CROSS PLATFORM TOURISM GUIDE FOR KURDISTAN

NZA BAHAALDDIN MUHAMMED

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CROSS PLATFORM TOURISM GUIDE FOR KURDISTAN

NZA BAHAALDDIN MUHAMMED

A thesis submitted in fulfilment of the
requirements for the award of the degree of
Bachelor of Computer Science (Software Engineering)

School of Computing
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I declare that this thesis entitled *"CROSS PLATFORM TOURISM GUIDE FOR KURDISTAN"* is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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DEDICATION

This thesis is dedicated to my father, who taught me that the best kind of knowledge to have been that which is learned for its own sake. It is also dedicated to my mother, who taught me that even the largest task can be accomplished if it is done one step at a time.

ACKNOWLEDGEMENT

In preparing this thesis, I was in contact with many people, researchers, academicians, and practitioners. They have contributed towards my understanding and thoughts. In particular, I wish to express my sincere appreciation to my main thesis supervisor, Mr. Abdulsalam Abdullah, for encouragement, guidance, critics and friendship. Without his continued support and interest, this thesis would not have been the same as presented here.

My fellow student should also be recognised for their support. My sincere appreciation also extends to all my colleagues and others who have provided assistance at various occasions. Their views and tips are useful indeed. Unfortunately, it is not possible to list all of them in this limited space. I am grateful to all my family member.

ABSTRACT

Access to relevant and reliable information is critical to tourism, especially in this age of the Internet, when information overload has become a common occurrence and a severe problem for individuals seeking accurate information. Moreover, different studies have been conducted on how to improve the effectiveness of information on tourism websites. Cross platform tourism guide for Kurdistan, tries to bridge the gap by noting what a tourist perceives as relevant, this study will look at the influence of tourism guide performance on tourists' overall travel experiences and contentment, as well as whether or not this can assist my country attract more visitors. This research focuses mostly on content because it is regarded as the most important aspect of a successful website.

ABSTRAK

Akses kepada maklumat yang relevan dan boleh dipercayai adalah penting untuk pelancongan, terutamanya pada zaman Internet ini, apabila maklumat yang berlebihan telah menjadi perkara biasa dan masalah yang teruk bagi individu yang mencari maklumat yang tepat. Selain itu, kajian yang berbeza telah dijalankan tentang cara meningkatkan keberkesanan maklumat di laman web pelancongan. Panduan pelancongan lintas platform untuk Kurdistan, cuba merapatkan jurang dengan mencatat apa yang dianggap relevan oleh pelancong, kajian ini akan melihat pengaruh prestasi pemandu pelancongan ke atas keseluruhan pengalaman perjalanan dan kepuasan pelancong, serta sama ada ini boleh membantu negara saya menarik lebih ramai pengunjung atau tidak. Penyelidikan ini memberi tumpuan kebanyakannya kepada kandungan kerana ia dianggap sebagai aspek terpenting dalam laman web yang berjaya.

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LIST OF ABBREVIATIONS

No	ABBREVIATIONS	MEANING
1	KTG	KURDISTAN TOURISM GUIDE
2	UML	UNIFIED MODELLING LANGUAGE
3	GUI	GRAPHICAL USER INTERFACE
4	SQL	STRUCTURED QUERY LANGUAGE
5	PSM1	PROJECT SARJANA MUDA 1
6	FYP1	FINAL YEAR PROJECT 1
7	SDLC	SOFTWARE DEVELOPMENT LIFECYCLE
8	KRG	KURDISTAN REGIONAL GOVERNMENT
9	SRS	SOFTWARE REQUIREMENT SPECIFICATION
10	SDD	SOFTWARE DESIGN DOCUMENT
11	STD	SOFTWARE TESTING DOCUMENT

Chapter 1

INTRODUCTION

1.1. Introduction

Despite ongoing geopolitical tensions in some regions, Iraq has become one of the most popular tourist destinations. As a result, it is essential that tour guides make proper representations to visitors to Middle Eastern destinations in order to encourage repeat visits and referrals to other tourists. The majority of the people in the area enjoy going on tours. Visiting tourism destinations in Kurdistan to simply observe nature, which includes beautiful villages, resorts, hills, mountains, waterfalls, and other amazing places, is one of the best experiences. However, without the assistance of tour guides, this experience would be incomplete. Tourists have limited access and ability to reach their destinations at the lowest possible cost. As a result, they travel with an excess of funds. To fulfil its social responsibility, KTG is a website that will make it easier for tourists to travel in Kurdistan in less time.

1.2. Problem background

Tourists' expectations when visiting a specific location are influenced by a variety of factors, including the destination's culture, architecture, landscape, events, shopping, and so on. These features gather visitors to the destination and enhance the overall trip experience. They are important aspects of the destinations as whole have a significant impact on their success. In Kurdistan tourists cannot find the tourism places easily, because there is no any guide or any software for tourists to find the places by themselves.

The reason for executing this project is because it's exhausting to try to collaborate "hey where can I find this place?" in a country that you can't speak the language, there should be travel specialized alternative. Also, tourists need to find a place to stay. With this website tourist will be able to view attractive destinations, attractive accommodation, information travel in Kurdistan, and record the favourite destinations address and using it for finding the hotels and restaurants.

1.3. Project aim

The aim of this project is to develop a cross platform tourism guide website, to investigate the impact of tourism guide performance on tourists' overall travel experience and satisfaction, as well as whether this can help my country attract more tourists.

1.4. Objectives

The main objectives of the project:

1. To investigate how Kurdistan tourism guide can be useful for tourists.
2. To develop a cross platform website for Kurdistan tourism guide using web development techniques and database.
3. To test the website in real life and evaluate the user's acceptance for the project.

1.5. Scope

The project will be run within the following scopes

1. This project is for enhancing tourist experience for my country.
2. This project is to understand the relationship between the tourists and Kurdish society to increase the number of tourists for my country.
3. This project provides complete information about tourism places with facilities, location map and contact details.

1.6. Project Importance

KTG ‘Kurdistan tourism guide’ is critical to properly plan your trips so that you are not surprised by the new location. This website, in my opinion, is necessary because it assists tourists in organizing, managing, and planning their entire trip so that they can focus solely on enjoying the destination.

KTG knows what's best in each destination, so you'll be able to see the best sights. You can't see everything a place has to offer on your own; it takes a lot of time, effort, and courage to do so, but KTG can certainly assist you. Because they are familiar with the area and can assist you in having a wonderful trip at a low cost. By agreement with hotel owners and restaurants, we can provide the best service to tourists. In this way, tourists can use the website to book hotels and restaurants easily.

1.7.Report Organization

This chapter contains introduction of the project to give a description about this project, process of this system and some problems that need to be solved via this system also the goal of this system with some important objective, scope and why this project is important. Next chapter which is chapter 2, it’s about writing the literature review skills and referencing techniques and comparison between current system and existing systems. Chapter 3 is about methodologies of the project. Chapter 4 is for design the project and the conclusion is for final chapter which is chapter 5.

Chapter 2

LITERATURE REVIEW

2.1. Introduction

This chapter gives an overview of technical study on the implementation and efficiency of several types of tourism guide Projects to promote the tourism sector in Kurdistan. This chapter discusses the tourism sector issues and what is required for tourists to visit the country, as well as the system that the country employs to help tourists. Then analyse and contrast the various tourism guide systems to assess their strengths and weaknesses. Then pick the best aspects and include them into the Kurdistan tourism guide project.

2.2. Inter-Organization case study

Kurdistan is a beautiful country, visited by many tourists annually. There must be a system for tourists to use to find tourist destinations in Kurdistan, and to find hotels, motels and accommodation. The website, which is being built for the tourism sector in Kurdistan, should be a guide to all classes, as tourists arriving in the country are mostly Arabs, while other foreign tourists come to Kurdistan as well.

Therefore, it is very important that the system that is being created must include Kurdish, Arabic and English languages. It also includes all of Kurdistan's tourist sites, such as resorts or historical monuments, villages and mountains, malls and restaurants in cities, holy religious sites, caves and castles.

When tourists visit Kurdistan, they are not very familiar with the beautiful places, they only know the places known and described by those who have visited them before, which is worrying for the People of Kurdistan because there are many beautiful places we want to introduce to tourists, so the most beautiful picture of Kurdistan should be shown to tourists in the tourism guide system.

2.2.1. General Board of tourism of Kurdistan

This website created by government. by using it you can view tourist destinations in Kurdistan, and tourists can find hotels and accommodation according to cities. When you want to view a tourist location by clicking on the picture, you will open a page that contains information about the destination, such as location, history, etc.

The strong point of this website is that all tourist destinations when you clock it, have all the information written so that tourists have full information about where they are going, as well as high quality images used in it. The weak point of the website is that there are many important tourist areas in Kurdistan, but it does not exist on this website because it has been created for a long time and has not been updated so far. Hotel and motel information has also expired on this website, such as mobile numbers, addresses, pictures. And there is no map on this website. Tourists cannot find tourist destinations and hotels.

Based on the survey and questionaries for tourists, most of the tourists and the society didn't know they already have the tourist guide website which is developed by Kurdistan Regional government, and some of them said that the website is useless and not powerful enough to guide you for the simple trip.

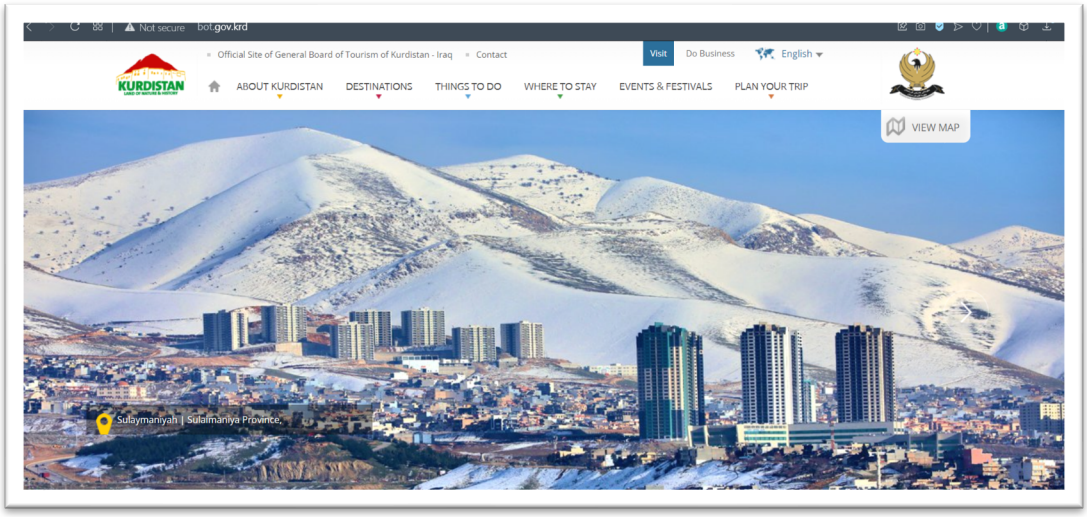


Figure 2-1 Official Site Of General Board Of Tourism In Kurdistan

2.3. Current system analysis

In the world, there are several systems designed for tourism guides, some only to show tourist destinations, and some of which can provide you with accommodation, some of them include maps with details, and some provide transportation, and taxi, bus and pedestrian maps are separated, which makes it easier for tourists. This part is about the existing systems, two websites and the research paper and journals that designed for tourism guides. After that the systems will be compared, then specify their strong and weak points, and looking at the content syllables.

2.3.1. Integrating Tourism and Recreation Travel with Transportation Planning and Project Delivery

This paper adds to the growing body of knowledge about how tourism travel challenges are being integrated into transportation decision-making and planning. It examines current practice and includes case studies on a variety of agency operations, including multi-agency collaboration, planning procedures, agency resources, project development, and the sorts of transportation solutions used. Projects implemented

include welcome centres, information displays or kiosks, signage, heritage markers, specialized road maps, advertising, publications, and brochures, as well as various modes of travel and transportation facilities that serve tourism sites such as roads, parking, scenic rest areas, and rail services. (PETRAGLIA and WEISBROD 2004)

2.3.2. Intelligent Tourist Information System

This application contains information such as city maps, parking spots, sites of interest, museums, art galleries, restaurants, monuments, and other places of interest, as well as descriptions, entry fees, travel time, and at least one photo of these places. The system may also locate and display paths based on user criteria (Jeleń 2008).

Figure 2-2 Intelligent tourist information system based on Palm OS

2.3.3. Nomadic Matt

This website offers tried-and-true travel advice based on years of expertise. Other travel gurus are interviewed. Studies and biographies of other travellers from a

variety of backgrounds, genders, races, and nations are included. A network of like-minded travellers who will motivate you to keep going. Detailed cost analyses to assist you in planning your vacation. Travel advice that may be used in any part of the world (Matt 2021).

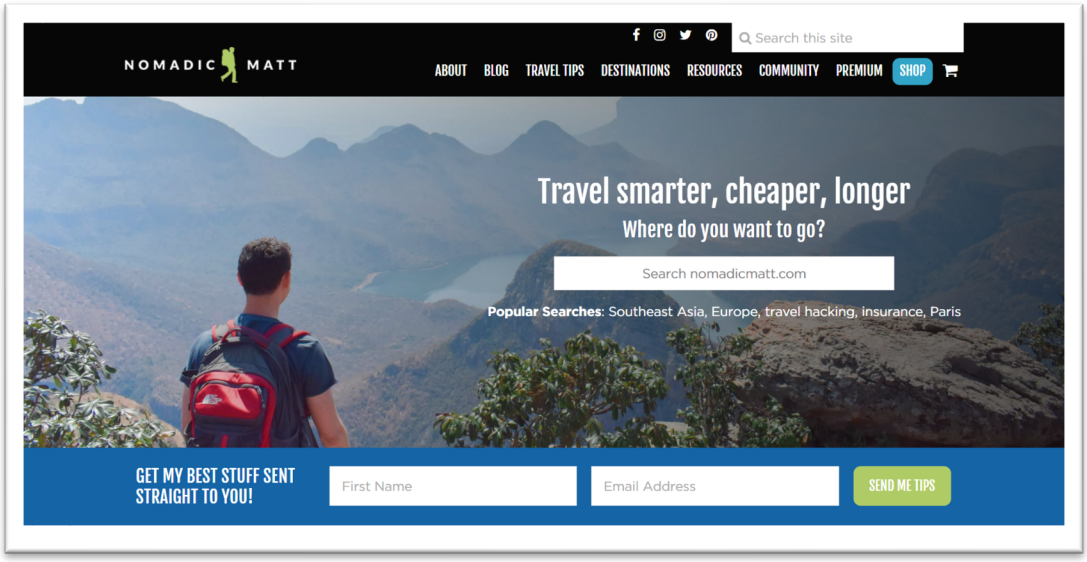


Figure 2-3 Nomadic Matt website for tourism guides

2.4. Compare between existing systems

Table 2-1 Comparisons between systems

Existing systems	destination Mapping	Transportation maps	Booking for accommodations	search bar & details for location	Share & feedback	Multi Language	Good UI UX
1. Kurdistan tourism	X	X	X	✓	X	✓	✓
2.Intelligent Tourist Information System	✓	X	X	✓	X	X	X
3.Integrating Tourism with Transportation Planning	X	✓	X	✓	X	X	X
4. Nomadic Matt	✓	✓	✓	✓	✓	X	✓
5. KTG (Proposed system)	✓	✓	✓	✓	✓	✓	✓

2.5.Literature review on technology used

- **HTML5, CSS, and JavaScript for Front-end:** For front end we are using programming languages and frameworks to create what a user experiences in a browser, like: HTML5, CSS, and JavaScript are the backbone of Front-End development.
- **PHP for Back-end:** The website will still contain frontend code, but it also has to be built using a language that a database can recognize. The website will create by using PHP. PHP is a general-purpose scripting language that can be used to create interactive and dynamic websites.
- **MySQL for Database:** MySQL is a relational database management system (RDBMS), which means that instead of a single repository, it stores records in multiple, separate, and highly codified tables.
- **Apache http server for web server:** Apache is free and open-source server, you can use it to run a website with minimal effort.

2.6.Chapter Summary

In this chapter, I mentioned the website that the KRG has created for the tourism sector, which is in fact no longer in use because contents are not updated for a long time, so we have suggested how it should be repaired and rebuilt. Then we brought in some systems about tourism in the world, you can see it in 2.3, and we put a link to the website or journals in blue colour. Then we compared the systems in Table 2.1. We plan to have strong points on the website we are creating for Kurdistan. Finally, we talked about what the technologies that will be use to creating the website.

Chapter 3

METHODOLOGY

3.1. Introduction

This chapter is about the methodologies, this study analyses the many ways to problem solving that are often employed, including phases, activities, processes, strategies, and instruments. The approach is a theoretical, methodical examination of methodologies used in a research area. This covers the theoretical study of data collection methods and concepts relevant to a particular field of research. The planning, research, design, implementation, testing, and maintenance of systems are all phases that are pertinent to this method. Agile, Waterfall, and Rapid application development are some of the methodologies that may be employed in the development system. Agile methodology will be used for this project.

3.2. About Agile methodology

When adding new functionality, agile methodology is very useful for reducing risk such as bugs, cost overruns, and changing requirements. Agile software developers create software in iterations with small increments of new functionality. (Synopsys editorial team, 2018).

One of the easiest and most efficient methods for translating a vision for a business requirement into software solutions is the agile software development approach. The word "agile" is used to characterize methods for developing software that involve ongoing planning, learning, and improvement, teamwork, evolutionary development, and early delivery. It promotes adaptable reactions to change.

3.3. The phases of Agile Methodology

In Agile Methodology there are several phases. Figure 3.1 shown the phases in Agile Methodology that are used for developing the project.

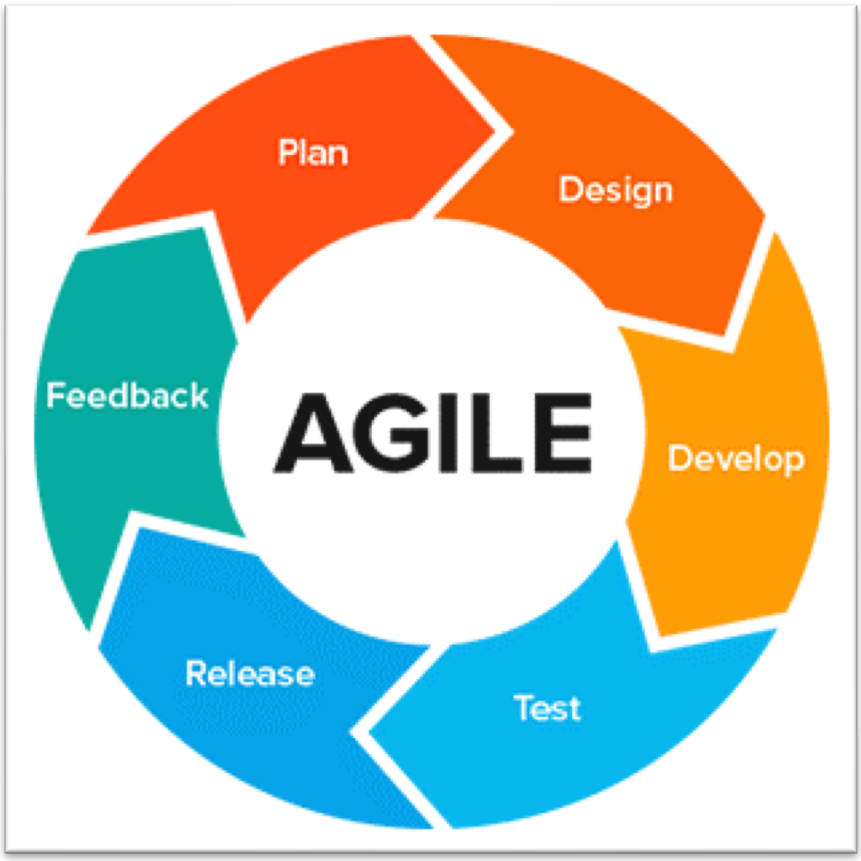


Figure 3-1 Agile Methodology (Abellan, 2020)

3.3.1. Plan and Requirements

In this phase, requirements have to be defined, for example functional and non-functional requirements and user requirements, software and hardware requirements, based on the surveys and analyses for proposed project. Planning has to be included also, project planning method that estimates the times of the project in each iteration, the project Gantt chart for developing Kurdistan tourism guide produced.

3.3.2. Design

This phase includes the designing for the proposed project. Before the implementation the design has to be completed. UML diagrams, database diagram and prototype and interface are the way to solving the problems before the coding and implementations. There are many software to drawing the diagrams and designing interfaces, for the diagrams Lucid chart or Creately.com and Enterprise architecture can be used. For the interface design, Adobe XD or Figma are the choices.

3.3.3. Development and Coding

After the design, the first version of the project has to be implemented and following the requirements and the interface. Continuing the coding for developing successful project with the minimal features.

3.3.4. Integration and Testing

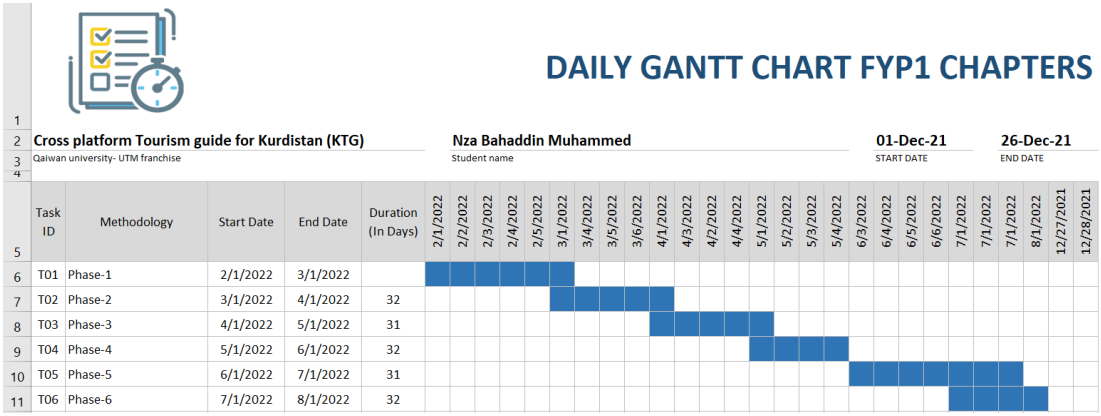
This phase is about the testing the system to ensure that the minimal features and the functionality of the system with the performance works perfectly.

3.3.5. Implementation and Deployment

This phase is for completing the project with the fully functionality and all features have to be included. Provide the website for the tourists to use it and waiting for their feedbacks.

3.3.6. Review and feedback

After releasing the first version of the project, the customers, the tourists and the stakeholders have to use it. Based on their reviews and feedbacks, the updated version process has to be started to adding the extra features for the KTG website.



DAILY GANTT CHART FYP1 CHAPTERS

Cross platform Tourism guide for Kurdistan (KTG)
Qaiwan university- UTM franchise

Nza Bahaddin Muhammed
Student name

01-Dec-21
START DATE

26-Dec-21
END DATE

Task ID	Methodology	Start Date	End Date	Duration (In Days)
T01	Phase-1	2/1/2022	3/1/2022	
T02	Phase-2	3/1/2022	4/1/2022	32
T03	Phase-3	4/1/2022	5/1/2022	31
T04	Phase-4	5/1/2022	6/1/2022	32
T05	Phase-5	6/1/2022	7/1/2022	31
T06	Phase-6	7/1/2022	8/1/2022	32

2/1/2022 2/2/2022 2/3/2022 2/4/2022 2/5/2022 3/1/2022 3/4/2022 3/5/2022 3/6/2022 4/1/2022 4/3/2022 4/2/2022 4/4/2022 5/1/2022 5/2/2022 5/3/2022 5/4/2022 6/3/2022 6/4/2022 6/5/2022 6/6/2022 7/1/2022 7/1/2022 7/1/2022 8/1/2022 12/27/2021 12/28/2021

Figure 3-2 Gantt chart for Methodology phases

3.4. Technology and Tools used in system development

Software and editors for creating KTG website:

VS code: Visual Studio Code is an open-source text editor, this editor will be used for implementing the codes of KTG website.

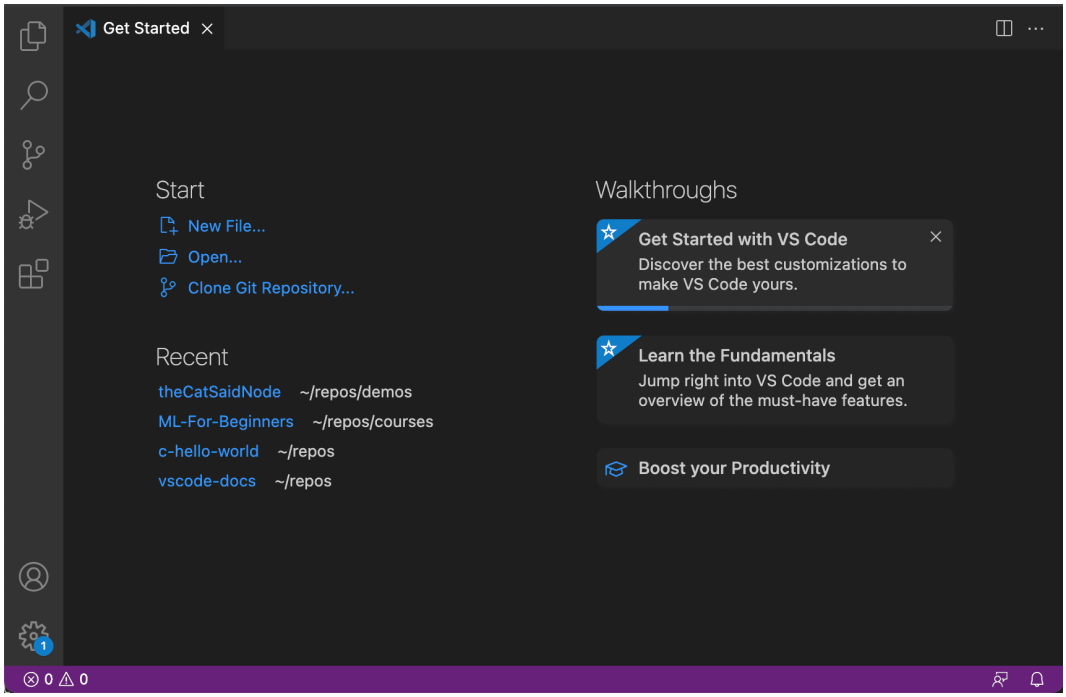


Figure 3-3 VS Code

XAMPP Server: XAMPP is a cross-platform web server, this software will be used for creating a local server and test the KTG website in this server.

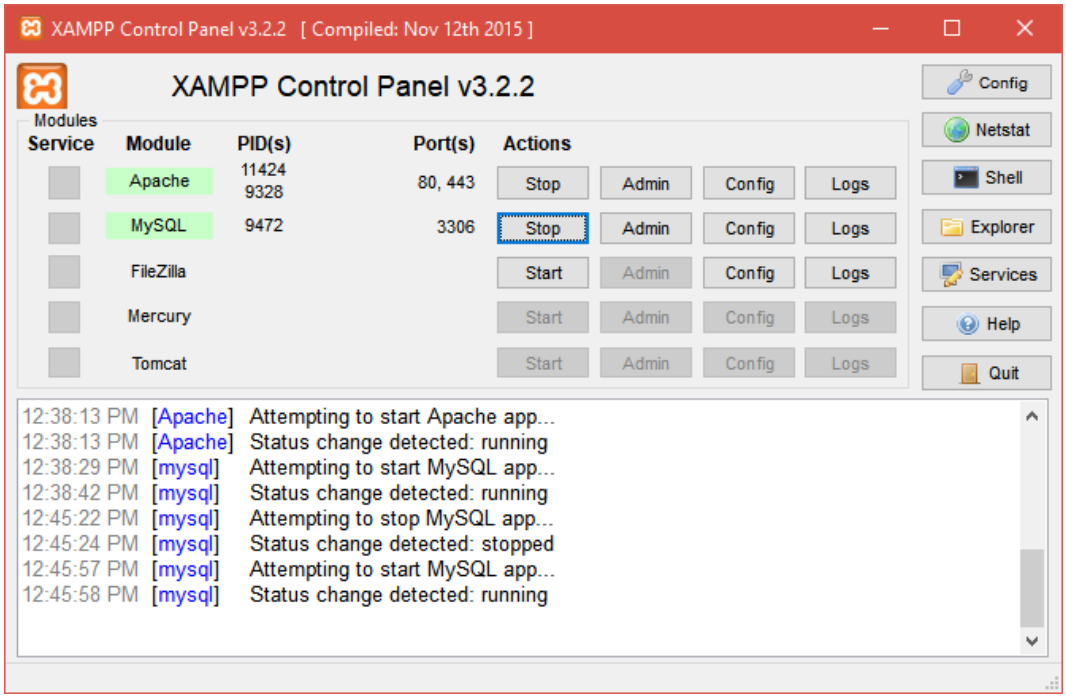


Figure 3-4 XAMPP Server

There are several technologies that needed to be used to develop a KTG website. Front-end, Back-end, Database, Server-side Technologies needed to be used in KTG.

- HTML5, CSS, and JavaScript for Front-end: For front end we are using programming languages and frameworks to create what a user experiences in a browser, like: HTML5, CSS, and JavaScript are the backbone of Front-End development.
- PHP for Back-end: The website will still contain frontend code, but it also has to be built using a language that a database can recognize, so the website will create by using PHP.
- MySQL for Database: MySQL is one of the best and popular databases.
- Apache http server for web server: Apache is free and open-source server, you can use it to run a website with minimal effort.

3.5. System requirements analysis

System requirement analysis is to analyzing the software and hardware requirement for developing the system. There are various types of software and hardware requirement depending on the developers (Mattermost,2022).

3.5.1. Software Requirements

Software requirement is software that is required to build the system and make the system easy and build. The software which is used is defined as below. (Mattermost,2022).

3.5.1.1. PC Browsers

Table 3-1 PC Browsers

Browser	Self-Hosted Technical Requirement
Chrome	v89+
Firefox	v78+
Safari	v12+
Edge	v44+

3.5.1.2. Smartphone Browsers

Table 3-2 Smartphone Browsers

Browser	Technical Requirement
iOS	iOS 13.1+ with Safari 12+ or Chrome 89+
Android	Android 8+ with Chrome 89+

3.6. Chapter Summary

In conclusion, the methodology of this project is using the Agile methodology. Because the Agile technique is flexible, customizable, and easily adaptable to the project's requirements, it was chosen for this project. Besides, it is a modern methodology that had undergone a lot of improvement from the traditional methodology used to ensure the smooth process in completing the whole project. This chapter also explains the required hardware and software and technologies that are used to completing this project.

Chapter 4

REQUIREMENTS ANALYSIS AND DESIGN

4.1. Introduction

This chapter discusses about the requirement analysis and design for Kurdistan Tourism Guide website. Every function in the system should be described by using Unified Modelling Language (UML) to understand the operation, needs and entities involved in the system development. Use case, sequence and activity diagram is shown to explained the system flow. Furthermore, database design and system architecture design are also used to determine the relationship in the system. The interface of KTG website is also included in this chapter.

4.2. Requirement analysis

The process of identifying the expectations of users for an application that is to be built or upgraded is known as requirements analysis. It includes all of the tasks that are carried out in order to determine the demands of various stakeholders. As a result, requirements analysis is defined as the process of analyzing, documenting, validating, and managing software or system requirements. (ReQtest.2018). The requirements users in this website involve two actors which are Tourist and Admin.

Admin have many options so that he or she can add, delete, modify or update any details. Below in the functions for admin:

- Admin can login to the website by unique ID.
- Admin can add tourism places into the website.
- Admin can add accommodations into the website.

- Admin can modify the accounts which created by users.
- Admin can modify the shared posts by users.

Tourists will have their own account provided by admin and they perform the activities which are allotted to them:

- Tourists can view the destinations.
- Tourists can view the accommodations.
- Tourists can create an account to identify themselves in the website.
- Tourists can share the memories and post the contents.
- Tourists can rate the destinations.

4.2.1. Use Case Diagram

The use case diagram is an illustration form that contain actor which act as a user in the system playing their own roles and function in the system. Figure 4.1 shown that the use case diagram for Kurdistan tourism guide.

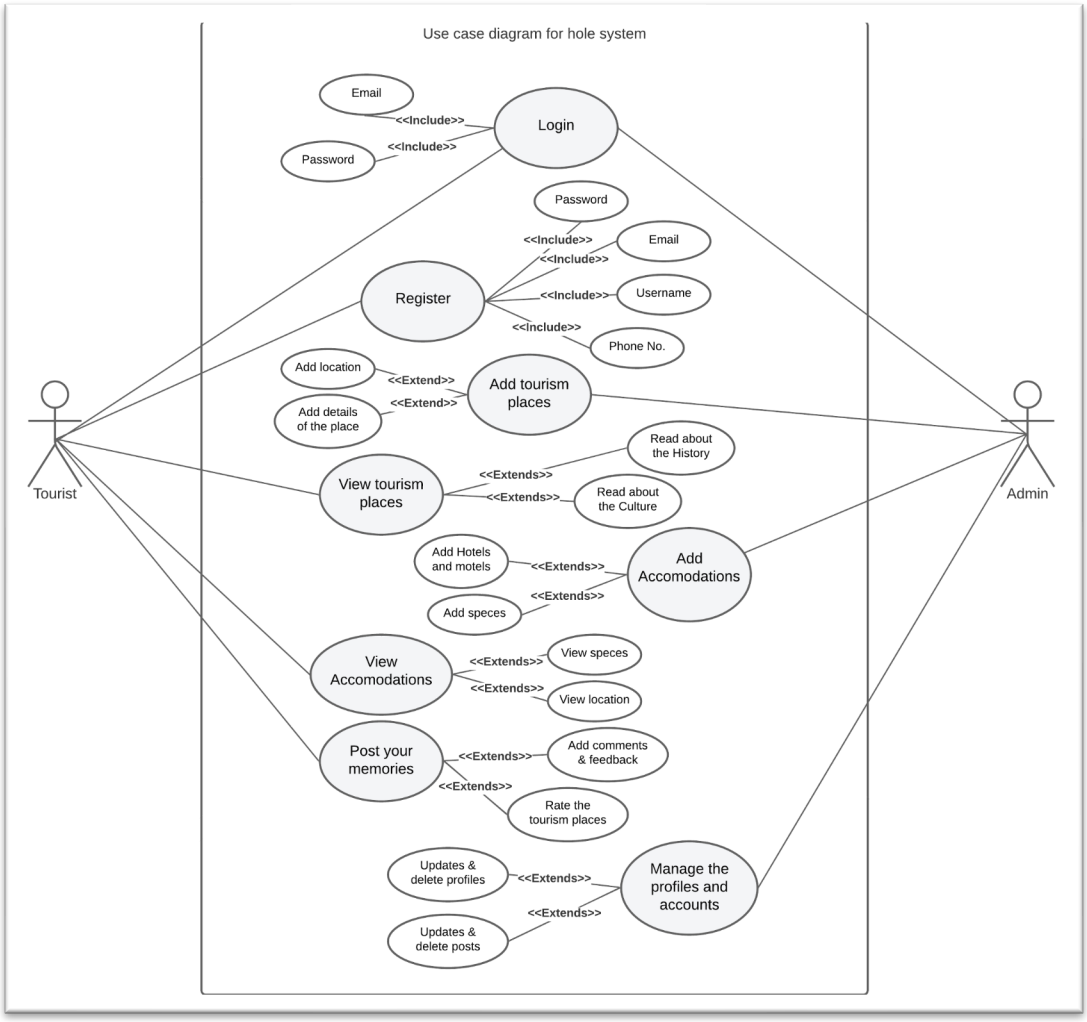


Figure 4-1 Use case diagram for KTG

As shown in Figure 4.1, there are two actors which are Tourist and Admin for the system. There are eight use cases in the diagram that each use case plays their own roles. Login, Register, add tourism places, View Tourism places, add accommodations, view accommodations, post your memories, Manage the accounts.

4.2.1.1. Use cases for Admin

Base on figure 4.1, Admin can access several functions such as login, add tourism places, add accommodations, manage the accounts. In table 4.1 shown that how each function work:

Table 4-1 Use case description for Admin

Use case	Description
Login	This use case shows that admin can login to the system by using unique ID, and redirect to admin panel.
Add tourism place	This use case shows that admin can add tourism place information with facilities, location map, contact details, etc. Even he or she can add photos and video gallery of the place.
Add accommodation	This use case shows that admin can add different type of accommodations like hotels motels etc. also adding specs with facilities, location map, contact details, etc. Even he or she can add photos and video gallery of the place.
Manage accounts	This use case shows that admin can manage and modify the accounts, delete the posts and block the users.

4.2.1.2. Use cases for Tourist

Table 4-2 Use case description for Tourist

Use case	Description
Login	This use case shows that tourist can login to the system by using email and password, and redirect to home page.
Registration	This use case shows that tourist can register for new account by adding User name, email, password, phone No.
View tourism place	This use case shows that tourist can view tourism place information with facilities, location map, contact details, etc. also, they can rate the place.
View accommodation	This use case shows that tourist can view different type of accommodations like hotels motels etc. also view specs and facilities, location map, contact numbers, etc.
Post memories	This use case shows that tourist can share the memories with others by posting the contents and describe the places that they visited and comment for others contents.

4.2.2. Sequence Diagram

Sequence diagram are interaction diagram that show how the system activities, process or task being carried out for each function. Sequence diagram are also show in detailed how each function work. Below there are eight sequences created for eight main use cases.

4.2.2.1. Sequence Diagrams for Tourist

Register: this sequence shows that how tourists register for new account.

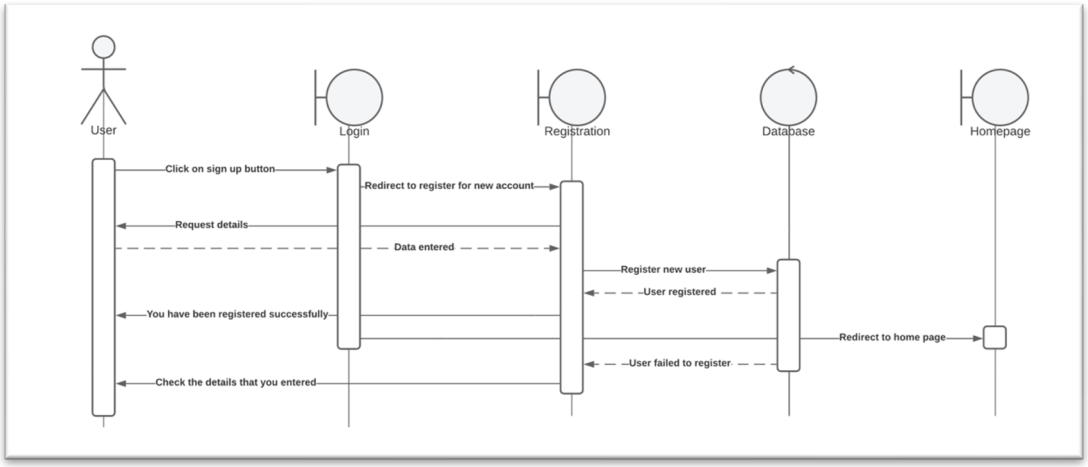


Figure 4-2 Register sequence diagram for tourists

Login: this sequence shows that how tourists' login to the website.

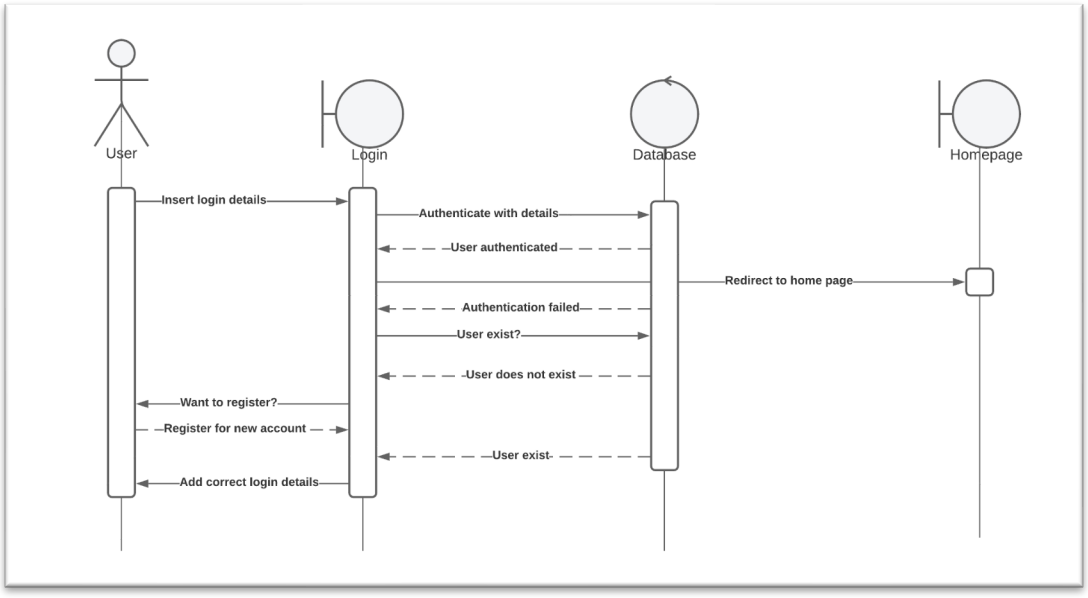


Figure 4-3 Login sequence diagram for tourists

View tourism places: this sequence shows that how tourists can view the destinations and rate the place.

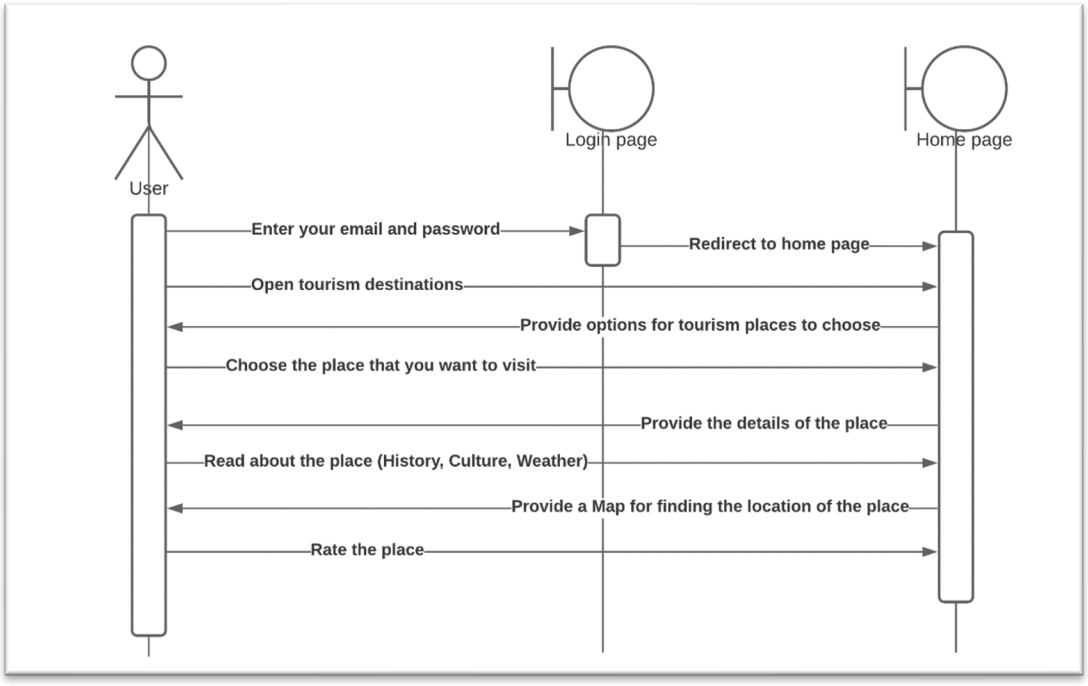


Figure 4-4 View tourism places sequence diagram for tourists

View accommodations: this sequence shows that how tourists view accommodations such as hotels, motels, cabins, etc. and they can contact them for booking.

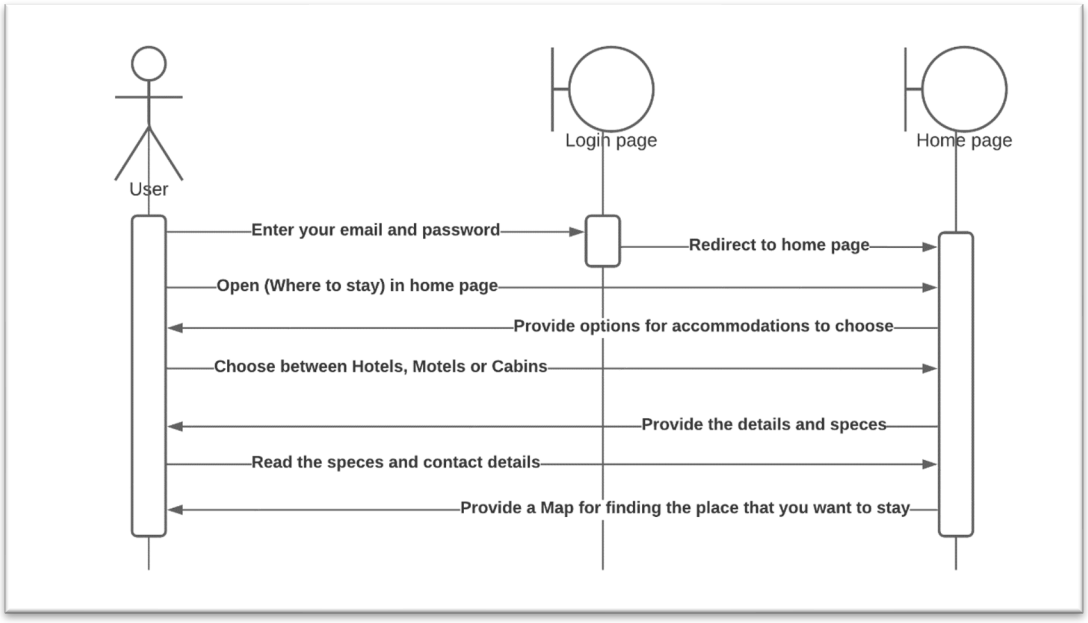


Figure 4-5 View accommodations sequence diagram for tourists

Post memories: this sequence shows that how tourists can post their memories and share their feelings of the place that they visited. They can share their contents and post images, also they can do comments of others contents.

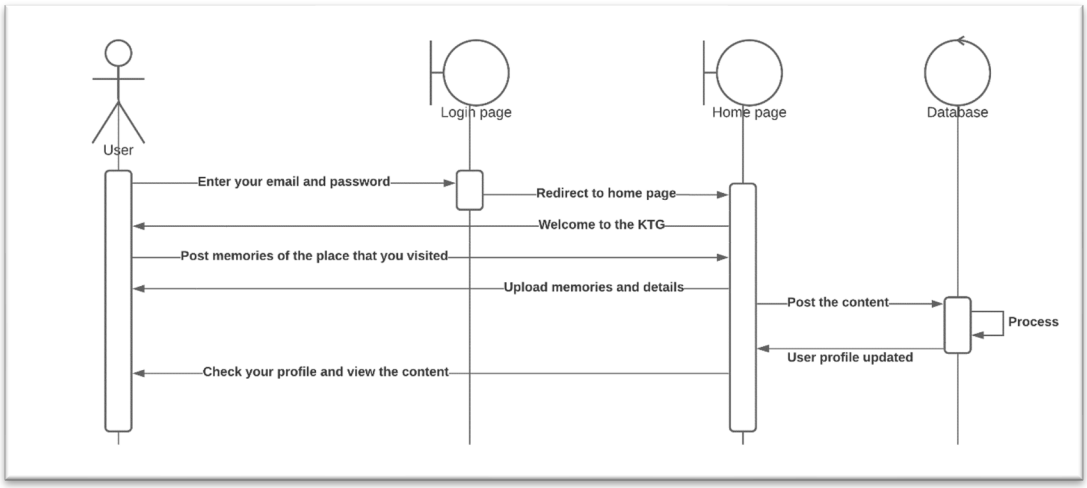


Figure 4-6 Post memories sequence diagram for tourists

4.2.2.2. Sequence Diagrams for Admin

Login: this sequence shows that how Admin login to the website by using his or her unique ID. Admin has own email and password created in the database, by using this email and password, the website redirects the user to admin panel not home page.

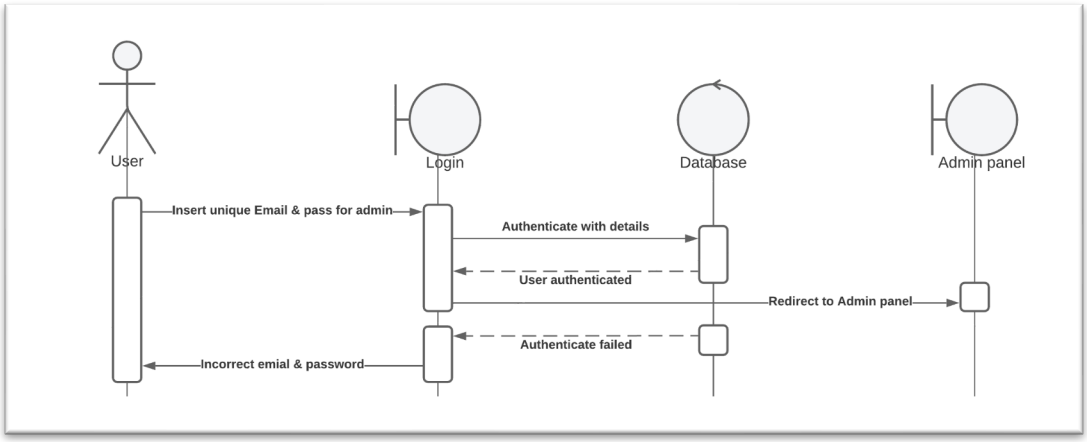


Figure 4-7 Login sequence diagram for Admin

Add tourism places: this sequence shows that how Admin add destinations into the website. Admin can add details of the place such as location, history, etc. pictures of the place can be added also.

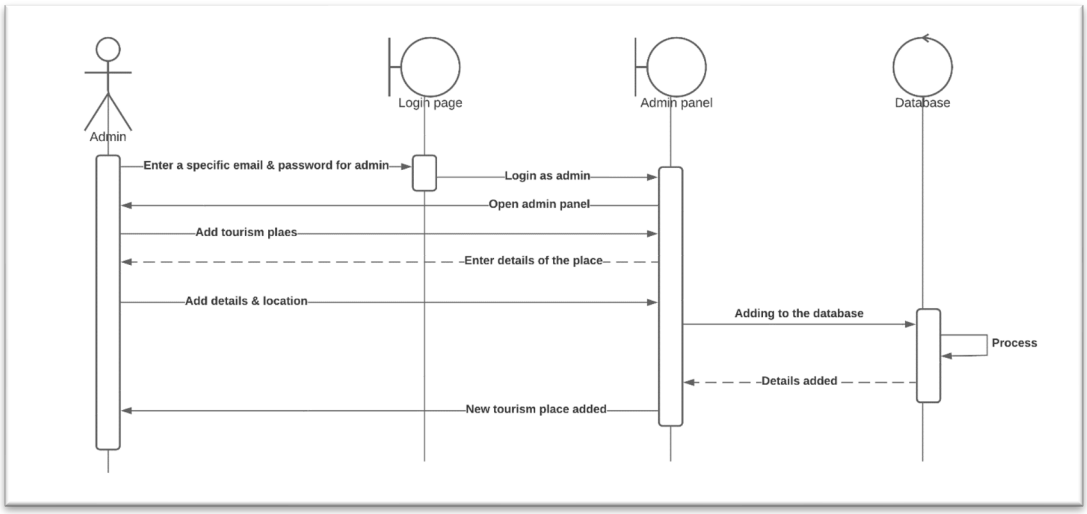


Figure 4-8 Add tourism places sequence diagram for Admin

Add accommodations: this sequence shows that how Admin add accommodations into the website. Admin can add details and specs of the place such as location, type, contact number, etc. pictures of the place can be added also.

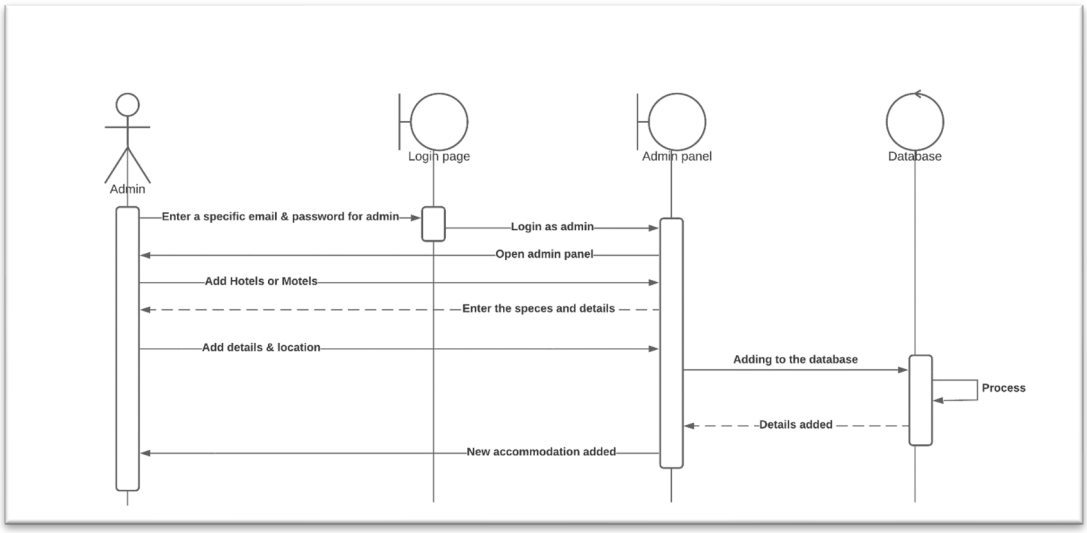


Figure 4-9 Add accommodations sequence diagram for Admin

Manage accounts: this sequence shows that how Admin can modify the posts and contents by users. If the user shared contents that not relate to the website, admin will notify the user and delete the posts. If they shared again, admin will block the user.

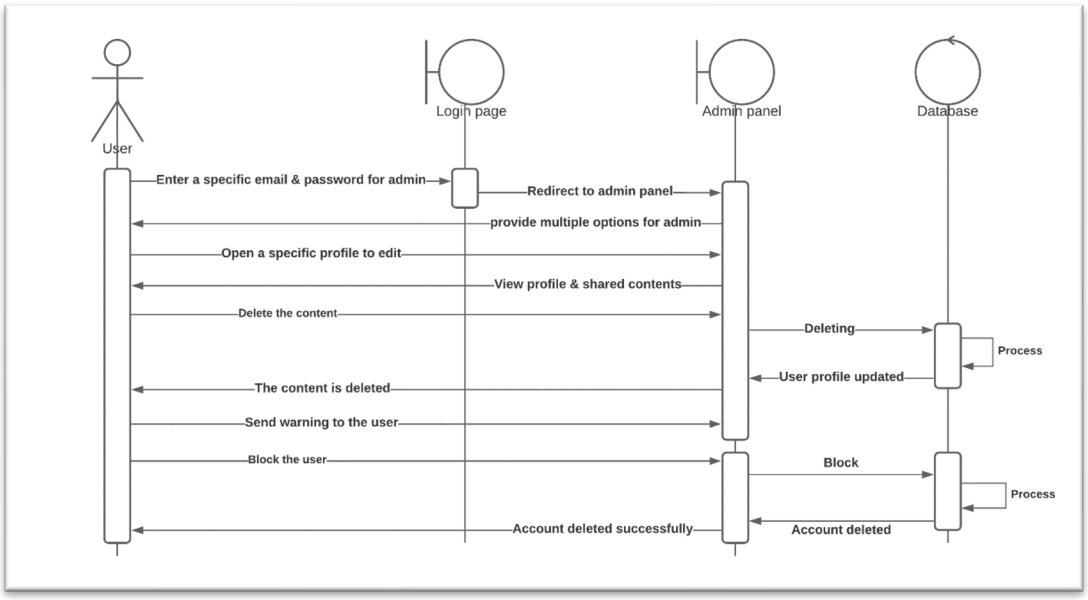


Figure 4-10 Manage accounts sequence diagram for Admin

4.2.3. Activity Diagram

The activity diagram, which defines dynamic characteristics of the system, is another important behavioural diagram in the UML diagram. The activity diagram is a more complex variant of the flow chart that depicts the flow of information from one activity to the next. In addition, this part will explain about the activity diagram for each user in the website which is Tourist and Admin.

4.2.3.1. Tourist Activity Diagram

Figure 4.11 shows activity diagram for tourist. When tourists open the KTG website, they can see the home page and if they want to create an account in case, they want it to share the contents in the website or just to have an account in KTG community, first they have to click on Register for new account, after that they have to insert the required details such as username, email, phone number and password.

After completing the registration and validating the account, they have to login to the website using email and password. In the website tourists can view the destinations, for example if they click on one of the destinations, the website provides all details and pictures for the place, also they can use maps for finding the location.

Same as destinations they can know everything about accommodations. KTG will provide shared contents of users, means the users can share and post their memories after visiting specific places in Kurdistan if they created account before.

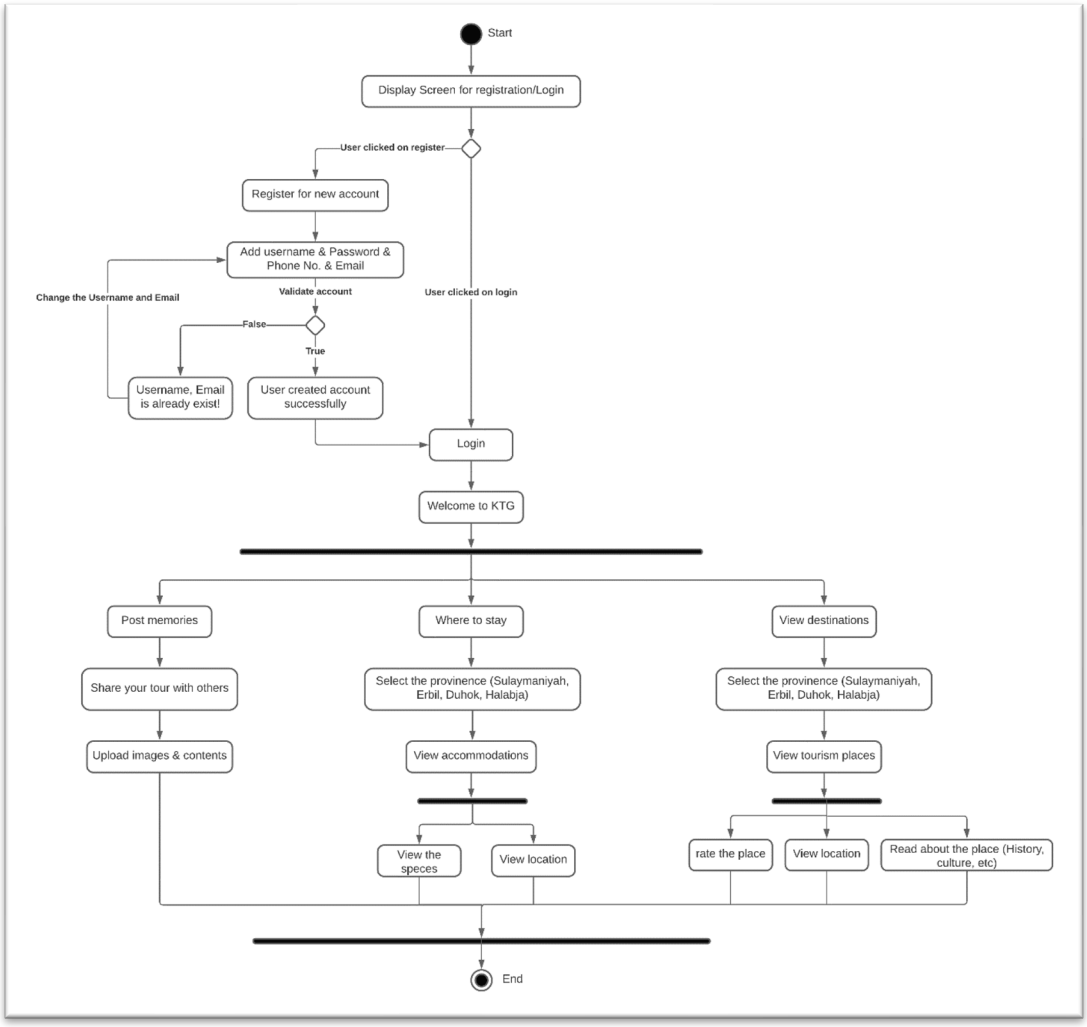


Figure 4-11 Activity diagram for Tourist

4.2.3.2. Admin Activity Diagram

In figure 4.12 shows activity diagram for admin. No need to registration for admin, he or she has to use his or her unique email and password for logging in to admin panel. admin panel provides three sections, add tourism places, add accommodations, manage accounts.

Admin can add any tourism place into the website, including the details and specific pictures of the place. Same as tourism places, admin can add accommodations into the website.

Admin also can manage the shared posts by tourists, he or she can delete the post if the posts and contents not related to the website. He or she can block the users if they repeated this kind of posts.

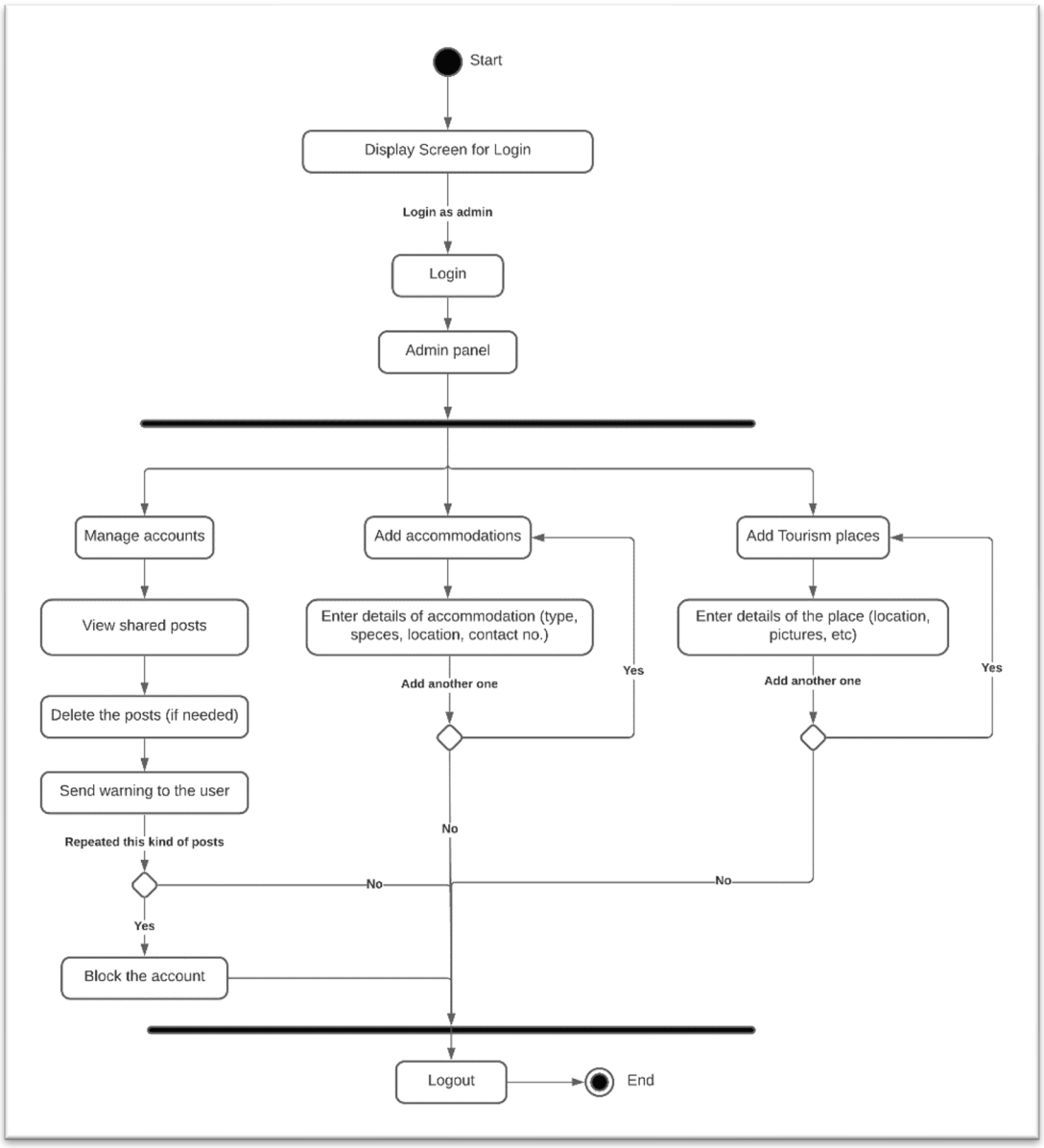


Figure 4-12 Admin Activity diagram

4.3. System Architectures and Design

The system architecture and design are to show the relationship between all the related hardware and software that are being used to develop the system.

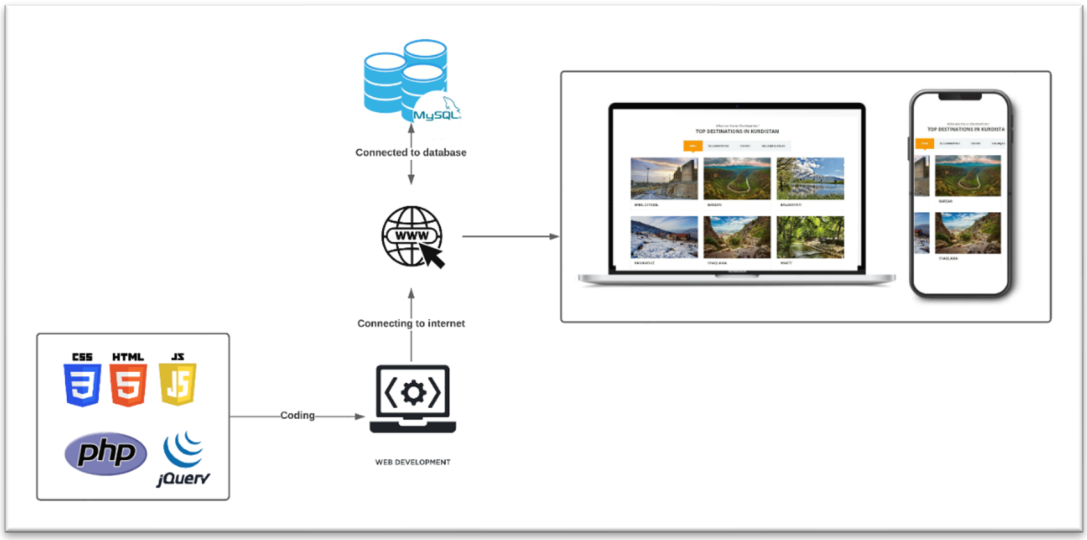


Figure 4-13 System Architectures and Design

Figure 4.13 shown that the system architecture and design of KTG website. In the diagram shown all the related hardware and software that has relationship with each other. This diagram created for web development, it shows the technologies and frameworks that used to develop KTG website.

4.3.1. UML Class Diagram

Figure 4.14 shown the system application class diagram. The class diagram shown the relationship between class and entity to each other that are related.

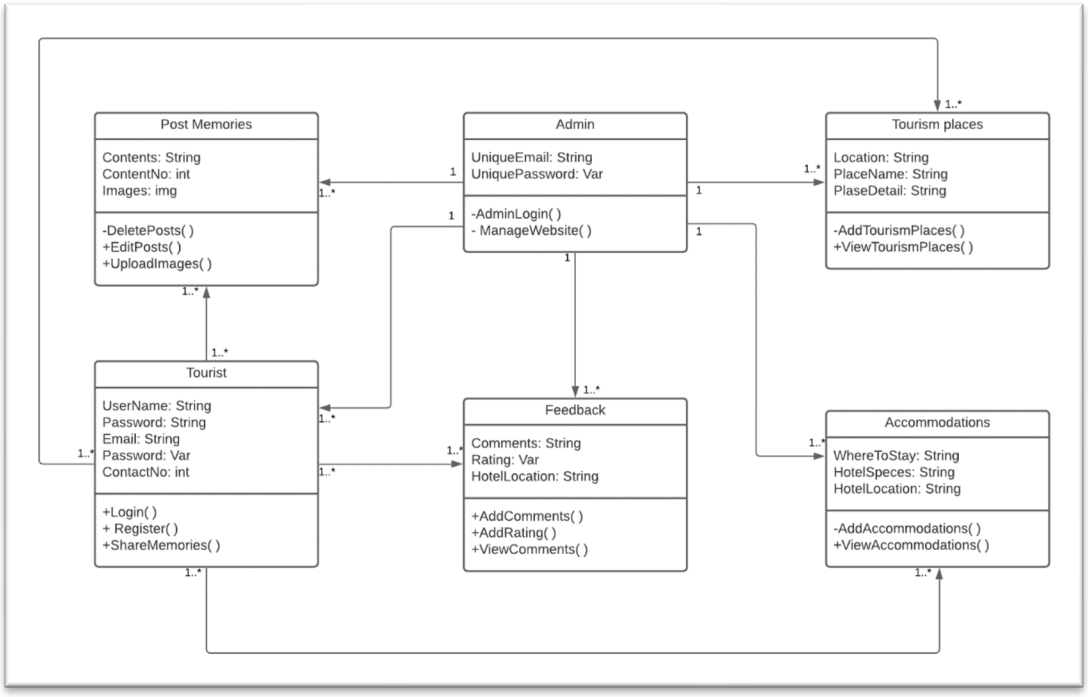


Figure 4-14 UML Class diagram for KTG

4.4. Database Design

Database design is used to show the relationship between each data in the system application. The database design determines how the elements of data interact with each other and what data must be stored. Entity Relationship Diagram (ERD) is used to design the database. Figure 4.15 shown the database design for KTG website.

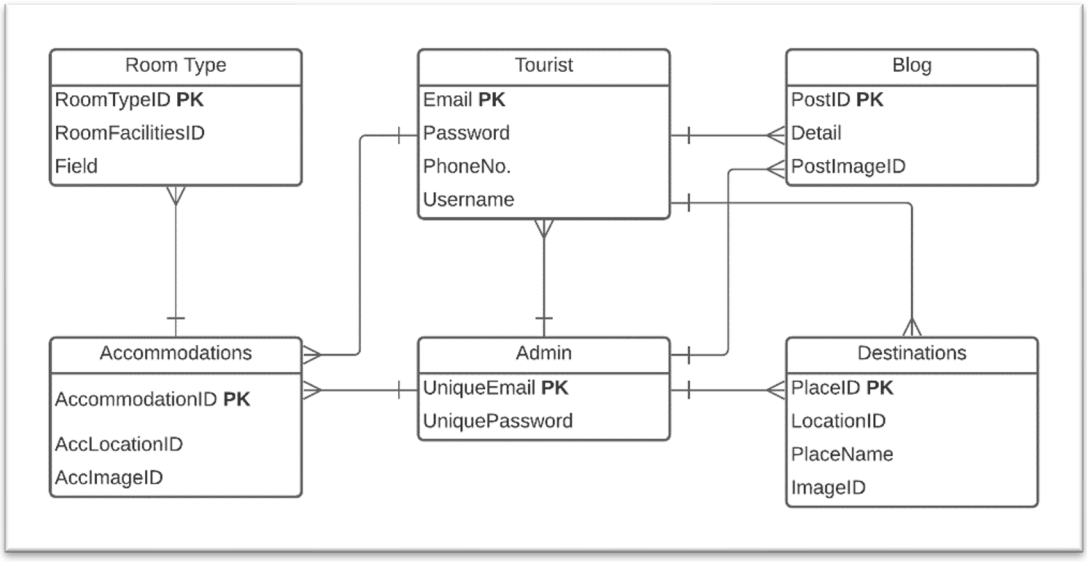


Figure 4-15 ER diagram for KTG website

4.5. Interface Design

Interface design is a graphic user interface (GUI) where user can interact with the website. The interface design must be simple and user friendly to makes the user easy to understand to use the system. Below is the user interface for each function in this system application.

Figure 4-16 Login screen

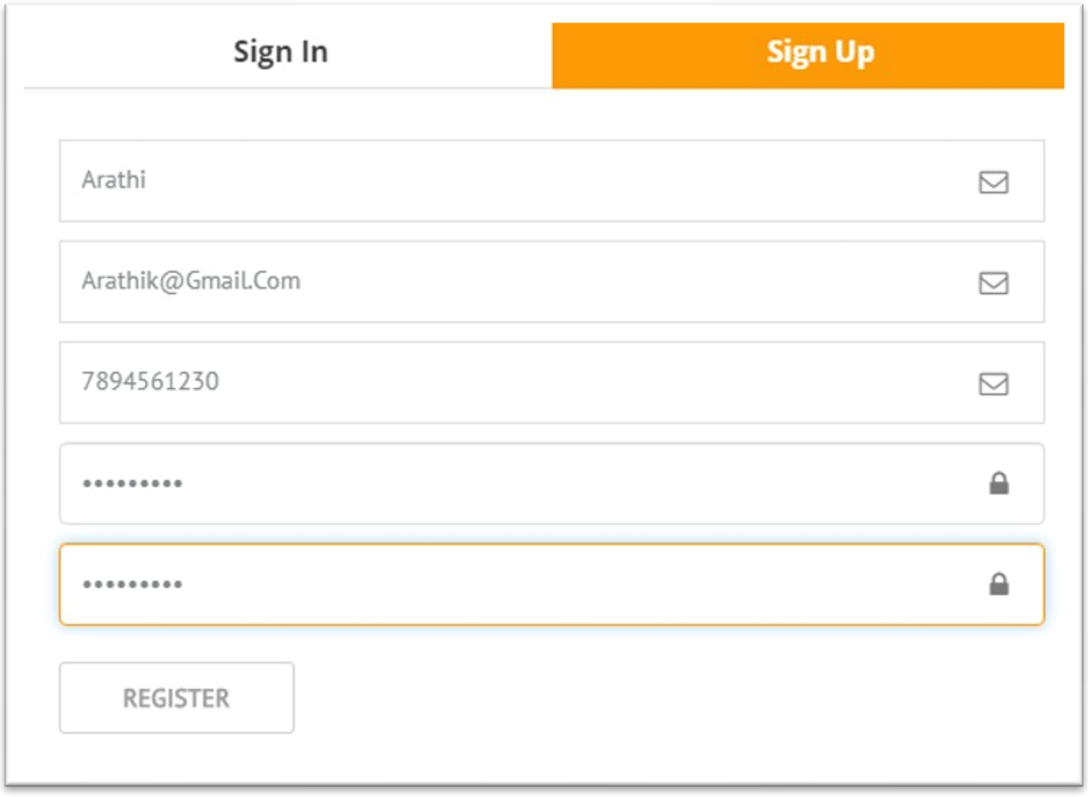


Figure 4-17 Registration screen

Figure 4.17 and 4.16 shown the login interface and sign-up interface for the user. For admin he or she can directly login by using unique ID without signs up the account and for the tourists when they want to have an account in KTG community, they need to sign up first before they can log in into the website.

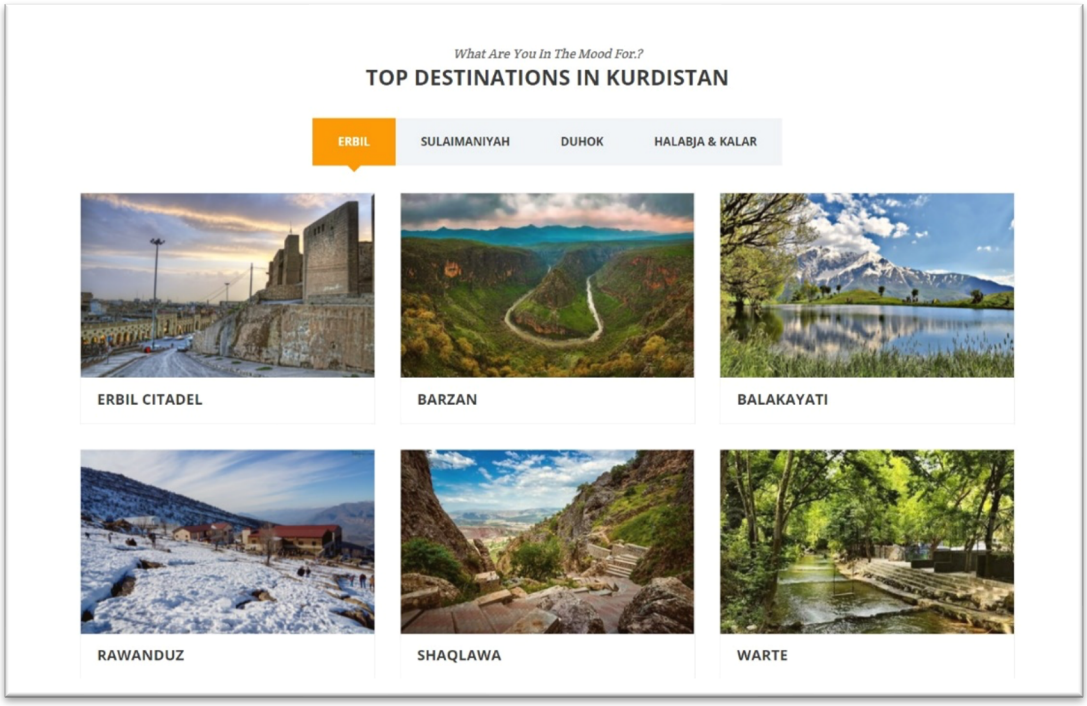


Figure 4-18 shows the Destinations in Kurdistan

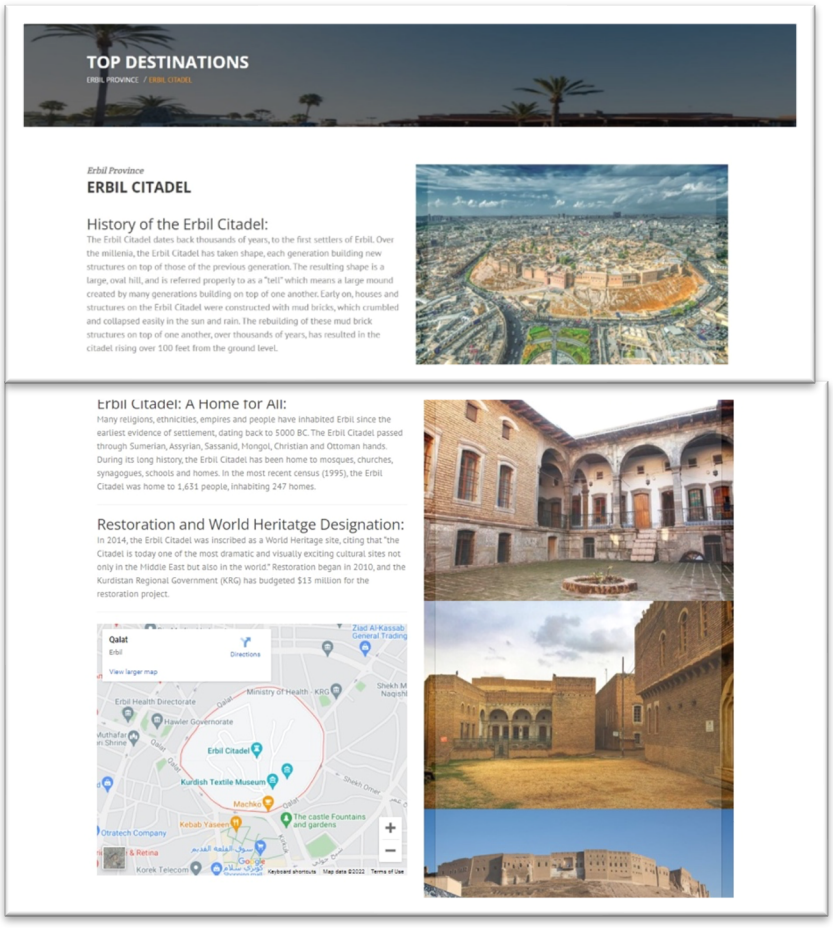


Figure 4-19 Tourism place in Erbil

In figure 4.18 shows the top destination in Kurdistan, if the user clicks on one of the tourism places, it shows the place in detail such as shown in figure 4.19, the user can see the details about the place and use the map for finding the place.

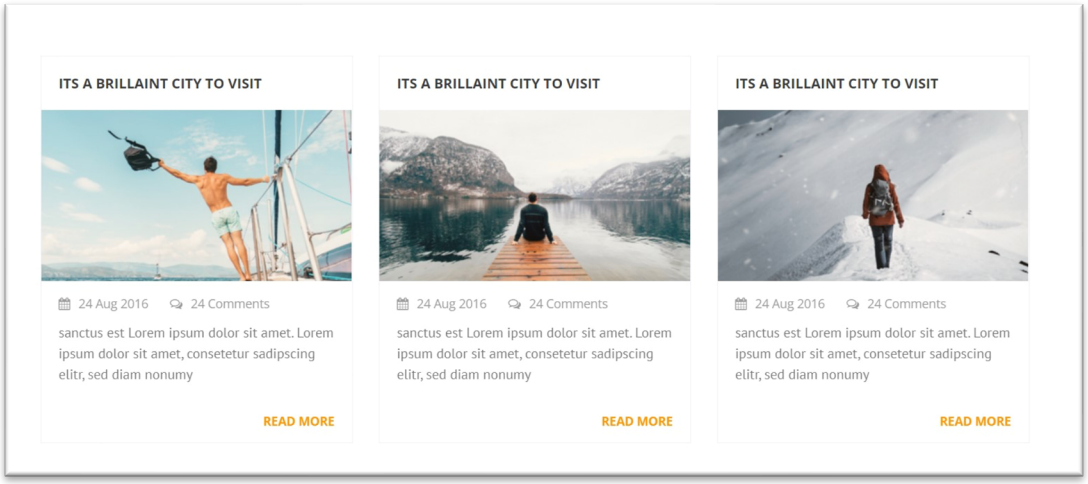


Figure 4-20 Shared contents by tourists

In figure 4.20 the user can see the posts of each other and if the user clicks on read more, this tab will open and they can comment for the shared contents.

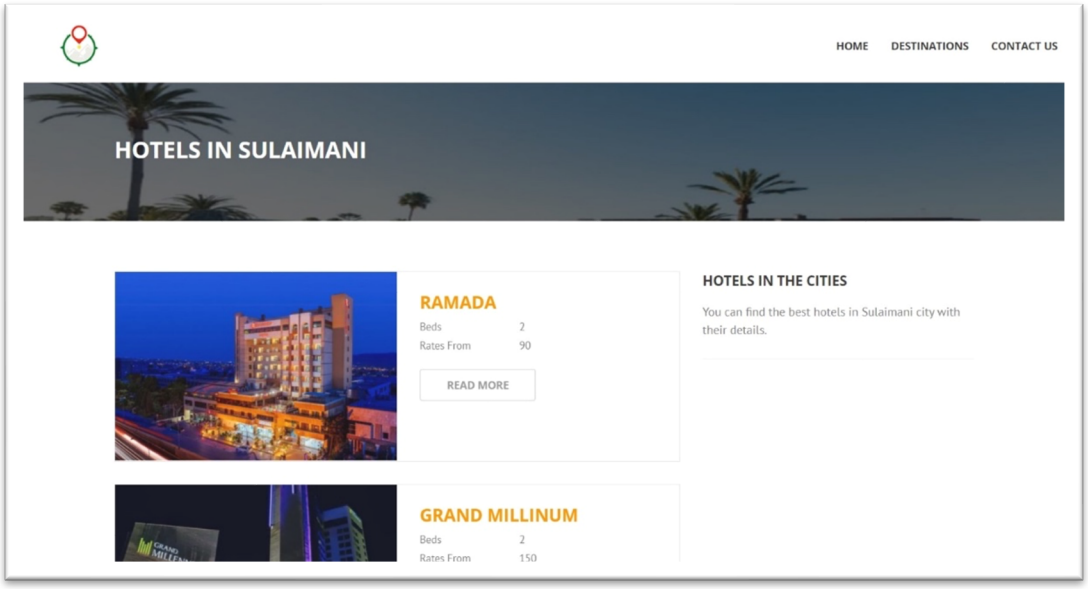


Figure 4-21 Where to stay page in KTG website

In figure 4.21 the tourists can open the where to stay page, and they will see the hotels and motels of the specific city. If they click on read more, they will see the accommodations specs and facilities in detail.

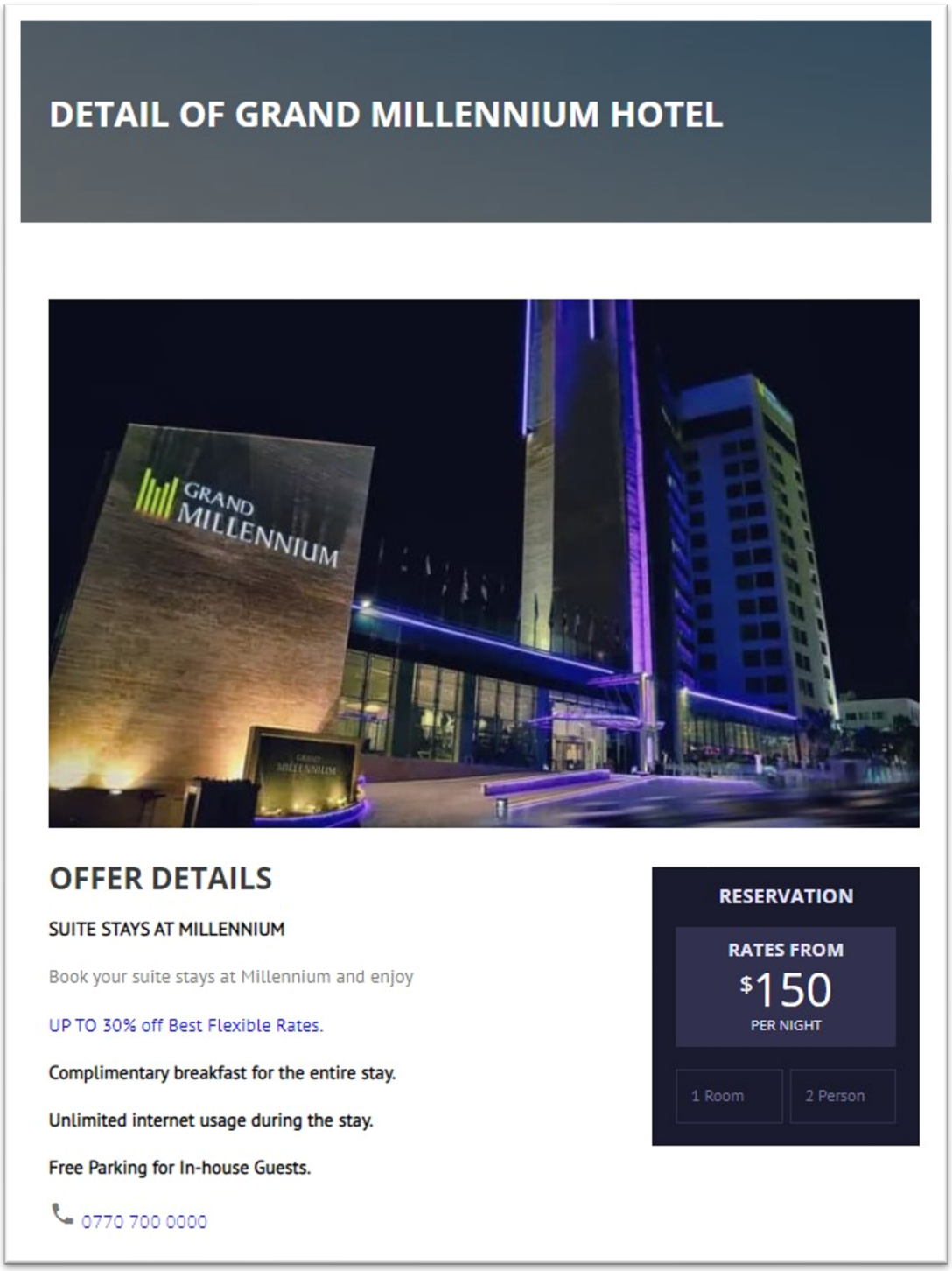


Figure 4-22 Hotel facilities in detail

In figure 4.22 shows the hotel facilities in detail, the user can see the images and contact numbers for booking and they can use the map for finding the location.

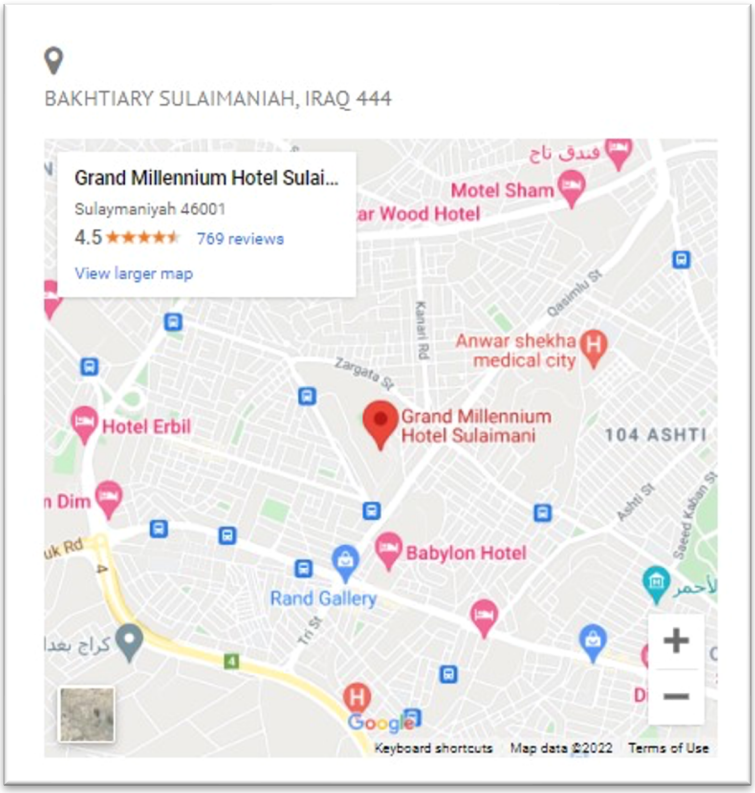


Figure 4-23 Add tourism places to the website

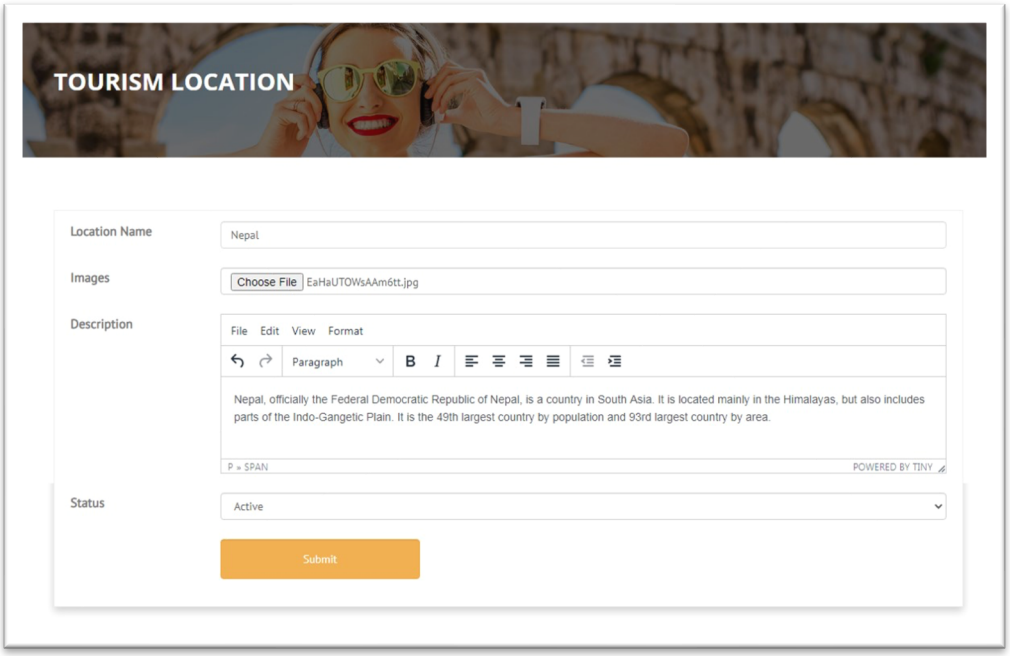


Figure 4-24 Add accommodations to the website

In figure 4.24 and 4.23 shows that admin can add tourism places and accommodations to the website.

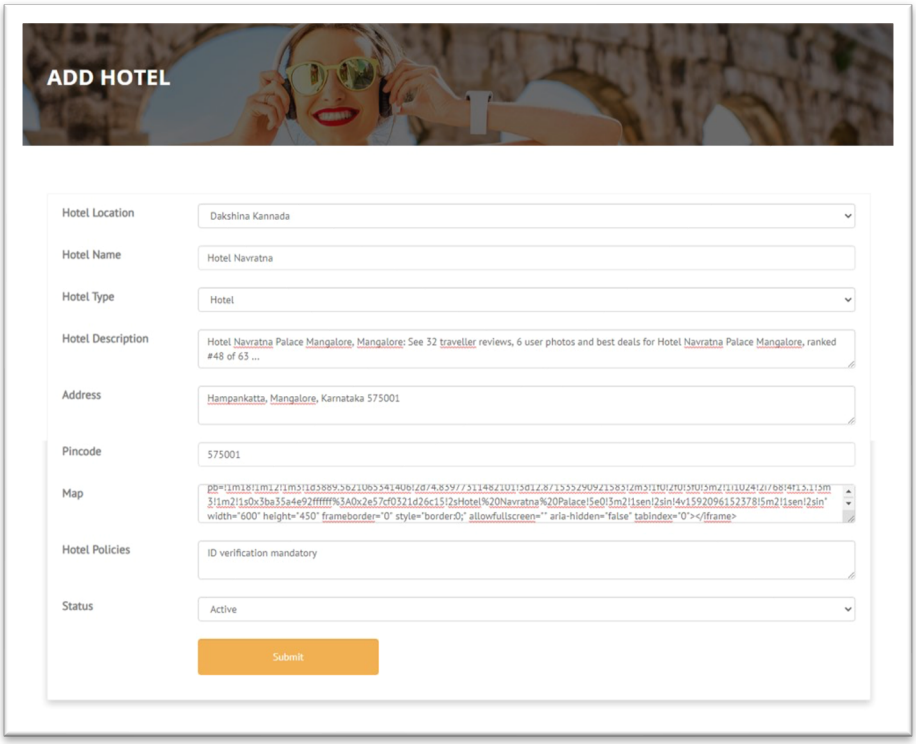


Figure 4-25 Manage accounts for admin

Figure 4.24 shows that admin can modify the users and handle the website, he or she can edit or delete the created accounts by tourists.

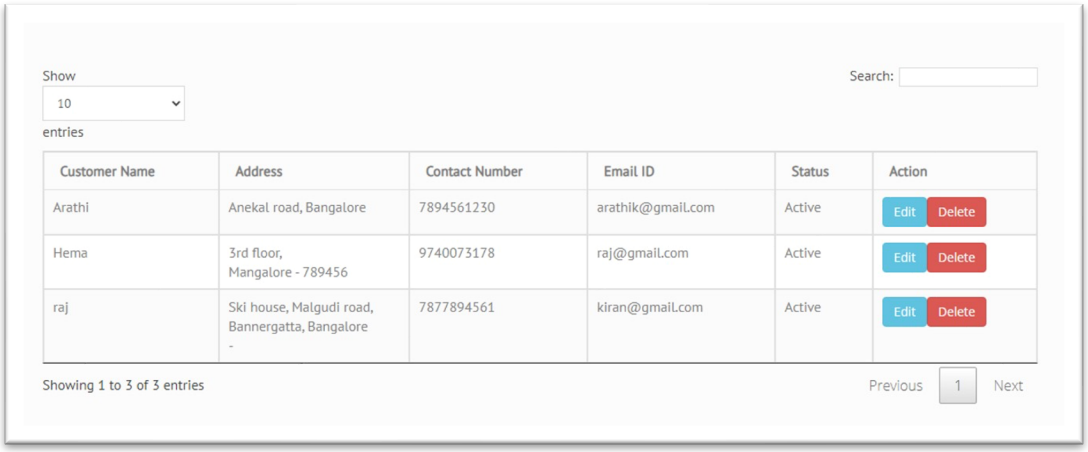


Figure 4-26 Manage accounts for admin

4.6. Conclusion

This chapter discuss about the requirement analysis and design for development the system application. On the requirement analysis part, the Unified Modelling Language (UML) is used which is use cases diagram, sequence diagram and activity diagram. In addition, the database also was design in this chapter to relate the relationship between each table in the system application using entity relationship diagram (ERD). Lastly, the interface for the system application was design.

Chapter 5

IMPLEMENTATION, AND TESTING

5.1. Introduction

In this chapter will be discussing the implementation and coding part for KTG website. According on the system development approach, requirements analysis, and design laid out in this paper's preceding chapters, this chapter discusses how to implement the KTG website. In addition, the results of various tests are detailed in this chapter.

5.2. System Implementation

The results of the architectural design and system analysis are utilized early on in a project's life cycle to decide how this project should be developed to fulfil the demands of its users.

5.2.1. System Architecture Implementation

Kurdistan tourism guide named KTG is developed by using the MVC (Model View Controller). One of the software architectural trends, the MVC, is commonly used to implement the system's displays or the user's interfaces. Below is the figure for the MVC for KTG:

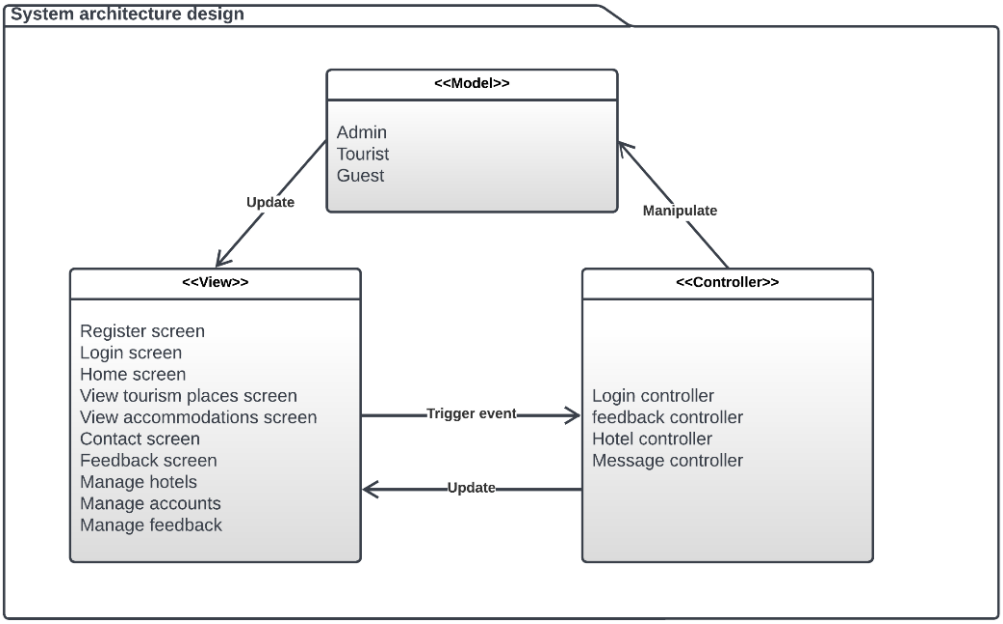


Figure 5-1 MVC architecture for KTG

The model, view, and controller are the ways of decomposing a system into three components. The model consists of Admin, Tourist, Guest and is responsible for managing the flow of information in and out of the database. View is responsible for viewing interfaces like Login Screen, View Tourism places, View accommodations, feedback page and others. While the controller is triggered by the events of View which leads to managing or controlling the system's data operation like Login Controller, Hotel Controller, feedback Controller and others. Both of the 3 sections communicate with each other and it is simple to distinguish each iteration.

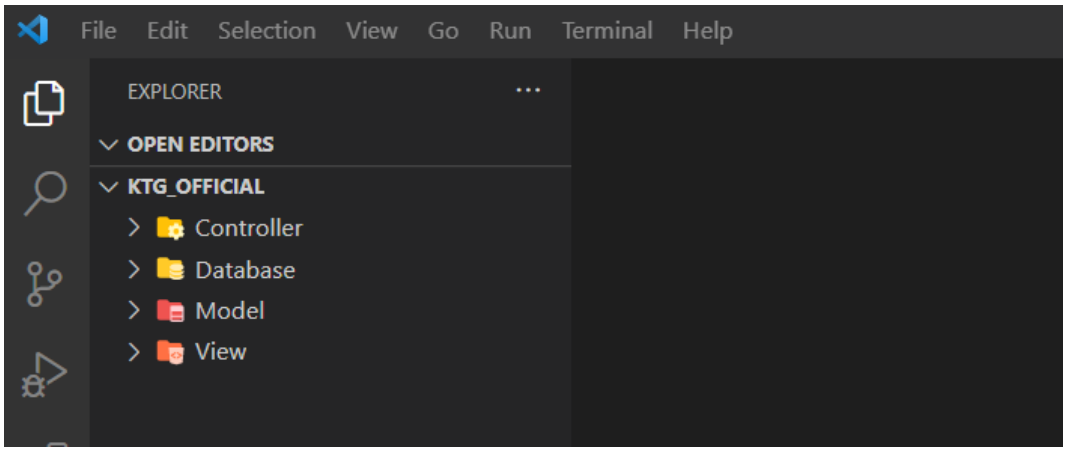


Figure 5-2 Following the MVC architecture for the implementing the codes

The following figures show hat how the files divided to the MVC folders:

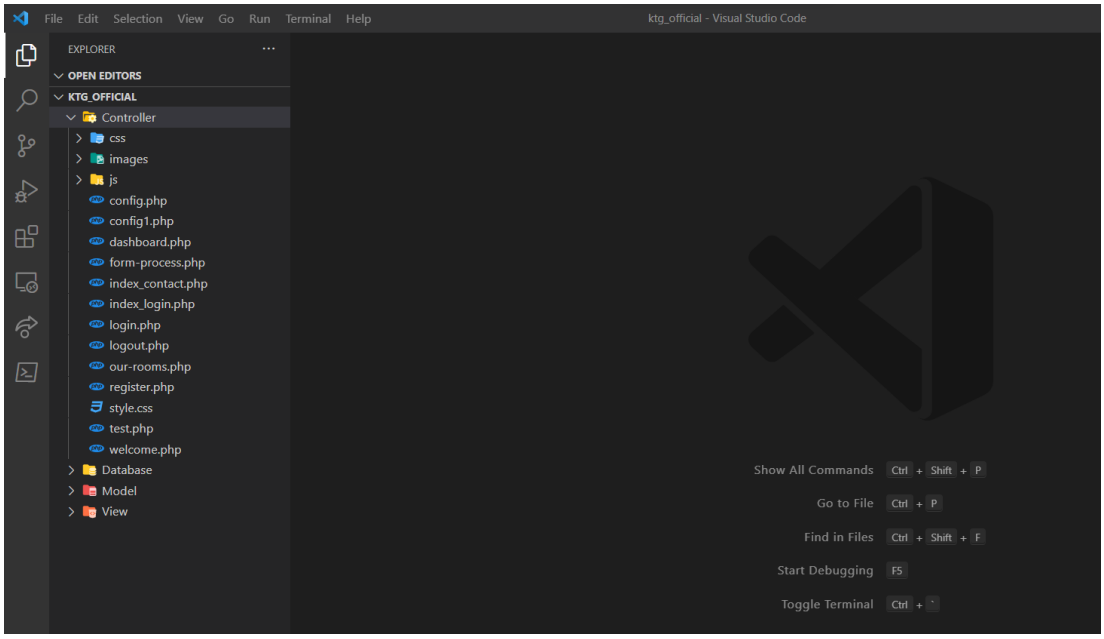


Figure 5-3 Controller folder contains a bunch of code files

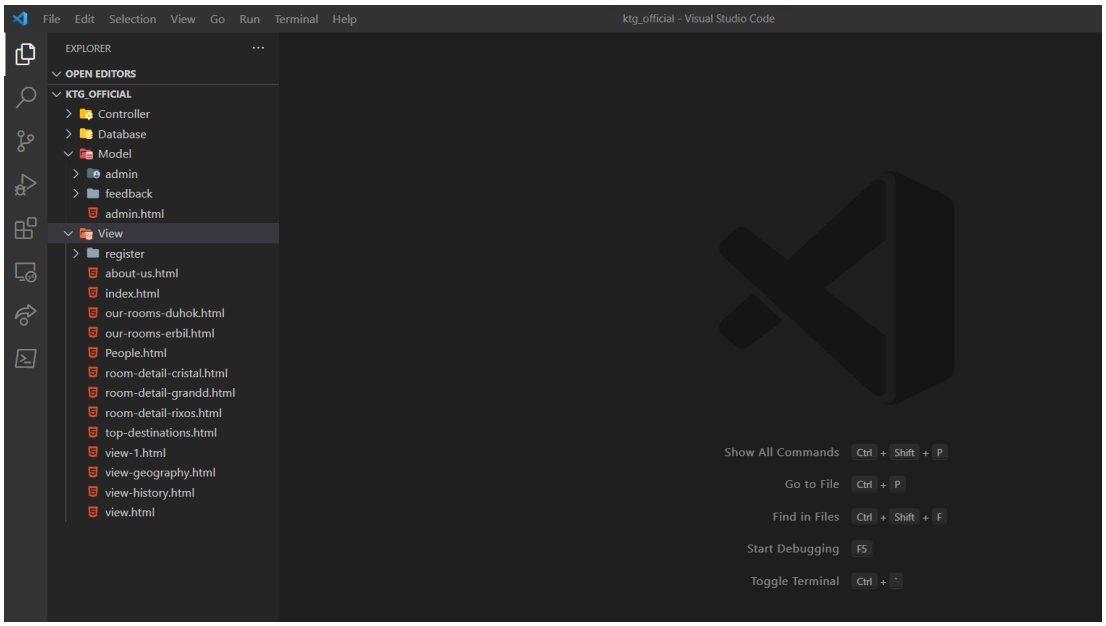


Figure 5-4 files inside Model and View folder

As you see there are several files to open but, in this document, only index.php will be shown because the files contain over a thousand lines of code, no need to paste it here. Figure 5.5 shows the index.php file inside the View folder:

```
<!DOCTYPE html>
<html lang="en">

<head>
        <meta charset="utf-8">
        <meta http-equiv="X-UA-Compatible" content="IE=edge">
        <meta name="viewport" content="width=device-width, initial-scale=1">
        <!-- The above 3 meta tags *must* come first in the head; any other head content must come
*after* these tags -->
        <title>Kurdistan Tourist Guide</title>
        <!-- Bootstrap -->
        <link href="css/bootstrap.css" rel="stylesheet">
        <!-- Typography CSS -->
        <link href="css/typography.css" rel="stylesheet">
        <!-- DL Menu CSS -->
        <link href="js/dl-menu/component.css" rel="stylesheet">
        <!-- Date And Time Picker CSS -->
        <link rel="stylesheet" href="css/datetimepicker.css">
        <!-- FontAwesome Icon CSS -->
        <link href="css/font-awesome.css" rel="stylesheet">
        <!-- Svg Icon CSS -->
        <link href="css/svg.css" rel="stylesheet">
        <!-- Slick Slider CSS -->
        <link href="css/slick.css" rel="stylesheet">
        <!-- Widget CSS -->
        <link href="css/widget.css" rel="stylesheet">
        <!-- Short Code CSS -->
        <link href="css/shortcode.css" rel="stylesheet">
        <!-- Custom Style CSS -->
        <link href="style.css" rel="stylesheet">
        <!-- Color CSS -->
        <link href="css/color.css" rel="stylesheet">
        <!-- Responsive CSS -->
        <link href="css/responsive.css" rel="stylesheet">
    </head>
    <body>
        <div class="iqoniq_wrapper">
            <header class="mg_header_1">
                <div class="mg_nav_wrapper">
                    <div class="mg_logo">
                        <a href="index.html"><img src="images/logo.jpg" alt=""/></a>
                    </div>
                    <div class="mg_nav">
                        <ul class="mg_navigation">
                            <li><a href=" ">About Kurdistan</a></li>
                            <li><a href="top-destinations.html">Destinations</a></li>
                            <li>
                                <a href="#">Where to stay</a>
                                <ul class="children">
                                    <li><a href="our-rooms.php">Sulaimaniyah Hotels</a></li>
                                    <li><a href="our-rooms-erbil.html">Erbil Hotels</a></li>
                                    <li><a href="our-rooms-duhok.html">Duhok Hotels</a></li>
                                </ul>
                            </li>
                            <li>
                                <a href="index_contact.php">contact us</a>
                            </li>
                            <li>
                                <a href="login.php">Login Or Register</a>
                            </li>
                        </ul>
                    </div>
                </div>
            </header>
            <div class="mg_hotel_banner">
                <div class="mg_slider1">
                    <div>
                        <figure>
                            <img src="extra-images/Hewler-Kurdistan.jpg" alt=""/>
                        </figure>
                    </div>
                </div>
            </div>
             <section class="mg_travelplan">
                <div class="container">
                    <div class="mg_hotel_hd1 white">
                        <h6>About Kurdistan</h6>
                        <h4>General information</h4>
                    </div>
                    <div class="mg_plan_caption">
                        <p>The name Kurdistan literally means Land of the Kurds. In the Iraqi
Constitution, it is referred to as the Kurdistan Region. The full name of the government is the Kurdistan
Regional Government (often abbreviated as the KRG). The KRG is also referred to as Kurdistana Bashur or
Bashuri Kurdistan (South Kurdistan) referring to its geographical location within the whole of the
greater Kurdistan region. Iraqi Kurdistan or the Kurdistan Region is an autonomous region of Iraq. It
borders Iran to the east, Turkey to the north, Syria to the west and the rest of Iraq to the south. The
regional capital is Erbil, also known as Hawler. The region is officially governed by the Kurdistan
Regional Government.</p>
                        <a class="mg_btn1" href="#">Know more about Kurdistan</a>
                    </div>
                </div>
            </section>
```

```
            <div class="iqoniq_contant_wrapper">
                <section>
                    <div class="container">
                        <div class="mg_hotel_hd1">
                            <h6>What are you in the Mood for.?</h6>
                            <h4>Top destinations in Kurdistan</h4>
                        </div>
                        <div class="mg_hotel_destination_tab">
                            <ul class="mg_hotel_nav2" role="tablist">
                                <li role="presentation" class="active"><a href="#worldwide" aria-
controls="worldwide" role="tab" data-toggle="tab">Erbil</a></li>
                                <li role="presentation"><a href="#usa" aria-controls="usa" role="tab"
data-toggle="tab">Sulaimaniyah</a></li>
                                <li role="presentation"><a href="#mexico" aria-controls="mexico"
role="tab" data-toggle="tab">Duhok</a></li>
                                <li role="presentation"><a href="#europe" aria-controls="europe"
role="tab" data-toggle="tab">Halabja & Kalar</a></li>
                            </ul>
                            <div class="tab-content">
                                <div role="tabpanel" class="tab-pane active" id="worldwide">
                                    <div class="mg_hotel_destination_wrapper">
                                        <div class="row">
                                            <div class="col-md-4 col-sm-6">
                                                <div class="mg_hotel_destination fancy-overlay">
                                                    <figure>
                                                        <img src="extra-images/Qala.png" alt=""/>
                                                        <figcaption>
                                                            <a class="view_btn" href="view.html">view</a>
                                                        </figcaption>
                                                    </figure>
                                                    <div class="text">
                                                        <div class="mg_destination_hd">
                                                            <h5><a href="#">Erbil citadel</a></h5>
                                                        </div>
                                                    </div>
                                                </div>
                                            </div>
                                            <div class="col-md-4 col-sm-6">
                                                <div class="mg_hotel_destination fancy-overlay">
                                                    <figure>
                                                        <img src="extra-images/Barzan.jpg" alt=""/>
                                                        <figcaption>
                                                            <a class="view_btn" href="view-
1.html">view</a>

                                                        </figcaption>
                                                    </figure>
                                                    <div class="text">
                                                        <div class="mg_destination_hd">
                                                            <h5><a href="#">Barzan</a></h5>
                                                        </div>
                                                    </div>
                                                </div>
                                            </div>

                                            <div class="col-md-4 col-sm-6">
                                                <div class="mg_hotel_destination fancy-overlay">
                                                    <figure>
                                                        <img src="extra-images/Gomiifelaw.png" alt=""/>
                                                        <figcaption>
                                                            <a class="view_btn" href="#">view</a>
                                                        </figcaption>
                                                    </figure>
                                                    <div class="text">
                                                        <div class="mg_destination_hd">
                                                            <h5><a href="#">Balakayati</a></h5>
                                                        </div>
                                                    </div>
                                                </div>
                                            </div>

                                            <div class="col-md-4 col-sm-6">
                                                <div class="mg_hotel_destination fancy-overlay">
                                                    <figure>
                                                        <img src="extra-images/Korek.png" alt=""/>
                                                        <figcaption>
                                                            <a class="view_btn" href="#">view</a>
                                                        </figcaption>
                                                    </figure>
                                                    <div class="text">
                                                        <div class="mg_destination_hd">
                                                            <h5><a href="#">Rawanduz</a></h5>
                                                        </div>
                                                    </div>
                                                </div>
                                            </div>

                                            <div class="col-md-4 col-sm-6">
                                                <div class="mg_hotel_destination fancy-overlay">
                                                    <figure>
                                                        <img src="extra-images/Shaqlawa.jpg" alt=""/>
                                                        <figcaption>
                                                            <a class="view_btn" href="#">view</a>
```

```
                                        </figcaption>
                                    </figure>
                                    <div class="text">
                                        <div class="mg_destination_hd">
                                            <h5><a href="#">Shaqlawa</a></h5>
                                        </div>
                                    </div>
                                </div>
                            </div>

                            <div class="col-md-4 col-sm-6">
                                <div class="mg_hotel_destination fancy-overlay">
                                    <figure>
                                        <img src="extra-images/Warte.jpg" alt=""/>
                                        <figcaption>
                                            <a class="view_btn" href="#">view</a>
                                        </figcaption>
                                    </figure>
                                    <div class="text">
                                        <div class="mg_destination_hd">
                                            <h5><a href="#">Warte</a></h5>
                                        </div>
                                    </div>
                                </div>
                            </div>
                        </div>
                    </div>
                </div>
                <div role="tabpanel" class="tab-pane" id="usa">
                    <div class="mg_hotel_destination_wrapper">
                        <div class="row">
                            <div class="col-md-4 col-sm-6">
                                <div class="mg_hotel_destination fancy-overlay">
                                    <figure>
                                        <img src="extra-images/chaviland.jpg" alt=""/>
                                        <figcaption>
                                            <a class="view_btn" href="#">view</a>
                                        </figcaption>
                                    </figure>
                                    <div class="text">
                                        <div class="mg_destination_hd">
                                            <h5><a href="#">Chaviland</a></h5>
                                        </div>
                                    </div>
                                </div>
                            </div>

                            <div class="col-md-4 col-sm-6">
                                <div class="mg_hotel_destination fancy-overlay">
                                    <figure>
                                        <img src="extra-images/Sarchnar.jpg" alt=""/>
                                        <figcaption>
                                            <a class="view_btn" href="#">view </a>
                                        </figcaption>
                                    </figure>
                                    <div class="text">
                                        <div class="mg_destination_hd">
                                            <h5><a href="#">Sarchnar</a></h5>
                                        </div>
                                    </div>
                                </div>
                            </div>

                            <div class="col-md-4 col-sm-6">
                                <div class="mg_hotel_destination fancy-overlay">
                                    <figure>
                                        <img src="extra-images/Dukan.png" alt=""/>
                                        <figcaption>
                                            <a class="view_btn" href="#">view </a>
                                        </figcaption>
                                    </figure>
                                    <div class="text">
                                        <div class="mg_destination_hd">
                                            <h5><a href="#">Dukan</a></h5>
                                        </div>
                                    </div>
                                </div>
                            </div>

                            <div class="col-md-4 col-sm-6">
                                <div class="mg_hotel_destination fancy-overlay">
                                    <figure>
                                        <img src="extra-images/Chamirezan.jpg" alt=""/>
                                        <figcaption>
                                            <a class="view_btn" href="#">view</a>
                                        </figcaption>
                                    </figure>
                                    <div class="text">
                                        <div class="mg_destination_hd">
                                            <h5><a href="#">Chami Razan</a></h5>
                                        </div>
                                    </div>
```

```
                                    </div>
                                </div>

                                <div class="col-md-4 col-sm-6">
                                    <div class="mg_hotel_destination fancy-overlay">
                                        <figure>
                                            <img src="extra-images/darbandikan.jpg" alt=""/>
                                            <figcaption>
                                                <a class="view_btn" href="#">view</a>
                                            </figcaption>
                                        </figure>
                                        <div class="text">
                                            <div class="mg_destination_hd">
                                                <h5><a href="#">darbandikan</a></h5>
                                            </div>
                                        </div>
                                    </div>
                                </div>

                                <div class="col-md-4 col-sm-6">
                                    <div class="mg_hotel_destination fancy-overlay">
                                        <figure>
                                            <img src="extra-images/Azmar.jpg" alt=""/>
                                            <figcaption>
                                                <a class="view_btn" href="#">view</a>
                                            </figcaption>
                                        </figure>
                                        <div class="text">
                                            <div class="mg_destination_hd">
                                                <h5><a href="#">Azmar</a></h5>
                                            </div>
                                        </div>
                                    </div>
                                </div>
                            </div>
                        </div>
                    </div>
                </div>
                <div role="tabpanel" class="tab-pane" id="mexico">
                    <div class="mg_hotel_destination_wrapper">
                        <div class="row">
                            <!-- Hotel Destination Start -->
                            <div class="col-md-4 col-sm-6">
                                <div class="mg_hotel_destination fancy-overlay">
                                    <figure>
                                        <img src="extra-images/Amedi.jpg" alt=""/>
                                        <figcaption>
                                            <a class="view_btn" href="#">view</a>
                                        </figcaption>
                                    </figure>
                                    <div class="text">
                                        <div class="mg_destination_hd">
                                            <h5><a href="#">Amedi</a></h5>
                                        </div>
                                    </div>
                                </div>
                            </div>

                            <div class="col-md-4 col-sm-6">
                                <div class="mg_hotel_destination fancy-overlay">
                                    <figure>
                                        <img src="extra-images/Solav.jpg" alt=""/>
                                        <figcaption>
                                            <a class="view_btn" href="#">view</a>
                                        </figcaption>
                                    </figure>
                                    <div class="text">
                                        <div class="mg_destination_hd">
                                            <h5><a href="#">Solav</a></h5>
                                        </div>
                                    </div>
                                </div>
                            </div>

                            <div class="col-md-4 col-sm-6">
                                <div class="mg_hotel_destination fancy-overlay">
                                    <figure>
                                        <img src="extra-images/zaxo.jpg" alt=""/>
                                        <figcaption>
                                            <a class="view_btn" href="#">view deal</a>
                                        </figcaption>
                                    </figure>
                                    <div class="text">
                                        <div class="mg_destination_hd">
                                            <h5><a href="#">Zakho</a></h5>
                                        </div>
                                    </div>
                                </div>
                            </div>
                            <div class="col-md-4 col-sm-6">
                                <div class="mg_hotel_destination fancy-overlay">
                                    <figure>
                                        <img src="extra-images/Cree.jpg" alt=""/>
```

```
                                                <figcaption>
                                                    <a class="view_btn" href="#">view </a>
                                                </figcaption>
                                            </figure>
                                            <div class="text">
                                                <div class="mg_destination_hd">
                                                    <h5><a href="#">Cree Sperki</a></h5>
                                                </div>
                                            </div>
                                        </div>
                                    </div>

                                    <div class="col-md-4 col-sm-6">
                                        <div class="mg_hotel_destination fancy-overlay">
                                            <figure>
                                                <img src="extra-images/GaliChamanke.jpg" alt=""/>
                                                <figcaption>
                                                    <a class="view_btn" href="#">view</a>
                                                </figcaption>
                                            </figure>
                                            <div class="text">
                                                <div class="mg_destination_hd">
                                                    <h5><a href="#">Gali Chamanke</a></h5>
                                                </div>
                                            </div>
                                        </div>
                                    </div>

                                    <div class="col-md-4 col-sm-6">
                                        <div class="mg_hotel_destination fancy-overlay">
                                            <figure>
                                                <img src="extra-images/SHARANISHWATERFALL.jpg"
alt=""/>
                                                <figcaption>
                                                    <a class="view_btn" href="#">view</a>
                                                </figcaption>
                                            </figure>
                                            <div class="text">
                                                <div class="mg_destination_hd">
                                                    <h5><a href="#">Sharanish Waterfall</a></h5>
                                                </div>
                                            </div>
                                        </div>
                                    </div>
                                </div>
                            </div>
                        </div>

                        <div role="tabpanel" class="tab-pane" id="europe">
                            <div class="mg_hotel_destination_wrapper">
                                <div class="row">
                                    <div class="col-md-4 col-sm-6">
                                        <div class="mg_hotel_destination fancy-overlay">
                                            <figure>
                                                <img src="extra-images/Chawg.jpg" alt=""/>
                                                <figcaption>
                                                    <a class="view_btn" href="#">view</a>
                                                </figcaption>
                                            </figure>
                                            <div class="text">
                                                <div class="mg_destination_hd">
                                                    <h5><a href="#">Chawg</a></h5>
                                                </div>
                                            </div>
                                        </div>
                                    </div>

                                    <div class="col-md-4 col-sm-6">
                                        <div class="mg_hotel_destination fancy-overlay">
                                            <figure>
                                                <img src="extra-images/Ahmadawa.jpg" alt=""/>
                                                <figcaption>
                                                    <a class="view_btn" href="#">view</a>
                                                </figcaption>
                                            </figure>
                                            <div class="text">
                                                <div class="mg_destination_hd">
                                                    <h5><a href="#">Ahmed Awa</a></h5>
                                                </div>
                                            </div>
                                        </div>
                                    </div>

                                    <div class="col-md-4 col-sm-6">
                                        <div class="mg_hotel_destination fancy-overlay">
                                            <figure>
                                                <img src="extra-images/Awesar.jpg" alt=""/>
                                                <figcaption>
                                                    <a class="view_btn" href="#">view</a>
                                                </figcaption>
                                            </figure>
                                            <div class="text">
```

```
                                                <div class="mg_destination_hd">
                                                    <h5><a href="#">Tawella Awesar</a></h5>
                                                </div>
                                            </div>
                                        </div>
                                    </div>
                                    <div class="col-md-4 col-sm-6">
                                        <div class="mg_hotel_destination fancy-overlay">
                                            <figure>
                                                <img src="extra-images/Byara.jpg" alt=""/>
                                                <figcaption>
                                                    <a class="view_btn" href="#">view</a>
                                                </figcaption>
                                            </figure>
                                            <div class="text">
                                                <div class="mg_destination_hd">
                                                    <h5><a href="#">Byara</a></h5>
                                                </div>
                                            </div>
                                        </div>
                                    </div>
                                    <div class="col-md-4 col-sm-6">
                                        <div class="mg_hotel_destination fancy-overlay">
                                            <figure>
                                                <img src="extra-images/Sherwana.jpg" alt=""/>
                                                <figcaption>
                                                    <a class="view_btn" href="#">view</a>
                                                </figcaption>
                                            </figure>
                                            <div class="text">
                                                <div class="mg_destination_hd">
                                                    <h5><a href="#">Qalay Sherwana</a></h5>
                                                </div>
                                            </div>
                                        </div>
                                    </div>
                                    <div class="col-md-4 col-sm-6">
                                        <div class="mg_hotel_destination fancy-overlay">
                                            <figure>
                                                <img src="extra-images/Sirwan.jpg" alt=""/>
                                                <figcaption>
                                                    <a class="view_btn" href="#">view</a>
                                                </figcaption>
                                            </figure>
                                            <div class="text">
                                                <div class="mg_destination_hd">
                                                    <h5><a href="#">Sirwan lake</a></h5>
                                                </div>
                                            </div>
                                        </div>
                                    </div>
                                </div>
                            </div>
                        </div>
                    </div>
                </div>
            </div>
        </section>
        <section>
            <div class="container">
                <div class="mg_hotel_hd1">
                    <h6>  </h6>
                    <h4>Know More about Kurdistan</h4>
                </div>
                <div class="row">
                    <div class="col-md-4 col-sm-6">
                        <div class="mg_blog_medium fancy-overlay">
                            <h4><a href="view-history.html">History</a></h4>
                            <figure>
                                <a href="view-history.html"><img src="extra-images/History.jpg"
alt=""></a>
                            </figure>
                            <div class="text">
                                 <ul class="blog-meta-list">
                                    <li><a href="#"><span>Some key events since the early 20th
century.</span></a></li>
                                </ul>
                                <div class="clear"></div>
                                <p>Some key events since the early 20th century.
1918: Sheikh Mahmoud Barzinji becomes governor of Sulaimaniya under British rule. He and other Kurdish
leaders who want Kurdistan to be ruled independently of Baghdad rebel against the British. He is defeated
a year later.</p>
                                <a class="mg_readmore" href="view-history.html">Read more</a>
                            </div>
                        </div>
                    </div>

                    <div class="col-md-4 col-sm-6">
                        <div class="mg_blog_medium fancy-overlay">
                            <h4><a href="view-geography.html">Geography</a></h4>
                            <figure>
                                <a href="view-geography.html"><img src="extra-images/Flag.png"
alt=""></a>
```

```
                                    </figure>
                                    <div class="text">
                                        <ul class="blog-meta-list">
                                    <li><a href="#"><span>Area: 40,643 km² </span></a></li>
                                 <li><a href="#"><span>Population: 3,757,058</span></a></li>
                                        </ul>
                                        <div class="clear"></div>
                                        <p>The Kurdistan Region comprises parts of the three governorates
of Erbil, Slemani and Duhok. It borders Syria to the West (Rojava), Iran to the East (Rojhalat), and
Turkey (Bakur) lying to the North where fertile plains meet the Zagros Mountains.</p>
                                        <a class="mg_readmore" href="view-geography.html">Read more</a>
                                    </div>
                                </div>
                            </div>

                            <div class="col-md-4 hidden-sm">
                                <div class="mg_blog_medium fancy-overlay">
                                    <h4><a href="People.html">Kurds</a></h4>
                                    <figure>
                                        <a href="People.html"><img src="extra-images/Land.jpg"
alt=""></a>
                                    </figure>
                                    <div class="text">
                                        <ul class="blog-meta-list">
                                            <li><a href="#"><span>Agriculture</span></a></li>
                                            <li><a href="#"><span>Industrial</span></a></li>
                                        </ul>
                                        <div class="clear"></div>
                                        <p>Visiting Kurdistan for the first time you will notice that its
most prominent geophysical feature is mountains. There is a saying among Kurds: ‘no friends but the
mountains’ referring to oppressing states/neighbors and dictators surrounding the region.</p>
                                        <a class="mg_readmore" href="People.html">Read more</a>
                                    </div>
                                </div>
                            </div>
                        </div>
                    </div>
                </section>

            </div>
            <footer class="mg_footer1">
                <div class="container">
                    <div class="col-md-3 col-sm-6">
                        <div class="widget widget_text">
                            <div class="logo">
                                <a href="#"><img src="images/logoo.png" alt=""/></a>
                            </div>
                            <div class="text">
                        <div class="mg_contact"><i class="fa fa-
phone"></i><span>+9647501044789</span></div>
                            <div class="mg_contact"><i class="fa fa-envelope-
o"></i><span>nbqu180036@uniq.edu.iq</span></div>
                            </div>
                            <ul class="mg_social">
                               <li><a href="https://www.facebook.com/nza.bahaddin/"><i class="fa fa-
facebook"></i></a></li>
                               <li><a href="#"><i class="fa fa-twitter"></i></a></li>
                               <li><a href="#"><i class="fa fa-linkedin"></i></a></li>
                            </ul>
                        </div>
                    </div>
                    <div class="col-md-3 col-sm-6">
                        <div class="widget widget_archives">
                        </div>
                    </div>

                    <div class="col-md-3 col-sm-6">
                        <div class="widget widget_search">
                            <h6 class="widget-title">keep in touch with KTG Staff</h6>
                            <form>
                                <p><a href="index_contact.php"> <input type="button" value="Send
message"></a></p>
                            </form>
                        </div>
                    </div>
                </div>
            </footer>
        </div>
        <script src="js/jquery.js"></script>
        <script src="js/bootstrap.js"></script>
        <script src="js/slick.min.js"></script>
        <script src="js/masonry.min.js"></script>
        <script src="js/scripts.js"></script>
        <script src="js/jquery.datetimepicker.full.js"></script>
        <script src="js/dl-menu/modernizr.custom.js"></script>
        <script src="js/dl-menu/jquery.dlmenu.js"></script>
        <script src="js/custom.js"></script>
    </body>
</html>
```

Figure 5-5 Index.php file

5.2.2. Database Management System (DBMS) Implementation

Database Management System (DBMS) is a system that stored and handled collection of data that for a certain system. MySQL database applied for KTG website to manage all data related to the system. Figure 5.6 shows the tables of the database:

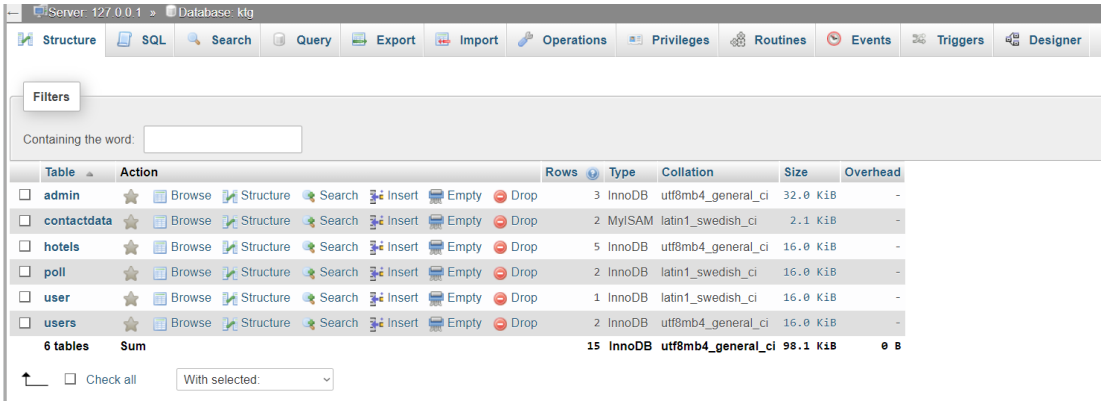


Figure 5-6 KTG database tables

The figure shows the tables of KTG, table names are: admin, contact data, hotels, poll, user. Admin table is connected to admin login and users connected to tourist accounts. Contact data connected to contact us page in the website, poll is for feedbacks. For the login and registration, the table contains user type which means admin has to use his or her unique ID to login to the admin panel. Figure 5.7 is the tables KTG Query:

```
-- phpMyAdmin SQL Dump
-- version 5.1.1
-- https://www.phpmyadmin.net/
-- Host: 127.0.0.1
-- Generation Time: Jun 24, 2022 at 11:27 PM
-- Server version: 10.4.22-MariaDB
-- PHP Version: 8.1.2
SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
START TRANSACTION;
SET time_zone = "+00:00";
/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;
--
-- Database: `ktg`
--
-- --------------------------------------------------------
--
-- Table structure for table `admin`
--
CREATE TABLE `admin` (
  `ID` int(11) NOT NULL,
  `email` text NOT NULL,
  `password` text NOT NULL,
  `name` text NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
--
-- Dumping data for table `admin`
--
INSERT INTO `admin` (`ID`, `email`, `password`, `name`) VALUES
```

```
(0, 'shakar@mail.com', '123456', 'shakar'),
(0, 'nza@mail.com', '123456', 'nza'),
(1, '', '', '');
-- --------------------------------------------------------
--
-- Table structure for table `contactdata`
--
CREATE TABLE `contactdata` (
  `id` int(11) NOT NULL,
  `name` varchar(55) NOT NULL,
  `subject` varchar(55) NOT NULL,
  `email` varchar(55) NOT NULL,
  `message` text NOT NULL
) ENGINE=MyISAM DEFAULT CHARSET=latin1;
--
-- Dumping data for table `contactdata`
--
INSERT INTO `contactdata` (`id`, `name`, `subject`, `email`, `message`) VALUES
(16, 'nza', 'greeting', 'nza.america@gmail.com', 'hi'),
(17, 'Aland', 'greeting', 'aland@gmail.com', 'Hello');
-- --------------------------------------------------------
-- Table structure for table `hotels`
--
CREATE TABLE `hotels` (
  `ID` int(11) NOT NULL,
  `name` text NOT NULL,
  `bed_num` int(11) NOT NULL,
  `price` int(11) NOT NULL,
  `img_link` text NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
-- Dumping data for table `hotels`
--
INSERT INTO `hotels` (`ID`, `name`, `bed_num`, `price`, `img_link`) VALUES
(0, 'RAMADA', 2, 90,
'https://cf.bstatic.com/xdata/images/hotel/max500/62490849.jpg?k=9cfb736950cc35417f4a07a9d20eff03a54964b6
621e56dfbebaaa52ed3e33da&o=&hp=1'),
(0, 'Sheraton hotel', 2, 80,
'https://cf.bstatic.com/xdata/images/hotel/max1024x768/208454018.jpg?k=29ccc0537f58ace4da738fe795391f6ef5
95a04ba4f7fb2ebccc5b3a513fa5f3&o=&hp=1'),
(0, 'SHAD', 3, 60,
'https://www.google.com/imgres?imgurl=https%3A%2F%2Fwww.hoteliermiddleeast.com%2F2021%2F05%2F46Y1V991-
Grand-Millennium-Sulaimani-scaled.jpg&imgrefurl=https%3A%2F%2Fwww.hoteliermiddleeast.com%2F19688-253-
room-grand-millennium-hotel-sulaimani-now-
open&tbnid=awrXiXe5Q2eJXM&vet=12ahUKEwj4q6Stubb3AhU7k_0HHTpsDV8QMygDegUIARC5AQ..i&docid=Dvq1n99M7lqLcM&w=
2560&h=1760&q=grand%20millennium%20hotel%20sulaimani&client=opera&ved=2ahUKEwj4q6Stubb3AhU7k_0HHTpsDV8QMy
gDegUIARC5AQ'),
(0, 'Grand', 5, 100, 'https://media.millenniumhotels.com/Live/9/7/7/977AB9C3-F846-4EC9-87A5-
235D6A961C8B/Grand%20Millennium%20Hotel%20Sulaimani%20Presidential%20Suite_w1000.jpg?r=180227121127'),
(0, 'Titanic Hotel', 2, 70,
'https://cf.bstatic.com/xdata/images/hotel/max1024x768/246674180.jpg?k=0c6104f121855c81f8f4b7da8c2cfbd8f0
49d289a30de89a21ea877ab8ac0ebf&o=&hp=1');
-- --------------------------------------------------------
-- Table structure for table `poll`
--
CREATE TABLE `poll` (
  `id` int(11) NOT NULL,
  `name` text NOT NULL,
  `email` text NOT NULL,
  `place` text NOT NULL,
  `feedback` text NOT NULL,
  `suggestions` text NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
--
-- Dumping data for table `poll`
--
INSERT INTO `poll` (`id`, `name`, `email`, `place`, `feedback`, `suggestions`) VALUES
(3, 'nza', 'nza.america@gmail.com', 'Dukan', 'excellent', 'Best place for picnic.'),
(5, 'Aland', 'aland@gmail.com', 'Qashqoli', 'neutral', 'It was very hot.');
-- --------------------------------------------------------
--
-- Table structure for table `user`
--
CREATE TABLE `user` (
  `id` int(11) NOT NULL,
  `email` text NOT NULL,
  `passsword` text NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
--
-- Dumping data for table `user`
--
INSERT INTO `user` (`id`, `email`, `passsword`) VALUES
(1, 'admin@admin.com', 'admin');
-- --------------------------------------------------------
--
-- Table structure for table `users`
--
CREATE TABLE `users` (
  `id` int(11) NOT NULL,
  `username` varchar(255) NOT NULL,
  `user_type` int(1) NOT NULL,
  `email` varchar(255) NOT NULL,
  `password` varchar(255) NOT NULL
```

```
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4;
--
-- Dumping data for table `users`
--
INSERT INTO `users` (`id`, `username`, `user_type`, `email`, `password`) VALUES
(5, 'Nza', 1, 'nza.america@gmail.com', 'ed2b1f468c5f915f3f1cf75d7068baae'),
(7, 'Aland', 0, 'aland@gmail.com', '81dc9bdb52d04dc20036dbd8313ed055');
--
-- Indexes for dumped tables
--
--
-- Indexes for table `admin`
--
ALTER TABLE `admin`
  ADD KEY `ID` (`ID`);
--
-- Indexes for table `contactdata`
--
ALTER TABLE `contactdata`
  ADD PRIMARY KEY (`id`);
--
-- Indexes for table `poll`
--
ALTER TABLE `poll`
  ADD PRIMARY KEY (`id`);
--
-- Indexes for table `user`
--
ALTER TABLE `user`
  ADD PRIMARY KEY (`id`);
--
-- Indexes for table `users`
--
ALTER TABLE `users`
  ADD PRIMARY KEY (`id`);
--
-- AUTO_INCREMENT for dumped tables
--
--
-- AUTO_INCREMENT for table `contactdata`
--
ALTER TABLE `contactdata`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=18;
--
-- AUTO_INCREMENT for table `poll`
--
ALTER TABLE `poll`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=6;
--
-- AUTO_INCREMENT for table `user`
--
ALTER TABLE `user`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=2;
--
-- AUTO_INCREMENT for table `users`
--
ALTER TABLE `users`
  MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=8;
COMMIT;
/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

Figure 5-7 KTG database query

5.3. System Testing

System testing is a technique that validates the system to verify the end-to-end system specifications. After the system implementation process have been completed according to the specifications described in previous chapters, many testing have been conducted on KTG website. The two types of testing are conducted which are Black box testing and User acceptance testing in order to validate the system.

5.3.1. Black Box Testing

Black box testing is a kind of software testing that looks just at the software's functioning without looking at its code or internal structure. A customer-stated requirement specification serves as the main source for black box testing. In this approach, the tester chooses a function, provides an input value to test its operation, and determines whether or not the function produces the desired results. The function passes the test if the output is accurate; else, it fails. The Black box testing of the KTG website has been successful. Table 5.1 displays the test case for Login function.

Table 5-1 Black Box testing for Login function of the KTG website

T.C ID	**TC02-1**	**TC02-2**	**TC02-3**	**TC02-4**	**TC02-5**	**TC02-6**
Email	-	nza	nza@mail.co	nza@mail.co	nza@mail.co	nza1@mail.co
Password	-	12345678	-	123	12345678	12345678
User type	Tourist	Tourist	Tourist	Tourist	Tourist	Admin
Expected result	**Actual result**					
Error message on invalid email address	✓	✓				
Error message on empty password	✓		✓			
Error message on wrong email or password				✓		
Redirect (Tourist) to the home page					✓	
Redirect (Admin) to admin panel						✓
Test Results	Pass	Pass	Pass	Pass	Pass	Pass

5.3.2. User Acceptance Testing

Before deploying the software program to a production environment, the end user or client does a sort of testing known as user acceptance testing, or UAT. After functional, integration, and system testing are complete, UAT is carried out as the last stage of testing. The UAT of KTG website involved four participants, the users tested the system functionalities and the result was successful. Results from User Acceptance Testing, Table 5.2 shows the results obtained from the User Acceptance Testing:

Table 5-2 Results Obtained From The User Acceptance Testing

No	*Action*	*Expected result*	*Pass /Fail*
1	Fill in Email and password for login.	Display user input in the data field.	Pass
2	Click on Login button.	Navigate to user page if the inputs are correct Navigate to admin page if the admin enters his or her unique email and passwords. Error message is displayed if user enters invalid inputs	Pass
3	Click on register	Display the registration complete message when the inputs are filled correctly Display an error message when the user enters and email that already exist. Display an error message when the password and confirm password are not same.	Pass
3	Click on Destination button.	Display the tourism places in Kurdistan	Pass
4	Click on a tourism place.	Display the details of that place	Pass
5	Click on Contact us page	Display the contact us form.	Pass
6	Click on feedbacks button	Display the feedback form	Pass
7	Click on Where to stay button.	Display the hotels base on the which city you want to go.	Pass

The system achieved the participant's satisfaction successfully and they agreed that KTG website is a useful system that has a huge potential to help Tourists finding tourism places in Kurdistan easily. The system also provided several ideas, some of which were important enough to be added right away, while others were saved for potential future improvement.

5.4. Chapter Summary

This entire implementation and testing procedure was carried out in accordance with the methodology, specifications, and design that were established. In this chapter, the procedure is described and recorded. The project's end will be covered in the next chapter.

Chapter 6

CONCLUSION AND RECOMMANDATION

6.1. Introduction

In this chapter will be discussing the overview of Cross platform tourism guide for Kurdistan. The discussion includes the result and achievement of the project objectives and suggestions for future implementation. The conclusion for the whole system will briefly be explained in this chapter.

6.2. Achievement

In chapter one, the introduction, problem background, project aim, project objectives, project scopes are briefly explained how the website process and function. From the result of the study, the problem is identified, and the solution of the study are achieved. KTG is a website that will make your tours easier to travel in Kurdistan in less time.

For chapter two, the literature review was conducted on the existing systems that provide the functionality to the website. This chapter provides an overview of technical research regarding the application and effectiveness of various types of Tourism guide projects to support tourism field in my country. The existing systems compared and after that the best features chose and use it in KTG website.

Chapter three was about the methodologies, Agile methodology used in KTG website. Agile has six phases and all the phases play their own roles in developing the system. Technology, software and hardware are also being explained in this chapter.

Last one was chapter four; chapter four explained the system architecture design and how the website works. The flow of the website shows by drawing the use case, sequence and activity diagrams. Database design is discussed to shows how the data is related to each other. Interface design showed how the website GUI looks like and how the user interacts with it.

6.3. Suggested plan for project (FYP2, PSM2)

PSM2 is for implementing and coding the website in proper way. The chosen methodology which is Agile methodology will be used. The project development will be phase by phase until the website will be developed successfully. More features and methods will be used, after all these steps, testing will be the last step which is very important to find any problem that could be faced through implementing of the system.

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Appendix A

Gantt Chart

DAILY GANTT CHART FYP1 CHAPTERS

Cross platform Tourism guide for Kurdistan (KTG)
Qaiwan university- UTM franchise

Nza Bahaddin Muhammed
Student name

20-Nov-21
START DATE

12-Feb-22
END DATE

Task ID	PSM1	Start Date	End Date	Duration (In Days)	11/20/2021	11/21/2021	11/22/2021	11/23/2021	11/24/2021	11/25/2021	11/26/2021	1/1/2022	1/2/2022	1/3/2022	1/4/2022	1/5/2022	1/6/2022	1/9/2022	1/12/2022	1/18/2022	1/19/2022	1/25/2022	2/1/2022	2/5/2022	2/10/2022	2/12/2022	7/1/2022	7/1/2022	8/1/2022	12/27/2021	12/28/2021
T01	Chapter1-Introduction	11/20/2021	11/26/2021	6																											
T02	Chapter2-Litreture revie	1/1/2022	1/5/2022	5																											
T03	Chapter3-Methodology	1/6/2022	1/18/2022	13																											
T04	Chapter4-Requirements	1/19/2022	2/12/2022	25																											
T05	Chapter5-Conclusion	2/11/2022	2/12/2022	2																											

Appendix B

Survey and Questionaries

Welcome to Kurdistan Tourism Guide

1. Your age is:

Mark only one oval.

- ◯ Less than 24
- ◯ Between 24 and 39
- ◯ Between 40 and 55
- ◯ Over 55

2. Where do you currently live (city, country)? *

3. Have you ever faced problems regarding visiting the tourism places in Kurdistan?

Mark only one oval.

- ◯ Yes
- ◯ No
- ◯ Maybe

4. Would you like to have information about the place that you want to visit? *

Mark only one oval.

- ◯ Yes of course
- ◯ No, I will ask local people there

5. Have you ever used the current website for tourism guide which developed by the KRG?

Mark only one oval.

- Yes
- No

6. Do you think the current system is useable for finding tourism places in Kurdistan?

Mark only one oval.

- Yes, it is useable
- I don't think so
- Maybe

7. Where do you like to stay? *

Mark only one oval.

- Hotels
- Motels
- Cabins

8. Would you like to have a local guide with you? *

Mark only one oval.

- Yes of course
- No, I will discover by myself

9. Where do you like visit mostly?

Mark only one oval.

- Modern places, like malls and cafes
- Ancient please, like castle and museum
- Both

10. What are your main interests in selecting a destination? *

Check all that apply.

- [ ] Adventure
- [ ] Night
- [ ] life
- [ ] Culture
- [ ] Health
- [ ] Nature
- [ ] Religion
- [ ] Sport

11. How do you usually travel?

Mark only one oval.

- By my own car
- By public transportation

12. How much money usually you spend it for traveling? *

Mark only one oval.

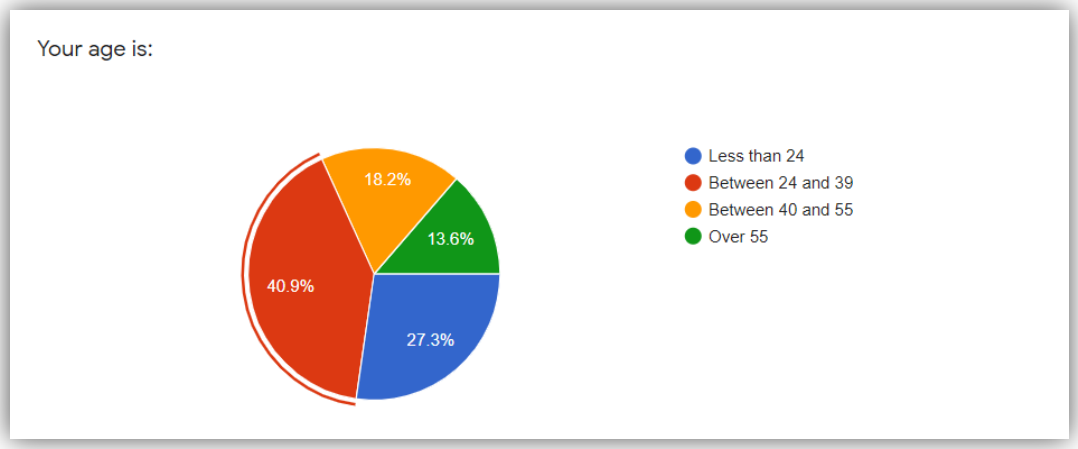
- Less than 100$
- 100$
- 200$
- 300$
- More than 300$

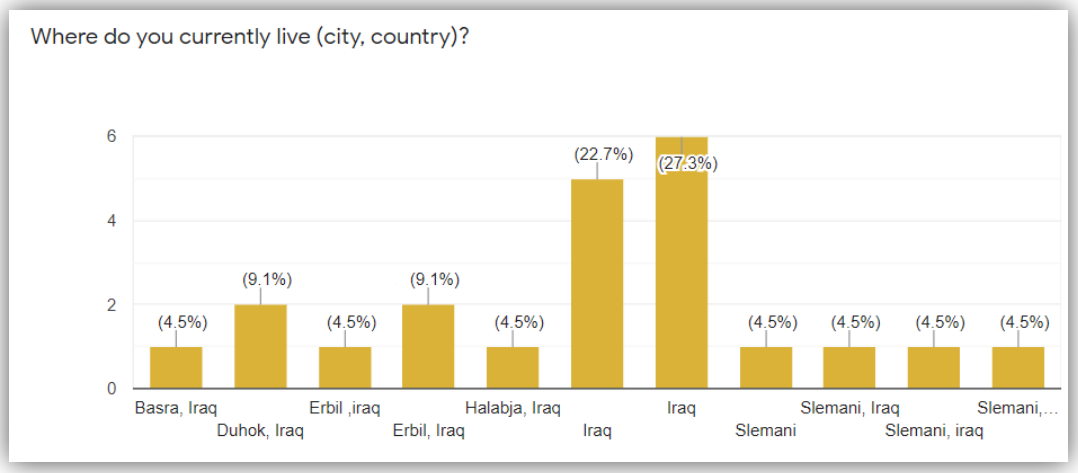
13. What are the most challenging problems that you face when choosing a destination?

Mark only one oval.

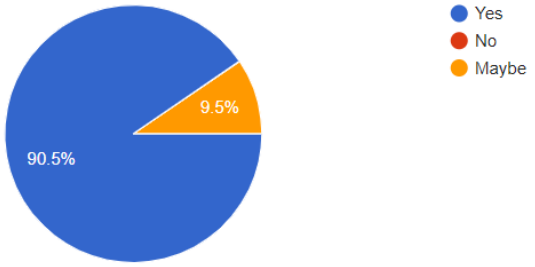
- Quality of services
- Language difficulties
- Price
- Others

Responses:

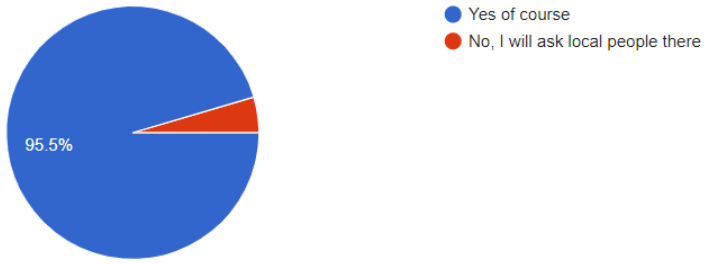




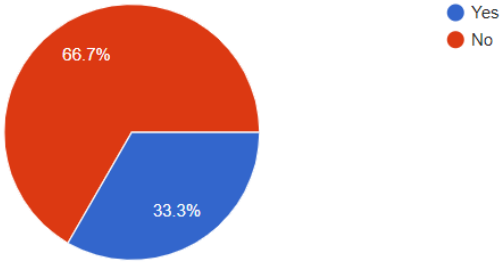
Have you ever faced problems regarding visiting the tourism places in Kurdistan?



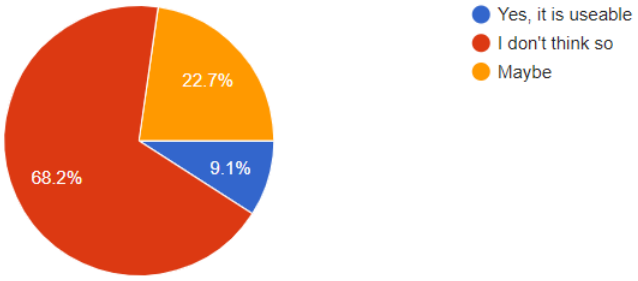
Would you like to have information about the place that you want to visit?



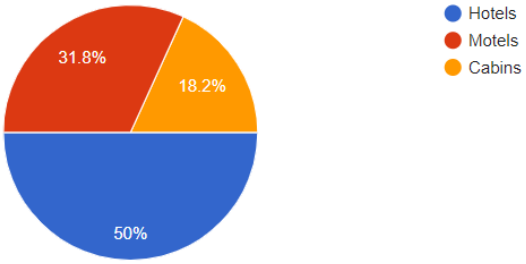
Have you ever use the current website for tourism guide which developed by the KRG?



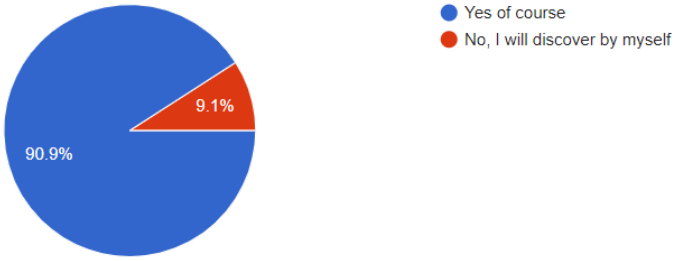
Do you think the current system is useable for finding tourism places in Kurdistan?



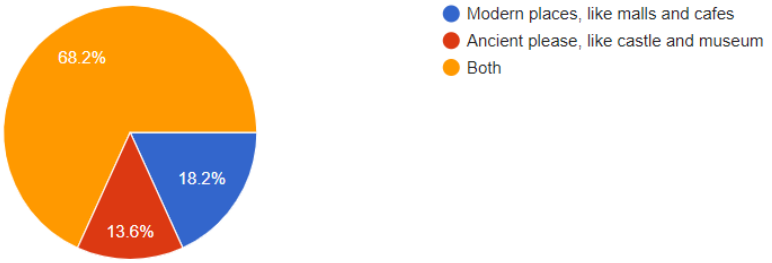
Where do you like to stay?



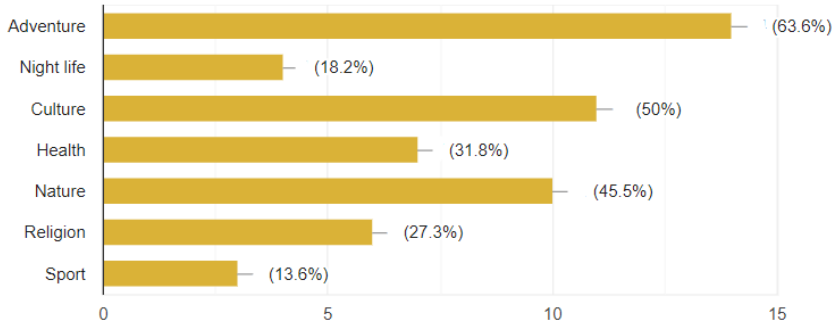
Would you like to have a local guide with you?



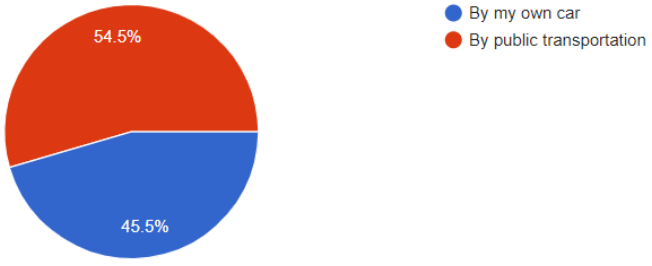
Where do you like visit mostly?



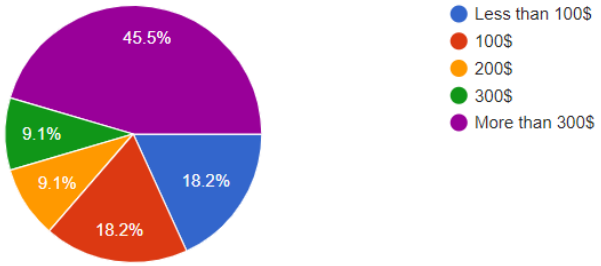
What are your main interests in selecting a destination?



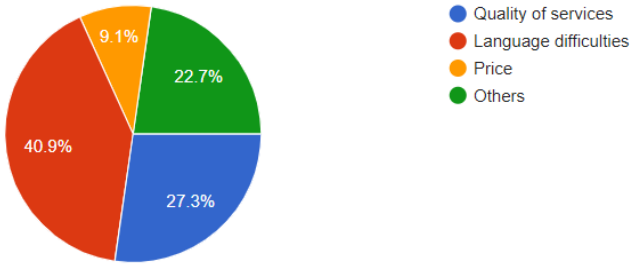
How do you usually travel?



How much money usually you spend it for traveling?



What are the most challenging problems that you face when choosing a destination?



Appendix C

Software Requirements Specifications – SRS

Software Requirements Specification

CROSS PLATFORM TOURISM GUIDE FOR KURDISTAN

Version 1.0

June 22, 2022

School of Computing,

Faculty of Engineering

Revision Page

1. **Overview**

   This is the first draft of SRS for KTG – Kurdistan Tourism guide.

2. **Target Audience**

   The users (Tourists).

3. **Project Team Members**

   Nza Bahaalddin Mohammed

4. **Version Control History**

Version	**Primary Author(s)**	**Description of Version**	**Date Completed**
Version 1.0	Nza Bahaalddin Mohammed	First Draft	**June 26, 2022**

Table of Contents

1. Introduction

KTG is described in detail in this Software Requirements Specification (SRS), which includes both functional and non-functional requirements. With a collection of use cases, activity diagrams, and sequence diagrams, it depicts the interaction between the user and the system. To represent the flow of the system and the declared objects, both an activity diagram and a sequence diagram are offered.

1.1 Purpose

This SRS document's main goal is to give readers a thorough overview of our software product, including all of its features and objectives. This paper outlines the project's user interface, hardware, and software requirements as well as its intended audience. It describes the system's functionality and how our customer, team, and audience see it. However, participating in the software delivery lifecycle (SDLC) procedures is beneficial for any designer or developer.

1.2 Scope

KTG stands for Kurdistan Tourism guide, it is a website that offers tourists to find the tourism places in Kurdistan. The targeted user of the website are tourists. The tourists have several functionalities in the website as well as the admin.
The system focuses on the tourist needs, like finding tourism places that they want to go, rate the place and giving their feedbacks of the place, finding the nearest hotels or motels of that place they want to go.

1.3 Definitions, Acronyms and Abbreviation

Term	Definition
KTG	Kurdistan Tourism guide
DBMS	Database Management system
SDD	Software Design Document
SRS	Software Requirements specification
NFR	Non-Functional requirements

1.4 References

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1.5 Overview

This document is divided into three sections, each section contains several subsections and the main sections are shown below:

i. Introduction: This section describes an overview of the SRS.
ii. Overall Description: This section provides the factors that affect the software product. It acts as the background for the requirements of the system.
iii. Specific Requirements: This section provides the requirements of the system to be developed in details with the interaction between user and the system.

2. Overall Description

The use case diagram is an illustration form that contain actor which act as a user in the system playing their own roles and function in the system. Figure1 shown that the use case diagram for Kurdistan tourism guide.

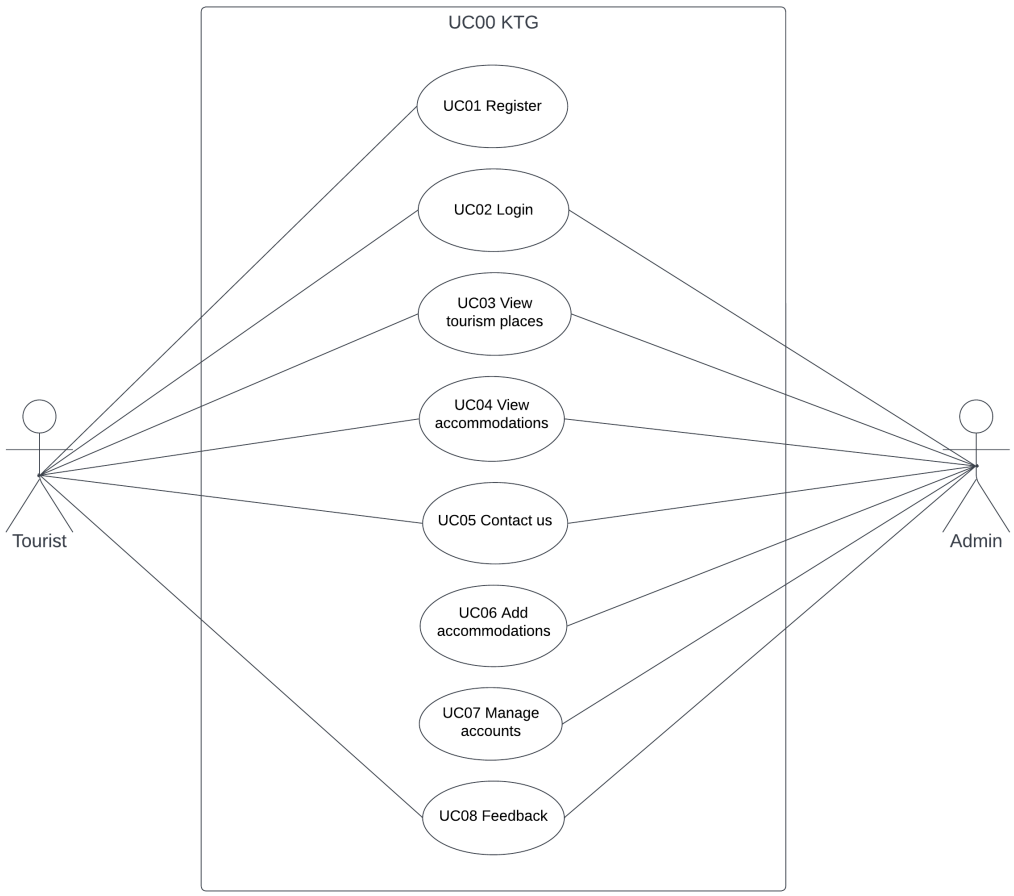

Figure 8 UCD00: Use Case Diagram for <KTG>

2.1 Product Perspective

As shown in Figure 1, there are two actors which are Tourist and Admin for the system. There are eight use cases in the diagram that each use case plays their own roles. Login, Register, View Tourism places, add accommodations, view accommodations, contact us, Feedback, Manage the accounts.

2.2 Product Functions

i. **UC01 Login:** This use case shows that tourist and admin can login to the system by using their email and password.
ii. **UC02 Register:** This use case shows that tourist can register for new account by adding User name, email, password, confirm password.
iii. **UC03 View tourism place:** This use case shows that tourist can view tourism place information with facilities, location map, contact details, etc. also, they can rate the place.
iv. **UC04 View accommodations:** This use case shows that tourist can view different type of accommodations like hotels motels etc. also view specs and facilities, location map, contact numbers, etc.
v. **UC05 Contact us:** This use case shows that tourists can contact with the KTG staff.
vi. **UC06 Add accommodations:** This use case shows that admin can add different type of accommodations like hotels motels etc. also adding specs with facilities, location map, contact details, etc.
vii. **UC07 Manage accounts:** This use case shows that admin can manage and modify the accounts, delete, add, update the users.
viii. **UC08 Feedback:** This use case shows that tourists can rate the tourism places by filling the feedback form.

2.3 User Characteristics

Admin have many options so that he or she can add, delete, modify or update any details. Below in the functions for admin:

- Admin can login to the website by unique ID.
- Admin can add accommodations into the website.
- Admin can modify the accounts which created by users.
- Admin can modify the messages and feedbacks that sent by tourists.

Tourists will have their own account provided by admin and they perform the activities which are allotted to them:

- Tourists can view the destinations.
- Tourists can view the accommodations.
- Tourists can register and login to the website.
- Tourists can contact with KTG and send the feedbacks of the tourism destinations.

3. Specific Requirements

This section describes the functional and non-functional requirements of the system. Use case specification and respective sequence diagram and activity diagram for each use case are also presented in this section. Figure 2 shows the domain model of the system.

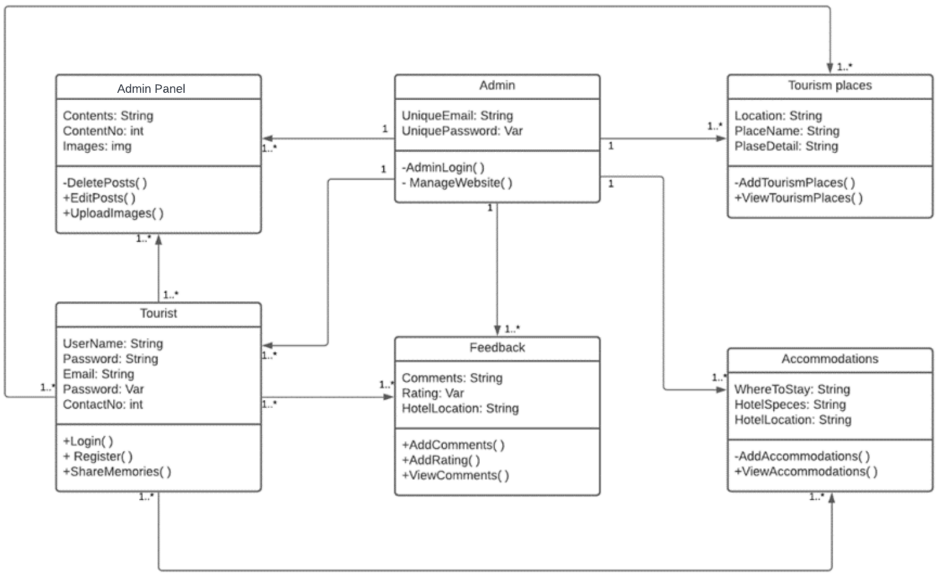

Figure 9 Domain Model of <KTG>

3.1 System Features

This subsection describes the function requirements of each module with respective use case specifications, sequence diagram and activity diagram.

3.1.1 Module <Tourist>

Figure 3 shows the use case diagram for Tourist module.

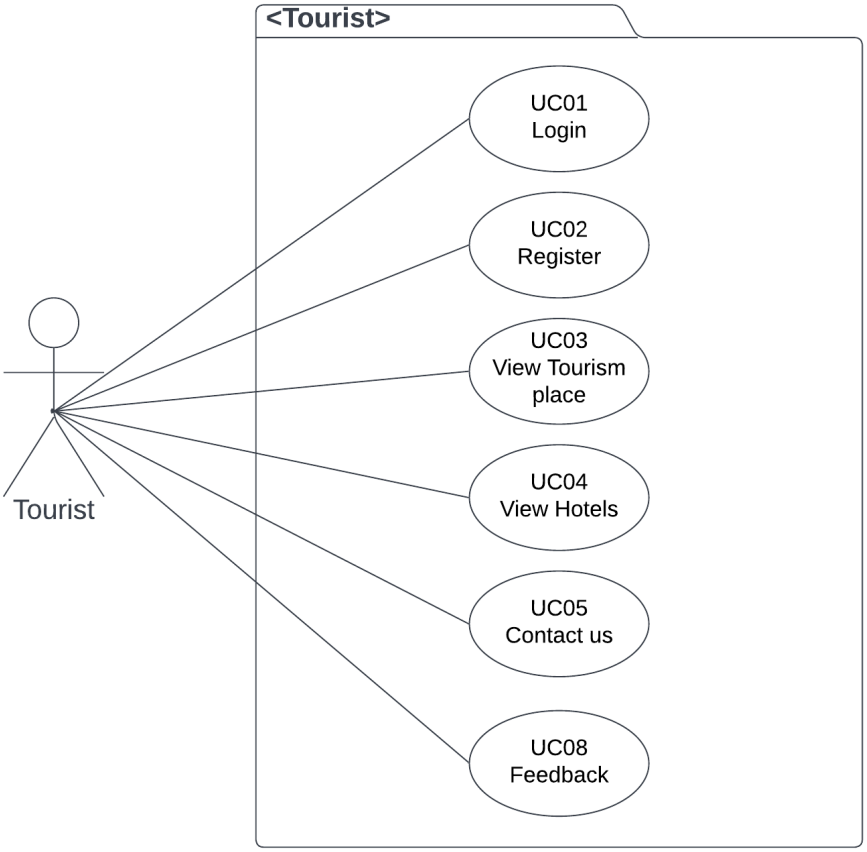

Figure 10 <Tourist Module/Use case>

3.1.1.1 UC01: Use Case <Login>

Table 6-1 Use Case Description for <Login>

Use case ID	UC01
Use case name	Login
Brief description	This use case allows user to login.
Actors	1.Tourist
Pre-condition	1.Internet is connected to the device that run the system.
Normal flow	1. The use case starts when the user clicks on Login 2. System displays login page containing registration form. 3. User enters their login details in the form. 4. User selects “Login” 5. System validates the user input. If the validation fails, Exception Flow 1 is performed. 6. System validates user type. if “Tourist”, Alternate Flow 1 is performed. If “Admin”, Alternate Flow 2 is performed. 7. The use case ends.
Alternative flow	1. Tourist, System redirects to Homepage 2. Admin, System redirects to admin panel

Exception flow	1. User authentication fails, System displays error message.
Post condition	1. Successful Completion User successfully login into the system. User redirect to pages based on the user type. 2. Failure Condition System displays error message.

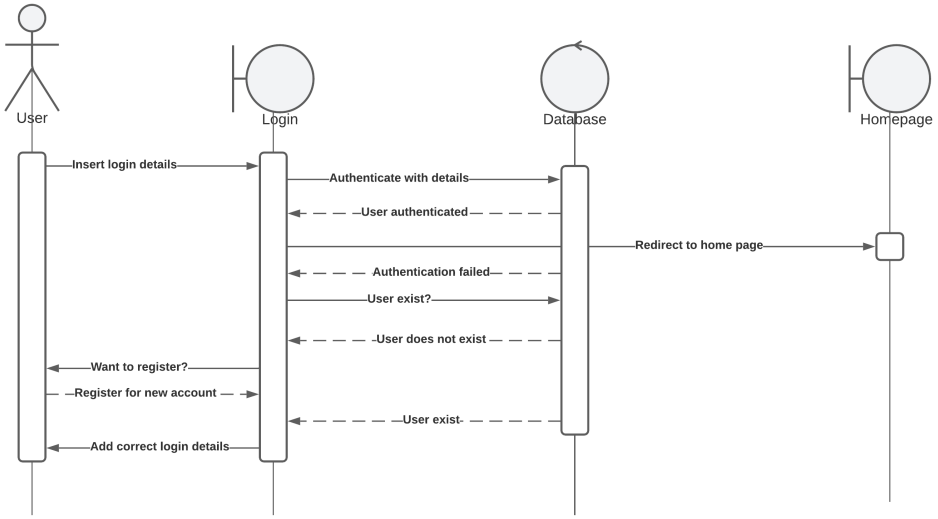

Figure 11 SD01: System Sequence Diagram of <Login>

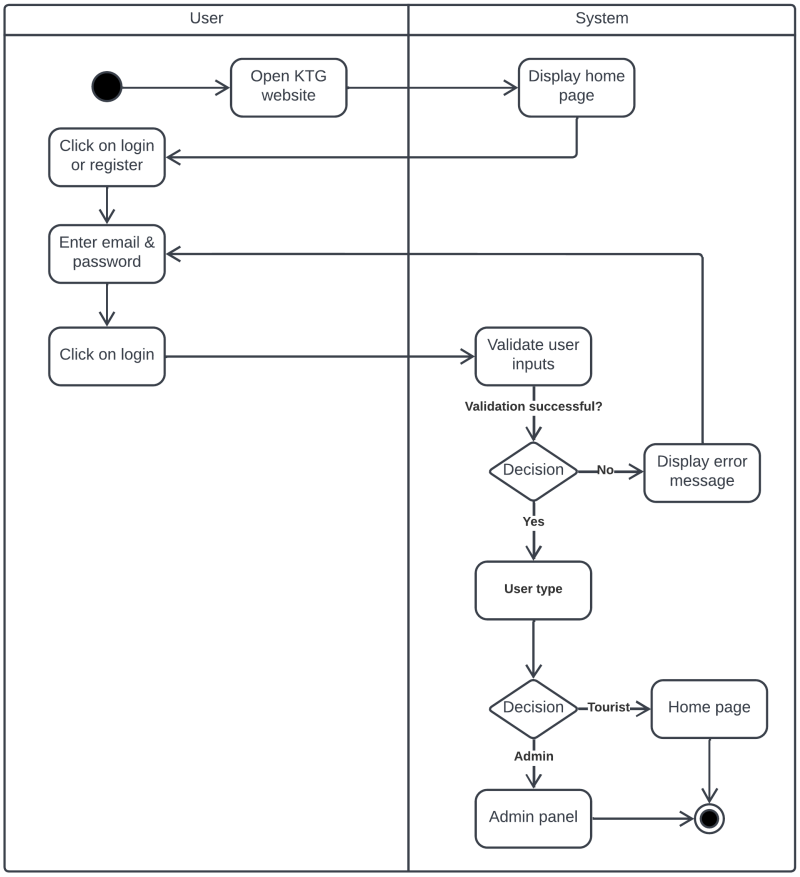

Figure 12 Activity Diagram of <Login>

3.1.1.2 UC02: Use Case <Register>

Table 6-2 Use Case Description for <Register>

Use case ID	UC02
Use case name	Register
Brief description	This use case allows user to register.
Actors	1.Tourist
Pre-condition	1.Internet is connected to the device that run the system.
Normal flow	1. The use case starts when the user clicks on Register 2. System displays login page containing registration form. 3. User enters their registration details in the form. 4. User selects "Register" 5. System validates the user input. If the validation fails, Exception Flow 1 is performed. 6. System saves user account into account database. 7. The use case ends.
Alternative flow	1.Tourist, System redirects to Homepage
Exception flow	1. User authentication fails, System displays error message.
Post condition	1. Successful Completion User successfully registers into the system. 2. Failure Condition System displays error message.

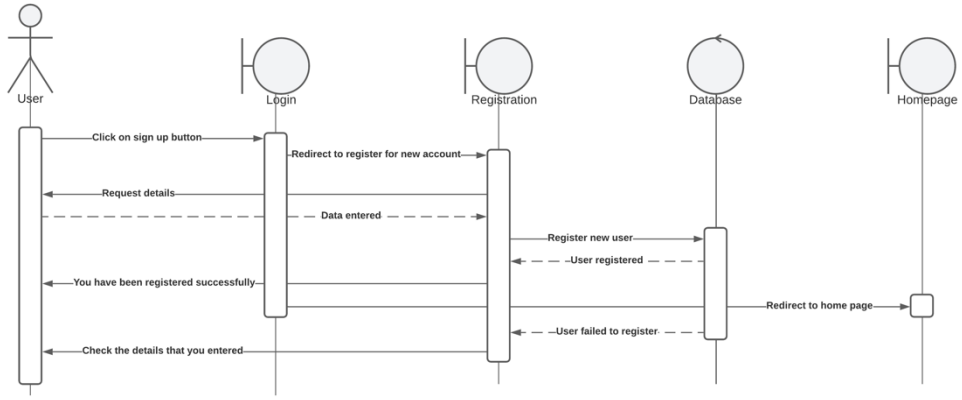

Figure 13 SD02: System Sequence Diagram of <Register>

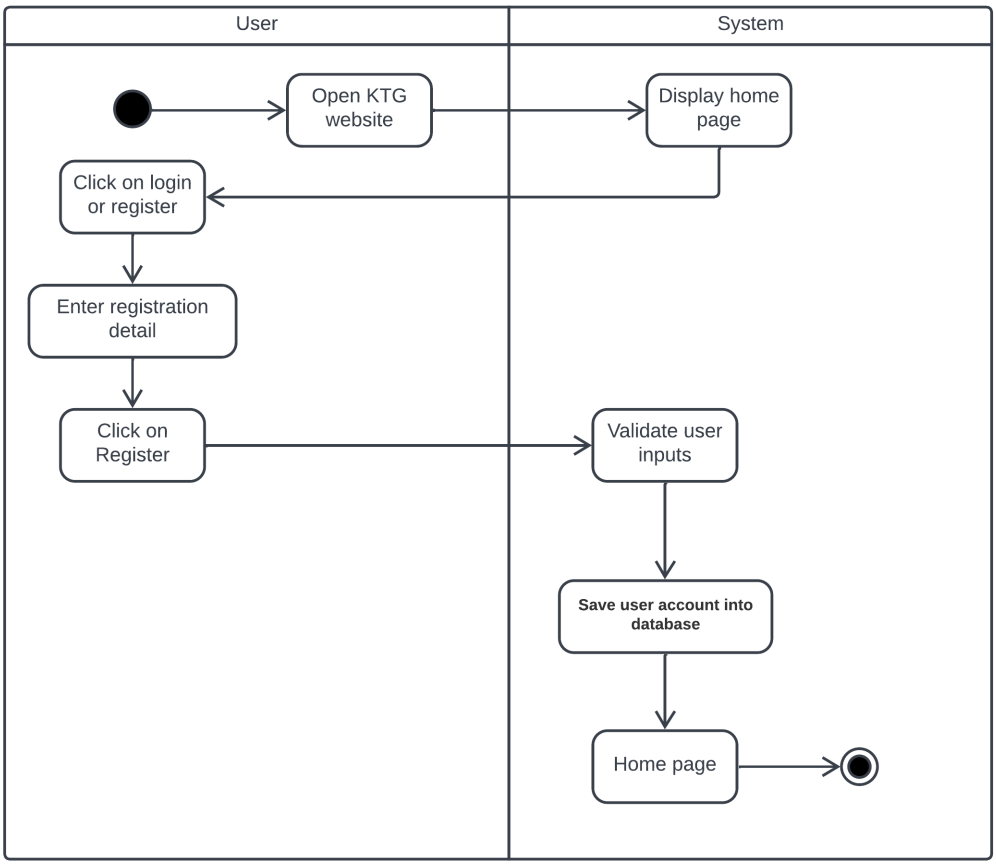

Figure 14 Activity Diagram of <Register>

3.1.1.3 UC03 Use Case <View tourism places>

Table 6-3 Use Case Description for <View tourism places>

Use case ID	UC03
Use case name	View tourism places
Brief description	This use case allows user to view tourism places in Kurdistan.
Actors	1.Tourist
Pre-condition	1.Internet is connected to the device that run the system.
Normal flow	1. The use case starts when the user clicks on Destinations 2. System displays Top destination page. 3. User select the city that they want to go. 4. User click on one of the tourism places. 5. User reads the details of the place. 6. The use case ends.
Alternative flow	1. System redirects to view page
Exception flow	None.
Post condition	1. Successful redirects to destination page.

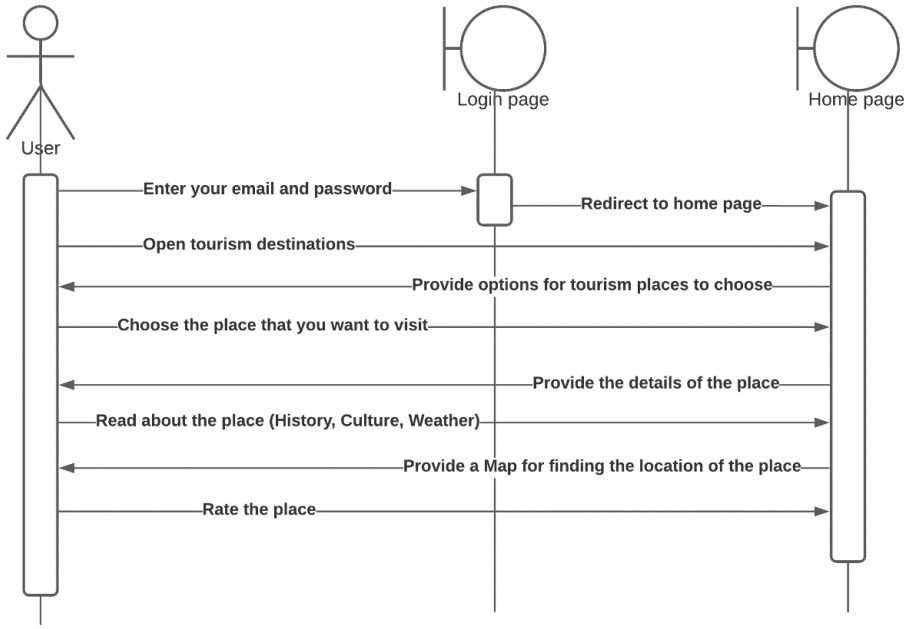

Figure 15 SD03: System Sequence Diagram of <View tourism places>

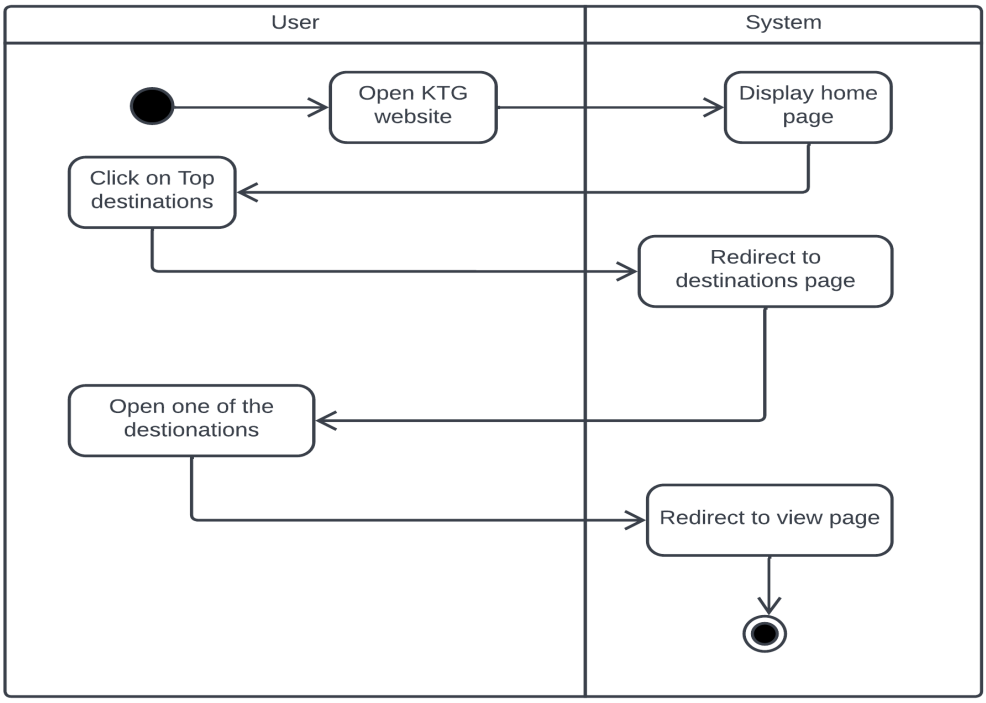

Figure 16 Activity Diagram of <View tourism places>

3.1.1.4 UC04 Use Case <View Accommodations>

Table 6-4 Use Case Description for <View Accommodations>

Use case ID	UC04
Use case name	View Accommodations
Brief description	This use case allows user to view hotels in Kurdistan.
Actors	1.Tourist
Pre-condition	1.Internet is connected to the device that run the system.
Normal flow	1. The use case starts when the user clicks on Where to stay. 2. System displays Hotels page. 3. User select the city that he or she want to go. 4. User click on one of the hotels. 5. User reads the facilities of the hotel. 6. The use case ends.
Alternative flow	1. System redirects to view hotel page
Exception flow	None.
Post condition	1. Successful redirects to hotels page.

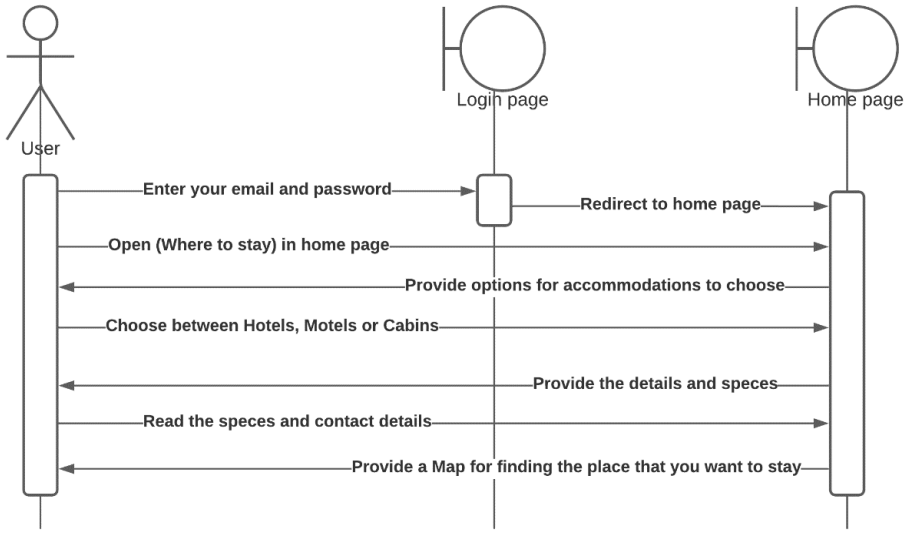

Figure 17 SD04: System Sequence Diagram of <View Accommodations>

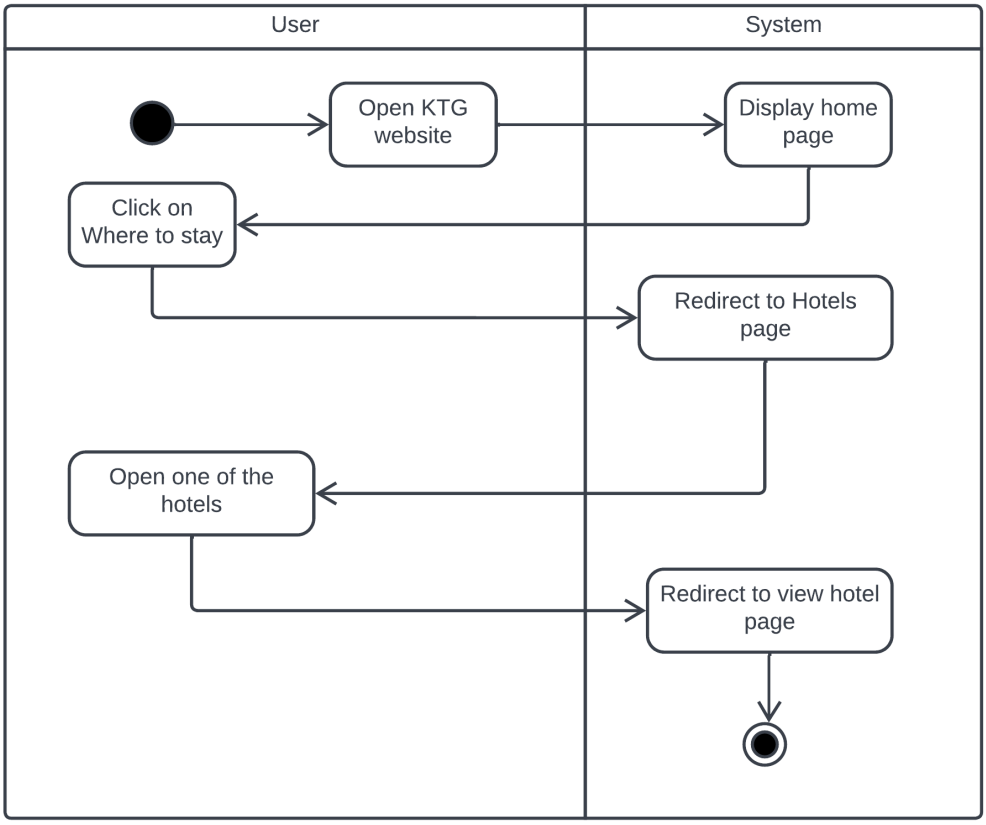

Figure 18 Activity Diagram of <View Accommodations>

3.1.1.5 UC05 Use Case <Contact us>

Table 6-5 Use Case Description for <Contact us>

Use case ID	UC05
Use case name	Contact us
Brief description	This use case allows user to contact with KTG staff.
Actors	1. Tourist
Pre-condition	1. Internet is connected to the device that run the system. 2. User must log into the website.
Normal flow	1. The use case starts when the user clicks on Contact us. 2. System displays Contact page. 3. User fill the contact form. 4. User click send message button. 5. The use case ends.
Alternative flow	1. Display successfully sent message.
Exception flow	1. System authentications fails.
Post condition	1. Successful Completion User successfully send the message. Display successfully sent message. 2. Failure Condition System displays error message.

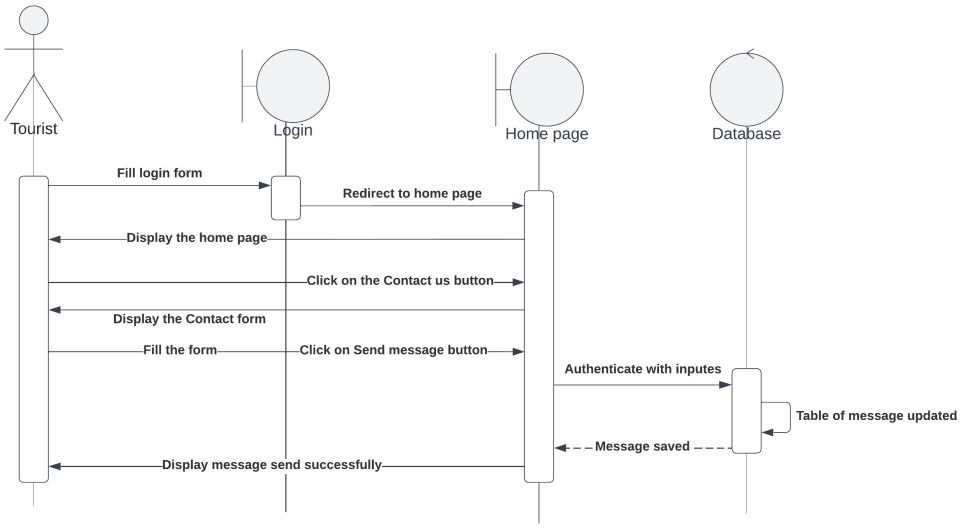

Figure 19 SD05: System Sequence Diagram of <Contact us>

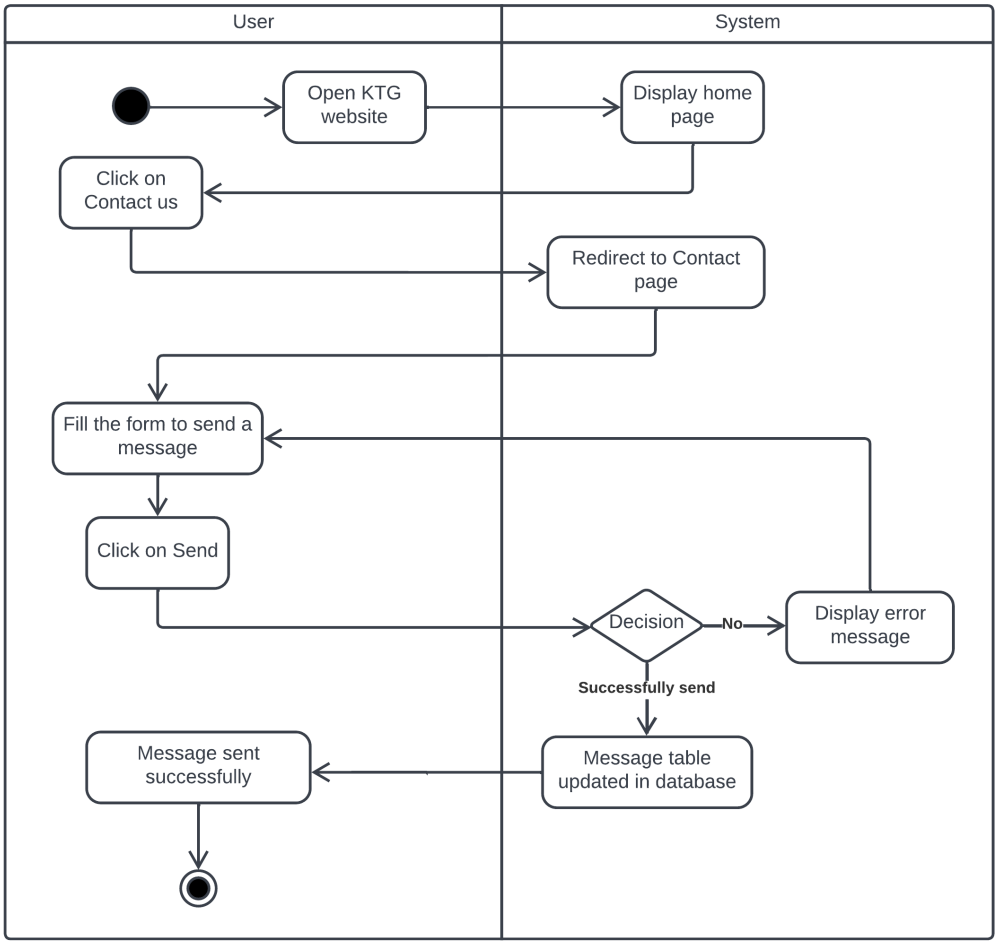

Figure 20 Activity Diagram of <Contact us>

3.1.1.6 UC06 Use Case <Feedback>

Table 6-6 Use Case Description for <Feedback>

Use case ID	UC06
Use case name	Feedback
Brief description	This use case allows users to post their feedbacks into KTG website.
Actors	1. Tourist
Pre-condition	1. Internet is connected to the device that run the system. 2. User must log into the website.
Normal flow	1. The use case starts when the user clicks on Feedbacks button. 2. System displays Feedback page. 3. User fill the feedback form. 4. User click send button. 5. The use case ends.
Alternative flow	1. Display successfully sent message.
Exception flow	1. System authentications fails.
Post condition	1. Successful Completion User successfully send the feedbacks. Display successfully sent message. 2. Failure Condition System displays error message.

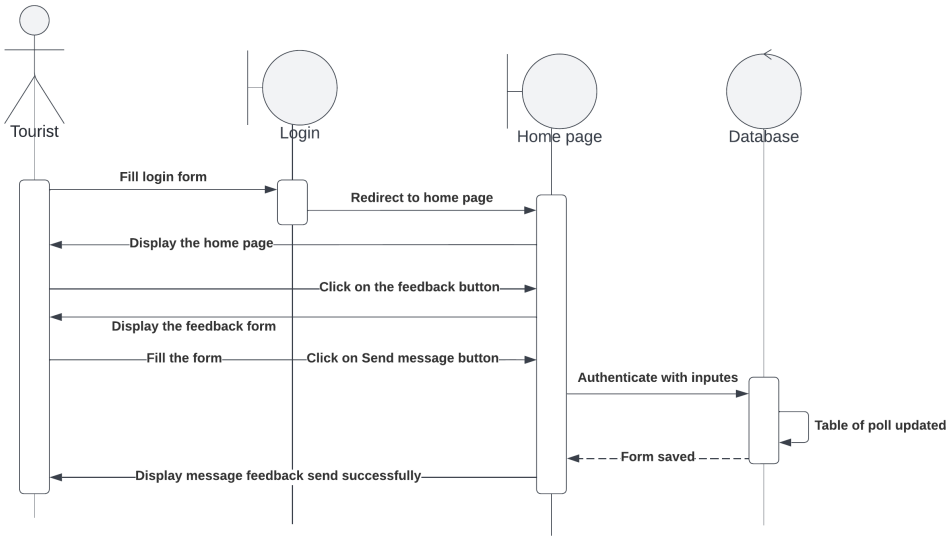

Figure 21 SD06: System Sequence Diagram of <Feedback>

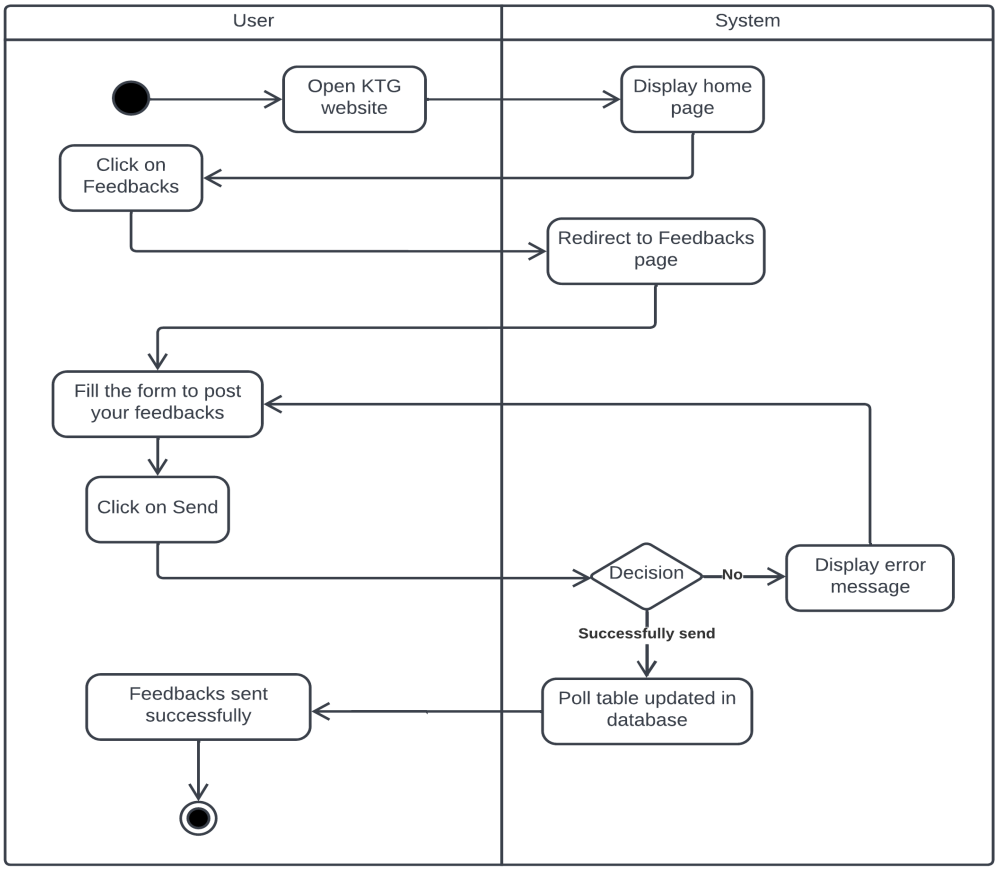

Figure 22 Activity Diagram of <Feedback>

3.1.2 Module <Admin>

Figure 16 shows the use case diagram for Admin module.

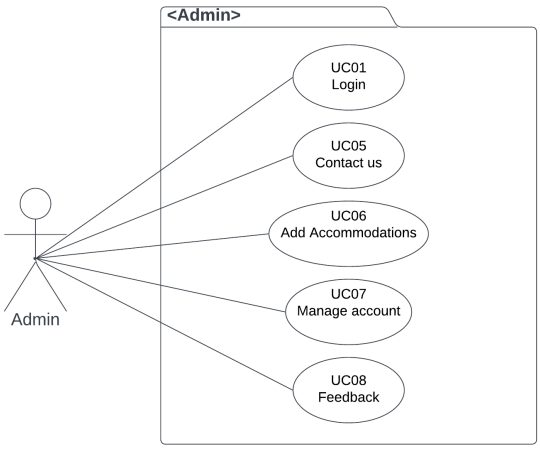

Figure 23 <Admin Module/Use case>

3.1.2.1 UC01: Use Case <Login>

Table 6-7 Use Case Description for <Login>

Use case ID	UC01
Use case name	Login
Brief description	This use case allows Admin to login by using his or her unique ID.
Actors	1.Admin
Pre-condition	1.Internet is connected to the device that run the system.
Normal flow	1. The use case starts when admin clicks on Login. 2. System displays login page containing login form. 3. Admin enters his or her unique ID into the form. 4. Admin Clicks on "Login" 5. System validates the user input. If the validation fails, Exception Flow 1 is performed. 6. System validates user type. if "Tourist", Alternate Flow 1 is performed. If "Admin", Alternate Flow 2 is performed. 7. The use case ends.
Alternative flow	1. Tourist, System redirects to Homepage 2. Admin, System redirects to admin panel
Exception flow	1. User authentication fails, System displays error message.
Post condition	1. Successful Completion User successfully login into the system. User redirect to pages based on the user type. 2. Failure Condition System displays error message.

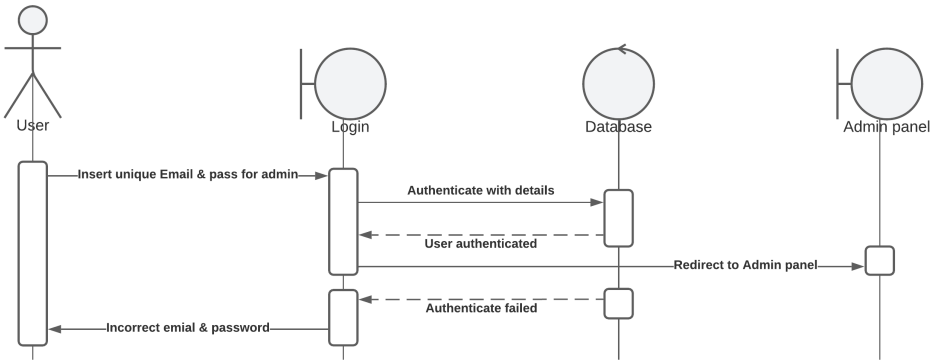

Figure 24 SD01 <Admin>: System Sequence Diagram of <Login>

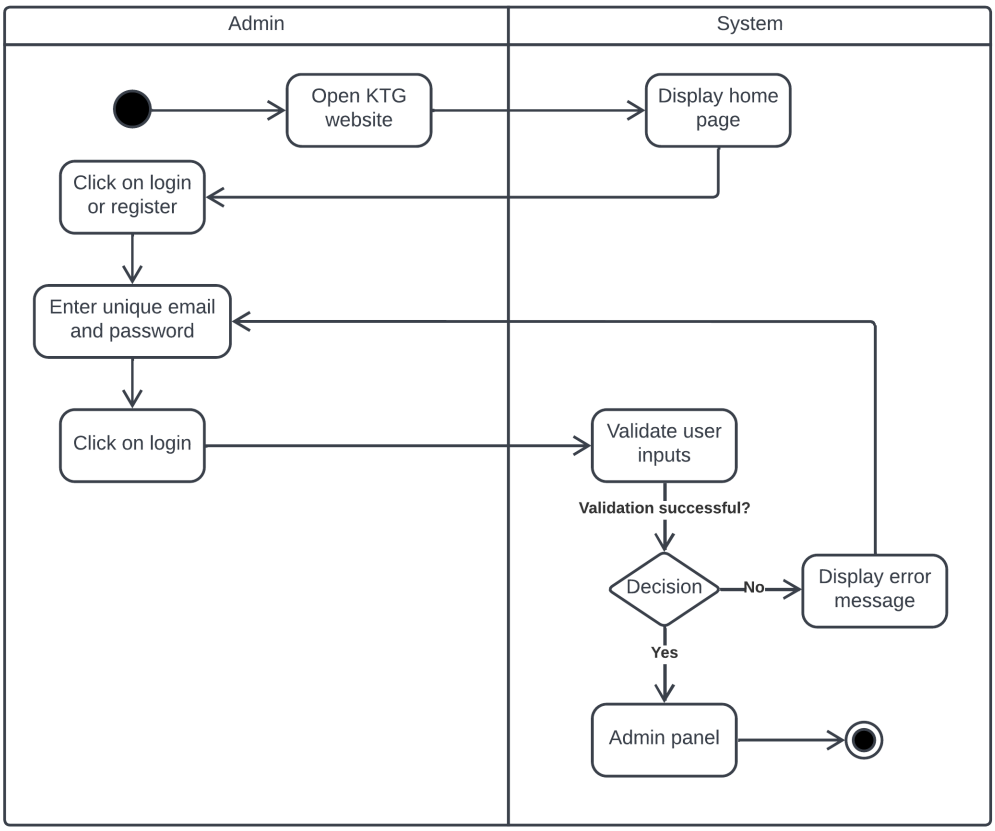

Figure 25 <Admin> Activity Diagram of <Login>

3.1.2.2 UC05: Use Case <Contact us>

Table 6-8 Use Case Description for <Contact us>

Use case ID	UC05
Use case name	Contact us
Brief description	This use case allows admin to see the messages that sent by tourists.
Actors	1. Admin
Pre-condition	1. Internet is connected to the device that run the system. 2. Admin must log into the admin panel.
Normal flow	1. The use case starts when admin clicks on messages button. 2. System displays messages list. 3. admin reads the messages. 4. admin click on delete button. 5. The use case ends.
Alternative flow	1. Display successfully message deleted.
Exception flow	1. System authentications fails.
Post condition	1. Successful Completion The message successfully deleted. 2. Failed Completion Display error message.

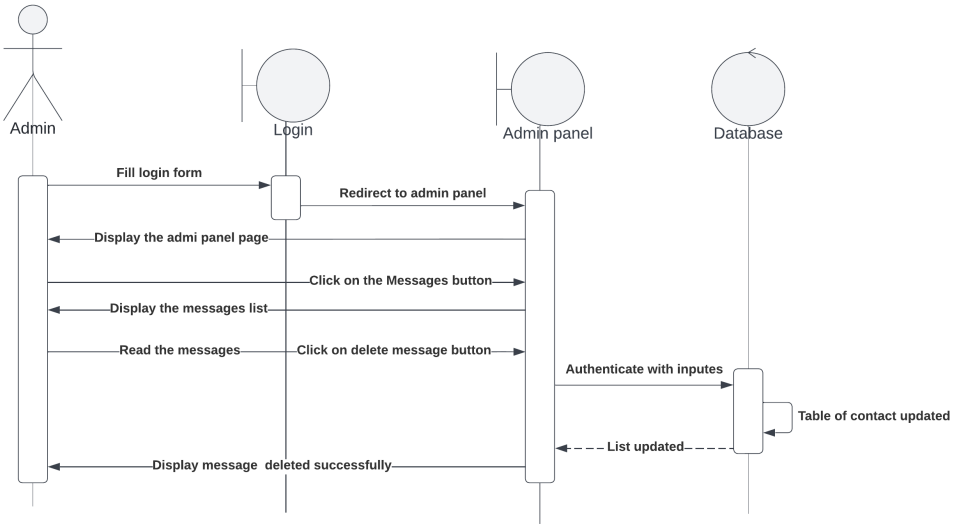

Figure 26 SD05 <Admin>: System Sequence Diagram of <Contact us>

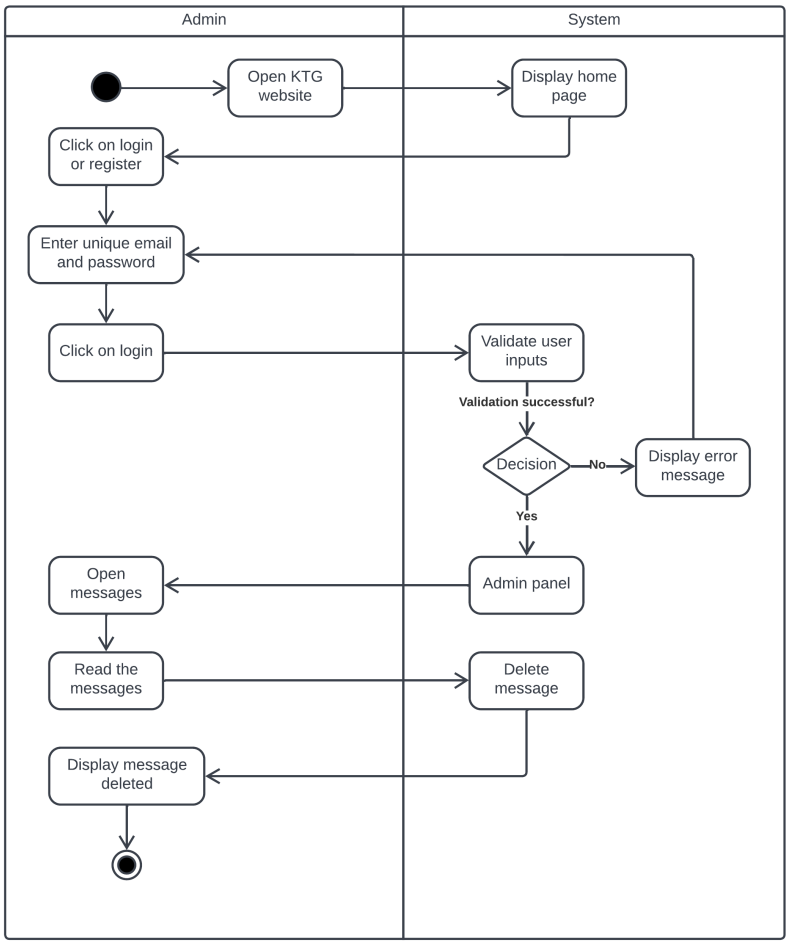

Figure 27 <Admin> Activity Diagram of <Contact us>

3.1.2.3 UC06: Use Case <Add accommodations>

Table 6-9 Use Case Description for < Add accommodations >

Use case ID	UC06
Use case name	Add accommodations
Brief description	This use case allows admin to add hotels into the KTG website.
Actors	1. Admin
Pre-condition	1. Internet is connected to the device that run the system. 2. Admin must log into the admin panel.
Normal flow	1. The use case starts when admin clicks on add hotels button. 2. System displays add hotel form. 3. admin enters the details of the hotel. 4. admin click on add button. 5. The use case ends.
Alternative flow	1. Display Hotel added successfully.
Exception flow	1. System authentications fails.
Post condition	1. Successful Completion The hotel added successfully.

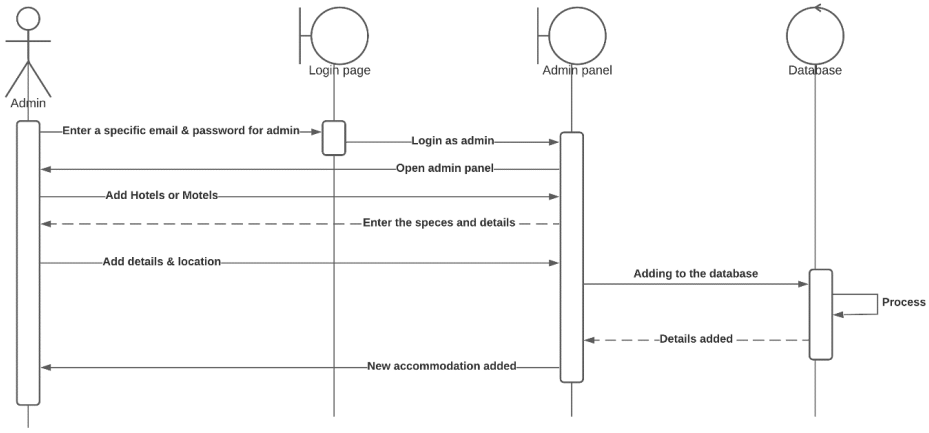

Figure 28 SD06 <Admin>: System Sequence Diagram of <Add accommodations>

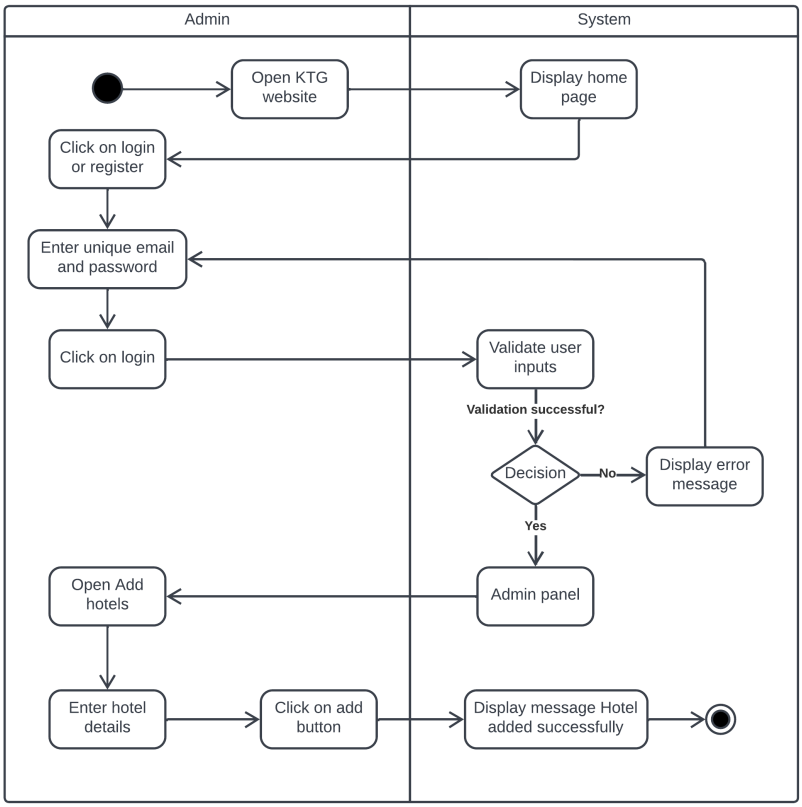

Figure 29 <Admin> Activity Diagram of <Add accommodations>

3.1.2.4 UC07: Use Case <Manage accounts>

Table 6-10 Use Case Description for <Manage accounts>

Use case ID	UC07
Use case name	Manage accounts
Brief description	This use case allows admin to manage the user accounts.
Actors	1. Admin
Pre-condition	1. Internet is connected to the device that run the system. 2. Admin must log into the admin panel.
Normal flow	1. The use case starts when admin clicks on manage accounts button. 2. System displays registered accounts list. 3. Admin click on add, update, delete button. 4. New user added or user deleted in the database. 5. The use case ends.
Alternative flow	1. Display user added successfully. 2. Display user deleted successfully. 3. Display user account updated successfully.
Exception flow	1. System authentications fails.
Post condition	1. Successful Completion The users table updated successfully. 2. Failed Completion Error message displayed.

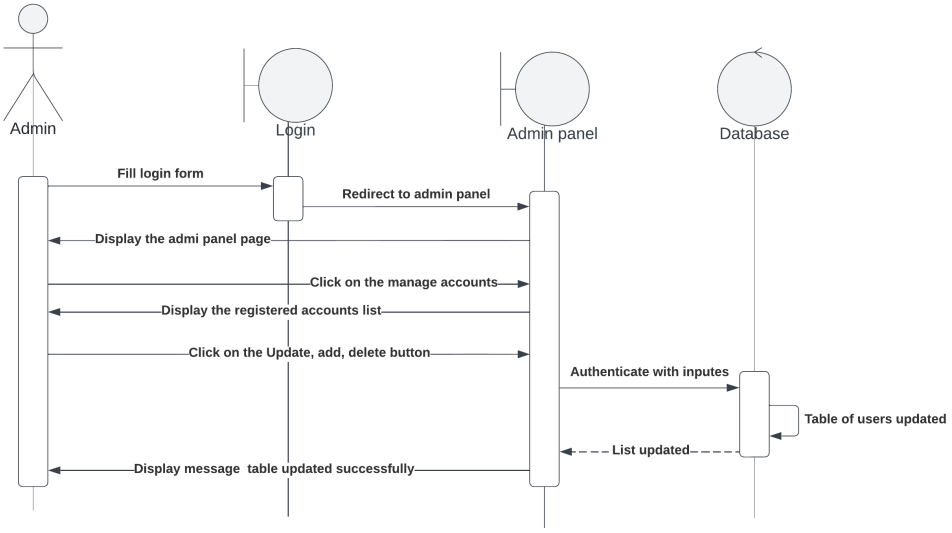

Figure 30 SD07 <Admin>: System Sequence Diagram of <Manage accounts>

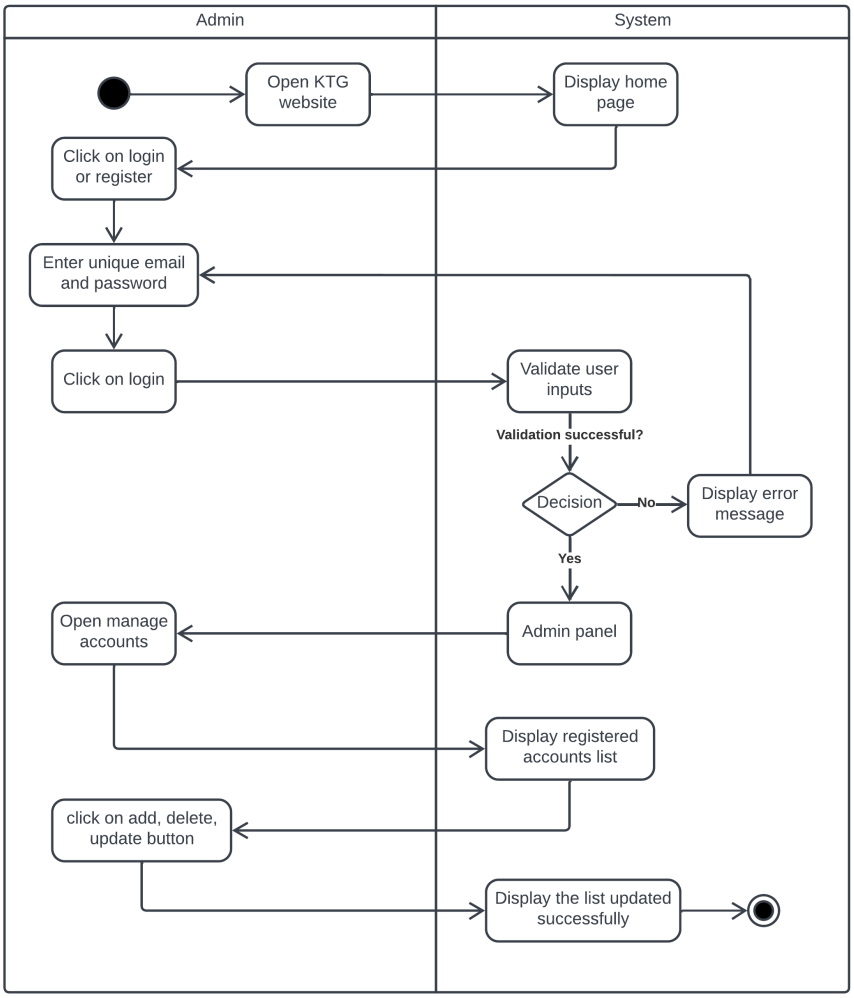

Figure 31 <Admin> Activity Diagram of <Manage accounts>

3.1.2.5 UC08: Use Case <Feedback>

Table 6-11 Use Case Description for <Feedback>

Use case ID	UC08
Use case name	Feedback
Brief description	This use case allows admin to see the feedback that sent by tourists.
Actors	1. Admin
Pre-condition	1. Internet is connected to the device that run the system. 2. Admin must log into the admin panel.
Normal flow	1. The use case starts when admin clicks on feedbacks button. 2. System displays feedbacks list. 3. admin reads the feedbacks. 4. admin click on delete button. 5. The use case ends.
Alternative flow	1. Display successfully feedback message deleted.
Exception flow	2. System authentications fails.
Post condition	1. Successful Completion The feedback message successfully deleted. 2. Failed Completion Display error message.

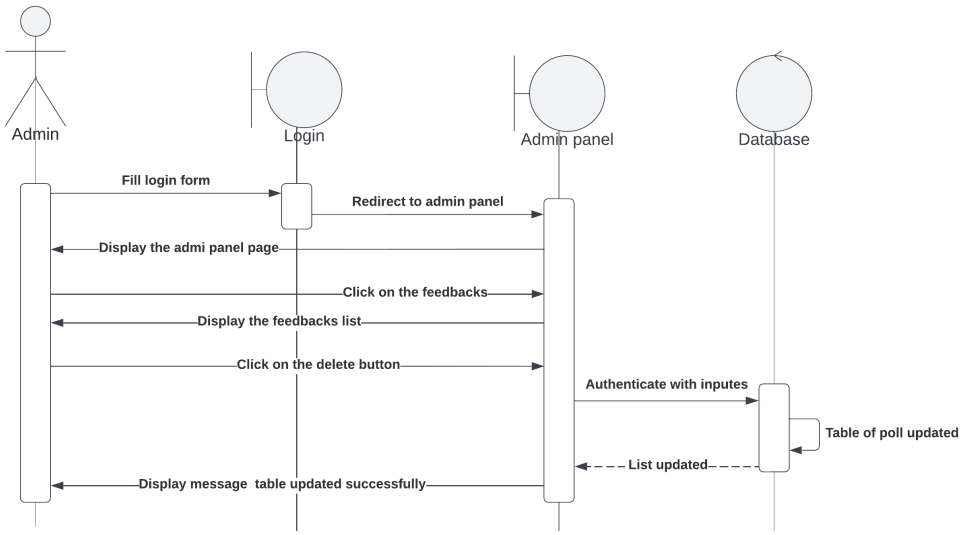

Figure 32 SD08 <Admin>: System Sequence Diagram of <Feedback>

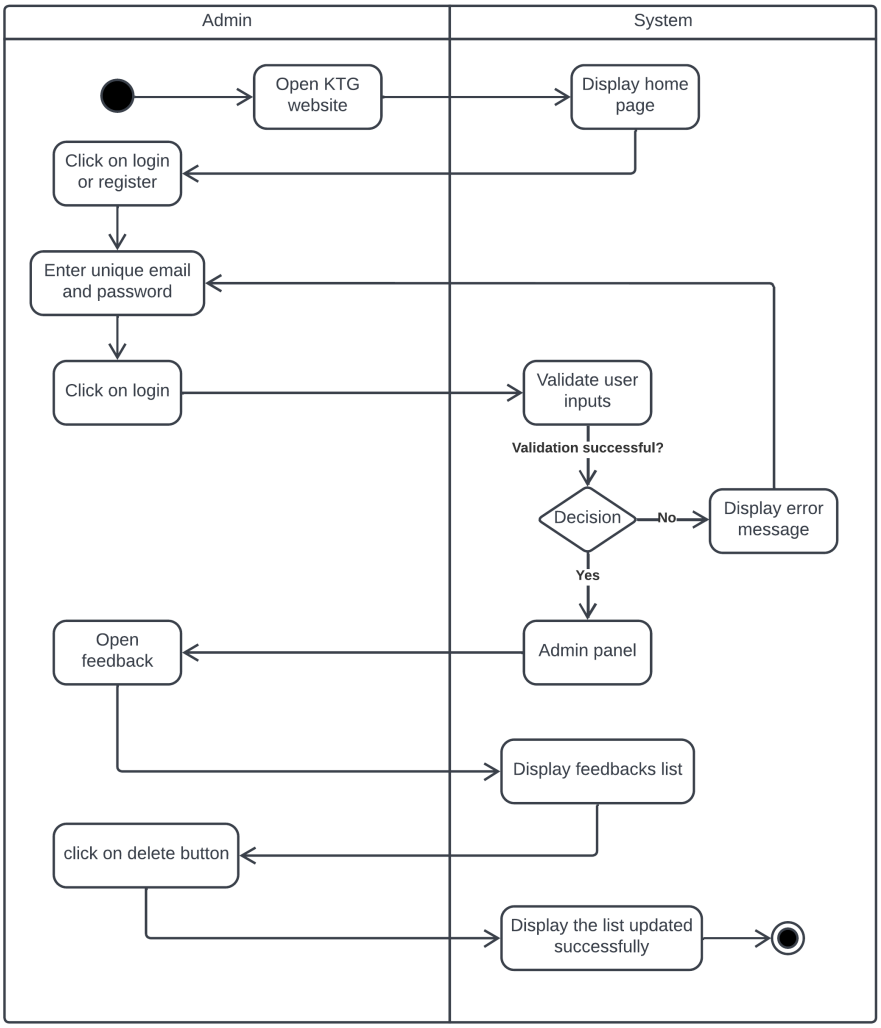

Figure 33 <Admin> Activity Diagram of <Feedback>

3.2 Performance Requirements

i. Usability:

Non-functional requirement 001 – Learnability:

Without any specific instruction, 95% of users should be able to utilize the system.

ii. Reliability

Non-functional requirement 002 – Data Synchronization:

Using a centralized database, the system must be able to synchronize user data between various devices.

iii. Maintainability

Non-functional requirement 003 – Maintenance:

At least twice every four months, the system must be upgraded and maintained.

iv. Security

Non-functional requirement 004 – Data Protection:

By utilizing a robust authentication approach offered by MySQL Authentication service, the system shall secure user data.

3.3 Design Constraints

i. Portability

The system shall be able to access by all operation systems browser.

Appendix D

Software Design Document - SDD

Software Design Document

KTG - CROSS PLATFORM TOURISM GUIDE FOR KURDISTAN

Version 1.0

June 26, 2022

School of Computing,

Faculty of Engineering

Revision Page

1. Overview

This is the first draft of SDD for KTG – Kurdistan Tourism guide.

2. Target Audience

The users (Tourists).

3. Project Team Members

Nza Bahaalddin Mohammed

4. Version Control History

Version	Primary Author(s)	Description of Version	Date Completed
Version 1.0	Nza Bahaalddin Mohammed	First Draft	**June 26, 2022**

Table of Contents

1. Introduction

This Software Design Document (SDD) describes KTG Website's system architecture design, database design and user interface design. All of the requirements stated in the System Requirement Specification (SRS) of KTG Application document will be the inputs of this SDD.

a. Purpose

The purpose of this SDD is shown as below:

i. To describe the system architectural design of KTG website.
ii. ii. To describe the database design of KTG website
iii. iii. To document and illustrate the user interface design of KTG website.

b. Scope

KTG stands for Kurdistan Tourism guide, it is a website that offers tourists to find the tourism places in Kurdistan. The targeted user of the website are tourists. The tourists have several functionalities in the website as well as the admin.
The system focuses on the tourist needs, like finding tourism places that they want to go, rate the place and giving their feedbacks of the place, finding the nearest hotels or motels of that place they want to go.

c. Definitions, Acronyms and Abbreviation

Term	Definition
KTG	Kurdistan Tourism guide
DBMS	Database Management system
SDD	Software Design Document
SRS	Software Requirements specification

NFR	Non-Functional requirements

d. References

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e. Overview

This document is divided into five sections, each section contains several subsections and the main sections are shown below:

i. Introduction This section describes an overview of the SDD.

ii. System Architectural Design This section explains the chosen system architecture for KTG Website.

iii. Database Design This section explains the design of the database for KTG Application. It contains data dictionary which explains all the data attributes that will be used in the system.

iv. Interface Design This section explains the chosen system architecture for KTG Website.

2. System Architecture Design

The chosen system architectural design that will be applied in the KTG website is explained in this section. The system architecture design pattern chosen has been the Model-View-Controller (MVC) architecture pattern, and the class diagram for this architecture design pattern will be illustrated in this part.

a. Model View Controller

Kurdistan tourism guide named KTG is developed by using the MVC (Model View Controller). One of the software architectural trends, the MVC, is commonly used to implement the system's displays or the user's interfaces. Below is the figure for the MVC for KTG:

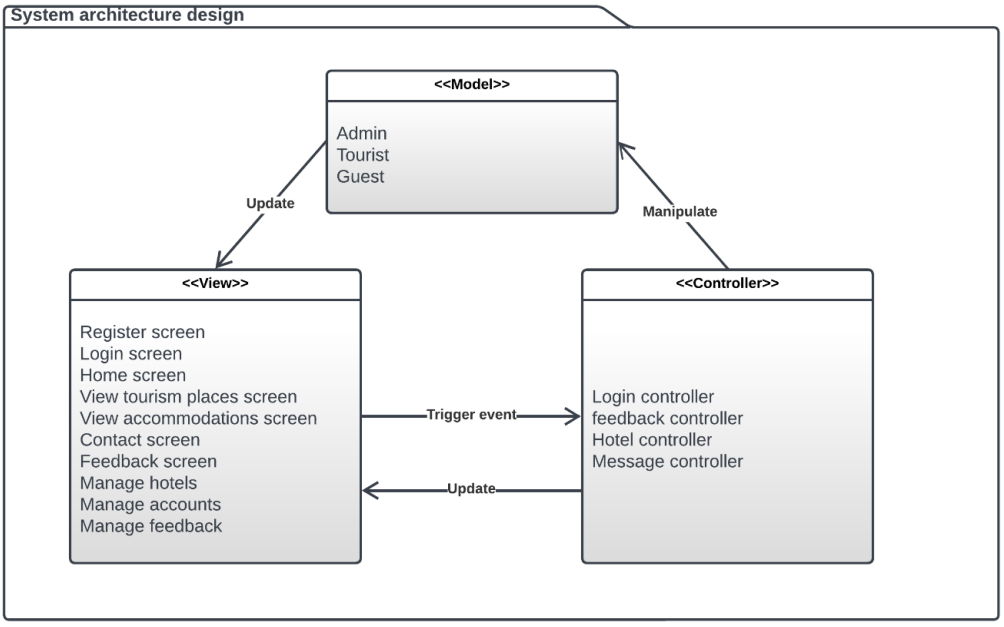


Figure 34 Model view controller of the system.

The model, view, and controller are the ways of decomposing a system into three components. The model consists of Admin, Tourist, Guest and is responsible for managing the flow of information in and out of the database. View is responsible for viewing interfaces like Login Screen, View Tourism places, View accommodations, feedback page and others. While the controller is triggered by the events of View

which leads to managing or controlling the system's data operation like Login Controller, Hotel Controller, feedback Controller and others. Both of the 3 sections communicate with each other and it is simple to distinguish each iteration.

3. Database design

Database design organizes all of the system database's data, which aids in the system's overall design, development, implementation, and maintenance. The database design used by the KTG website is depicted in Figure 2.

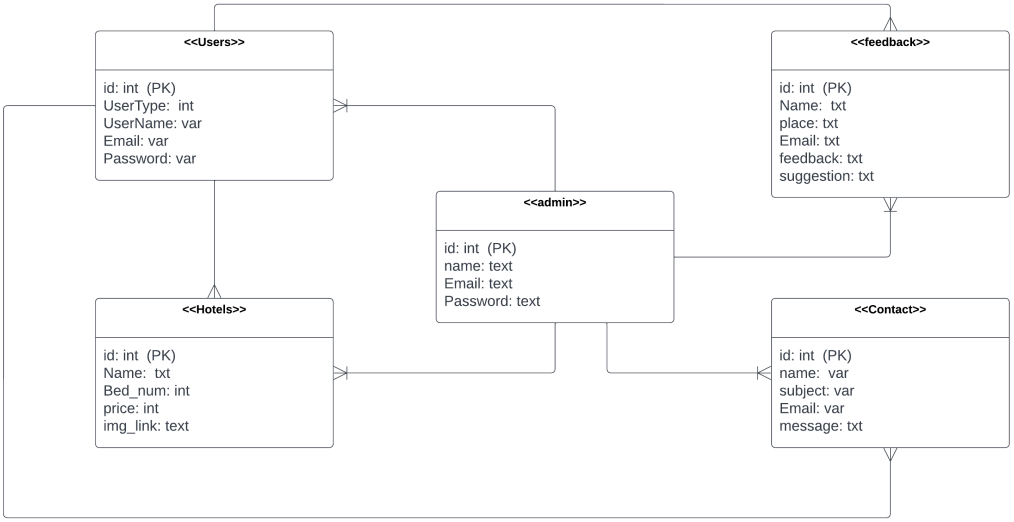


Figure 35 Data Model diagram of <KTG>

a. Data dictionary

This section explains all the data attributes that involved in KTG website which are stored in the database of the system.

b. Users

Table 6-12 Data dictionary for users table

Attribute	Data type	Description
id	Int	A unique ID that identifies each user.
User Name	Var	Name of the user
Email	Var	Email of the user
User type	Int	Type of user (Tourist or admin)
Password	Var	Password of the user

c. Hotels

Table 6-13 Data dictionary for hotels table

Attribute	Data type	Description
id	Int	A unique ID that identifies each hotel.
Name	Txt	Name of the hotel
Bed number	Int	Number of the beds
Price	Int	Price of bed
Image link	Text	Image link for preview

d. Contact

Table 6-14 Data dictionary for contact table

Attribute	Data type	Description
id	Int	A unique ID that identifies each message.
Name	Var	Name of the user
Subject	Var	Subject
Email	Var	Email of the user
Message	Text	Message for KTG staff

e. Feedback

Table 6-15 Data dictionary for Feedback table

Attribute	Data type	Description
id	Int	A unique ID that identifies each feedback.
Name	Text	Name of the user
Place	Text	Tourism place
Email	Text	Email of the user
Feedback	Text	Feedback for tourism place

Suggestion	Text	Suggestions for the place

f. Admin

Attribute	Data type	Description
id	Int	A unique ID that identifies each admin.
Name	Text	Name of the admin
Password	Text	Password of the admin
Email	Text	Email of the admin

4. User Interface Design

Interface design is a graphic user interface (GUI) where user can interact with the website. The interface design must be simple and user friendly to makes the user easy to understand to use the system. Below is the user interface for each function in this system application.

4.1 Home page:

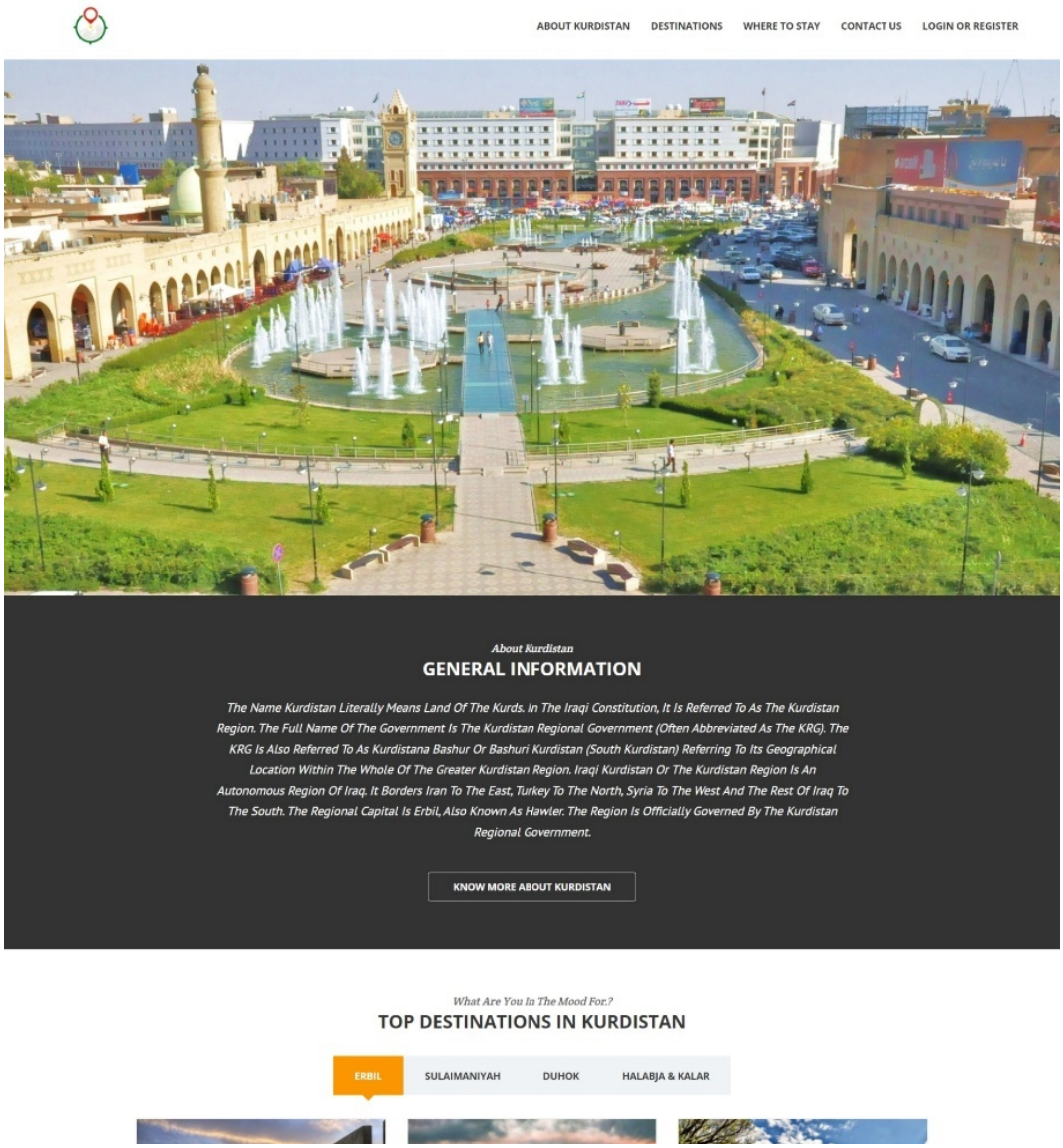


Figure 36 Home page

4.2 Login page

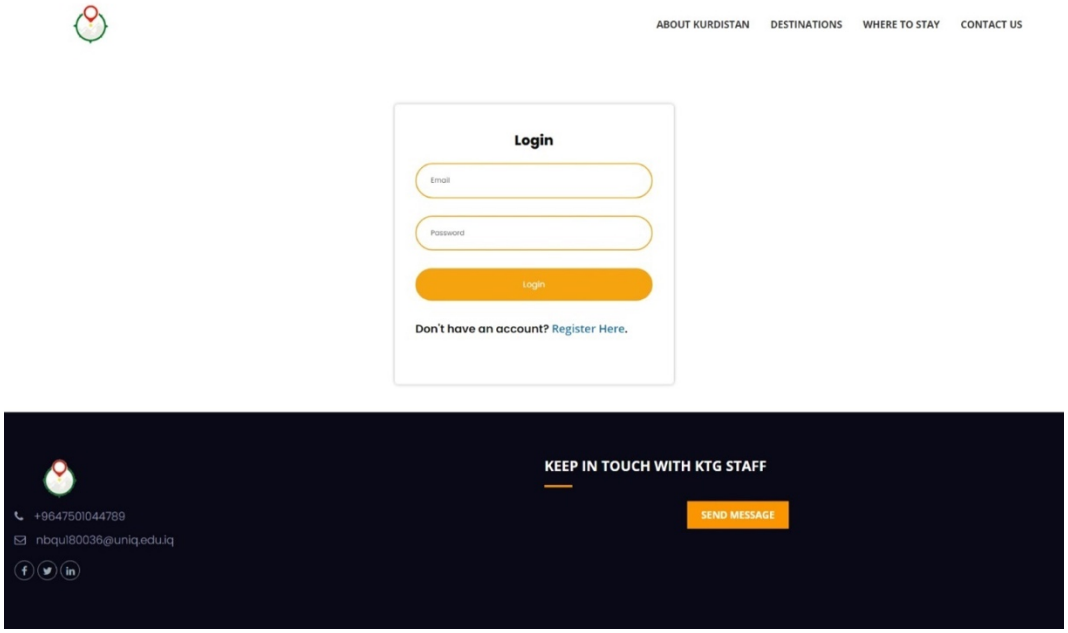


Figure 37 Login page

4.3 Register page

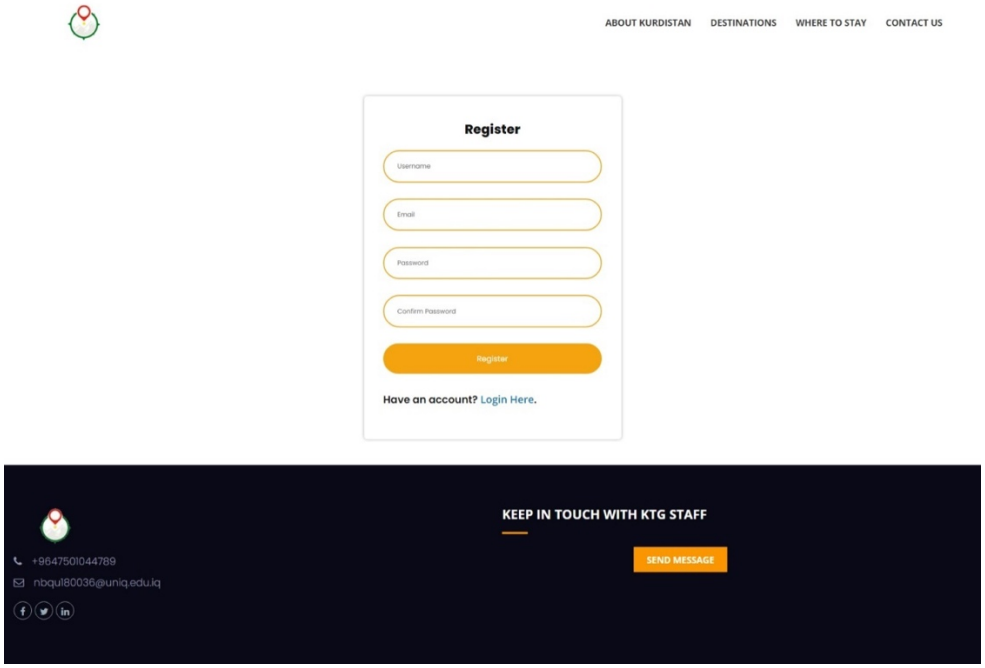


Figure 38 Register page

4.4 Destination page

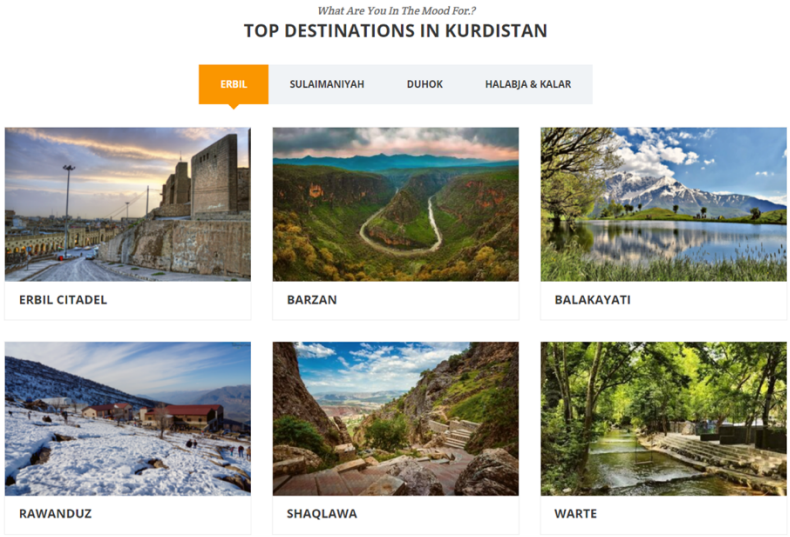


Figure 39 Destinations

4.5 View destination page

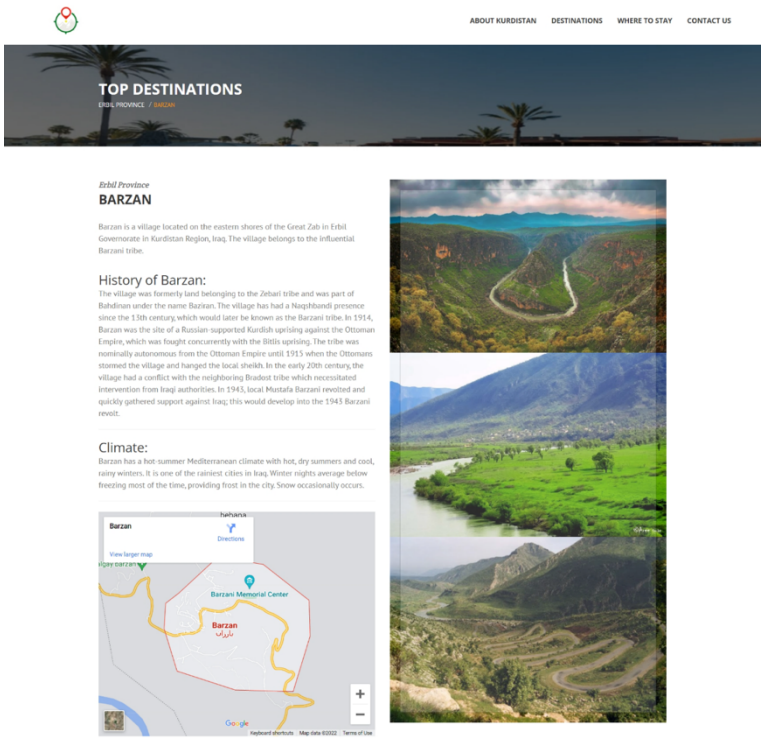


Figure 40 View destinations

4.6 Where to stay page

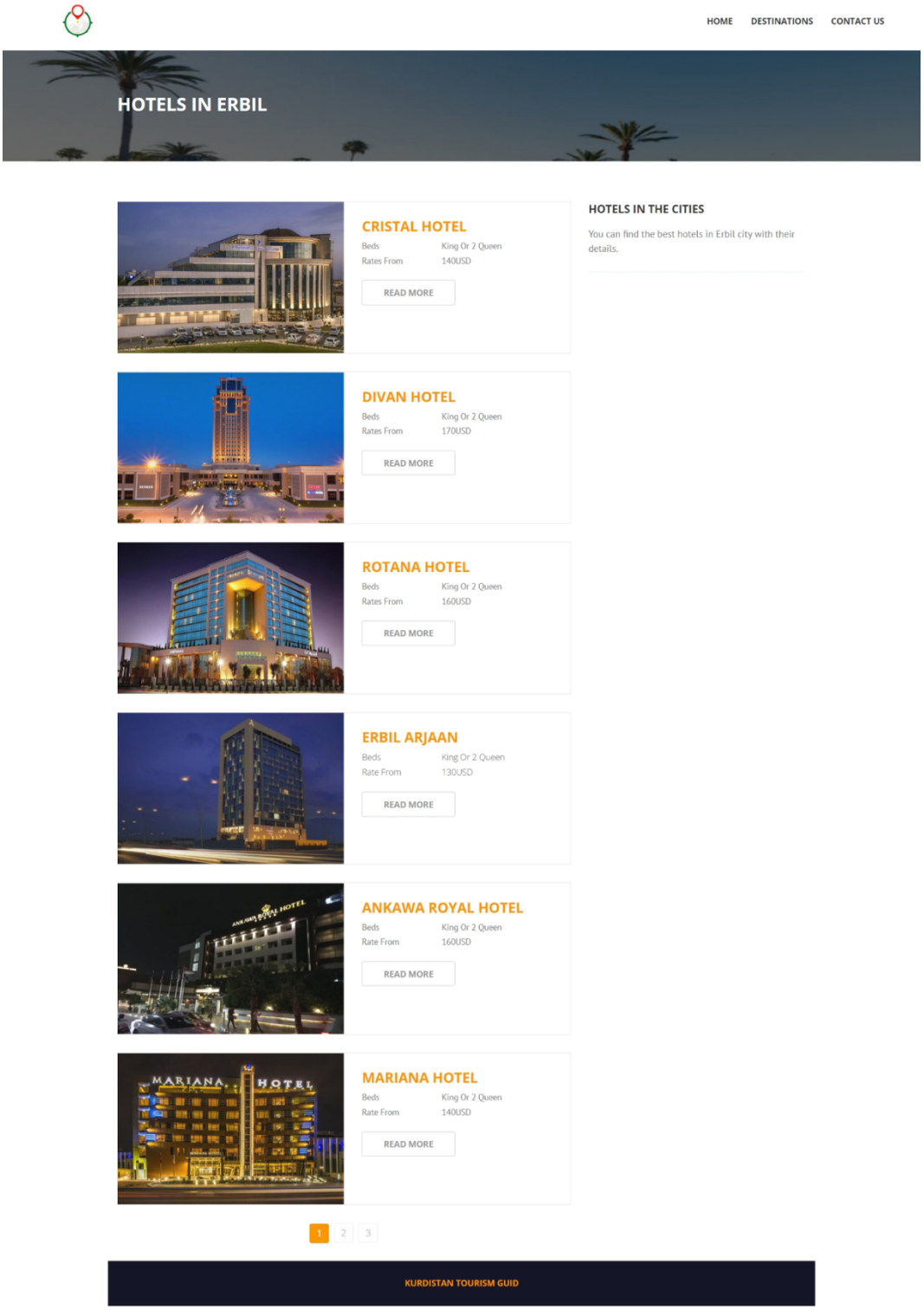


Figure 41 Where to stay <Erbil>

4.7 View accommodations page

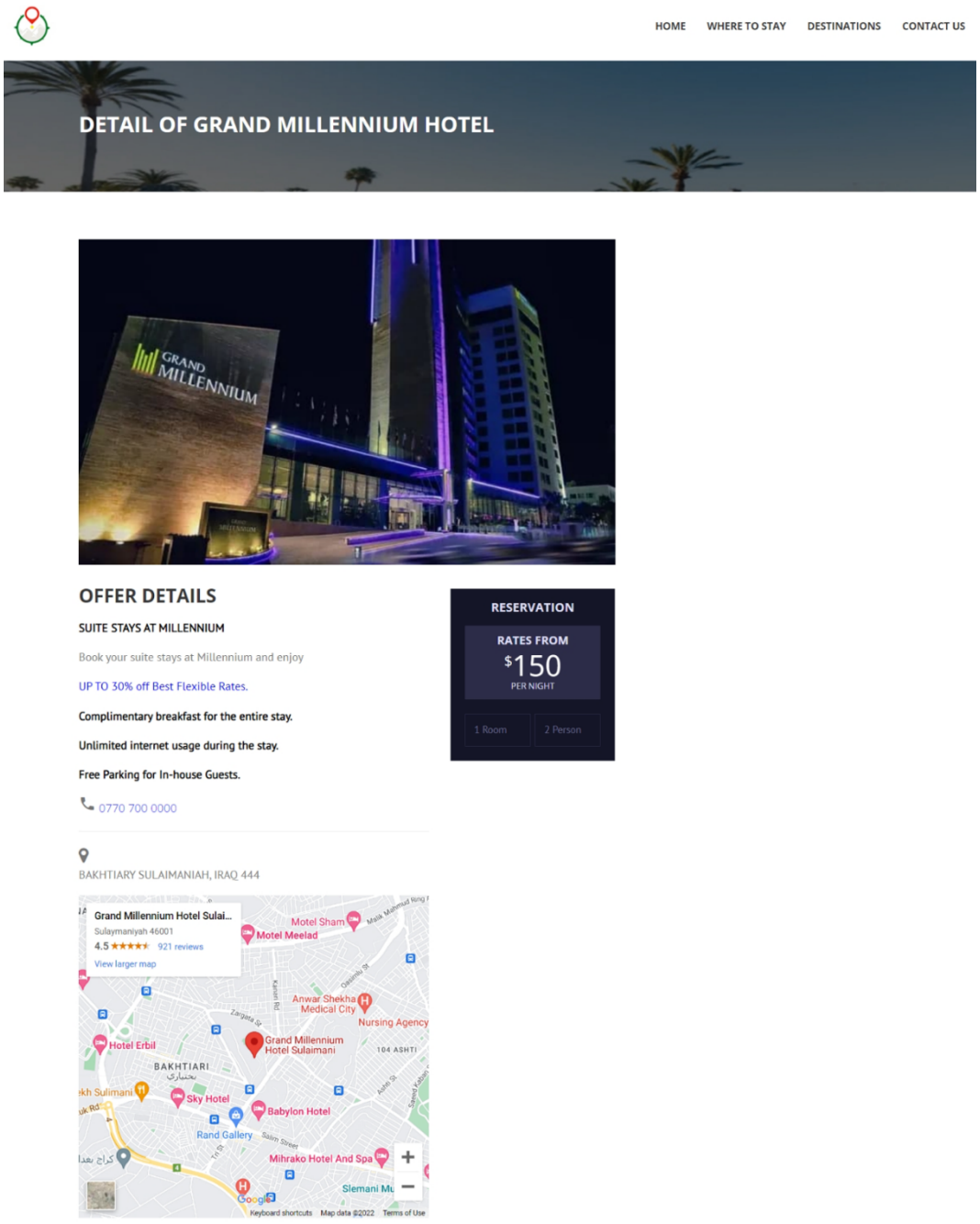


Figure 42 View accommodations

4.8 Blogs page

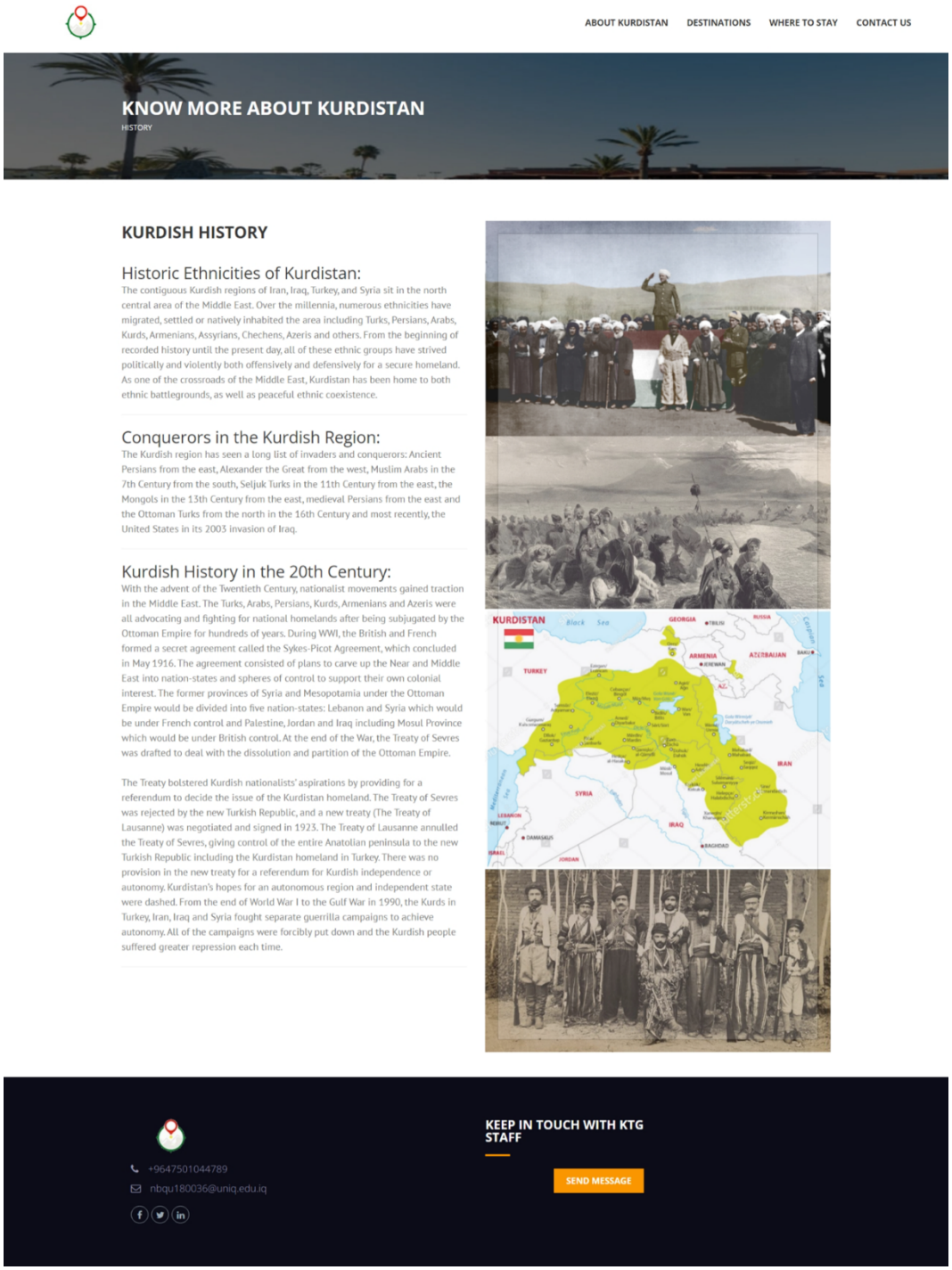


Figure 43 Blogs page

4.9 Contact us page

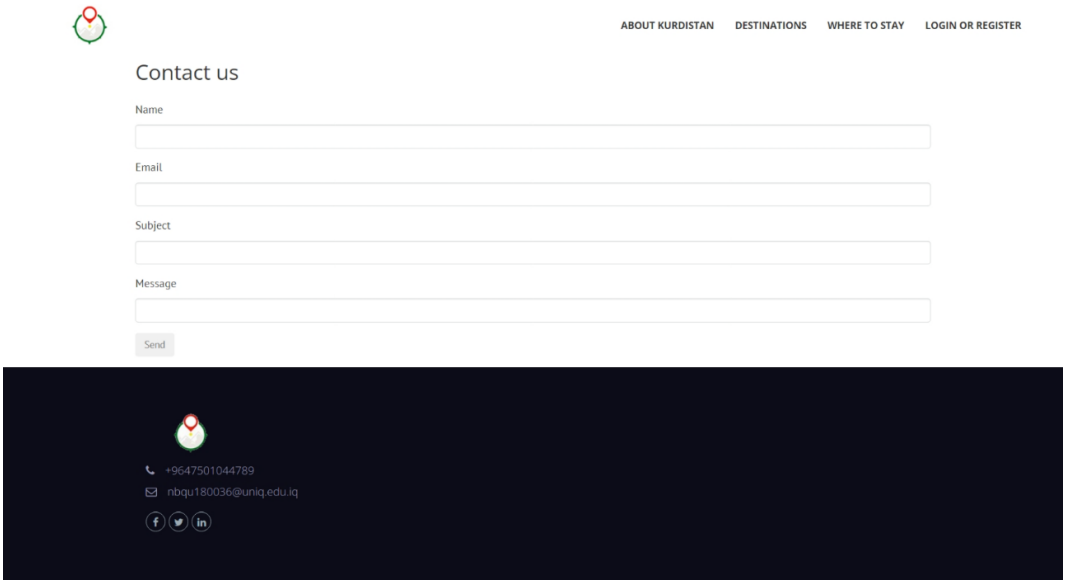


Figure 44 Contact us

4.10 Feedback page

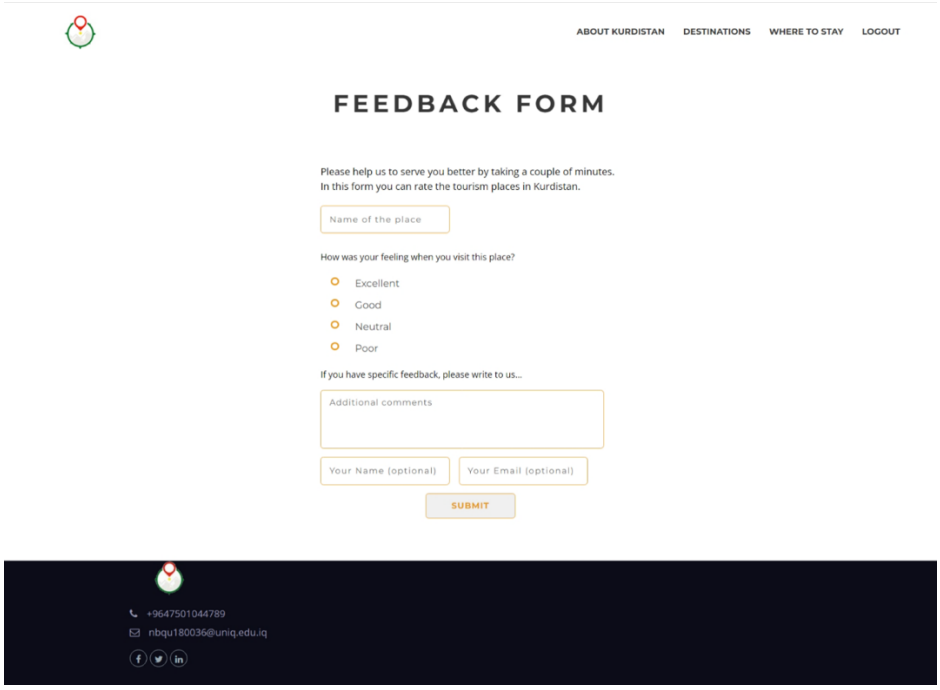


Figure 45 Feedback

4.11 Add hotels page

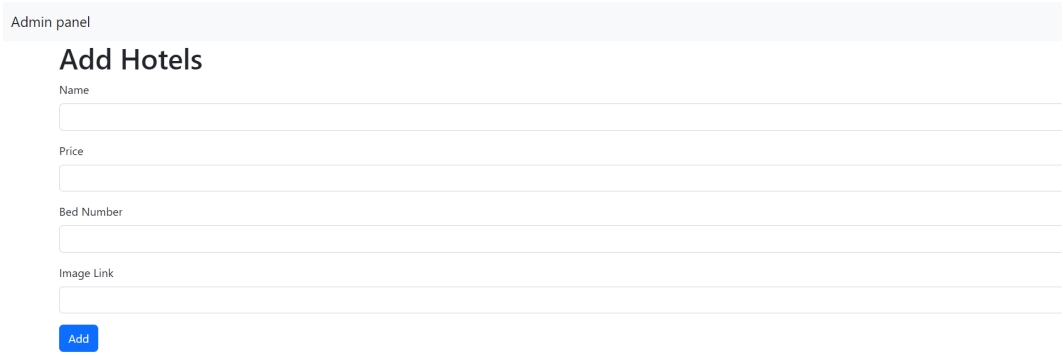
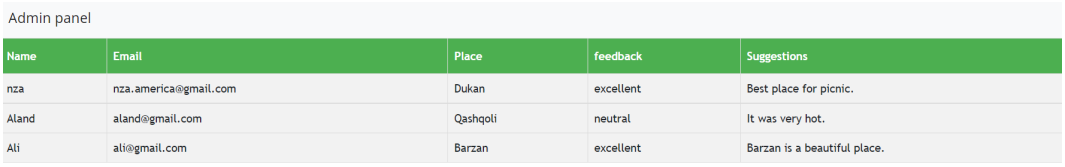


Figure 46 Add hotels

4.12 View feedbacks page


Admin panel

Name	Email	Place	feedback	Suggestions
nza	nza.america@gmail.com	Dukan	excellent	Best place for picnic.
Aland	aland@gmail.com	Qashqoli	neutral	It was very hot.
Ali	ali@gmail.com	Barzan	excellent	Barzan is a beautiful place.

Figure 47 View feedbacks page

4.13 View Messages page


Admin panel

Name	Email	Subject	Message
nza	nza.america@gmail.com	greeting	hi
Aland	aland@gmail.com	greeting	Hello
Nza	nza@gmail.com	Nothing	just want to say hello

Figure 48 View Messages page

4.14 Manage accounts page

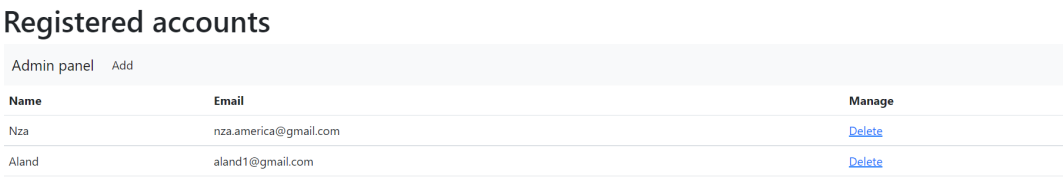


Figure 49 Manage accounts page page

4.15 Add user page

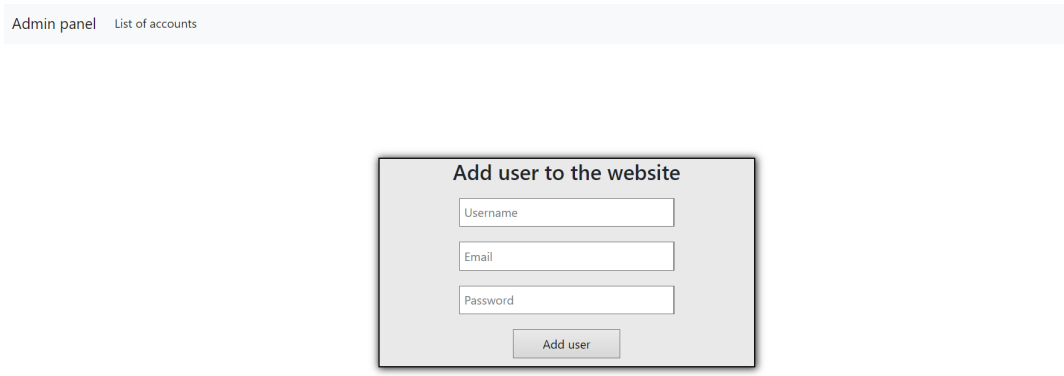


Figure 50 Add user page

Appendix E

Software Testing Document - STD

Software Testing Document

KTG - CROSS PLATFORM TOURISM GUIDE FOR KURDISTAN

Version 1.0

June 26, 2022

School of Computing,

Faculty of Engineering

Revision Page

1. Overview

This is the first draft of STD for KTG – Kurdistan Tourism guide.

2. Target Audience

The users (Tourists).

3. Project Team Members

Nza Bahaalddin Mohammed

4. Version Control History

Version	Primary Author(s)	Description of Version	Date Completed
Version 1.0	Nza Bahaalddin Mohammed	First Draft	**June 26, 2022**

Table of Contents

1. Introduction

This Software Testing Document describes all of the testing activities that have been carried out for the KTG Website. This document provides software testers with a comprehensive documentation structure for recording their testing process. This allows for proper testing process management and provides a clear reference in the future. Black Box Testing and User Acceptance Testing are two testing techniques that have been used on this project.

2. Black box testing

Black box testing is a kind of software testing that looks just at the software's functioning without looking at its code or internal structure. A customer-stated requirement specification serves as the main source for black box testing. In this approach, the tester chooses a function, provides an input value to test its operation, and determines whether or not the function produces the desired results. The function passes the test if the output is accurate; else, it fails. The Black box testing of the KTG website has been successful. Table 5.1 displays the test case for Login function.

a. Login

Table 6-16 Black Box testing for Login functionality

T.C ID	**TC01-1**	**TC01-2**	**TC01-3**	**TC01-4**	**TC01-5**	**TC01-6**
Email	-	nza	nza@gmail.com	nza@gmail.com	nza@gmail.com	nza1@gmail.com
Password	-	12345678	-	123	12345678	12345678
User type	Tourist	Tourist	Tourist	Tourist	Tourist	Admin
Expected result	**Actual result**					
Error message on invalid email address	✓	✓				
Error message on empty password	✓		✓			
Error message on wrong email or password				✓		
Redirect (Tourist) to the home page					✓	
Redirect (Admin) to admin panel						✓
Test Results	Pass	Pass	Pass	Pass	Pass	Pass

b. Register

Table 6-17 Black Box testing for Register functionality

T.C ID	TC02-1	TC02-2	TC02-3	TC02-4	TC02-5	TC02-6
Email	-	nza	nza@gmail.com	nza@gmail.com	nza@gmail.com	nza@gmail.com
Password	-	12345678	-	123	12345678	12345678
Name	Nza	Nza	Nza	Nza	Nza	@
Confirm password	12345678	12345678	12345678	12345678	12345678	12345678
Expected result	**Actual result**					
Error message on invalid email address	✓	✓				
Error message on empty password	✓		✓			
Error message on wrong email or password				✓		✓
Error message on not confirming two passwords				✓		
Redirect (Tourist) to the home page					✓	
Test Results	Pass	Pass	Pass	Pass	Pass	Pass

c. Add hotels

Table 6-18 Black Box testing for Add hotels functionality

T.C ID	TC03-1	TC03-2	TC03-3	TC03-4	TC03-5	TC03-6
Name	-	Divan	@	Divan	Divan	Divan
Price	-	80$	80	80	80	80
Bed number	2	2	two	2	2	2
Image link	Image address	Image address	Image address	Copy image	Image address	Image address
Expected result	**Actual result**					
Error message on invalid name			✓			
Error message on empty value	✓					
Error message on invalid bed number			✓			
Error message on invalid image address				✓		
Error message on invalid price		✓				
Redirect (admin) to add hotels page					✓	✓
Test Results	Pass	Pass	Pass	Pass	Pass	Pass

d. Contact

Table 6-19 Black Box testing for Contact functionality

T.C ID	TC04-1	TC04-2	TC04-3	TC04-4	TC04-5
Name	-	Nza	@	Nza	Nza
Subject	greeting	1$@&%	greeting	greeting	greeting

Email	nza@gmail.com	nza@gmail.com	nznznznz	nza@gmail.com	2
Message	Hi	Hi	Hi	-	Hi
Expected result	**Actual result**				
Error message on invalid name			✓		
Error message on empty value	✓			✓	
Error message on invalid subject		✓			
Error message on invalid email			✓		
Redirect (Tourist) to contact page					✓
Test Results	Pass	Pass	Pass	Pass	Pass

e. Feedback

T.C ID	**TC05-1**	**TC05-2**	**TC05-3**	**TC05-4**	**TC05-5**
Name	-	Nza	@	Nza	Nza
Place	Dukan	1$@&%	Dukan	Dukan	Dukan
Email	nza@gmail.com	nza@gmail.com	nza@gmail.com	nznznznz	nza@gmail.com
Feedback	Beautiful place	Beautiful place	Beautiful place	Beautiful place	Beautiful place
Expected result	**Actual result**				
Error message on invalid name			✓		
Error message on empty value	✓				
Error message on invalid email				✓	
Redirect (Tourist) to Feedback page					✓
Test Results	Pass	Pass	Pass	Pass	Pass

3. User acceptance testing

Before deploying the software program to a production environment, the end user or client does a sort of testing known as user acceptance testing, or UAT. After functional, integration, and system testing are complete, UAT is carried out as the last stage of testing.

The UAT of KTG website involved four participants, the users tested the system functionalities and the result was successful. Results from User Acceptance Testing, Table 5.2 shows the results obtained from the User Acceptance Testing:

Table 6-20 User acceptance testing for tourist

No	*Action*	*Expected result*	*Pass /Fail*
1	Fill in Email and password for login.	Display user input in the data field.	Pass
2	Click on Login button.	Navigate to user page if the inputs are correct Navigate to admin page if the admin enters his or her unique email and passwords. Error message is displayed if user enters invalid inputs	Pass
3	Click on register	Display the registration complete message when the inputs are filled correctly Display an error message when the user enters and email that already exist. Display an error message when the password and confirm password are not same.	Pass
3	Click on Destination button.	Display the tourism places in Kurdistan	Pass
4	Click on a tourism place.	Display the details of that place	Pass
5	Click on Contact us page	Display the contact us form.	Pass
6	Click on feedbacks button	Display the feedback form	Pass
7	Click on Where to stay button.	Display the hotels base on the which city you want to go.	Pass

Table 6-21 User acceptance testing for admin

No	*Action*	*Expected result*	*Pass /Fail*
1	Fill in Email and password for login.	Display user input in the data field.	Pass
2	Click on Login button.	Navigate to admin page if the admin enters his or her unique email and passwords. Error message is displayed if user enters invalid inputs	Pass
3	Click on add hotels	Display Add hotels form	Pass
4	Click on Messages	Display Messages list	Pass
5	Click on Manage accounts	Display registered accounts list	Pass
6	Click on feedbacks	Display feedback list	Pass
7	Click Logout	Redirects to Home page	Pass