

CITY GUIDE PROJECT

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Table of Contents

1. Introduction	1
What the Problem is.....	1
Goals for the Project	1
Stakeholders	2
Motivation for the Project	2-3
Process Flow Preview.....	3
 2. Analysis and Design	 4
Plan for Requirements Engineering	4 - 6
Functional Requirements	6 - 8
Non Functional Requirements.....	9 - 11
Use Cases	12 - 14
Models	14 - 18
 3. Project Plan	 19
Task Description	19 - 20
Task Assignment.....	20 - 21
Deliverables and Milestones	21 - 22
Project Schedule	22

4. Testing	23
Features to be Tested	23
Test Cases	23
Testing Schedule	24
5. Conclusion.....	25
The Problem and Solution.....	25
The Team and the SE Process	26
Engagement of Umbrella Activities	26
The Users that Benefited	27
6. User Manual	28
Software Description	28
How to use the Software	28 - 30
Troubleshooting Common Problems.....	30 - 31

Introduction

What the Problem is

City guide is wishing to have a user interface that will allow their customers to view cities and places in these cities. The user has the ability to register and log in to the App. The App will be responsive, allowing for the customer to add favorite place and add comment. The administrator will also be able to login through the same form but have the ability to add new place.

Goals for the Project

This software, named 'City Guide', will allow for users to see any city and visiting place with one click on the application in a user-friendly environment. The program allows user to take information about the city and places in that city which he/she wants to go. Moreover, they can add places as their favorite places and reach them in much easier way.

Only registered users will be able to access to features of our program. If a non-registered user opens the program, user will see a start page which includes log in and sign up button. After the sign-up process, user will have access to almost all features in the program. There is 2 kind of user in the program. One of them are default users, and the others are admins. Purpose of admins is make users' more comfortable and happier in the program when they want to reach any information about what they looking for. Furthermore, with requests of the users, admins have right to adding places to every city in the program.

Another purpose of the program is making people's trips easier. Users are able to reach nearly every information about the city and place in Turkey. With the large database of the city guide program, users can reach so many places' data and when they want to go there, they will know what should they do and how they can be prepared for a trip.

Stakeholders

Several different types of stakeholders can be noted when it comes to our software.

The most obvious are those that requested for this software: the lecturer. We made note to critical details on what the project wants, how they want it, and how it should benefit both them and us. We are expected to complete and deliver certain parts of the project on the dates determined. This allows for the lecturers to be aware of new project's software.

Users are also vital stakeholders, and with the App, one can find a place that worth visiting or that to stay. This puts an extreme time saving benefit of the user in holiday.

Motivation for the Project

With this team in need of a better system, we felt it was our obligation to help them in their time of need. To develop such a system that would not only ease the burden on our program's users, but the our group itself. Our team has an immense amount of knowledge when it comes to problem solving, programming, and communication. Not only would we strive to give the city guide service everything they desired, but we will continue to make sure the software is at its very best and beyond. Each one of us will always and will continue to give 100% and more to making the transition a breeze for the city guide service.

Our team members are so willing to do this and when we started the project, in every part of the project, the team did anything as much as they can. Each team member are qualified and when it unites with their will to help people and giving them a program that can make their life easier. The team make the best they can do. Although all team members are good at every area, with each members' stronger abilities in different areas and their motivation to create this program. We think we made the best and beyond for users demand.

Process Flow Preview

In order to plan all aspects of the project in detail, we feel that contacting the travel websites when the planning is taking place. It is our way of discussing requirements and develop important notes that will help in constructing the overall feel and idea There will be times that we may have to go back to certain portions within the modeling activity to ensure a sufficient model. We wish to make sure that if we miss anything, we do not figure that out in the construction stage. Lastly we want to that for the lecturers to understanding how the software is made.

Analysis and Design

Plan for Requirements Engineering

Inception Task:

The goal for the beginning is to create a program with-database that for user's travel map . We want to provide a reliable guide to travellers. These are just a few questions we asked the stakeholders. With this in mind, we took into consideration that the lecturers may have different viewpoints on who the targets users are. To get a basic understanding of the project, here were some more questions we asked:

What are the basic functions?

(What do you want software to do? - What tasks/problems is the software supposed to accomplish?)

What sort of users are you targeting with this new software? (Who is going to use it?)

Can you show us the environment where this software will be implemented?(Java Swing)

Will there be any issues or constraints that may affect the planning and construction?

Is there anything else you want to add?

Elicitation Task:

Our goal at this stage is to identify the problem, propose solutions, and talk amongst each other on the many different approaches. Meetings are scheduled with the software engineering team in order to get a more refined understanding. The plan is to get a grounded idea of what the objectives for the system are, what should be accomplished, and how the overall system fits into the travel guide. Overall, lists will be created to understand who the users that

took part were, descriptions of the technical environment, usage scenarios and a list of requirements were created at this time.

Elaboration Task:

Information gathered from the inception and elicitation stage are grouped together and refined during this stage. A model is conducted that clearly portrays the numerous conditions of the software function and behavior. Scenarios were created to describe and aid in understanding how the user will interact with the project and how the engineers will interact with the software. Any attributes are to be defined as well as how each function interacts with one another.

Negotiation Task:

With any conflict that would come up in need of a resolution, the team and the lecturers would discuss them through to come up with a resolution. If there are too many requirements asked by the lecturers, we would have them rank each by their importance. Anything that turns out to be the bottom requirements by all, if not most of the engineers may have to be omitted to save time.

Specification Task:

During this task, we plan to create a software requirements specification template. In this template we will note down the overall purpose of the project and the intended audience. Descriptions regarding the project features, user classes/characteristics, operating environment and design will be included. Also included are quality attributes, and what interfaces are to be used with this software. Along with this written document, a 'Mockups ' will be created to get a visual outlook on the project.

Validation Task:

During this stage, any requirements stated are to be ensure that they are

clearly defined. No miss-interpretation should be present and any that exist should be resolved. All the requirements should be congruent with the overall objectives and can be easily understood. Any hard-to-understand phrases should be rewritten and discussed over with again with the team members.

Requirements Management:

Any changes that may occur throughout the project stages should be handled with clarity and care. Any potential changes would be looked over, discussed and determined if the time allotted for the construction of the project can allow for such a change - that is if it is agreed upon by the software engineering team. Requirements Management will occur throughout the project process flow as changes or alterations can occur under any circumstances.

Functional Requirements

Hardware Requirements:

The software should be ran on any sort of desktop or laptop environment, regardless of the operating system. The software hasn't the potential of running on tablets and mobile phones. Essential input/output devices are keyboards, mouse, and monitors etc.; nothing else is required but can be recommended if desired.

Application Interface - Primary Tasks:

- Display start page with necessary buttons
 - Shows login and sign up buttons and perform an action when buttons will be pressed.
- Display sign up page and necessary text boxes and buttons

- Program shows text boxes for all information for user to sign up. When all of the places are filled and pressed the button program will save the user to our text file that keeps the data of users.
- Display login page and necessary text boxes and buttons
 - Two text box and a button will be implemented on the page then users will input the information about themselves. The information will be controlled and program runs according to this.
- View home page with necessary features
 - Connects with the database through Java to call popular cities and display them.
 - Shows a button for display all cities. The cities come from our database.
- Search for desired city according to its name
 - A search bar will be implemented on the program that will search for the cities in the program based on the input
- Allow administrators to add place to any city
 - Administrators will log in through the log in display form such as regular users would, but would have a different looking interface to allow for them to add and remove options.

Application Interface - Secondary Tasks:

- Allow for favorite place addition by customer
 - Only for users who are registered, there will be a favorite place button on the display page that shows the place information.
- Allow the user to add comment to a place
 - Only for users who are registered, there will be a add comment button on the display page that shows the place information. While pressing the button, users can add any comment they want.
- Filtering the places according to their facilities
 - In the page that shows city information, users can filter all places in the city according to their facilities by using a combo box
- Allow users to set their personal data
 - In the profile page which shows personal data of current user, by using the combo box named settings, users can make any changes in their information. Information that allowed to change are different for administrators and users.
- Store customer information in the database
 - When registering, the customer will provide their information in the form - this information will be sent securely sent and stored in the database

Company-side Software - Primary Tasks:

- Keep and display users' favorite place
 - displays with the users' information in the profile page
- Keep and display users' comment
 - with connecting database, program can find users' comments and return in city display page

Non Functional Requirements

Performance Requirements:

- Updating of the changed or added information before the exit process
- Priority queue and comparator were used for fast sorting

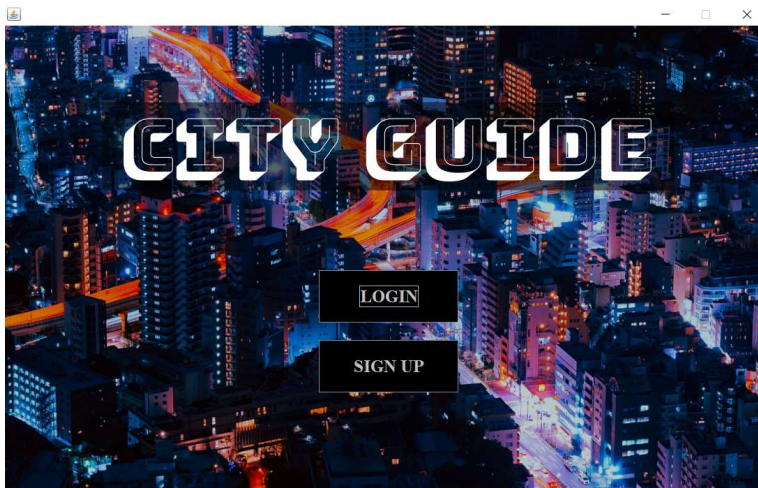
Security Requirements:

- Prevent previously used emails during registration

Quality Attributes:

- Using visuals that appeal to the user and are suitable for the subject
- Easy to see and use navigation
- City search and filtering feature is only used by logged in users
- Updating of user information
- Adding palace for reliable information is done only by admin

Screenshot Mockups:



Name:

Surname:

Mail:

Password:

Phone:


City:

Town:

Address:

Interests:

SIGN UP



Show All Places

Age Limit

İSTANBUL

Plat: 34
 Name: İstanbul
 Area: 5170
 Population: 10018735
 Population Density: 193786
 Center: İstanbul
 Center Population: 8803468
 Region: Marmara
 Sea: yes



Accommodation



Food And Drink



TravelToVisit

ANKARA

Aspava

Aspava

Ceyhun Atuf Kansu Cd. 94/A Çankaya / Ankara 312-256-1256

Anıtkabir

Anıtkabir

Akdeniz Cd. No:31 Çankaya / Ankara 312-231-1861

Grand Ankara Otel

Grand Ankara Otel

Atatürk Bly No:183 Çankaya / Ankara 312-410-5500

segmenler parkı

segmenler parkı

segmenler çankaya / ankara +90-312-1551653

dünya döner

dünya döner

tuzluçayır mamak / ankara +90-616-651651

GALATA KULESİ

Galata Kulesi, İstanbul'un Galata semtinde bulunan bir kule. 528 yılında inşa edilen yapı, şehrin önemli sembolleri arasındadır.

INFORMATION:

Address: Büyük Hendek Cad. No:2 Galata / İstanbul

Phone: -

Price: 10

Distance to Center: 0

Facilities: Age Limit - false

Wi-Fi - false

Parking Place - false

Smoking - false

Pet Allowed - false

COMMENTS

ADD COMMENT

Use Cases

Use Case #1: Choosing a favorite place

Primary Actor: Traveler

Goal in Context: To see the place with its all information

Preconditions: User must be logged in to the program to access the features of the program's displaying place functions

Trigger: The user presses the button that named as places' names.

Scenario:

1. Traveler: Logs onto City Guide service site (Enters E-mail/ Password)
2. Traveler: Selects all places button or selects a filter for any place that he/she wants to see on the city page on application.
3. Traveler: Controls the place if it is the one that user wants to choose as favorite.
4. Traveler: Presses favorite place button and shows it in profile page any time traveler wants.

Exceptions:

1. City Guide service Username/Password incorrect: Traveler is taken a warning message to re- enter credentials.
2. Invalid input at search: A warning message is sent to traveler and traveler will be requested to enter input again.

Priority: Inessential, doesn't have to be implemented.

When available: When user logged in

Channel to actor: City Guide Application

Secondary Actors: City Guide administrators

Channels to Secondary Actors:

1. Administrators: Users can send E-mail to administrators.

Open Issues:

1. Can travelers delete a place from their favorite places when they don't

want to see it anymore?

2. What will happen if a traveler wants to add a place that has already been in favorite places as his/her favorite again.
3. How many places can be added to favorite places by travelers.

Use Case #2: Sign Up Operation

Primary Actor: Traveler

Goal in Context: To register in the system and using every feature in the City Guide application.

Preconditions: Traveler must has an e-mail address and phone number.

Trigger: The traveler presses to sign up button in the start page

Scenario:

1. Traveler: Starts the application and sees the start page.
2. Traveler: Selects 'sign up' button on the start page.
3. Traveler: Fills all the text boxes on the sign up page correctly.
4. Traveler: Selects 'sign up' button and will be registered to system successfully.
5. Traveler: Will be sent to start page to log in and use the features of City Guide System.

Exceptions:

1. E-mail has already registered: Car Renter takes a warning and application wants user to enter another e-mail.
2. Enter all information: A warning message is sent to Traveler and travelers wants to be enter all of the text boxes properly.

Priority: Essential, must be implemented

When available: First start of the application

Channel to actor: City Guide Application

Secondary Actors: City Guide Application and Administrators

Channels to Secondary Actors:

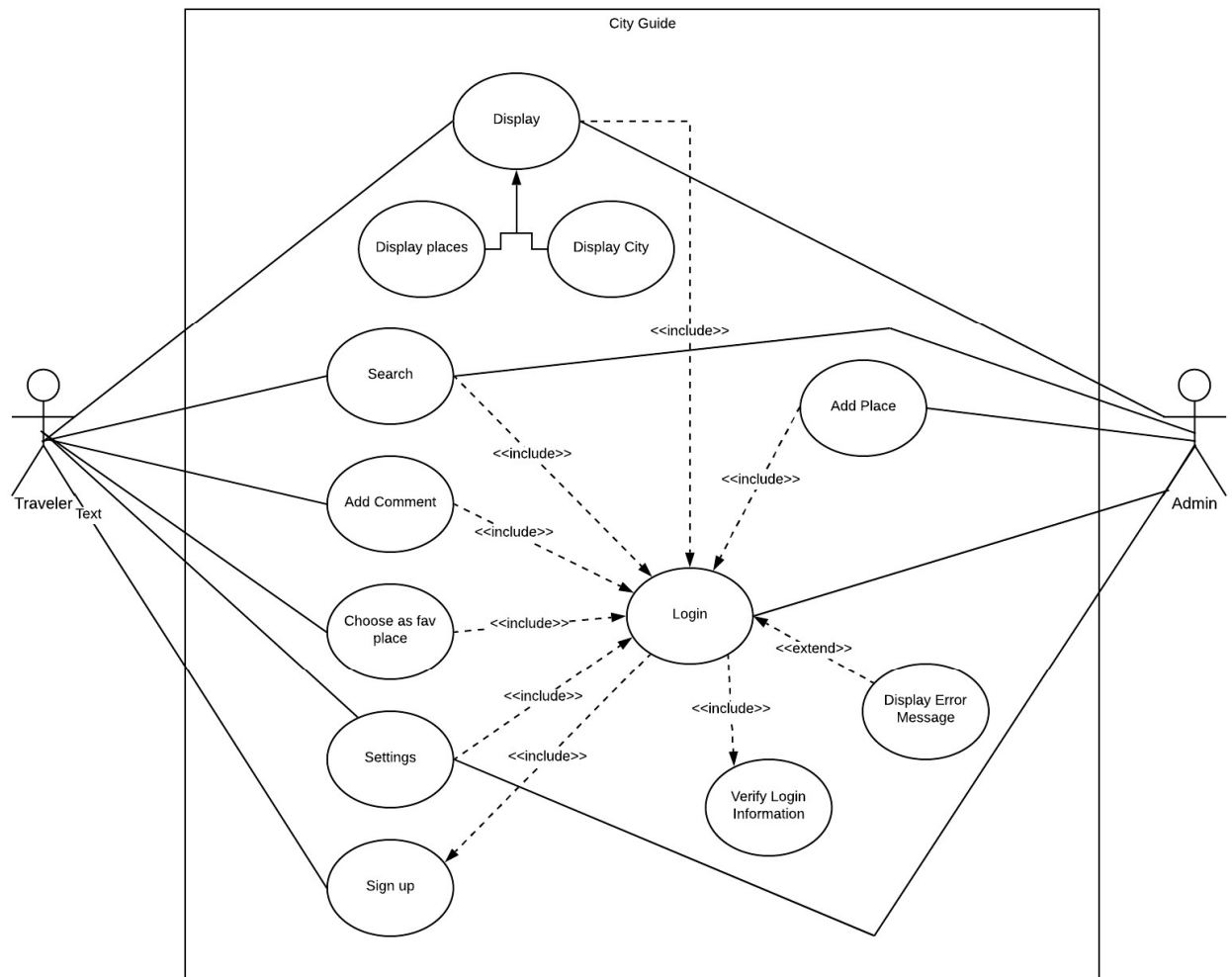
1. Administrators: Users can send E-mail to administrators.

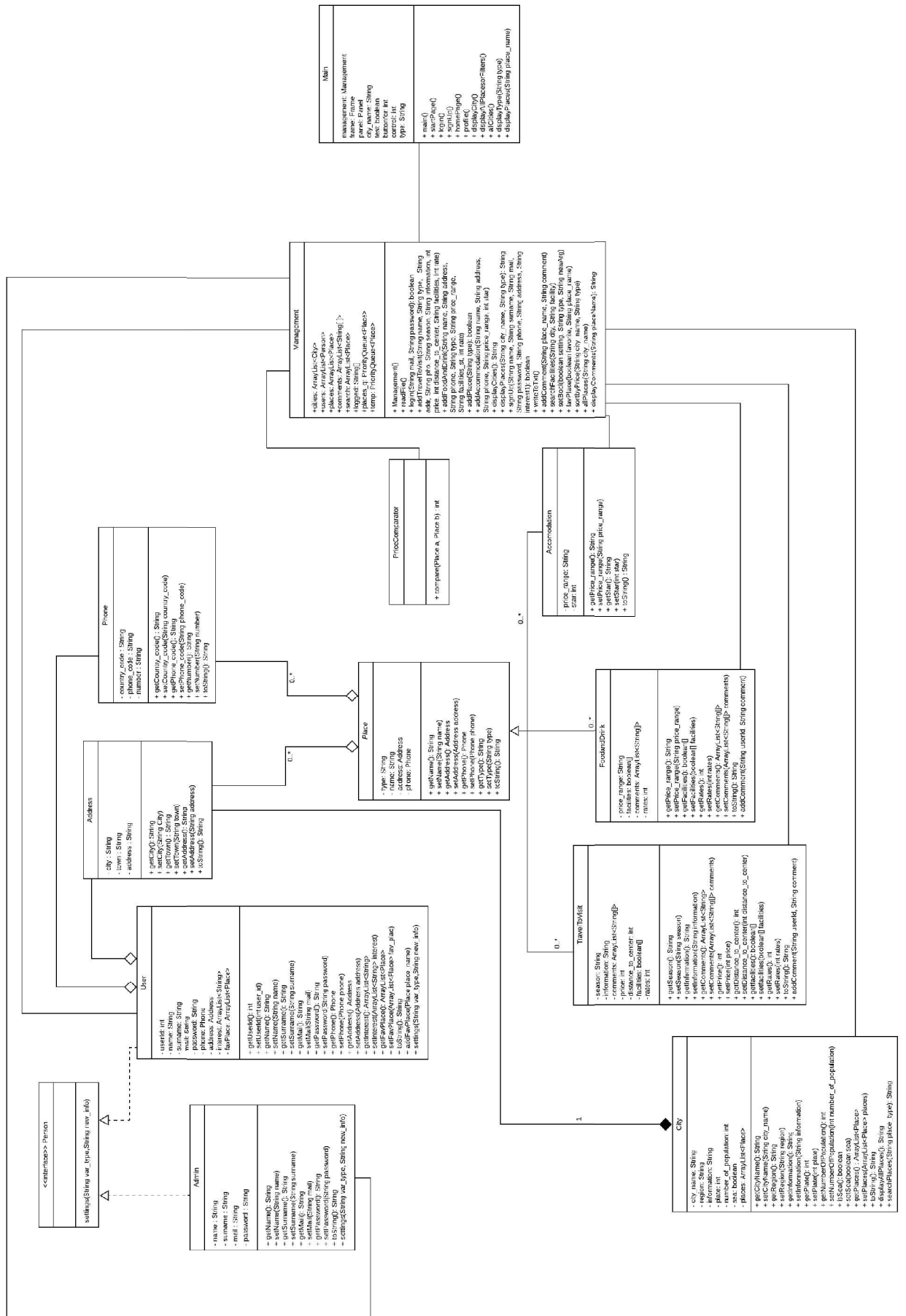
2. User Manual of the Application: Users can find most of the information about the system by reading the user manual that is shared with the application.

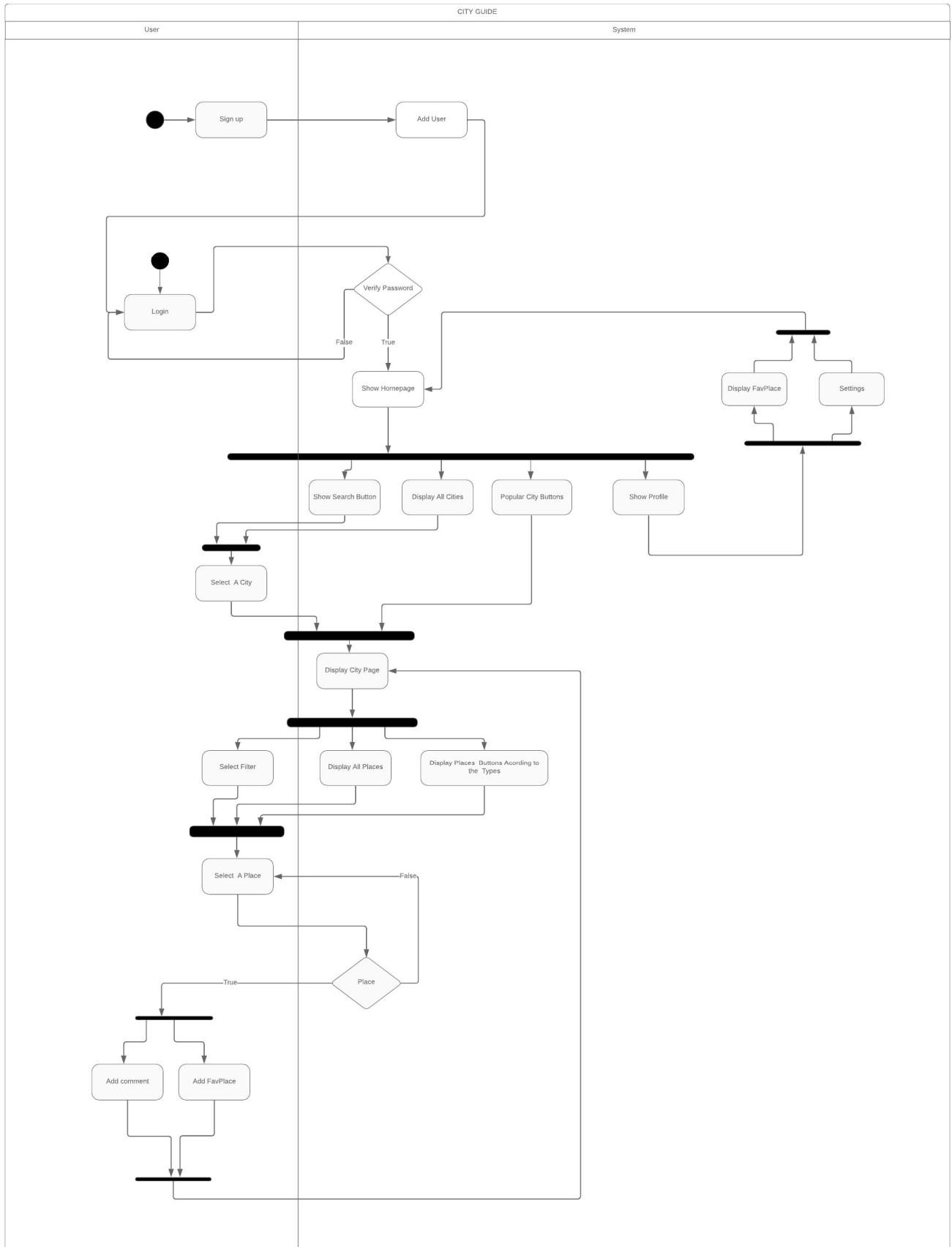
Open Issues:

1. Should e-mail addresses be in the right format or a different format is acceptable in the system?
2. All of the interests should be filled if user that is registered don't have interest with amount that is wanted in application.

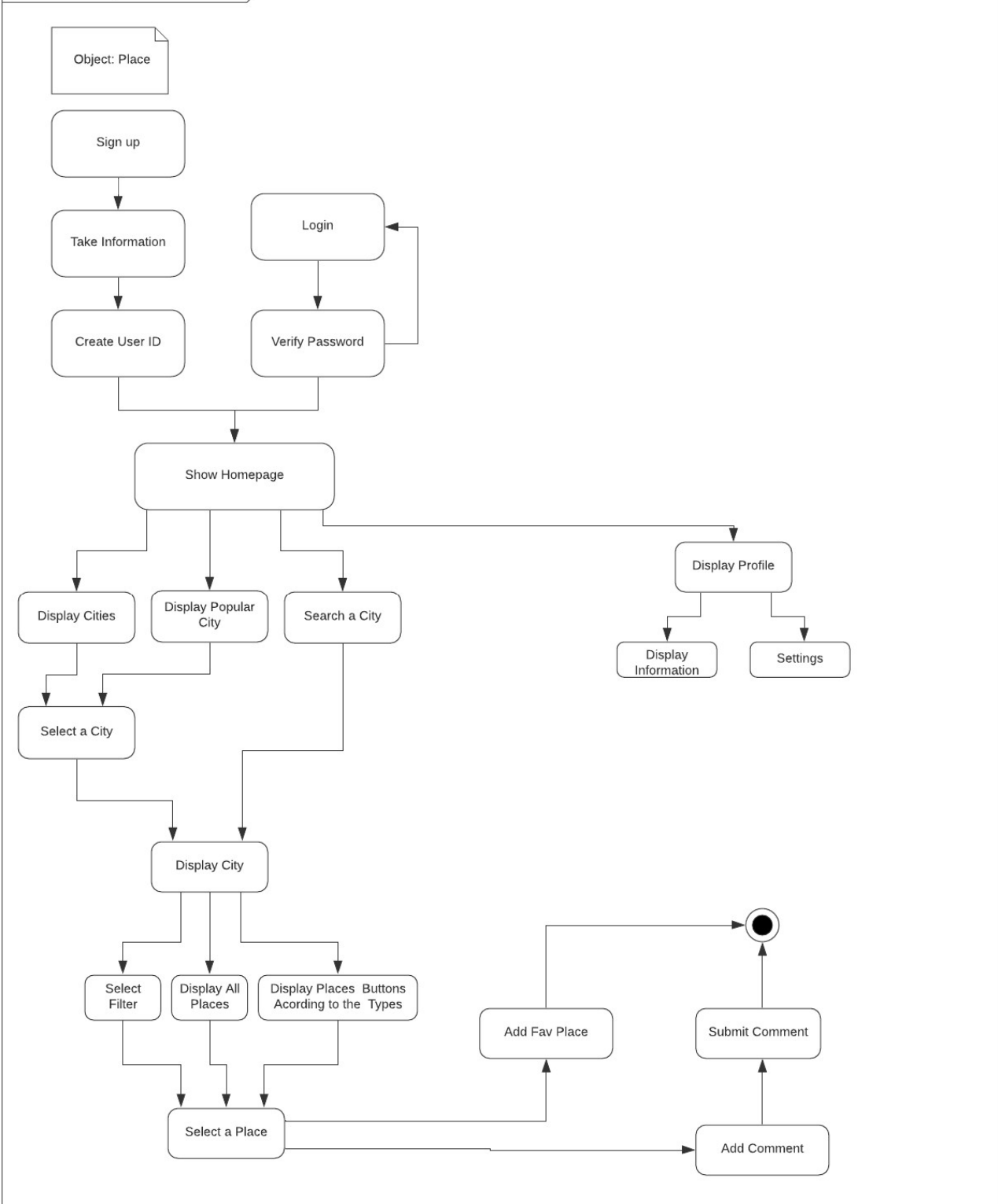
Model

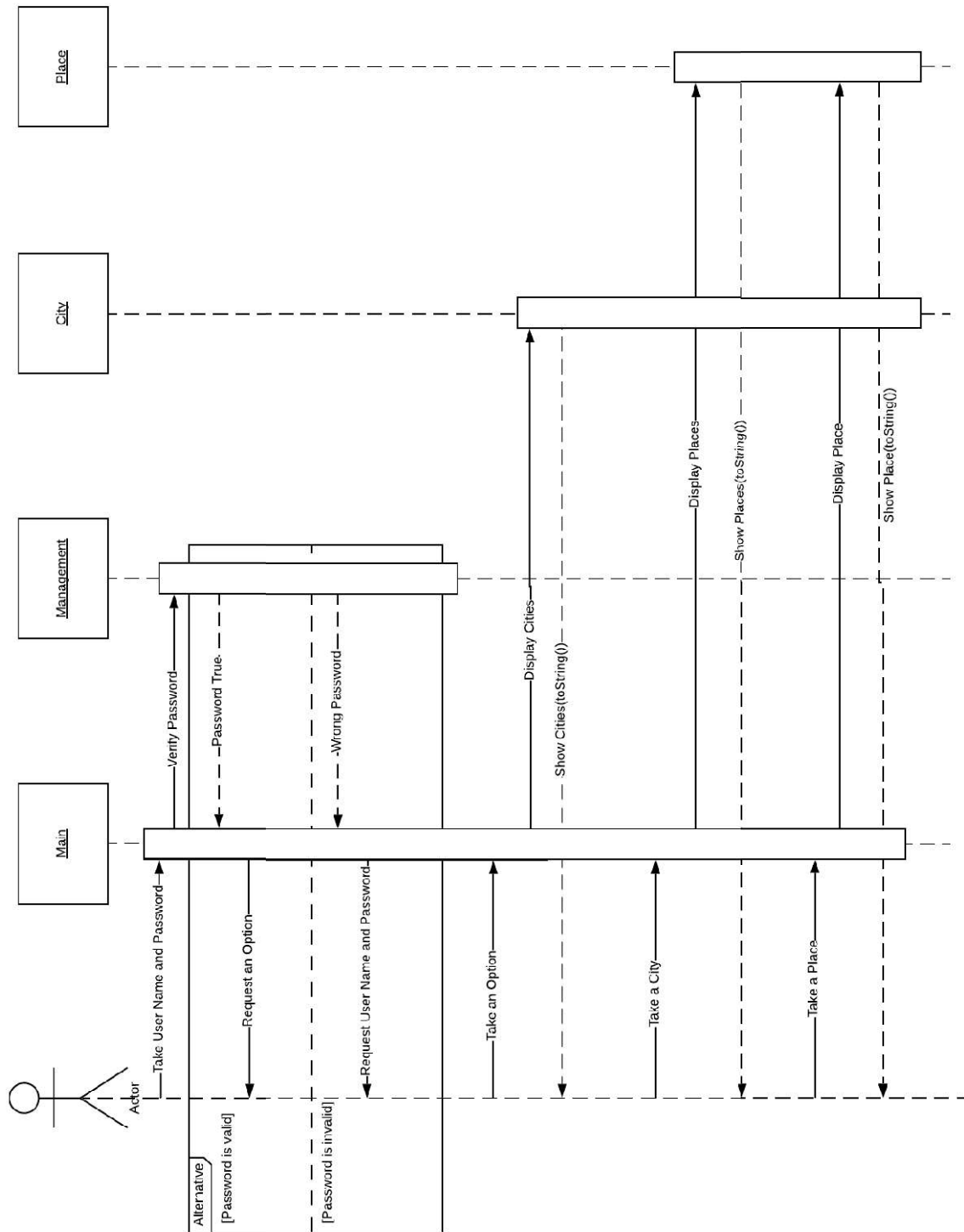






State Chart Diagram for Comment





Project Plan

Task Descriptions

Stakeholder Meetings

The lecturers and the software engineering team conducts meetings in order to get the full grasp of the problem at hand, obtaining any and all information needed. Conflicts and negotiations would be conducted during this time and any time throughout the project process flow.

Design Models and Mockups

Designing the models and mockups help to ensure clarity in view of the project as well as how it works.

Database Creation

A database is created using the models to provide storage for city information, place information, and users data.

Employee Software Creation

The software that is to be used by the engineers will be designed using Java Swing using the guide of the mockups, requirements, and models. The software will act as a simple and easy to understand user interface to 'browse' and among other functions the database - the information stored including user information, city information, and place information.

Application Creation

The project will be designed using JAVA programming language using the guide of the mockups, requirements, and models. It should allow for users to immediately see the cities and places information. They can also have the ability to search for a certain city they desire. Once they select they can register or log in to store any private information they are about to give to the company in order to obtain their vehicle, although registering is not required.

Testing

Testing will be implemented on both the interface and software. Test cases may be used to guide and understand the basic actions of users. Any bugs or errors that occur will be identified and resolved.

Finalization and Reports

All testing and function processes are finalized at this stage. Reports will be created to ensure all information and functionality is clear in order to make the user-friendly interface and to help ensure engineers can use the software with ease.

Task Assignment

From the designation to the end of the project, the group members proceeded with a joint effort. Ideas were put forward, the project that would create according to the most desired structures.

The classes and data structures required for the determined project were created separately by 3 group members. Functions to be used were also designed. Later, all of them were combined to create a draft project.

When coding started, classes and functions were shared. When we needed to use a new structure, Çağlar took this job because he was faster to researching the methods and implement it in our code. The reason of the error in the code was quickly resolved with Zeynep's guesses. In addition, Nilay's consideration of every possibility and algorithm in detail reduced the error rate considerably.

Before using the swing, the functions we need were researched separately and the information was shared in the group. The interface design was started with a lot of plans. Since this is a structure used for the first time, everyone tried to dominate both the subject and the method ,in every job.

This group has become a group that every member has fully contributed to at every stage of the project. For this reason, it would be absolutely wrong to say that only one person did a job. We came to the end of the project quickly and comfortably with the joint decision and division of labor at every step.

Deliverables and Milestones

We had four major Milestones in this project:

1. Completion of Requirements Gathering.
2. Completion of Design and code.
3. Completion of Designing.
4. Completion of Testing.

These milestones were all completed on schedule and yielded a Deliverable at the end of each. Our four corresponding deliverables (respectively) in this project were as follows:

1. A completed list of all stakeholders needs to be met.
2. A finished and easily navigational GUI (Graphical user interface).
3. Satisfied stakeholders and customers after demonstration and launch of

software.

4. A program that runs without any error and non-logical aspect or feature.

Project Schedule

The first month of the project start date (February) was used mainly for requirements setting and meetings for the planning of the program. This took (over the course of four weeks) most of the time in this month. Through the last two weeks of February and part of March, we were able to begin designing. Around the same time, testing began and continued throughout the remainder of the project. We then wrote out the code of the project, and gave a final report of the software. The time this took was about a month. We then had a minor period for demonstration and final adjustments. We finished the project in late May. The percentage breakdown was as follows:

Requirements: 20 %

Design and code: 40%

Testing: 20%

Manual and Final Report: 12%

Demonstration and Adjustments: 8%

Total: 100%

Testing

Features to be tested

We will start by using both static and dynamic testing strategies. The static strategies will include reviewing the basics of the application like user interface whereas the dynamic testing is based on actual code execution like errors and bugs.

The features we tested were as follows:

- To ensure that the application itself ran (Dynamic)
- log-ins worked efficiently and consistently (Dynamic)
- search city and search by facilities worked correctly (Dynamic)
- user interface worked efficiently (Static)

Test Cases

The following are examples of test cases we implemented:

- Dropdown fields should have been designed correctly
- Check all buttons and their actions for running properly
- Graphical User Interface
- All fields on page (e.g. text box, buttons, dropdown lists) should be aligned properly
- Upon click of any input text field, mouse arrow pointer should get changed to cursor
- Check all pages for broken images
- Check all pages for broken button

Testing Schedule

There are active test procedures from the beginning of the program to the end. It is checked if someone who is a member by signing up with a mail is not a member again. There is mail-password control in the login process. The input entered in the search process in the homepage is checked. In addition, action and mouse controls are made for each button.

Conclusion

The Problem and Solution

The first problem in the project was experienced during combining the swing with the functions we prepared before. Although we made the functions prepared according to the console screen dynamic, we had to do changing as a result of the errors we received. We also noticed that some functions are unnecessary and some are missing. We encountered this problem until the end of the project, but we solved it very quickly since we had too much dominated of the code.

One of the biggest problems was our mistakes caused by the wrong and incomplete reading of the text files we prepared. Whenever we got missing information, we had to check the whole issue. This made us very slow.

Another problem that took too long was the screen design. We decided to design on one computer because it gives different sizes on each computer. This extended the duration of the work 3 times.

In addition, since we progressed with 3 different computers, we experienced deficiencies when one of us forgot to update the change.

The Team and the SE Process

The Software Engineering process we used was the spiral method. In this method, we start in the middle of the model, and spiral outward, allowing all departments working on the software to be an active part of every aspect of the engineering. Each individual department will be able to work and test during the software development, user interface development, system control errors and bugs phases of development.

Engagement of Umbrella Activities

Three of the main Umbrella activities we used were as follows:

1. Software Project Management - Which was used to lead the project and ensure that the project was controlled, monitored, scheduled and ran the project according to the created schedule.
2. Formal technical Reviews - This activity was essentially implemented for peer review. Having new and fresh eyes to view code and ensure that everything met the requirements. Because of that, every part of the code, all the team members are controlled the project for a possibility of an issue.
3. Work product preparation and production - This activity was used to generating product easily and programmatically. When tasks are prepared and designed, production part was became easier.

The Users that Benefited

After release of the project, all of our active users benefited from the software. This list includes but is not limited to; the travelers, the tourist, the project development team, lecturers and many more.

User Manual

Software Description

The software application will allow for customers to view any city and kinds of places (restaurants, visiting places etc.) which they want. Travelers (users) can have access to almost every feature with login operation. If a new user opens the program, he/she can register and when they log in, they will be able to do same thing with registered users.

In the program, there are more features than just displaying city information. Users can display information about cities as mentioned above. Moreover, they can see every place in the city. In the place page, users can add comments to any place they want. And if a traveler wants to go to the place that he/she looks, they can add this place to their favorite places and reach it from their profile pages. And users have the right to change their information in the profile page. Besides, there are some features that are available for only admins. Most important of these is adding places to cities after it is verified by administrators.

How to Use the Software

The web application designed for the customers of the city guide service should see the start page upon entering application. There they can see sign up and log in buttons. If the user registered before, he/she should press the log in button and there, user will fill the e-mail address and password boxes. If the data are true, user will be logged successfully but if the data are not true, users will be asked to enter their information again. If users didn't register before, they should

press the sign up button on the start page. In the page that is opened when user pressed sign up button, new user must fill all the blanks correctly. When this operation completed, user can be signed up by pressing sign up button in that page. When login operation is completed, program will redirect user to home page of the application.

In the home page of the program, users can see most popular 3 city on the center of the page. They are clickable city photos and when they are clicked, page of the city will be opened. There is a all cities button on the right bottom of the page. When this button is clicked, all of the cities of Turkey will be listed alphabetically. If user click any of this cities, program will display the page of the city that is clicked by user. Another button that home page contains is the profile button. When a user clicks this button, program will open a new page and this page have user's profile information. The Dropdown field named 'settings' is used to change the info about the user. Final feature of the home page is search box. It is a simple text box actually. When a city name is entered to this place, it will return this city's page to the user.

In the city page of the program, first of all there is an information about every city in the application. There is a button called 'show all places' and when user clicks this button, program will show all of the places in buttons and there will be a short explanation about the place. In the city page, another feature is filter by facilities of places. When a filter chosen in this combo box, application will show all the places if place include this facility. Last feature of the city page is the buttons for separate places according to their types. There is three types of places; accommodation places, places for eat and drink and visiting places. When a button is clicked, program will show related places.

In the place page, there are some features too. Firstly, there are place information on the left side of the page and comments of the place on the right side of the page. And there is two buttons in the place page. One of them is add

comment button. When a user clicked this button, program will show a text box in a new page and the entered text will be listed on the comments part of the place with user's name. The other button of place page is favorite place button. When this button is clicked by user, application show a message about addition operation and when the place added once, users will be able to see their favorite places in the profile page.

There is a back button on all of the pages and when this button is clicked, program will return the previous page and user can see any information they want. And finally, users can close the program by using the cross sign that is on the right top of the page. When program closed and opened again, users have to log in again

Troubleshooting Common Problems

The Application

Problem: Invalid Login

- The credentials used to log in was not found in the database, input the credentials again in case of mistype
- If invalid login persists, users can contact with the administrators

Problem: Empty Page

- Make sure the city or place has the information (place info, comments etc.)
- If you are sure about the problem, contact with the administrators.

Problem: Sign Up Error

- Make sure you entered all of the information boxes and did it correctly.

- If there is another problem at register operation, contact with the administrators.

Problem: No result error on the search

- Upon searching through the software, this means that the city is not currently in the database or may have been removed. Review recent changes to the database by the administrators to see if any changes had occurred.
 - Make sure you entered the city name correctly. It will open the right page when correct input has been entered.
-