UNIVERSITY			
Disable User Page			
DISABLE	NAME	SURNAME	E-MAIL
<input type="checkbox"/>	Berfin	Karacay	berfin.karacay@tedu.edu.tr
<input type="checkbox"/>	Elkin	Ozdogan	elkin.ozdogan@tedu.edu.tr
<input checked="" type="checkbox"/>	Doga	Gusbatan	doga.gusbatan@tedu.edu.tr
<input type="checkbox"/>	Alp	Kerkin	alp.kerkin@tedu.edu.tr
<input checked="" type="checkbox"/>	Dogukan	Cunaoğlu	dogukan.cunaoğlu@tedu.edu.tr
<input type="checkbox"/>	Hakanalp	Temiz	hakanalp.temiz@tedu.edu.tr
<input type="checkbox"/>	Oya	Acar	oya.acar@tedu.edu.tr
<input checked="" type="checkbox"/>	Zeynep	Ertürk	zeynep.erturk@tedu.edu.tr
<input checked="" type="checkbox"/>	Uras	Orcay	uras.orcay@tedu.edu.tr
<input checked="" type="checkbox"/>	Zeynepac	Acar	zeynepac.acar@tedu.edu.tr
<input type="checkbox"/>	Atili Goren	Orkan	agoren.orkan@tedu.edu.tr
<input type="checkbox"/>	Egemen	Dutan	egemen.dutan@tedu.edu.tr
<input type="checkbox"/>	Elkin	Cokkusu	elkin.cokkusu@tedu.edu.tr
<input checked="" type="checkbox"/>	Berkay	Tezingir	berkay.tezingir@tedu.edu.tr


Add Society Page

On the Add Society button, they will be able to add their logos, names, e-mail addresses, descriptions, whatsapp and instagram links for newly established communities within the university.

	Logo
Society Name	
Society E-Mail	
Society Description	
Society Whatsapp Link	
Society Instagram Link	
<input type="button" value="SUBMIT"/>	

Send Notification Page

If the admin clicks on the Send Notification button, s/he will be able to submit the content of the notifications that will fall on the homepage of the application as author, date, description, image, status and title.

Notification Page	
Title	
Description	
	Pick an image
Date Picker	
Date	
<input type="button" value="SEND NOTIFICATION"/>	

5. Test Results

Test Number	Test Description	Passed/Failed	Result
1	Determining the Tests	Passed	Passed without a problem.
2	Add Society API Testing	Passed	Passed without a problem.
3	Disable User API Testing	Passed	Passed without a problem.
4	Edit Society API Testing	Passed	Passed without a problem.
5	Login Page API Testing	Passed	Passed without a problem.
6	Single Society API Testing	Passed	Passed without a problem.
7	Society Page API Testing	Passed	Passed without a problem.
8	User Table API Testing	Passed	Passed without a problem.
9	Notification Page API Testing	Passed	Passed without a problem.
10	System Integration Testing	Passed	Passed without a problem.

6. Assessment of Tests

The application and the admin page have progressed very successfully in terms of tests. With the increase in the number of people after the application started to be used, we encountered some problems in downloads and user logins, but we solved this in the future. In the following phases, we thought of improving the project by adding features such as customizing the forum and notifications.

7. Definitions, acronyms, and abbreviations

Admin Panel: System where admins can manage users and application

Add/Remove Societies: Adding or removing societies within the university.

Send Notification: The page on the homepage of the application where the notifications that appear to the users can be sent.

OTP: It is the authentication code sent for the user to complete the registration process.

Disable User: The page where the users in the user list are disabled from accessing the application.

Step By Step Tedu App: Step by Step Tedu App, a microsite, explains to users step by step how to use the application and the steps that the user should follow.

TEDUScheduler: The user can see the courses to be taken in different combinations. If he/she wants, can create an overlapping program or leave an empty day in his/her program and see the course program alternatives according to this filtering.

TEDUClass: The user can add the program he created to a timetable, if s/he wants, can assign a color to each lesson and visualize his program.

Edit Courses: The user can see the program alternatives by filtering the courses they want to take (allow conflict, empty day, show classroom).

Timetable: Added courses look like a chart on a day and hour basis.

8. Glossary

Admin System: System where admins can manage users and application

User Table: The list where the names and email addresses of the users using the application are kept.

Disable User: The page where the users in the user list are disabled from accessing the application.

Send Notification: The page on the homepage of the application where the notifications that appear to the users can be sent.

TEDU Class: Timetable where application users can create their own lesson programs and add/remove lessons.

OTP: It is the authentication code sent for the user to complete the registration process.

9. References

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