

Ministry of Higher Education &
Scientific Research

University of AL-Qadisiyah

College of Computer Science &
Information Technology

وزارة التعليم العالي والبحث العلمي

جامعة القادسية

كلية علوم الحاسوب وتكنولوجيا المعلومات



مشروع تخرج

Design and implementation online ID card system

مقدم إلى جامعة القادسية /كلية علوم الحاسوب وتكنولوجيا المعلومات /قسم علوم الحاسوب

كجزء من متطلبات نيل درجة البكالوريوس في علوم الحاسوب

من قبل

زهراء محمد مري شهلاء مكي حبيب

رحاب هادي مرزوك بنين محسن عبد الامير

اشراف

م.م. سلام علاوي حسين

2018 – 2019 هـ

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(1) (أَفْرَأَىٰ قُلُوبَنَا بِرَبِّكَ (النَّبِيُّ) خَلْقًا (1))

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ (2) (أَفْرَأَىٰ

وَأَرَأَيْتَ (الْبُرْجِ) (3) (النَّبِيُّ) خَلْقًا

قُلُوبًا (4) (عَلَّمَ) (النَّبِيُّ) خَلْقًا

((5)) (سُبْحَانَ) (الْعَلِيِّ)

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Abstract:

The main idea to design this system to facilitate obtain to the university identity of the University of AL- Qadisiyah. This service is available to university employees and staff. It also provides electronic registration forms for university students. The aim of this system is to facilitate and expedite administrative procedures. The system guides the user electronically in all registration steps in a simple way. After registration, the system will issue an electronic memo. The system requires a central database to be checked to check the information of the user (student, employees staff, teachers) and the information is checked by the person responsible for issuing the identity (admin). We also used the national standard number as a primary field when registering on the identity for the purpose of not issuing more than one identity to each associate the University.

CHAPTER ONE

INTRODUCTION

Table of content

Title	Page No.
Abstract	i
Chapter One	
Introduction	1
1.1.Web Database	1
1.2.Data Organization	1
1.2.1.Data Management Advantages	1
1.2.2.Data Management Disadvantages	2
1.3.Database Application and the web	2
1.3.1.three-tier architecture	3
1.4. overview of database web services	4-5
Chapter Two	
Technologies used	6
2.1.HTML	6
2.1.1.HTML5	6
2.2.CSS	7
2.3. MySQL	7
2.3.1.MySQL Advantages	8
2.3.2.Database structure and MySQL	9
2.4. PHP	10
Chapter Three	
Implementation	11- 16
Conclusions	17
References	18

Table of figures

Figure No.	Page No.
Figure [1.1]: the three tier architecture model	4
Figure [1.2]: web database form	5
Figure [2.1]: tools in the web development process	9
Figure [3.1]: main interface of id card system	11
Figure [3.2]: registration form	11
Figure [3.3]: verification page	12
Figure [3.4]: verification page if you have already registered	12
Figure [3.5]: Id card information page	13
Figure [3.6]: print page	13
Figure [3.7]: receipt form	14
Figure [3.8]: admin login page	14
Figure [3.9]: admin homepage	15
Figure [3.10]: id card interface	15
Figure [3.11]: id card specific search interface	16
Figure [3.12]: admin verification/updating page	16

1.1. Web Database:

A Web database is a database application designed to be managed and accessed through the Internet. Website operators can manage this collection of data and present analytical results based on the data in the Web database application. Databases first appeared in the 1990s, and have been an asset for businesses, allowing the collection of seemingly infinite amounts of data from infinite amounts of customers. [1]

1.2. Data Organization:

Web databases enable collected data to be organized and cataloged thoroughly within hundreds of parameters. The Web database does not require advanced computer skills, and many database software programs provide an easy "click-and-create" style with no complicated coding. Fill in the fields and save each record. Organize the data however you choose, such as chronologically, alphabetically or by a specific set of parameters. [1]

1.2.1. Data Management Advantages:

Microsoft SQL Server 2008 is a popular example of a relational database. The Microsoft Corporation updated its scalable server system to make it easier for programmers to build, manage and query their data warehouse. Some advantages of relational databases like SQL Server 2008 are the ability to program a query to search all data tables for the exact information you need; the ability to scale the database to the size of a very large organization; the ability to access, update and share information among many user stations; and advanced capabilities for analyzing and reporting. The query language relies on formulas to tell the database what kind of

data you want to pull from tables in the system. Finally, the relational database can interface with many third-party tools.

1.2.2. Data Management Disadvantages:

An alternative to the relational database is a database system using an object-oriented programming language like Java. Tech Republic's Justin James highlighted several disadvantages of the relational database system. Database developers tend to add layers to the database for new functions and use web services to couple layers of data. The disadvantages arise from limitations of the language. According to James, the current relational database forces developers to recreate logic, to find solutions to mismatches between applications and their database system, to retrofit or debug the existing database because of time and money already invested and to work with a very complex system. [2]

1.3. Data base Applications and the web:

With the growth of the Web over the past decade, there has been a similar growth in services that are accessible over the Web. Many new services are web sites that are driven from data stored in databases. Examples of web database applications include news services that provide access to large data repositories, e-commerce applications such as online stores, and business-to-business (B2B) support products. [3]

Database applications have been around for over 30 years, The Web provides cheap, ubiquitous networking. It has an existing user base with standardized web browser software that runs on a variety of ordinary computers. For developers, web server software is freely available that can respond to requests for both documents and programs. Several scripting languages have been adapted or designed to develop programs to use with web servers and web protocols.

Most web database applications do this through three layers of application logic. At the base is a database management system (DBMS) and a database. At the top is the client web browser used as an interface to the application. Between the two lies most of the application logic, usually developed with a web server-side scripting language that can interact with the DBMS, and can decode and produce HTML used for presentation in the client web browser. [2], [3]

the three-tier architecture model used in many web database applications. We then introduce the nature of the Web and its underlying protocols and then discuss each of the three tiers and their components in detail.

1.3.1. Three-Tier Architectures:

web database applications built around a *three-tier architecture* model, shown in figure below. At the base of an application is the *database tier*, consisting of the *database management system* that manages the database containing the data users create, delete, modify, and query. Built on top of the database tier is the complex *middle tier*, which contains most of the application logic and communicates data between the other tiers. On top is the *client tier*, usually web browser software that interacts with the application. [7]

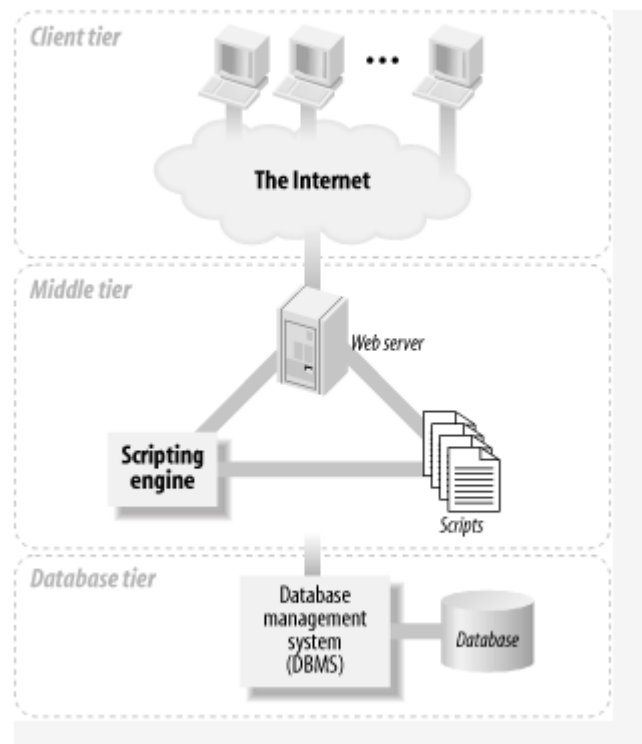


Figure [1.1]: The three-tier architecture model of a web database application

1.4. Overview of Database web services:

Web services enable application-to-application interaction over the Web, regardless of platform, language, or data formats. The key ingredients, including Extensible Markup Language (XML), Simple Object Access Protocol (SOAP), Web Services Description Language (WSDL), and Universal Description, Discovery, and Integration (UDDI), have been adopted across the entire software industry. Web services usually refer to services implemented and deployed in middle-tier application servers. However, in heterogeneous and disconnected environments, there is an increasing need to access stored procedures, as well as data and metadata, through Web services interfaces. [7],[8]

The Database Web services technology is a database approach to Web services. It works in the following two directions:

- Accessing database resources as a Web service
- Consuming external Web services from the database

Oracle Database can access Web services through PL/SQL packages and Java classes deployed within the database. Turning Oracle Database into a Web service provider leverages investment in Java stored procedures, PL/SQL packages, predefined SQL queries, and data manipulation language (DML). Conversely, consuming external Web services from the database, together with integration with the SQL engine, enables Enterprise Information Integration. [7], [8]

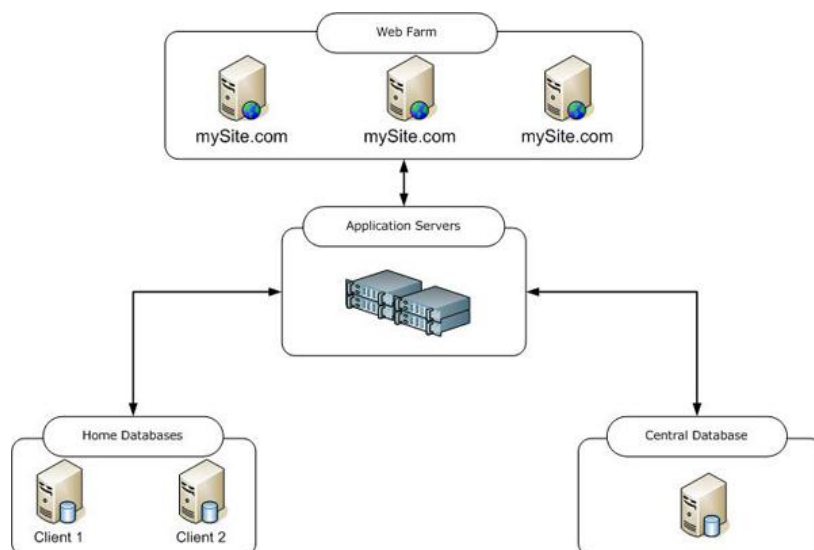


Figure [1.2]: web database form

CHAPTER TWO

TECHNOLOGIES USED

Technologies Used:

2.1. HTML:

HTML is a hypertext markup language which is in reality a backbone of any website. Every website can't be structured without the knowledge of html. If we make our web page only with the help of html, then we can't add many of the effective features in a web page, for making a web page more effective we use various platforms such as CSS. So here we are using this language to make our web pages more effective as well as efficient. And to make our web pages' dynamic we are using Java script. [4]

2.1.1. HTML5:

HTML5 is the latest evolution of the standard that defines HTML. The term represents two different concepts. It is a new version of the language HTML, with new elements, attributes, and behaviors, and a larger set of technologies that allows the building of more diverse and powerful Web sites and applications. This set is sometimes called HTML5 & friends and often shortened to just HTML5.

Designed to be usable by all Open Web developers, this reference page links to numerous resources about HTML5 technologies, classified into several groups based on their function. [4]

- ❖ Semantics: allowing you to describe more precisely what your content is.
- ❖ Connectivity: allowing you to communicate with the server in new and innovative ways.
- ❖ Offline and storage: allowing webpages to store data on the client-side locally and operate offline more efficiently.
- ❖ Multimedia: making video and audio first-class citizens in the Open Web.
- ❖ 2D/3D graphics and effects: allowing a much more diverse range of presentation options.

- ❖ Performance and integration: providing greater speed optimization and better usage of computer hardware.
- ❖ Device access: allowing for the usage of various input and output devices.
- ❖ Styling: letting authors write more sophisticated themes. [4]

2.2. CSS " Cascading Style Sheet ":

CSS Stands for "Cascading Style Sheet." Cascading style sheets are used to format the layout of Web pages. They can be used to define text styles, table sizes, and other aspects of Web pages that previously could only be defined in a page's HTML. The basic purpose of CSS is to separate the content of a web document (written in any markup language) from its presentation (that is written using Cascading Style Sheets). There are lots of benefits that one can extract through CSS like improved content accessibility, better flexibility and moreover, CSS gives a level of control over various presentation characteristics of the document. It also helps in reducing the complexity and helps in saving overall presentation time. CSS gives the option of selecting various style schemes and rules according to the requirements and it also allows the same HTML document to be presented in more than one varying style. Here we are use css3 because its contains more feature and flexibility. [3]

2.3. MySQL:

MySQL is a very popular, open source DBMS, MySQL databases are relational. Handles very large databases; very fast performance; reliable. MySQL is compatible with standard SQL, why are we using MySQL Free (much cheaper than Oracle) Multi-user access to a number of databases offered, Easy to use Shell for creating tables, querying tables, etc. Easy to use with Java JDBC. MySQL is frequently used by PHP. [7]

2.3.1. MySQL Advantages:

1- Data Security:

MySQL is globally renowned for being the most secure and reliable database management system used in popular web applications including WordPress, Drupal, Joomla, Facebook and Twitter. The data security and support for transactional processing that accompany the recent version of MySQL can greatly benefit any business. [7]

2- On-Demand Scalability

MySQL offers unmatched scalability to facilitate the management of deeply embedded apps using a smaller footprint, even in massive warehouses that stack terabytes of data. On-demand flexibility is the star feature of MySQL. This open-source solution allows complete customization to web database with unique database server requirements.

3- High Performance

MySQL features a distinct storage-engine framework that facilitates system administrators to configure the MySQL database server for a flawless performance. MySQL is designed to meet even the most demanding applications while ensuring optimum speed, full-text indexes and unique memory caches for enhanced performance. [5]

4- Flexibility of Open Source

All the fears and worries that arise in an open-source solution can be brought to an end with MySQL's round-the-clock support and enterprise indemnification. The secure processing and trusted software of MySQL combine to provide effective transactions for large-volume projects. It makes maintenance, debugging and upgrades fast and easy while enhancing the end-user experience. [5]

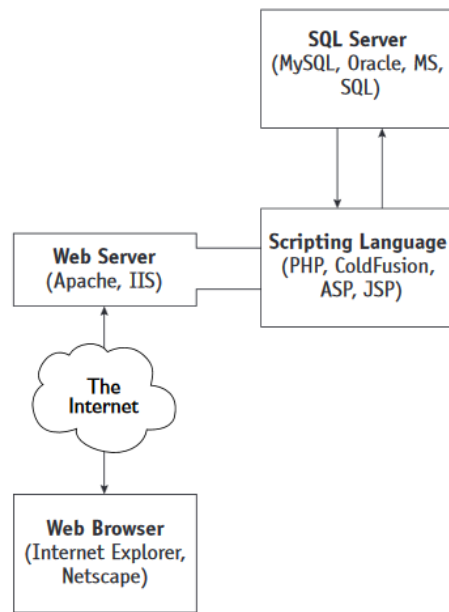


Figure [2.1]: tools in the web development process

2.3.2. DATABASE STRUCTURE AND MYSQL

MySQL is a Relational Database Management System (RDBMS). Your MySQL server can manage many databases at the same time. In fact, many people might have different databases managed by a single MySQL server. Each database consists of a structure to hold the data and the data itself.

Data in a database is stored in one or more tables. You must create the database and the tables before you can add any data to the database. First you create the empty database. Then you add empty tables to the database.

Database tables are organized like other tables that you're used to — in rows and columns. Each row represents an entity in the database, such as a customer, a book, or a project. Each column contains an item of information about the entity, such as a customer name, a book name, or a project start date. The place where a particular row and column intersect, the individual cell of the table, is called a field.

Tables in databases can be related. Often a row in one table is related to several rows in another table. [6],[7]

For instance, you might have a database containing data about books you own. You would have a book table and an author table.

One row in the author table might contain information about the author of several books in the book table. When tables are related, you include a column in one table to hold data that matches data in the column of another table.

Only after you've created the database structure can you add data.

2.4. PHP:

Precisely, PHP is a very powerful server-side scripting language for developing dynamic web applications. Using PHP, one can build interactive and dynamic websites with ease. PHP script can be embedded straight into the heart of html code. PHP is compatible with various web servers like Apache and the Microsoft's IIS as well. All the PHP scripts are executed on the server and it supports various databases like MySQL, Oracle, Solid, Generic ODBC etc.; however, it is mostly used with MySQL. PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language. As of January 2013, PHP was installed on more than 240 million websites (39% of those sampled) 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 Pre-processor, a recursive backronym. 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. PHP can be deployed on most web servers and also as a standalone shell on almost every operating system and platform, free of charge. [6]

CHAPTER THREE

IMPLEMENTATION

Implementation:

Online ID card system work on a virtual host xampp the implementation screen shot as figures below:

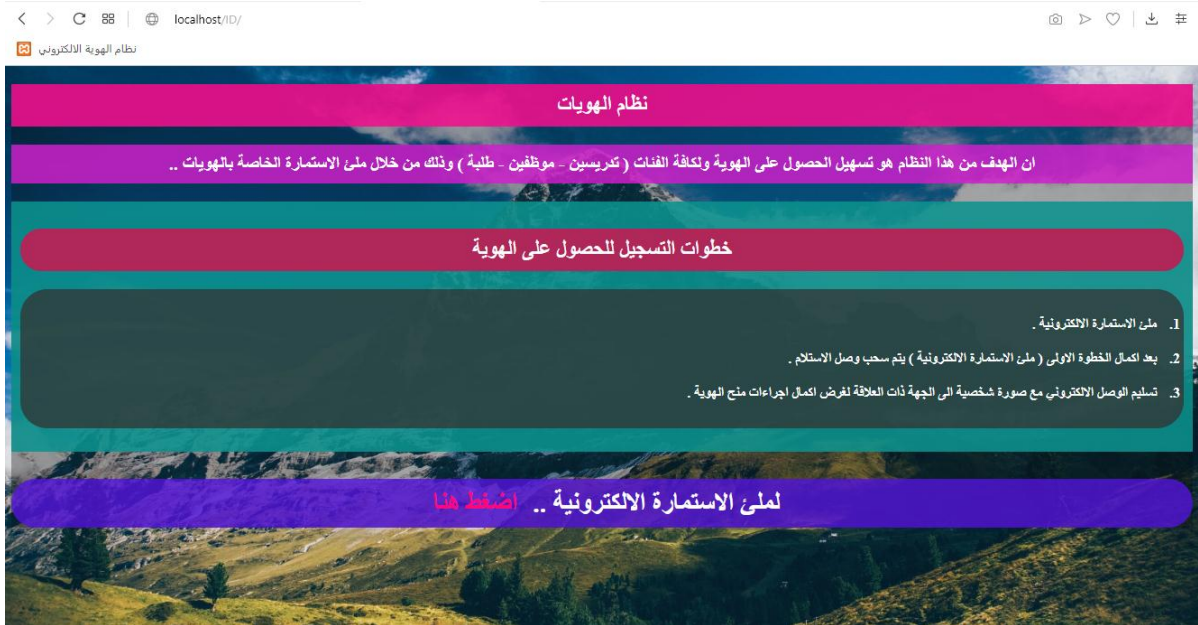


Figure [3.1]: main interface of ID card system

The home page contains information on how to obtain ID card has a link **press here** for registration.

ادخل اسمك *	اسم الاب	اسم الجد	اسم الجد الثاني	ادخل لقبك
ادخل اسمك	اسم الاب	اسم الجد	اسم الجد الثاني	ادخل لقبك
ادخل رقم البطاقة الوطنية *	ادخل تاريخ الميلاد *	ادخل تاريخ ميلادك		
الجنس *	ذكر	انثى	الصفة *	اختر صفتك
الكلية *	اسم الكلية	القسم	ادخل قسمك	المرحلة
المعلومات ادناه خاصة بالتدريسين والموظفين :				
الشهادة	اختر شهادتك			
العنوان الوظيفي او اللقب العلمي	ادخل عنوانك الوظيفي			
الرقم الوظيفي	ادخل الرقم الوظيفي			
صورتك *	No file chosen Choose File			
ارسال				

Figure [3.2]: Registration form

This page for registering the information of the person who wants to obtain the ID Card and when the information is completed, press the button **send**.

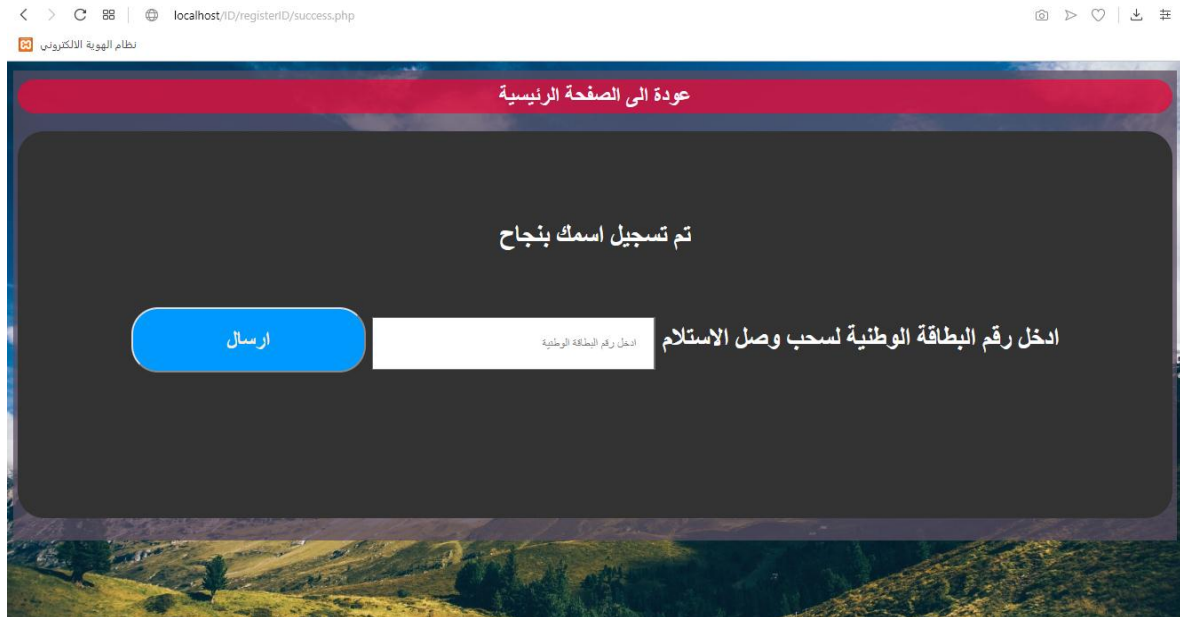


Figure [3.3]: verification page

This page appears if the first time you sign up (register) for an ID card.

Otherwise the next page it will appear.

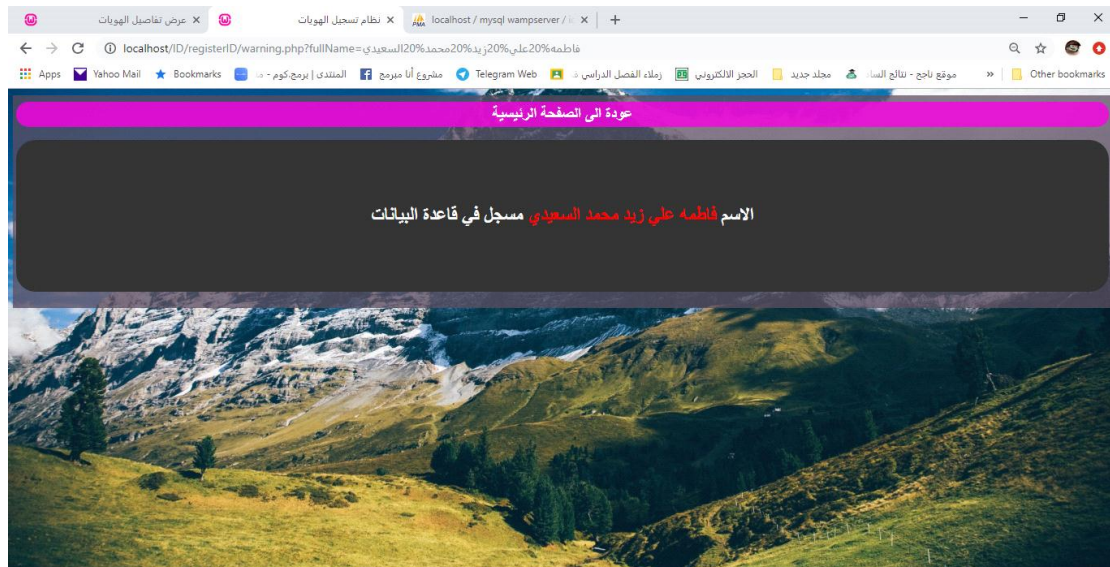


Figure [3.4]: verification page if you have already registered for ID card system



Field	Arabic Label	English Label	Value
12/3/1999	تاريخ الميلاد	Birth Date	زهران محمد مري عبد الشمري
2019-05-05	تاريخ التسجيل	Registration Date	Zahraa Mohammed Mery Abed Alshumary
انثى	الجنس	Gender	12015
علوم الحاسوب	الكلية	Faculty	طالب
	العنوان الوظيفي	Job Title	
		الرقم الوظيفي	

Figure [3.5]: ID card Information page

The identity information page whose information has been entered will be printed for the purpose of sending to (admin) the person responsible for issuing the identity card.

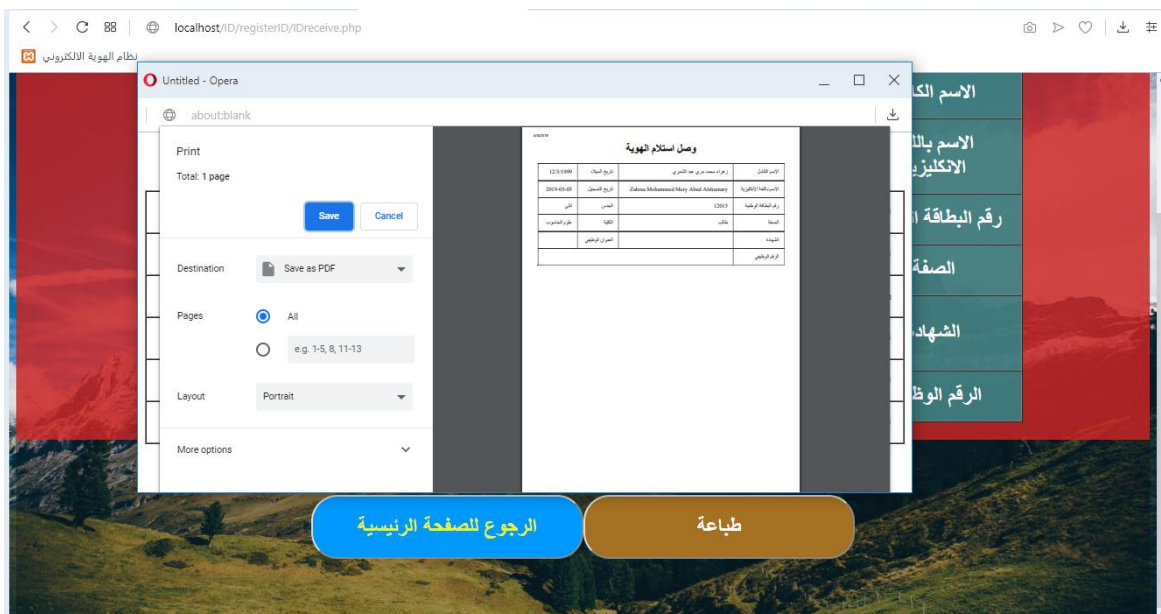


Figure [3.6]: Print page

وصل استلام الهوية

12/3/1999	تاريخ الميلاد	زهراء محمد مري عبد الشمري	الاسم الكامل
2019-05-05	تاريخ التسجيل	Zahraa Mohammed Mery Abed Alshumary	الاسم باللغة الانكليزية
انثى	الجنس	12015	رقم البطاقة الوطنية
علوم الحاسوب	الكلية	طالب	الصفة
	العنوان الوظيفي		الشهادة
			الرقم الوظيفي

Figure [3.7]: receipt form

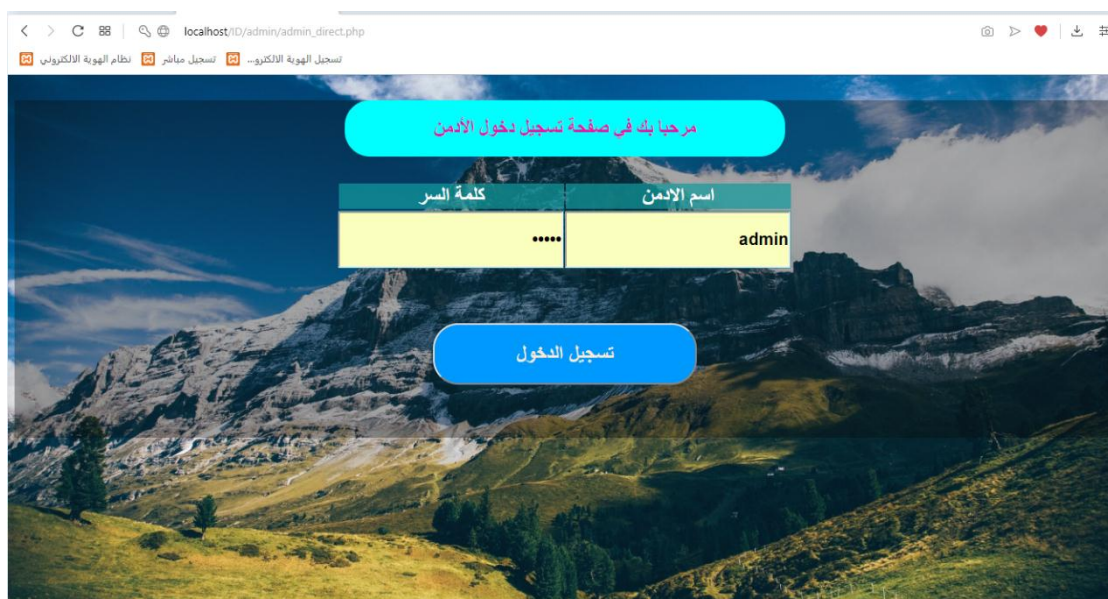


Figure [3.8]: Admin login page

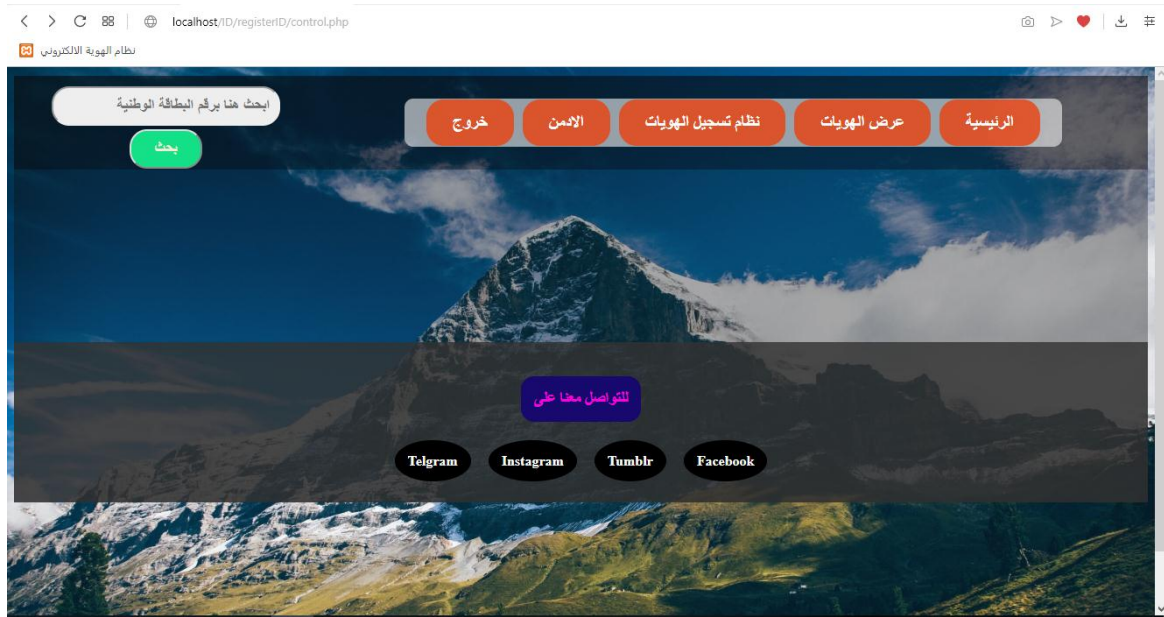


Figure [3.9]: Admin Homepage

Through this page, an administrator can be added to each college. Also, you can view the ID card of the user, verify the information entered by the user and check with the central database.

حذف	طباعة الهوية	تفاصيل اكثر		secince	66648826	الهلائي عمار عباس سيف خلف التانلي	3
حذف	طباعة الهوية	تفاصيل اكثر		علوم الحاسوب	8880	سارة فلاح حسن محمد الجبوري	4
حذف	طباعة الهوية	تفاصيل اكثر		علوم الحاسوب وتكنولوجيا المعلومات	890	فاطمه على زيد محمد السعدي	5
حذف	طباعة الهوية	تفاصيل اكثر		علوم الحاسوب	12015	زهراء محمد مري عبد الشمري	6

Figure [3.10]: ID card Interface

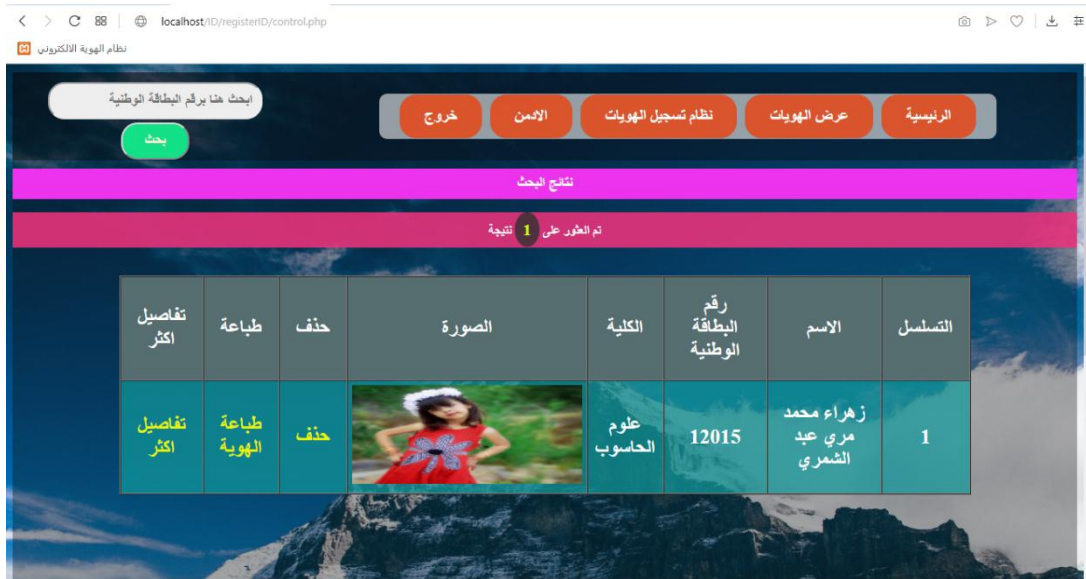


Figure [3.11]: ID card specific search interface

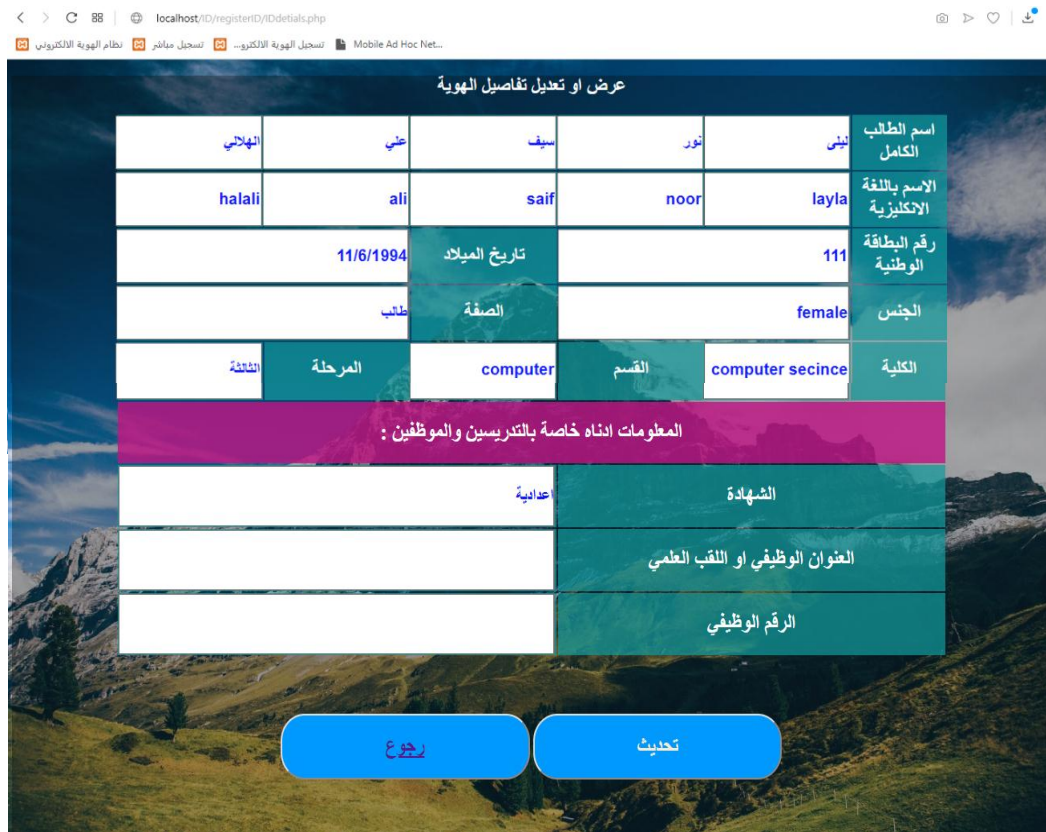


Figure [3.12]: admin verification/updates page

CONCLUSION

Conclusions:

The main idea to design this system to facilitate obtain to the university identity of the University of AL- Qadisiyah. This service is available to university employees and staff. It also provides electronic registration forms for university students. The aim of this system is to facilitate and expedite administrative procedures. The system guides the user electronically in all registration steps in a simple way.

To make the system work properly and in efficient way, must be a central database for all person in AL-Qadisiyah university that the big issue of our system because we try to create a central database for that. in future work we try to connect a central database with the system for security purpose and macke it more powerfull and secure.

REFERENCES

References:

- 1- <https://www.scnsoft.com/blog/web-application-architecture>.
- 2- Jin Mei-shan¹ Qiu Chang-li² Li Jing³. “The Designment of student information management system based on B/S architecture”. 978-1- 4577-1415-3/12 IEEE.
- 3- “Web Based Student Information Management System” by S.R. Bharamagoudar, Geeta R.B, S.G.Totad, 2013 International Journal of Advanced Research in Computer and Communication Engineering.
- 4- Zhi-gang YUE, You-wei JIN, “The development and design of the student management system based on the network environment”, 2010 International Conference on Multimedia Communications, 978-0-7695- 4136-5/10 2010 IEEE.
- 5- <https://developer.mozilla.org/en-US/docs/Web/Guide/HTML/HTML5>
- 6- <https://www.php.net/manual/en/ref.pdf.php>.
- 7- <https://searchoracle.techtarget.com/definition/MySQL>.
- 8- Yang Qingshan, ZengXianli, Zhang Mingying. Design and Implementation of CollegeStudent Management Information System Based on. Net Three-layer Structure, ©2010 IEEE.