Kingdom of Saudi Arabia
King Khalid University
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ALMA'A
Guide System
(AGS)

(Graduation Project Report)
Bachelors in information systems

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This document is submitted to King Khalid University in fulfillment the requirements for the bachelor's degree in Information System

Academic Year 2022-2023 (Semester 2)

COMMITTEE REPORT

We ensure that we have perused this graduation venture report as looking at the advisory group, analysed the understudy in its substance, and that as we would like to think it is suffi cient as an undertaking archive for B.Sc. in Information System.

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DECLARATION

The substance of this report is unique to the best of information and have not been replicated. Any place essential substance has been taken from different sources, they have been referred to. There is no irreconcilable circumstance with any individual or association.

ACKNOWLEDGEMENT

All praise is due to Allah, Lord of the worlds, The Entirely Merciful, the Especially Merciful, who always guides us through all our life and who gave us the capability and opportunity to do this work.We cannot find words to express our gratitude to our supervisor Dr. Munya Abdulmajid Without her assistance and dedicated involvement in every step throughout the process, this research would have never been accomplished. We appreciate every moment, every golden piece of knowledge she gave us from her experience.We owe sincere thanks to the Information System Department for allowing us to go through this experience and for their assistance and cooperation.Moreover, we would like to extend our appreciation to the many people, who have both directly and indirectly contributed in this research journey and made this work possible.We would like to thank our friends for accepting nothing less than excellence from us. Last but not the least, we would like to thank our families for their spiritual support throughout writing this thesis and our lives in general. May Allah bless them all.

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ABSTRACT

This project is aimed at developing a Tourism website of Rijal Alma'a. A website that can be accessed from all over the world. This system can be used to guides the tourists through tour guides and the accurate information that shown in the system, The system aims to save time and effort for the tourist, as it guides to the most important heritage and tourist areas famous in the region.

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1. Chapter 1: INTRODUCTION

1.1. Introduction

Tourism is a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes. These people are called visitors (which may be either tourists or excursionists; residents or non-residents) and tourism has to do with their activities, some of which imply tourism expenditure (United Nations World Tourism Organization, 2008).

Using this definition, we can see that tourism is not just the movement of people for a number of purposes (whether business or pleasure), but the overall agglomeration of activities, services, and involved sectors that make up the unique tourist experience.

Types of tourism:

• Adventure tourism: learning about oddities and observing the population and its customs, such as climbing mountains such as the Atlas Mountains, surfing, or skiing in the desert sands, and others.

• Recreational tourism: It is travel to tourist destinations for the purpose of entertainment or recreation and recreation.

• Religious tourism: travel with the aim of visiting holy places such as Mecca, Medina, the Vatican and Al-Quds Al-Sharif.

• Cultural tourism: The aim is to visit cultural places and sites, museums, monuments and historical monuments, in addition to discovering the customs and traditions of other peoples.

• Beach tourism: This tourism is spread in countries that overlook the sea and contain attractive coastal areas, and we find this type of beach tourism in many
countries of the world, such as the countries of the Mediterranean basin, the Caribbean and the southern Arabian Gulf, such as Oman and the Red Sea countries, in addition to visitors to the sea Dead in Palestine, Jordan and some of the famous islands such as the Maldives.

1.2. Objectives

1- Providing services to tourists.

2- Promote the area to attract tourists.

3- Increasing the economy and products of the region.

4- Helping the tourist to know the appropriate seasons for tourism.

5- Maintaining the safety of the tourist from dangerous areas.

6- Saving time for tourists

7- introducing the traditional food and costumes in the area.

1.3. Project Scope

The project focuses on tourism in Rijal Almaa in particular. In order for the tourists to begin their journey by discovering the most important heritage places in the area, and they can see the heritage houses, which are famous for their construction of solid stone and mud, which called forts, the valleys known by fresh air that are interspersed with streams of water from the slopes of the mountains to the deepest valleys, and also adventure in its difficult mountains. The tourist will taste the most famous and delicious traditional foods that this region is famous for. We also focus on helping the tourists to find places to live and health centers near their residence and help them to know the most famous restaurants and cafes in the region and also to get a tour guide to take them on interesting tours in the region.

1.4. Problem definition

The tourist and the residents of the area were affected by the disruption of traffic and the permanent congestion due to the lack of knowledge of some roads by the tourist, and this is the reason for wasting time and causing traffic accidents, and because of these problems, we created a website to guide tourists

Some of the common problems:

1- Wasting the time of the tourist and not knowing the tourist places.

2- Attacks by tourists on private property.

3- Lack delivery apps

4- Lack of sufficient awareness of dangerous roads and valleys in the area.

1.5. Proposed system with objectives:

This website aims to preserve the safety of the tourist by guiding and introducing them to the dangerous areas, as well as providing all the required services that the tourist needs and providing the possibilities of obtaining places to stay and picnic.
The main purpose of the project is to design and implement a website that shows all the information of the area (housing, hospitals, restaurants, natural hiking areas, and events)

1.6. Proposed system:

To be a guide for the tourists and the residents of the area that saves time and effort to get tourist places, restaurants, hotels and hospitals in the Rijal Almaa area and try to help the tourists and meet their desires, show the area and its services in the best way.

This system has three users:

- Tourist:

1- Find places to visit and recreation.

2- View the services in the area.

3- Searching for a specific place.

- Tour guide:

1- Take the tourist on interesting tours around the area.

2- An explanation for the tourists about the region and its culture.

- Administrator:

1- Develop the system to attract more visitors to the system.

2- Make periodic changes to suit the content of the system.

3- Interact with any complaint that appear in the evaluation about the tour guide after the end of the tour

1.7. Challenges:

1- An increase in the number of tourists

2- Increase the economy of the region

3- Reduction in catastrophic accidents that cause death

4- Increasing the awareness of tourists

1.8. Advantages:

1- Quality and efficiency of tourist services

2- Easy access to services.

2. Chapter 2: OVEREVIEW

2.1. INTRODUCTION

Tourism has become a very important matter for many people, and reliable and timely information is a very important resource for the tourist.

At the present time, Rijal Almaa has become an international tourist destination, with the increase in the level of tourists to it in recent years, as the tourist needs information and services about the region in a more flexible way. In this system, the tourist can obtain services and get acquainted with the area by communicating with the tour guides or the information entered in this system. This system provides service anytime and anywhere.

2.2. What is Almaa Guide System?

Almaa guide system is the organization of people, tourist and residential places to provide tourism services and meet the needs of the tourist.

2.3. The objectives of the tourism project in Rijal Almaa:

- Promote the area to attract more tourists
- Increasing the economy of local products

2.4. Provides a plan to tourists?

There are many tourist guides to get to know the most important places. Presenting an integrated program to attract tourists with illustrated pictures and drawing up a well-thought-out plan to enable the tourist to practice tourism, to learn more about the archaeological monuments in the province, and to enjoy the natural landscapes.

Creating accounts in social media programs to clarify to the new tourist or resident about the governorate.

2.5. The basics of system success:

It is important for every project to focus on the project goal and the validity of the data and information recorded in the system to avoid problems. Unfortunately, in some systems, the desired data is not always collected, and is presented incompletely and incorrectly, which makes the search process difficult for the tourist or provides them with incorrect data, so he goes to a place he does not want.

2.6. Here some of the basics for the success of tourism system:

2.6.1. Write correct information and data:

Information is a set of data that has been studied and processed in order to be .able to clarify certain results about a topic.

In some systems, we may find incorrect or outdated information that does not benefit the tourists on their trip. The information must be written correctly and accurately so that the tourist can benefit from the system, so that the features of the region are specifically mentioned and not the neighboring govern-orates, as they have been confused with many neighboring govern-orates, for example, hotels in the area must be specifically mentioned and not hotels located in places adjacent to the area.

2.6.2. Choosing a tour guide:

A tour guide is the person who escorts tourists, visitors and foreign delegations to cities, regions, landmarks, facilities, and tourist, historical and archaeological sites, .and provides them with the necessary information about them tour guides Obstacles:

• Some lack of mastery of the English language, given its importance in communicating with tourists.

• Family and career ties are among the obstacles that constitute a burden on the tour guide.

• To improve the selection of a good tour guide, they must have personal and social characteristics such as the ability to carry out tasks, interpersonal skills and respect for others, professional skills such as skills of implementing tourism programs, field performance skills, decision-making skills, and general information and knowledge such as geographical, historical and archaeological information, The most prominent tourist attractions, services and facilities.

2.6.3. Write all tourist destinations and events:

There is a clash between the desires and tastes of the Arab tourist and the foreign tourist in tourism, due to the different behaviors, so when writing destinations and events, the different tastes and desires of tourists should be taken into account and not limited to what the developers of the system like.

2.6.4. Update system information periodically:

To avoid any of the above-mentioned problems, the system is constantly updated to ensure the quality and correctness of the displayed information. Such as updating the information of hotels, restaurants, and information about new tourist destinations or those that are closed for maintenance so that the tourists do not reach them while they are closed.

2.7. STUDY FOR ANOTHER WEBSITES

2.7.1. Property finder:

It is a system that cares about tourism in the KAS and also real estate. This system mentioned Rijal Almaa and talked about the area in general. It helps the tourist to know its geographical location and the weather in it and how the tourist can reach it. He mentioned the most important heritage landmarks and some places of residence and mentioned several restaurants in order for the tourist to be able to visit it.

https://www.propertyfinder.sa

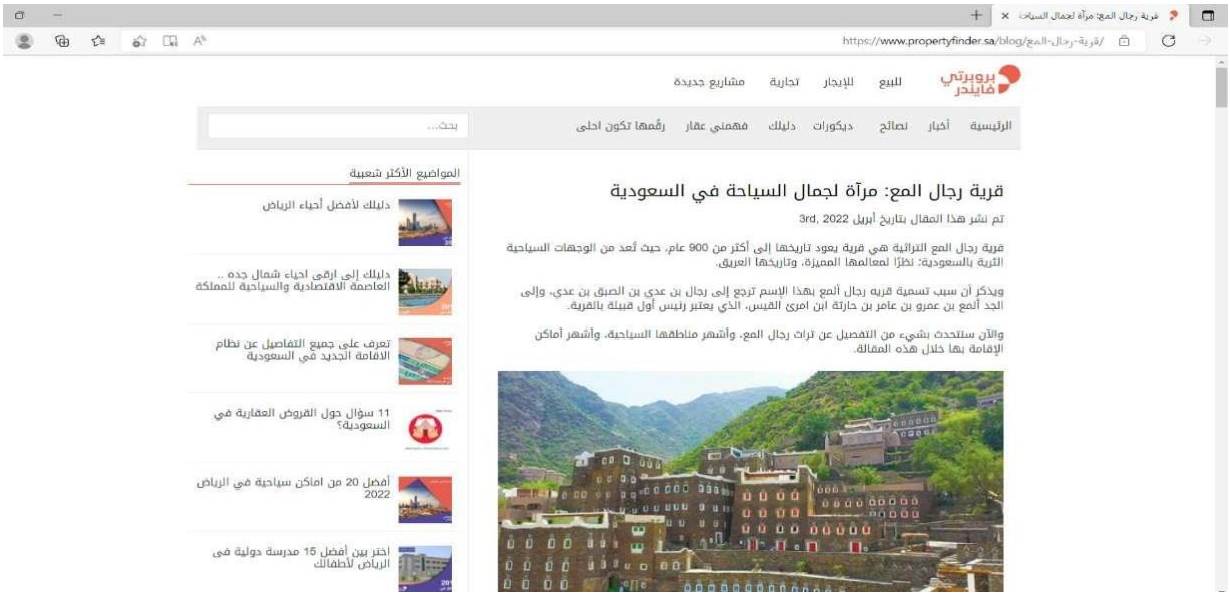

Figure 1: Property finder system

2.7.2. directions ksa:

It is a system interested in the latest news of Saudi Arabia and also provides the most important tourist destinations, markets, hotels and other services for the tourist, where the tourist enters the system and browses it

This system mentioned the heritage places that found only in Rijal Almaa

https://www.directionsksa.com

Figure 2: Directions Ksa system

2.7.3. visit Saudi:

A system that includes all regions of the kingdom and its activities in one place. It is easy for the tourist to obtain appointments online with any organizing company by logging into the system and booking the trip that suits them in terms of area and prices.

This system mentioned a specific part of the Rijal Almaa area and only mentioned the village of Rijal Heritage

www.visitsaudi.com

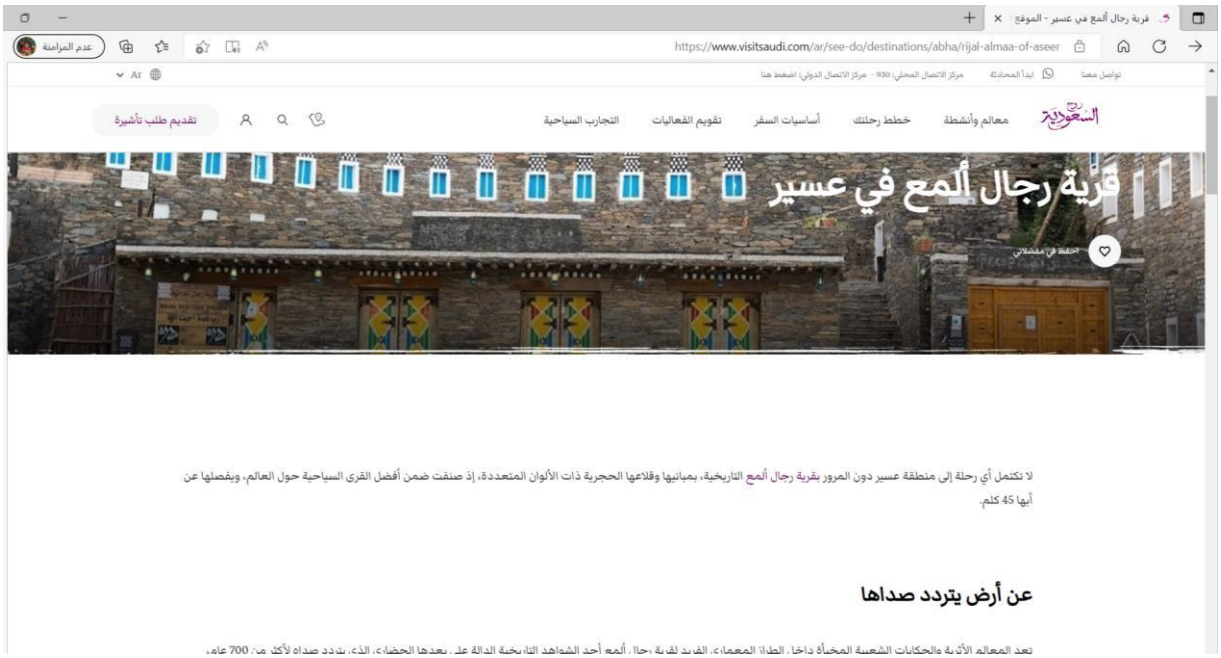

Figure 3:visit Saudi system

Table 1:compare between websites

Comparison List	Website			
	Our Website Project	property finder	directions ksa	Visit saudi
Register	Yes	NO	NO	Yes
Online booking with guides	Yes	NO	NO	Yes
Tour guides	Yes	NO	NO	Yes
Rating of the best places	Yes	Yes	Yes	NO
Evaluation	Yes	NO	NO	NO

3. Chapter 3: SYSTEM REQUIREMENT

3.1. SYSTEM LIFE CYCLE

Let us now describe the different phases and the related activities of system development life cycle in detail.

3.1.1. SYSTEM STUDY

System study is the first stage of system development life cycle. the system study is done in two phases. In the first phase, the preliminary survey of the system is done which helps in identifying the scope of the system. The second phase of the system study is more detailed and in -depth study in which the identification of user's requirement and the limitations and problems of the present system are studied.

To describe the system study phase more analytically, we would say that system study phase passes through the following steps:

• problem identification and project initiation

• background analysis

• inference or findings

3.1.2. FEASIBILITY STUDY

The feasibility study is basically the test of the proposed system in the light of its workability, meeting user's requirements, effective use of resources and of course, the cost effectiveness. The main goal of feasibility study is not to solve the problem but to achieve the scope.

3.1.3. SYSTEM ANALYSIS

Assuming that a new system is to be developed, the next phase is system analysis. Analysis is a detailed study of various operations performed by a system and their relationships within and outside the system.

The main points to be discussed in system analysis are:

- Specification of what the new system is to accomplish based on the user requirements.
- Functional hierarchy showing the functions to be performed by the new system and their relationship with each other.
- List of attributes of the entities - these are the data items which need to be held about each entity (record).

3.1.4. SYSTEM DESIGN

Based on the user requirements and the detailed analysis of a new system, the new system must be designed. This is the phase of system designing. It is a most crucial phase in the development of a system. Normally, the design proceeds in two stages:

• preliminary or general design

• Structure or detailed design

Preliminary or general design: In the preliminary or general design, the features of the new system are specified. If the project is still considered to be feasible, we move to the detailed design stage.

Structure or Detailed design: In the detailed design stage, computer oriented work begins in earnest. At this stage, the design of the system becomes more structured. Input, output and processing specifications are drawn up in detail. In the design stage, the programming language and the platform in which the new system will run are also decided.

3.1.5. MAINTENANCE

Maintenance is necessary to eliminate errors in the system during its working life and to tune the system to any variations in its working environment. It has been seen that there are always some errors found in the system that must be noted and corrected. It also means the review of the system from time to time. The review of the system is done for:

- knowing the full capabilities of the system
- knowing the required changes or the additional requirements
- studying the performance

If a major change to a system is needed, a new project may have to be set up to carry out the change. The new project will then proceed through all the above life cycle phases.

3.2. WATERFALL MODEL

Is a sequential development process that flows like a waterfall through all phases of a project with each phase completely wrapping up before the next phase.

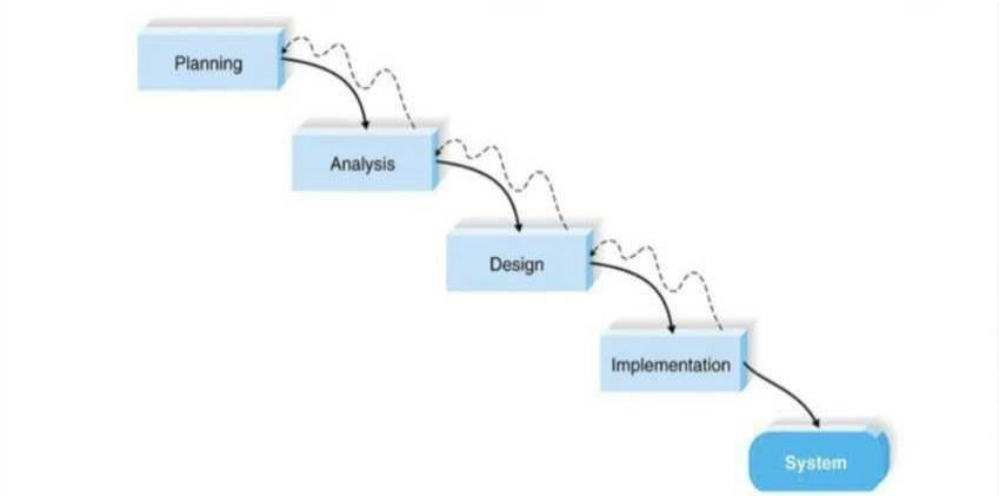

Figure 4: Waterfall Model

Phases of waterfall project management in this project is approach into four stages:

1. **Planning:** describes how technical tasks are going to take place and what resources are needed and how to use them
2. **Analysis:** collect complete needs and then analyze and define needs that must be met by the program to be built.
3. **Design:** transform the requirements into complete and detailed system design specifications.
4. **Implementation:** putting the project plan into action.

3.3. Functional requirements:

The system allows the tourist, tour guide and administrator to log into the website.

1. A system must provide high quality services to all people when and where they need them.
2. The system allows the tourist and the tour guide to fill in and update the information in their profile.
3. The system only allows the administrator to manage.
4. The system must provide acceptable quality and efficiency.

3.4. Non-functional Requirements:

1. Ease of use: The system should be simple and uncomplicated.

2. Flexibility: We can change the setting using a simple method

3. Customizable: We can make changes in the system

4. Well performance.

3.5. HARDWAREREQUIRES:

- Server (Intel core i5)
- 16 GB
- RAM8 GB

3.6. SOFTWAREREQUIRES:

- Html Language
- CSS
- PHP
- SQL developer

3.7. UNIFIER MODELLING LANGUAGE (UML)

Unified Modeling Language is a graphical visualization language. It consists of a series of symbols and connectors that can be used to create process diagrams and is often used to model computer programs and workflows.

The UML standard defines 5 types of diagram:

- **Activity:** model the flow of a system from action to response Class: define the structure of a system.

- **Use Case**: models the functionality of a system in terms of user Interaction

- **Sequence:** describes the interaction between classes in terms of message exchange.

- **State chart:** describe the dynamic behavior of a system in response to external stimulus

- **Class Diagram:** describe a group of objects all with similar roles in the system

3.8. USE CASE DIAGRAM

A use case diagram in the Unified Modelling Language (UML) is a type of behavioral diagram defined by and created from a Use-case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals (represented as use cases) and any dependencies between those use cases.

The main purpose of a use case diagram is to show what system functions are performed for which actor. Roles of the actors in the system can be depicted

Use case diagrams are formally included in two modellinglanguages defined by the OMG: the Unified ModellingLanguage (UML) and the
Systems Modelling Language (SysML).

Actors: There is three actors who can interact with the system: Administrator, Tourist, Tour guide.

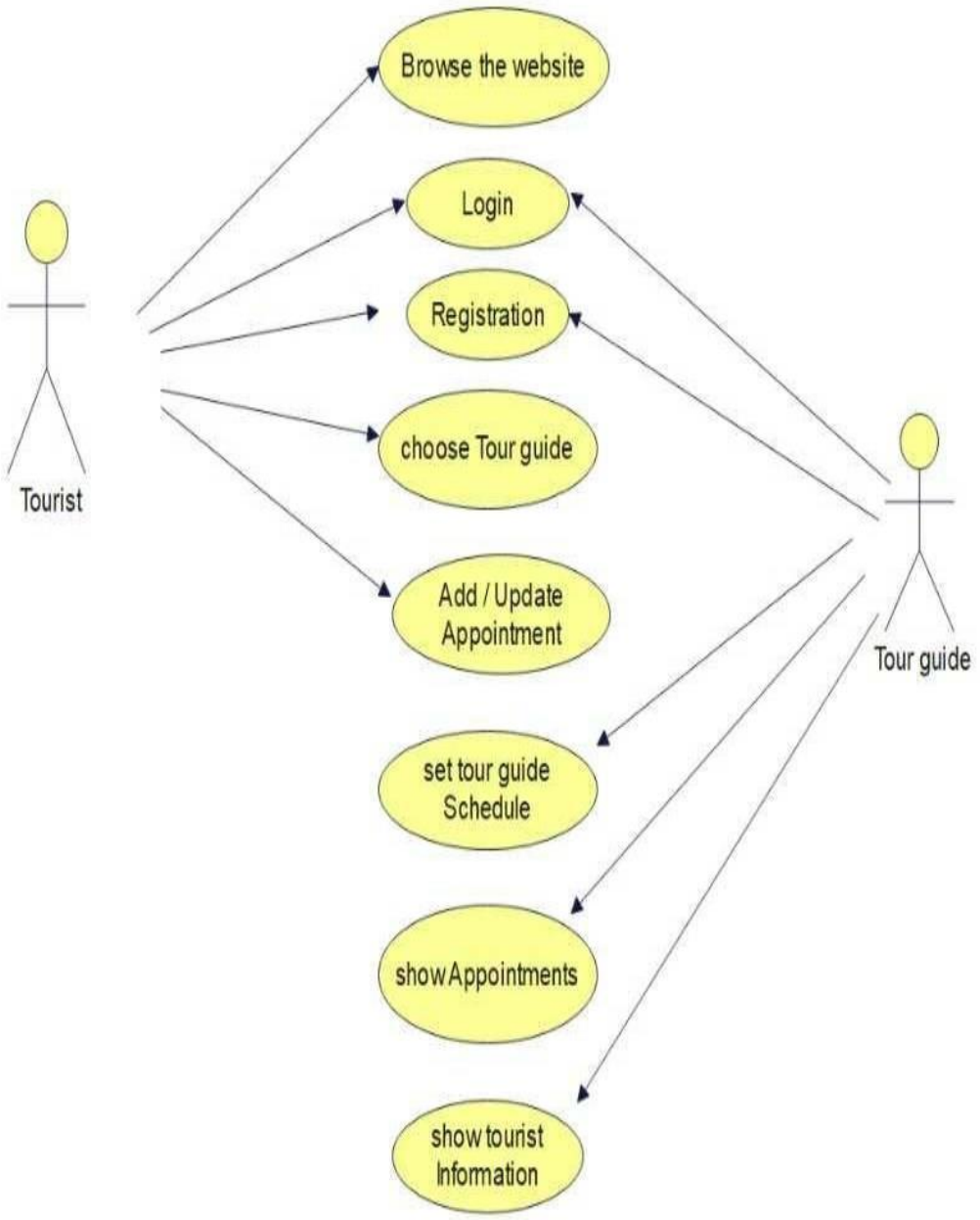

Figure 5:Use-Case Diagram for system 1

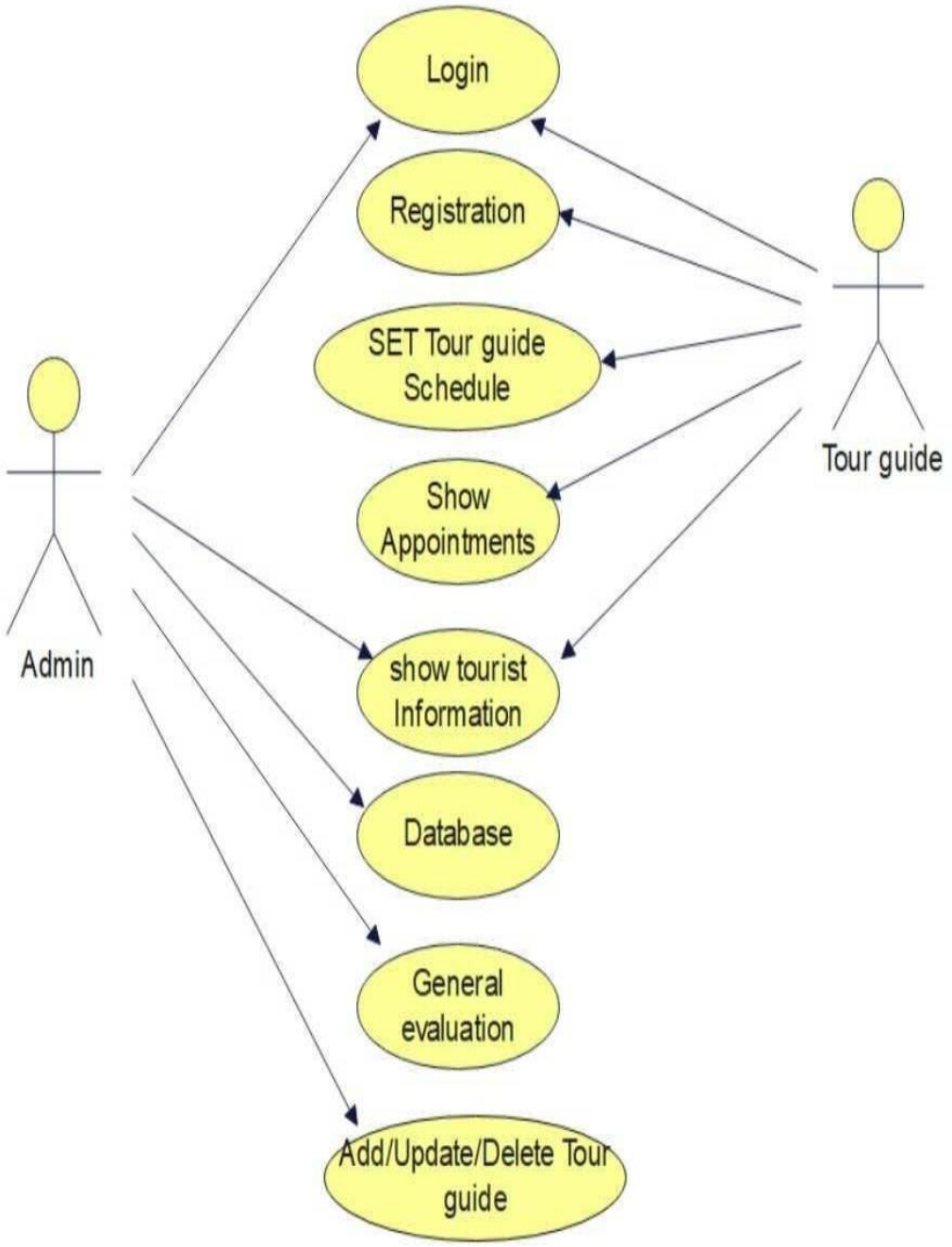

Figure 6: Use-Case Diagram for system 2

• Expanded use case: Login / Logout

Actor: Administrator, Tourist,

Tour guide **Propose:** Users entered

to the system

Overview: actor enter into the system with his own ID and password

Result: Success entry data and enter to the website.

Table 2:Use-Case Description –login / logout (Tourist)

Actor	System response
1. Actor enter into the system with his own username and password.	
	2. Website will be on check on the username and password entered from actor if its not correct website will show error message to the actor else if correct entry the website will show all buttons available for actor.
3. Show the error message or enter to website.	

Table 3: Use-Case Description –login / logout (Administrator / Tour guide)

Actor	System response
1. Actor enter into the system with his own id and password.	
	2. Website will be on check on the username and password entered from actor if its not correct website will show error message to the actor else if correct entry the website will show all buttons available for actor.
3. Show the error message or enter to website.	

• Expanded use case: Manage Appointment Request

Actor: Tour guide

Propose: Tour guide creates manage all appointment requests

Overview: Tour guide enter into the system with his own id and passwords

Result: Success fully manage the appointment request.

Table 4:Use-Case Description –manage appointment request

Actor	System response
1. Tour guides enter into the system with his own id and password.	
	2. Website will be on check on the username and password entered from actor if its not correct website will show error
3. Show the error message or enter to website.	

	4. Website will show the screen.
5. Tour guide will accept or reject the request.	

• Expanded use case: Generate Evaluation

Actor: Administrator

Propose: Administrator creates evaluation

Overview: Administrator enter into the system with his own id and password

Result: Success view evaluation and generation of evaluation

Table 5:Use-Case Description – generate evaluation

Actor	System response
1. Administrator enter into the system with his id and password.	
	2. Website will be check on the username and password entered from administrator
3. Check out the evaluation	
	4. Show evaluation to the administrator

• Expanded use case: Registration

Actor: Administrator, Tour guide, Tourist

Propose: Actor can make registration on the website

Overview: actor enter into the registration form and fill his information make the registration on the website.

Result: Successfully creates user.

Table 6:Use-Case Description – Registration

Use case name	Registration	
Participating Actors	User (Admin, Tour guide, Tourist)	
Precondition	Users access the system	
Post-condition	User is registered users Database	
Trigger	Users access the system	
Main Success Scenario	**User**	**System**
	1. Enter his / her email and password. Then click USERS SIGNUP.	1.1 will save the entered information in Database.
		1.2 Welcome the user and direct his /her to homepage
Error	1: the user forgot to enter one of the required fields Message will be displayed to notify the user by highlighting the required field. 2: the user enter a wrong information Massage will be displayed to notify the user to re-enter his/her data. 3: the entered email is already existed Message will be displayed to notify the user that this email is already exist and if he/she forgot the password "forgot password" link will be appears.	

• **Expanded use case: Search**

Actor: Tourist

Propose: Actor can make search on the website on specific

Result: Search found successfully

Table 7:Use-Case Description – Search

Use case name	Search	
Participating Actors	User (tourist)	
Precondition	Users access the system	
Post-condition	Matched search criteria will be represented	
Trigger	Users want to search for property	
Main Success Scenario	**User**	**System**

	5. Enter her/his desires.	Show list of places and services.
Extension	**Second scenario**	
	Select one property from the list to get more details about it.	The system will lead the user to the property page.
	Can go back to search field.	
Error	1. Search criteria do not match • No result.	

3.9. SEQUENCE DIAGRAMS

UML provides a graphical means of depicting object interactions over time in Sequence Diagrams. These typically show a user or actor, and the objects and components they interact with in the execution of a use case. One sequence diagram typically represents a single Use Case 'scenario' or flow of events. Sequence diagrams are an excellent way to document usage scenarios and to both captures required objects early in analysis and to verify object usage later in design. Sequence diagrams show the flow of messages from one object to another, and as such correspond to the methods and events supported by a class/object.

The diagram illustrated below shows an example of a sequence diagram, with the user or actor on the left initiating a flow of events and messages that

correspond to the Use Case scenario. The messages that pass between objects will become class operations in the final model.

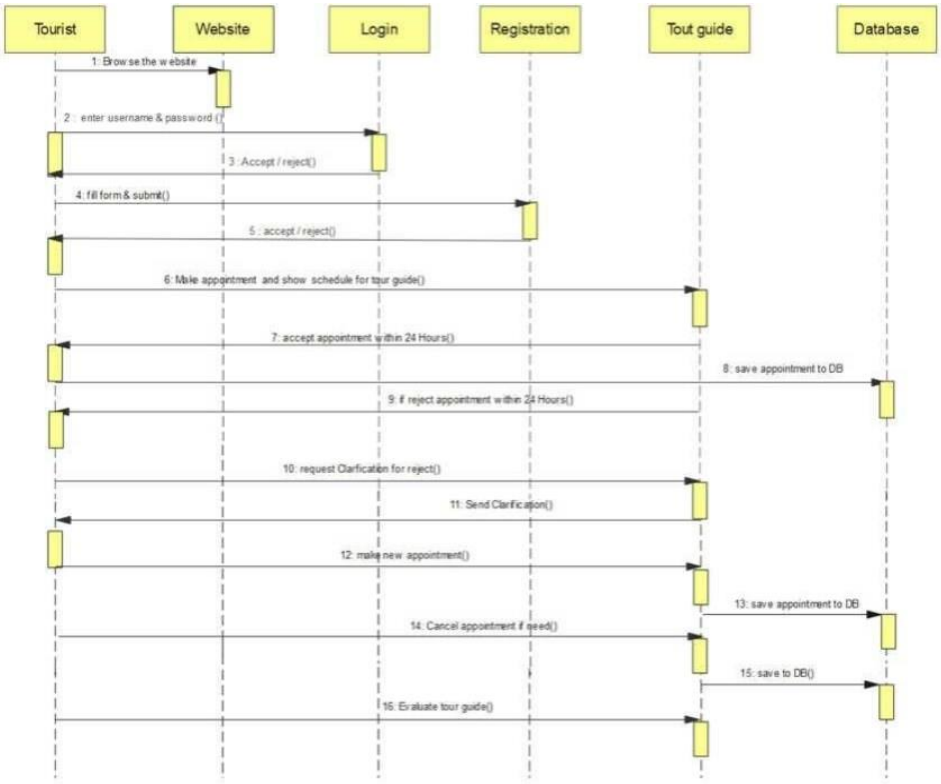

Figure 7:Sequence Diagram for tourist

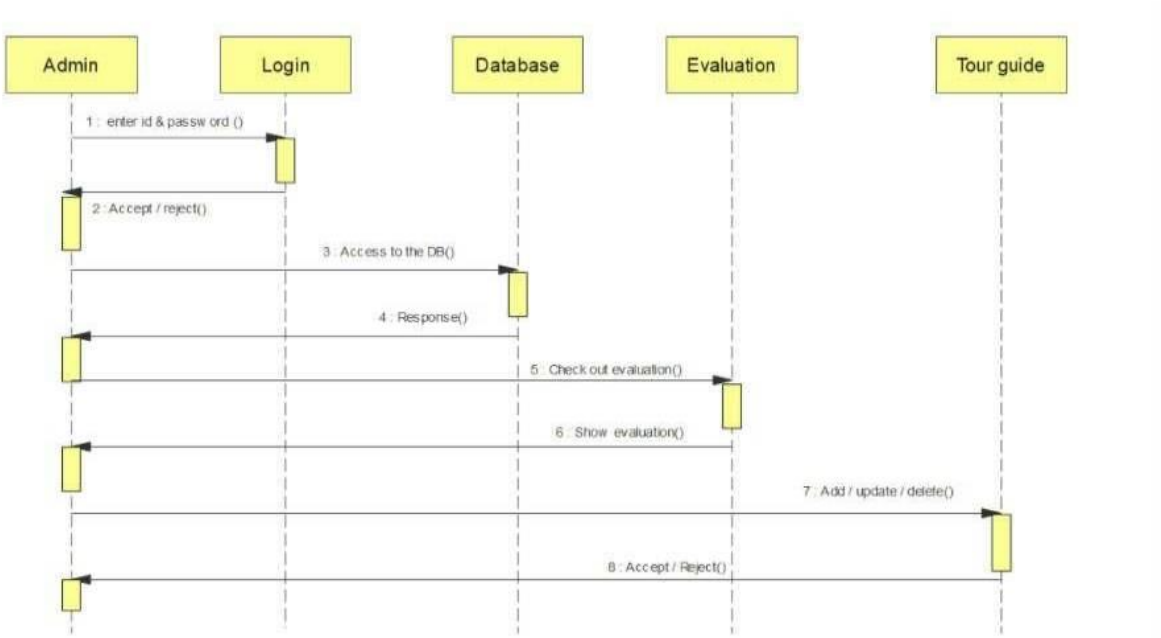

Figure 8:Sequence Diagram for administrator

3.10. Activity Diagram – Tourist Information

Tourist

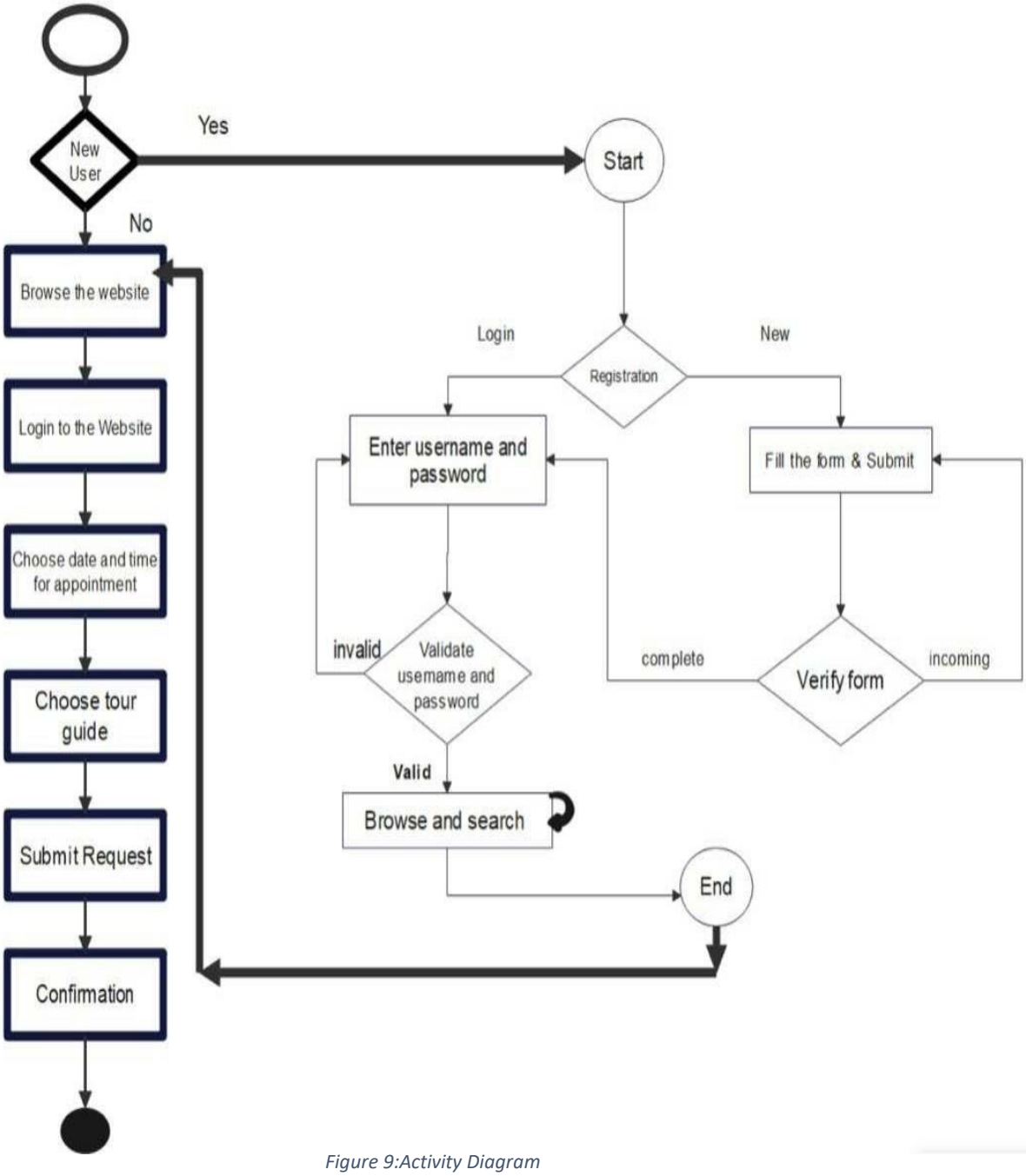

Figure 9:Activity Diagram

3.11. STATE CHART DIAGRAM

TOURIST:

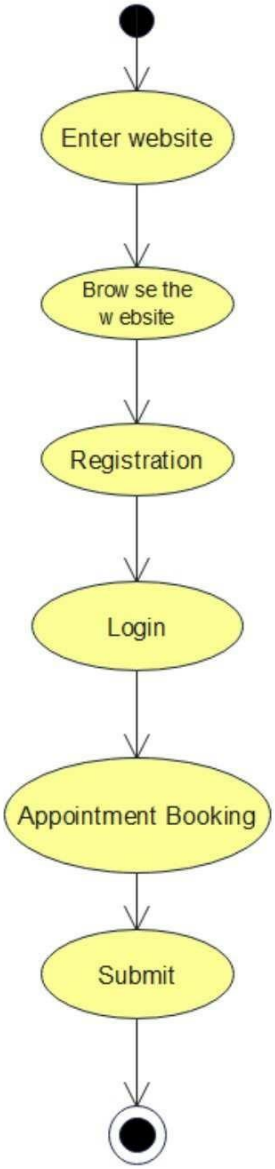

Figure 10:State chart Diagram – Tourist

4. Chapter 4: SYSTEM DESIGN

4.1. Introduction

In this chapter, we will talk about the influential entities in our proposed system, explain the relationships between them, explain the structure of the database, and then show some of the initial interfaces that users of the system will interact with.

4.2. Design concept

After determining the system requirements, UML diagrams were used to visualize the functionality of the system. Then comes the design stage, where it works to give the first step in the implementation process by looking at the design of the database and the site interfaces.

4.3. Context Flow Diagram

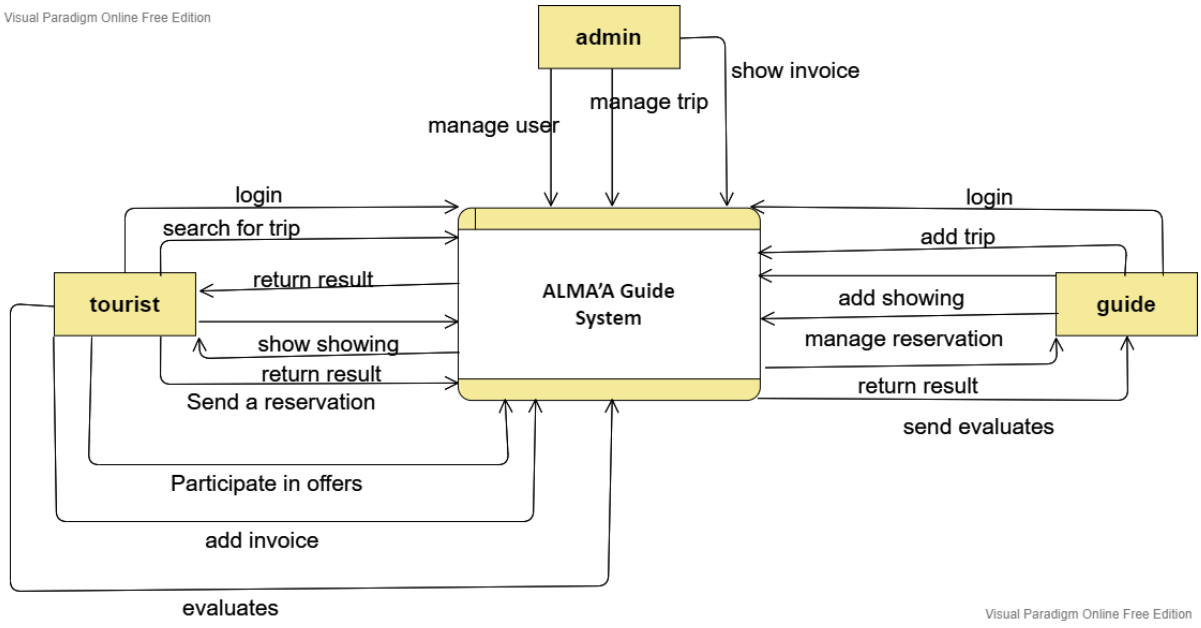

Figure 11: Context flow diagram

4.4. Data Flow Diagram

The Data Flow Diagram describes the system and the processes that occur in the system, as well as determines the flow of data between the different processes in the system. The following figure shows the data flow diagram of our proposed system.

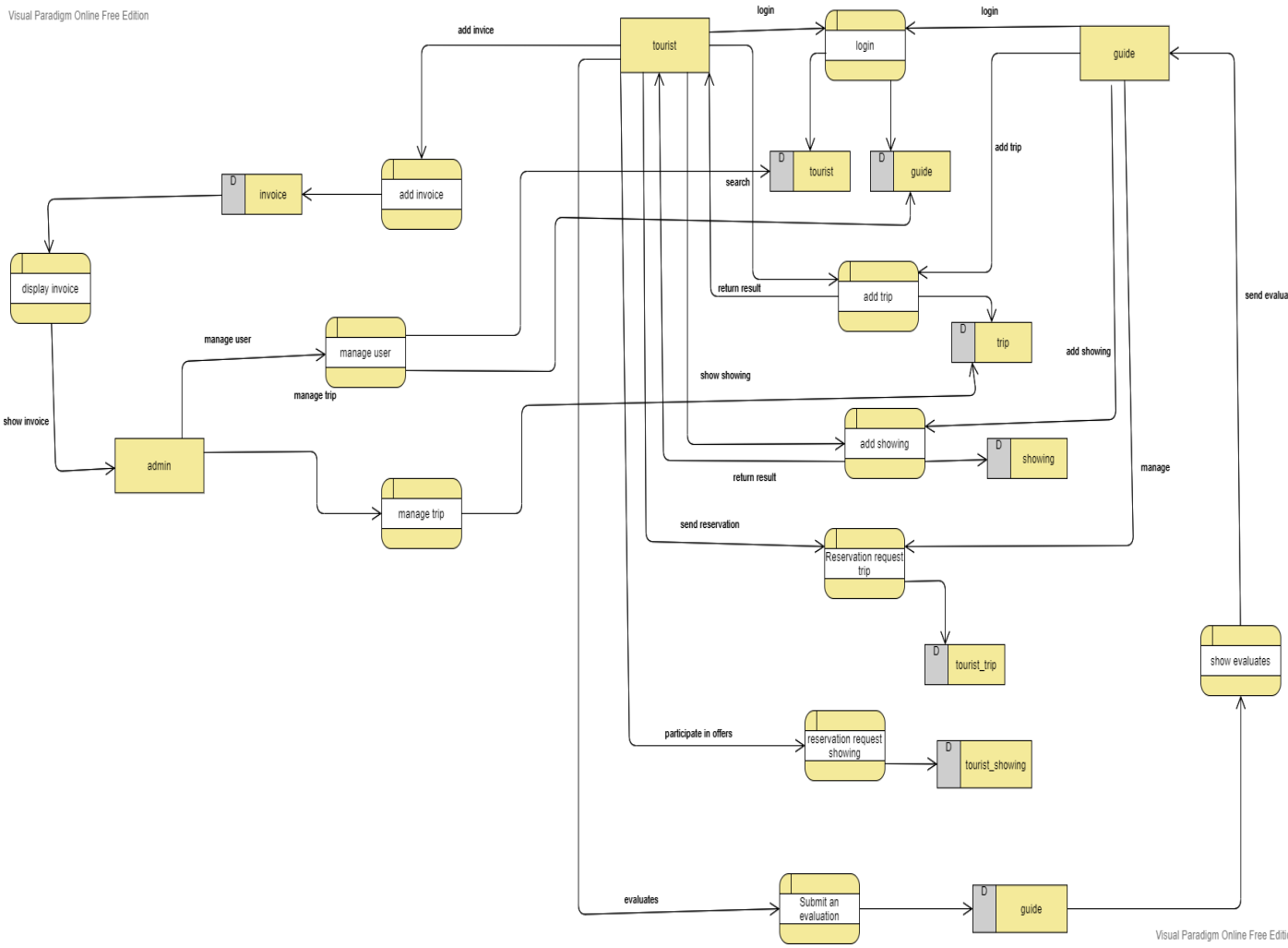

Figure 12: Data Flow Diagram

4.5. Form Design

Login Interface

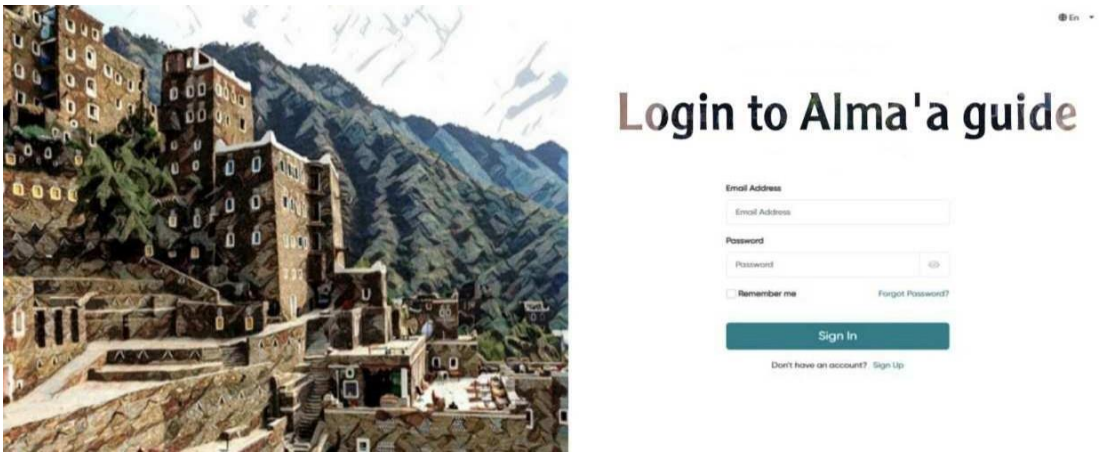

Figure 13: login interface

Main Interface

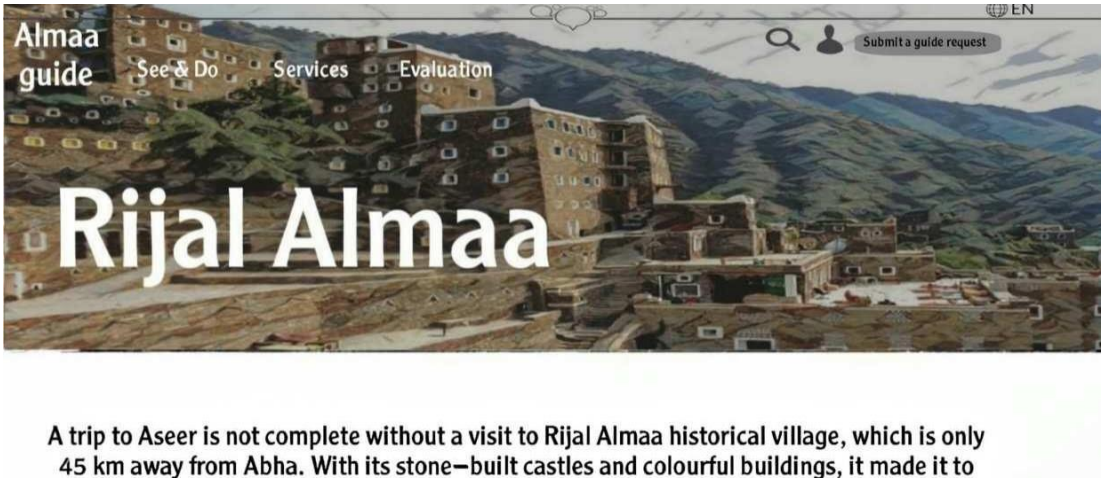

Figure 14: Main interface

List Interface

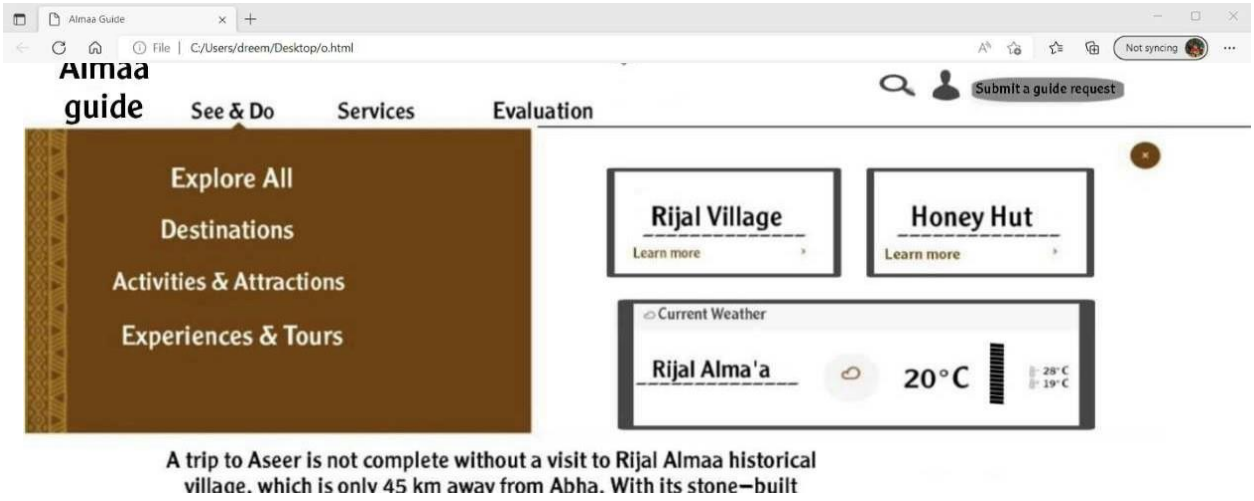

Figure 15: List interface

4.6. Database Design

Through the previous analysis of our project, we will create the following diagrams, which will show the database and the tables between them.

4.6.1.E-R Diagram

The Entity Relationship Diagram (ERD) shows the data stored on databases and the relationships between tables, which helps users to easily understand databases. In the following figure, we explain the entity relationship diagram associated with our proposed system.

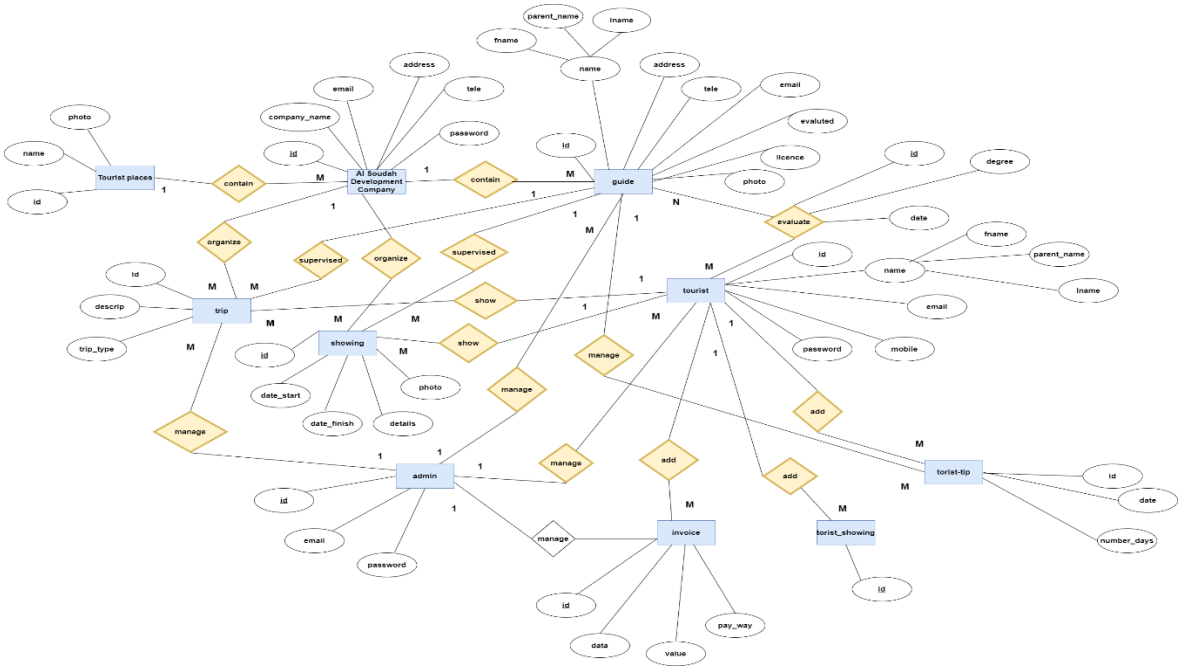

Figure 16: ER Diagram

4.6.2.Class Diagram

Class diagram is the main building block of object-oriented modeling, which is used for general conceptual modeling of the structure of the system, and for detailed modeling translating the models into programming code, where can also be used for data modeling, in the following figure, we illustrate class diagram related to our proposed system.

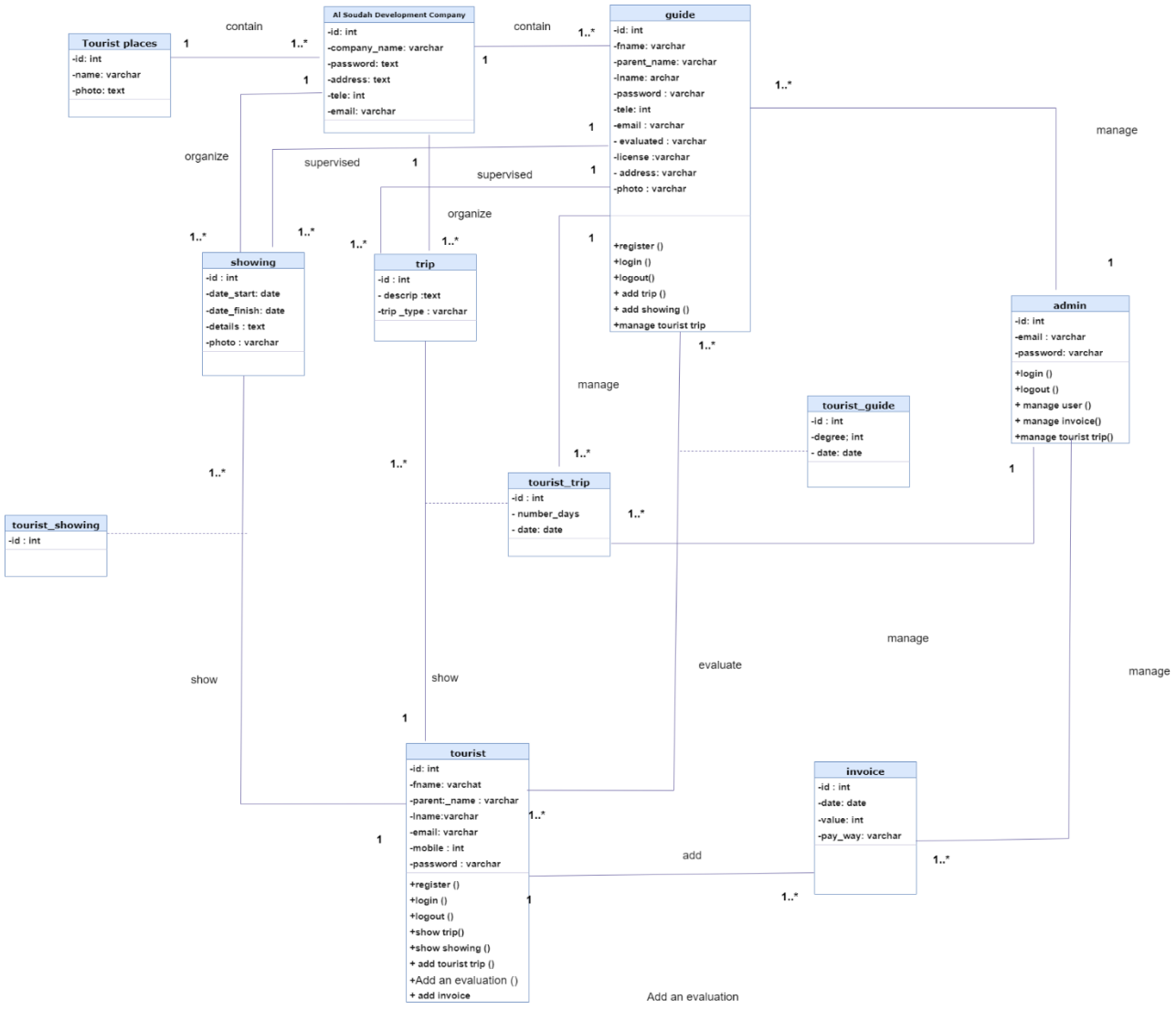

Figure 17: class diagram

4.6.3. DATABASE Table

Table 8: Tourist places table

Filed	Data Type	Key
ID	int(10)	Primary Key
name	Varchar(50)	
photo	text	

Table 9: Al Soudah Development Company table

Filed	Data Type	Key
ID_company	int(25)	Primary Key
Company _name	Varchar(20)	
password	text	
address	Varchar(30)	
tele	int(13)	
email	Varchar(50)	
Id_country	int(10)	Foreign key/ country table

Table 10: guide table

Filed	Data Type	Key
Id_guide	int(10)	Primary Key
fname	Varchar(20)	
Parent_name	Varchar(20)	
lname	Varchar(20)	
password	varchar(20)	
email	V (50)	
evaluted	varchar (5)	
licence	varchar (100)	
address	varchar (30)	
photo	text	
Id_company	Int(10)	Foreign key/ company table
Id_admin	Int(10)	Foreign key/ admin table

Table 11: tourist table

Filed	Data Type	Key
Id_tourist	int(10)	Primary Key
fname	Varchar(20)	
Parent_name	Varchar(20)	
lname	Varchar(20)	
password	varchar(20)	
email	Varchar (50)	
mobile	int (13)	
Id_admin	Int(10)	Foreign key/ admin table

Table 12: admin table

Filed	Data Type	Key
Id_admin	int(10)	Primary Key
password	varchar(20)	
email	Varchar (50)	

Table 13: showing table

Filed	Data Type	Key
Id_showing	int(10)	Primary Key
Date_start	date	
Date_finish	date	
details	text	
photo	varchar(100)	
Id_guide	int (10)	Foreign key/ guide table
Id_company	Int(10)	Foreign key/ company table

Table 14:tourist_showing table

Filed	Data Type	Key
Id	int(10)	Primary Key
Id_tourist	Int(10)	Foreign key/ tourist table

Table 15: trip table

Filed	Data Type	Key
Id_trip	int(10)	Primary Key
descrip	text	
Trip_type	Varchar(20)	
Id_admin	Int(10)	Foreign key/ admin table
Id_guide	int (10)	Foreign key/ guide table
Id_company	Int(10)	Foreign key/ company table

Table 16: tourist_guide

Filed	Data Type	Key
Id_	int(10)	Primary Key
degree	Int(10)	
date	date	
Id_tourist	Int(10)	Foreign key/ tourist table
Id_guide	int (10)	Foreign key/ guide table

Table 17: tourist trip table

Filed	Data Type	Key
Id	int(10)	Primary Key
date	date	
Number_days	int(10)	
Id_trip	Varchar(20)	Foreign key/ trip table
Id_tourist	varchar(20)	Foreign key/ tourist table
Id_guide	Int(10)	Foreign key/ guide table

Table 18: invoice table

Filed	Data Type	Key
Id_invoice	int(10)	Primary Key
date	date	
value	int(20)	
Pay_way	Varchar(20)	
Id_tourist	varchar(20)	Foreign key/ tourist table
Id_admin	Int(10)	Foreign key/ admin table

5. Chapter 5: Implementation

5.1. Introduction

In this chapter, the most important stage in the development of the system will be discussed, where the following main components will be implemented: the database that will be used to store all information related to the system, and the website interfaces that will be used by the tourist, the tour guide, and the administrator.

5.2. Database Implementation

This section discusses the database implementation of the system. The database consists of 11 tables, which are Tourist places, the tourist company, guide, tourist, trip, tourist_trip, showing, tourist_showing, invoice, tourist_guide and the admin table.

5.2.1.Database Diagram

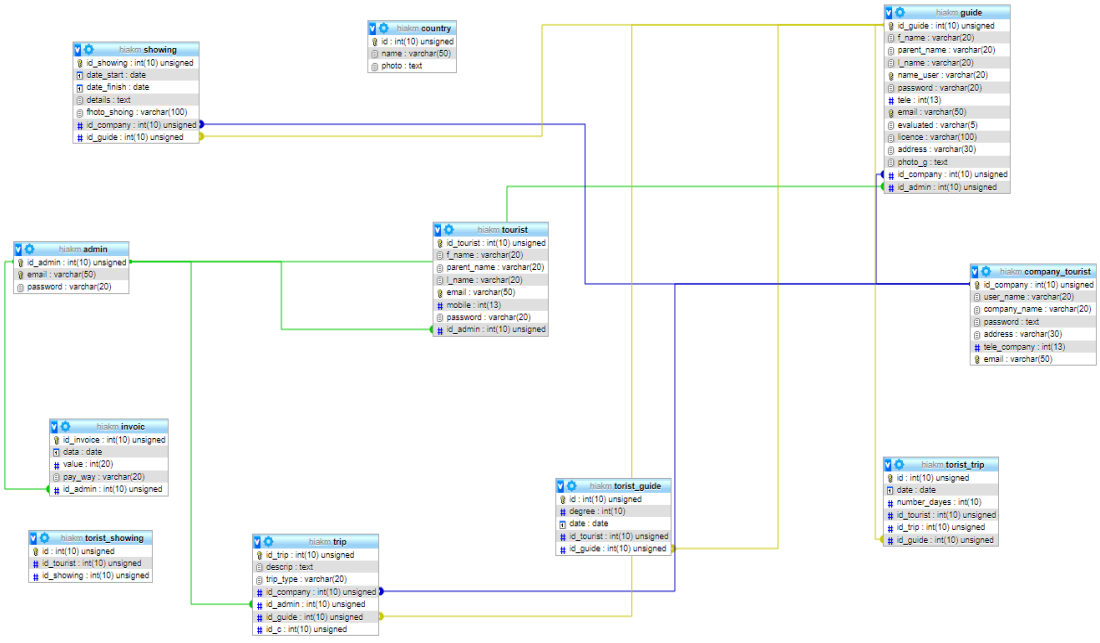

Figure 18: database diagram

5.2.2.Database tables

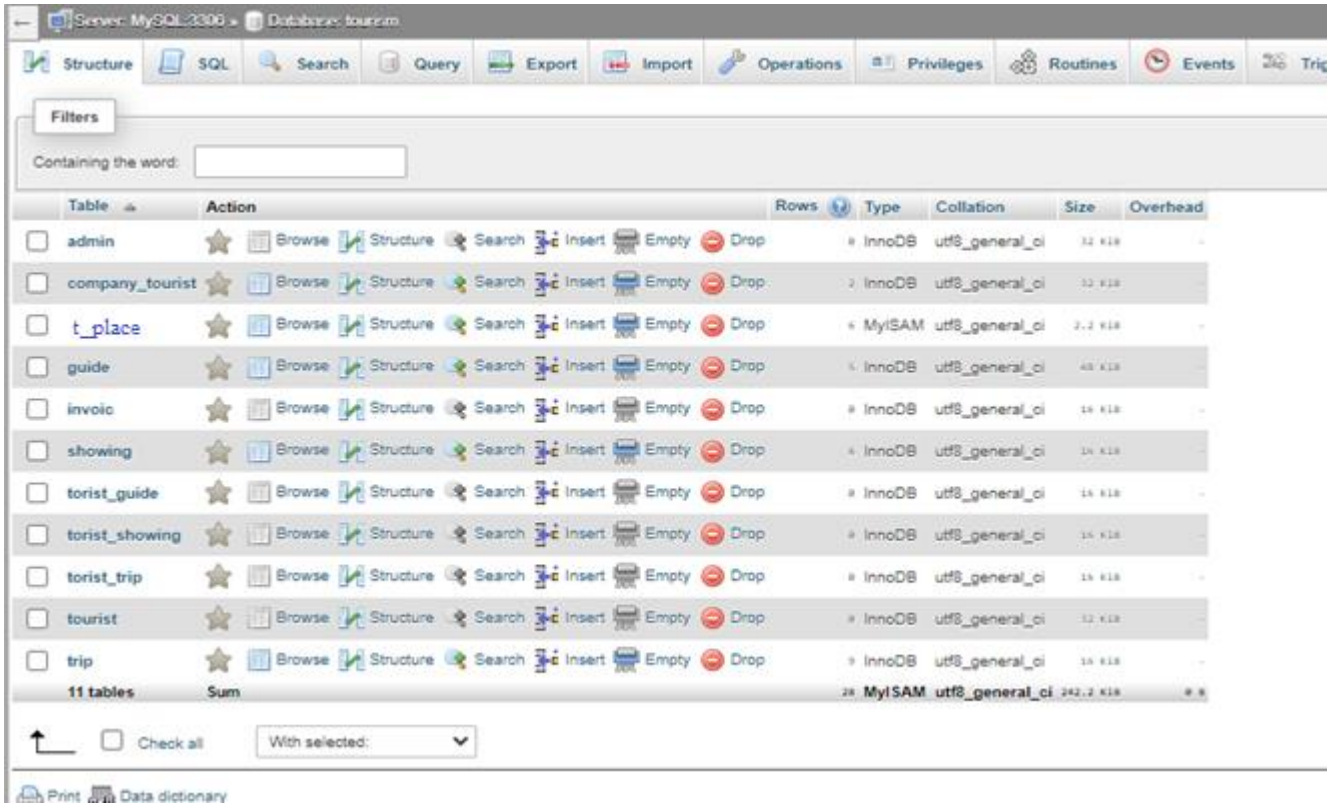

Figure 19: Database Table

5.2.2.1. Tourist places table

Tourist places table consists of three attributes which are “ID”, “name”, “photo”. The primary key of this table is “ID”, and its data type is integer.

Figure 20: Tourist places Table

5.2.2.2. Al Soudah Development Company table

Al Soudah Development Company consists of 7 attributes which are “id”, “company_name”,”user_name”, “password”, ”address”, “tele_company”, “email” . The primary key of this table is “id”, and its data type is integer.

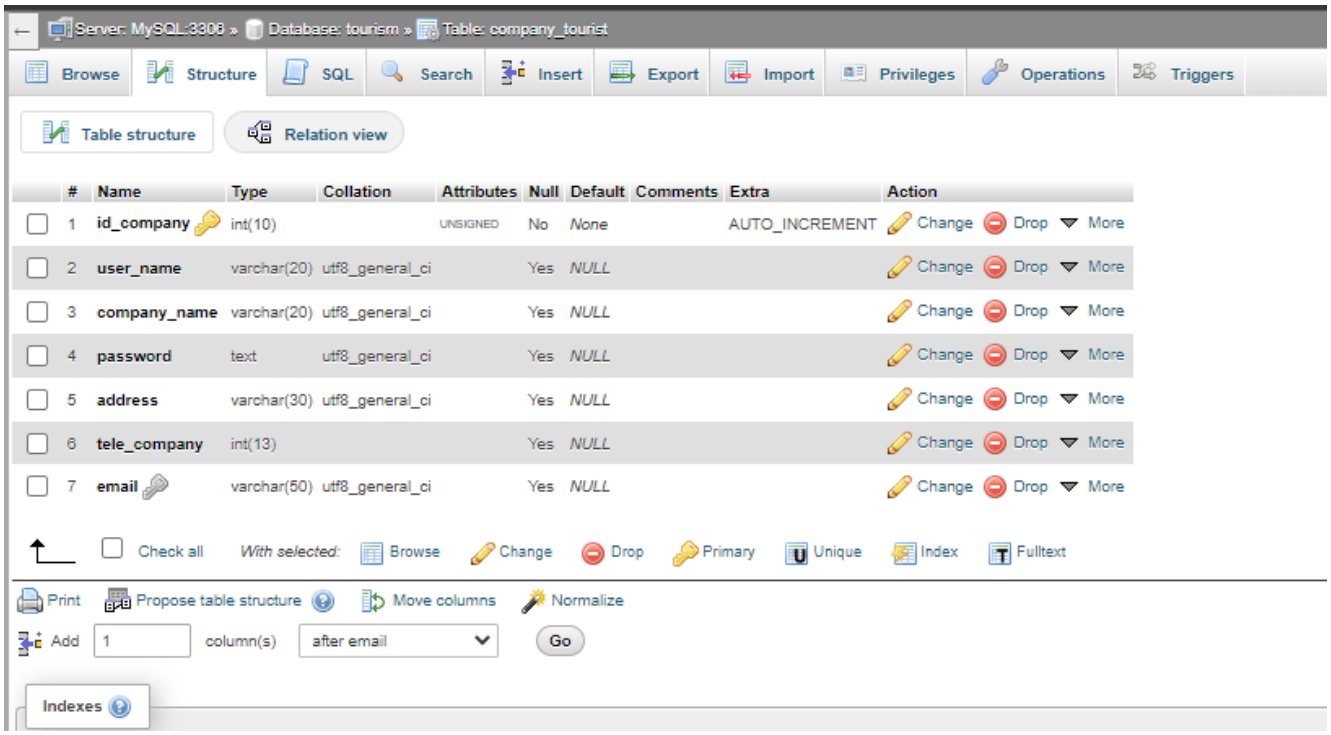

Figure 21: Al Soudah Development Company table

5.2.2.3. Showing table

showing consists of 7 attributes which are “id”, “date_start”,”date_finish”, “details”, ”photo_showing”, “id_company”, “id_guide” . The primary key of this table is “id”, and its data type is integer. ID_company and id_guide are foreign keys.

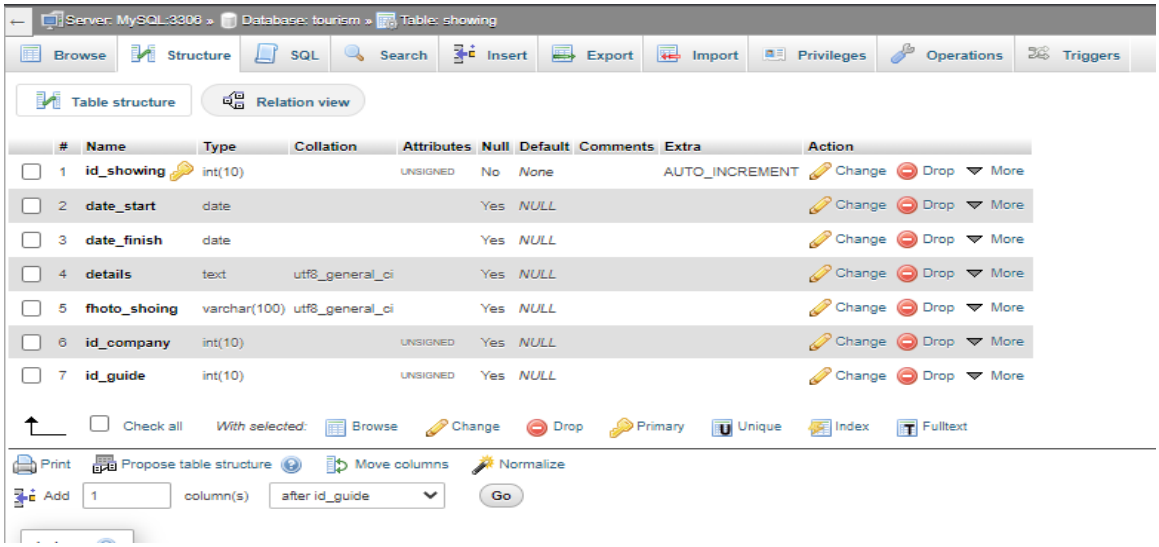

Figure 22: Showing table

5.2.2.4. Tourist Showing table

Tourist showing consists of 3 attributes which are “id”, “id_showing”,”id_tourist”, “details”. The primary key of this table is “id”, and its data type is integer. Id tourist is foreign key.

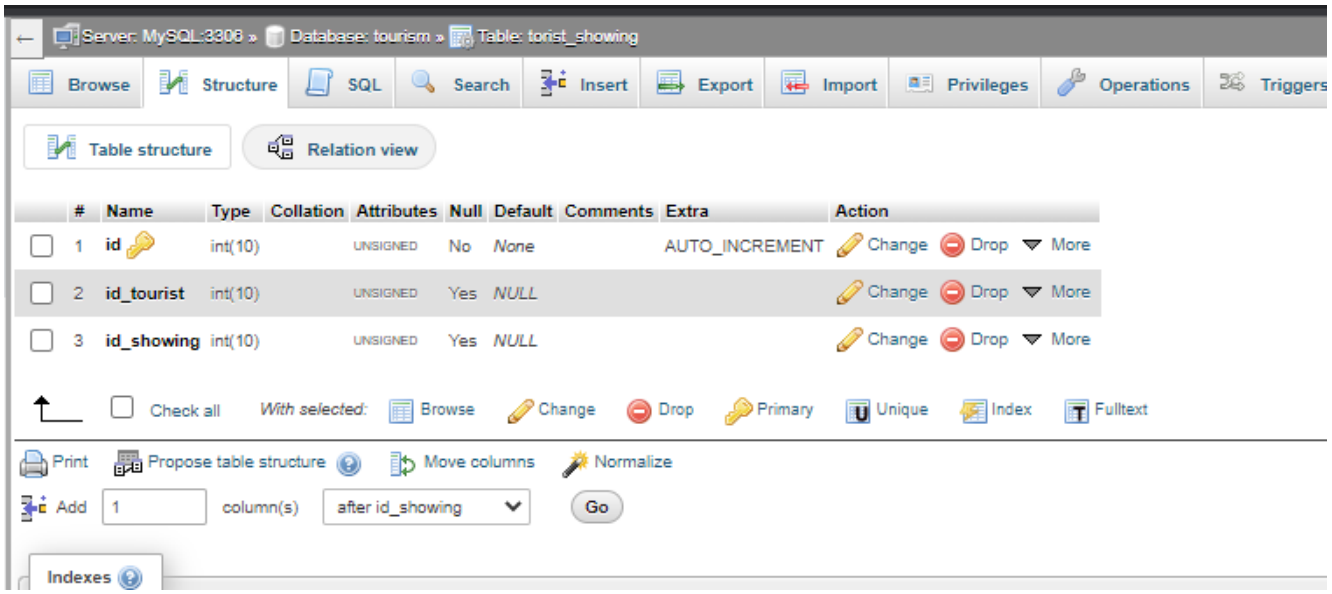

Figure 23: Tourist Showing Table

5.2.2.5. Tourist table

Tourist consists of 8 attributes which are “id_tourist”, “fname”,”parent_name”, “lname”, “email”,”mobile”, “password”, “id_admin”. The primary key of this table is “id_tourist”, and its data type is integer. Id_admin is foreign key.

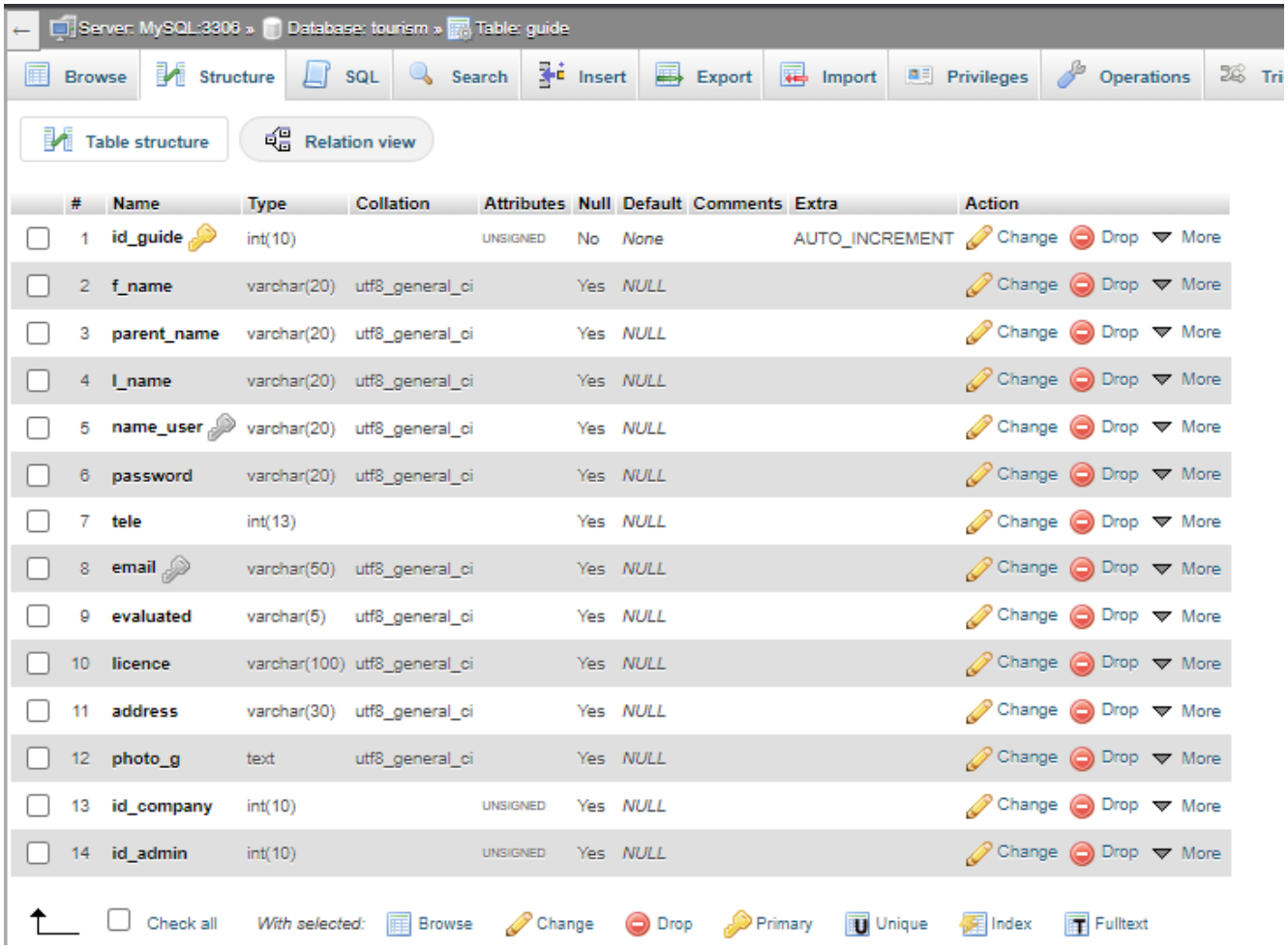

Figure 24: Tourist Table

5.2.2.6. Admin table

Admin consists of 3 attributes which are “id_admin”, “password”. The primary key of this table is “id_admin”, and its data type is integer.

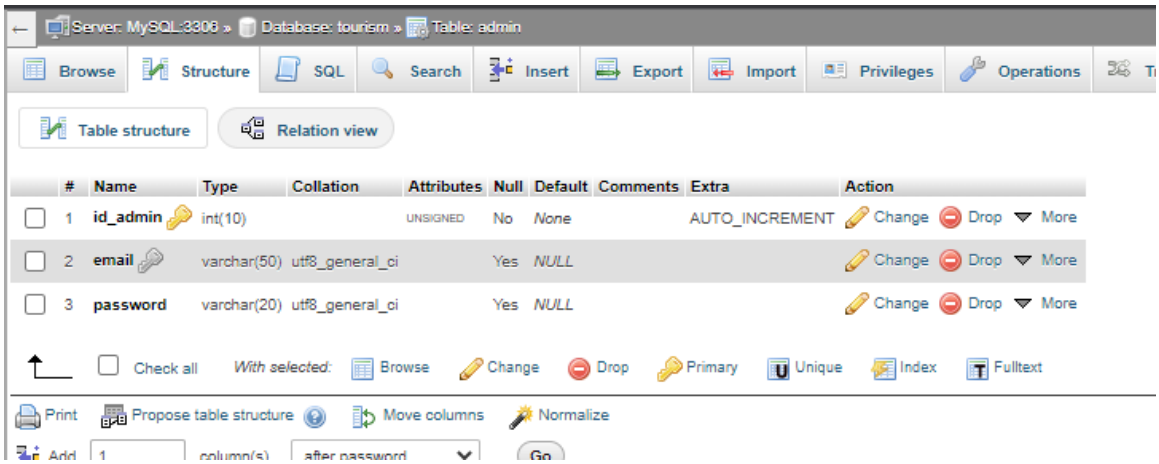

Figure 25: Admin Table

5.2.2.7. guide table

guide consists of 11 attributes which are “id_guide”, “fname”,”parent_name”, “lname”, “name_user”,”password”, “tele”, “email” ,“evaluated”,”licence”, “photo”, “id_company” ”, “id_admin” . The primary key of this table is “id_guide”, and its data type is integer. Id_admin and id_company are foreign keys.

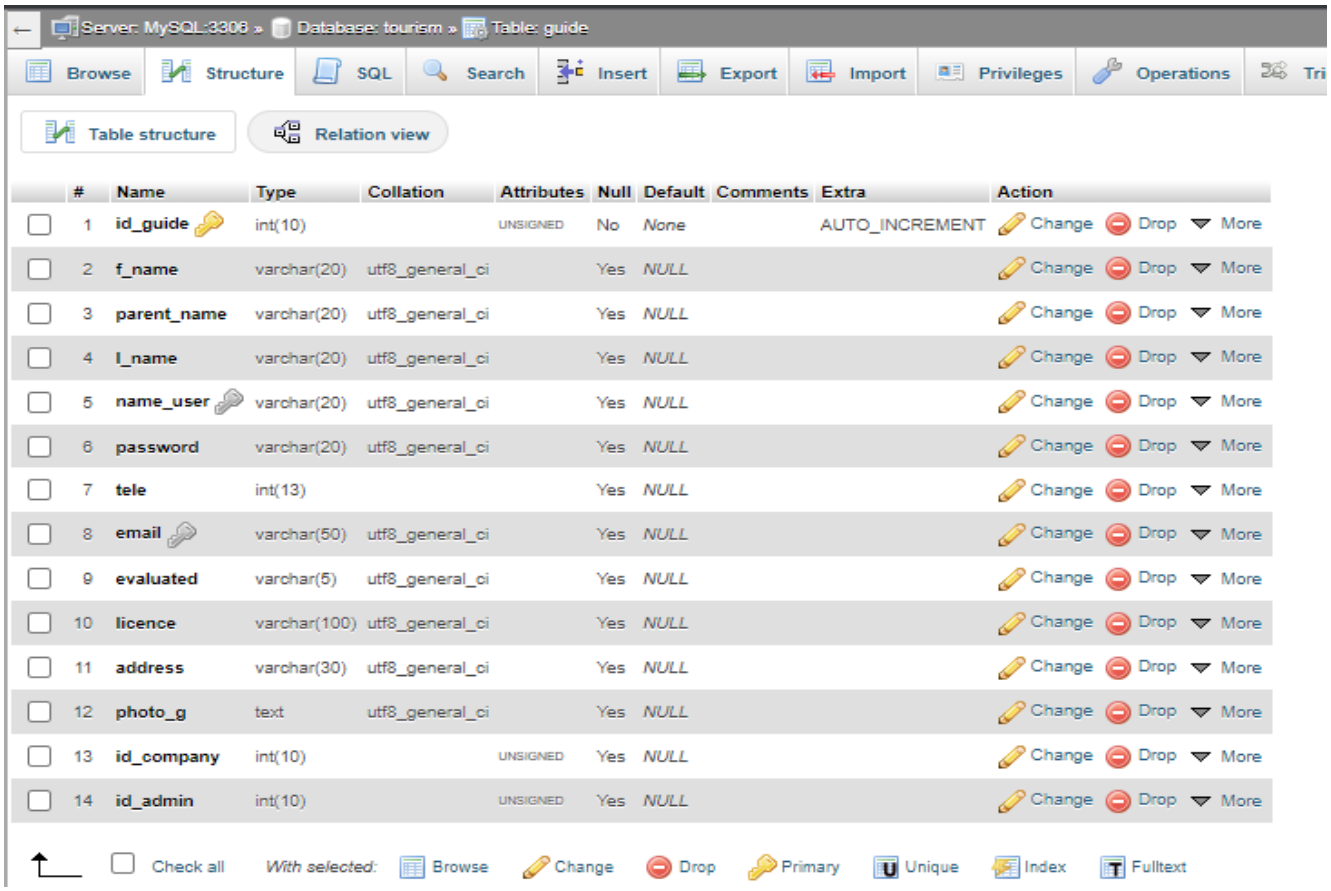

Figure 26: guide Table

5.2.2.8. trip table

trip consists of 6 attributes which are “id_trip”, “desrip”,”trip_type”, “id_guide”, “id_company” ”, “id_admin” . The primary key of this table is “id_trip”, and its data type is integer. Id_admin and id_company and id_guide are foreign keys.

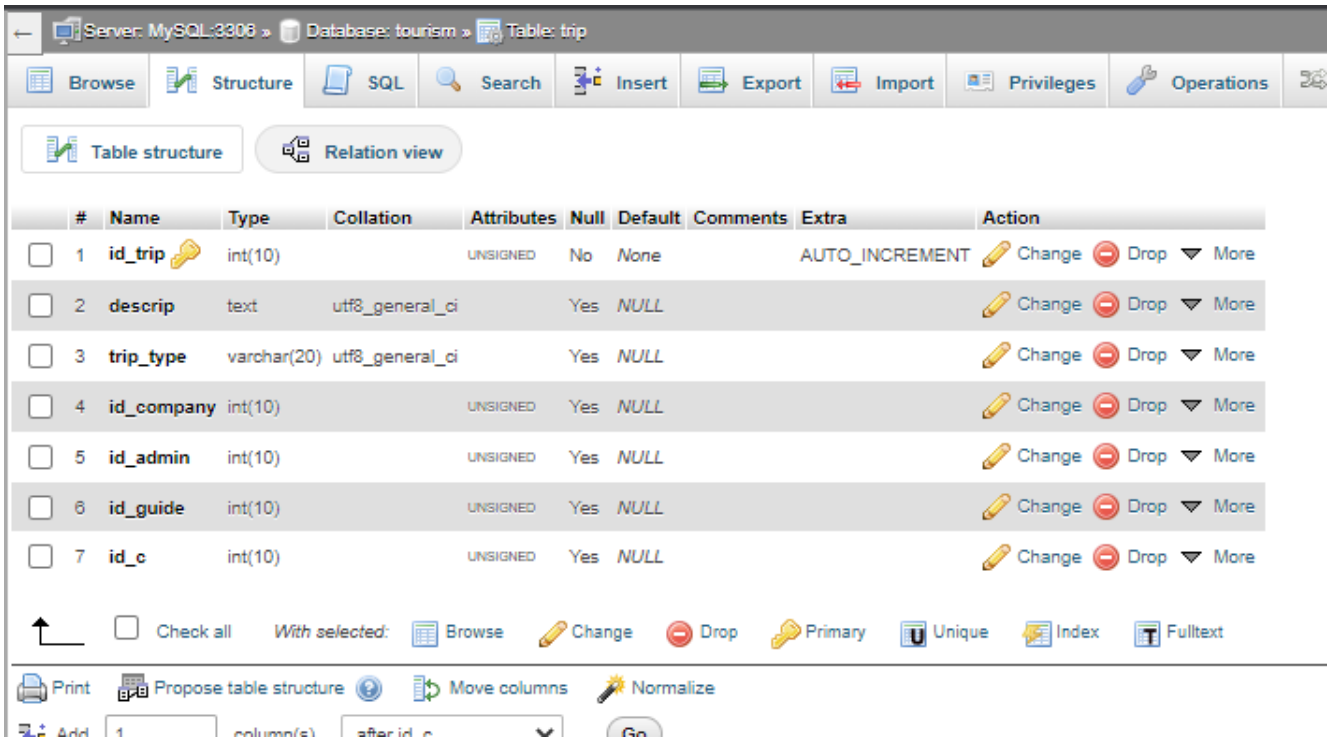

Figure 27: Trip Table

5.2.2.9. Tourist trip table

Tourist trip consists of 6 attributes which are “id”, “date”,”number_days”, “id_guide”, “id_tourist” ”, “id_admin” . The primary key of this table is “id_t”, and its data type is integer. Id_admin, id_tourist, and id_guide are foreign keys.

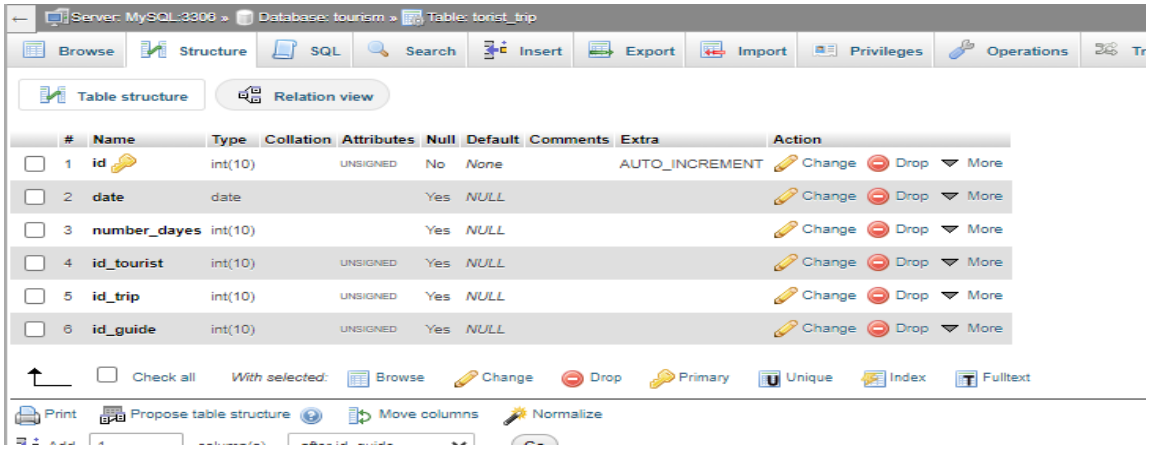

Figure 28: Tourist Trip Table

5.2.2.10. invoice table

invoice consists of 5 attributes which are “id_invoice”, “date”,”value”, “id_guide”, “pay_way”, “id_admin” . The primary key of this table is “id_invoice”, and its data type is integer. Id_admin is foreign keys.

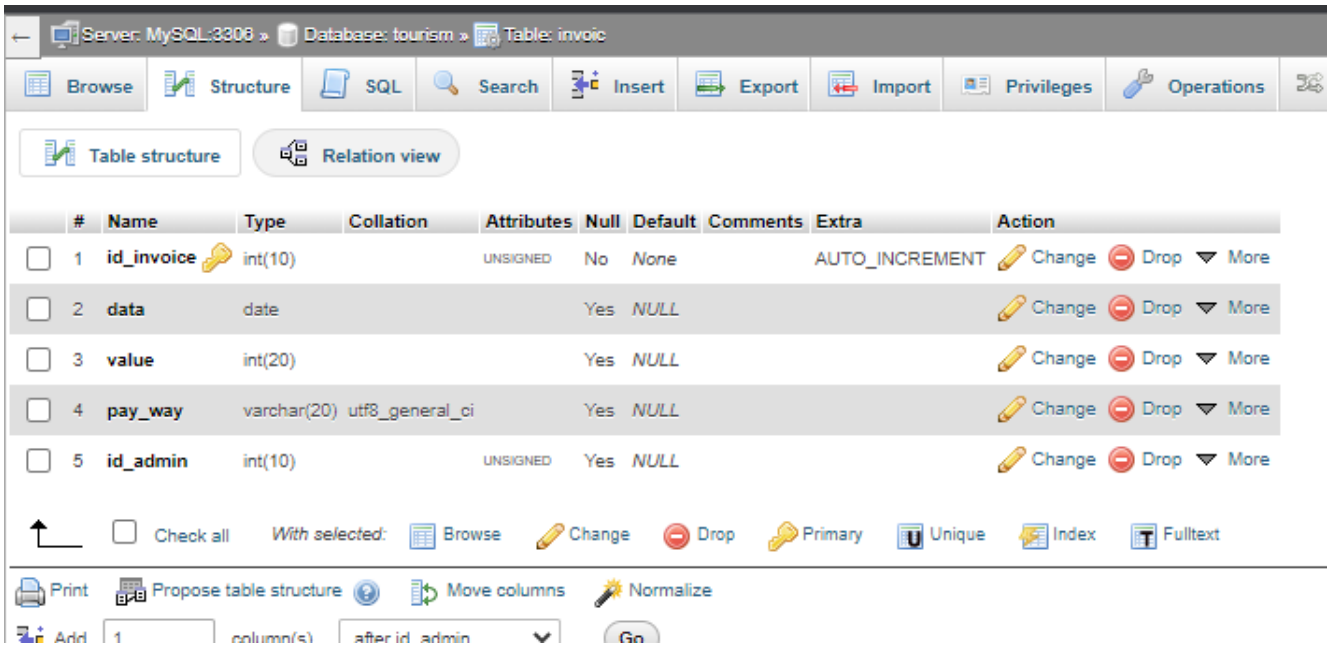

Figure 29: invoice table

5.2.2.11. tourist_guide table

tourist guide consists of 5 attributes which are “id”, “degree”,”date”, “id_guide”, “id_tourist” . The primary key of this table is “id_”, and its data type is integer. Id_guide and Id_tourist are foreign keys.

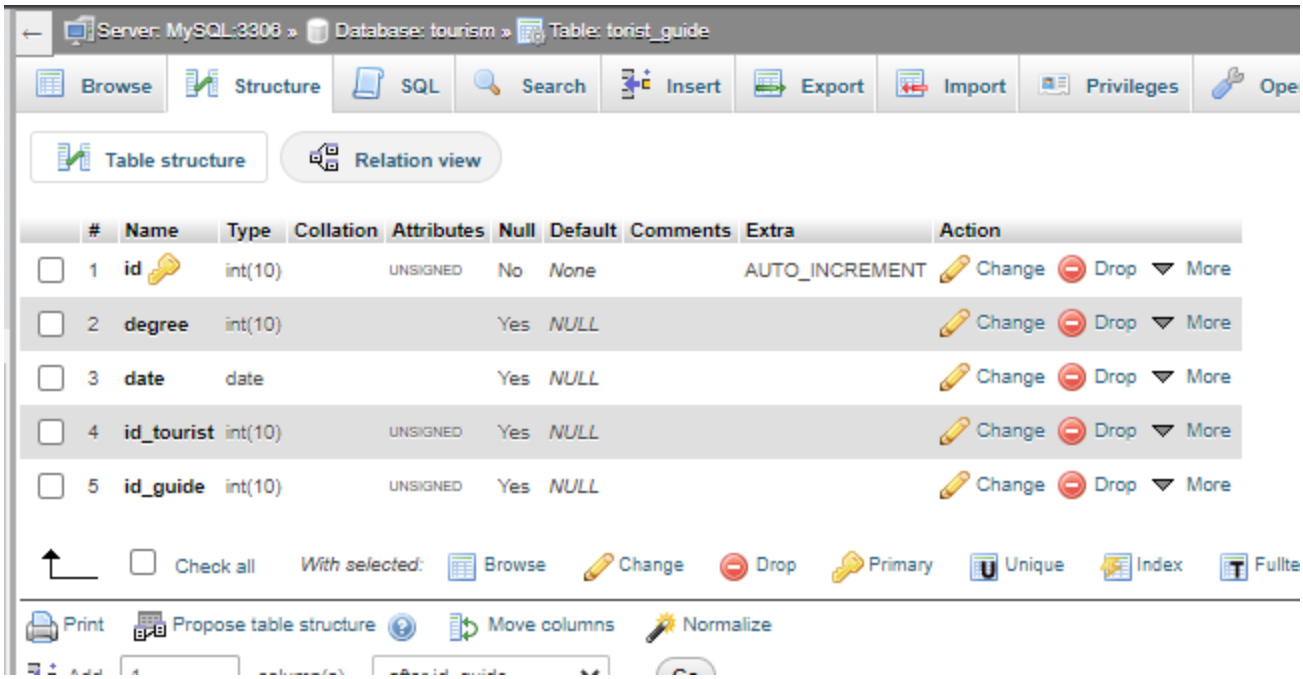

Figure 30: tourist guide table

5.3. BUILDING THE SYSTEM INTERFACES

In this section, the main part of the code and website interfaces will be discussed.

5.3.1.Sign up page

This interface displays the account creation page in the system, through which the user can create an account using the following data: name, email, password, phone number.

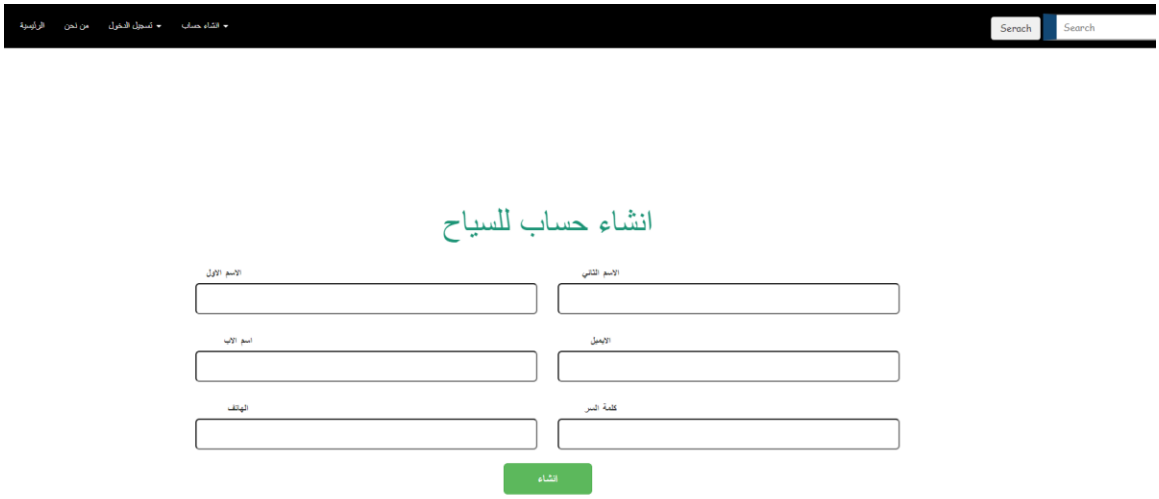

Figure 31: signup page

5.3.2.Login page

This interface displays the login page in the system, through which the user can log in using the following data: email, password.

Figure 32: login page

5.3.3.Home page

This interface displays the main page of the site through which the user can search for tourism places, browse the about us, and this page contains icons for login and signup.

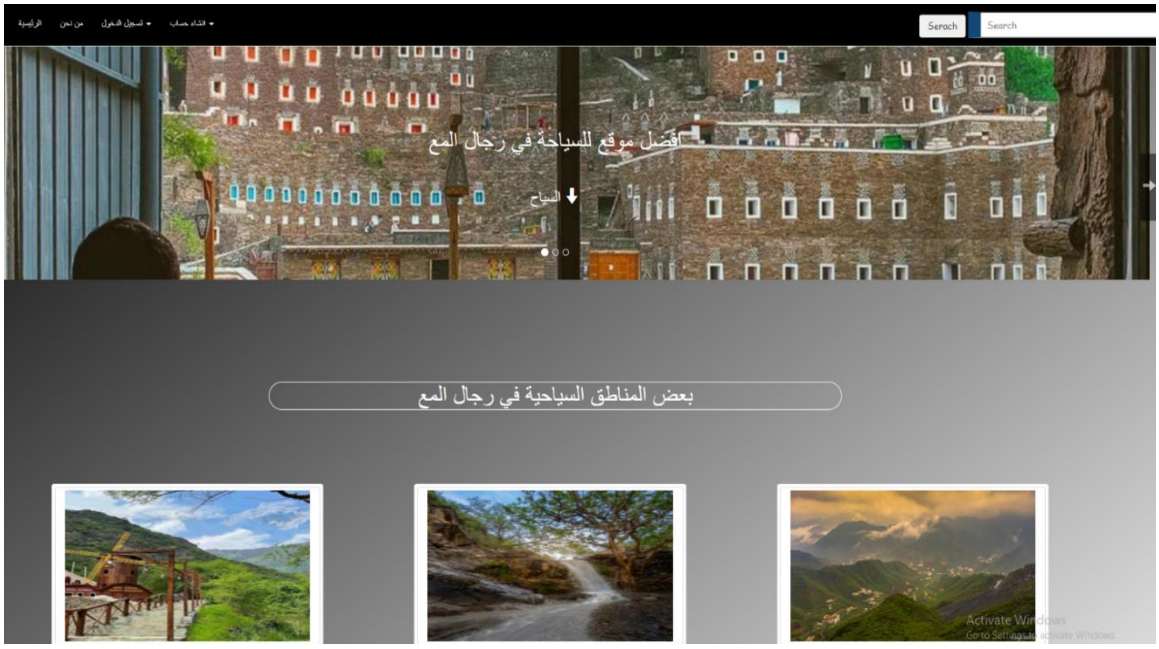

Figure 33: home page

5.3.4.Tourist page

This interface is the profile page of the tourist, through which he can see his profile, evaluate the guide, view the tours he has booked and offers, and log out of the website.

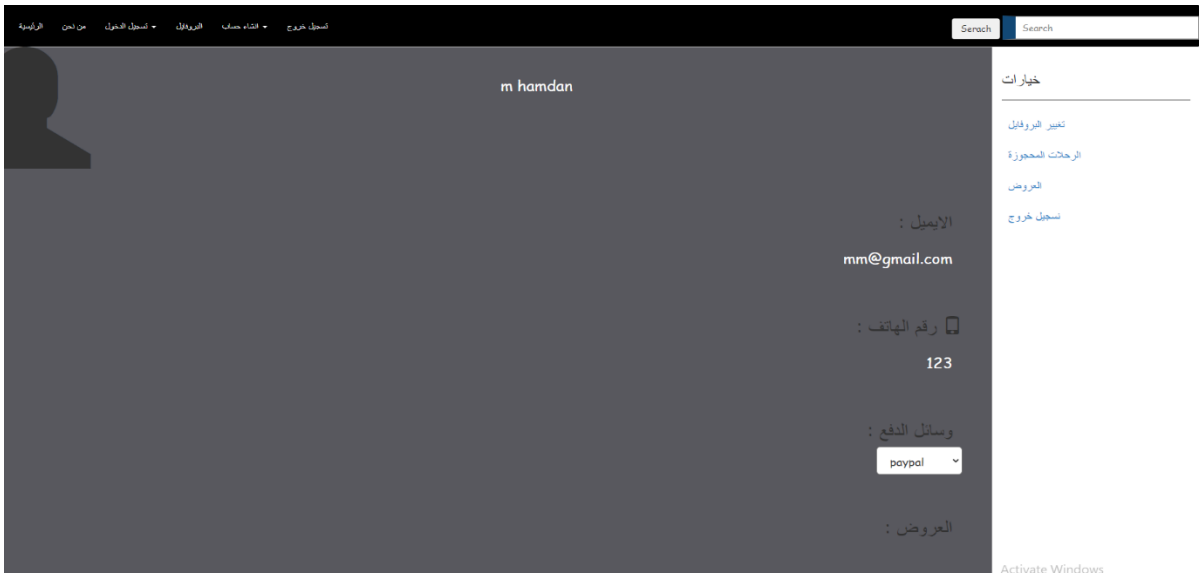

Figure 34: Tourist Page

5.3.5.Guide page

This interface is intended for the tour guide, through which he can view his profile information and view the reviews added by tourists. He can also, through this interface, add trips and log out of the website.

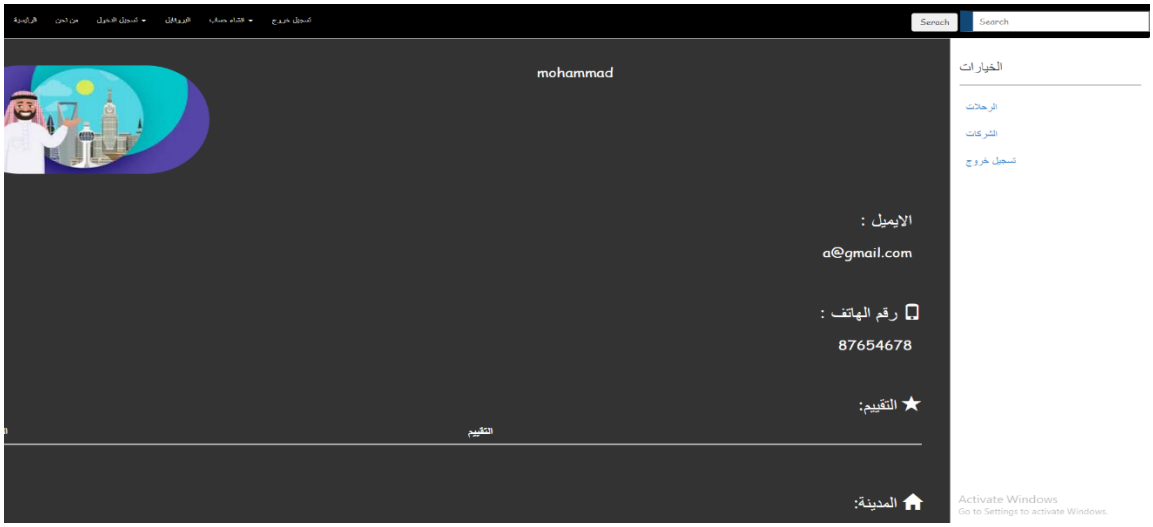

Figure 35: guide page

5.3.6.Admin page

This interface is the dashboard for the admin, through which he can fully manage the site by managing the site's users (tourists, guides, and companies).

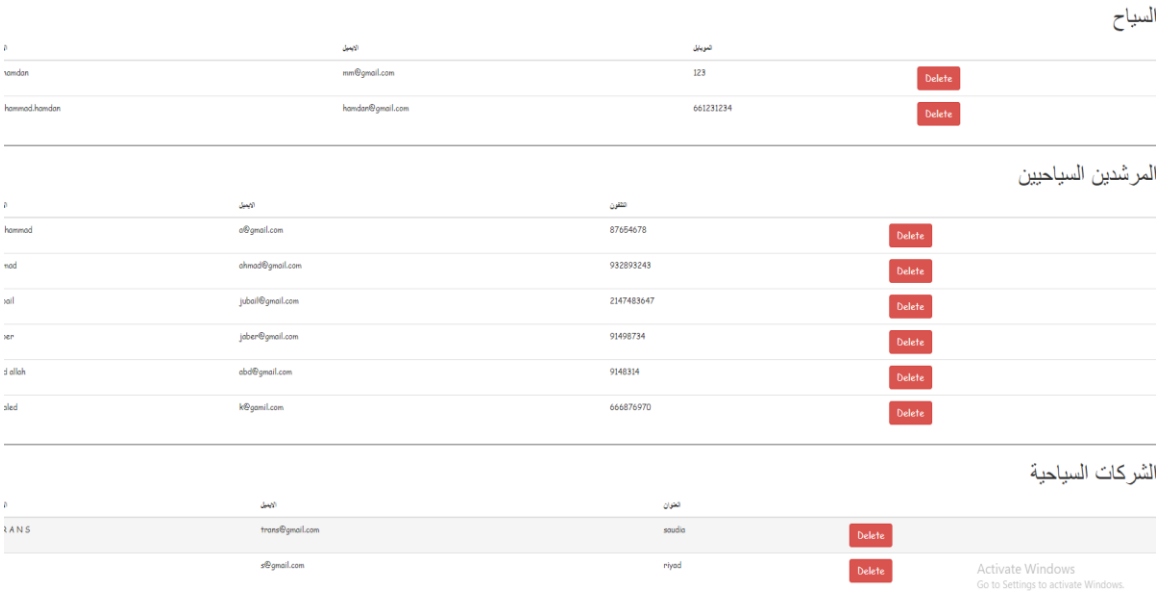

Figure 36: Admin page

5.3.7.Company page

This interface is for companies so that every company that has created an account on the site can access this interface and do the following: manage profiles, manage trips, manage offers, manage guides, and log out.

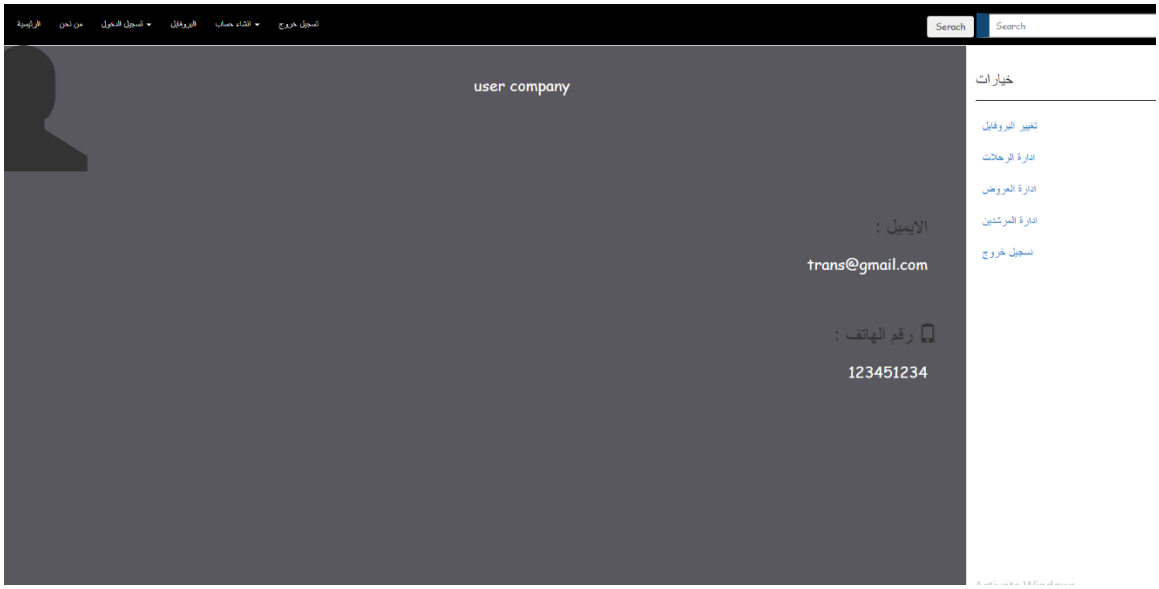

Figure 37: Company page

5.3.8.Add Trip page

Through this interface, the company can add a new trip by adding the following information: trip type, trip description, destination, trip value.

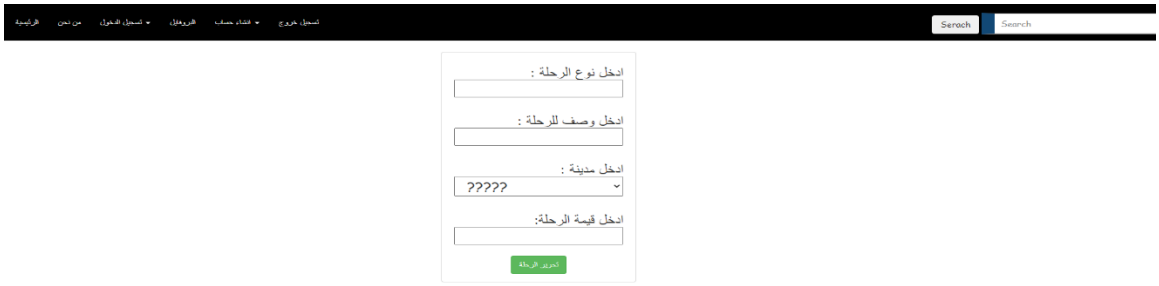

Figure 38: Add Trip page

5.3.9.Add offer page

Through this interface, the company can add new offers by adding the following offer details: offer start date, offer end date, city.

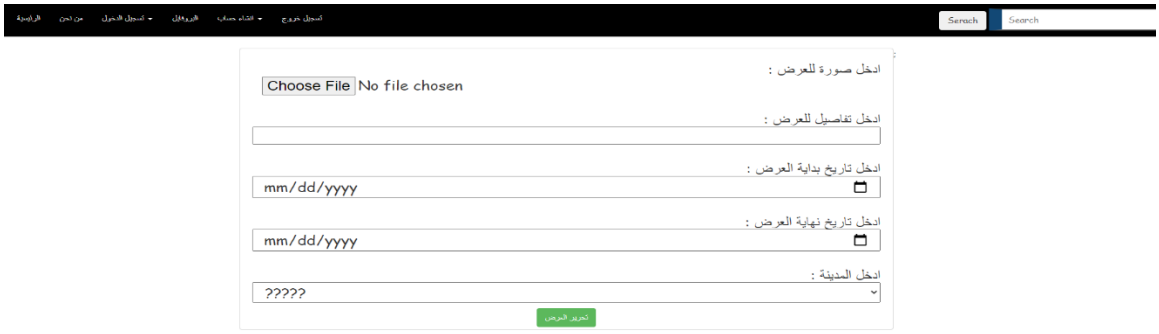

Figure 39: Add offer page

5.3.10. Trip booking page

Through this interface, the tourist can send a reservation request for the trip by adding the following data: the duration of the trip, the start date of the trip.

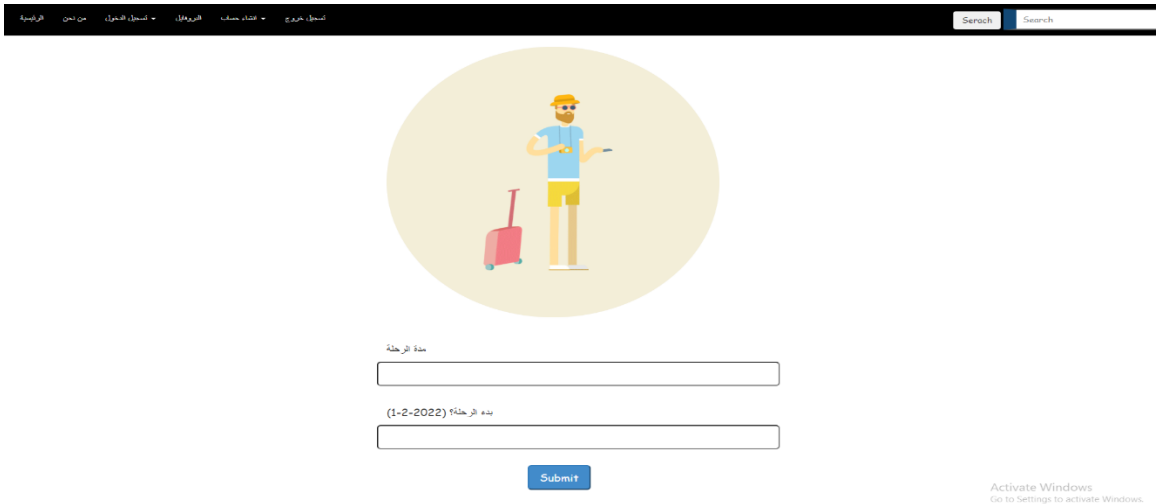

Figure 40: Trip booking page

5.3.11. Guide selection page

This interface helps the tourist to review the tour guides and choose the guide that suits them.

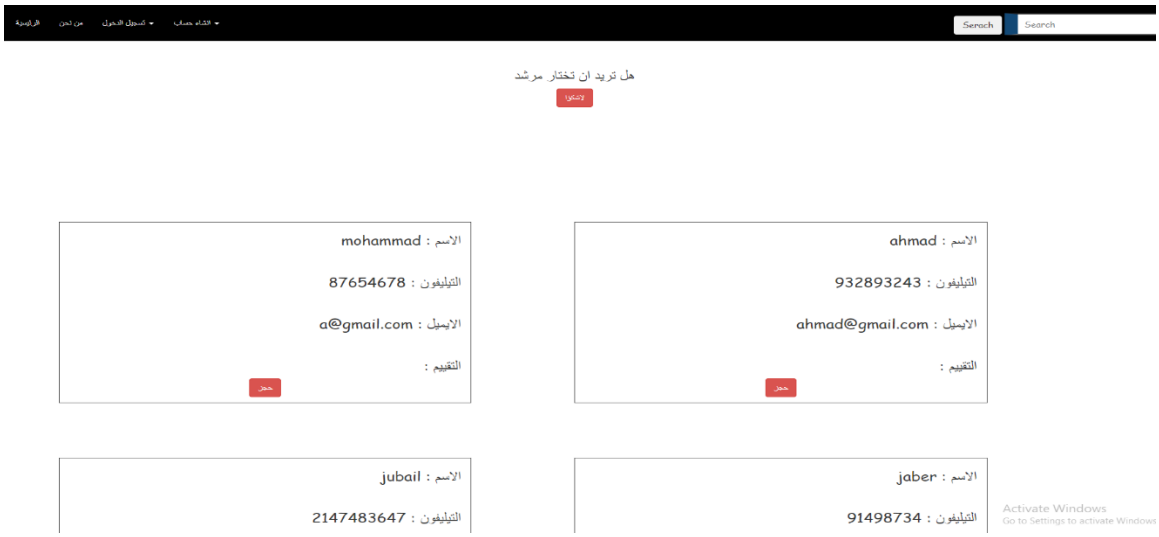

Figure 41: guide selection page

5.3.12. Guide Management page

This interface is intended for companies to manage guides, as it displays information about all guides and their ratings.

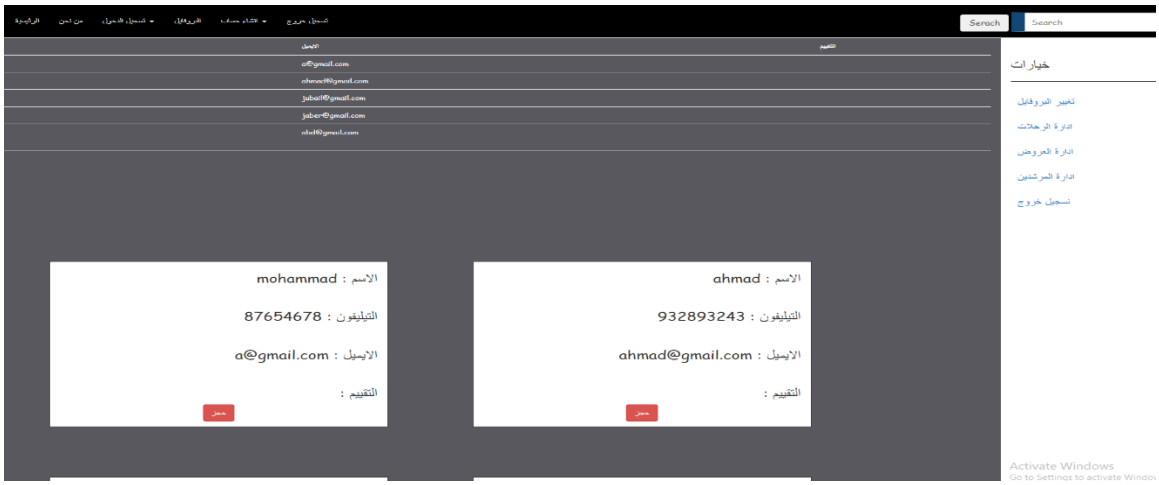

Figure 42: Guide Management page

5.4. Main Codes

5.4.1.Sign up page code

```
    <form action="./process/process_signup_guide.php" method="POST">
            <div class="col-sm-7  col-xs-12">

                <!------------------------------->
                <p style="font-size: 50px;color: rgb(28, 148, 118);">انشاء
حساب للمرشدين</p>

                <!------------------------------->
                <br>
                <span class=" center-block" style="margin-block-end:
60px;">

                <div class=" col-xs-6">
                    <label for="f_name" class="col-xs-6 col-xs-pull-1">الاسم
الاول</label>
                    <input type="text" name="f_name" id="" class="input-lg
col-xs-12">
                </div>

                <div class=" col-xs-6">
                    <label for="l_name" class="col-xs-7 col-xs-pull-2"
>الاسم الاخير</label>
                    <input type="text" name="l_name" id="" class="input-lg
col-xs-12">
                </div>
            </span>

                <!------------------------------->

                <span class=" center-block" style="margin-block-end:
60px;">
        <br><br>

        <div class="col-xs-6">
```

```
            <label for="father_name" class="col-xs-7 col-xs-pull-2">اسم
الاب</label>

            <input type="father_name" name="father_name" class="input-
lg  col-xs-12">
        </div>


        <div class="col-xs-6">
            <label for="user_name" class="col-xs-3">اسم المستخدم</label>
            <input type="text" name="username" id="" class="input-lg col-
xs-12" >
        </div>

    </span>

                <!------------------------------->
                <span class=" center-block" style="margin-block-end:
60px;">
        <br><br>

        <div class="col-xs-6" >
             <label for="password" class="col-xs-3">كلمة السر</label>
            <input type="password" name="password" id="" class="input-lg
col-xs-12">
        </div>


        <div class="col-xs-6">
            <label for="mobile" class="col-xs-3">الهاتف</label>
            <input type="text" name="mobile" id="" class="input-lg col-xs-
12">
        </div>
         </span>

                <!------------------------------->

                <span class=" center-block" style="margin-block-end:
60px;">
        <br><br>

        <div class="col-xs-6" >
```

```
             <label for="email" class="col-xs-3">الايميل</label>
            <input type="email" name="email" id="" class="input-lg col-xs-
12">
        </div>

        <div class="col-xs-6" >
             <label for="licence" class="col-xs-3">الخبرة</label>
            <input type="text" name="licence" id="" class="input-lg col-
xs-12">
        </div>

         </span>

                <!-------------------------------->

                <span class=" center-block" style="margin-block-end:
60px;">
        <br><br>




        <div class="col-xs-6">
            <label for="address" class="col-xs-3">العنوان</label>

            <select  name="address"  class="input-lg col-xs-12">

            <?php

            require_once("./function/function.php");

            $conn = connect_db();

                $q = "SELECT * FROM country";

                $r = mysqli_query($conn , $q);

                $arr = array();

                while( $row = mysqli_fetch_assoc($r))
                {
                    $arr[] = $row;
```

```
                }

                foreach($arr as $k => $v)
                {
                    echo"<option value='$v[id]'>$v[name]</option>";
                }
            ?>
             </select>

        </div>
         </span>

                <!------------------------------>









                <!------------------===========-------->
                <div class="col-xs-12">
                    <button type="submit" class="btn btn-success btn-lg
center-block" style="margin-top: 20px; padding-inline:50px">انشاء</button>
                </div>
            </div>
        </form>
```

Figure 43: sign up code

5.4.2.login page code

```
   <!------------------------------------------->
        <form action="./login_admin.php" method="POST" style="margin-
top:50px;">
            <div class="col-sm-7  col-xs-12">

                <!-------------------------------->
                <p style="font-size: 50px;color: rgb(28, 148, 118);"> تسجيل
الدخول للادمن</p>

                <!-------------------------------->
                <br>
                <span class=" center-block" style="margin-block-end:
60px;">

                <div class=" col-xs-6">
                   <h3> <label for="email" class="col-xs-
6">الايميل</label></h3>
                    <input type="email" name="email" id="" class="input-lg
col-xs-12">
                </div>

                <div class=" col-xs-6">
                    <h3><label for="pass" class="col-xs-7" > كلمة
السر</label></h3>
                    <input type="password" name="pass" id="" class="input-
lg col-xs-12">
                </div>
            </span>

                <!-------------------------------->
```

Figure 44: login code

5.4.3. Home page code

```
 <div id="myCarousel" class="carousel slide col-xs-12" style="margin-top:-
50px;">
            <!-- Carousel indicators -->
            <ol class="carousel-indicators">
                <li data-target="#myCarousel" data-slide-to="0"
class="active"></li>
                <li data-target="#myCarousel" data-slide-to="1"></li>
                <li data-target="#myCarousel" data-slide-to="2"></li>
            </ol>
            <!-- Carousel items -->
            <div class="carousel-inner text-center" style="margin-
top:30px;">
                <div class="item active col-xs-12 " id="item_1">
                  <h1 class=" text-center">افضل موقع للسياحة في  رجال المع</h1> <br>

                  <h3 class=" text-center"> السياح<span class=" glyphicon
glyphicon-arrow-down"></span></h3>



                </div>

                <div class="item col-xs-12" id="item_2">
                <h1 class=" text-center">سوف تجد في حياكم افضل العروض للرحلات</h1>
<br>

                <h3 class=" text-center">  العروض<span class=" glyphicon
glyphicon-arrow-down"></span></h3>

                <a href="./home_tourists_showing.php?"><button class="btn-
lg btn-default" style="margin-
top:50px;">العروض</button></a>

                </div>

                <div class="item col-xs-12" id="item_3">
```

```
                <h1 class=" text-center"> في حياكم ايضا يمكنك ان تختار المرشد الذي
يناسبك</h1> <br>

                <h3 class=" text-center"> المرشدين السياحيين<span class="
glyphicon glyphicon-arrow-down"></span></h3>

                <a href="./home_tourist_guide.php?"><button class="btn-lg
btn-default" style="margin-top:50px;">المرشدين السياحيين</button></a>



                </div>

            </div>
            <!-- Carousel nav -->
            <a class="carousel-control left" href="#myCarousel" data-
slide="prev" style="width: 30px; height:100px; margin-block-
start:10%;  background-color:black; color:white;"> <span class=" glyphicon
glyphicon-arrow-left" style ="margin-top:120%;"></span></a>
            <a class="carousel-control right" href="#myCarousel" data-
slide="next" style="width: 30px;  height:100px; margin-block-start:10%;
background-color:black; color:white; "><span class=" glyphicon glyphicon-
arrow-right" style ="margin-top:120%;"></span></a>
        </div>
        <!-------------->
    <!----------------------->

   <h1 class=" text-center" style="margin-block-start:500px; color:white ;
border-radius:100px;border:1px solid white; margin-inline:500px;"> بعض المناطق
السياحية في رجال المع</h1>

    <div class="col-xs-11 " style="margin-block-start:100px;">

    <?php  foreach($arr as $key => $v){
        echo "
           <a href='./home_tourist.php?id_country=$v[id]'> <span
class='col-xs-3 col-xs-offset-1 thumbnail'  ><img
src='./img/new/$v[photo].JPEG'  style='height:235px;' class='img-thumbnail
col-xs-12'><br>
                <h2 class='text-center'>$v[name]</h2>
            </span>
            </a>
```

```
    ";}?>

    </div>
     <!------------------------>
    </div>
```

Figure 45: Home page code

6. Chapter 6: Testing and Validation

6.1. Introduction

This chapter will contain a test plan that outlines the testing strategy and structure that will be used to test the suggested project. Test cases, test plans, and test outcomes are all covered in this chapter.

6.2. Test Plan

Software testing is the process of assessing a software application's functionality in order to determine whether or not the developed software satisfies specified requirements and to find bugs in order to ensure that the product is free from errors and, ultimately, to deliver a high-quality product.

A test plan is a document that details all upcoming testing-related tasks. It details the work items that will be tested, how they will be tested, and how the testers will be divided up according to the test type. A test manager will create an exam plan before the examination even begins.

6.2.1.Features to be tested (Tourist, guide, Admin)

• Registration: Test the registration function successfully and correctly on the site.

• Login (tourist, guide, admin): Test the functionality of the login process successfully and correctly on the site.

Add trips: Test the functionality of the guide's ability to add trips to the website.

• Search: Test the function of the tourist's ability to search for tourist trips in the site.

Adding a reservation request for trips: Test the ability of the tourist to send a reservation request for trips through the site.

• Administrator management (add new user): Test that new users are successfully and correctly added in the site.

6.2.2.Test strategy

This section describes the test levels that ultimately led to a complete and correct system.

6.2.2.1. Functional testing

It is a type of software testing that examines a software application's functionality to see if it performs in accordance with the requirements. Each function is tested in functional testing by providing a value, defining an output, and comparing the actual output to the expected value. Functional testing is carried out as a type of "black box" test to make sure that an application or system functions as expected.

Table 19: Functional testing

Function ID	Function	Expected Function	Pass
1	Register	User must register by writing their valid(first name, parent name, last name, phone number, email, phone number)	✓
2	Login	User must login by writing their email, and valid password	✓
3	Add trips	The guide must be able to enter trips on the site by entering: trip description, trip type. If he logged in successfully	✓
4	Search for trips	The tourist must obtain the correct results if they are available in the	✓

		database after he enters the type of trip.	
5	Adding a reservation request for trips	The tourist must be able to add a reservation request for the trip by entering the date and number of days.	✓
6	Manage (add new user)	Admin can add new user by entering the valid required information	✓

6.2.2.2. Unit testing

Unit testing is a type of software testing in which the smallest piece of code that can be logically isolated in a system is tested and is a testing technique by which individual units are tested to determine if there are any issues on the developer's own side. It is concerned with the functional health of the independent units. The main objective is to isolate each unit of the system to identify, analyze and repair faults.

Table 20: Unit testing

Num	Unit task	Input	Expected Out put	Pass
1	Enter invalid email register user .	fff.com	Error message should appear	✓
2	enter wrong e-mail and password where not exist in data base	jjj@gmail.com 1234578	error message should appear	✓

3	Enter Invalid email and click Login button.	“nnnn”	error message should appear	pass ✓
5	Not filling the whole registration form		Error message should appear and ask to fill the missing test field.	pass ✓
	Not entering all the information in the add trip form		Error message should appear and ask to fill the missing test field.	pass ✓
	Not entering all the information in the form to add a reservation for the trip, for example, not specifying the number of days		Error message should appear and ask to fill the missing test field.	pass ✓

6.2.2.3. Usability testing

Usability testing is a non-functional testing technique used to measure the usability of a system by end users.

Table 21: Usability testing

Task	Task Time	Did any problem occur?	Pass
Register	25 s	No	✓

login	30 s	No	✓
Add trip	15 s	No	pass ✓
Search for trip	30 s	No	pass ✓
Adding a reservation request for trips	٦ s	No	pass ✓
Add user	٥ s	No	pass ✓

Success percentage for tourist: 85%

Success percentage for Admin: 83%

Success percentage for guide: 87%

Based on the previous test cases the usability percentage can be calculated by

The following equation:

(٨٥% + 8٣% + 87%) / 3 = 85%

Based on this percentage, we find that the site is easy to use.

6.2.2.4. User acceptance testing (UAT)

This is also called end user testing and is the final stage of the software testing process. User Acceptance Testing is used to determine whether the product is working properly for the user. The main objective of this test is to evaluate the compliance of the system with the business requirements and to assess whether it is acceptable for delivery or not.

Table 22: User Acceptance test table

	Ease of use			Functional			Move between pages			Response Time		
	Good	Average	bad	Good	Average	bad	Good	Average	bad	Good	Average	bad
Admin	✓			✓			✓			✓		
Tourist	✓			✓			✓			✓		
Guide	✓			✓			✓			✓		

6.3. Test Result

After the site testing process, we can say that the site suits the user's needs based on the following:

- Functional and false testing proved that the site provided all the required requirements.
- Unit test results that prove that the functionality and features of the site are working properly.
- Usability testing, which proved that the site is easy to use and responsive.

7. Chapter 7: Conclusion and Future Plan

7.1. Conclusion

We will build a system that can effectively organize trips and tourism offers in the Rijal Al-Maa region, as this system has many advantages that make it an effective contributor to organizing tourism in this region, which will greatly help in achieving the vision of the Kingdom of Saudi Arabia 2030.

7.2. Future Plan

In the future, work will be done to provide the site with many services and features, the most important of which are:

- Developing website interfaces and making them more aesthetic.
- Developing an electronic application and linking it to the website.
- Expanding the site to include many tourist areas in the Kingdom of Saudi Arabia.
- Make the site available in many languages.

REFERENCES

- https://ar.wikipedia.org/wiki/%D8%B3%D9%8A%D8%A7%D8%AD%D8%A9
- https://www.lucidchart.com/pages/data-flow-diagram/data-flow-diagram-symbols
- https://www.bmc.com/blogs/dbms-database-management-systems/
- https://www.techtarget.com/searchdatamanagement/definition/database-management-system
- https://ro.ecu.edu.au/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=2447&context=theses_hons
- https://www.propertyfinder.sa/blog/%D9%82%D8%B1%D9%8A%D8%A9-%D8%B1%D8%AC%D8%A7%D9%84-%D8%A7%D9%84%D9%85%D8%B9
- https://www.directionsksa.com/search-page?search_api_fulltext=%D8%B1%D8%AC%D8%A7%D9%84+%D8%A3%D 9%84%D9%85%D8%B9
- https://www.visitsaudi.com/ar/see-do/destinations/abha/rijal-almaa-of-aseerhttps://www.w3.org/standards/webdesign/htmlcsshttps://www.freec odecamp.org/news/
- what-is-php-the-php-programming-language-meaning-explained/