1. Introduction

COVID-19 is a significant pandemic that has spread all around the world which makes taking measurements and managing pandemic a more significant issue. This project is a pandemic manager system to manage COVID-19 pandemic. To make it easier to use, the system is a web application that is compatible with both computers and mobile devices. The main audience that the system serves is the students, instructors, administrators and other university members of Bilkent University.

To be able to use the system, the user first should be a registered user in the system. If not, he/she can register into the system using his/her bilkent email address. After that, the user can log in to the system using his/her ID and password. The application provides different interfaces and features for different students,teachers and university administration.

The core functionalities that the system provides is managing HES codes, PCR tests, vaccination cards, diagnoses, allowance status of the student. According to whether HES code of the student is risky or not, whether he/she uploaded two vaccination cards into the system, whether he/she has a positive diagnosis in the recent time automatically changes the allowance status of the student. Other features the system provides to students are enrolling in lectures , creating a list of close contact people and making reservations from Sports Hall.

All the other types of users, which are instructors, administrators, sports hall staff, are able to use all features that have been provided to the students in the system. Moreover, the instructors can create courses, view participants to their lectures and their campus allowance statuses. The Sports Hall staff is provided the feature of tracing the list of students that made reservations and their allowance situations. Administrators can view all lectures and sport events as well as their participants allowance status.

2. User Manual

2.1 Logging in and Signing Up

The first screen when the user opens the website ForThyHealth is the login screen. In this page the user enters its university id, password and its user type (Figure 2.1.1) . If the university id is not a valid id with the specified type, the system gives error "No user with the given University ID" (Figure 2.1.2). If the user enters a wrong password, the system gives the error "Password is wrong"(Figure 2.1.3). If the user enters a correctly matched id, password and user type, the website directs the user into the main page. If the user does not perform any action when logged in for at least 10 minutes, the system kicks out the user for security issues.

If the user does not have an account, he/she can click on "Dont Have an Account ?" button which directs the user into the register page (Figure 2.1.4). In this page, a student can register into the system by specifying its university id, password, bilkent email, name and surname.
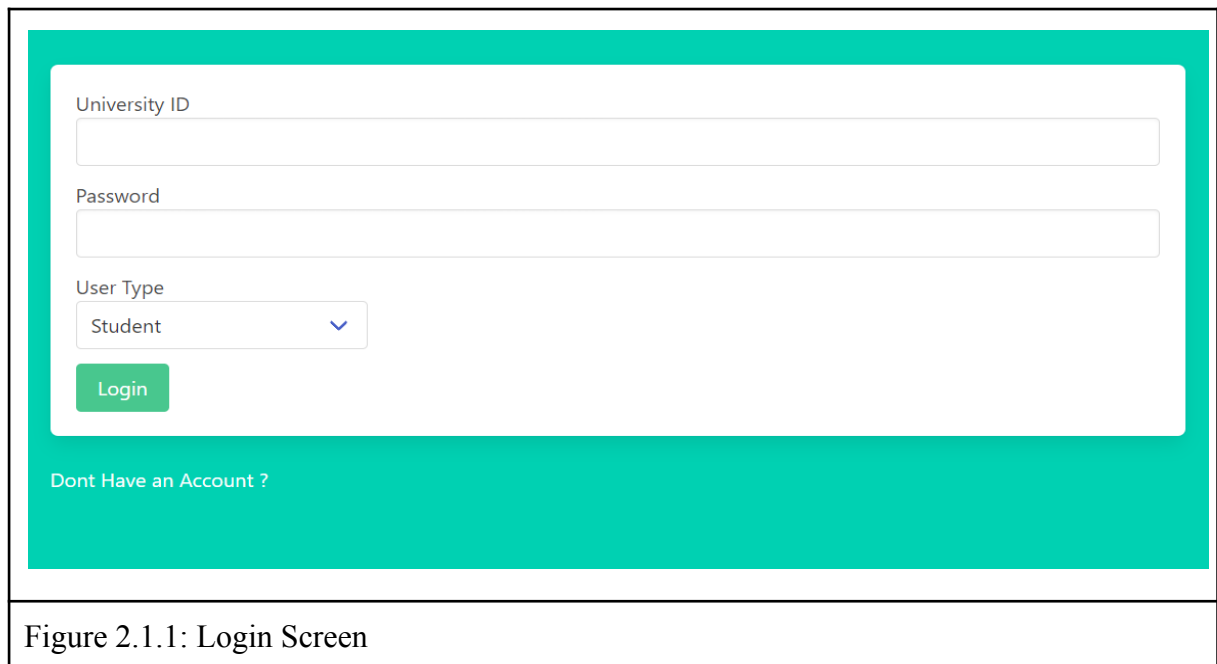
University ID

Password

User Type

Student

Login

Dont Have an Account ?

Figure 2.1.1: Login Screen

University ID

No user with the given University ID. Have you registered? Have you chosen correct user type?

Password

User Type

Student
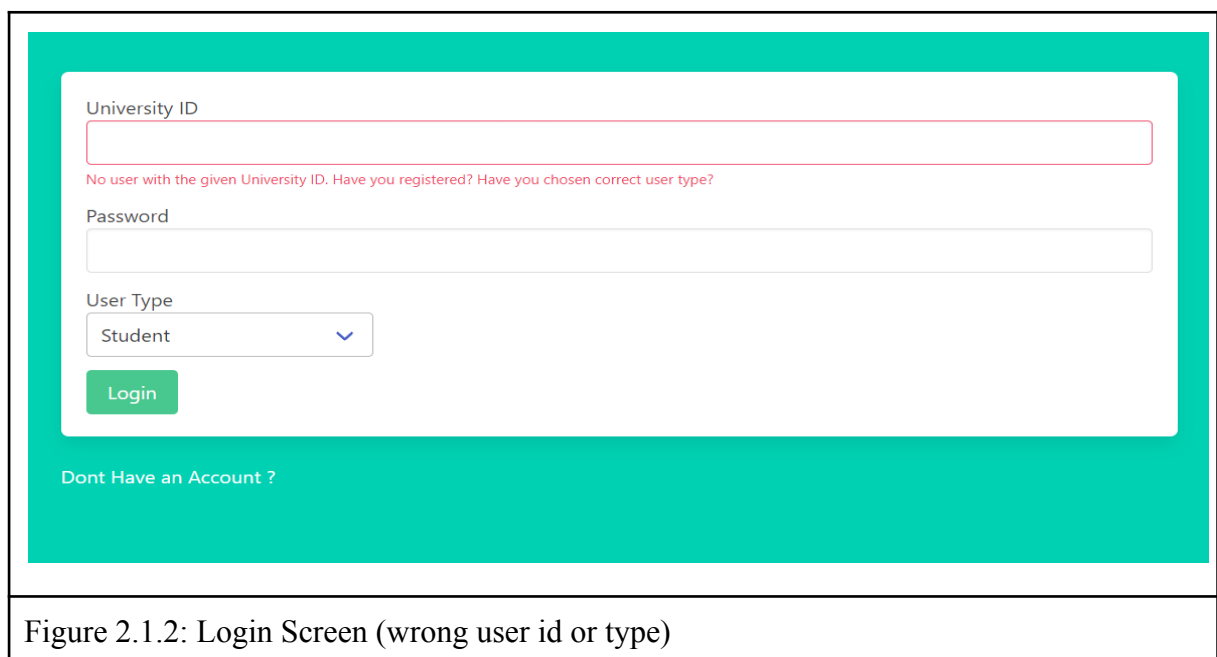
Login

Dont Have an Account ?
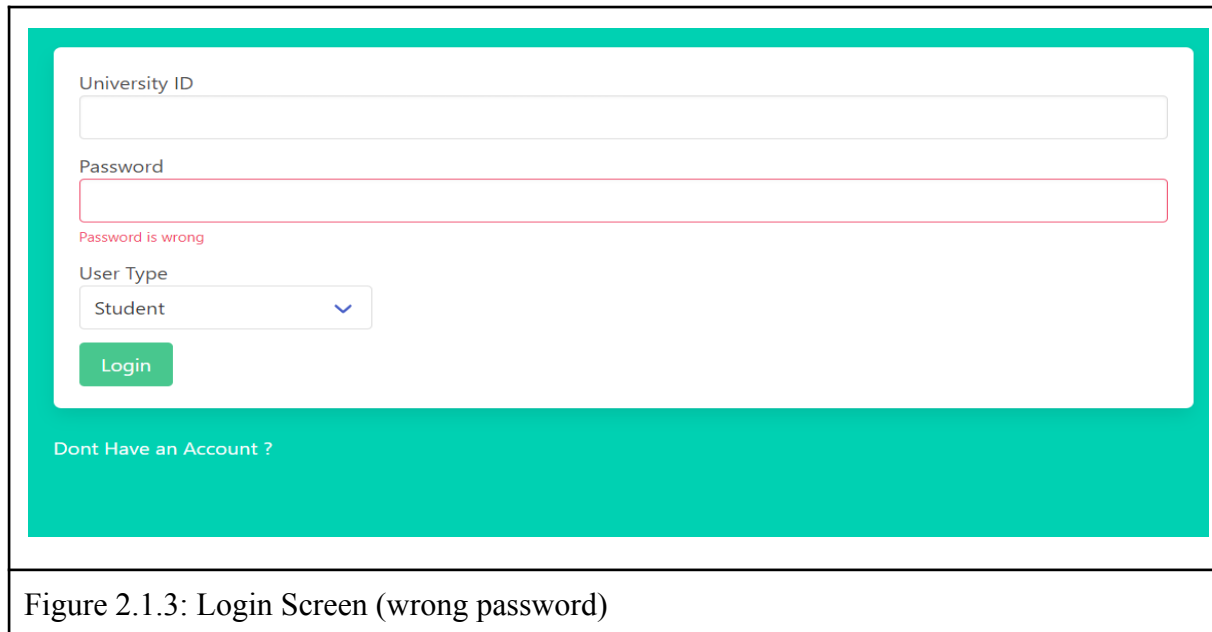
Figure 2.1.2: Login Screen (wrong user id or type)

Figure 2.1.3: Login Screen (wrong password)
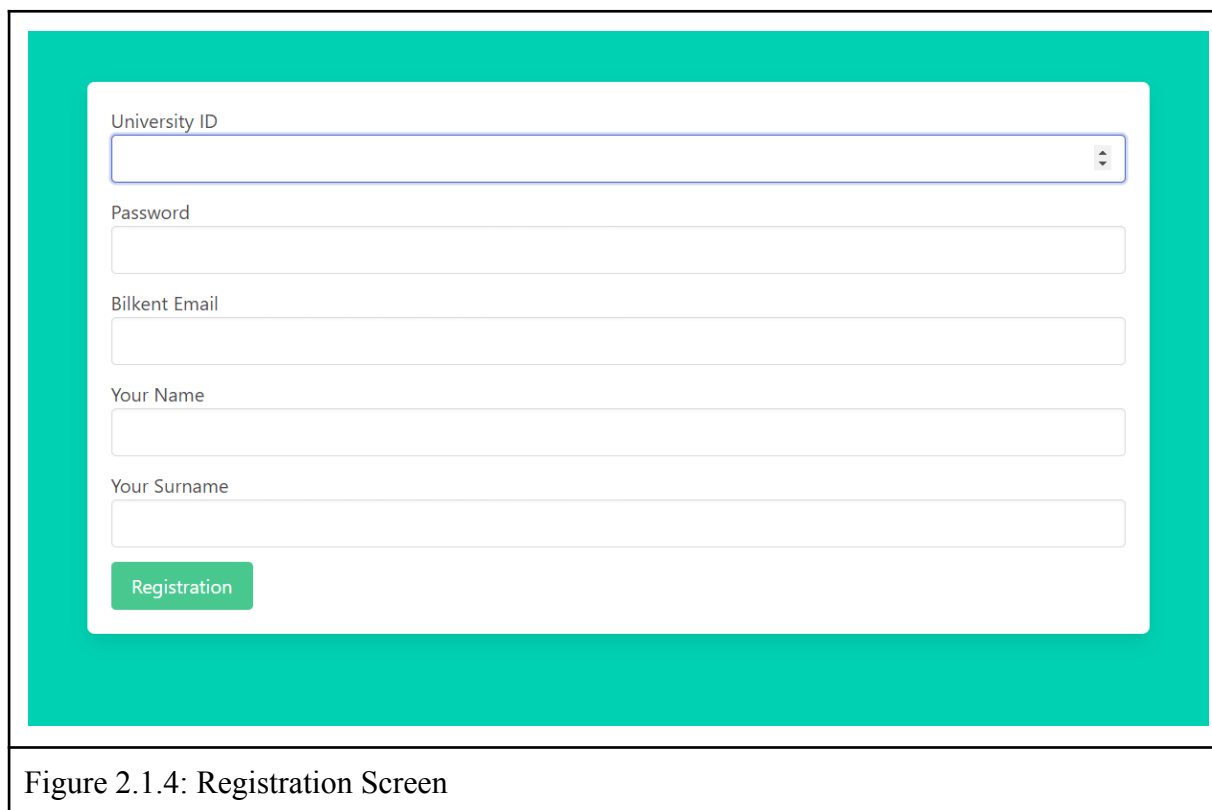
Figure 2.1.4: Registration Screen

2.2 Main Page

Main page displays the general information of the user related to its covid-19 related background such as its profile, vaccine info, past diagnosis and past & upcoming PCR tests (Figure 2.2.1). Besides that, it includes a navigation bar to navigate the user between the pages and links of about, credits, privacy pages. Each component in the main page will be elaborated in the following subsections .

Figure 2.2: Main Page

2.2.1 Profile Component

This component present in the main page displays the id, name, e-mail, allowance status and hes code of the user (Figure 2.2.1.1). It also includes a box and Change HES code button which can be used the change the hes code of the current user.

Figure 2.2.1.1: Profile Component
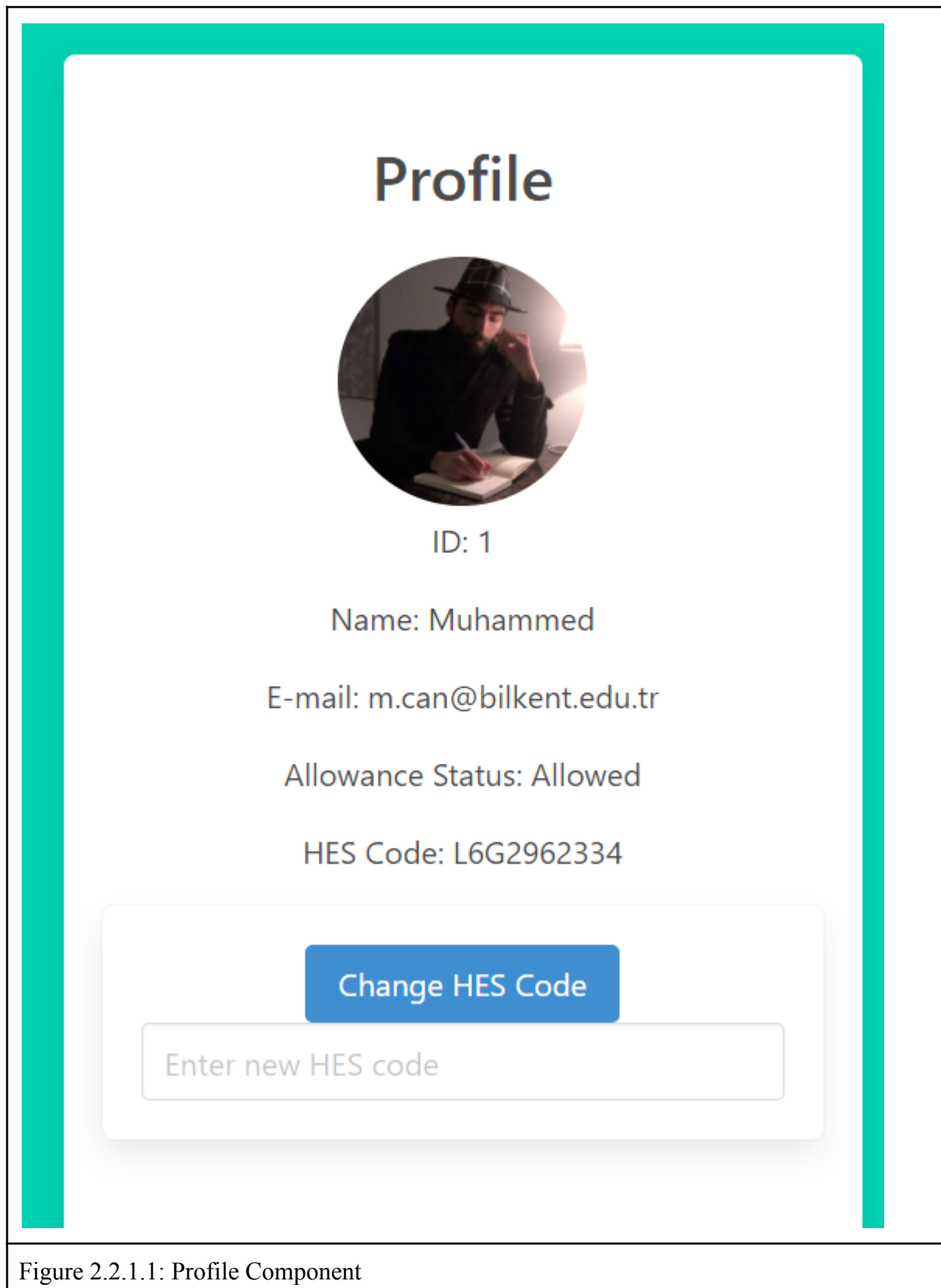
2.2.2 Vaccine Info Component

It displays the vaccines of the user registered into the system. It displays the date and vaccination name for each vaccine (Figure 2.2.2.1). This component also has "Add Vaccine

Card" button which registers the chosen vaccination with a pdf format into the system if clicked on.

Vaccine Info

Current Vaccines :

Vaccination Date	Vaccination Name
13 Dec 2021	Pfizer-BioNTech COVID-19 Vaccine
14 Dec 2021	Pfizer-BioNTech COVID-19 Vaccine
15 Dec 2021	Pfizer-BioNTech COVID-19 Vaccine
19 Dec 2021	Pfizer-BioNTech COVID-19 Vaccine
20 Dec 2021	Pfizer-BioNTech COVID-19 Vaccine

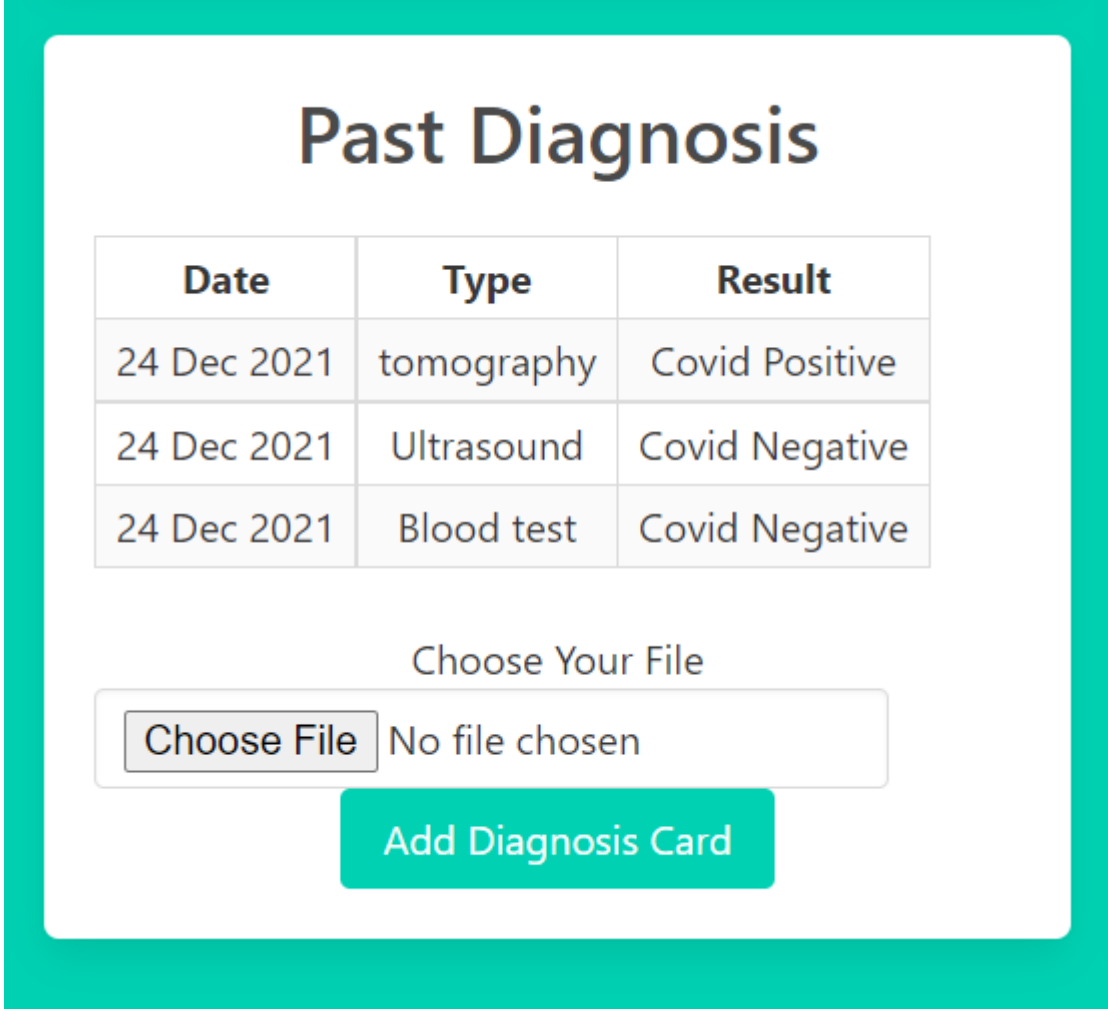Choose Your File

Choose File | No file chosen

Add Vaccine Card

Figure 2.2.2.1: Vaccine Component

2.2.3 Past Diagnosis Component

This component displays the past diagnoses of the user. Each diagnosis is displayed with its date, type and result. The system also has an "Add Diagnosis Card" button which adds the diagnosis of the user which is in pdf format (Figure 2.2.3.1).

Figure 2.2.3.1: Diagnosis Component

2.2.4 Past & Upcoming PCR Tests

This component displays the past and upcoming PCR tests of the user. Each test is displayed with its date and result (Figure 2.2.4.1). It also has "schedule PCRTest" button which directs the user into the PCR test page in which a user can reserve a time slot for a future PCR test reservation or cancel an already existing PCR Test reservation (Figure 2.2.4.2).

Figure 2.2.4.1: PCR test component

Figure 2.2.4.2: PCR test page

2.2.5 Links

In this component, necessary links are displayed such as credits, and about pages (Figure 2.2.5.1) (Figure 2.2.5.2).

Credits
ForThyHealth
Group 1-I - OOPS Members:
Giray Akyol
Muhammed Can Küçükaslan
Muhammet Hikmet Şimşir
Mustafa Utku Aydoğdu
Mustafa Yasir Altunhan

Figure 2.2.5.1: Credits

About

Our project is a pandemic manager system developed for managing COVID pandemic. The system is developed as a web application and can be accessible from personal computers and mobile devices that have access to the Internet. The main audience that the system serves is the students,instructors,administrators and other university members of Bilkent University.

To use the system, individuals need to register the web application using their Bilkent mails . After the verification process is completed, users can log in the system with their Bilkent University ID's and passwords. The application provides different interfaces and features for different students,teachers and university administration.

The main feature system provides for the students is an interface for them to submit their HES codes, PCR tests, uploading vaccination cards, and informing them about their campus allowance situation accordingly. The system tracks the HES code of the students and in case HES code situation is risky it changes the campus allowance status accordingly. Other features the system provides to students are enrolling in lectures , creating a list of close contact people and making reservations from Sports Hall. The system also provides information about the covid statistics related with both country and the university.

The features system provides for the instructors, administrators and other university staff such as Sports Hall staff includes the features it provides to students;however is not limited to them. The instructors can create courses they give throughout the semester, and along with the administrators can trace the allowance situation of the students enrolled in these courses. Similarly, the Sports Hall staff is provided the feature of tracing the list of students that made reservations and their allowance situations.

Figure 2.2.5.2: About

2.2.6 Navigation Bar

This bar is used to navigate between pages (Figure 2.2.6.1).

Figure 2.2.6.1: Navigation Bar
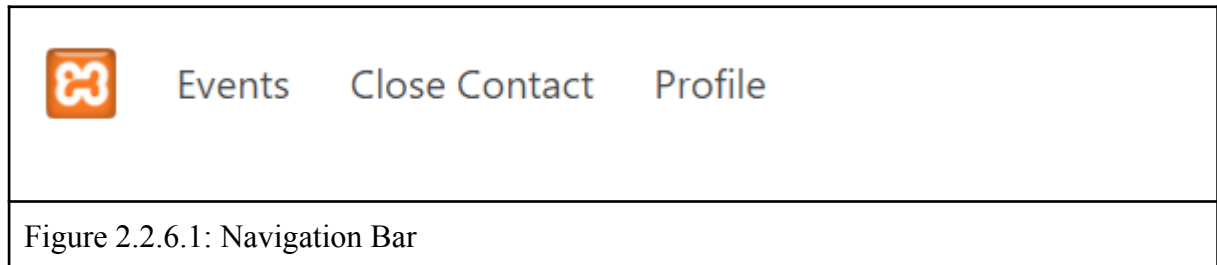
2.3 Events Page

This page is used to show the events a user participates in. It constitutes of mainly two components:

2.3.1 Enrolled Courses Component

This component displays the enrolled courses of the user. For each course, course code and place are displayed. The user may decide to leave a particular course. In that case he/she just clicks on the leave button (Figure 2.3.1.1).

Enrolled Courses		
Course Code	**Place**	**Leave Course**
CS101	Bilkent University	Leave
CS319	B204	Leave
Automata Theory and Formal Languages	B-204	Leave
Probability and Statistics for Engineers	EA-Z01	Leave
Great Discoveries from the Ancient World	SA-Z18	Leave
Algebraic Number Theory	SB-Z04	Leave
Graphic Design for Non-Majors	SA-Z18	Leave
Automata Theory and Formal Languages	B-Z02	Leave
Graphic Design for Non-Majors	SB-Z04	Leave
Computer Organization	SA-Z18	Leave

Figure 2.3.1.1: Enrolled Courses

2.3.2 Sports Hall Reservation Component

This component displays sports hall reservations of the user. For each reservation, the place, day slot and time slot of the reservation is displayed. The user may leave or enroll a sports hall reservation by just clicking on the button (Figure 2.3.2.1).

Merkez Spor Salonu	25-Dec	12:00-12:59	Leave
Doğu Spor Salonu	28-Dec	08:00-08:59	Leave
Yurtlar Spor Salonu	26-Dec	06:00-06:59	Leave
Yurtlar Spor Salonu	27-Dec	07:00-07:59	Leave
Doğu Spor Salonu	23-Dec	04:00-04:59	Leave
Dormitory Sports Hall	16-Dec	08:40-09:40	Enroll
Yurtlar Spor Salonu	24-Dec	12:00-12:59	Enroll
Doğu Spor Salonu	23-Dec	01:00-01:59	Enroll
Yurtlar Spor Salonu	28-Dec	11:00-11:59	Enroll

Figure 2.3.2.1: Sports Hall Reservation Component

2.4 Close Contacts Page

The main purpose of this page is to display the close contacts of the user. It constitutes of mainly three components:

2.4.1 Close Contact List Component

It displays the close contacts of the user. For each close contact, the photograph, name and id is displayed. The user can remove a close contact by clicking on the "Delete" button (Figure 2.4.1.1).
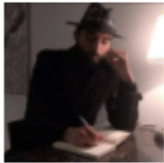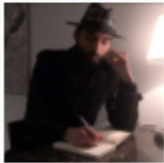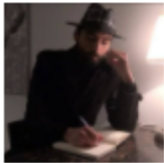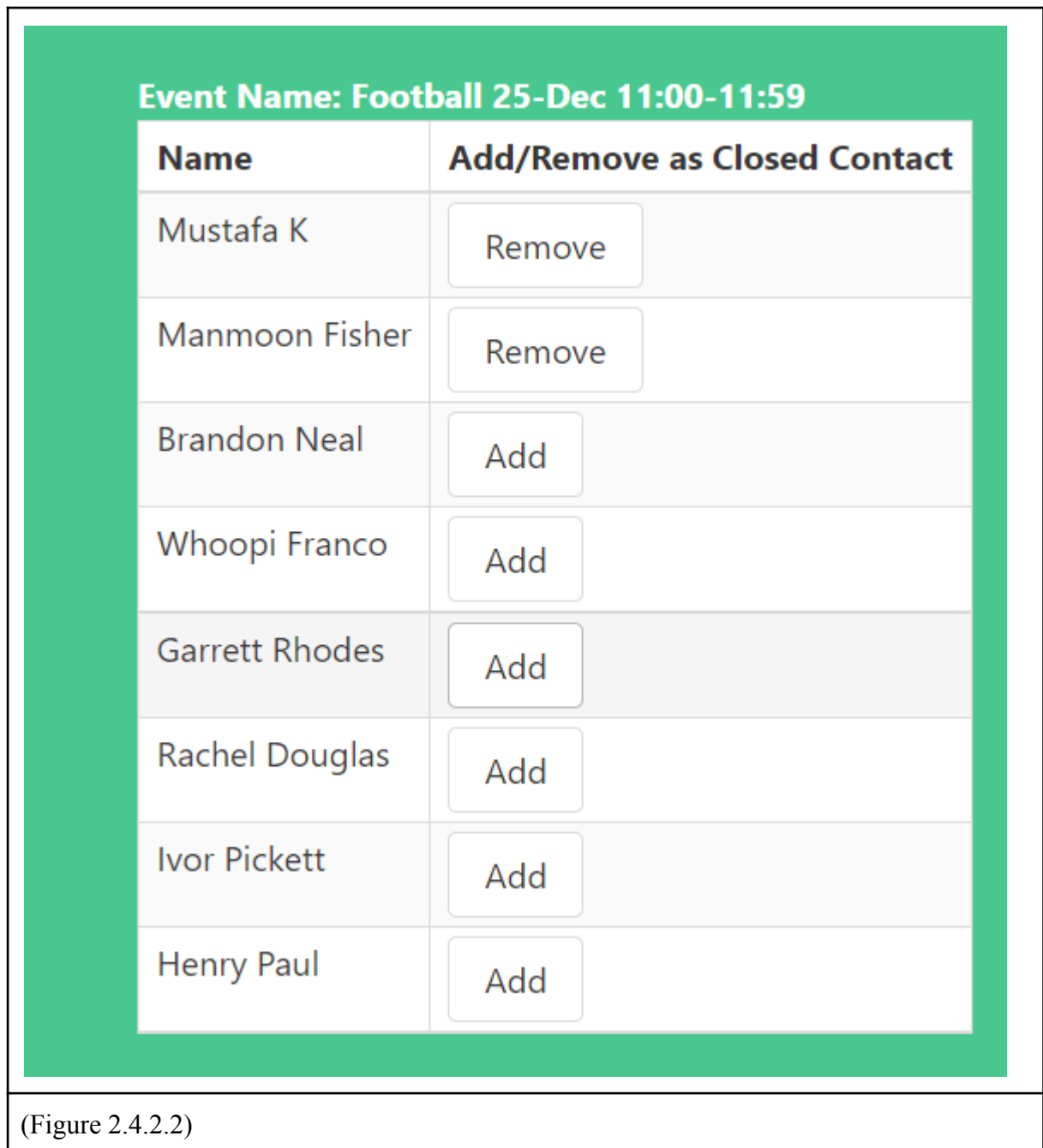
Figure 2.4.1.1: Close Contact List Component

2.4.2 Events Component

This component demonstrates the events that the current user has enrolled in. For each event, its name and information such as where, when it takes place is displayed (Figure 2.4.2.1). When the see event button for a specific event is clicked on, it directs the user into a new page which shows the participants for that specific event. From there, a user can add or remove a participant from its close contact list (Figure 2.4.2.2).
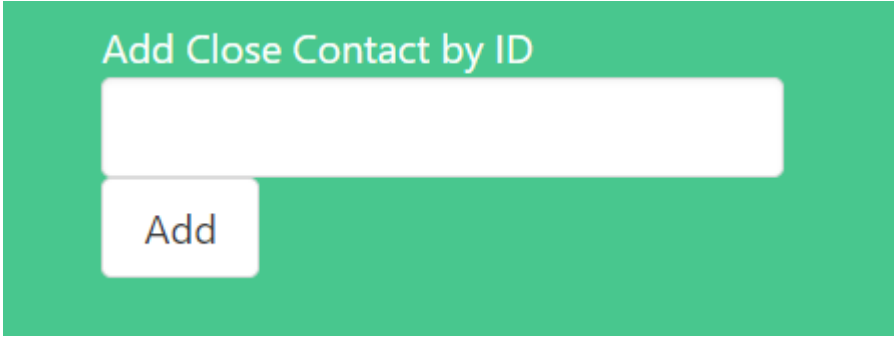
Your Events

Name	Info	Participants
Fitness	Dormitory Sports Hall 17-Dec 08:40-09:40	See Event
Basics of Signals and Systems	SA-Z18 25-Dec 07:00-07:59	See Event
Volleyyball	Yurtlar Spor Salonu 23-Dec 03:00-03:59	See Event
Volleyyball	Doğu Spor Salonu 27-Dec 01:00-01:59	See Event
Squash	Merkez Spor Salonu 28-Dec 11:00-11:59	See Event
Basketball	Doğu Spor Salonu 24-Dec 01:00-01:59	See Event

(Figure 2.4.2.1)

Event Name: Football 25-Dec 11:00-11:59

Name	Add/Remove as Closed Contact
Mustafa K	Remove
Manmoon Fisher	Remove
Brandon Neal	Add
Whoopi Franco	Add
Garrett Rhodes	Add
Rachel Douglas	Add
Ivor Pickett	Add
Henry Paul	Add

(Figure 2.4.2.2)

2.4.3 Add Close Contact by ID

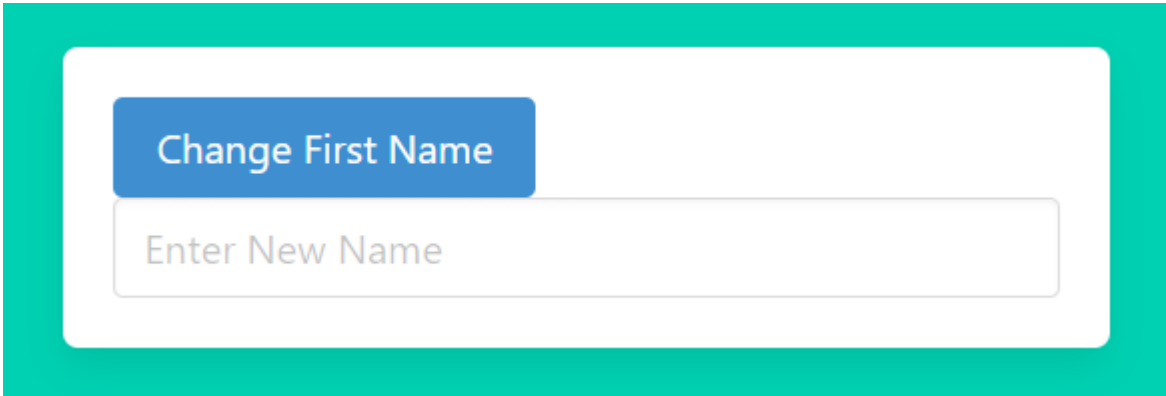This component is used to add a new close contact whose id is the number entered into the text box (Figure 2.4.3.1).
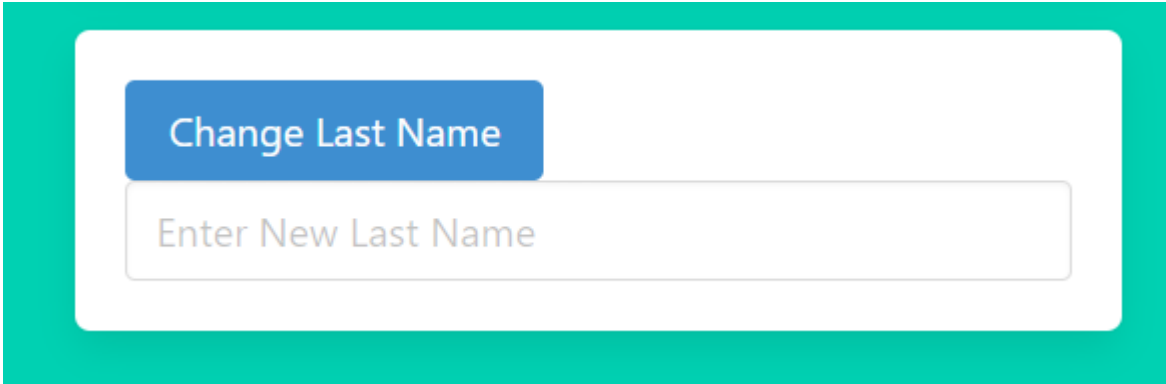
Figure 2.4.3.1: Add Close Contact by ID

2.5 Profile Page

This page is used to change current user information. The user can change his/her first name (Figure 2.5.1), last name (Figure 2.5.2), email (Figure 2.5.3) or password on this page (Figure 2.5.4). When the user tries to change his/her password, the current password must be entered correctly to the related box, otherwise changing password request is denied. The user can also delete his/her account on this page (Figure 2.5.5).

Figure 2.5.1: First Name Component

Figure 2.5.2: Last Name Component

Figure 2.5.3: Change E-mail Component

Figure 2.5.4: Change Password Component

Figure 2.5.5: Delete Account Component

2.6 Lecture Page

This page is used to show the lectures the lecturer participates in (Figure 2.6.1). For each lecture the lecturer participates, course code and place is displayed (Figure 2.6.2). When the see event button is pressed, it directs the lectures into the "Lecture Participants Page" and it shows the co-instructors and participants for the lecture specified (Figure 2.6.3). For each participant or co-instructor, their id, name and allowance status are displayed.
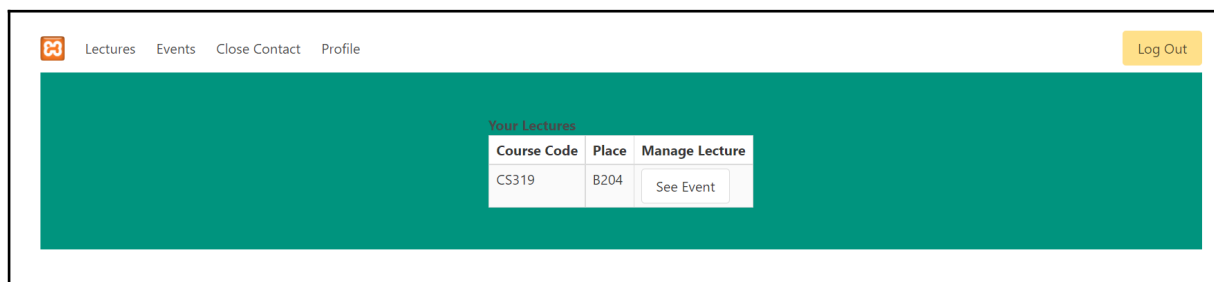

Figure 2.6.1: Lecture Page
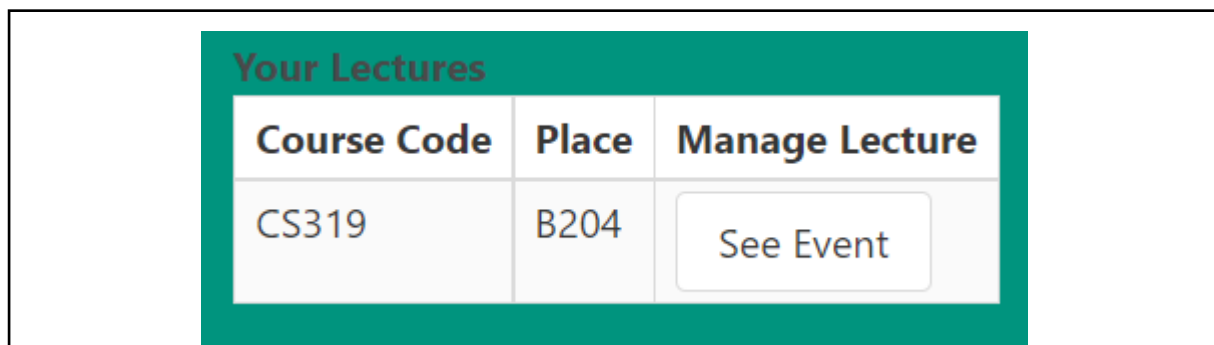
Figure 2.6.2: Lecture Component
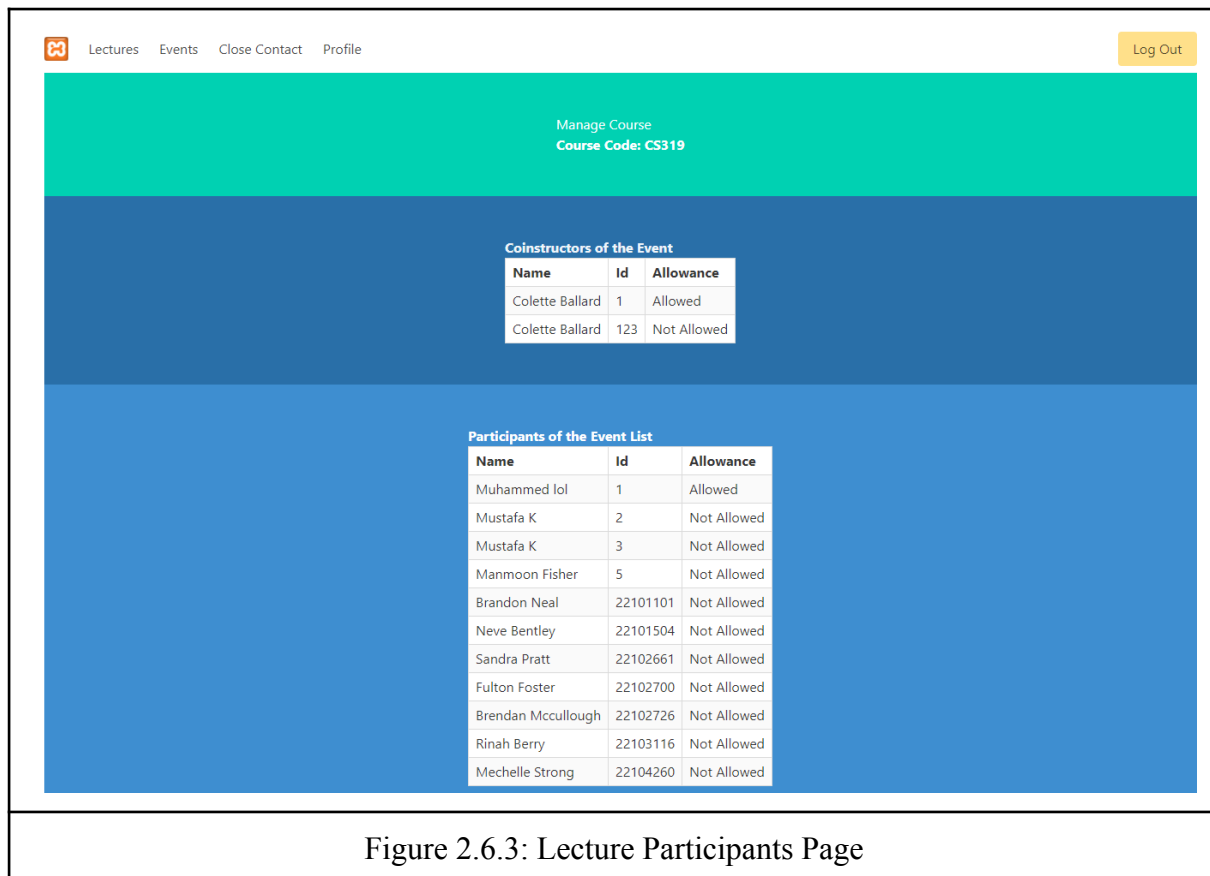
Figure 2.6.3: Lecture Participants Page

2.7 Reservation Page

This page is used to demonstrate sports hall activities that a particular sports hall staff managed in the past or will manage in the future (Figure 2.7.1). The sports hall staff can see the participants of a specific sports hall activity by clicking on the see button. It directs user into a new page where all participants for that activity are listed (Figure 2.7.2). For each participant, corresponding name allowance status are displayed.
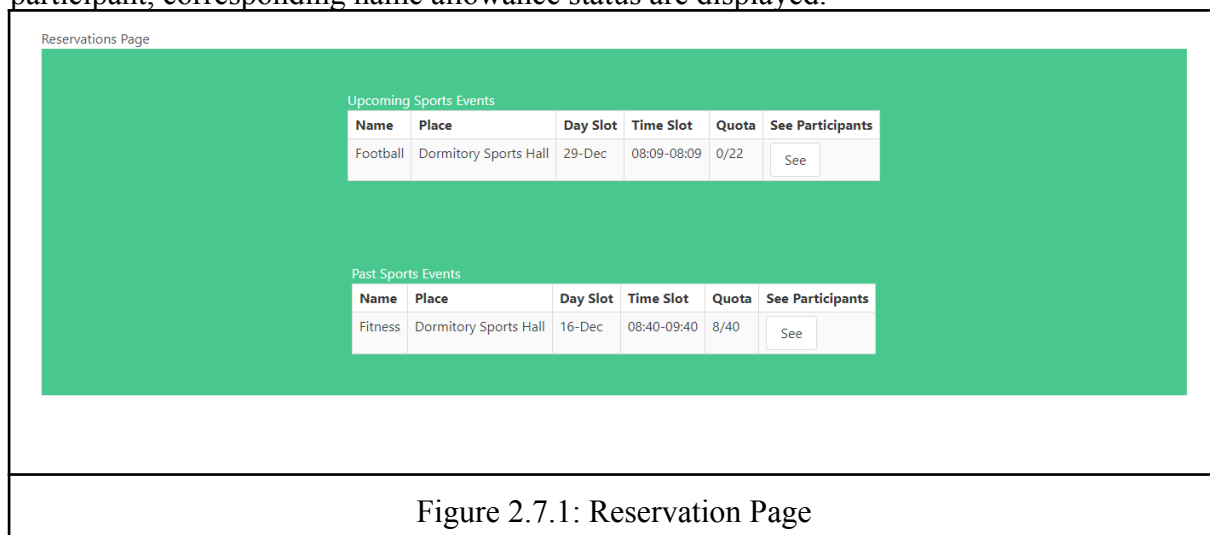
Figure 2.7.1: Reservation Page

Figure 2.7.2: Sports Hall Activity Participants List
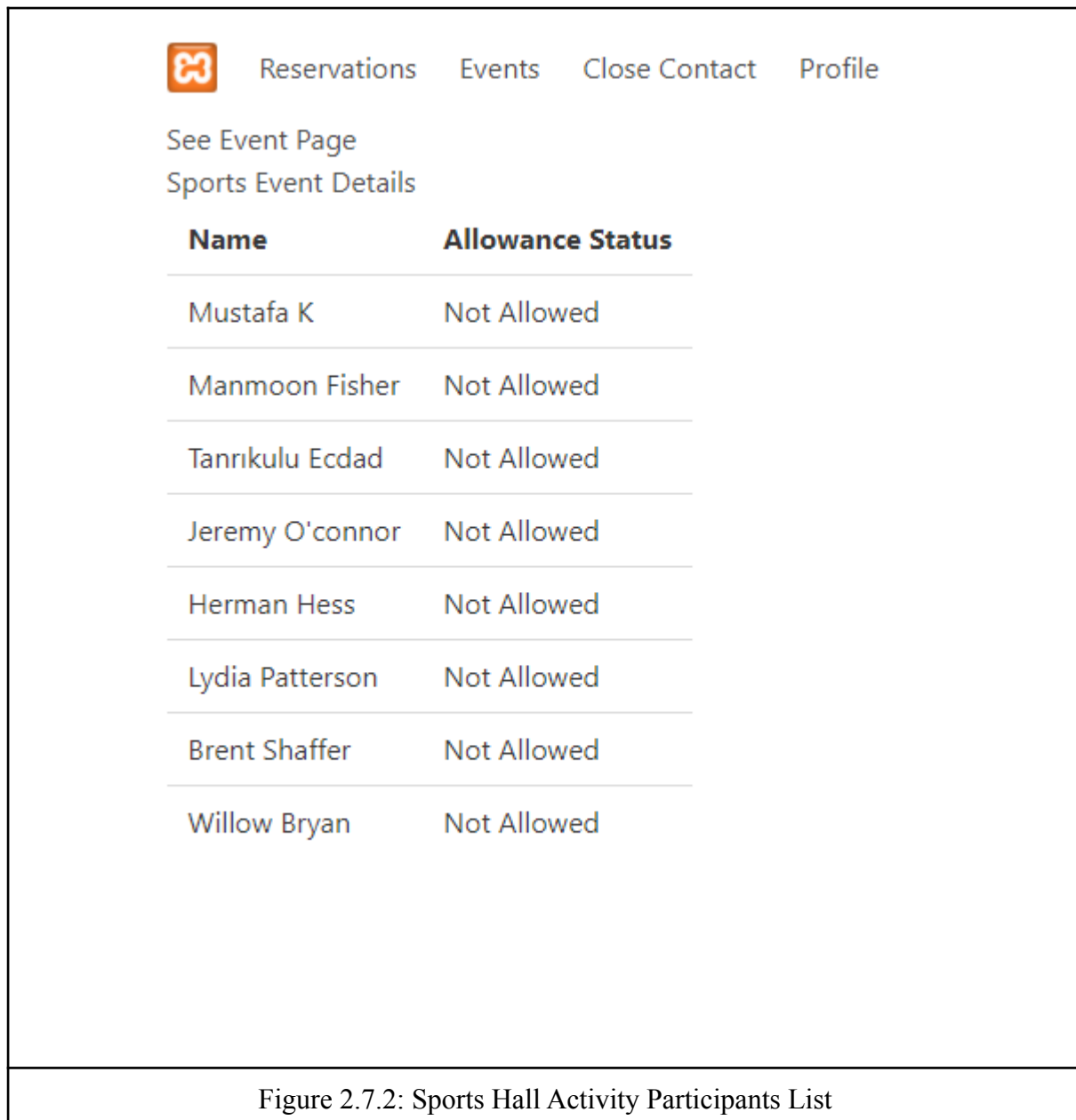
2.8 Administration Page

This page is only accessible by the administrator of the system. It displays all the lectures and the sports hall activities. It constitutes of four components:

2.8.1 Search a Lecture Component

This component is used to search for the lecture event specified by a name (Figure 2.8.1.1). After the search operation, it demonstrates all the lectures including the specified string (Figure 2.8.1.2).

Figure 2.8.1.1 : Search a Lecture Component

Figure 2.8.1.2 : result table of searching for a specified lecture

2.8.2 Lectures Component

This lecture component is used to list all lecture events (Figure 2.8.2.1). If the see event button is pressed, it shows all the participants participating in that event and whether they are allowed in the campus or not (Figure 2.8.2.2).

Course Code	Place	Manage Lecture
Graphic Design for Non-Majors	SA-Z18	See Event
Graphic Design for Non-Majors	SB-Z04	See Event
Cultures Civilizations and Ideas I	EA-Z01	See Event
Cultures Civilizations and Ideas II	B-Z02	See Event
Cultures Civilizations and Ideas II	B-Z02	See Event
Cultures Civilizations and Ideas II	B-Z05	See Event
Graphic Design for Non-Majors	B-Z02	See Event
Cultures Civilizations and Ideas II	B-Z02	See Event
Introduction to Modern Biology	EA-Z01	See Event
Cultures Civilizations and Ideas II	B-204	See Event
Introduction to Modern Biology	SA-Z18	See Event
Graphic Design for Non-Majors	SB-Z04	See Event
Cultures Civilizations and Ideas I	SA-Z18	See Event
Cultures Civilizations and Ideas I	B-Z02	See Event
Cultures Civilizations and Ideas II	SB-Z04	See Event
Cultures Civilizations and Ideas II	SB-Z04	See Event
Cultures Civilizations and Ideas II	B-Z02	See Event

Figure 2.8.2.1 : list of all lectures

See Event Page
Details of Fitness

Name	Allowance Status
Mustafa K	Not Allowed
Manmoon Fisher	Not Allowed
Tanrıkulu Ecdad	Not Allowed
Jeremy O'connor	Not Allowed
Herman Hess	Not Allowed
Lydia Patterson	Not Allowed
Brent Shaffer	Not Allowed
Willow Bryan	Not Allowed

Figure 2.8.2.2 : Lecture participants list

2.8.3 Search a Sport Event

This component is used to search a specific sport event whose name includes the specified string (Figure 2.8.3.1).

Figure 2.8.3.1 : Search a Sport Event

Figure 2.8.3.2 : Result of the searching a sport event

2.8.4 Sport Event Component

This component lists all the sport events (Figure 2.8.4.1). If the see event button is pressed, it shows all the participants participating in that event and whether they are allowed in the campus or not (Figure 2.8.4.2).

Name	Place	Day Slot	Time Slot	Quota	See Participants
Fitness	Dormitory Sports Hall	16-Dec	08:40-09:40	8/40	See
Fitness	Dormitory Sports Hall	17-Dec	08:40-09:40	8/60	See
Basics of Signals and Systems	SA-Z18	25-Dec	07:00-07:59	5/99999	See
Volleyball	Yurtlar Spor Salonu	23-Dec	03:00-03:59	7/47	See
Volleyball	Doğu Spor Salonu	27-Dec	01:00-01:59	6/60	See
Squash	Merkez Spor Salonu	28-Dec	11:00-11:59	7/20	See
Basketball	Doğu Spor Salonu	24-Dec	01:00-01:59	4/39	See
Fitness	Yurtlar Spor Salonu	24-Dec	12:00-12:59	5/63	See
Yürüme/Koşu Parkuru	Doğu Spor Salonu	23-Dec	01:00-01:59	8/48	See
Yürüme/Koşu Parkuru	Yurtlar Spor Salonu	22-Dec	08:00-08:59	6/52	See
Football	Merkez Spor Salonu	23-Dec	02:00-02:59	9/55	See
Football	Doğu Spor Salonu	24-Dec	08:00-08:59	8/88	See
Fitness	Doğu Spor Salonu	28-Dec	05:00-05:59	8/30	See
Squash	Doğu Spor Salonu	26-Dec	08:00-08:59	11/16	See
Volleyball	Yurtlar Spor Salonu	28-Dec	11:00-11:59	12/69	See
Basketball	Merkez Spor Salonu	23-Dec	09:00-09:59	10/38	See
Basketball	Yurtlar Spor Salonu	26-Dec	09:00-09:59	9/41	See
Volleyball	Doğu Spor Salonu	23-Dec	01:00-01:59	8/70	See
Fitness	Doğu Spor Salonu	28-Dec	01:00-01:59	10/9	See
Volleyball	Merkez Spor Salonu	25-Dec	07:00-07:59	8/53	See
Squash	Merkez Spor Salonu	27-Dec	11:00-11:59	8/38	See
Volleyball	Yurtlar Spor Salonu	25-Dec	05:00-05:59	7/0	See
Basketball	Merkez Spor Salonu	25-Dec	09:00-09:59	6/35	See
Volleyball	Yurtlar Spor Salonu	28-Dec	05:00-05:59	5/34	See
Squash	Yurtlar Spor Salonu	26-Dec	02:00-02:59	5/40	See
Fitness	Yurtlar Spor Salonu	26-Dec	12:00-12:59	8/66	See
Yürüme/Koşu Parkuru	Doğu Spor Salonu	28-Dec	10:00-10:59	7/66	See
Basketball	Yurtlar Spor Salonu	23-Dec	07:00-07:59	8/51	See
Squash	Merkez Spor Salonu	25-Dec	03:00-03:59	7/30	See
Fitness	Yurtlar Spor Salonu	28-Dec	07:00-07:59	8/88	See
Fitness	Merkez Spor Salonu	28-Dec	12:00-12:59	12/67	See

Figure 2.8.4.1 : Sports Event Component

See Event Page
Details of Yürüme/Koşu Parkuru

Name	Allowance Status
Mustafa K	Not Allowed
Liberty Sargent	Not Allowed
Zorita Baker	Not Allowed
Yoko Sanford	Not Allowed
Carly Singleton	Not Allowed
Nyssa Bass	Not Allowed
Neve Figueroa	Not Allowed
Katell Velasquez	Not Allowed

Figure 2.8.4.2 : Sports Activity Participants List