

Bus Reservation System

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Description

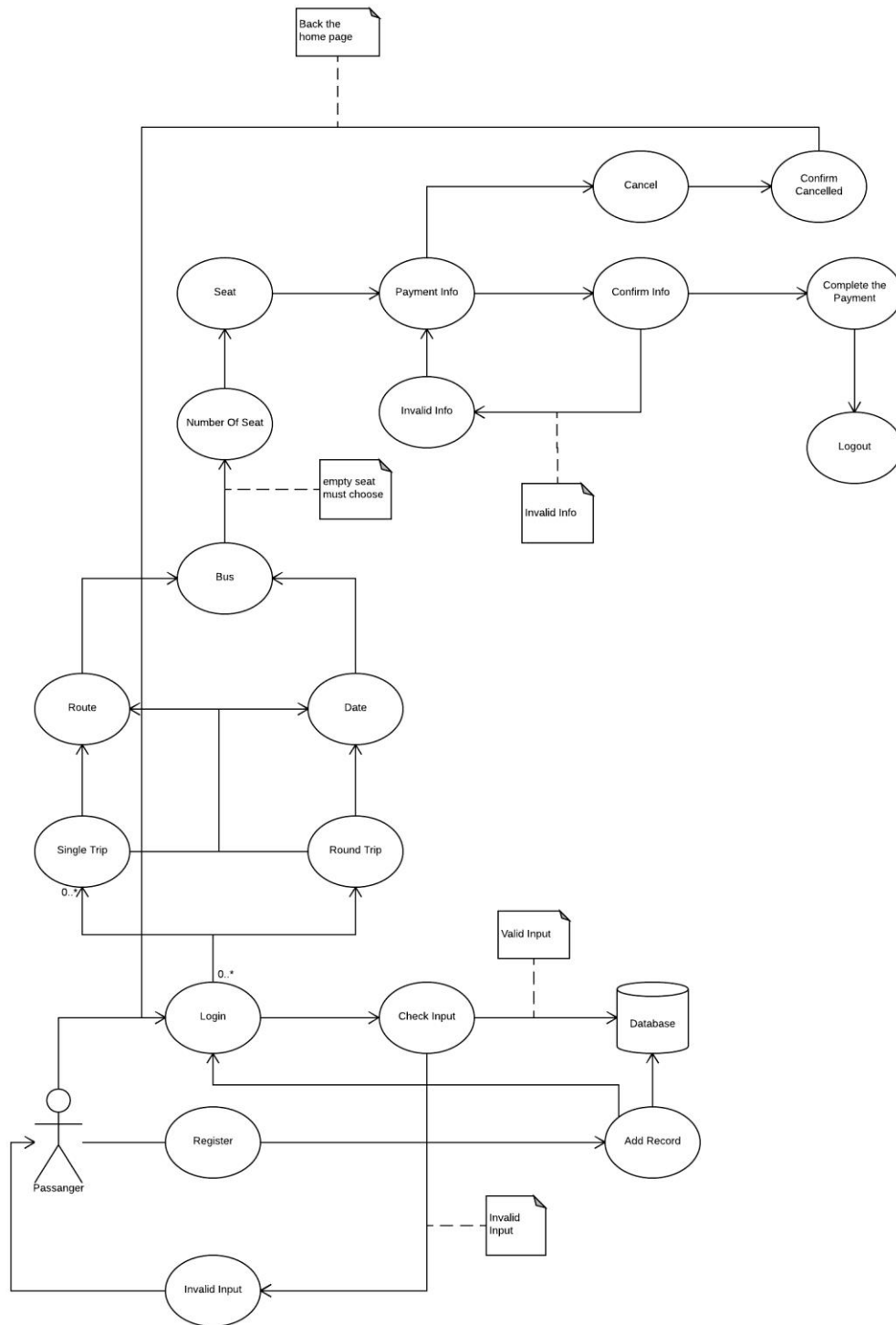
Our project indicated as customer aspect of the bus ticketing system. The application design for the customers to able to find buses for specified rout and date, and make a reservation for seat they want with simple, efficient and fast way.

Purpose

The purpose of project as we describe it, providing easily used, reliable, effective program for customers to find buses for their route and date then make a reservation. Our aim was to create a system with simple yet effective interface for any users to make reservation and pay for the seats they want without any external tools or customer service.

The program is sufficient enough to be the interaction mechanism between customer and the bus company. The application makes ticket reservation easy for users but also has huge benefits for company side. It's cheaper and more effective compare any other options because users picks their seats and make the payment themselves from smartphone, saving time and cost for the company. User will be register through application and that will make their future ticket reservations even more effective.

Use Case Diagram



Use Case: Login

Actors: Passengers

Type: Primary and Essential

Description: Initiated when a passenger attempts an action that is restricted. The passenger is then prompted to enter in their username and password in order to proceed.

Includes: None

Extends: None

Cross Ref: Required for 1

Use Cases: None

Use Case: Register

Actors: Passengers

Type: Primary and Essential

Description: Initiated when a passenger attempts an action that is restricted. The passenger is then prompted to register the program and enter in their username and password in order to proceed

Includes: None

Extends: None

Cross Ref: Required for 1

Use Cases: None

Use Case: Check Input

Actors: Database

Type: Primary

Description: When login passenger check username and password

Includes: None

Extends: None

Cross Ref: Required for 1

Use Cases: None

Use Case: **Add Record**

Actors: Passenger

Type: Primary

Description: Add passenger information to database

Includes: None

Extends: None

Cross Ref: Required for 1

Use Cases: None

Use Case: **Database**

Actors: Database

Type: Primary and Essential

Description: A database is an organized collection of passenger's information and bus information.

Includes: None

Extends: None

Cross Ref: Required for 2

Use Cases: None

Use Case: **Single Trip**

Actors: Passengers

Type: Primary

Description: When passengers buy or reservation ticket, passengers just buy or reservation single trip ticket

Includes: None

Extends: None

Cross Ref: Required for 1

Use Cases: None

Use Case: **Round Trip**

Actors: Passengers

Type: Primary

Description: When passengers buy or reservation two ticket, passengers buy or reservation two ticket to round trip

Includes: None

Extends: None

Cross Ref: Required for 1

Use Cases: None

Use Case: **Route**

Actors: Passengers

Type: Primary and Essential

Description: The roads or paths you follow to get from one place to another place

Includes: None

Extends: None

Cross Ref: Required for 2

Use Cases: None

Use Case: **Date**

Actors: Passengers

Type: Primary and Essential

Description: a time when something has been arranged to happen bus reservation or buy

Includes: None

Extends: None

Cross Ref: Required for 2

Use-Cases: None

Use Case: **Bus**

Actors: Passengers

Type: Primary and Essential

Description: Passengers choose available busses if passengers buy or reservation clock time

Includes: None

Extends: None

Cross Ref: Required for 1

Use-Cases: None

Use Case: **Seat**

Actors: Passengers

Type: Primary and Essential

Description: Passengers sit on that something

Includes: None

Extends: None

Cross Ref: Required for 1

Use-Cases: None

Use Case: **Payment Info**

Actors: Passengers

Type: Primary and Essential

Description: The act of paying to ticket

Includes: None

Extends: None

Cross Ref: Required for 1

Use-Cases: None

Use Case: **Logout**

Actors: Passengers

Type: Primary and Essential

Description: The passengers will have the option to logout and if those passengers are inactive for a given amount of time then that user should be logged out by the system automatically.

Includes: None

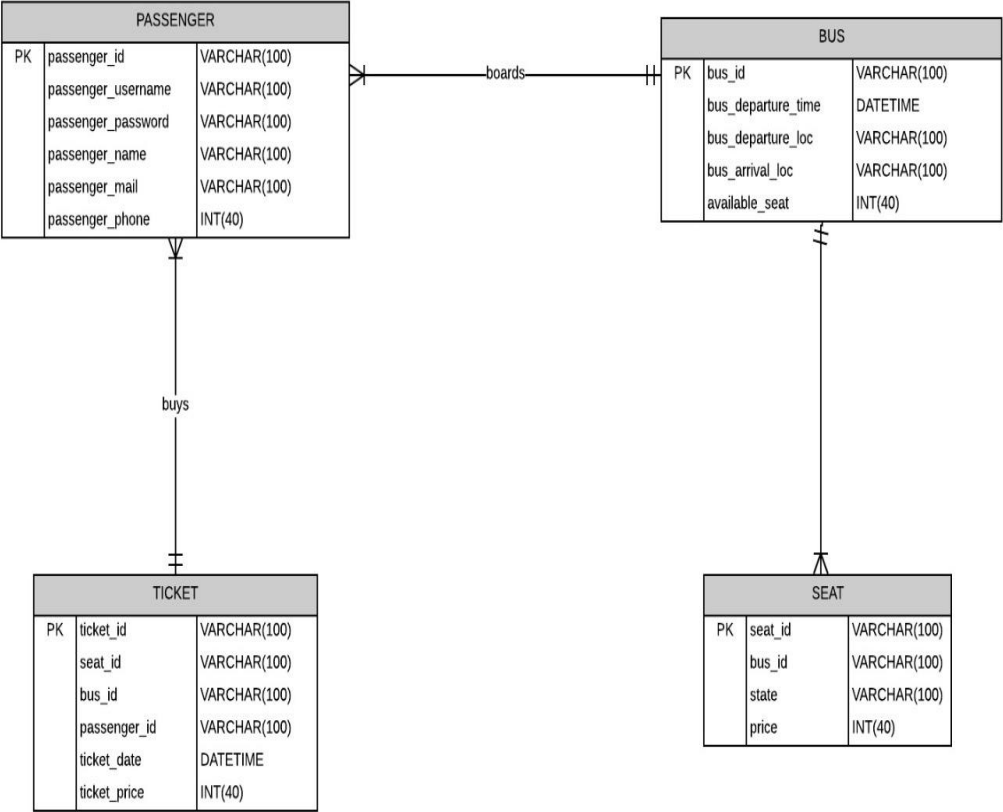
Extends: None

Use-Cases: User must have completed the Log In use case.

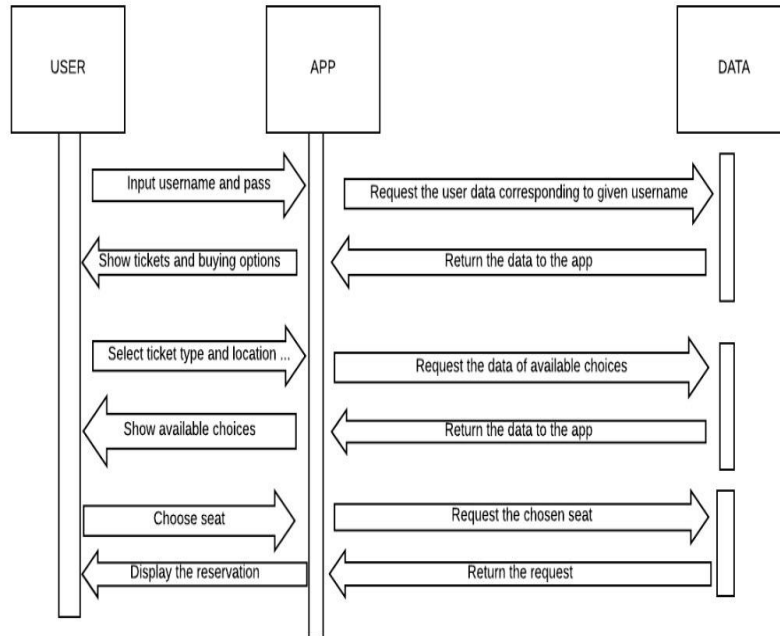
Uml Class Diagram



Database Diagram



Uml Sequence Diagram



Planning and Schedule

We organize our tasks beforehand to prevent major problems during project. In weekly meetings we briefly showed our works in order to fix small mistakes or modify things to make it better than it is.

Risk and Management

The main concern of the project was deadline since it has very limited time. At first we did very well in planning and manage our parts in project. This prevented the any software based risks and organization problems.

Software Process

In software processes we use waterfall model. First we indicate our requirements. Then we separate our software processes to phases as java coding, database design and connection between them. After creating and implementing the software we did testing to find defect and missing parts. Later, we fixed all these problems.

Project Cost

We calculated our working hours for project and plus fee the cost is about 3000\$.

Member Task and Their Evaluation

Although all members of the project contribute to many different things, we assign each member to specific area of the project. Özgür Özdemir to java codes as project leader, Anıl Kızıltan to database design and uml use case diagram, Anıl Akgün to database connection and uml sequence diagram and Canberk Ak to reports and uml class diagram.

Project Testing

During application production we tested the software for any core problem. We used both verification and validation approach to defect any design problems. Aim was the make sure of software conform to its specification. Before finishing we used debugging to solve any errors. Later we tested the software from user side to see if customer face problems for anything he/she does something wrong.

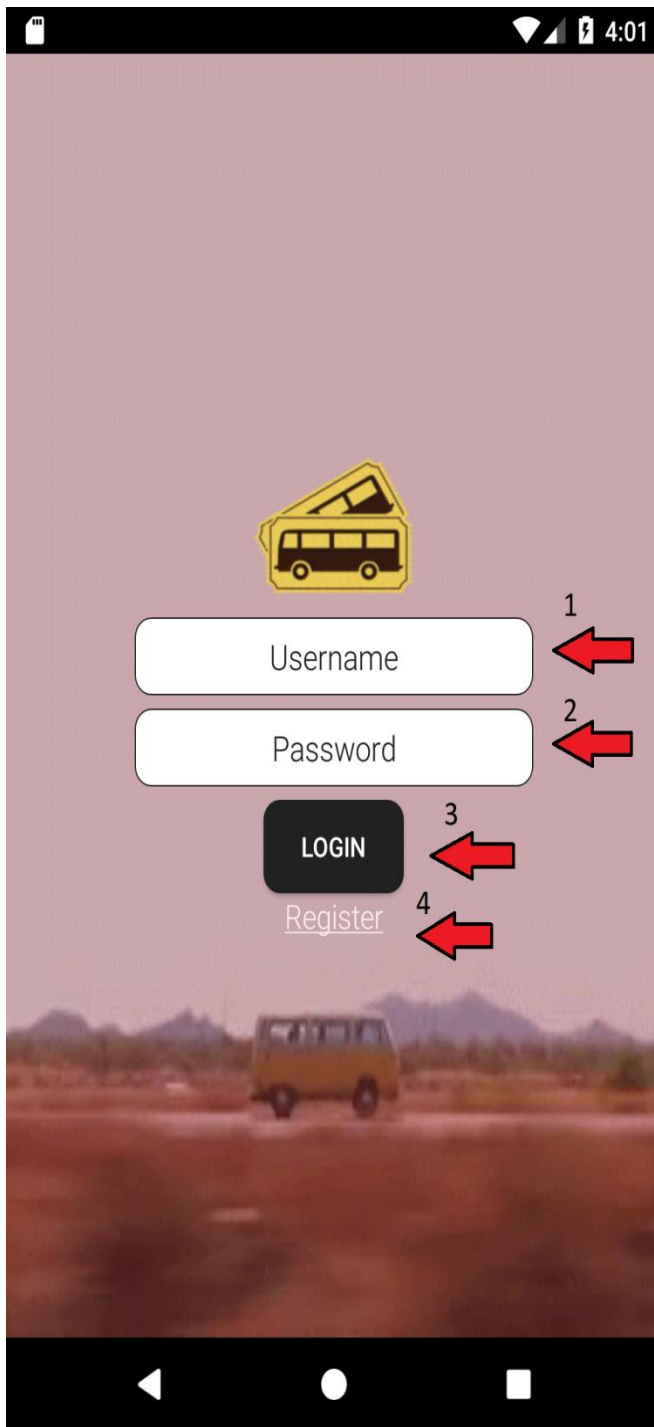
Quality Parameters and Results

Program designed in android studio. It is using the latest version of the software and can work in many old hardware and software systems. The structure of the code is open to modify as well as adding new features with low cost and low time consumption. Thanks to language and the software itself it can adapted to most modern systems easily, resulting maintenance efficiency.

Conclusion

At the end we created a very well working software that satisfy the expectations of the project and even beyond, the software provides easily used, efficient solutions that help both customer and bus company.

User Guide



1. Username
2. Password
3. Login
4. Register

For the first time usage, user must press the register(4) button for creating account.

User Guide

The screenshot shows a mobile application interface for user registration. At the top, there is a status bar with icons for signal, Wi-Fi, battery, and the time 4:01. The registration form is a light pink rectangle with a dark grey border. It contains five input fields: 'Username:' (containing 'Demo1'), 'Password:', 'Name:', 'Mail:', and 'Telephone number:'. Each input field is followed by a red arrow pointing to it, with a number 1 through 5 respectively. Below the input fields, there is a disclaimer: '*It's for demo please do not give actual information. Please fill all inputs. Username and password shouldn't be longer than 10.' At the bottom of the form are two buttons: 'REGISTER' and 'CANCEL'. Red arrows point to these buttons with numbers 6 and 7 respectively. The entire form is set against a dark background. At the very bottom of the screen is a black navigation bar with three white icons: a back arrow, a circle, and a square.

Username: Demo1

Password:

Name:

Mail:

Telephone number:

*It's for demo please do not give actual information.
Please fill all inputs.
Username and password shouldn't be longer than 10.

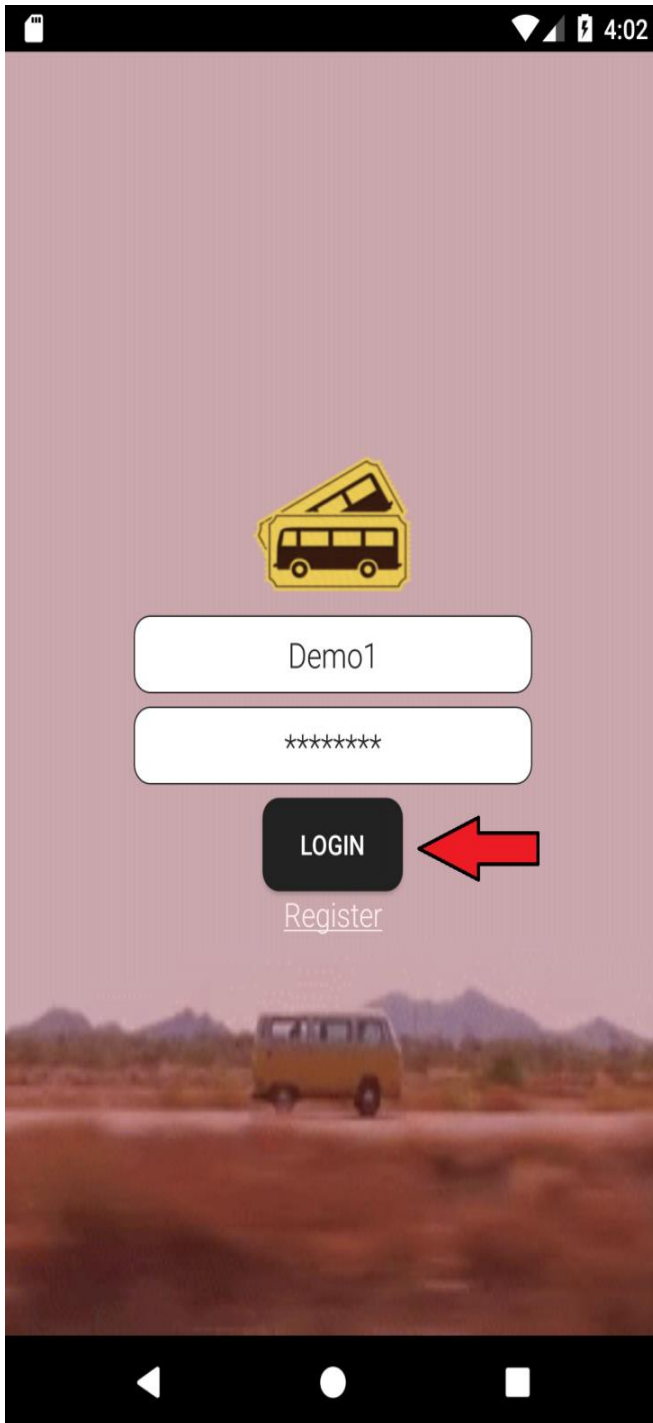
REGISTER CANCEL

1. Username
2. Password
3. Name
4. Mail adress
5. Telephone number
6. Register Button
7. Cancel Button

After user fill the required fields correctly, he/she must press to Register(6) button order the create an account.

The Cancel(7) button will turn back the previous screen and cancel out the registration process.

User Guide



After account registration user must enter his/her username and password.

Then must press the login button to start bus reservation system.

User Guide

The screenshot shows a mobile application interface for buying tickets. At the top, there is a status bar with a signal icon, a battery icon, and the time 4:02. Below the status bar is a dark header with a hamburger menu icon and the text "Test". Under the header, it says "Welcome Ozgur". The main content area has a light pink background. A section titled "Upcoming Ticket" contains the text "You have no upcoming ticket." Below this, there is a "Buy Ticket" section with two buttons: "ONE WAY" and "ROUND TRIP". A red arrow labeled "1" points to the "ONE WAY" button, and a red arrow labeled "2" points to the "ROUND TRIP" button. Below the buttons, there is a form with "From:" and "To:" labels. The "From:" field contains "Istanbul" and a house icon, and the "To:" field contains "Izmir" and a flag icon. A red box labeled "3" surrounds this form. Below the form, there is a "Person:" label and a field with the number "1" and a person icon. A red arrow labeled "4" points to the person icon. Below that, there is a "Date:" label and a field with the date "17/11/2017" and a calendar icon. A red arrow labeled "5" points to the calendar icon. Below the date field, there is a "LIST TICKETS" button. A red arrow labeled "6" points to this button. At the bottom, there is a red bar with the text "LOGOUT". A red arrow labeled "7" points to this bar. The bottom of the screen shows a black navigation bar with three white icons: a back arrow, a circle, and a square.

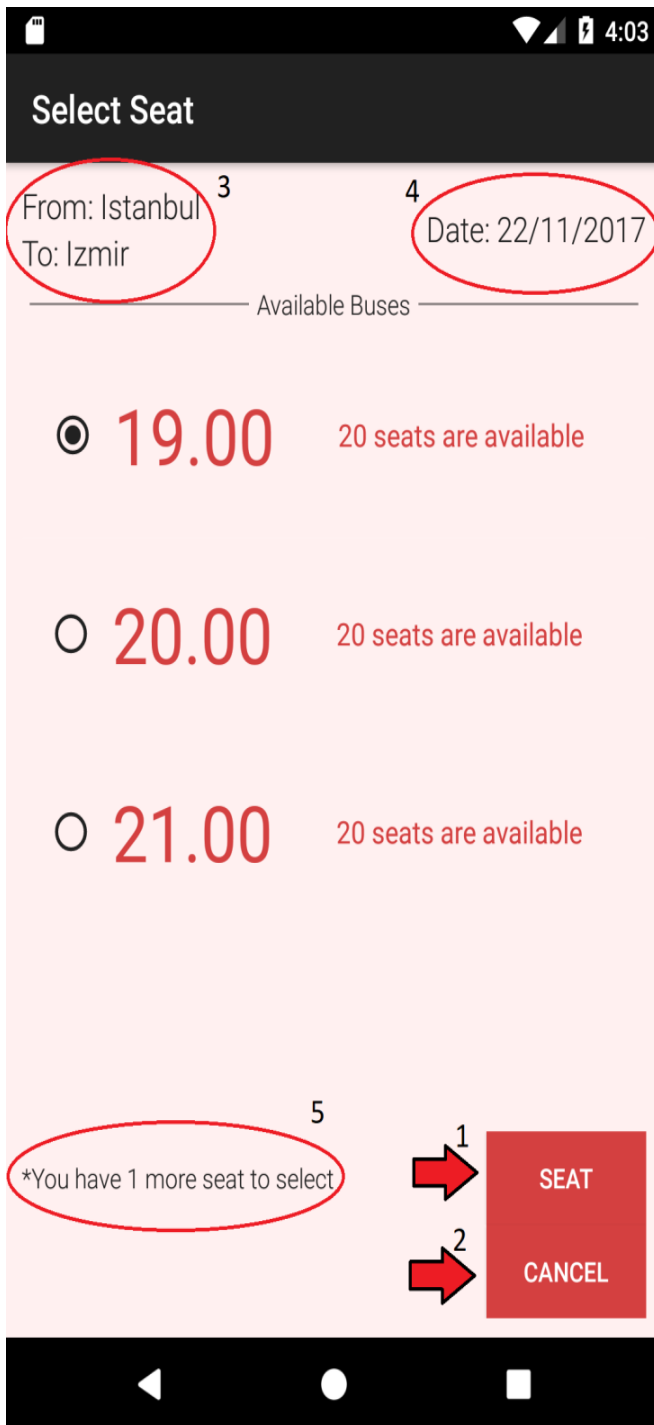
1. One Way ticket
2. Round Trip

Standart reservation system is the one way(1). However user can select the round trip(2) in order two buy another ticket after his/her first one.

3. Departure and arrival cities.
4. Number of seats user wish the buy.
5. Date of the trip.
6. List Ticket
7. Logout

After selecting trip spesification, user must press the list ticket(6) button to see available busses for that day. Logout(7) button will cancel the process and turn back the previous screen.

User Guide



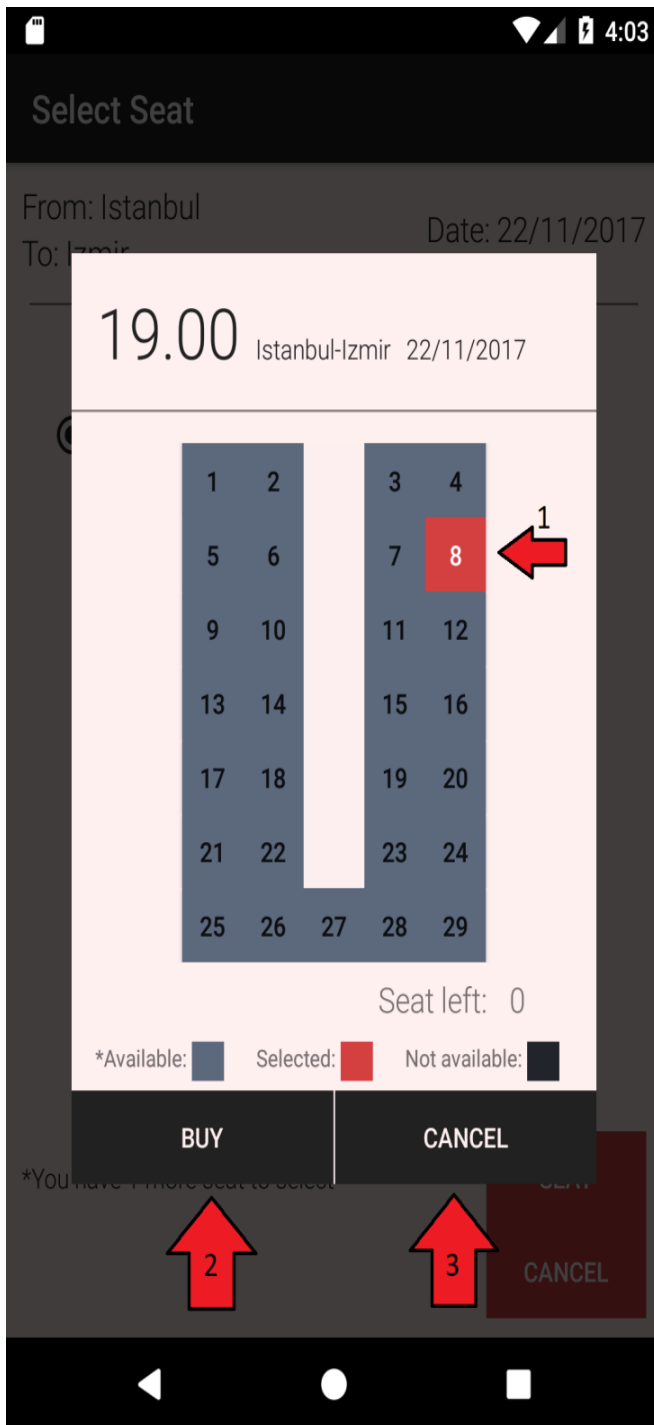
After pressing list button in previous screen, user will be able to select available bus for the time he/she wants.

1. Seat
2. Cancel

After selecting the bus for seat selection user must press the seat button(1). Cancel(2) button for cancelling the process.

User can see the trip specifications in (3) , (4) and (5).

User Guide



Pressing seat button in previous page will open the buss visualization pop up for selecting seats.

Selected seats(1) will be marked as red.

2. Buy

3. Cancel

User must press buy button in order the open payment page for the seats he/she wants reserve. Cancel(3) button for turning back the previous page.

User Guide

Buy Ticket

1

Name and Lastname:

2

Credit Card Number:

3

CVC:

4

Expiration Date:

*It's for demo please DO NOT give actual informations...

7

5

6

Price: 50 TL

BUY CANCEL

1.Name and Lastname

2.Credit Card Number

3.CVC

4.Expiration Date

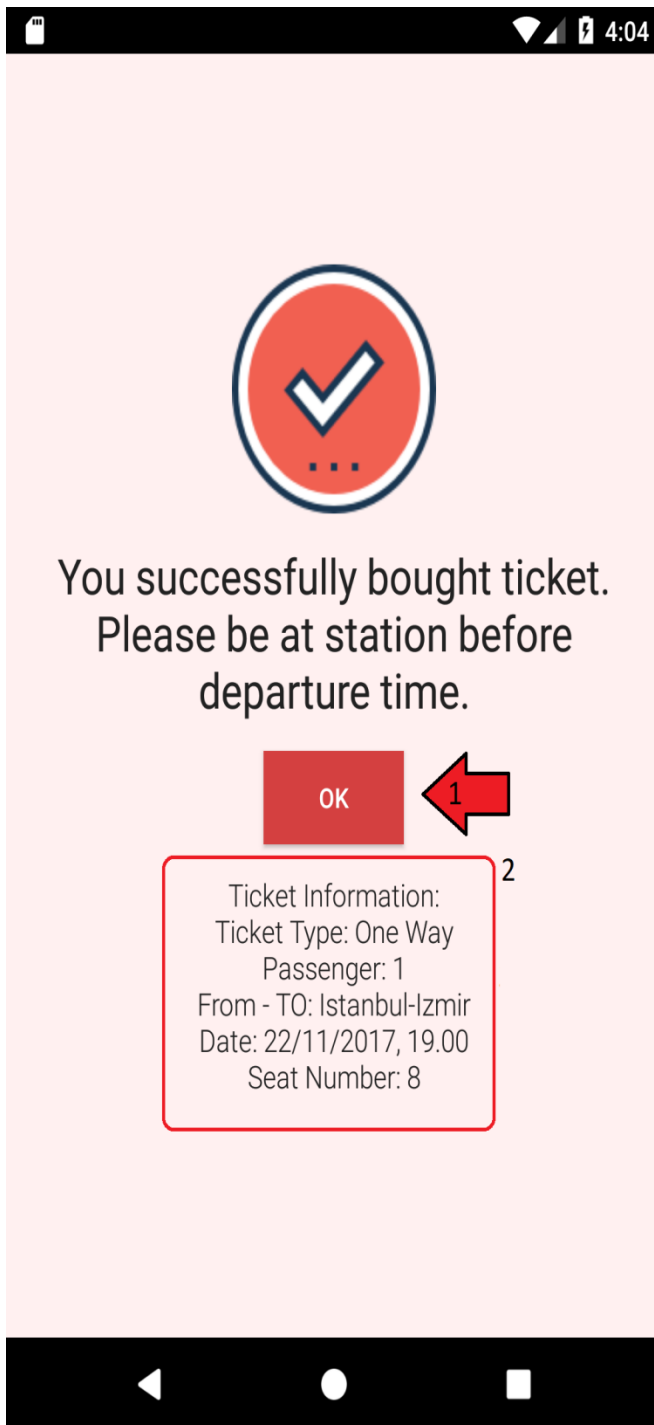
5.Buy Button

6.Cancel Button

7.Price

User must fill the required fields correctly. Then press the Buy(5) button in order the complete reservation. Cancel(6) button for cancelling the prosses. User will able to see price(7) in these screen.

User Guide



This is the screen that comes after completion the ticket reservation. User can press the OK(1) button to turn back the main menu.

User can see the ticket informations(2) in these screen.