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Online Transcript Ordering System for Postgraduate Students

A project submitted to Computer Department As partial fulfillment of the Requirement for The Degree of Bachelor in computer science

Presented by
Hajar Mohammed Abdullah
Alia shakir Mahmood

Supervised by
Ali A. Alani

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Supervisors' Certificate

I certify that project entitle " Online Transcript Ordering System for Postgraduat Students " was prepared under my supervision tocomputer science department to science collage by(Hajar Mohammed Abdullah, Alia shakir Mahmood) as a partial fulfillment of the requirements for the degree of B.Sc.in computer science Department.

Signature: Name: -



Ali A. Alani

Date:- 4 / 7 / 2020

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(قَالُوا سُبْحٰنَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ)

صدق الله العظيم

الإهداء

الى من جرع الكأس فارغا ليسقيني قطرة حب..

الى من حصد الاشواك عن دربي ليمهد لي طريق العلم..

الى البلمسم الذي يداوي جروحنا ..

"ابي وامى"

الى اخواني ..

الى رفاق الطريق..

الى التفاصيل الاخرى في حياتي..

والى كل من يؤمن بأن بذور نجاح التغيير هي في ذواتنا وفي انفسنا قبل أن تكون في اشياء
اخرى.

هاجر محمد عبدالله

الإهداء

الى الذي لم أنسى منذ طفولتي كلماتك التي امتلكتني عندما رحلتُ من حياتي و زرعْتُ بداخلي
رغبة الوصول فالיום أكملت ماكنتُ تتمناه مشروع تخرجي التي تمنيتُ ان تكون معي في مثل
هذا اليوم لكن شاءت الأقدارُ أن أهديك ثمرة نجاحي وأنت بعيد عني
(ابي حبيبي)..
رغم غيابك عني الا انه كان لك الفضلُ الكبير في وصولي لهذه المرحلة .

علياء شاكر محمود

شكر وتقدير

قال رسول الله (صلى الله عليه وسلم): "من لم يشكر الناس لم يشكر الله "

صدق رسول الله

بداية.. الشكر لله والحمد لله على توفيقه وامتنانه ..

الى الوالدين الذين اعانوني وشجعوني على الاستمرار في مسيرة العلم والنجاح ,واكمال
الدراسة الجامعية ؛ كما اتوجه بالشكر الجزيل الى من شرفني بأشرافه على مذكرة بحثي الاستاذ
الفاضل " م. علي عبدالرحمن ".
الى جميع اساتذتي ارفع لكم قبعات الاحترام فشكرا لمن ساندنا وشاركنا فرحة نجاحنا وتخرجنا .

شكرا جميعا

Abstract

The Internet is one of the most important technologies that changes the education environment and has a dramatic impact on the future of education. The advent of the Internet has generated a plethora of opportunities for education to communicate, collaborate, and distribute information, which will lead to fundamental changes in the way universities compete with one another and provide services to their students.

Therefore, it is important for clarifying the advantages of Online Transcript Ordering System for postgraduate students that reduce the time and effort for the graduate students to request their certificate online through proposed system, also the system provides the speed for search on the required information in the database and flexible and easy for the user to update the information stored in the database.

So the idea of developing Online Transcript Ordering System for postgraduate students in College of

Science, University of Diyala came to provide comfortable services to students.

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CHAPTER ONE

INTRODUCTION

Chapter One

INTRODUCTION

1.1 Introduction:

The radical development in the Information Communication Technology (ICT) has had a mammoth outcome in determining how people exist and seek occupation, particularly subsequent to the Internet being introduced and became available for the public for the past years. To illustrate various types of work are carried out by electronic means such as e-mail, e-banking, e-learning, e-health, e-commerce and recently e-Government [1].

On the other hand, referring, poor and war inflicted countries are often left behind in technological developments. Being caught in a war-torn country, Iraq is sadly lagging behind in technology, especially in the field of information management. In other words, Iraq is in a dire state for the improvement in the ICT operations in its institutions of higher education. Efforts must be made to ensure the necessary enablers are in place to improve its poor state of being in accordance to the IHL (International Humanitarian Law). The

adoption of ICT is deemed a necessity in moving the IHL of Iraq forward to be at par with the IHLs throughout the world [2].

1.2 Problem Statement

The postgraduate Ordering script at University of Diyala especially in College of Science performed manually. Ordering the transcript include tasks such as, requesting and collecting. These operations are hindered by challenges and issues such as the requesting problem, when the students want to request the transcript, they must go to the registration department to fill some paper-based forms and this problem waste time and effort for students. Develop Online Transcript Ordering System for postgraduate students this solutions should be made to address the mentioned challenge and a potential answer lies in the utilization of a more efficient IT-based system.

1.3 Project Objectives

The objective of this project is to develop a suitable online postgraduate ordering system in college of science.

1.4 Scope

The research work focuses on propose online postgraduate ordering system for College of Science, University of Diyala which is one of the more established College in Diyala university. It is chosen as a case study, to the proposed system, as well as to development online system that can be used to increase efficiency of the work and reduce

and save the effort and money at Diyala universities postgraduate students.

1.5 Project Structure

The project is divided into four chapters. *Chapter 1* includes the introduction and the problem statement. *Chapter 2* presents the background of this project and some part of related work. *Chapter 3* give the project implementation, which are the steps followed to accomplish the objectives of this project. *Chapter 4* summarizes this project and suggests potential areas for future work. The outline of this project as illustrate in figure 1.1.

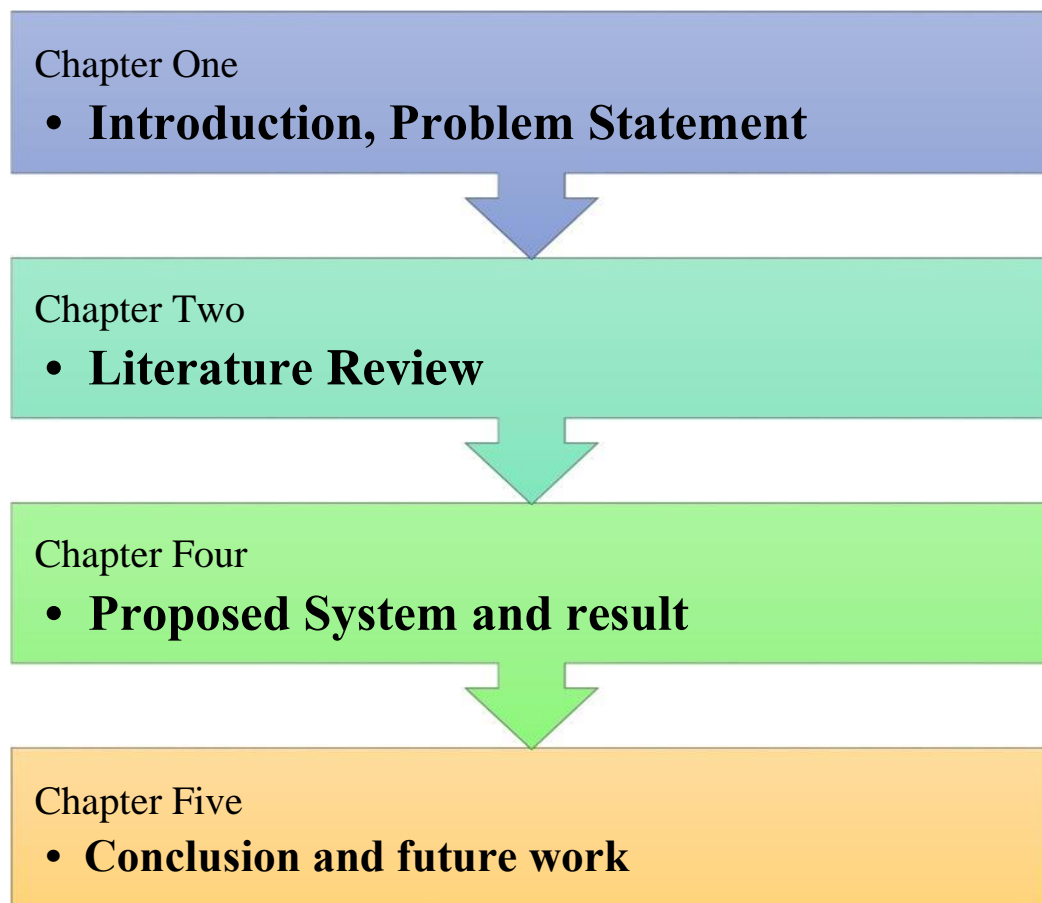


Figure 1.1: Outline of the Project

CHAPTER TWO

LITRATURE REVIEW

Chapter Two

LITERATURE REVIEW

2.1 Introduction

One of the three primary movers about changes to the way we live is electronic infrastructures. Figure 2.1 illustrates the five features of electronic infrastructures.

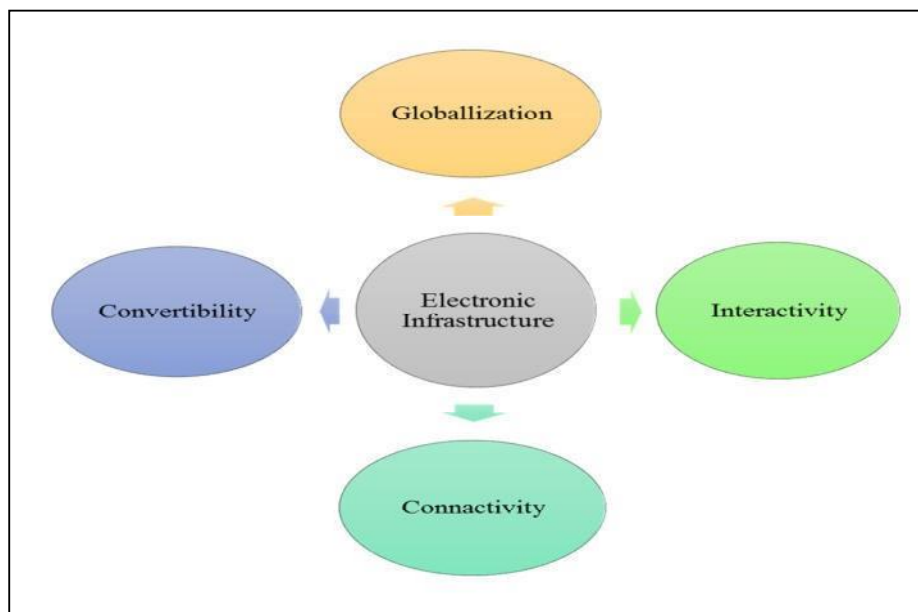


Figure 2.1: Futures of Electronic Infrastructures

Today, the importance of electronic infrastructures for management all forms and types can no longer be denied. The Staff management as an organization requires efficient electronic infrastructures to perform the tasks of, doing the right things, NOT doing things right to achieve its overall goal of producing unique products or services at a low cost within a short time period [3]. In the 21st century, with the latest technology the world is moving towards multidirectional strength in order to obtain the best solutions for people within a short period of time [4].

2.2 Internet

Overall, the digital segregation can be described by diverse bodies of the Internet. First of all, there is an active function of the Internet, which is reports and information gathering. This is possibly the most critical tasks of Internet use. The second task is interaction; third, transaction (i.e., Web shopping and banking), and fourth entertainment. These tasks are chiefly occupied by different people subgroups based on their own wants and motivations. Thus, whatever stimulation there may be in using the web; they can be differentiated by various characteristics of the user populace [5].

Web usage is more probable to enlarge among youngsters who are the key contributor in it. In the process of mingling, youngsters are normally shown to new technologies and tools, which they can effortlessly incorporate for their own diverse reasons. The youngsters, with better learning ability and the main users of most of the online functions such as entertainment is more prone to its use and further expansion.

New Iraq (after 2003), the web saw an unprecedented growth. VSAT channels began to emerge in many cities and towns in Iraq. The amount of users instantly augmented from the low 25,000 in 2002 to 50,000 in 2004. The web users in Iraq were last found at 791789.78 in 2010, based on a World Bank report issued in 2011. The Web users in Iraq were 325680.91 in 2009, based on a World Bank report, released in 2010. The Web consumers in Iraq were found at 298211.36 in 2008, in line to the World Bank.

Web users are people with access to the worldwide network.

2.3 Online Transcript Ordering system for Postgraduate students Tools

Online Transcript Ordering system for Postgraduate students built using different tools and technology and in the following we out line and give the short review for these tools.

2.3.1 Visual Studio

Visual Studio is the number one tool for Microsoft developers, whether you're targeting mobile devices or desktops. Get comfortable in this full-featured development environment and learn how to create a variety of projects, from websites to rich Internet applications. Author Walt Ritscher helps you dive deep into the basics of creating and debugging applications with Visual Studio, including configuring Visual Studio to support C#, Visual Basic, ASP.NET, and many other languages.

Topics include [6]:

1. Creating a Visual Studio project
2. Understanding the project types
3. Working with the Toolbox and Properties windows
4. Building a user interface with the editors
5. Exploring tools that enhance your coding sessions
6. Navigating and formatting your code
7. Working with Expression Blend for complex UI
8. Debugging code

2.3.2 Microsoft Visual Studio

is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs for Microsoft Windows, as well as web sites, web applications and web services. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silver light. It can produce both native code and managed code [7].

Visual Studio includes a code editor supporting IntelliSense (the code completion component) as well as code refactoring. The integrated debugger works both as a source-level debugger and a machine-level debugger. Other built-in tools include a forms designer for building GUI applications, web designer, class designer, and database schema designer. It accepts plug-ins that enhance the functionality at almost every level—including adding support for source-control systems (like Subversion) and adding new toolsets like editors and visual designers for domain-specific languages or toolsets for other aspects of the software development lifecycle (like the Team Foundation Server client: Team Explorer).

Visual Studio supports different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists. Built-in languages include C C++ and C++/CLI (via Visual C++), VB.NET (via Visual Basic .NET), C# (via Visual C#), and F# (as of Visual Studio 2010[9]). Support for other languages such as Python, Ruby, Node.js, and M among others is available via language

services installed separately. It also supports XML/XSLT, HTML/XHTML, JavaScript and CSS. Java (and J#) were supported in the past [8].

2.3.3 Database

A database is a data structure that stores organized information. Most databases contain multiple tables, which may each include several different fields. For example, a company database may include tables for products, employees, and financial records. Each of these tables would have different fields that are relevant to the information stored in the table.

Nearly all e-commerce sites uses databases to store product inventory and customer information. These sites use a database management system (or DBMS), such as Microsoft Access, FileMaker Pro, or MySQL as the "back end" to the website. By storing website data in a database, the data can be easily searched, sorted, and updated. This flexibility is important for e-commerce sites and other types of dynamic websites.

Early databases were relatively "flat," which means they were limited to simple rows and columns, like a spreadsheet. (See also "flat file database"). However, today's relational databases allow users to access, update, and search information based on the relationship of data stored in different tables. Relational databases can also run queries that involve multiple databases. While early databases could only store text or numeric data, modern databases also let users store other data types such as sound clips, pictures, and videos.

A database management system (DBMS) makes it possible for end users to create, read, update and delete data in a database. The DBMS essentially serves as an interface between the database and end users or application programs, ensuring that data is consistently organized and remains easily accessible.

The DBMS manages three important things: the data, the database engine that allows data to be accessed, locked and modified -- and the database schema, which defines the database's logical structure. These three foundational elements help provide concurrency, security, data integrity and uniform administration procedures. Typical database administration tasks supported by the DBMS include change management, performance monitoring/tuning and backup and recovery. Many database management systems are also responsible for automated rollbacks, restarts and recovery as well as the logging and auditing of activity [10].

2.3.4 SQL

Structured Query Language (SQL) is a special-purpose programming language designed for managing data held in a relational database management system (RDBMS), or for stream processing in a relational data stream management system (RDSMS).

Originally based upon relational algebra and tuple relational calculus, SQL consists of a data definition language, data manipulation language, and Data Control Language. The scope of SQL includes data insert, query, update and delete, schema creation and modification, and data access control. Although SQL is often described as, and to a great extent is, a declarative language (4GL), it also includes procedural elements.

SQL was one of the first commercial languages for Edgar F. Cod's relational model, as described in his influential 1970 paper, "A Relational Model of Data for Large Shared Data Banks." Despite not entirely adhering to the relational model as described by Cod, it became the most widely used database language.

SQL became a standard of the American National Standards Institute (ANSI) in 1986, and of the International Organization for Standardization (ISO) in 1987. Since then, the standard has been revised to include a larger set of features. Despite the existence of such standards, most SQL code is not completely portable among different database systems without adjustments [9].

2.4 HTML

Hyper Text Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS), and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a web server or from local storage and render them into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects, such as interactive forms may be embedded into the rendered page. It provides a means to create structured documents by denoting structural semantics for text such `` and `<input />` as headings, paragraphs, lists, links, `<p>...</p>` quotes and other items. HTML elements are delineated by *tags*,

written using angle brackets. Tags such as `` introduce content into the page directly. Others such as `<div>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page [10].

2.5 ASP

ASP.NET is an open-source server-side web application framework designed for web development to produce dynamic web pages. It was developed by Microsoft to allow programmers to build dynamic web sites, web applications and web services.

It was first released in January 2002 with version 1.0 of the .NET Framework, and is the successor to Microsoft's Active Server Pages(ASP) technology. ASP.NET is built on the Common Language Runtime (CLR), allowing programmers to write ASP.NET code using any supported .NET language. The ASP.NET SOAP extension framework allows ASP.NET components to process SOAP messages. ASP.NET's successor is ASP.NET Core. It is a re-implementation of ASP.NET as a modular web framework, together with other frameworks like Entity Framework. The new framework uses the new open-source .NET Compiler Platform (codename "Roslyn") and is cross platform. ASP.NET MVC, ASP.NET Web

API, and ASP.NET Web Pages (a platform using only Razor pages) have merged into a unified MVC [11].

2.6 ASP.NET

ASP.NET is a web development platform, which provides a programming model, a comprehensive software infrastructure and various services required to build up robust web applications for PC, as well as mobile devices. ASP.NET works on top of the HTTP protocol, and uses the HTTP commands and policies to set a browser-to server bilateral communication and cooperation.

ASP.NET is a part of Microsoft .Net platform. ASP.NET applications are compiled codes, written using the extensible and reusable components or objects present in .Net framework. These codes can use the entire hierarchy of classes in .Net framework [13].

2.6.1 ASP.NET Environment

ASP.NET provides an abstraction layer on top of HTTP on which the web applications are built. It provides high-level entities such as

classes and components within an object-oriented paradigm. The key development tool for building ASP.NET applications and front ends is Visual Studio. In this tutorial, we work with Visual Studio 2008.

Visual Studio is an integrated development environment for writing, compiling, and debugging the code. It provides a complete set of development tools for building ASP.NET web applications, web services, desktop applications, and mobile applications [13].

CHAPTER THREE

SYSTEM IMPLEMENTATION

Chapter Three

IMPLEMENTATION

3.1 Introduction

In this chapter, we will offer the suggested layout of this project; we used Microsoft word to design the layout of this project.

3.2 System Structure

The structure of the Online Transcript Ordering System for postgraduate students is shown in Figure 3.1. The following flowchart shows all the pages in the system and how they relate with each other.

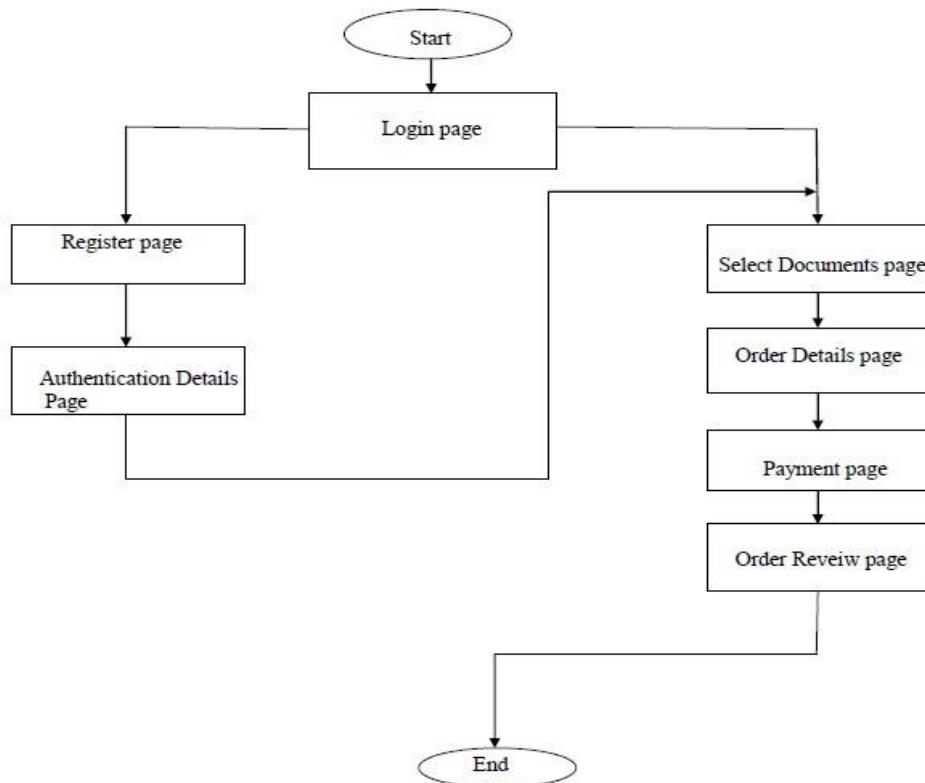


Figure 3.1 Flowchat of the system

3.3. System user interface

System consists of the following pages will explain how to use it as follows.

3.3.1 The Login Page:

The login page is the main page for "Online Transcript Ordering System for postgraduate students" which includes the user name (the student name) and password. The second part from two links: The link is a link that transfers the user to a new registration page (especially the student). Figure 3.2 show the login page of the "Online Transcript Ordering System for postgraduate students".

College Of
Science
University Of Diyala

جامعة ديالى
كلية العلوم

Transcript Ordering Services

Welcome to the College of Science Transcript Ordering Service
Fill in this form to login with this site.

1. The login page:
Login

Username

Password

Remember my username and password

Login

>>Not a user? Register with this site
>>Forgot your password?

Figure 3.2 Login page of Online Transcript Ordering System for postgraduate students

In the login page is enter your user name and password, then moved to the database that contains the data for the students to make sure that does the user (the student) is registered in the system or not. If a student has registered to enter before you will move to the page for the selection of the documents, but if a student is registered

will move to the registration page. Figure 3.3 show all the contents of the login page.

College Of
Science
University Of Diyala

جامعة ديالى
كلية العلوم

Transcript Ordering Services

على الورق الألفية الحسامية ويحتوي على خدم الجامعة وتوقع جامعة الموصل.

Welcome to the College of Science Transcript Ordering Service
Fill in this form to login with this site.

1. The login page:
Login

Username
Password
 Remember my username and password

>>Not a user? Register with this site
>>Forgot your password?

Figure 3.3 all the contents of the login page

3.3.2 The Registration Page:

This page consists of the following fields: first, middle, last name of the user and the country. This page will fill with user (student) data for a new login. Figure 3.4 show the registration page.

Fill in this form to register with this site.

2.The Register Page

Register

Address Details

First Name*

Middle Name

Last Name*

Country

OK

[continue](#)

Figure 3.4 the registration page

3.3.3 The Authentically Details Page:

This page consists of a year of the following fields: graduation or last attended, the degree received, title, the first, middle, last name of the user, the date attended and student id. Figure 3.5 show authentically details page.

Fill in this form to Authentication Details

3.Authentication Details

Year Graduated or Year

Last Attended:

Degree Received or

Degree Sought:

Name while Attending:

Title:

Mr,Mrs

First Name:

Middle Name:

Last Name:

Dates Attended:

Ex:2014-2015

Student ID:

OK

[continue](#)

Figure 3.5 the authentically details page

3.3.4 The Select Document Page:

This page consists of several options from the documents that the student provided and these options are as follows: Figure 3.6 show the select document page.

- Document graduated degree in English
- Document graduated degree in Arabic
- Document graduated rate in English
- Document graduated rate in Arabic
- Graduated support



Welcome to the College of Science Transcript Ordering Service

Fill in this form to Select Documents

5 Select Documents

- Document graduated degree in English
- Document graduated degree in Arabic
- Document graduation rate in English
- Document graduation rate in Arabic
- Graduated support

[continue](#)

Figure 3.6 the select document page

3.3.7 The Payment Page:

This is a choice of payment options, and options are as follows: Figure 3.7 show the payment page.

- Visa card
- PayPal

College Of
Science
University Of Diyala

جامعة ديالى
كلية العلوم

Welcome to the College of Science Transcript Ordering Service

Fill in this form to Payment

7.Payment

Visa card
 Paypal

continue

Figure 3.7 the payment page

CHAPTER FOUR

CONCLUSION AND FUTURE WORK

Chapter Four

CONCLUSION AND FUTURE WORK

4.1 Conclusion

In this research we have built Online Transcript Ordering System for postgraduate students. The postgraduate order script at University of Diyala especially in College of Science performed manually. Ordering the transcript include tasks such as, requesting and collecting. These operations are hindered by challenges and issues such as the requesting problem, when the students want to request the transcript, they must go to the registration department to fill some paper-based forms and this problem waste time and effort for students. As such, solutions should be made to address the mentioned challenge and a potential answer lies in the utilization of a more efficient IT-based system. Finally it is possible to use the system in College of Science to provide comfortable service to the students and save the time and efforts to obtain document graduated.

4.2 Future Work

- We aspire to adopt the system to be used in next year at College of Science. We hope to adopt the system in others college at University of Diyala.
- To extend the system to cover the undergraduate student.

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الخلاصة

تعد الإنترنت واحدة من أهم التقنيات التي تغير بيئة التعليم ولها تأثير كبير على مستقبل التعليم. أدى ظهور الإنترنت إلى خلق عدد كبير من فرص التعليم للتواصل والتعاون وتوزيع المعلومات ، مما سيؤدي إلى تغييرات أساسية في طريقة تنافس الجامعات مع بعضها البعض وتقديم الخدمات لطلابها. لذلك ، من المهم توضيح مزايا نظام طلب الوثائق عبر الإنترنت لطلاب الدراسات العليا مما يقلل من الوقت والجهد لطلبة الدراسات العليا لطلب الوثيقة عبر الإنترنت من خلال النظام المقترح ، كما يوفر النظام سرعة البحث عن المعلومات المطلوبة في قاعدة بيانات مرنة وسهلة للمستخدم لتحديث المعلومات المخزنة في قاعدة البيانات. لذا فإن فكرة تطوير نظام طلب الوثائق عبر الإنترنت لطلاب الدراسات العليا في كلية العلوم ، جامعة ديالى جاءت لتقديم خدمات مريحة للطلاب.

وزارة التعليم العالي والبحث العلمي
جامعة ديالى / كلية العلوم
قسم الحاسبات



نظام الكتروني لطلب وثيقة تخرج إلكتروني لطلبة الدراسات العليا

مشروع مقدم الى قسم الحاسوب لتحقيق جزء من متطلبات نيل شهادة
البكالوريوس في علوم الحاسوب

إعداد

هاجر محمد عبدالله

علياء شاكر محمود

إشراف الاستاذ

م. علي عبدالرحمن