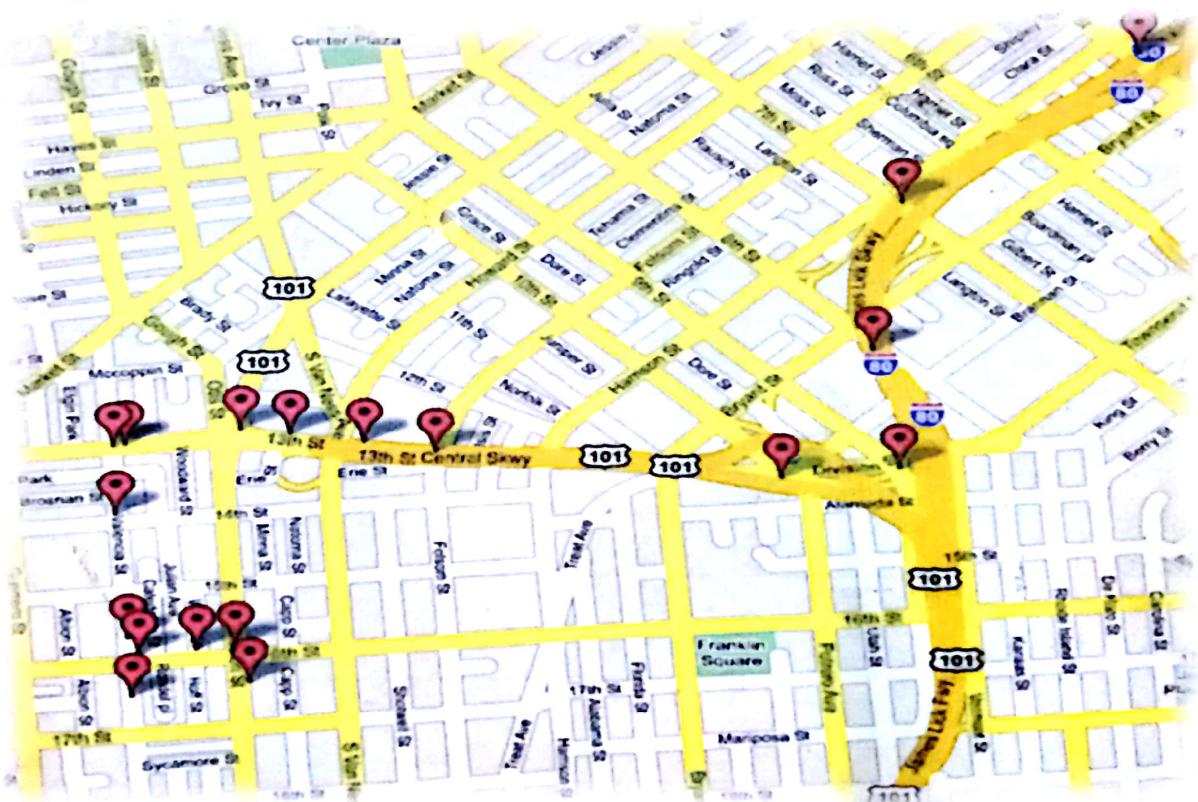




Real Estates Management Web Site With Google Maps API V3 .

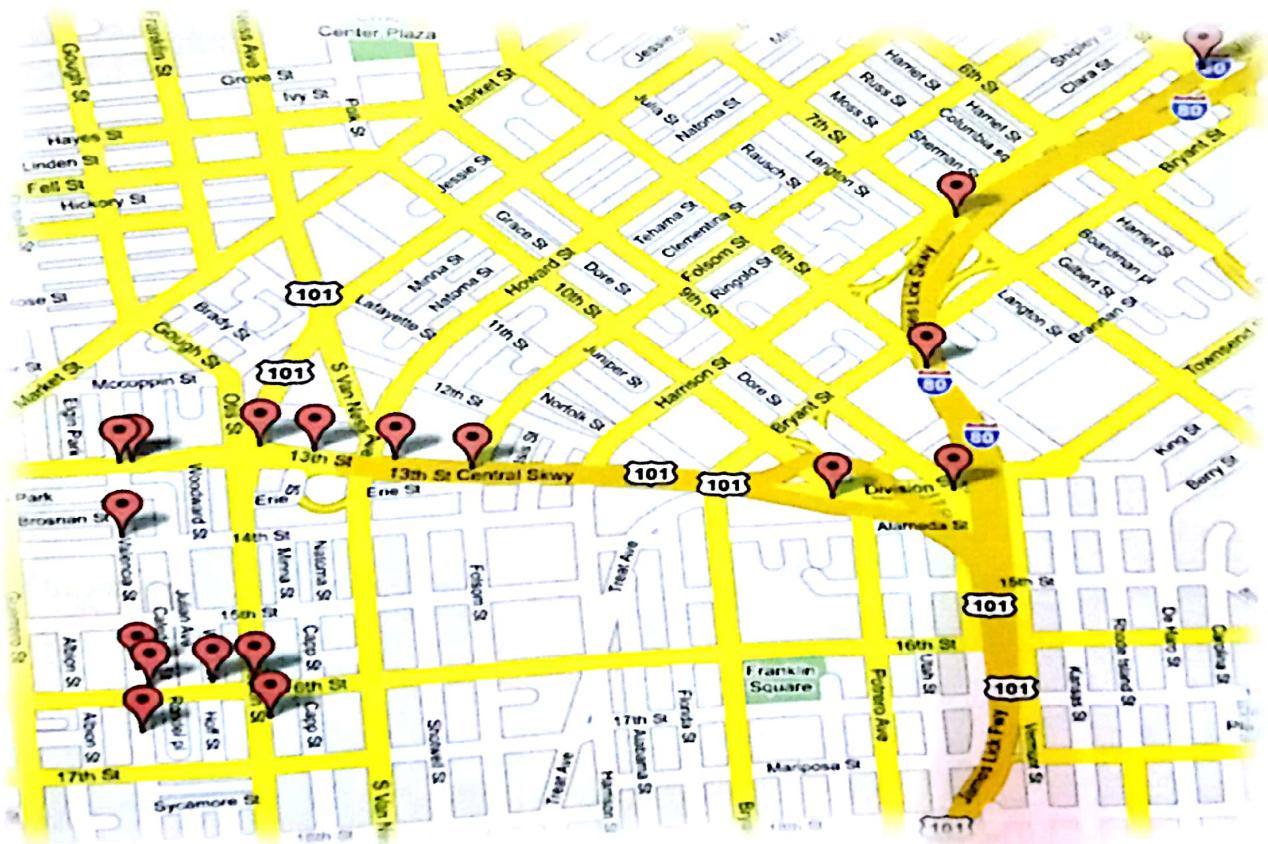


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Assistant : Amr Mohamed abdelatif



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Zagazig university

Faculty of computers and informatics

Real estates management web site with google maps API v3

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**A Graduation Project Report Submitted to the Faculty of Computers
and Informatics at Zagazig University**

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Chapter 1:Introduction

1.1 Introduction

As the number of people increase, housing problems increase and the chance to find suitable apartment decreases so a web site for real estates is required to solve such a problem, real estates web site is a good solution .

1.2 System background

The project we attained to do is consist of two parts:

First part:

Owner :-Offer his house/apartment for rent , sell and show.

Second part

Client / User :- Everyone who accesses the system to rent , sell and view house and images and may give house specification to ask.

1.3 Strategy of collecting data:

- Forms and databases.
- Research and visiting sites.
- From similar web sites
- Questionnaires.
- Interviews.

1.4 Software used in this project:

- 1- NetBeans
- 2- My SQL
- 3- Workbench
- 4- Apache
- 5-PHP
- 6-Software Idea Modeler

1.4.1 :NetBeans

The Netbeans IDE is an integrated development environment available for Windows, Mac, Linux, and Solaris. The Netbeans project consists of an open-source IDE and an application platform that enable developers to rapidly create web, enterprise, desktop, and mobile applications using the Java platform, as well as Java FX, PHP, JavaScript and Ajax, Ruby and Ruby on Rails, Groovy and Grails, and C/C++. The Netbeans offers extensive documentation and training resources as well as a diverse selection of third-party plugging. We used NetBeans especially to edit PHP Files.

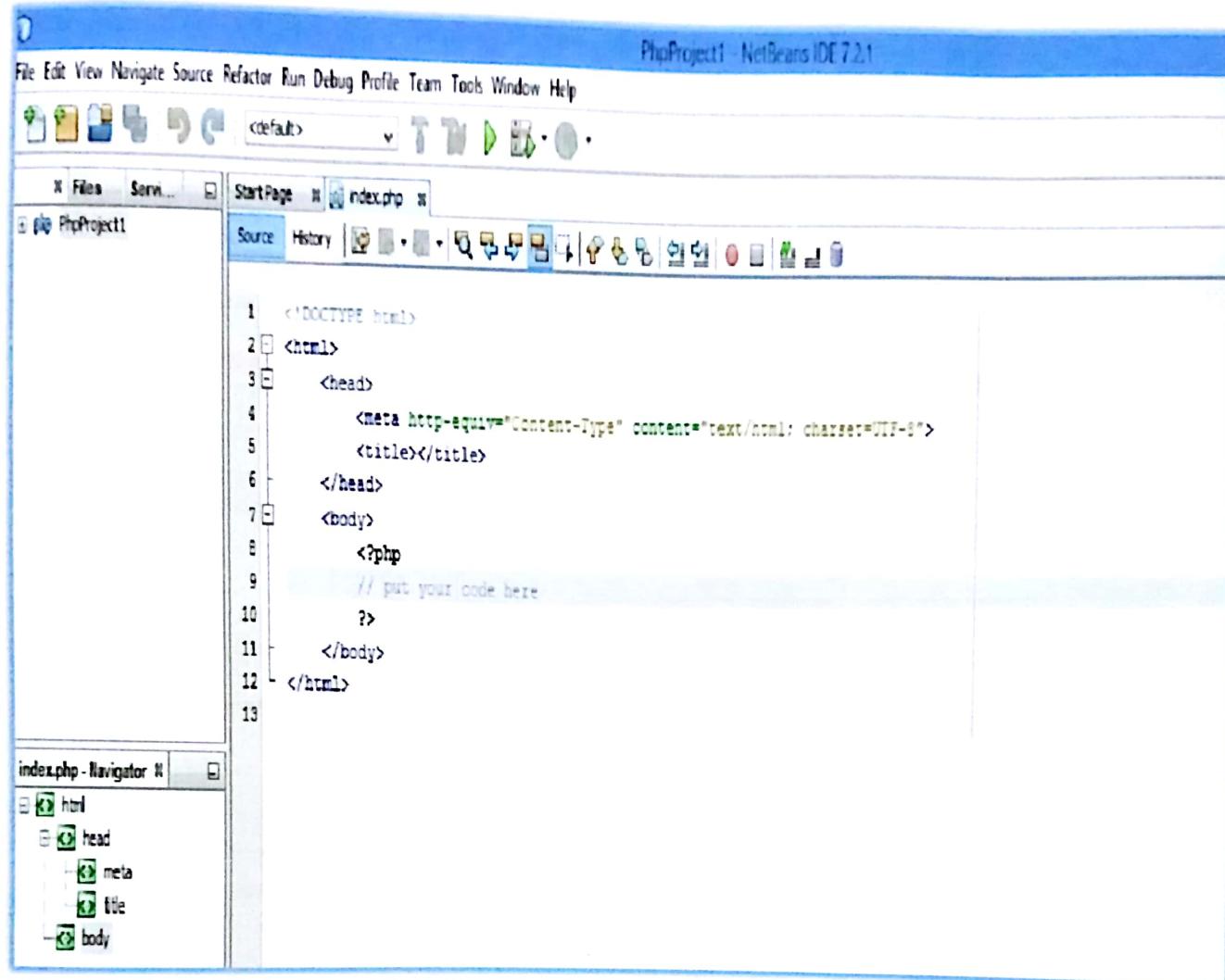


Figure 1 :NetBeans

1.4.2 :MySQL

My SQL is the world's most used open source relational database management system (RDBMS) that runs as a server providing multi-user access to a number of databases. The SQL phrase stands for Structured Query Language.

1.4.3 : MySQL Workbench

MySQL server also support MySQL Workbench . it enables us to draw tables and then tables are converted to sql statements to run on the MySQL server

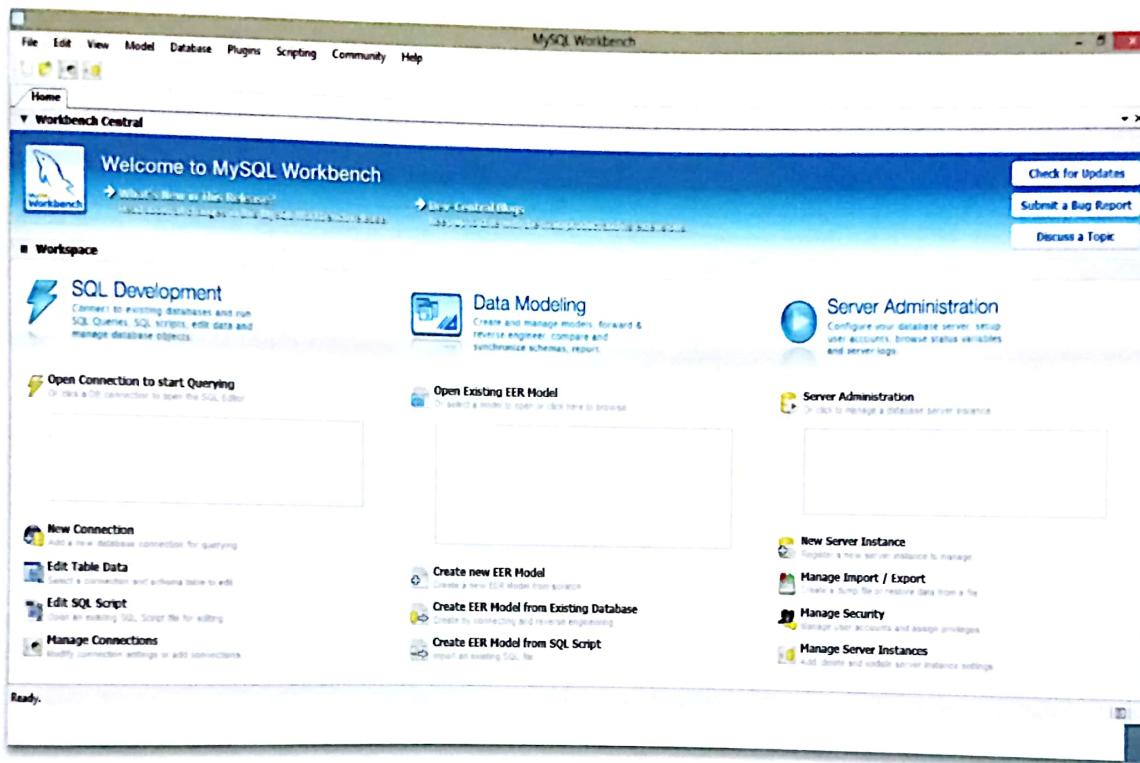


Figure 2 : MySQL Workbench

1.4.4 : Apache

The Apache HTTP Server, commonly referred to as Apache is a web server software program notable for playing a key role in the initial growth of the World Wide Web.[3] In 2009, it became the first web server software to surpass the 100 million website milestone.[4] Apache was the first viable alternative to the Netscape Communications Corporation web server (currently named Oracle iPlanet Web Server).

Typically Apache is run on a Unix-like operating system,[5] and was developed for use on Linux.

Apache is developed and maintained by an open community of developers under the auspices of the Apache Software Foundation. The application is available for a wide variety of operating systems, including Unix, FreeBSD, Linux, Solaris, Novell NetWare, OS X, Microsoft Windows, OS/2, TPF, and eComStation. Released under the Apache License, Apache is open-source software.

Apache was originally based on NCSA HTTPd code. The NCSA code has since been removed from Apache, due to a rewrite.

Since April 1996 Apache has been the most popular HTTP server software in use. As of June 2013, Apache was estimated to serve 54.2% of all active websites and 53.3% of the top servers across all domains.

1.4.5 : PHP

PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language. PHP is now installed on more than 244 million websites and 2.1 million web servers. Originally created by Rasmus Lerdorf in 1995, the reference implementation of PHP is now produced by The PHP Group. While PHP originally stood for Personal Home Page, it now stands for PHP: Hypertext Preprocessor, a recursive acronym.

PHP code is interpreted by a web server with a PHP processor module which generates the resulting web page: PHP commands can be embedded directly into an HTML source document rather than calling an external file to process data. It has also evolved to include a command-line interface capability and can be used in standalone graphical applications.

PHP is free software released under the PHP License, which is incompatible with the GNU General Public License (GPL) due to restrictions on the usage of the term PHP. PHP can be deployed on most web servers and also as a standalone shell on almost every operating system and platform, free of charge.

1.4.6 : Software Idea Modeler

Software Ideas Modeler is a CASE and an UML tool. The modeler supports all 14 diagram types specified in UML . It also supports among others the following diagrams and standards:

- ERD diagrams , BPMN 2.0 , SysML , JSD , CRC , flowcharts ,data flow diagram, and Mind maps .

Software Ideas Modeler is the work of Slovak software developer Dušan Rodina, who started programming by the age of 10. The software is writtenin C#.

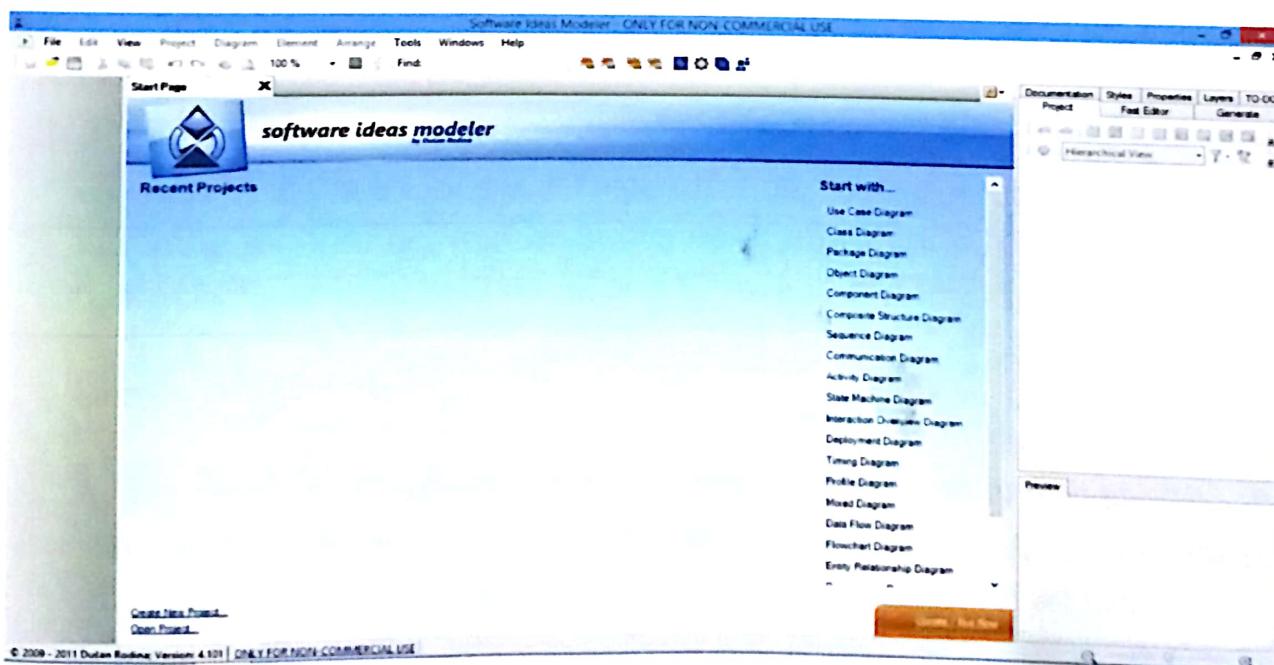


Figure3 :Software Idea Modeler

1.5 Technologies Used:

1- Google maps API v3.

2- HTML , HTML5.

3- CSS , CSS3.

4- javascript ,jquery

5- PHP

6- My SQL.

1.5.1 Google map:

Google Maps is a Google service offering powerful, user-friendly mapping technology and local business information including business locations, contact information, and driving directions.

Google Maps API:

A free service, available for use on any website that is free to consumers. It enables you to embed Google Maps in your web pages and includes a number of services for customizing and adding content to the map.

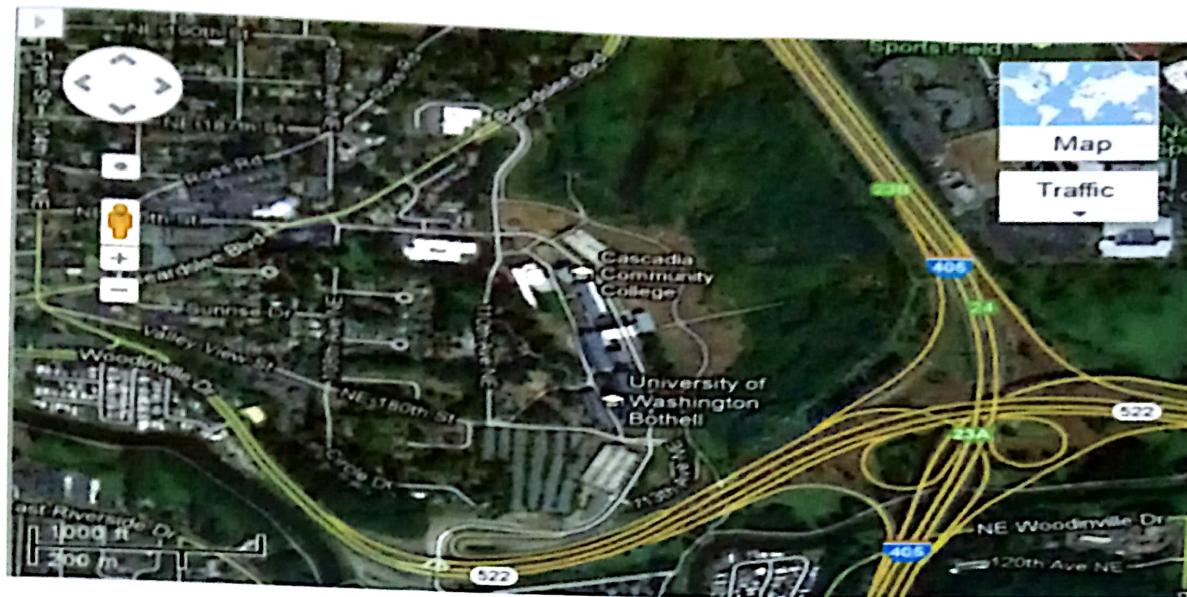


Figure 4 : Google Map Sataelite Type



Figure 5 : Google Map RoadMap Type

1.5.2 :HTML , HTML 5 :

HyperText Markup Language (HTML) is the main markup language for creating web pages and other information that can be displayed in a web browser.

HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like <html>), within the web page content. HTML tags most commonly come in pairs like <h1> (opening tag) and </h1>(closing tag), although some tags, known as empty elements, are unpaired, for example . The first tag in a pair is the start tag, and the second tag is the end tag (they are also called opening tags and closing tags). In between these tags web designers can add text, tags, comments and other types of text-based content.

The purpose of a web browser is to read HTML documents and compose them into visible or audible web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page.

HTML elements form the building blocks of all websites. HTML allows images and objects to be embedded and can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. It can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages.

Web browsers can also refer to Cascading Style Sheets (CSS) to define the appearance and layout of text and other material. The W3C, maintainer of both the HTML and the CSS standards, encourages the use of CSS over explicit presentational HTML markup. HTML5 is advanced HtML .

1.5.3 : CSS, CSS3

CSS stands for Cascading Style Sheets.

- Styles define how to display HTML elements.
- Styles were added to HTML4.0 to solve a problem.
- External Style Sheets can save a lot of work.
- External Style Sheets are stored in CSS files.

1.5.4 :Javascript

- JavaScript is a scripting language used to create dynamic and interactive web content. It has a wide range of applications, including e-commerce (online shopping) and advertising networks such as Google AdSense.
- . It can be used to create menus, validate forms, swap images, or just about anything else you can think has to do on a webpage. If you have ever taken a look at Google Maps or Google's Gmail service, you have an idea of what JavaScript is capable of today.

1.5.5 : PHP

PHP is a server side programming language that runs on the server , we used php in the project as the server side programming language, the php interpreter interprets the php codes and reach to the browser as HTML , CSS , Javascript .

1.5.6 : MySQL

MySQL is the world's most used open source relational database management system (RDBMS) that runs as a server providing multi-user access to a number of databases. The SQL phrase stands for Structured Query Language. The MySQL server used in this project to run SQL statements such as validation statements .

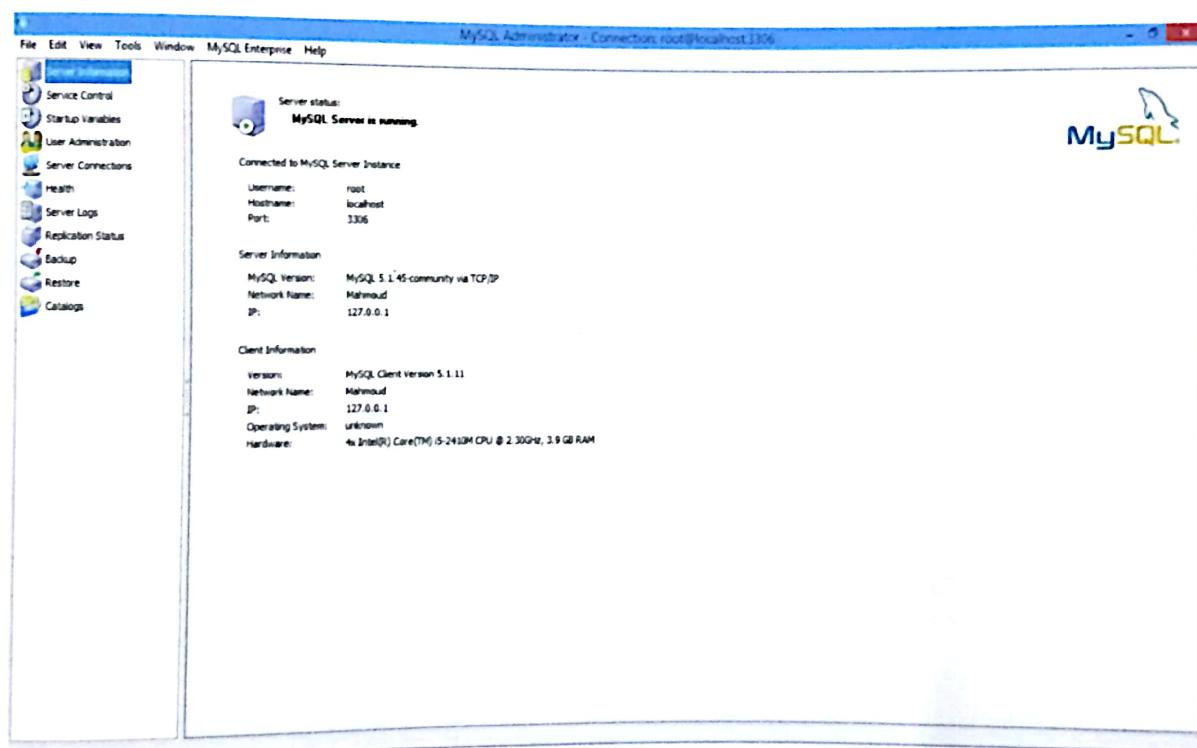


Figure 6 : MySQL server

Choose catalogs tab and select the database “ real_estates_project ” . this is the project database used to store the project

Chapter 2 :System Analysis and Design

System analysis: is the dissection of a system into its component pieces for purposes of studying how those component pieces interact and work. With respect to information system development, System analysis is the survey and planning of the system and project, the study and analysis of the existing business and information system, and the definition of business requirements and priorities for a new or improved system.

2.1 Step1: Identifying the actors of the system .

1 – Owner :

Offer his house/apartment for rent/sell, and make any real estate for showing. -

2-User / Client:

Everyone who access the system to rent/sell and view images of any property .

- May give house specification.

3-Authenticate system:

Authenticate all the system transaction. -

4-Information system:

- Store/access all the data of the project /system database such as:
- Store all database of all customers that is owner or user .-

- Store if apartments rent/sell or not.
- Store the money paid for using the system.

5-Maintenance operator :

- Check for the system problem such that: -

- .The system is crashed if there is a problem with customer can't deal with the system
- .Update/ maintenance / monitor the system periodically.

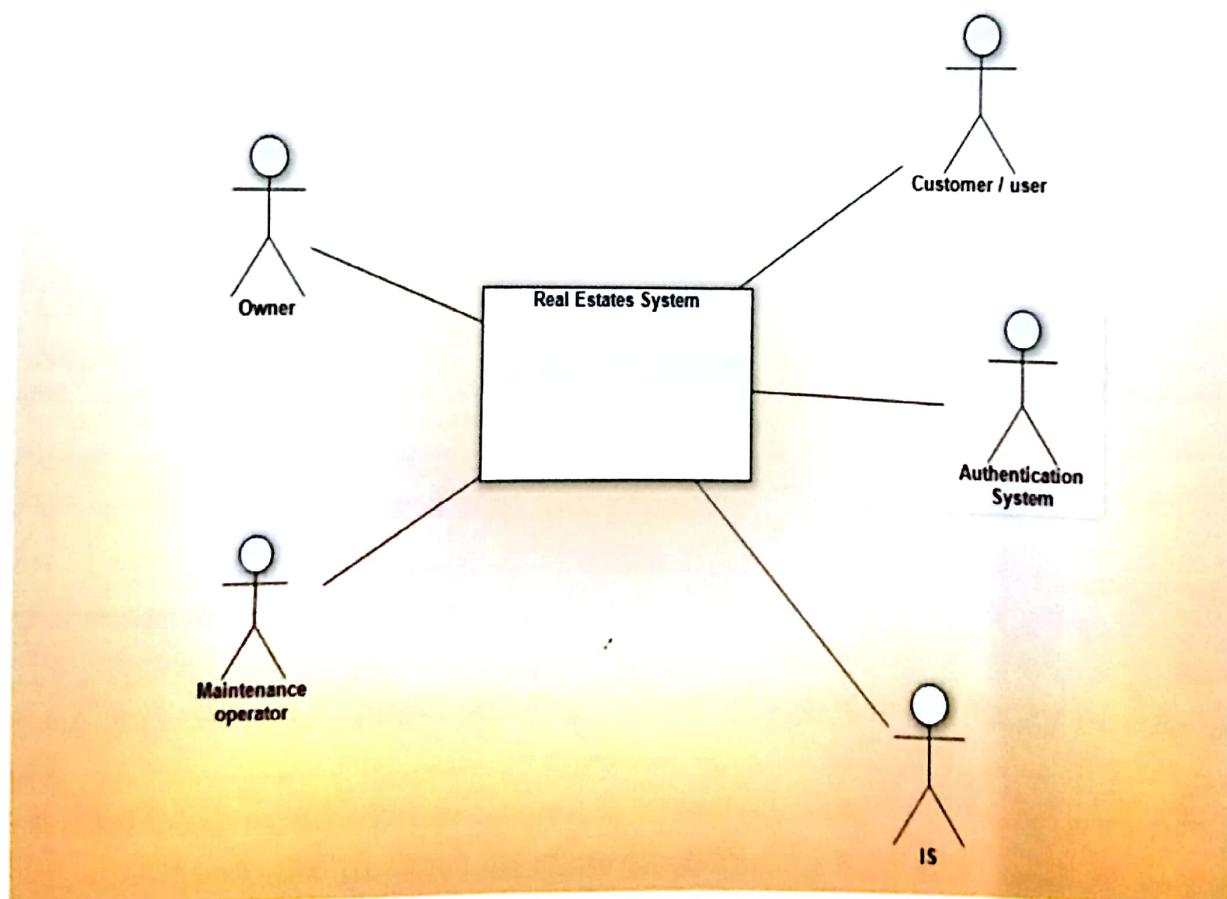


Figure 7 : Static Context Diagram

2.2 Step 2: Identifying use cases.

For owner :

- 1- Register.
- 2- Log in .
- 3- Pay for using system.
- 4- Add a property.
- 5- Upload Images.
- 6- Chat with other people .
- 7 – View Images
- 8- Confirm on user/client ant and send personal data.
- 9 – Send a contact message .

For Client / User :

- 1- Register .
- 2-Log in .
- 3- View Images.
- 4- Chat with other people .
- 5-.Search for a property .
- 6-Choose an apartment .
- 7-Send a contact message .
- 8- View images , buy and rent any property .

Information system:-

- 1 - Access/Store all database of all customers that is owner or client / user.
- 2- Access one or all of the offered apartments.
- 3- Access/Store the desired apartments DB.

Authentication system:-

- 1- Check user name.
- 2- Check password.
- 3- Check for matching between passwords confirm password.
- 4- Check for email account (valid/used).
- 5- Authenticate number of credit card.
- 6- Check the balance amount if it allows withdraws or not.
- 7- Give permission to access or not.

Maintenance operator:-

- 1- Update DB .
- 2- Maintain the system.
- 3- Recover the system.

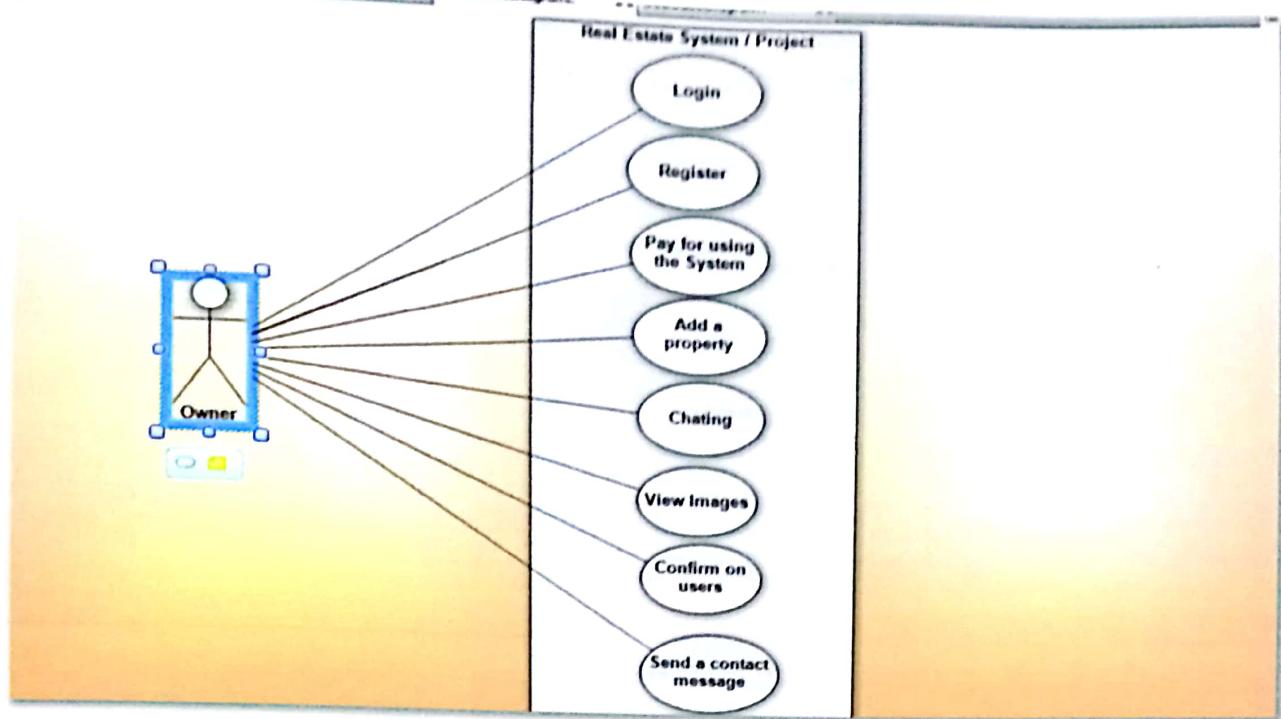


Figure 8 : Owner use case

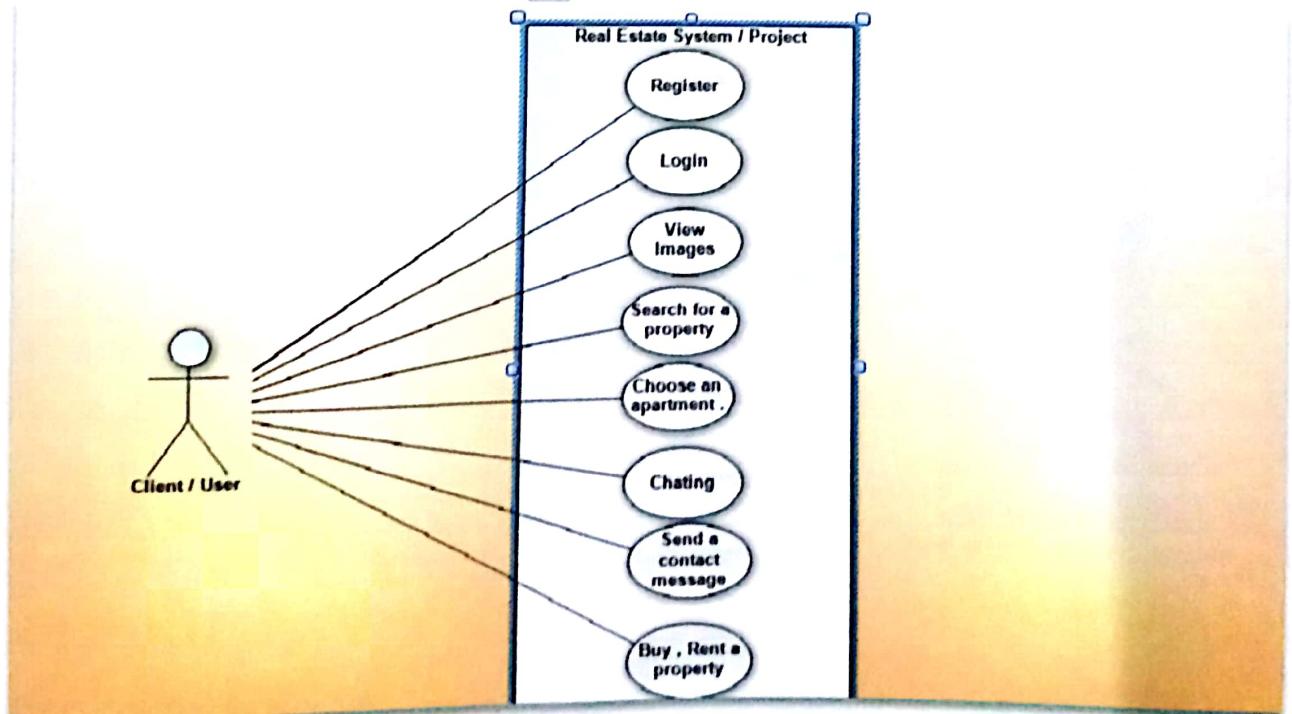


Figure 9 : Client / User use case

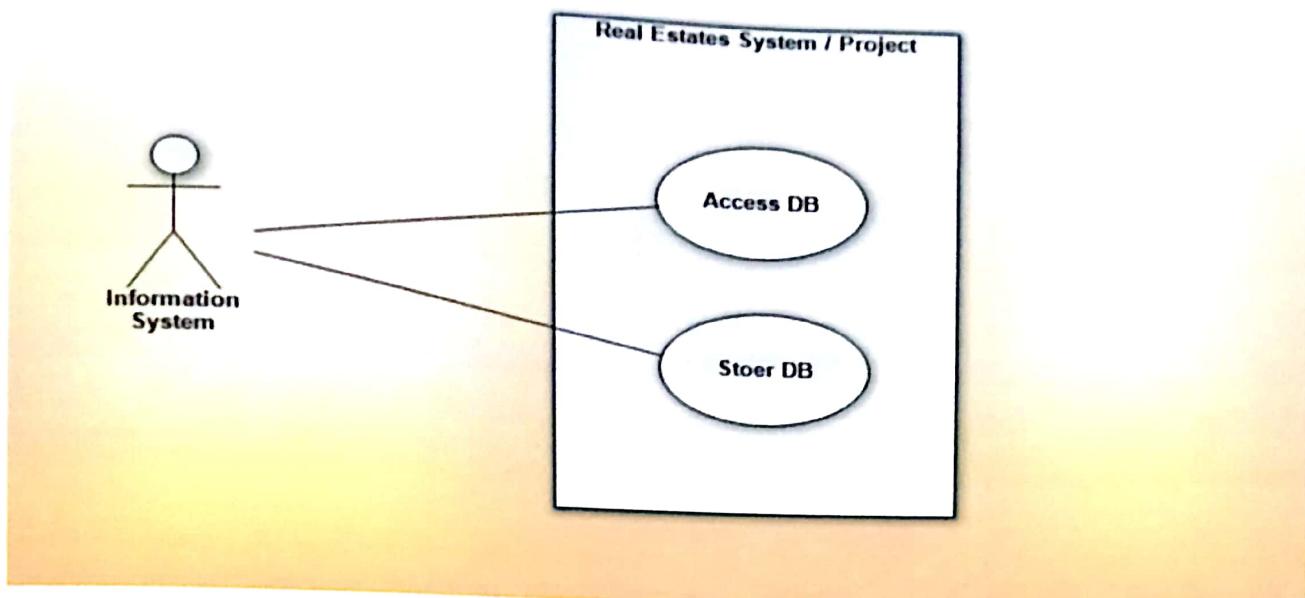


Figure 10 :Inforamtion System use case

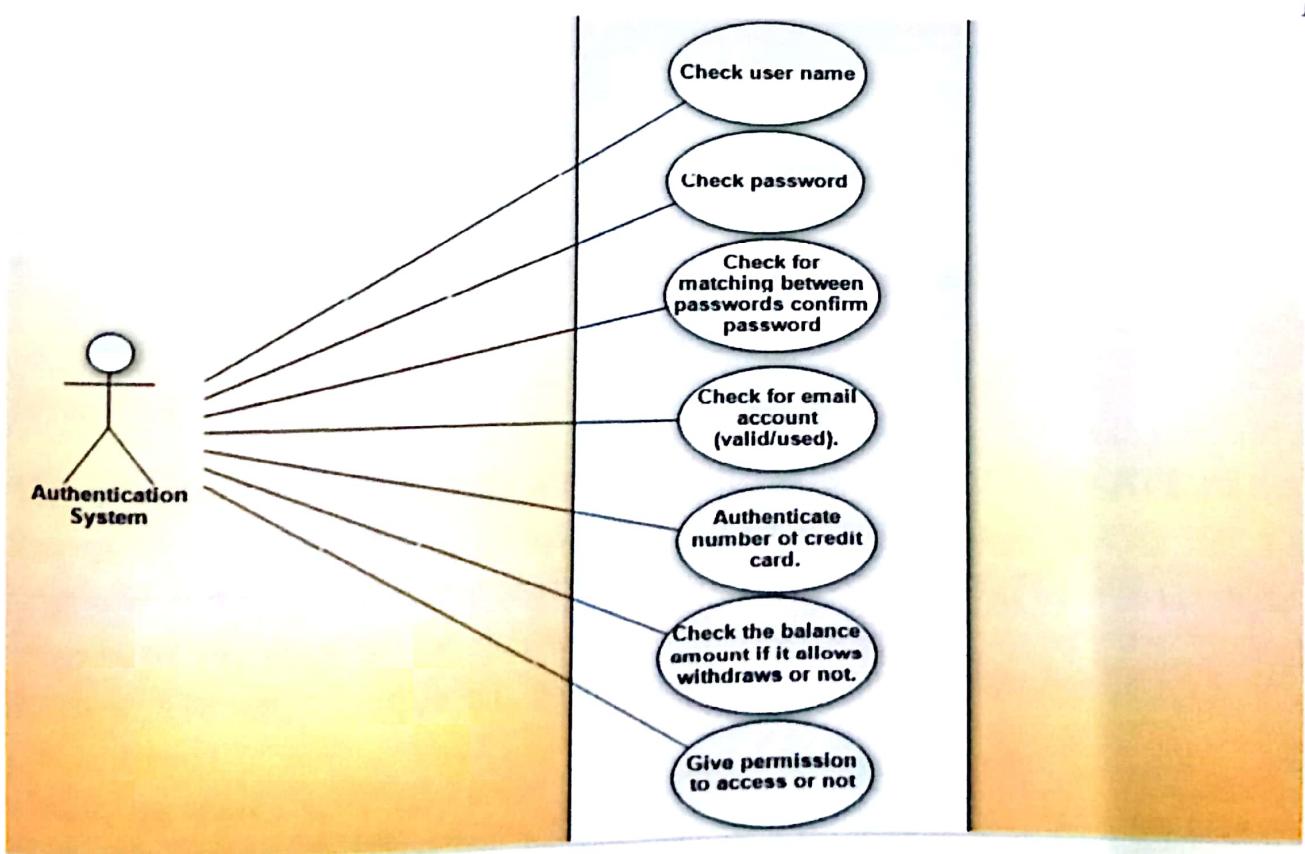


Figure 11 :Authentication System use case

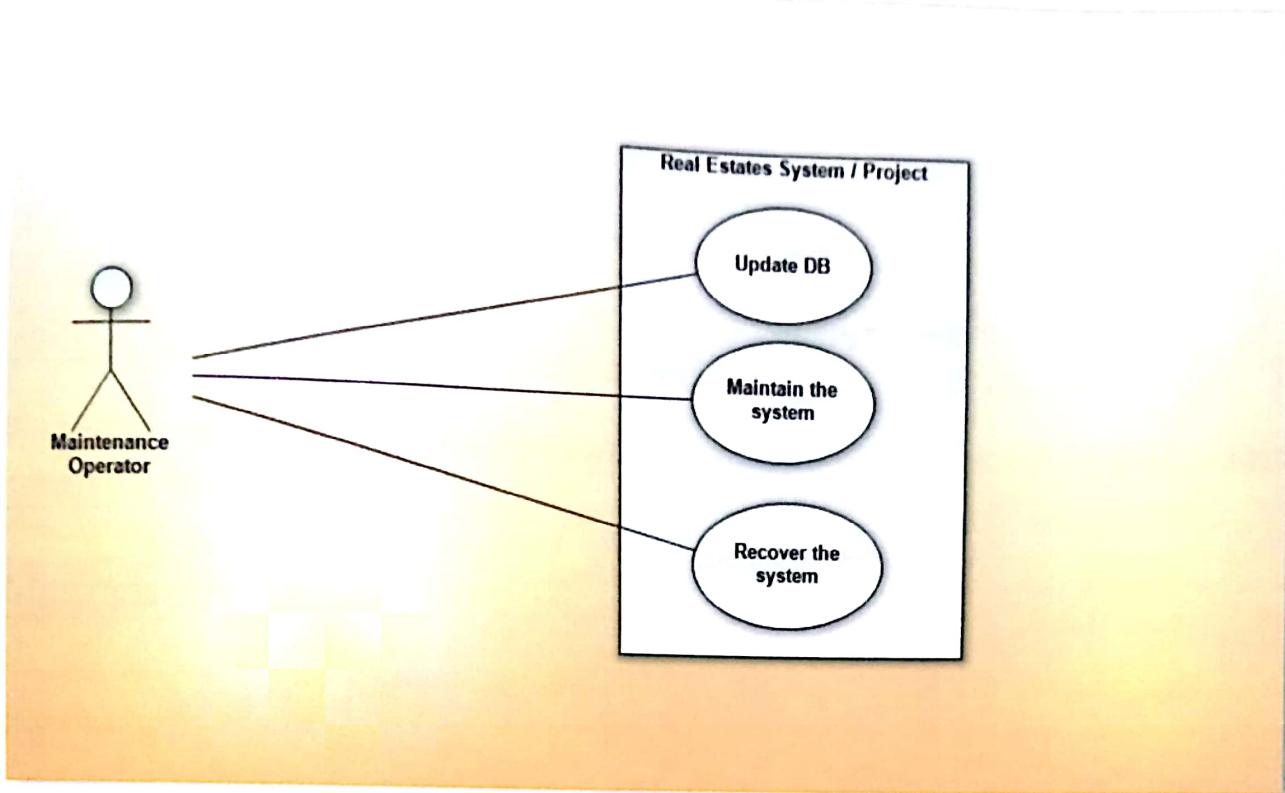


Figure 12 :Maintenance Operator use case

2. 3 Step 3 : Textual description of use cases.

Identification Summary:-

Title: Real Estates Managemetn Web site With Google Maps API V3.

Summary: The system provides the ability to offer your property for rent/sell and show and the ability of another user to rent/sell this , View images of the property and chating with each others.

Actors: Owner, Client/user, Maintenance operator (primary), IS, AS (secondary).

Creation date: 1/7/2013.

Date of update: 7/7/2013.

Version: 1.1

Person in charge: FCI graduate students for graduation project.

Flow of events:

Precondition:

- The system is available (not busy) for all users.
- The system contains a simple schema of properties stored initially in the data base shown to the tenant at the first time he access the system.
- Every one of system users (Owner/Client) has bank account and credit card.

Main success scenario

For Owner :-

- 1- The Owner accesses the Add page to enter his property specification.
- 2- The Owner fills his personal information, his property specification and images.
- 3- Finish his specification.
- 4- A register page is opened if he didn't log in or register.
- 5- Information system checks username and password.
- 6- enter his credit card number.
- 7- system requests for withdraw permission from AS.
- 8- Authentication system checks the balance amount and the credit card number.
- 9- Authentication System confirms the request agreement and withdraws 501 E.
- 11- The Property is located on the Google map.

12- Maintenance operator updates the offered table in DB.

13- If one or more clients requests this property , a message sent to the Owner on his email account informing him to enter the system to confirm on user.

14-The Owner consults the system for his request.

15-The Owner confirms only one user.

16-Maintinance operator updates the offered table in DB.

For Client :

1-The client access the home page which contain a map contains all the offered properties .

2- The tenant selects one of the offered properties by clicking on the marker.

3- An info window is opened with its specification.

4- Client send request to that property .

5-Click on view images button to view the property images.

6-Request replay page is opened.

7- the gallery is opened

8- The client consults the system for his request.

Identification summary for each use case

Title: Log in

Summary: This use case allows the owner must log in with password and username to can write with specification.

Actors: Both owners&users (primary) IS (secondary).

Creation date: 1/7/2013.

Date of update: 7/7/2013.

Version: 1.1.

Person in charge: FCI graduate student for graduation project .

Flow of events:

Main success scenario:

- 1- When he click on the Register tab , the Register page is opened and all fields must be filled .
- 2- congratulation message appears if the registration success.
- 3- Go Log In page to log in
- 4- Enter email and password .
- 5-Click on log in button.

Error sequence:

- If he forgets his/her email and password, a message will send to his/her email and he can change them.

Title: Registration.

Summary: This use case allows all users if they don't have an account, they can register their personal information to make an account, then assign their email and password.

Actors: Both owners &users /clients.

Creation date : 1/7/2013.

Date of update: 7/7/2013.

Version: 1.1.

Person in charge: FCI graduate student for graduation project .

Main success scenario:

- 1- When he click on the register tab , the register page is dispalyed,
- 2-Fillin your personal information and don't forget your password.
- 3-Click on register button.

Error sequence:

- If there is the same email, he must renter another email.
- if any field in the register page is empty , an error message is displayed beside the field such as “ the email can't be empty” ,and the registration will not complete , he must fill all fields with valid email.
- When he click register button, a congratulation message is displayed and then he can log in.

Title: Pay for money

Summary: The landlord must pay amount of money as he use system to offer his properties.

Actors: Owners .

Creation date: 1/7/2013.

Date of update: 7/7/2013.

Version: 1.1.

Person in charge: FCI graduate student.

Flow of events:

Precondition:

-Landlord must have account in bank and have visa card.

Main success scenario:

1-The owner access the register page .

2- Owner fills the specification of apartment &fills his personal information.

3-he must fill the field " visa " with his visa or credit card number and fill the field " pay " with 50 LE.

Error sequence:

- If the credit number is incorrect here enter it three times then refuse his request.

-If he doesn't have access in bank, his request will be refused.

- if the pay less than 50 LE per property , adding will not complete .

Title: Enter Specification

Summary:

For owners :

Owners enters specification of his property that he wants to offer it.

For Clients / users :

If client doesn't find a property that he want from existed apartments he enter specification that he want and when there is apartment with this specification it will send to him .

Actors:Owners, Clients, information system.

Creation Date : 1/7/2013

Date of update: 7/7/2013

Version:-1.1

Person in charge: - FCI graduate students.

Flow of events:-

Precondition:

Owners must have an account with balance.

For Owners

- 1-Owners access Addpage if he registerd , if not , he must register.
- 2- Landlord fills the specification of his property and fills his personal information.
- 3- Click on finish button.

For Clients:

- 1-Clients access Main page “index” page and view on the map.
- 2- Then click on the marker to show details , click on the view images button to view images .

Alternative Sequence:-

If user (Owner / client) don't login , they must login or register.

Title: Pay for money

Summary: The landlord must pay amount of money as he use system to offer his properties.

Actors: Owners .

Creation date: 1/7/2013.

Date of update: 7/7/2013.

Version: 1.1.

Person in charge: FCI graduate student.

Flow of events:

Precondition:

-Landlord must have account in bank and have visa card.

Main success scenario:

- 1-The owner access the register page .
- 2- Owner fills the specification of apartment &fills his personal information.

3-he must fill the field " visa " with his visa or credit card number and fill the field " pay " with 50 LE.

Error sequence:

- If the credit number is incorrect here enter it three times then refuse his request.
- If he doesn't have access in bank, his request will be refused.
- if the pay less than 50 LE per property , adding will not complete .

Title: Chating With other people

Summary: The user click the chat icon in the header bar ,the caht page is opened , he select from rooms to chat.

Actors:Owners .

Creation date: 1/7/2013.

Date of update: 7/7/2013.

Version: 1.1.

Person in charge: FCI graduate student.

Flow of events:

Precondition:

-All users can use the chat , after opening the chat page . in the caht page the user must enter the name and the code to open the chat .

Title: Search for a property

Summary : The user must open the search page by clicking on the search button and enter the price from – to and then click search , the result is displayed on the page on a table and on the map.

Actors: users .

Creation date: 1/7/2013.

Date of update: 7/7/2013.

Version: 1.1.

Person in charge: FCI graduate student.

Flow of events:

Precondition:

-All users can use this option.

Main success scenario:

1-The user access the search page .

2- fill all fields .

3- click search button.

Error sequence:

- If the prices not exist in the database , then no result .

- If the “from” field is greater than the “ to” field , then an error occur.

Title: Send a contact message .

Summary: all users can use this option by opening the contacts page .
Actors:Users.

Creation date: 1/7/2013.

Date of update: 7/7/2013.

Version: 1.1.

Person in charge: FCI graduate student.

Flow of events:

- All users must open the contacts page by clicking on the contacts tab.
- fillall fields , email , name and message , then click send .

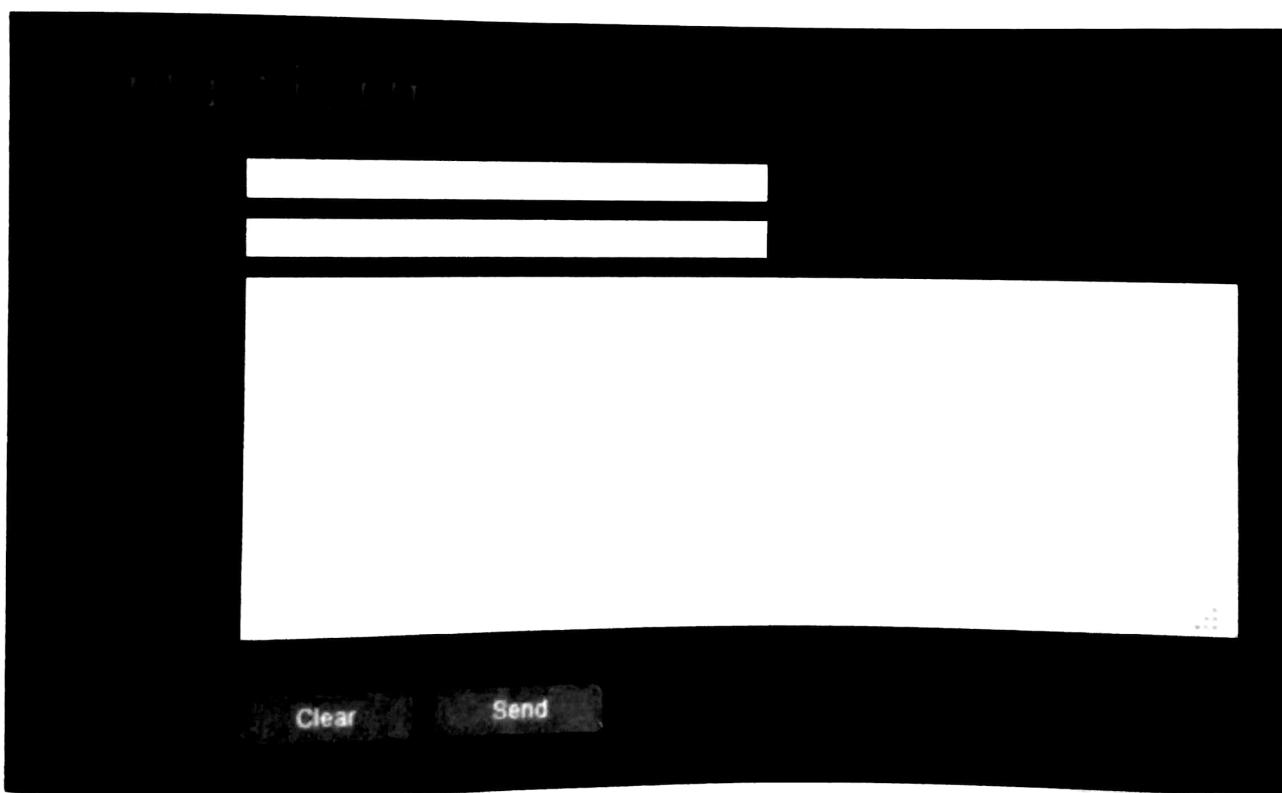


Figure 13: Contacts Form

2.4 :Design and construction

System design includes the evaluation of alternative solutions, preparation of detailed computer-based specifications that will fulfill the requirements specified during system analysis, and construction of the system prototypes.

- System design is the evaluation of alternative solutions and the specification of a detailed computer-based solution. It is also called physical design.

2.5 : Strategies for system design

There are many popular strategies or techniques for performing system design.

These techniques can be used in combination with one another.

- Modern Structured Design, a technique that focuses on processes.
- Information Engineering (IE), a technique that focuses on data and strategic planning to produce application projects.
- Prototyping a technique that is an iterative process involving a close working relationship between designers and users to produce a model of the new system.
- Joint Application Development (JAD), techniques that emphasizes participative development among system owners, users, designers, and builders. During JAD sessions for system design, the system designer takes on the role of the facilitator.
- Rapid Application Development (RAD), a technique that represents a merger of various structured techniques with prototyping and JAD to accelerate systems development.
- Object-Oriented Design (OOD), a new system strategy that follows up object-oriented analysis to refine object requirement definitions and to define new design specific objects.

2.6 : Application architecture and process design

Information application architecture and process design include techniques for distributing data, processes, and interfaces, to network locations in a distributed computing environment.

An application architecture defines the technologies to be used by (and to build) one, more, or all information system in terms of its data, process, interfaces, and network components.

- The prevailing computing model is currently client /server wherein networks of clients, single-user computers, are connected to and interpolates with servers, multiple-user computers that share their services. This is also called distributed computing.
- Centralized computing, distributed presentation, distributed data, distributed data and logic, and Internet/ Intranet computing are flavors of client/server computing.
- Client/Server computing can based on different/sell network topologies including bus, ring, star, and hierarchical networks.
- Data storage is typically implemented using distributed relational database technology that either partitions data to different servers or replicates data on multiple servers.
- Processes are implemented using highly integrated tool kits called software development environment.
- Physical data flows diagrams model information systems application architecture and processes .Because they show the planned implementation of all processes, data stores, and data flows .they serve as a general design or blueprint for subsequent detailed design, prototyping, and construction.
- System flowcharts are a lesser used diagram to show the same implementation features as a physical data flow diagrams. Although they are rarely drawn today, many older, legacy systems use them for documentation.

2.7 Database Design

Data storage is a critical component of most information systems .Some people consider it to be the critical component. The data captured by any information system is stored in files and databases .A file is a collection of records. A database is a collection of interrelated files .Many legacy systems were built with file technology because files were built for specific applications .This close relationship between the files and their application made it difficult to restructure the files to meet future requirements .And because many applications use the same data, it is not uncommon to find redundant files with data values that do not always match.

Database design is the process of translating logical data models into physical database schemas. The smallest unit of meaningful data that can be stored is called a field .There are three types of fields:

- a) A primary key is a field that uniquely identifies one and only one record in a file or table.
- b) A secondary key is a field that may either uniquely identify one and only one record in a file or table or identify a set of records with some common, meaningful characteristics.
- c) A foreign key is a field that points to related records in a different/sellable.

Fields are organized into records, and similar records are organized into files or tables .A database is a collection of tables (files) with logical pointers that relate records in one table to records in a different/sellable tables.

Database architecture is built around a database management system (DBMS) that provides the technology to define the database structure and then to create, read update, and delete records in the tables that make up that structure. A DBMS provides a data language to accomplish this. That language provides at least two components:

- a) A data definition language to create and maintain the database structure and rules.
- b) A data manipulation language to create, read, use, update, and delete records in the database.

Today, relational database management system is used to support the development and reengineering of the overwhelming number of information system. Relational database store data in a collection of table that are related via foreign keys.

- a) The data definition and manipulation languages of most relational DBMS are consolidated into a standard language known as SQL.
- b) High-end relational database management database support triggers and stored procedures, programs that are stored with the tables and called from other SQL-based program.

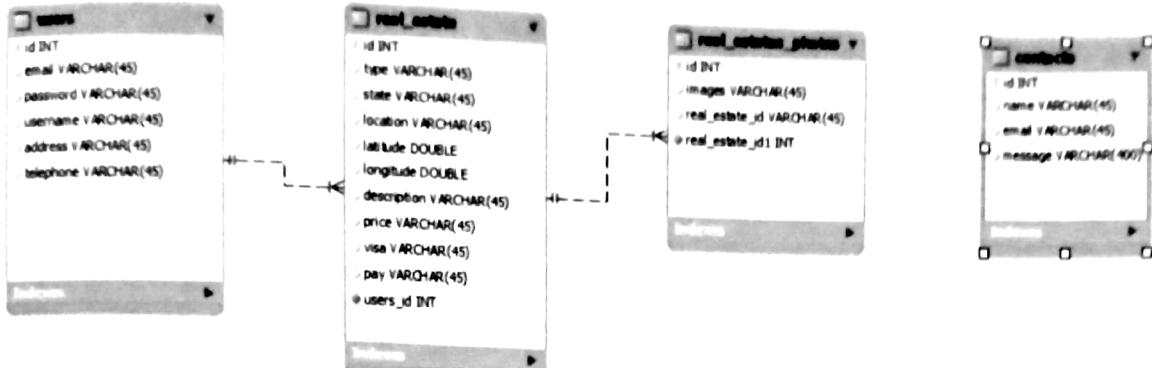


Figure 14 : DataBase

Data analysis and normalization are techniques for removing impurities from a data model as a preface to designing the database. These impurities can make a database unreliable, inflexible, and no scale. Normalization involves checking each entity (table) for first, second, and third normal form impurities.

- An entity is a first normal form if it contains no repeating attributes.
- An entity is a second normal form if it contains no partial dependencies.
- An entity is a third normal form if it contains no derived attributes or no transitive dependences.

Database integrity should be checked and, if necessary, improved to ensure that the business and its users can trust the stored data.

- Key integrity ensures that every record will have a unique, non-null primary key value.
- Domain integrity ensures that appropriate fields will store only legitimate values from the set of all possible values.

c) Relational integrity ensures that no foreign key value points to nonexistent primary key value.

A deletion rule should be specified for every relationship with another table.

2.8 Input Designs and Prototyping.

Several concepts are important to input design .one of the first things you must learn is the difference between data capture and data input. Alternative input and media and methods must also be understood before designing the inputs. And because accurate data input is so critical to successful processing, file maintenance, and output, you should also learn about human factors and internal controls for input design.

System designers must determine when and how to capture the data. The designer must understand the difference between the following:

- Data capture is the identification of new data to be input.
- A source document is a paper form used to record data that will eventually be input to a computer.
- Data entry is the process of translating the source document into a machine readable format. The format may be a magnetic disk, an optical -mark form, a magnetic tape ,or floppy diskette ,to name a few.
- Data input is actual entry of data in a machine-readable format into the computer Most new applications being developed today consist of screens having a "graphical" looking appearance. This type of appearance is referred to as a graphical user interface (GUI). Inputs should be as simple as possible and designed to reduce the possibility of incorrect data being entered.

An input control ensures that data input to the computer is accurate and that the system is protected against accidental and intentional errors and abuse, including fraud.

When designing input screens for an application that will contain a GUI appearance, the designer must be careful to select the proper control serves a specific purpose, has certain advantages and disadvantages, and should be used according to the guidelines. Some of the most commonly used screens-based controls for inputting data include: text box, radio button, checkbox, list box, drop-down list, combination box ,and spin box., combination box ,and spin box.

2.9 Output design and prototyping

Several concepts are important to output design. One of the first things you must learn is the difference between external and internal outputs. Some external outputs are designed as turnaround outputs that leave and re-enter the system later. Such outputs are usually designed for printing on specially designed manufactured forms.

The system designer usually selects the media and format for all outputs.

- Medium is what the output information is recorded on, such as paper or video display.
- Format is the way the information is displayed on a medium, for instance, columns of numbers or graphs.

There are several different/sell formats you can choose for communicating information on a medium:

- Tabular output in which the format presents information as columns.
- Zoned output placed text and numbers into designed areas of a form or screen.
- Graphic output is the use of a graph or chart to convey information.
- Narrative output format uses sentences and paragraphs to replace standard text, numbers, and pictures.

There are many system user issues that apply to output design. The following general principles are important for output design:

- Computer output should be simple to read and interrupt
- The timing of computer output is important
- The distribution of computer outputs must be sufficient to assist all relevant system users.
- The computer output must be acceptable to system users who will receive them.

The design and prototyping of computer outputs involve the following steps :

- Identify system outputs.
- Select output medium and format.
- Prototype the output for system users.

2.10 User interface design and prototyping.

User interface design is the specification of a conversation between the system user and the computer .this conversation generally results in either input or output possibly both. There are several types of user interface styles, including menu selection, instruction sets, question – answer dialogues, and direct manipulation.

Traditionally these styles were viewed as alternatives. However, with recent movements toward designing systems with graphical user interfaces, a blending of all styles can be found.

- Menu selection is strategy of a dialogue design that presents a list of alternatives or options to the user. In today's GUI designs ,menu selections is commonly represented using menu bars ,pull-down menus ,cascading menus ,pop-up menus ,and iconic menus.

The design of user interface can be enhanced or restricted by the available features of your terminal display or monitor / keyboard.

The steps involved in designing and prototyping a user interface includes charting the dialogue, prototyping the dialogue, and user interface, ant obtaining user feedback.

2.11 Systems implementation

System implementation is the construction of the new system and the delivery of that system into production (meaning day to day operation) unfortunately, systems developments is a common synonym.

The purpose of the construction phase of systems implementation is twofold to build and test a functional system that fulfills business and design requirements and to implement the interface between the new system and existing production systems.

The construction phase consists of four activities build and test networks build and write and test new programs.

There are three levels of testing performed on new programs:

- a) Stub testing is the test performed on individual modules, whether they are main program, subroutine, sub program, block, and paragraph.
- b) Unit or program testing is a test whereby all the modules that have been coded and stub tested are tested as an integrated unit.
- c) System testing ensures that application programs written in isolation work properly when they are integrated into the total system.

The purpose of the delivery phase is to smoothly convert from the old system to the new system. The delivery phase of system implementation consists of the following activities: conducting a system test, preparing a systems conversion plan, installing databases, training system users, and converting from the old system to the new system.

The system acceptance test is the final opportunity for end users, management, and information system operation management to accept or reject the system. A system acceptance test is a final system test performed by end users using real data over an extended period. It is an extensive test that addresses three levels of acceptance testing: verification testing, validation testing, and audit testing.

- Verification testing runs the system in a simulated environment using simulated data.
- Validation testing runs the system in a live environment using real data this is sometimes called beta testing.
- Audit testing certifies that the system is free of errors and is ready to be placed into operation

2.12 System support

- System support is the ongoing maintenance of a system after it has been placed into operation. This includes program maintenance and system improvements.
- System support involves solving different type of problems with the system there are several different types of system support, system maintenance, system recovery end user assistance system enhancement and reengineering.
- Regardless of how well designed, constructed, and tested a system or application may be errors or bugs will inevitably occur, the corrective action that must be taken is called system maintenance.
- Objective of system enhancement is to modify or expand the application system in response to constantly changing requirements. Another type of reactionary maintenance deals with changing technology.

Chapter 3 :Run the Project

3.1 How application works?

When the system user enters the URL, the home page opened and the user can view any google maps marker images , and search for any property .He can register , login and chat .

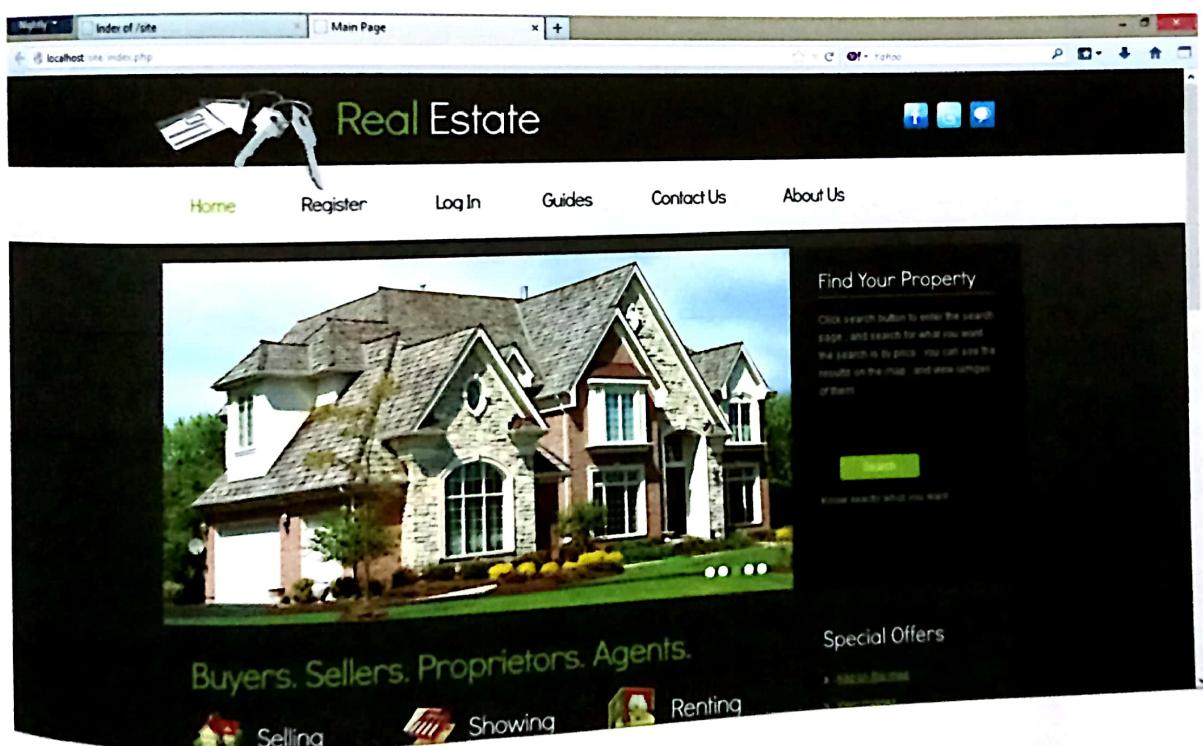


Figure 15 : Home page gallery

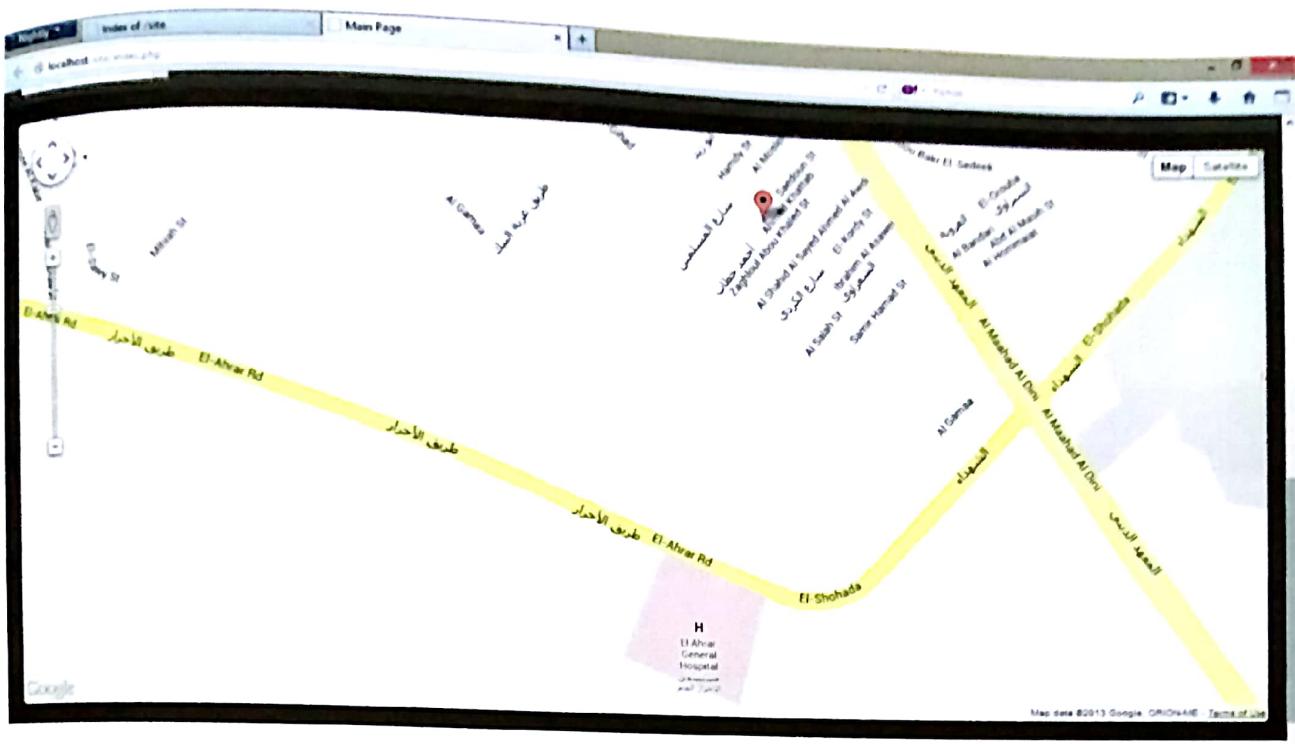


Figure 16 : Google map with marker .

The user can click on the marker , and a window info is displayed with details

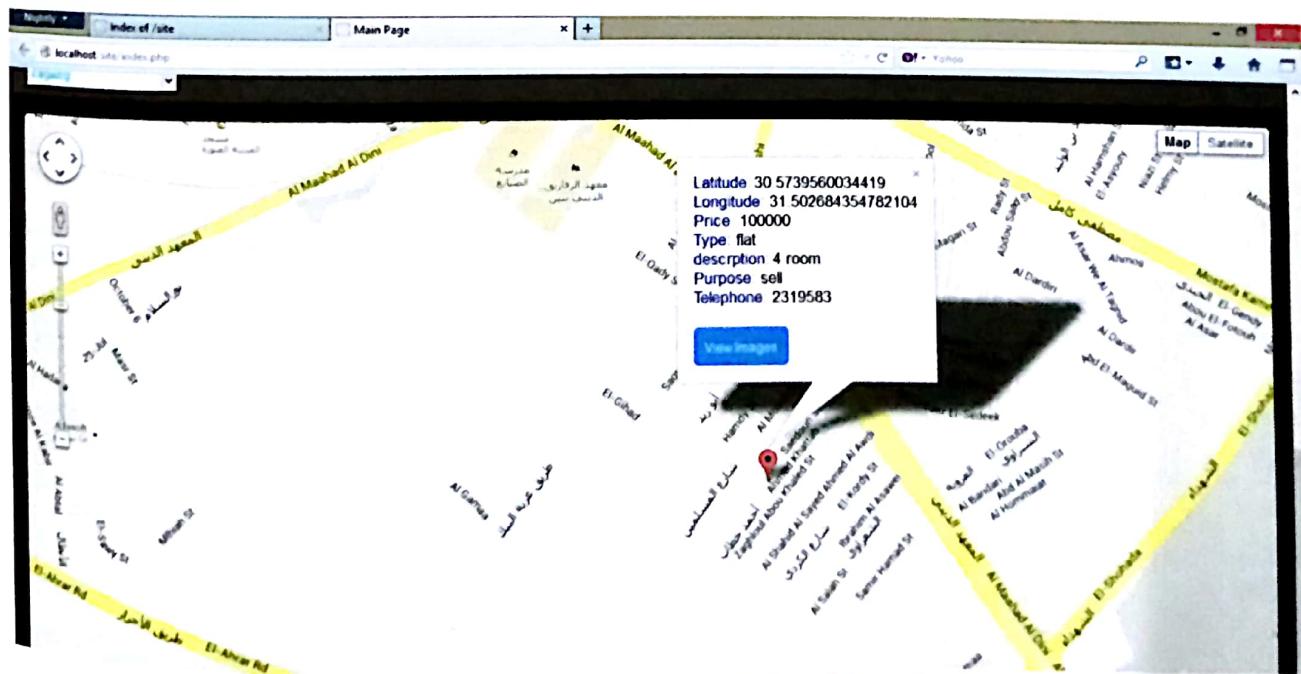


Figure 17 : Google map with widow info

The user click on the view images button to view images

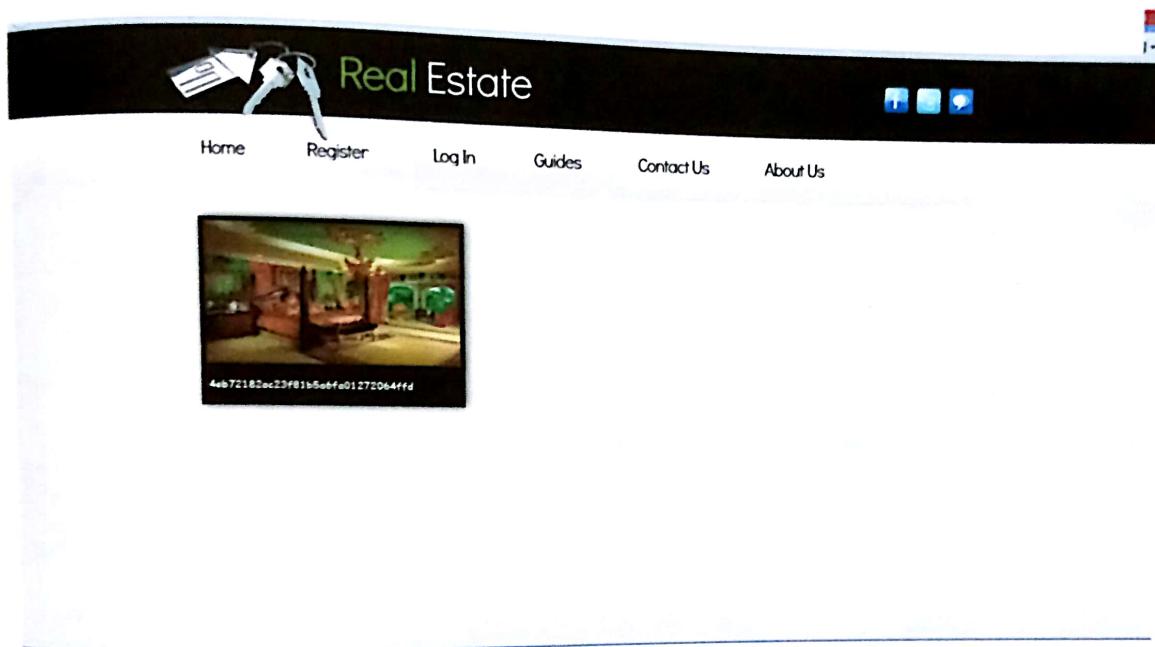


Figure 18 : Gallery

The user click on the image to view the image of the property and then he decide if they rent , sell or , etc .

The owner must register in the register page to add his property

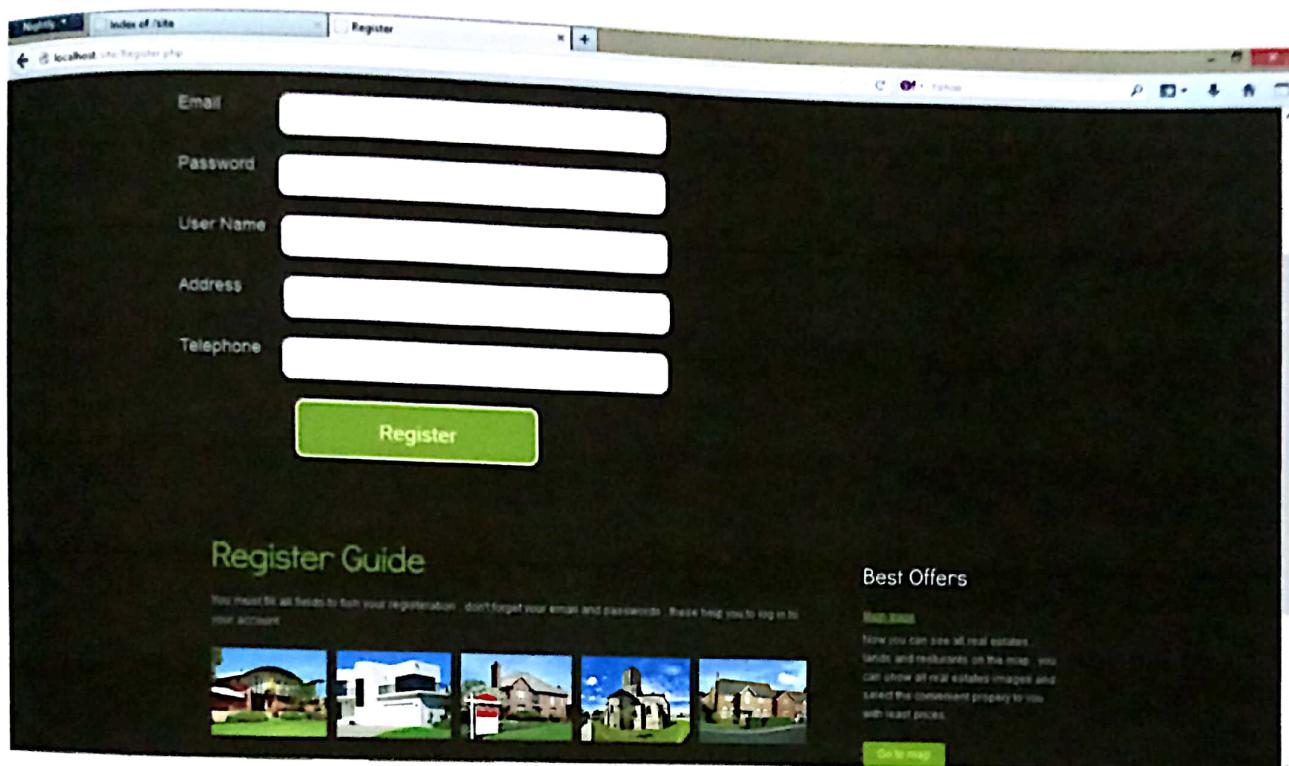


Figure 19 : register page

After he completed his registration , he must login to control his account to add a property or upload images .

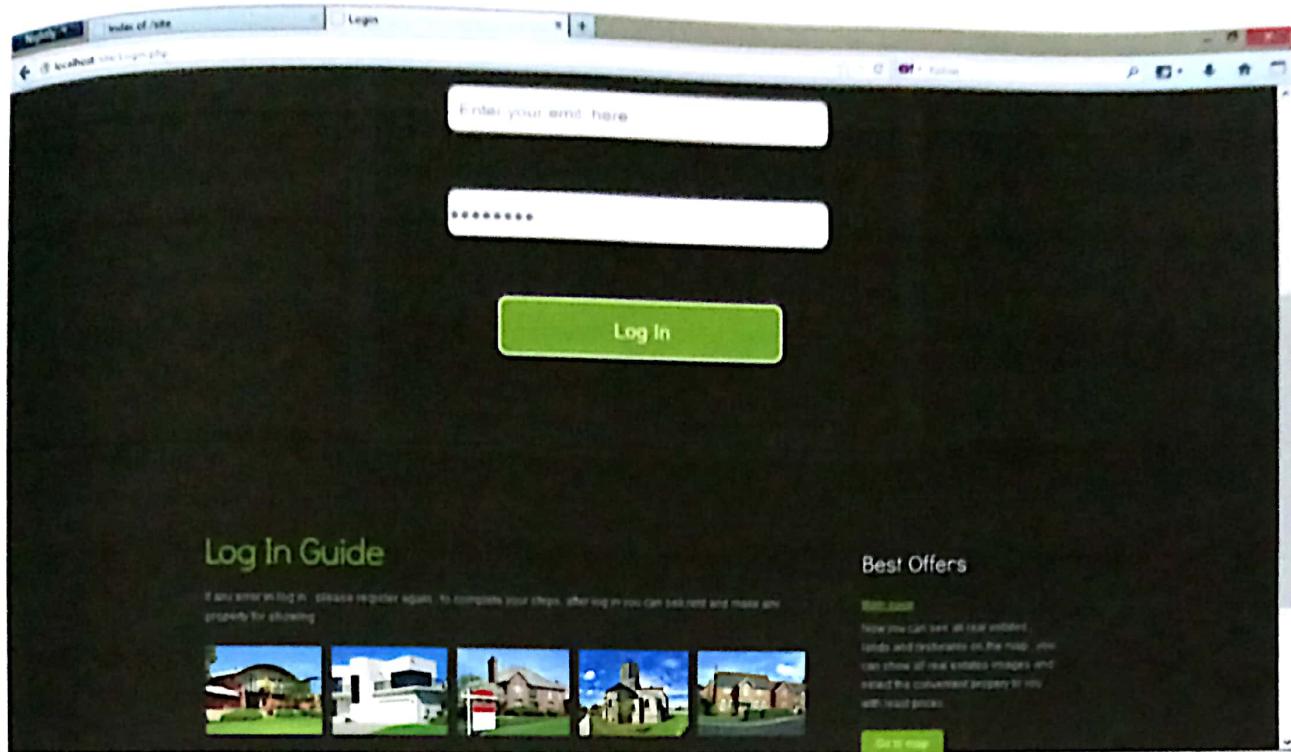


Figure 20 : Log in page

After he login the bar appears in the main page above the map as shown :

Add a property | Upload Images | Logout

Figure 21 : bar

He select from the bar what he want .if he select the “Add a property” tab , the Add page is displayed to add his property .



figure 22 : Add page

he must add a marker on the map and fill all fields , then click the finish button ,then the property uploaded on the map to be reay for the user to click on its marker and view details .

then the owner click the upload image tab and the page displayed with a table of the owner properties and he select the id of his property that he needs to upload images to it .

The screenshot shows a web browser window with the URL `localhost/test/upload.php`. The page has a dark header with the title "Real Estate" and a key icon. Below the header is a navigation menu with links: Home, Register, Log In, Guides, Contact Us, and About Us. A social media sharing bar is also present. The main content area contains a table titled "Upload Now" with the following data:

	id	type	state	description	price	you paid
	1	villa	sell	5 rooma		
	2	flat	sell	5 rooms	656565	6

At the bottom left, there is a copyright notice: "Copy Rights to FCI_ZU @2013 www.FCI_ZU.com". On the right side, there is a "Call Center: FCI_ZU" link.

Figure 23 :Upload page with a table of properties

Then he click on the “ Upload Now ” tab to get the upload page .

The screenshot shows a web browser window with the URL `localhost/test/gallery/admin/admin.php`. The page has a dark header with the title "Real Estate" and a key icon. Below the header is a navigation menu with links: Home, Register, Log In, Guides, Contact Us, and About Us. A social media sharing bar is also present. The main content area features a large green button labeled "Upload Images Here". Below this button are two input fields: "File(s) to upload" and "Browse", followed by "Enter the ID" and "Upload" buttons. At the bottom left, there is a section titled "Uploading Guide" with the text "You must click the image which you want to upload". At the bottom right, there is a "Best Offers" section with a dropdown menu.

Figure 24 : Upload images pages .

the owner click on the browse button to browse images and then enter the id of his intended property then click upload button

then the property is ready to the client to view the images of the property

all the users can search free for any real estates type on the search page by price , then the result displayed on the map.

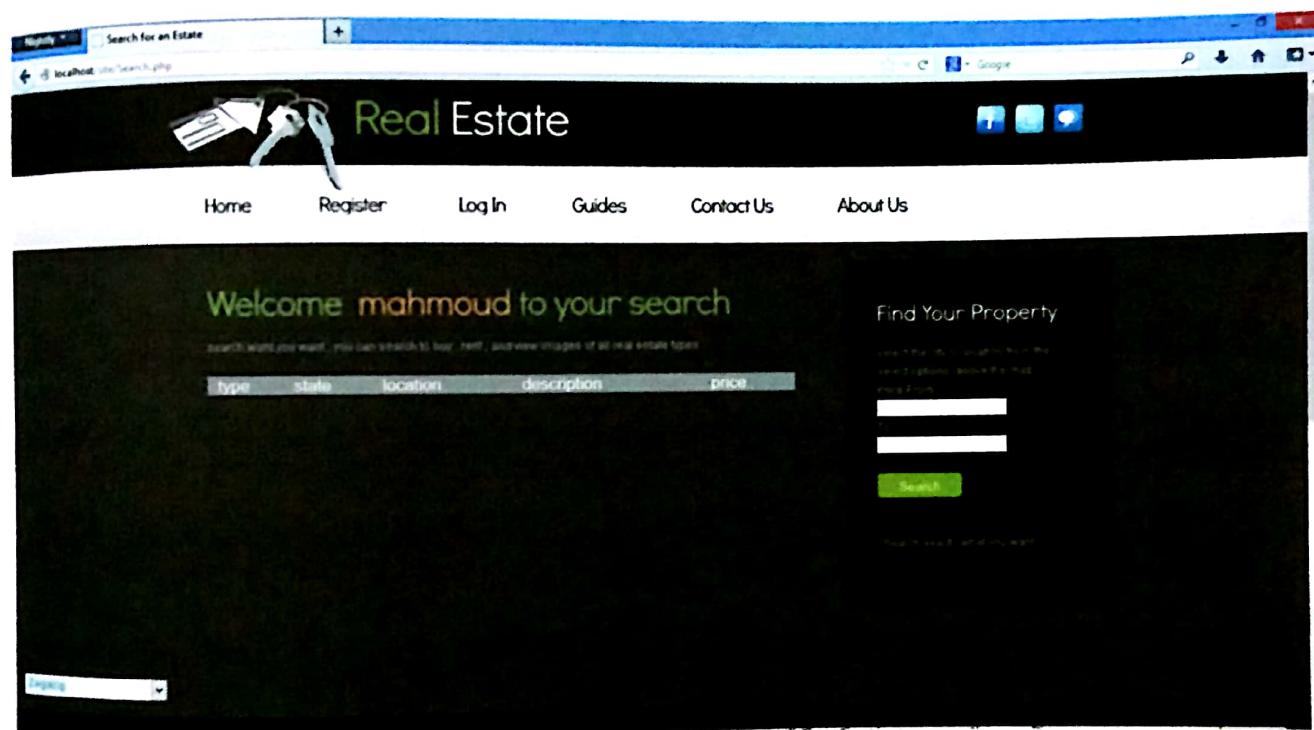


Figure 25 : search page .

Also all the user can chat with each other in all rooms by clicking the chat icon

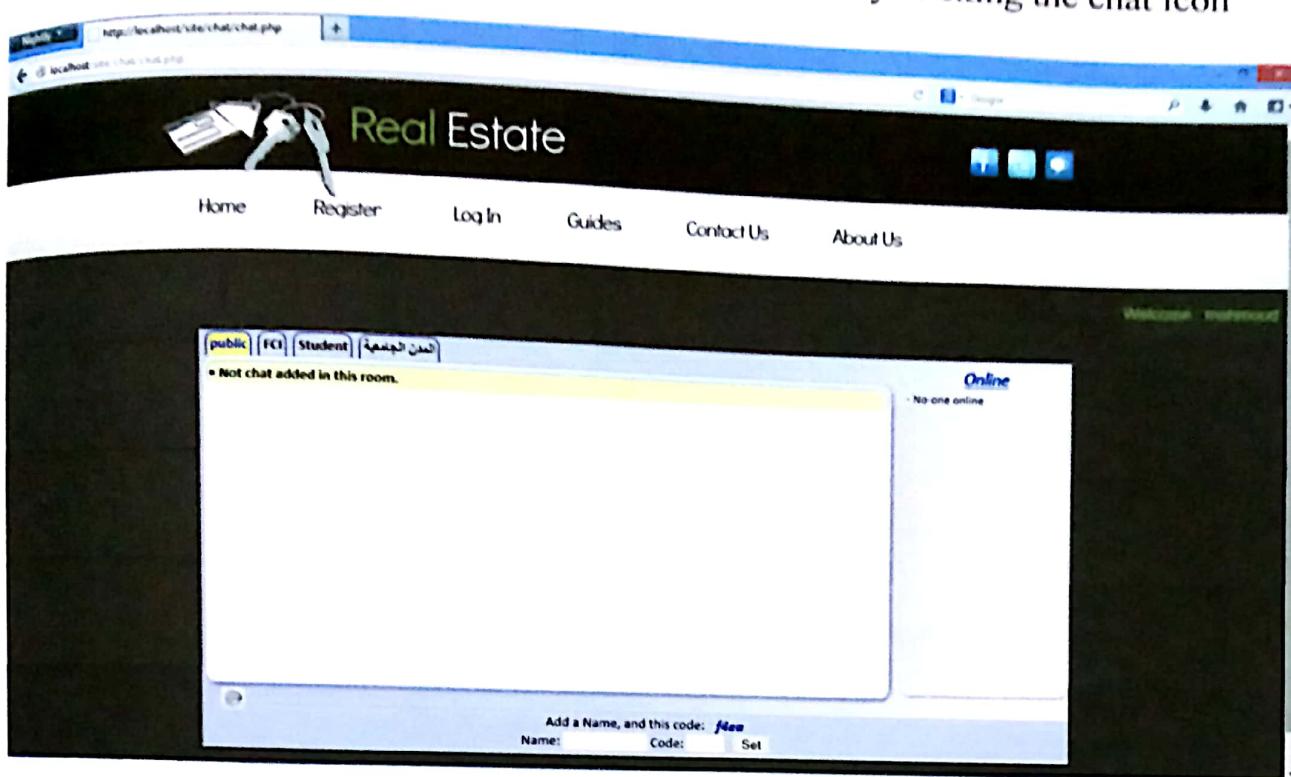


Figure 26 : Chat page .

The user must enter the name and the code in the chat page to be able to chat with each other .

- The session in php language is used to remember the user on the web site
- and we used the Apache server to run with php , all pages are on the apache server “htdocs” folder .

All user can send us any message on the contacts page :

The image shows a contact form titled "Contact Form". It features three input fields: "Your Name", "Your E-mail", and "Your Message". The "Your Message" field is a large text area. Below the message area are two buttons: "Clear" and "Send".

Figure 27 : contacts page ;

The About Us page :

contains information about the web site , the supervisor , assistant , and the project team .

The Guides page :

Contains guides about how to use the web site .

Chapter 4 :Conclusion

4.1 Problems we face:

- It was so difficult to see an existing system and understand how it works because of security on data confidence reasons.
- Collecting data.
- In coding, we didn't know how we can upload images of different apartments in websites.
- When a tenant wants to see the gallery of a selected apartments, displaying all images that related to this apartment, it's difficult to do.
- To allocate marker or point on Google map that determine the position of an apartment, was a hard mission.
- We couldn't work in the lab much because of our faculty has low capabilities, so the co-operation among ourselves was slow.

4.2 Future works:

- The summary of the system is that it provides the simplicity of communication in which landlord and tenant can find each other, from this point:

- Any developer can improve the system by expanding it to include all treatments occurs between the two parties later, such as (sign contract, the amount of contract time , handle the process of collecting money from tenants every month ,...etc.).
- Moreover, it can expand to connect not only landlord to tenant but any two users have the advantage that one of them needs something and the other have it (car ,mobile,...etc.)
- Otherwise we don't achieve all validation and verification protocol that satisfy security in the project .
- For aclient developer can add more specification that make tenant comfortable.
- Determine started and ended period of time for each apartment will be rented, and when it will be free again to rent again.
- Adding quick search to find his desired specification of an apartment speedy.

4.3 Factors facilitated our mission:

- Our supervisors were very advisor.
- Thesystem we tried to build was daily applied and no one of us didn't deal with, so we didn't take any time to understand the nature of the system.

4.4 Skills gained from achieving this project:

By achieving this project we gained the following skills

- How to be a member of teamwork, and we learned the experience of cooperation.
- How to learn new information, tool or technology such as designing websites, designing database programs.
- How to search about specific information ,tool, technique, or technology that may help us in achieving our project by reading books ,exploring the internet ,exploring the help software of the software program we used or asking anyone .
- Achieving this project directed us to know the market demands.

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