

WMINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION

Federal State Autonomus Educational Institution of High Professional Education

South Ural State University (National Research University)

Faculty of Computational Mathematics and Informatics

Department of System Programming

THESIS IS CHECKED

ACCEPTED FOR THE DEFENSE

Reviewer, leading web- developer

Head of the department, Dr. Sci.,
Prof.

“App B: software Ltd”

_____ L.B. Sokolinsky

_____ M.A. Dyachenko

“ ___ ” _____ 2017

“ ___ ” _____ 2017

**DEVELOPMENT OF MANAGMEMENT INFORMATION
SYSTEM "SALARY" FOR HOSPITALS**

GRADUATE QUALIFICATION WORK
SUSU–02.04.02.2017.115-145-2598.GQW

Supervisor

Senior teacher

_____ A.I. Semenov

Cand. Sci., Assoc. Prof.

_____ V.A. Golodov

Author,

the student of the group CE-216

_____ H.A. AL Saide

Normative control

_____ O.N. Ivanova

“ ___ ” _____ 2017

Chelyabinsk–2017

CONTENTS

| | |
|---|-----------|
| Introduction | 5 |
| 1. Development Tools | 7 |
| 1.1. MYSQL | 7 |
| 1.2. PHP | 8 |
| 1.3. HTML | 9 |
| 2. RELATED SOFTWARE | 10 |
| 3. DESIGN SOFTWARE | 14 |
| 3.1. Use Case Diagram | 14 |
| 3.2. User Interface of the System | 14 |
| 3.3. Description of Database | 15 |
| 3.4. Database Schema | 16 |
| 3.5. Development of the Interface | 22 |
| 4. TESTING | 29 |
| CONCLUSION | 36 |
| REFERENCES | 37 |

INTRODUCTION

In Iraq, we have many governmental hospitals. Actually, in every Iraqi governorate there is more than one general hospital and one medical center. Each hospital consists of a huge number of different employees (for example: doctors, pharmacists, nurses, officials, technicians, etc.). There are many departments in the hospital which are in charge of specific types.

One of such departments is the Department of Accounting which is in charge of salaries and rises in salaries of the employees who work in the hospital. Considering that the hospital contains large numbers of employees which creates a difficulty to calculate all these salaries by a simple program that uses (access) programming language to manage the process of calculating salaries in this hospital.

We have to design a simple program that facilitates the process of counting salaries. Considering that I live in a remote area away from the governorate's center and that we still use old methods of papers and receipts to calculate our employees' salaries, this program will definitely make our work much easier.

This project can be developed in the future to involve other governmental offices to help improve the level of services offered to people.

This process will help others interested in the work of the hospital itself such as accountants, directors, legal experts and governmental inspectors. This is very useful for these people mentioned above to know for example how much money every employee gets at the end of every month.

We have to design a simple program that facilitates the process of counting salaries in hospitals.

Research Goal and Objectives

The goal of this research is to Development of Management Information System "Salary" for hospitals. The research has the following basic objectives:

- 1) analyze the subject area and create the use case diagram for the hospital;
- 2) create and develop a database structure for the research management system;
- 3) develop and implement a Development of Management Information System "Salary" for Hospitals;
- 4) perform the testing of the system.

Practical Meaningfulness

Practical value of the work is to store large amounts of data and information, and simplify the receiving salary to employees by the hospital administration.

The thesis consists of five chapters, introduction, conclusion and a list of references.

Chapter one contains a description for the tools that are used in the research. I describe PHP as the programming language that I use in the research, Apache HTTP Server is the web application and MySQL is the database that I use in the research.

In Chapter two we have the overview electronic tests systems, as well as characteristics and disadvantages.

In chapter three I show the user interface of the system, database schema, description of database and use case diagram.

And finally chapter five is devoted to the testing of the application. The thesis has 38 pages; the list of references contains 17 resources.

1. DEVELOPMENT TOOLS

1.1. MySQL

MySQL is the most popular Open Source Relational SQL Database Management System. MySQL is one of the best RDBMS being used for developing various web-based software applications. MySQL is developed, marketed and supported by MySQL AB, which is a Swedish company. This tutorial will give you a quick start to MySQL and make you comfortable with MySQL programming [1].

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, you need a database management system such as MySQL Server. Since computers are very good at handling large amounts of data, database management systems play a central role in computing, as standalone utilities, or as parts of other applications [2].

Whatever the size of the organization or the type of information and take, for example an elementary school, the database to which they relate will include all the information related to the teachers and put this information in a special table where teachers This table record for each teacher, and also includes this database of all information related to the students and also where this information is classified in Tables Each student has its own record and other information vary from school to school as accomplished in the field of sports and scientific debates and cultural, etc. [3].

MySQL is currently the world's most popular and widely used open source database technology and data storage system. MySQL offers great reliability and ease of use. An unusual advantage that MySQL offers that you can incorporate different database storage engines with it, depending on your need offers great

Reliability and ease of use MySQL.

1.2. PHP

Is a scripting language designed to fill the gap between SSI (Server Side Includes) and Perl, intended for the Web environment its principal application is the implementation of Web pages having dynamic content [5].

PHP has gained quite a following in recent times, and it is one of the frontrunners in the Open Source software movement. Its popularity derives from its C-like syntax, and its simplicity. The newest version of PHP is 5.5 and it is heavily recommended to always use the newest version for better security, performance and of course features [6].

If you've been to a website that prompts you to login, you've probably encountered a server side scripting language. Due to its market saturation, this means you've probably come across PHP.

PHP was designed by Rasmus Lerdorf to display his resume online and to collect data from his visitors.

Basically, PHP allows a static webpage to become dynamic. "PHP" is an acronym that stands for "PHP: Hypertext Preprocessor". The word "Preprocessor" means that PHP makes changes before the HTML page is created. This enables developers to create powerful applications that can publish a blog, remotely control hardware, or run a powerful website such as Wikipedia or Wikibooks. Of course, to accomplish something such as this, you need a database application such as MySQL [7].

PHP Admin is a free software tool written in PHP, intended to handle the administration of MySQL over the web. It supports a wide range of operations on MySQL and other DBMS. Frequently used operations (managing databases, tables, columns, relations, indexes, users, permissions, etc.) can be performed via

the user interface, while the developer will have the ability to directly execute any SQL statement [8]. If you've been to a website that prompts you to login you've probably encountered a side scripting language.

PHP Admin comes with a wide range of documentation. The developers can use a variety of support channels to get help. To ease usage to a wide range of people, PHP Admin is translated into 72 languages and supports both LTR and RTL languages [9].

1.3. HTML

A markup language that is used to create documents on the world wide Web incorporating text, graphics, sound, video, and hyperlinks. HTML is used to create electronic documents (called pages) that are displayed on the World Wide Web. Each page contains a series of connections to other pages called hyperlinks. Every web page you see on the Internet is written using one version of HTML code or another. HTML code ensures the proper formatting of text and images so that your Internet browser may display them as they are intended to look. Without HTML, a browser would not know how to display text as elements or load images or other elements. HTML also provides a basic structure of the page, upon which Cascading Style Sheets are overlaid to change its appearance. HyperText Markup Language (HTML) is the primary building block of creating a website. HTML is a very basic markup language and requires memorization of a few dozen HTML commands that structure the look and layout of a web page. Before writing any HTML code or designing your first web page, you must decide on an HTML editor or text editor, such as Notepad or WordPad [10]. Once you have obtained an HTML editor and are ready to begin setting up your website, think about how you want the site to look and be set up. Hyper Text Markup Language, commonly referred to as HTML, is the standard markup language used to create web pages [6]. It is written in the form of HTML elements consisting of tags

enclosed in angle brackets (like <html>). HTML tags most commonly come in pairs like <h1> and </h1>, although some represent empty elements and so are unpaired, for example . The first tag in such a pair is the start tag, and the second is the end tag [11].

2. RELATED SOFTWARE

Comparative Analysis of the Existing Analogical Sites

These programs are widely spread in hospitals and in all of Iraq's institutions, in which they offer the time and effort for both the employee and the manager in receiving the salary we will review some of them.

Program Employee's Salaries in Hospital Baghdad

This program has been designed by using Visual Basic Dot Net programming language as well as using another program which is Microsoft Excel by which a data base can be created. It is one of the simplest and easiest programs and is considered as a very slow program which does not give the precise results of counting the employee's salary.

This program needs to develop the data base in a way that helps the accountant to be accurate in counting the salaries of the employees who work in the hospital and the other offices.

It is also regarded as one of the simplest ways to prepare the employees' salaries' ladder in a balanced manner in companies and governmental institutions by determining a roof of specialization salary occupied by this profession and also by assessing professions by their value.

The latter can be determined by many methods like simple arranging method, degrees method, method of comparisons or by points method according to the nature of the jobs in the establishment, its size, and the number of its professions. It can be used for purposes of employing, raises, annual extras, promotions and other information of the employee.

These programs are used by many governmental and private offices in Iraq and they are very old ones that do not go along with the technological developments. In addition to that, it is difficult for the employee to learn about the new changes in the salary whether there is an increase or decrease in the total salary.

Therefore, it is considered as a bad program and has to be updated from a time to time. Any user can access any information of a particular employee through this program so it is regarded as an incomplete, open source and vulnerable program. See figure 1.

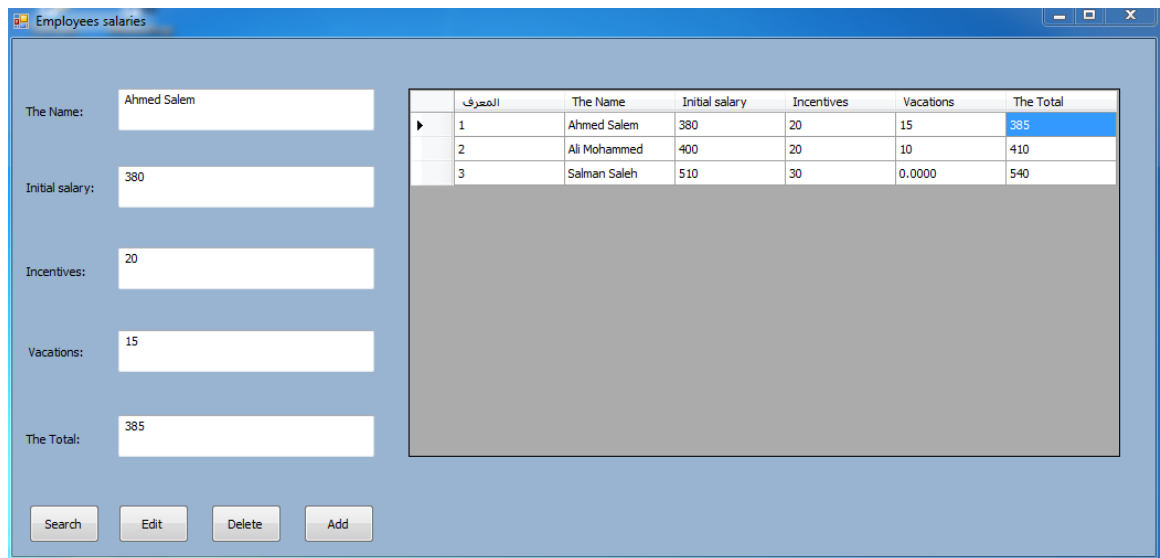


Fig. 1. System Salaries in Hospital Baghdad

The program has the following features:

- 1) easy to use;
- 2) easy to programmed;
- 3) has a system of windows provided to the user by Visual Basic program;
- 4) an open-source program;
- 5) printing monthly salaries and saving records of salaries of previous moths;

6) data base can easily be infringed and its code to be broken which makes the program vulnerable.

Disadvantages of the program:

- 1) The program will stop working if any defect in the data base occurs;
- 2) If Microsoft Excel is not installed on the computer or has been uninstalled the program stops working;
- 3) Open source program;
- 4) data base can easily be infringed and its code to be broken which makes the program vulnerable;
- 5) when the data base is violated the hacker can change the data as they want which makes the program useless;
- 6) the program needs other supportive programs in order for it to work properly including Microsoft Excel (previously mentioned) and (Adobe Flash Player);
- 7) when the computer is exposed to a malicious virus, the program can possibly stop working and crashes as it saves in (exe) format;
- 8) the program might fail when it is moved to another computer which has another operating system or a Microsoft version.

Monthly Salary Statement

To prepare Monthly Salary Statement use Monthly Salary Statement option under the Employee menu.

A window will be displayed showing the list of employees in the middle, you can categories the list by ticking either of the two checkboxes if you mark the checkbox Permanent list of permanent employees will be displayed, if you mark the check box Casual list of casual employees will be displayed or if both are marked list of all employees will be displayed as by default.

You can select the month of the year from the second frame which consists of list of 12 month. To make the monthly salary statement of selected employees from the list, you can click against the employee name and press the Insert key of the keyboard; by this action you will see the employee name under the selected employee list on the right panel.

The another way to do the same operation is click the button Add All this will cause the whole list of employee name to be copied and from here you can delete unwanted employee names, for this click against name and press the Delete key of the keyboard.

Once the list of employees is ready, select the month for which monthly salary is to make. See figure 2.

| S/N | Name of Employee | Designation | Department | Total Days | Basic Salary | DA | OT Hours | OT Am |
|-----------|------------------|------------------|--------------|------------|--------------|--------|----------|-------|
| 1 * | RAVI SHINDE | MANAGER | ASSTT. | 4.00 | 1935.48 | 425.81 | 0.00 | |
| 2 * | SANDEEP TIWARI | SENIOR CLERK | ACCOUNTANT | 4.00 | 451.61 | 54.19 | 0.00 | |
| 3 * | SANGEETA | SENIOR STENO | STENOGRAPHER | 4.00 | 774.19 | 170.32 | 0.00 | |
| 4 * | SANJAY SAXENA | SENIOR EXECUTIVE | MARKETING | 4.00 | 1548.39 | 340.65 | 0.00 | |
| T O T A L | | | | | 4709.67 | 990.97 | 0.00 | 0 |

Fig. 2. Monthly Salary Statement

On the left hand side there is a scroll down list, listing month and year, you can reach to the desired month with the help of scroll bar and can easily select the month with a mouse click.

Click the button List of the Selected employee panel, if the monthly salary statement was already made and saved for that month then you will see a * sign

after each employee name and if it was not made then it will do the processing now and select any bottom.

You can select the month of the year from the second frame which consists of list of 12 month To make the monthly salary statement of selected employees from the list, you can click against the employee name and press the Insert key of the keyboard; by this action you will see the employee name under the selected employee list on the right panel. The another way to do the same operation is click the button Add All this will cause the whole list of employee name to be copied and from here you can delete unwanted employee names.

3. DEAIGH SOFTWARE

3.1. Use Case Diagram

A use case describes a sequence of actions that provide something of measurable value to an actor and is drawn as a horizontal ellipse.

An actor is a person, organization, or external system that plays a role in one or more interactions with your system. Actors are drawn as stick figures. Associations between actors and use cases are indicated in use case diagrams by solid lines [12]. Fig. 3 shows the developed use case diagram.

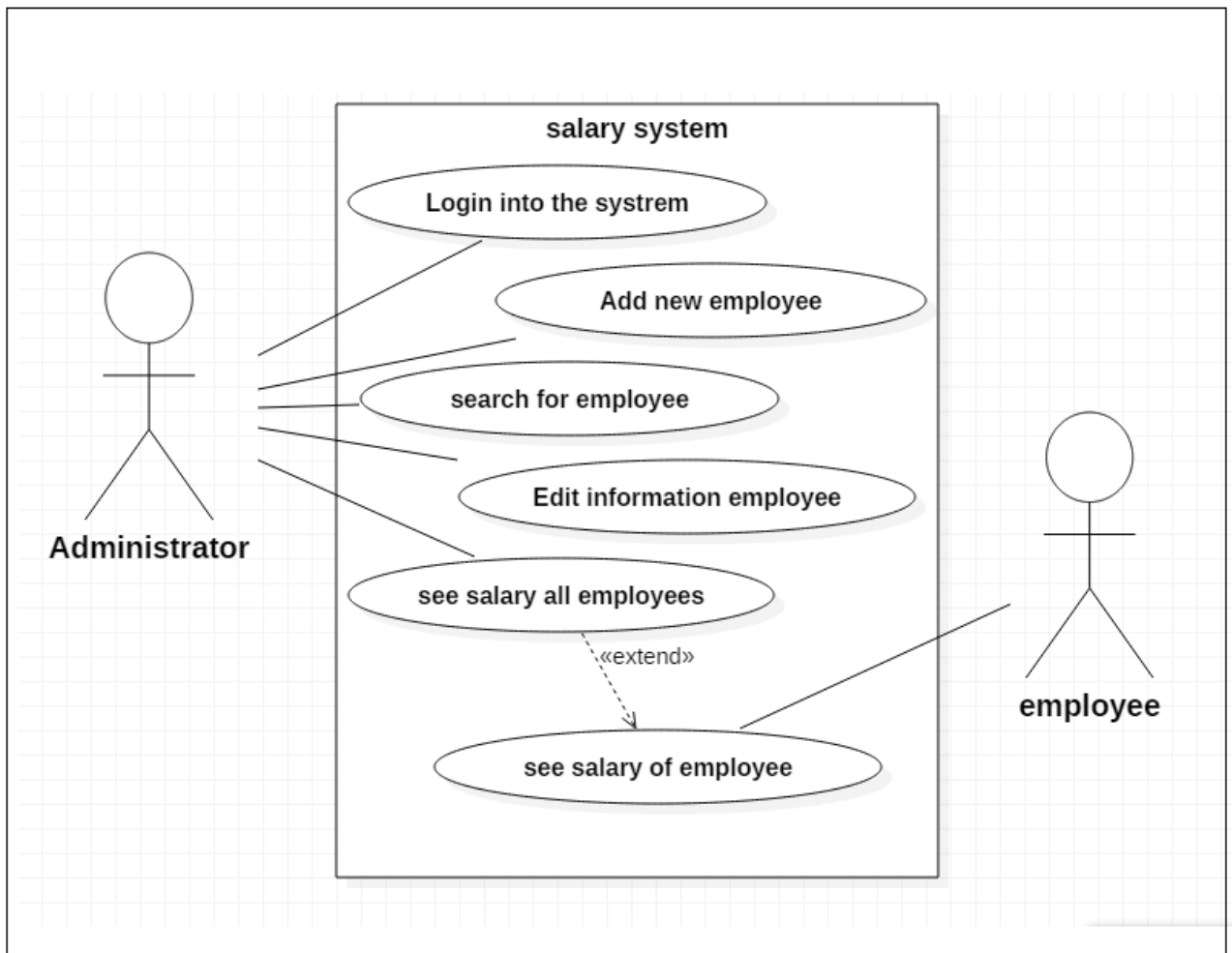


Fig. 3. the Use Case Diagram for hospital

An association exists whenever an actor is involved with an interaction described by a use case. Associations are modeled as lines connecting use cases and actors to one another, with an optional arrowhead on one end of the line. The arrowhead is often used to indicating the direction of the initial invocation of the relationship or to indicate the primary actor within the use case [13].

The arrowheads are typically confused with data flow and as a result I avoid their use. Fig. 3 shows the developed use case diagram.

Developed model contains many typical use cases such as “log into the system”, ”add new employee”, “search for employee”, “Edit information employee”, “See salary all employees”, “See salary of employee”,

3.2. User Interface of the System

User interface design (UID) or user interface engineering is the design of user interfaces for machines and software, such as computers, home appliances, mobile devices, and other electronic devices, with the focus on maximizing the user experience. The goal of user interface design is to make the user's interaction as simple and efficient as possible, in terms of accomplishing user goals (user-centered design). In my system there are 12 forms, each form has a certain function, such as it is shown in fig. 4.

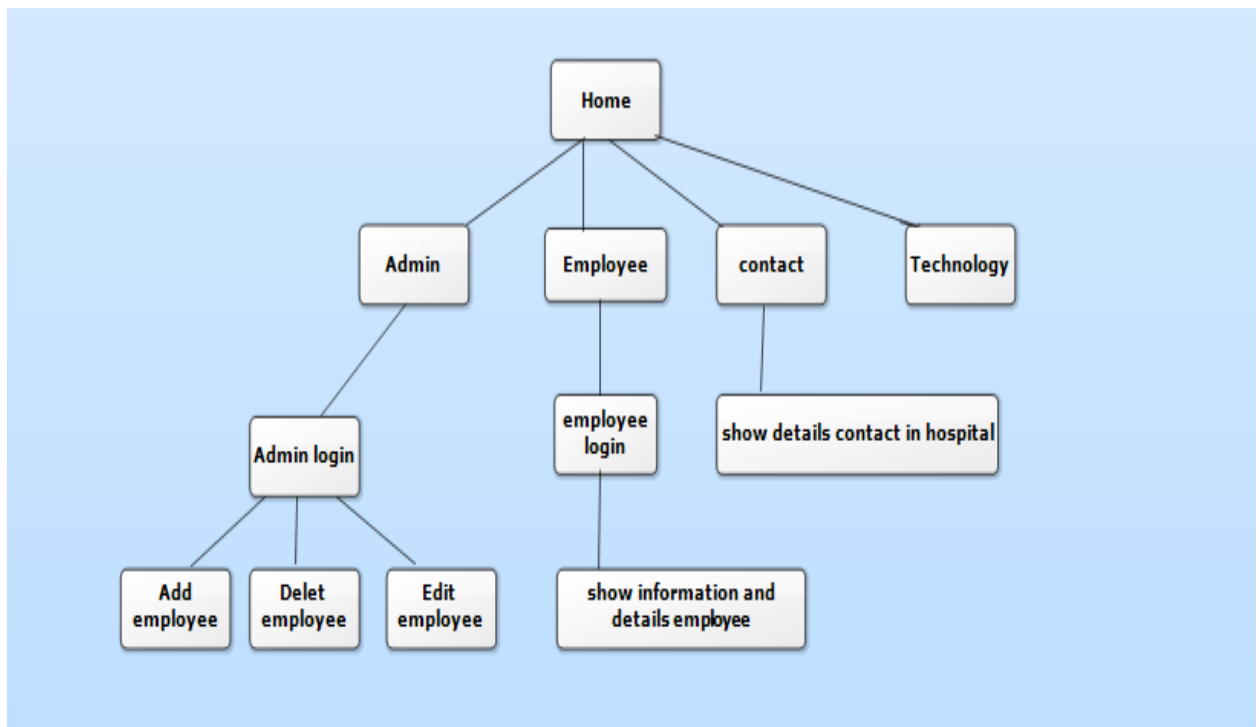


Fig. 4. the User Interface of system

3.3. Description of Database

Databases today are essential to every business. In essence, a database is a collection of information that exists over a long period of time, often many years. In common parlance, the term database refers to a collection of data that is managed by a DBMS.

The DBMS is expected to allow users to create new databases and specify their schemas (logical structure of the data), give users the ability to query and modify the data [14].

A DBMS is a powerful tool for creating and managing large amounts of data efficiently and allowing it to persist over long periods of time, safely. These systems are among the most complex types of software available.

MySQL, launched in 1995, has become the most popular open source DBMS [15]. Another root cause of MySQL's popularity has been the ongoing success of phpMyAdmin (www.phpmyadmin.net), a well-established MySQL web-based interface. Therefore, many websites use MySQL as their back-end data repository.

3.4. Database Scheme

A database system is its structure described in a formal language supported by the database management system (DBMS) and refers to the organization of data as a blueprint of how a database is constructed (divided into database tables in the case of relational databases).

The formal definition of database schema is a set of formulas (sentences) called integrity constraints imposed on a database. These integrity constraints ensure compatibility between parts of the schema. All constraints are expressible in the same language [16].

A database can be considered a structure in realization of the database language. The states of a created conceptual schema are transformed into an explicit mapping, the data base schema. This describes how real world entities are modeled in the database.

A database schema specifies, based on the database administrator's knowledge of possible applications, the facts that can enter the database, or those of interest to the possible end users. The notion of a database schema plays the same role as the notion of theory in predicate calculus [17].

A model of this "theory" closely corresponds to a database, which can be seen at any instant of time as a mathematical object. In my database scheme I

have tenth tables and each table contains detailed information. Fig. 5 shows my database.

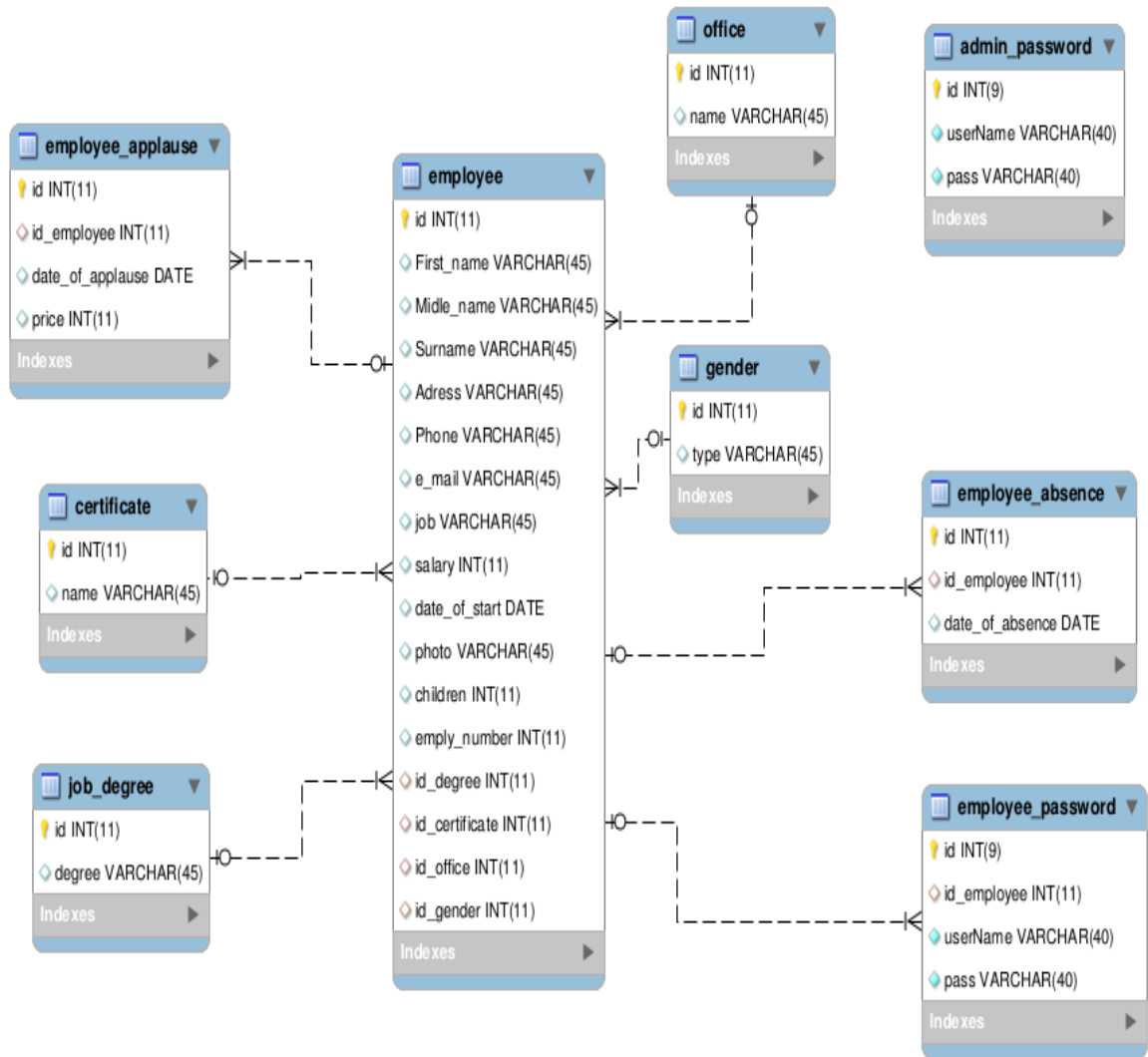


Fig. 5. Database schema in my project

3.4.1. The employee applause table is shown in figure 6.



Fig. 6. The employee applause table

- 1) Id INT the primary key for employee table;
- 2) Id_employee INT the foreign key for employee table;
- 3) date_of_applause Date the;
- 4) price INT the applause in salary employee.

3.4.2. The employees table is shown in figure 7.

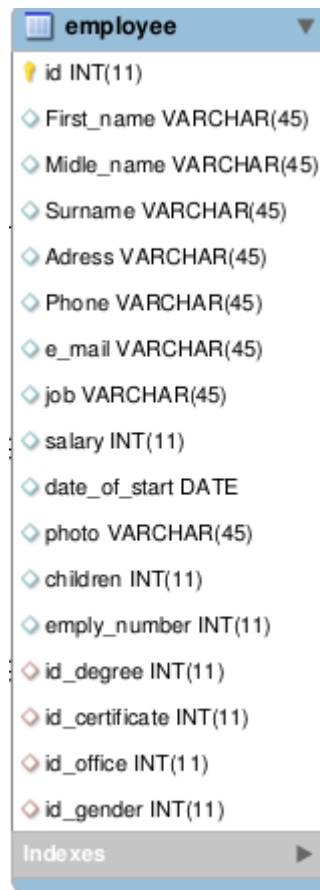


Fig. 7. The employee table

- 1) Id INT the primary key for employee table;
- 2) First_name the first name for employee who works in hospital;
- 3) Middle_name the second name (father name) for the employee;
- 4) Surname the family name for employee;
- 5) Address the address for employee;
- 6) Phone the number phone for employee;

- 7) E_mail the email for employee;
- 8) Id _job the foreign key for job table;
- 9) Salary the salary for employee;
- 10) Photo to insert picture of employee;
- 11) Children INT the number of children of employee;
- 12) emply_number INT the serial number of employee;
- 13) Id_degree the job degree of employee;
- 14) Id_certificate the certificate of employee;
- 15) Id_office the foreign key for office table;
- 16) Id_gender the foreign key for gender table.

3.4.2. The employee password table is shown in figure 8.

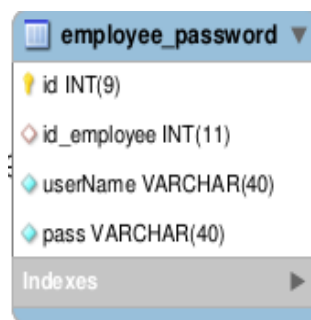


Fig. 8. The employee password table

- 1) Id INT the primary key for employee;
- 2) Id_employee the foreign key for employee table;
- 3) Username the username for employee;
- 4) Password the password for employee.

3.4.3. The gender table is shown in figure 9

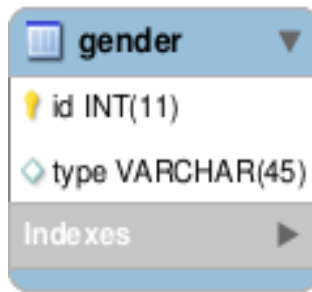


Fig. 9. The gender table

- 1) Id INT the primary key for gender;
- 2) Type the type.

3.4.4. The employee absence table is shown in figure 10.

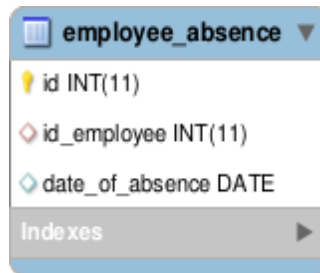


Fig. 10. The employee absence table

- 1) Id INT the primary key for employee;
- 2) Id_employee the foreign key for employee table;
- 3) Date_of_absence Date the absence date employee.

3.4.5. The office table is shown in figure 11.

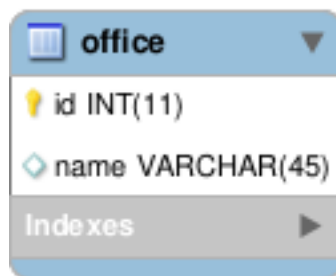


Fig. 11. The office table

- 1) Id INT the primary key for office;
- 2) Name the name of Employee office.

3.4.6. The office table is shown in figure 12.

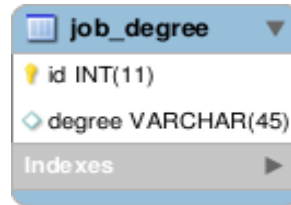


Fig. 12. The job degree table

- 1) Id INT the primary key for Job degree table;
- 2) Degree the type of job degree for every employee in hospital.

3.4.7. The office table is shown in figure 13.

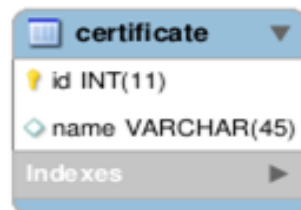


Fig. 13. The certificate table

- 1) Id INT the primary key for certificate;
- 2) Name the name of certificate.

3.4.8. The admin password table is shown in figure 14.

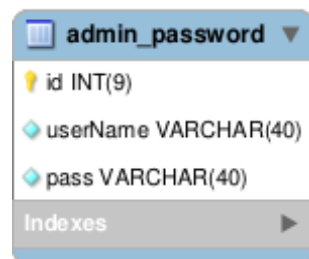


Fig. 14. The admin password table

- 1) Id INT the primary key for table admin password;
- 2) User Name the name of user;
- 3) Password the password for every user.

3.5 Development of the interface

User interface design is the design of websites and software applications with the focus on the user's experience and interaction.

The goal of user interface design is to make the user's interaction as simple and efficient as possible, in terms of accomplishing user goals. The home page is the login page such as it is shown in fig. 15.

The main interface includes the following commands: (Home, Admin, Employees, Technology, Record and Contact).

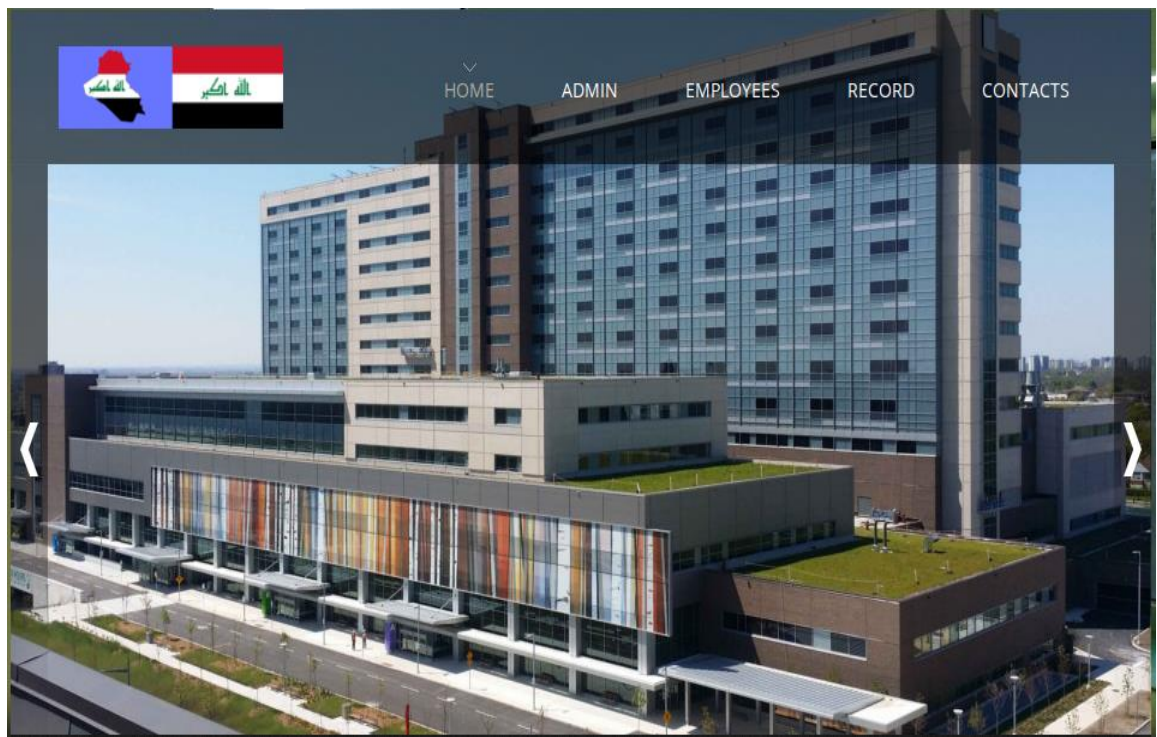


Fig. 15. Home page

Home: When pressing this button it will return us to the main interface from any place.

Admin: This command enables the manager to login to the program. When pressing this button it will display another window called: "Admin Login Page" which includes the following fields and buttons: (User, Password, Login and Back).

After typing the "Username" and "Password" and then pressing "Login", the manager will be able to login to the program. See figure 16.

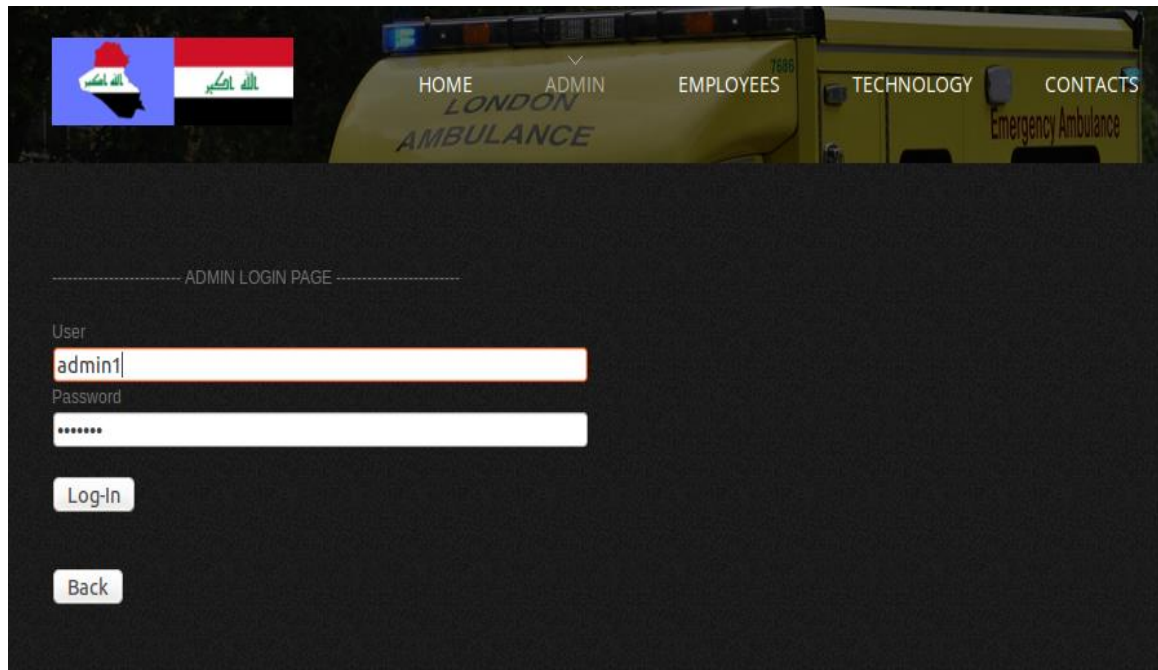


Fig. 16. Admin login page

After pressing "Login" in the previous interface another window will be displayed. It contains the following options: Search Employees, Add Employees and Logout), See figure 17.

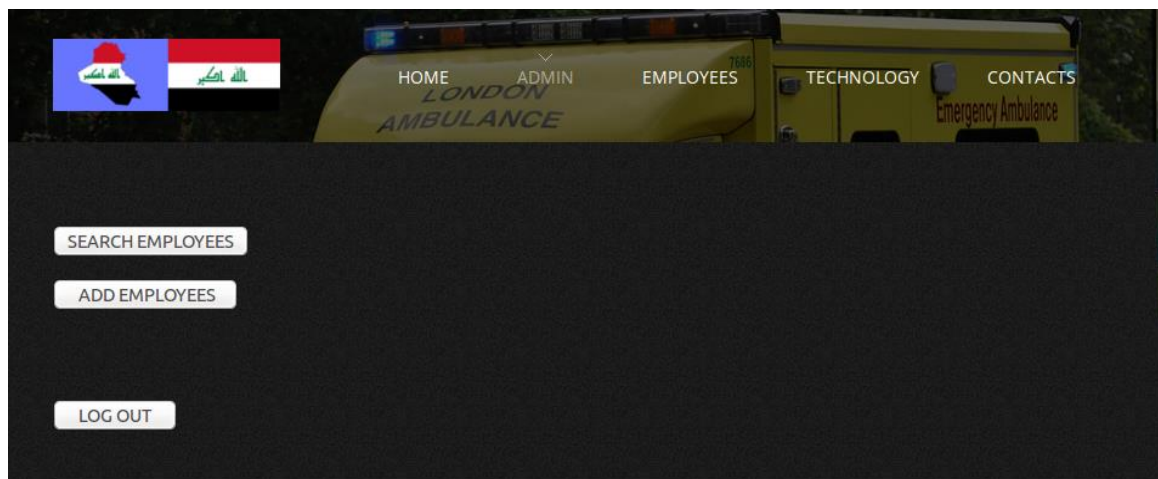
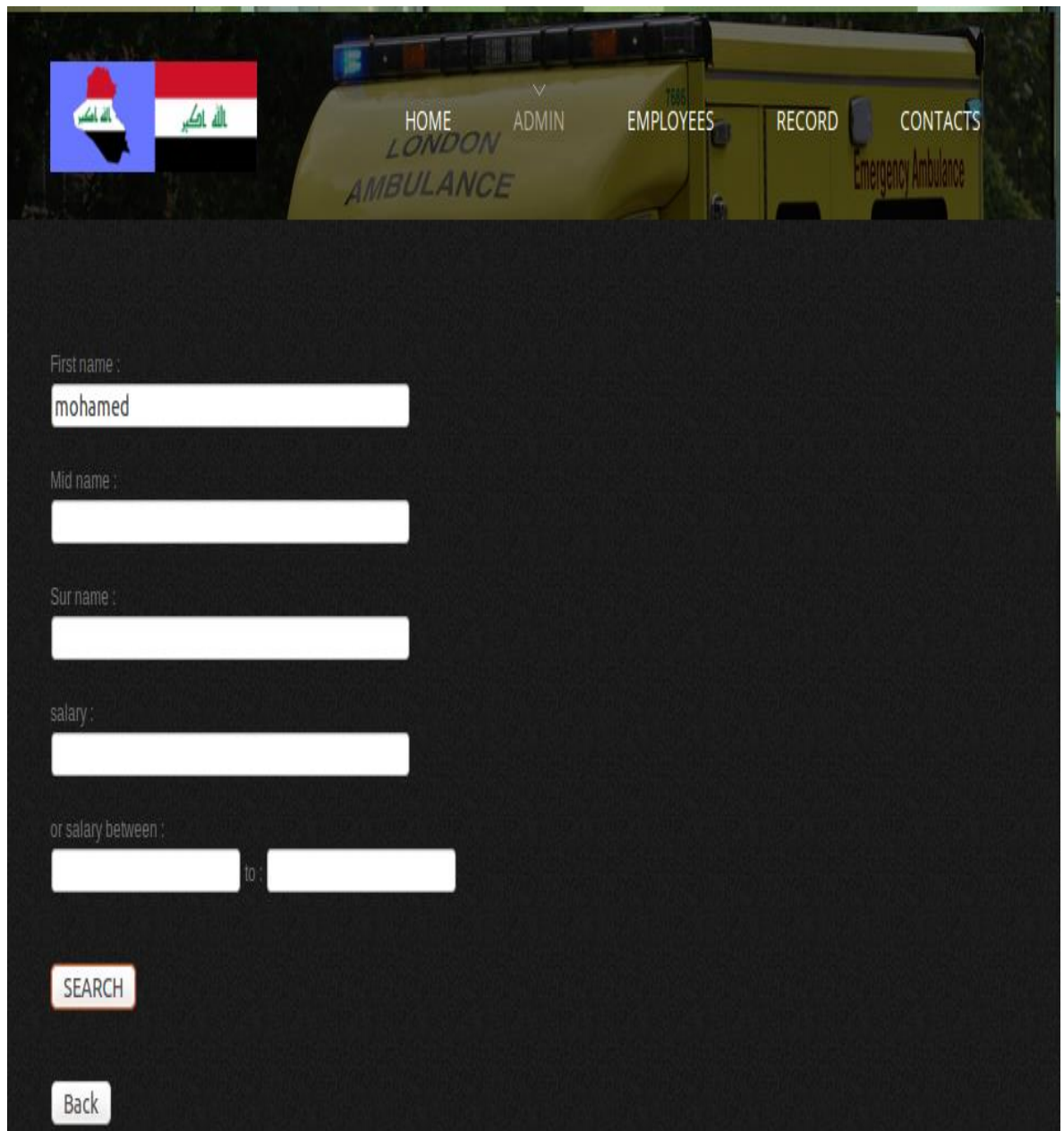


Fig. 17. Search employee, Add employee page.

When pressing on "Search Employees" option it will direct us to another window.

This window enables the manager to search for any employee by typing the required information of that employee such as: (First Name, Middle Name, Last Name, and Salary), See figure 18.



HOME ADMIN EMPLOYEES RECORD CONTACTS

LONDON
AMBULANCE

Emergency Ambulance

First name :
mohamed

Mid name :

Sur name :

salary :

or salary between :
 to :

SEARCH

Back

Fig. 18. search employee page.

When pressing the "Search" button as in the above photo a new window appears called "Result of Search". This window contains the search results and

the following buttons: (Edit, Remove, Reload and Back), these buttons enable us to edit or remove a specific employee's information.

The button "Back" is used to go back to the previous window, See figure 19.

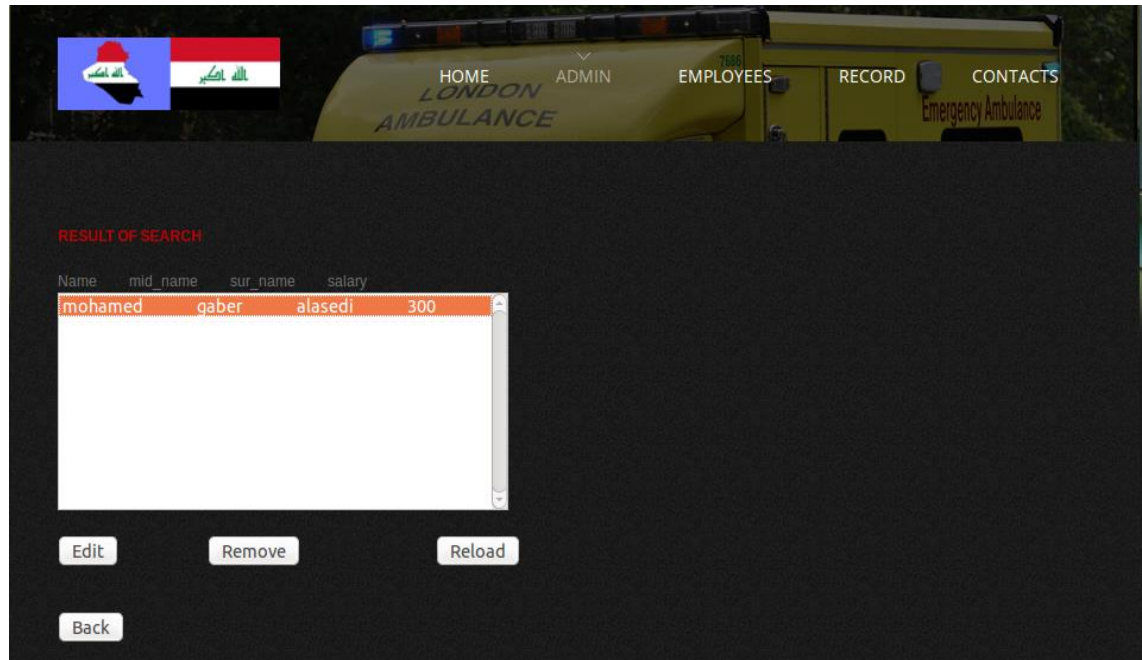


Fig .19. Result of search page.

For example, if we want to edit the information of an employee we press on the name of the targeted employee and then we press "Edit". The following window appears that is called "Edit Employee Information", See figure 20.

----- EDIT EMPLOYEE INFORMATIONS -----


| | |
|--|--|
| <p>First name : <input type="text" value="mohamed"/></p> <p>Mid name : <input type="text" value="gaber"/></p> <p>Sur name : <input type="text" value="alasedi"/></p> <p>Address : <input type="text" value="st 66"/></p> <p>Job title : <input type="text" value="doctor"/></p> <p>Employee Number : <input type="text" value="9"/></p> <p>Number of children : <input type="text" value="7"/></p> <p>Phone : <input type="text" value="07705567387"/></p> <p>Email : <input type="text" value="a.header@yahoo.com"/></p> <p>Salary : <input type="text" value="300"/></p> <p>User name : <input type="text" value="777"/></p> <p>Password : <input type="text" value="777"/></p> <p style="text-align: center;"><input type="button" value="Save"/></p> | <p>photo : </p> <p><input type="button" value="Browse..."/> No files selected.</p> <p>Date of start study :</p> <p>Day: <input type="text" value="06"/></p> <p>Month: <input type="text" value="09"/></p> <p>Year: <input type="text" value="2012"/></p> <p>Job Degree: <input type="text" value="Fifth Degree"/></p> <p>Certificate: <input type="text" value="Dhd"/></p> <p>Office: <input type="text" value="Central office"/></p> <p>Gender: <input type="text" value="Man"/></p> |
|--|--|

Fig .20. Edit Employee information page.

When back to the command "Admin" in the main page we will find the second option "Add Employee". When pressing on this option the following window appears that is called "Add New Employee" which contains a number of the following fields and buttons: (First Name, Middle Name, Surname, Address, Phone, Email, Username, Password, Date of Work Start, and Salary). They enable the admin to add the information of a new employee, See figure 21.

----- ADD A NEW EMPLOYEE -----

First name * : mohamed

Mid name * : ali

Sur name * : alasedi

Adress * : ww22

Job title * : doctor

Number of children * : 4

Employee Number * : 887

Phone : 07705795477

Email : a.header@yahoo.com

User name * : 666

Password * : 666

Browse... images.jpeg

Date of start work :

Day : 6

Month : 3

Year : 2013

User name * : 666

Password * : 666

Browse... images.jpeg

Date of start work :

Day : 6

Month : 3

Year : 2013

salary : 400

Job Degree : First Degree

Certificate : Dhd

Office : Central office

Gender : Man

SAVE

Fig. 21. Add New Employee page.

If we press the "Save" button adding results will be displayed, See figure 22.

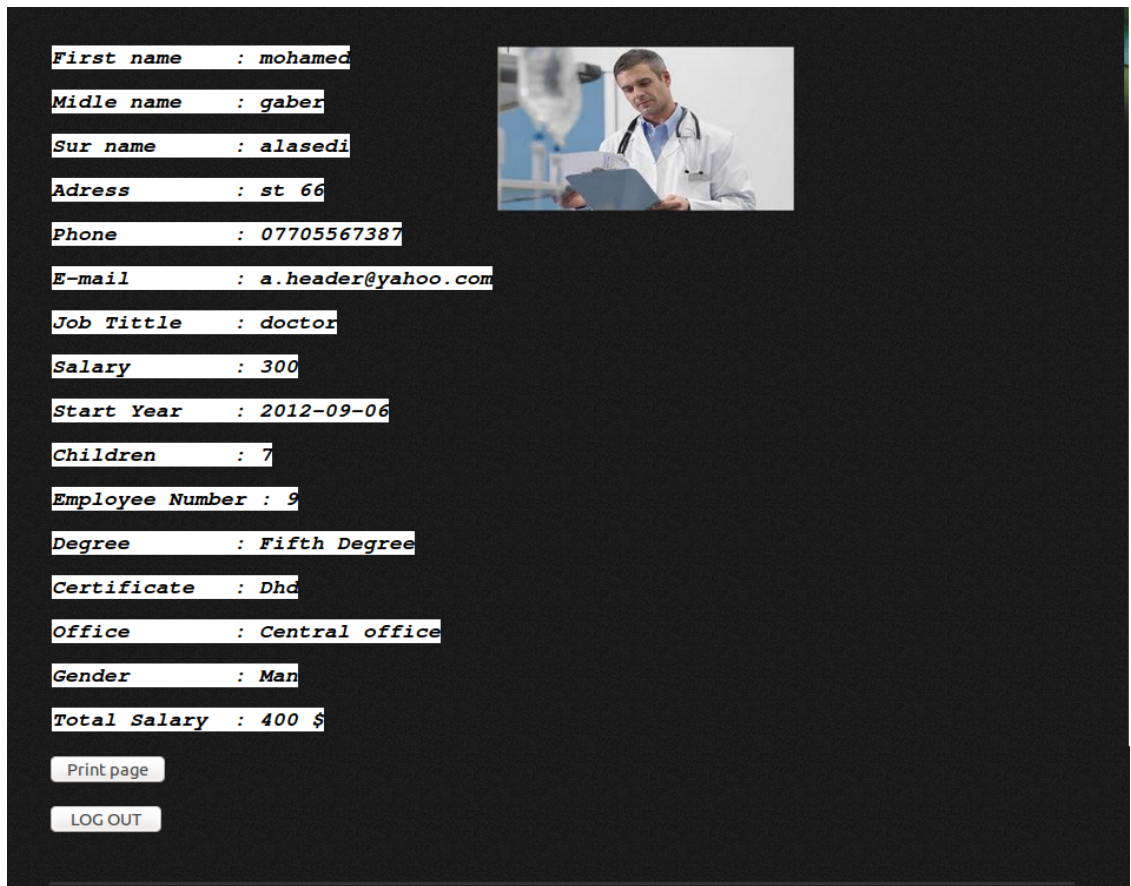


Fig. 22. Information Employee page.

Employee: When pressing on this command it will display the following window which is called "Employee Login Page" that contains the "Username" and "Password" fields, See figure 23.

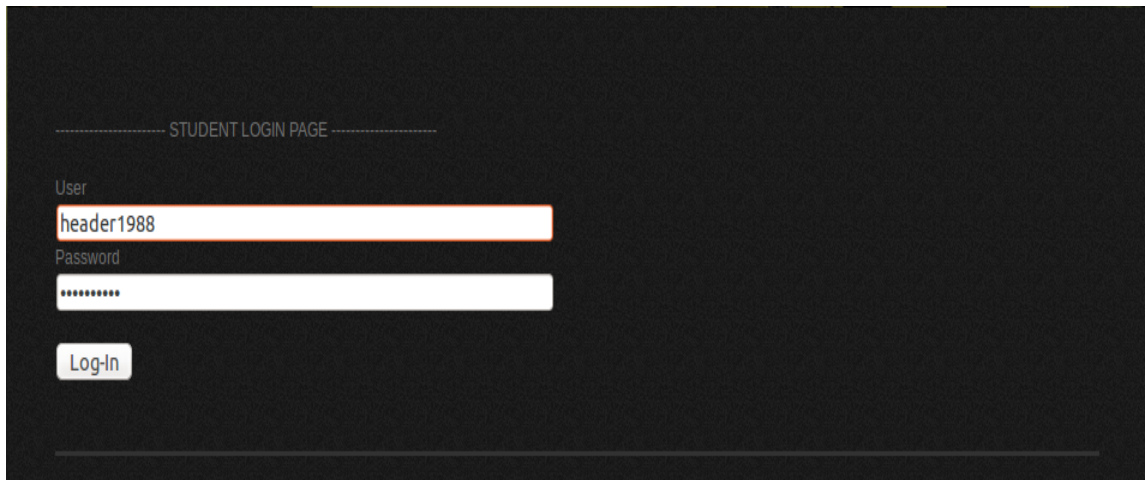


Fig. 23. Employee Login page.

When you click the "Login" option, it will be redirected to another window which contains all the information about the employee, See figure 24.

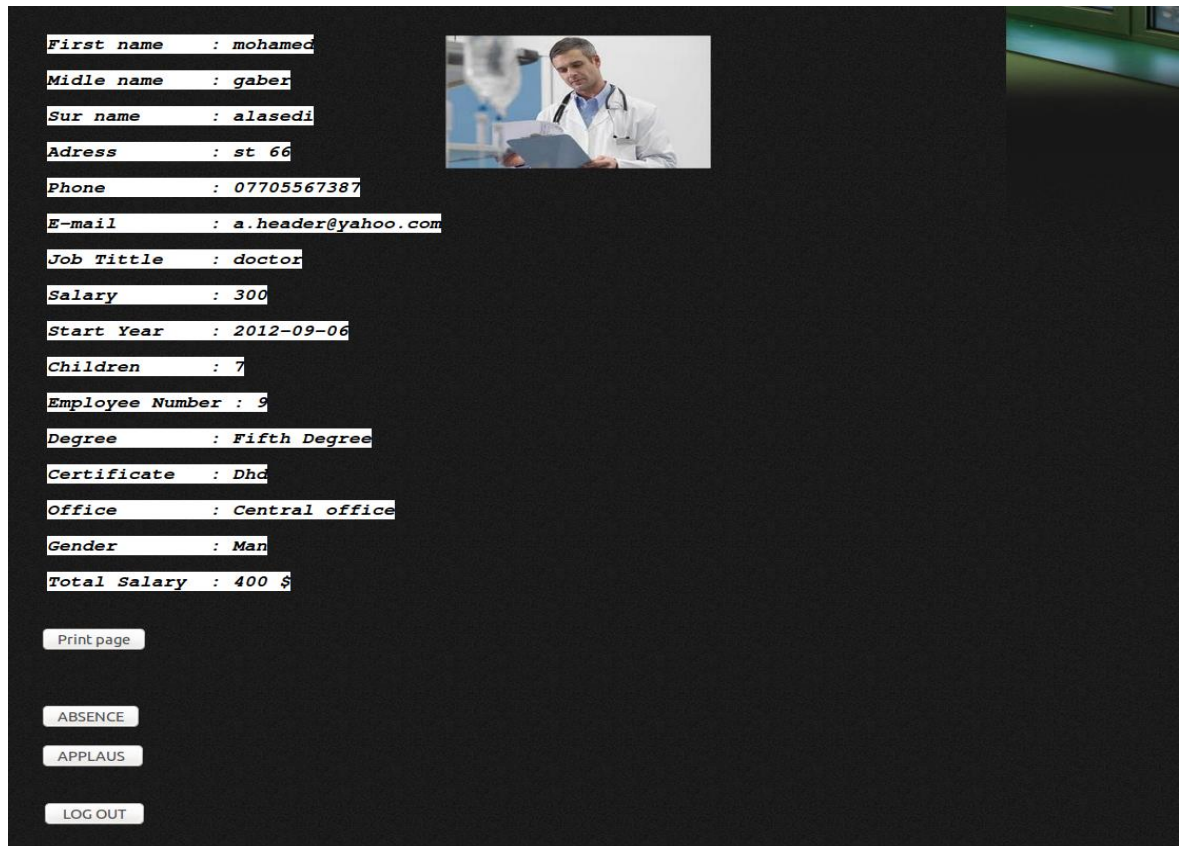


Fig. 24. Information Employee page.

When pressing “Raise” button, the following page will appear , See figure 25.

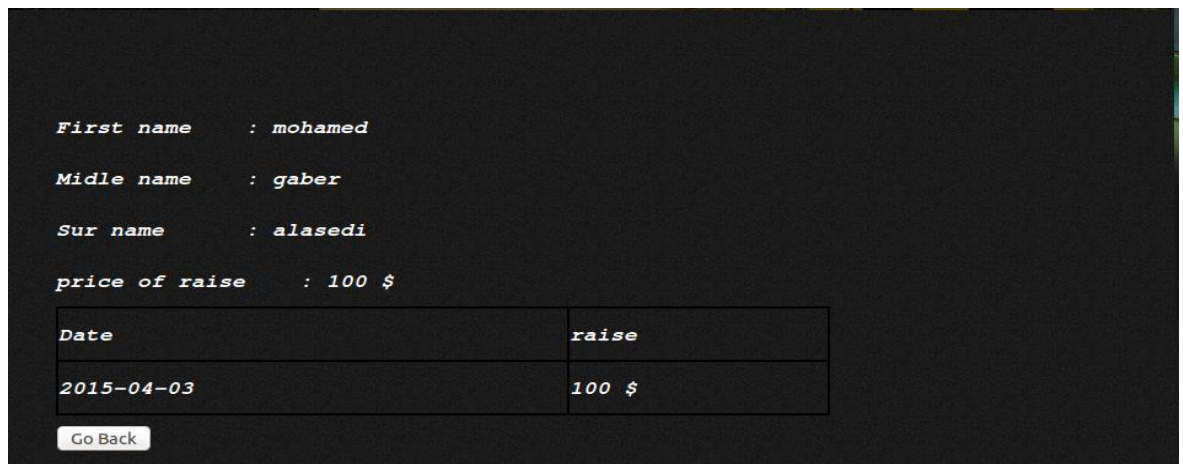


Fig. 25. Absence of Employee page.

Through it the employee can learn the days of their absence.

4. TESTING

Functional system tests should be based around coverage of the functionality described in the requirements, but it is common for the design document to be used as the baseline for testing because the requirements cannot be related to the product.

Each test of my system contains input and output information. Therefore, we compare the actual results and the expected results.

The main page testing

Table 1. The main page testing

| No | Test case | Test steps | Expected Result | actual results |
|----|---|---|--|------------------------------|
| 1. | To show main Page | 1. The user opens the internet explorer. 2. The user writes local host/hospital. | Any employee can only watch this With the list of the main sections. | The function works correctly |
| 2. | To give all employees the permission to see the page "Contact " | The user press "contact" button. | Any employee can See the page "Contact" | The function works correctly |

| | | | | |
|----|---|--|--|------------------------------|
| 3. | To give all employees the permission to see the page "Technology" | Any employee can See the page "Technology" | Any employee can See the page "Technology" | The function works correctly |
|----|---|--|--|------------------------------|

Admin interface testing

Table 2. Admin interface testing

| No | Test case | Test steps | Expected Result | actual results |
|----|--|--|--|------------------------------|
| 1. | When the admin enters the user name and Password properly. | 1. Enter "Haider_Admin" in name 2. Enter "1234" In password | open the Admin page | The function works correctly |
| 2. | When the admin Enters username and password improperly | 1. Enter "Haider_Admin" in name 2. Enter not correct password | System should prompt the user to enter valid values. | The function works correctly |
| 3. | If the admin enters incorrect username and password | 1. Enter not Correct Name 2. Enter "123" In password | System should prompt the user to enter valid values. | The function works correctly |

| | | | | |
|----|---|---|--|------------------------------|
| 4. | If the admin enters incorrect username and password | 1. Enter not Correct Name 2. Enter "123" In password | System should prompt the user to enter valid values. | The function works correctly |
|----|---|---|--|------------------------------|

| | | | | |
|----|---|--|--|------------------------------|
| 5. | When the admin enters incorrect username and incorrect password | 1. Enter incorrect name does not exist in database. 2. Enter "188" In password | System should prompt the user to enter valid values. | The function works correctly |
| 6. | The admin search in the database of the employee name or the job. | 1. The admin press search. 2. The admin choose employee name. | The system shows employee name. | The function works correctly |
| 7. | Add a new employee in the database of the admin page. | The Admin can insert name employee, job Degree, e-mail, phone, employee number, etc. and register them in database | The system saves the employee information. | The function works correctly |
| 8. | The admin wants delete some employee. | 1. The admin press "search employee" button. 2. The admin select employee name. | The system will delete employee information. | The function works correctly |

| | | | | |
|----|-------------------------------------|--|--|------------------------------|
| 9. | The admin wants edit some employee. | <ol style="list-style-type: none"> 1. The admin press “search employee” button. 2. The admin select employee name. 3. The admin press “Edit”. | The system will edit employee information. | The function works correctly |
|----|-------------------------------------|--|--|------------------------------|

End of table 2

Employee interface testing

Table 3. The employee interface testing

| No | Test case | Test steps | Expected Result | actual results |
|----|--|---|--|------------------------------|
| 1 | IF the user enters valid username and valid password | <ol style="list-style-type: none"> 1. Enter "Ahmed it" in name 2. Enter “1988”In password | Should open the page for Ahmed's employee. | The function works correctly |
| 2 | If the user enters Incorrect user name and password | <ol style="list-style-type: none"> 1. Enter not correct name 2. Enter “123” password | Should don’t open the Page for employee. | The function works correctly |
| 3 | IF the user enters valid username and correct password | <ol style="list-style-type: none"> 1. Enter not correct name 2. Enter “123” password | Should don’t open the Page information employee. | The function works correctly |

| | | | | |
|---|---|--|---|------------------------------|
| 3 | The user wants see his salary and his information (number telephone, E-mail, number of children etc.) | The user press "employees" button. 1. Enter "Ahmed" in name. 2. Enter "1988" in password. | He will see the total salary and his information. | The function works correctly |
| 4 | The user will see increase of his Salary. | 1. Enter "Ahmed_Employee" in name. 2. Enter "1988" in password. He will see a plus of in his monthly salary | He will see increase of his monthly salary. | The function works correctly |
| | IF the user enters valid username and correct password | 1. Enter not correct name 2. Enter "123" password | Should don't open the Page information employee. | The function works correctly |

End of table 2

CONCLUSION

In the Republic of Iraq there are systems of calculating salaries. However, these systems are old and outdated as they cause many problems when working on them. To solve these problems, it is an important task to design a new program to calculate salaries and make this process much easier.

This program is different from the older ones in which it presents new options such as calculating the salaries of the employees, their days of absence and a lot of other information about them.

This process will help others interested in the work of the hospital itself such as accountants, directors, legal experts and governmental inspectors. This is very useful for these people mentioned above to know for example how much money every employee gets at the end of every month.

During the process of developing this program, we managed to solve the following tasks:

1. the system of salaries' calculation in hospitals has been described;
2. the required database of the salaries' calculation system has been described;
3. the system of salaries' calculation in hospitals has been implemented and tested.

I think this program can offer a lot to help ease the process of salaries' calculation not only in the hospital where I work but in other hospitals as well.

Therefore, based on this assumption, I believe that this program can be developed in the future to cover other governmental offices and establishments making the process of calculating salaries easier and more practical. It could also be developed to perform other useful tasks in the near future.

REFERENCES

1. Delisle M. Creating your MySQL Database: Practical Design Tips and Techniques. – UK: Packt Publishing Ltd, 2006. – 105 p.
2. Garcia-Molina H. Ullman J.D. Widom J. Database Systems the Complete Book. - Prentice Hall, 1998. - 1203 p.
3. Larry Ullman. PHP for the World Wide Web, Second Edition. – Wily Publishing, 2004. – 480 p.
4. Molina H.G., Ullman J.D., Widom J. database systems. The Complete Book. 2nd ed. – USA: Pearson Education Inc., 2009. – 1241 p.
5. Official site of MySQL Server. [Electronic Resource] URL: <http://dev.mysql.com/doc/refman/4.1/en/what-is-mysql.html> (the date of access: 15.10.2016).
6. Official site of MySQL Server. [Electronic Resource] URL: <http://dev.mysql.com/doc/refman/4.1/en/what-is-mysql.html> (the date of access: 16.02.2017).
7. Official site of phpMyAdmin. [Electronic Resource] URL: http://www.phpmyadmin.net/home_page/index.php (the date of access: 10.09.2016).
8. Official site of phpMyAdmin. [Electronic Resource] URL: http://www.phpmyadmin.net/home_page/index.php (the date of access: 10.09.2016).
9. Todor D.J.P., Naroska E. Unsupervised Recognition of ADLs. Rybinski, On First-Order-Logic Databases // ACM Transactions on Database Systems, 2010. – P. 71-80.

10. Todor D.J.P., Naroska E. Unsupervised Recognition of ADLs. Rybinski, On First-Order-Logic Databases. // ACM Transactions on Database Systems, 2010. – P. 71-80.
11. Tomas S.P. Rimantas Butleris: Approach for Semiautomatic Extraction of Business Vocabularies and Rules from Use Case Diagrams. – USA: Facet Publishing, 2014. – 182 p.
12. Upton D. CodeIgniter for Rapid PHP Application Development. – UK: Packt Publishing Ltd, 2007. – 257 p.
13. Upton D. CodeIgniter for Rapid PHP Application Development. – UK: Packt Publishing Ltd, 2007. – 257 p.
14. Upton D. CodeIgniter for Rapid PHP Application Development. – UK: Packt Publishing Ltd, 2007. – 257 p.
15. W3C: HTML. [Electronic recourse] URL: <http://www.w3.org/html/> (the date of access: 16.04.2016).
16. Web site of MySQL Server. [Electronic resource] URL: <http://dev.mysql.com/doc/refman/4.1/en/what-is-mysql.html> (the date of access: 13.02.2017).
17. Web tutorial about MySQL. [Electronic resource] URL: <http://www.tutorialspoint.com/mysql> (the date of access: 12.01.20117).