

## CONTRIBUTORS

**Project Manager** – Mehmet Aytaç Aktan

**Project Analyst** – Halil Dayı

**Developer** – Semih Yılmaz

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## PURPOSE OF THE DEVELOPED APPLICATION

The purpose of the **Bus Booking Management System** application: to enable application users to obtain tickets quickly and easily through the application and provide functionality such as ticket reservation, online payment transactions, tracking of passenger information and management of trips in bus travels.

## TECHNOLOGIES USED

**Application Development Environment**- Visual Studio 2022 – Windows Forms 2022 – C# .NET Framework 4.7.2

**Database** – SQL Server

**Project Management** – Trello

**Code Sharing Enviroment** – Github

## REQUIREMENTS

BUSINESS REQUIREMENTS	
ID	DESCRIPTION
1-1	Online booking application so that the customer doesn't have to wait in line for a long time to buy a ticket.
1-2	Reducing waste of paper to become environmantally friendly company.
1-3	Providing a secure application is the way of obtaining the trust of the customer.

STAKEHOLDER REQUIREMENTS	
ID	DESCRIPTION
2-1	Advertising is made for the user to download the app.
2-2	The user can get tickets from the app.
2-3	Discounts and campaigns are frequently made for customer satisfaction.

NON-FUNCTIONAL REQUIREMENTS		
ID	TYPE	DESCRIPTION
3-1	Portability and Compatibility	This application is compatible with many platforms because it uses the .NET framework.
3-2	Usability	The interface is easy to use.
3-3	Manageability	Admin can easily edit in the interface.
3-4	Data Integrity	The database of the system is up-to-date. And user can change their information at any time.
3-5	Availability	The system works 24/7
3-6	Utility	The system aims to save time for the customer.

## FUNCTIONAL REQUIREMENTS

	USER STORY	REQUIREMENT
Login	As a user, I want to log in to my account.	The system allows the user to log in to his/her account by entering his/her username and password.
Password reset	As a user When I forget my password, I want to reset my password and set it again.	The system asks the user for their username. and if the user knows about it, it asks the specific question that the user answered when creating the account.
Register	As a new user, I want to create an account to use the app.	The system takes the user's private information with the form

		and creates an account for him/her. Once registered, he/she is considered logged in.
Login without registration	As a new user candidate, I want to log in without signing up to understand if the interface is easy enough for me to use.	The system enters the interface directly.
Admin login	As an admin, I want to make the necessary edits on the application.	The system allows the admin to enter his/her account by entering the username and password from the login.
Destination selection	As a user, I want to choose where and on what date I will go.	The system provides a form for the user to choose the date and where to go from where.
Tour information according to the destination and date	As a user, I want to see all the tours that correspond to the destination and date I have chosen.	The system shows the user all the trips according to the information selected by the user.
Seat selection	As a user, I want to choose my seat on the tour I have chosen among the list of tours that depend on the destination and date I have chosen.	When the user clicks on any of the tour, it shows all the seats on that tour in the appropriate colors.
Payment	As a user, I want to pay the price of the ticket..	After the user's seat selection, the system displays a form that asks for credit card information along with the options the user has selected so far.
Info message	As a user, I would like to know if my ticket has been successfully received.	The system gives a positive or negative answer as a result of the database query.
Discount	As a user, I want to receive news about discounts.	The system gives a discount code to a randomly selected user.
Add/Remove tour	As an admin, I want to be able to add and remove tour.	Let the admin see the available tours by selecting destination and date. When admin click on a tour, he/she can delete it, and he/she can add a tour to the interval he/she want.
Tour details	As an admin I would like to see the details of the tour I have chosen.	When the system admin clicks on a trip, it can see the driver/assistant/passenger list on that trip.

Customer inquiry	As an admin, I want the information of the customer I am looking for.	The system provides the necessary user information from the user database.
Discount	As an admin, I want to set the amount of discount.	As an admin, I want to set the amount of the discount.
Discount edit	As an admin, I should be able to disable the discount when necessary, sometimes I should be able to undo it, I should be able to determine the amount of the discount.	the admin has the option to set and disable the discount at a certain time interval.
Statistics	As an admin, I want to see the sum of the prices of the tickets sold between the dates I set	The admin can see the total number of tickets in the selected time period.

DATABASE REQUIREMENTS	
User	user_id, first_name, last_name, username, password, email, phone_number.
Bus	bus_id, license_plate, bus_model, seat_capacity
Trips	trip_id, bus_fid, departure_location, arrival_location, departure_time_date, arrival_time_date
Ticket	ticket_id, user_fid, trip_fid, bus_fid, departure_location, arrival_location, departure_time_date, arrival_time_date, price, is_discounted, discounted_price
Payment	payment_id, ticket_fid, cardnumber, cardname, expirydate, cardtype, amount, paymentdate
City	city, country

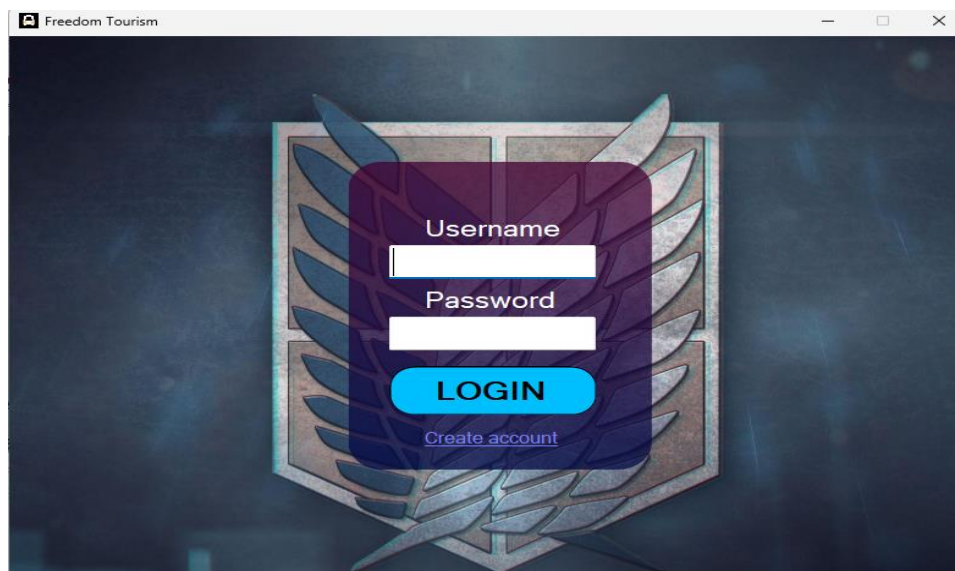
## USER STORY

- As a user, I want to log in to the app.
- As a user, I want to reset my password.
- As a user, I would like to register in the app. So I can enjoy the benefits of the app.
- As a user, I want to see tours that match the date I have chosen. So I can choose the tour that suits me.
- As a user, I want to see the seats on the tour I have selected. So I can choose where I want to sit.
- As a user, I would like to pay for my trip with a credit card. So I can pay practically without waiting in line.

- [As a user](#), I can see the tickets I have.
- [As an admin](#), I want to add-remove tours. So I can make the appropriate adjustments.
- [As an admin](#), I want to see a customer's information. Thus, I can get to know my general customer profile closely.
- [As an admin](#), I want to give discounts on tickets at the intervals I set at the rate I determine. Thus, I make the users of the application use this application more.
- [As an admin](#), I want to see the tickets sold between the dates I set and the total price so that I can make a statistical inference.
- [As an admin](#), I would like to see the details of the tickets that the user has bought, from the end to the beginning. So I can make a statistical inference.
- [As the leader of a remote team](#), I want our team-messaging app to include file sharing and annotation so that my team can collaborate in real-time and keep an archive of their work in a harmony.(github and trello)

## PAGES THAT MAKE UP THE APP

### 1 – Home Page



The login page is designed for registered users and the admin to log in to the application by entering their username and password, and for unregistered users to create an account from the create account section.

Freedom Tourism

Username

Password

REGISTER

[Click to login](#)

Candidates who are not registered to the application on the login page should first specify their username and password when they click on the create account section. Thus, if the filled data is appropriate, it moves to the next stage.

Form5

Login

Legal name

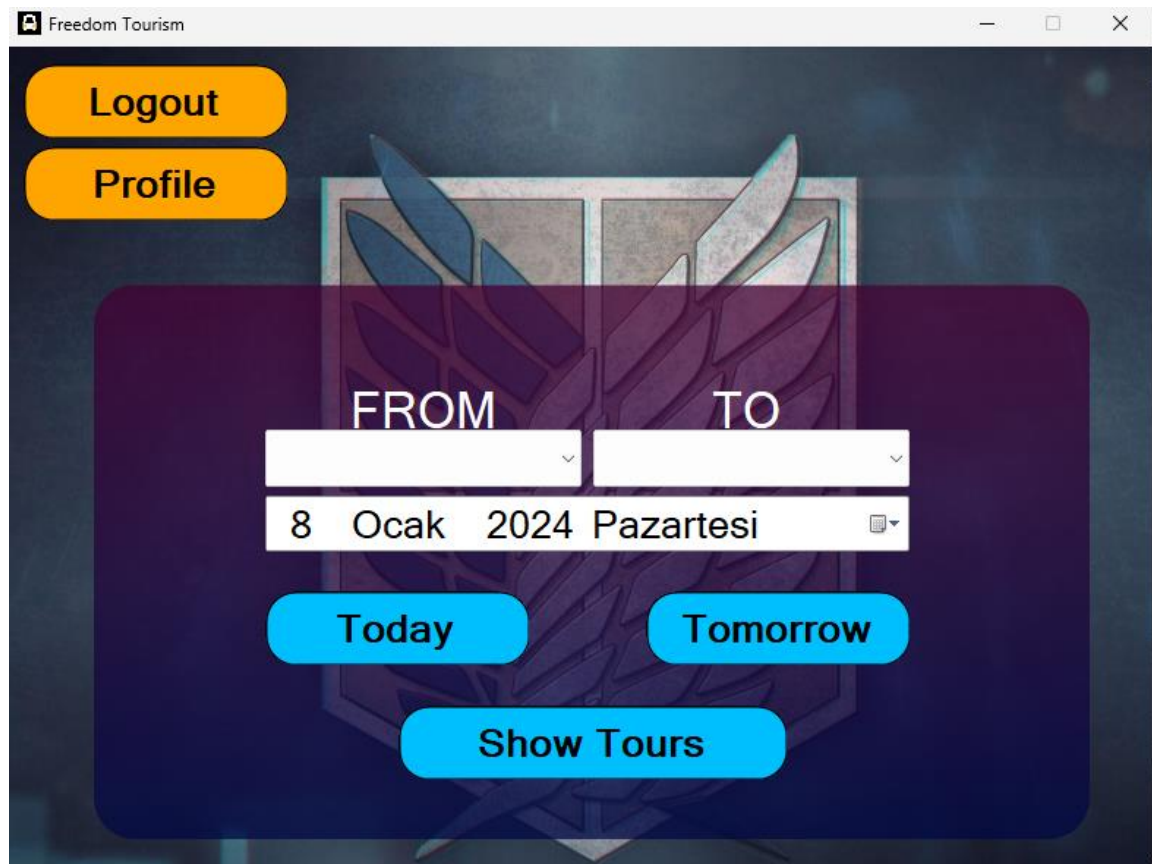
Phone number:

T.C.

Register

At this stage, the user registers by filling in his/her name, phone number and ID number.

## 2 – User Panels



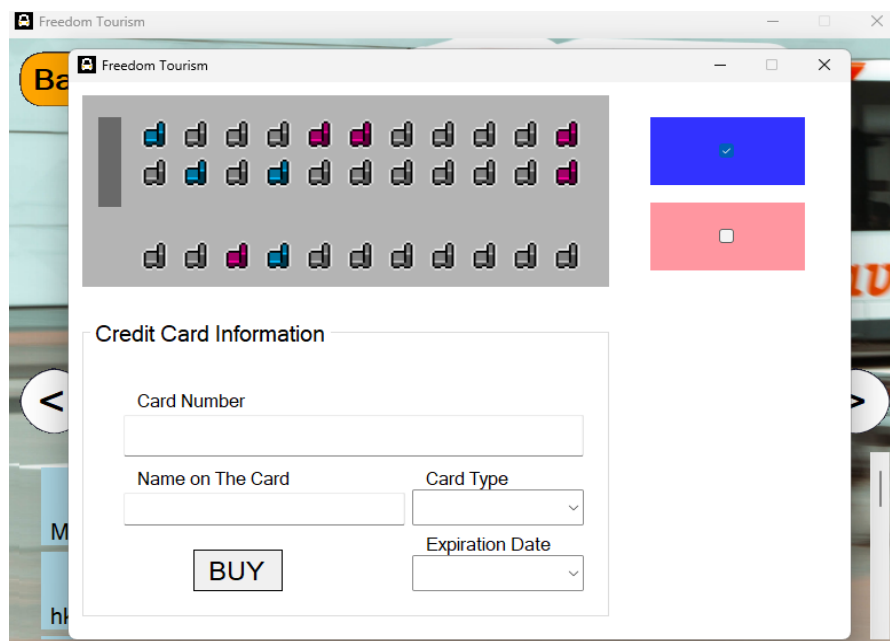
The screenshot shows a web browser window titled "Freedom Tourism". In the top left corner, there are two orange buttons: "Logout" and "Profile". The main content area features a dark blue background with a faint, stylized graphic of a shield and wings. Overlaid on this is a semi-transparent dark blue rounded rectangle containing a search form. The form has two white input fields labeled "FROM" and "TO". Below these fields is a white text box containing the text "8 Ocak 2024 Pazartesi" and a small calendar icon. At the bottom of the form are three blue buttons: "Today", "Tomorrow", and "Show Tours".

After logging in or registering, the user encounters the above form. From the profile section, the user can see his/her tickets. Can choose where to go and when. When the Show Tours button is clicked, it shows the tours suitable for the data selected by the user.





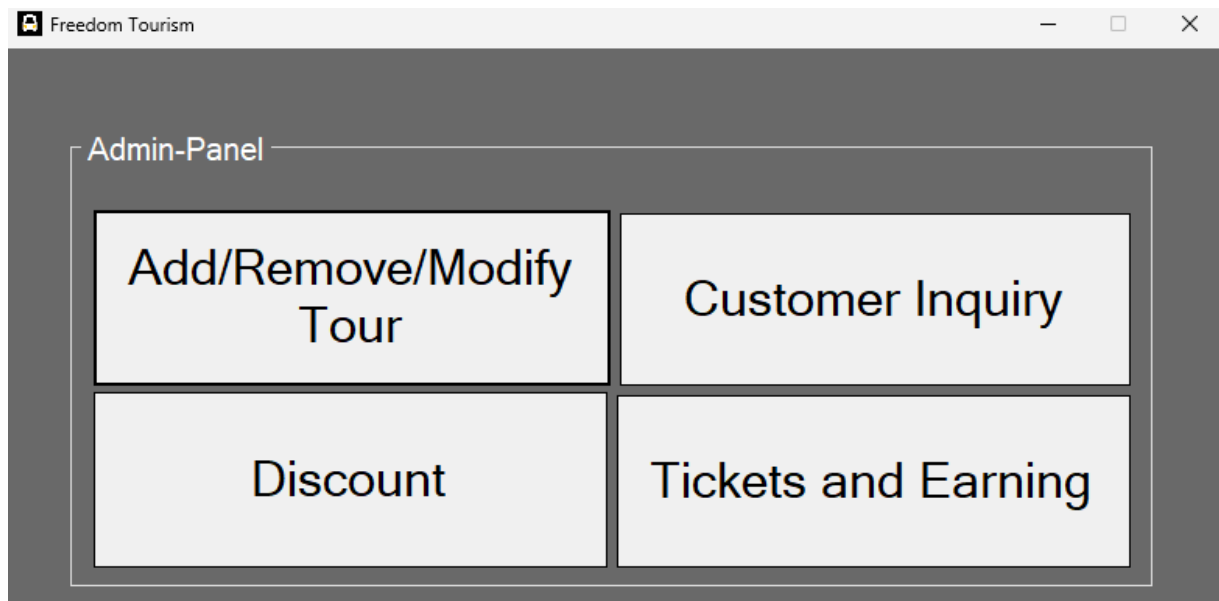
When clicked on the Show Tours button, it shows tours suitable for the data selected by the user. In addition, the user can change the time of the tours here without going to the previous form. When the user chooses one of the tours that suits him/her, he/she sees the seat selection screen.



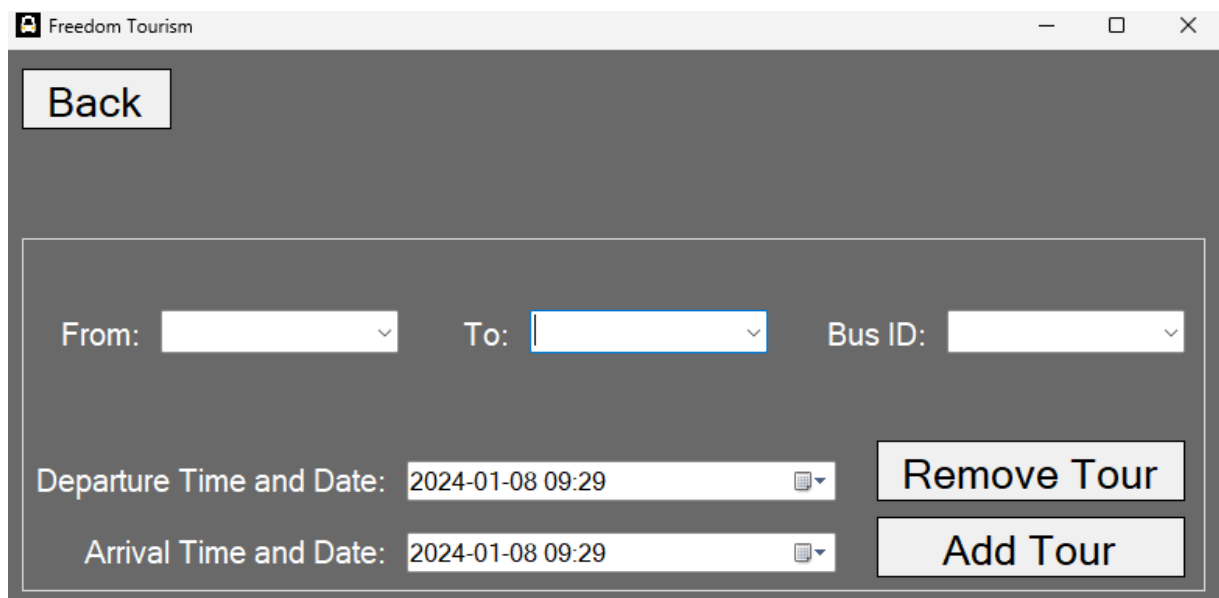
On the seat selection screen, the user can select the desired and suitable seat. The blue and pink buttons on the side indicate the gender of the person choosing the seat. The user can get his/her ticket by entering the card number, card name, card type and expiration date information.



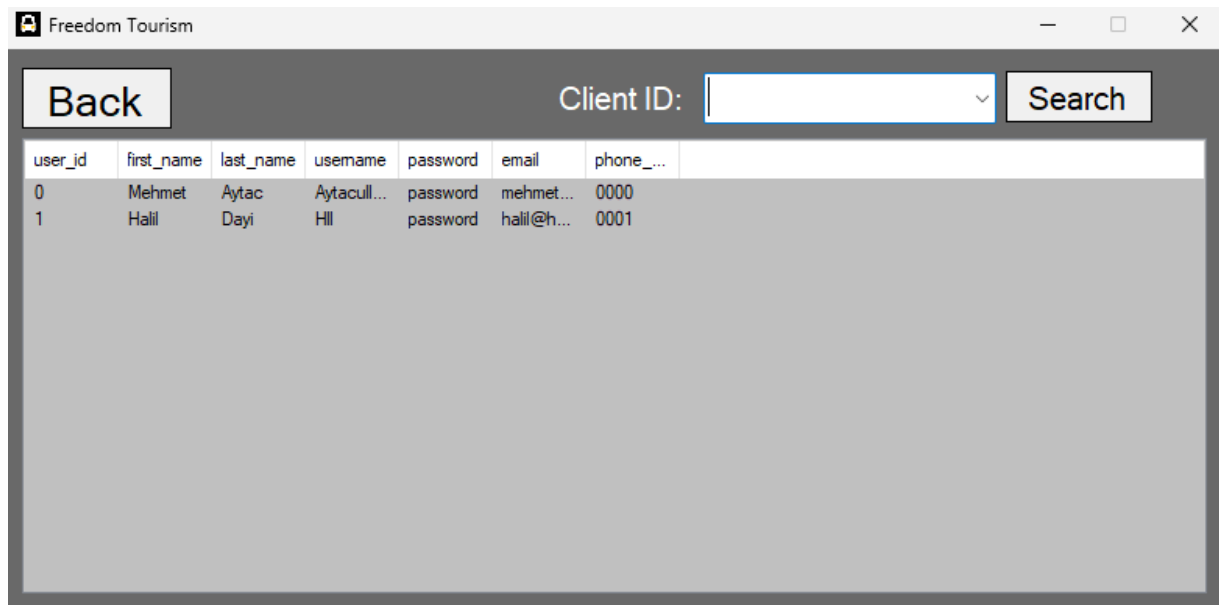
### 3 – Admin Panels



The admin can access the admin panel by entering their information from the login page. In this panel, admin can learn the necessary information through the database by selecting any of the options add-delete tour, customer inquiry, discount and tickets and earning.

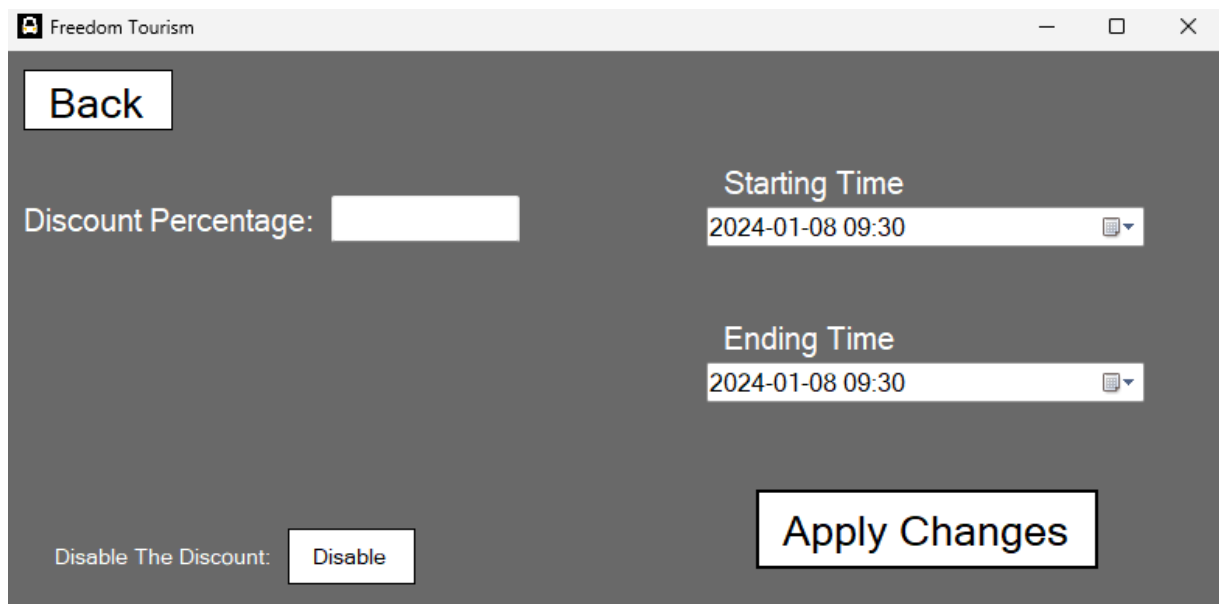
A screenshot of the "Freedom Tourism" web application window, showing a form for managing tours. At the top left, there is a "Back" button. Below it, the form contains several input fields: "From:" followed by a dropdown menu, "To:" followed by a dropdown menu, and "Bus ID:" followed by a dropdown menu. Below these, there are two rows of date and time inputs. The first row is labeled "Departure Time and Date:" and shows "2024-01-08 09:29" with a calendar icon. The second row is labeled "Arrival Time and Date:" and also shows "2024-01-08 09:29" with a calendar icon. To the right of these inputs are two buttons: "Remove Tour" and "Add Tour".

The admin accesses this form by clicking the add-delete tour button on the panel. In this form, admin can add a tour by selecting the bus id and departure-arrival times from where to where, and by clicking the Add tour button. Admin can also remove a tour with this information from the database by clicking the remove tour button.



user_id	first_name	last_name	username	password	email	phone_....
0	Mehmet	Aytac	Aytacull...	password	mehmet...	0000
1	Halil	Dayi	Hll	password	halil@h...	0001

The admin accesses this form by clicking the customer inquiry button on the panel. In this form, admin can see all the information of all application users. In order to easily find what he/she is looking for among these customers, when he/she writes the client id of the customer he/she is looking for in the specified section and clicks the search button, he/she sees the information of the customer he/she is looking for at first, and in addition to this, he/she also sees the information of other customers.



Back

Discount Percentage:

Starting Time  
2024-01-08 09:30

Ending Time  
2024-01-08 09:30

Disable The Discount:

The admin accesses this form by clicking the discount button on the panel. In this form, the admin determines the amount of the discount. When admin select the appropriate dates and click the apply changes button, a discount is applied to all ticket prices between the dates selected by the admin at the rate determined. When the admin clicks the Disable button, the discount of all tickets between the selected dates will be canceled.

Freedom Tourism

Back

PNR:  Search

2024-01-01 09:31

2024-01-08 09:31

Between chosen time frames

Total Bought Ticket: 4

Total Ticket Earning: 1100

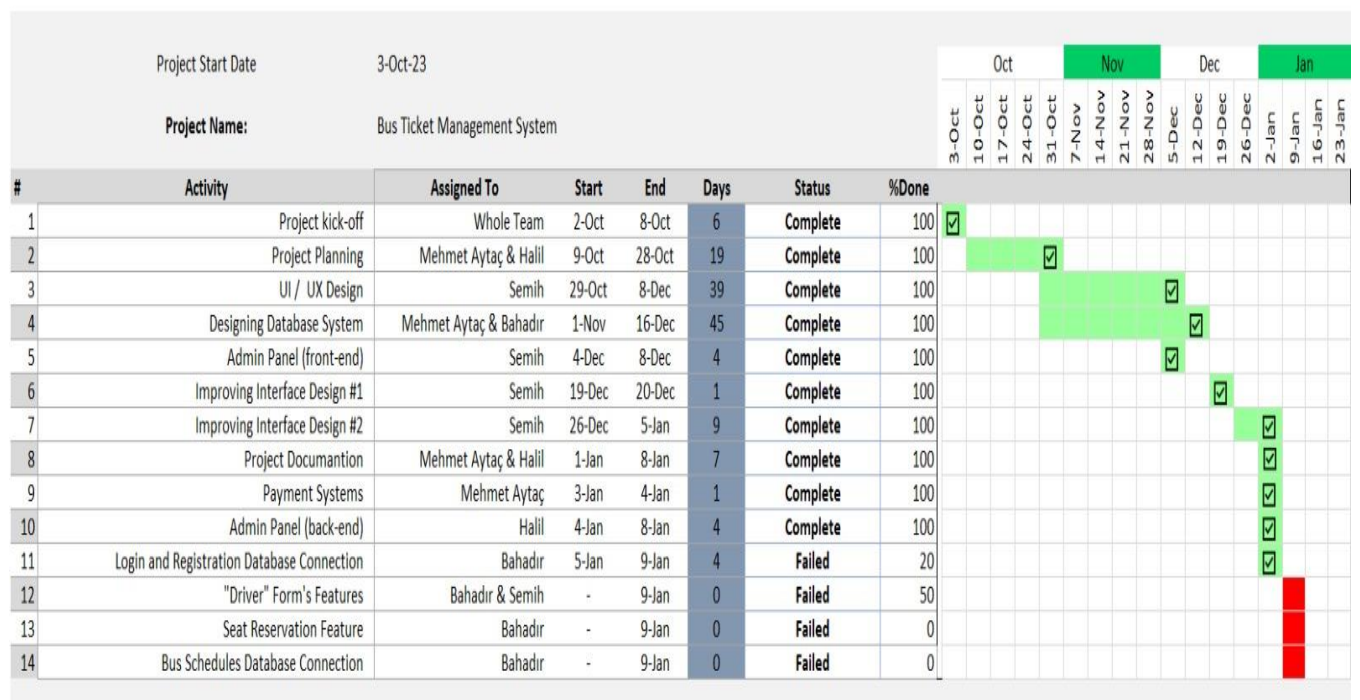
ticket_id	user_fid	trip_fid	bus_fid	departur...	amival_...	de
5	1	1	0	Istanbul	Canakk...	2.0
3	1	3	1	Istanbul	Manisa	5.0
2	0	2	1	Istanbul	Bandirma	4.0
1	1	1	0	Istanbul	Canakk...	2.0
0	0	0	0	Istanbul	Izmir	1.0

The admin accesses this form by clicking the Tickets and Earning button on the panel. The admin can see from the last ticket received to the first ticket received in the panel on the right. By typing the ticket\_id of the ticket he/she is looking for in the PNR section, he/she can easily see the ticket he/she is looking for in the first place. After searching, the other tickets appear in the same way from the end to the beginning.

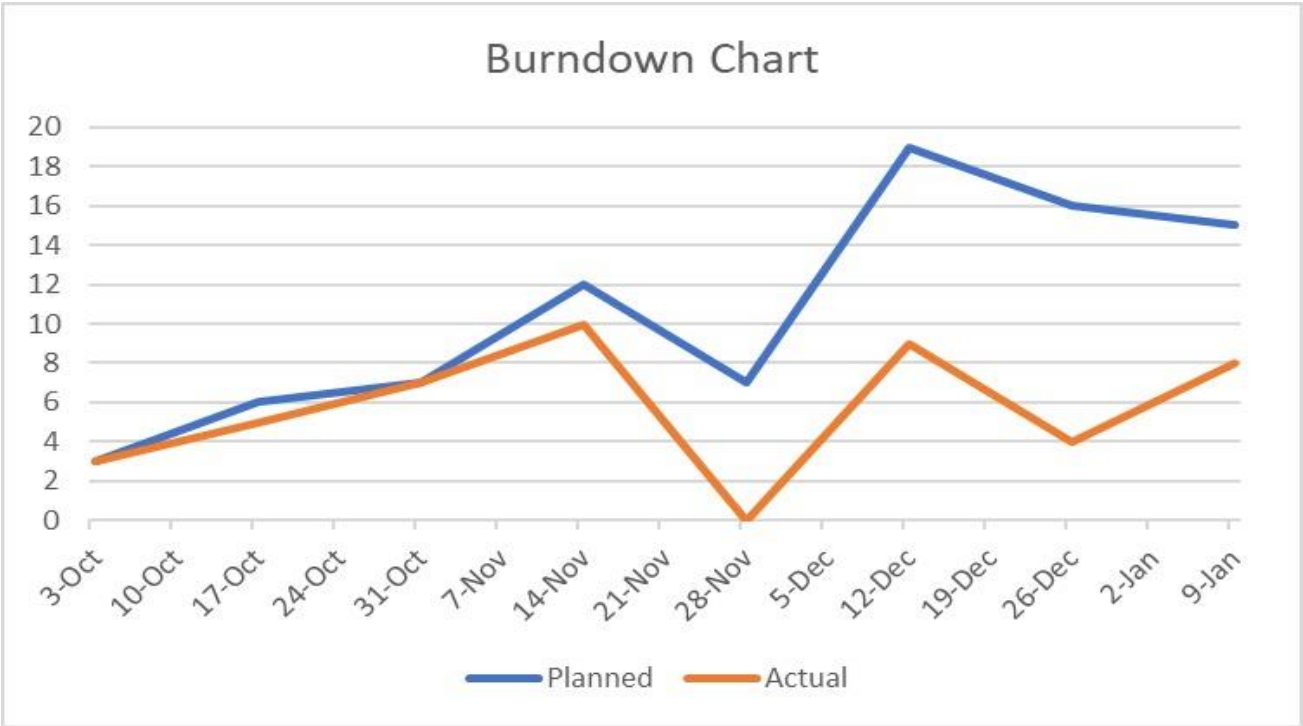
In addition, the admin can see how many tickets he/she has sold between the selected dates and the price he/she earns from these tickets, so he/she can make a statistical inference.

## PROJECT MANAGEMENT

Trello application was used in project management. Thus, we were able to see the work that needs to be done, is being done and has been done, and we were able to see our progress in the project as a team. At the same time, we used the github platform to share the codes we wrote. In addition, we were able to communicate through applications such as discord and whatsapp.



3 – Burndown Chart



4 – Contribution Matrix

	Project Planning and Research	Sprint I ( 29.10.2023 - 11.11.2023)	Sprint II (27.11.2023 - 16.12.2023)	Sprint III (26.12.2023 - 08.01.2024)	Documentation
Mehmet Aytaç Aktan (Project Manager)	<u>6</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>4</u>
Halil Dayı (Data Analyst)	<u>3</u>	<u>0</u>	<u>0</u>	<u>5</u>	<u>6</u>
Semih Yılmaz (Front-End Developer)	<u>0</u>	<u>7</u>	<u>5</u>	<u>3</u>	<u>0</u>
Bahadır Emre Yıldız (Back-End Developer)	<u>0</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>0</u>

