

MUTAH UNIVERSITY



Faculty of Information Technology
Department of computer science & software engineering

research project management system

A graduation project submitted to college of information technology in partial fulfillment of the requirement for the degree of Bachelor in computer science and software engineering.

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Table of Contents

Contents

CHAPTER 1 INTRODUCTION	5
1. INTRODUCTION.....	6
2. MOTIVATION AND PROBLEM	6
3. CONTRIBUTION(S).....	6
4. PROJECT SCHEDULE	6
CHAPTER 2 SOFTWARE SYSTEM ANALYSIS AND DESIGN.....	9
1. INTRODUCTION.....	10
2. SOFTWARE ANALYSIS	10
Software Requirements and Constraints	10
Functional Requirements and Constraints.....	10
Non-Functional Requirements	14
3. SOFTWARE DIAGRAMS AND MODELS	15
Software diagrams.....	15
Context Diagram	15
Level-0 Data Flow Diagram	16
Level-1 Data Flow Diagram	17
Use-Case Diagram	17
Software Models.....	18
Software Architectural Model.....	18
4. SOFTWARE DESIGN	20
Designing Database	20
Entity Relationship Diagram (ERD)	20
Relational Database Model.....	21
Normalization	21
Designing Forms and Reports	23
Form Design	23
Report Design	32
Designing Interfaces and Dialogues	33
Interface Design	33
Dialogue Design.....	33
CHAPTER 3 SOFTWARE SCREEN USER MANUAL	36
1. INTRODUCTION.....	37
2. SOFTWARE PAGES.....	37
Login Page	37
Main Page.....	38
Registration Page	39
Applying for Research Page.....	40
Change Password Page	41
CHAPTER 4 SOFTWARE SOURCE CODE "IMPLEMENTATION"	42
1. INTRODUCTION.....	43
2. SOFTWARE CODE	43
Login Code	43
Change password Code	44
Apply for research Code.....	44
Registration Code	45
REFERENCES	46

Table of Figures

Figure 1. Report Outline	8
Figure 2. Context Diagram.....	16
Figure 3. Level-0 DFD for the proposed project	16
Figure 4. Level-1 DFD for the proposed project	17
Figure 5. Use-Case diagram	18
Figure 6. the organization of the suggested software system as Model-View-Controller.....	19
Figure 7. ERD for the proposed project.....	20
Figure 8. relational database model for the proposed project	21
Figure 9. first normal form	22
Figure 10. second normal form	22
Figure 11. third normal form.....	23
Figure 12. Design of The Startup Form	24
Figure 13. Design of login page	24
Figure 14. Design of registration page	25
Figure 15. Design of first form of applying for research	26
Figure 16. Design of second form of applying for research.....	26
Figure 17. Design of third form of applying for research	27
Figure 18. Design of submit form	27
Figure 19. Design of View info form.....	28
figure 20. Design of Edit Info Form.....	28
figure 21. Design of View User Research Form.....	29
figure 22. Design of Edit Research Form	29

figure 23. Design of Admin Interface Form.....	30
Figure 24. Design of Admin View Users Form	30
figure 25 Design of Admin Reply for Applied Research Form.....	31
Figure 26. Design of report	32
Figure 27. interface design	33
Figure 28. login dialogue	34
Figure 29. applying for research dialogue	34
Figure 30. change password dialogue.....	35
Figure 31. registration dialogue.....	35
Figure 32. login user manual.....	37
Figure 33. main page user manual	38
Figure 34. registration page user manual	39
Figure 35. applying for research user manual	40
Figure 36. change password user manual.....	41
Figure 37. login code	43
Figure 38. change password code	44
Figure 39. apply for research code	44
Figure 40. registration code	45

Table of Tables

Table 1. Gantt chart for the proposed software project.....	7
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Chapter 1

INTRODUCTION

1. Introduction

Research project management system is a desktop application for mutah university, it manages the research in the Deanship of Scientific Research this project is basically updating the traditional way of applying for research into desktop-based application so that the users can know the details of their account, the status of their research, etc.

2. Motivation and Problem

In this part we are going to show the motivation and problems for this project

- Updating the traditional way of applying
- Reduce the time taken for applying for research because the user can apply from his computer at any time he wants
- Reduce the effort because the user doesn't have to physically go and apply for his research
- Reduce the cost because no longer need to use papers

3. Contribution(s)

We propose in this project a solution for existing problem by updating the system to reduce the chance of errors happened, limiting the usage of paper to save some money, reduce the time and effort from the customer so he/she does not have to apply for the research physically.

4. Project Schedule

Table 1 shows the project schedule via 4 months.

Table 1. Gantt chart for the proposed software project.

Task	Duration															
	March				April				May				June			
	w1	w2	w3	w4	w1	w2	w3	w4	w1	w2	w3	w4	w1	w2	w3	w4
Planning																
– Project baseline plan																
– Requirement gathering																
Analysis																
– Requirement engineering																
– Customer requests																
– System requirement																
Design																
– Database design																
– Form and report design																
Implementation																
Maintenance																

Report Outline

Chapter 2: This chapter presents the software analysis and design of our project.

Chapter 3: This chapter presents the user manual of the suggested software.

Chapter 4: This chapter presents the main algorithms and code used in our software.

Figure 1 gives an overview of the report structure or outline.

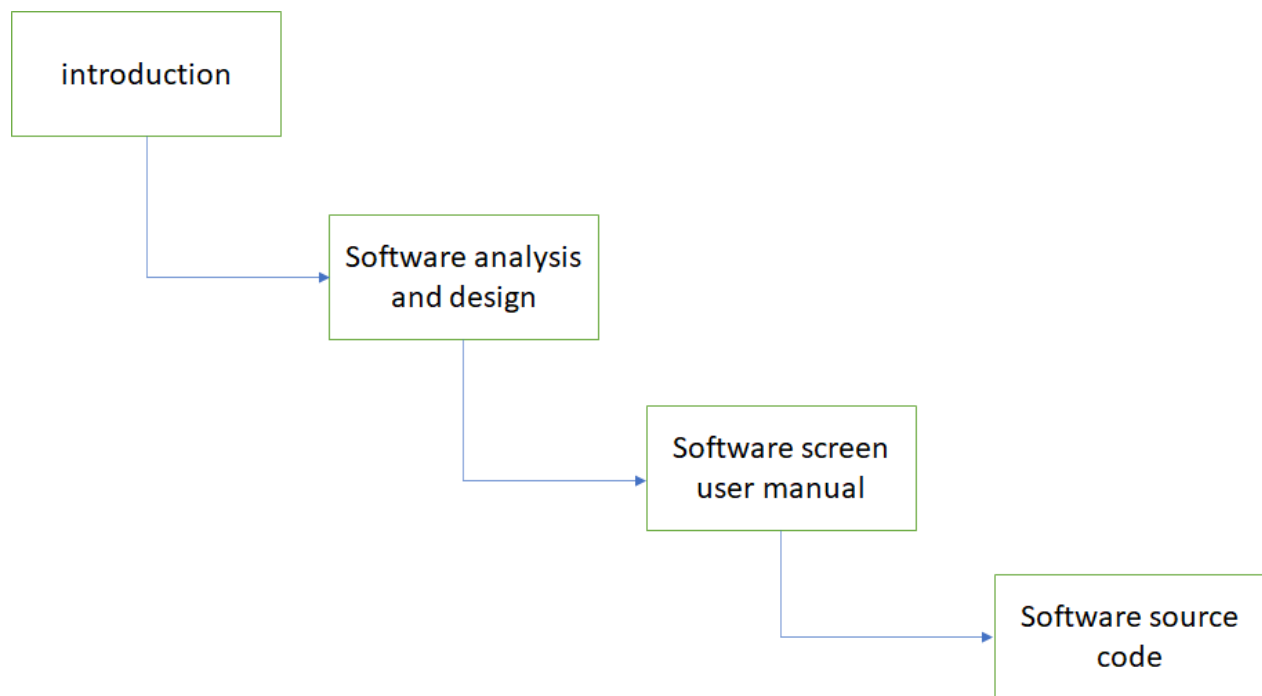


Figure 1. Report Outline

Chapter 2

SOFTWARE SYSTEM ANALYSIS AND DESIGN

1. Introduction

This chapter presents the software system analysis and design.

Where we show the software analysis and functional and non-functional requirements for the system

2. Software analysis

This section gives an overview of software requirements for the suggested software.

And analyze the requirements for the software with a detailed information about the functional requirements and non-functional requirements

Software Requirements and Constraints

This subsection presents the functional and non-functional requirements of the proposed software system as data were collected via meetings with the managers and employees of the deanship of scientific research of Mutah university, prototype, and documents.

Functional Requirements and Constraints

In this subsection we present the functional requirements and constraints of the proposed system.

<Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.> [1]

A. Login

- **Functionality name:** login
- **Description:** this page allows the users to access their main pages
- **User:** admin, doctor
- **Pre-condition:** the user must login to his or her account by entering username and password
- **Basic flow:**
 1. user must insert his or her user-id and password into the login form
 2. the user needs to confirm the login process by pressing the login button
 3. the software will respond to his or her order by verifying the login information after checking the software database
 4. the software will send the user to his or her main page
- **exceptional flow:** wrong username or password
- **post-condition:** the user can access his or her main page

B. Apply for research

- **Functionality name:** applying for research
- **Description:** applying the user for new research
- **User:** doctor
- **Pre-condition:** the user must enter all the required fields
- **Basic flow:**
 1. The user presses the new research button
 2. The user must enter the required fields for his research
 3. The user must confirm the applying process by pressing the submit button
 4. The software will respond for the user submission
- **Exceptional flow:** there is a field that it's not entered by the user
- **Post-condition:** the research application will be submitted and will be waiting for acceptance or denied

C. View specific research

- **Functionality name:** view specific research
- **Description:** allowing the admin to view specified research
- **User:** admin
- **Pre-condition:** the user must enter the research id that he or she is looking for
- **Basic flow:**
 1. The user presses the view research button
 2. the user enters the research id that he or she is looking for
 3. the software views the research
- **Exceptional flow:** the user enters wrong id or non-existing id
- **Post-condition:** the system will view the research

D. View previous research

- **Functionality name:** view previous research
- **Description:** allowing the user to view previous research
- **User:** doctor
- **Pre-condition:** the user select view research button
- **Basic flow:**
 1. The user presses the view research button
 2. the software views the research
- **Exceptional flow:** the user does not have previous research
- **Post-condition:** the system will view the research

E. View personal information

- **Functionality name:** view personal information
- **Description:** allowing the user to view his personal information
- **User:** doctor
- **Pre-condition:** viewing the user personal information
- **Basic flow:**
 1. The user select view my information button
 2. The system will view the user information
- **Post-condition:** the system will show the user information

F. Change personal password

- **Functionality name:** change personal password
- **Description:** allowing the user to change his or her password
- **User:** doctor
- **Pre-condition:** change the user password
- **Basic flow:**
 1. The user selects change password button
 2. The user enters the old password
 3. The user enters the new password
 4. The system will change the password
- **Exceptional flow:** the user enters wrong old password
- **Post-condition:** the system will change the password

G. Accept or deny the applied research

- **Functionality name:** accept or deny the applied research
- **Description:** allowing the admin to accept or deny the applied research
- **User:** admin
- **Pre-condition:** the admin accept or deny the applied research
- **Basic flow:**
 1. The admin views the applied research
 2. The admin accepts or deny the applied research
- **Post-condition:** the system will save the admin answer

Non-Functional Requirements

In this subsection we present the non-functional requirements of the proposed system.

A. Performance

Response time: system should be able to retrieve user requests within 5s.

Scalability: system should be able of supporting no less than 100 users at a time when applied.

B. Security

System must guarantee that data about diverse types of user's transactions must be treated in protected channel.

C. Usability

Users with diverse background knowledge can simply deal with the system.

D. Support

Application, database, and administrative support should be provided 24/7.

E. Availability

System should be capable to deliver services when requested 24/7.

F. Safety

To avoid possible data damages or losses, the system must have a data recovery method.

G. Reliability

System should be capable to deliver services as specified.

3. Software diagrams and models

This section presents the main software models and diagrams.

Software diagrams

We present in this section the main software diagrams for the research project management system

Context Diagram

Definition: An overview of an organizational system that shows the system boundaries, external entities that interact with the system, and the major information flows between the entities and the system [2].

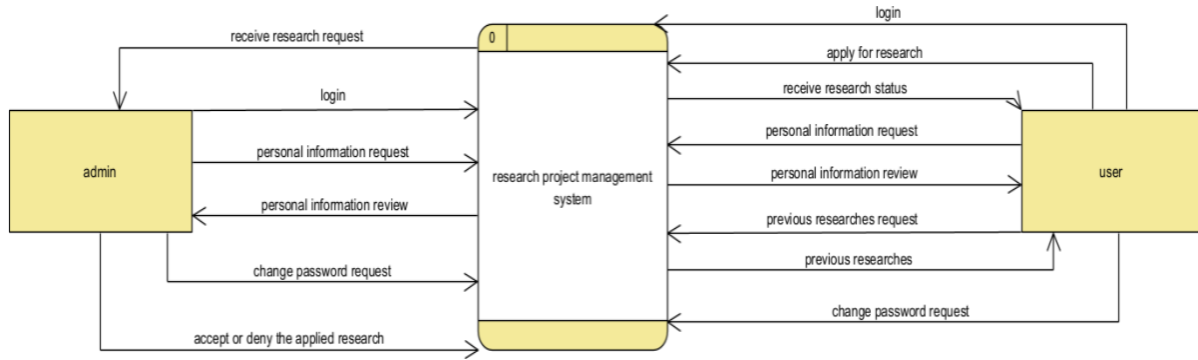


Figure 2. Context Diagram

Level-0 Data Flow Diagram

Definition: A data flow diagram (DFD) that represents a system’s major processes, data flows, and data stores at a high level of detail [2].

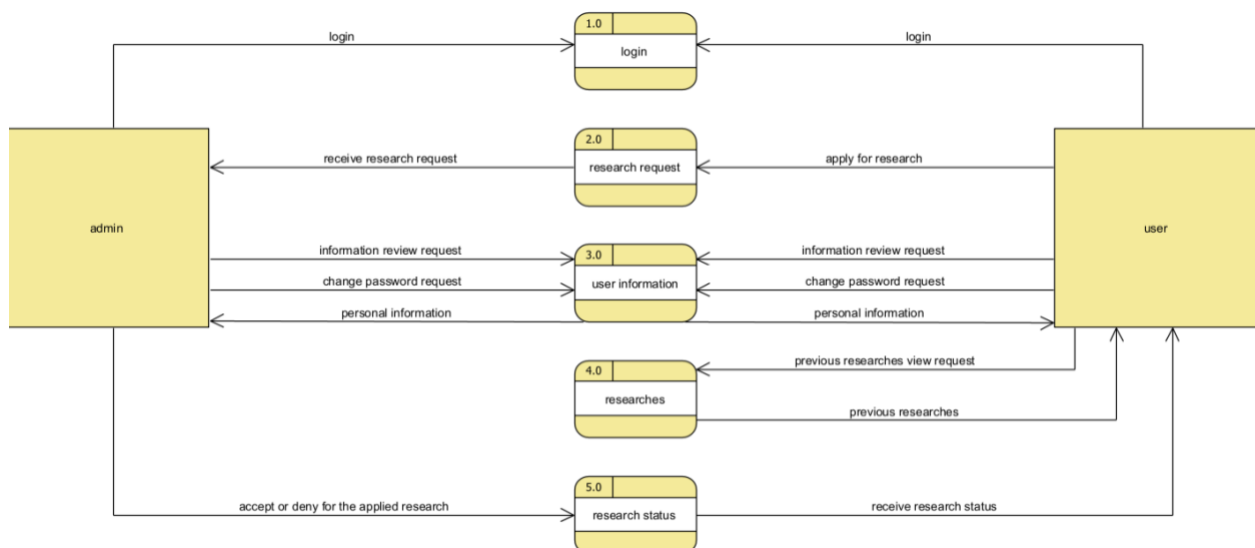


Figure 3. Level-0 DFD for the proposed project

Level-1 Data Flow Diagram

As described previously, context diagrams (level 0 DFDs) are diagrams where the whole system is represented as a single process. A level 1 DFD notates each of the main sub-processes that together form the complete system.

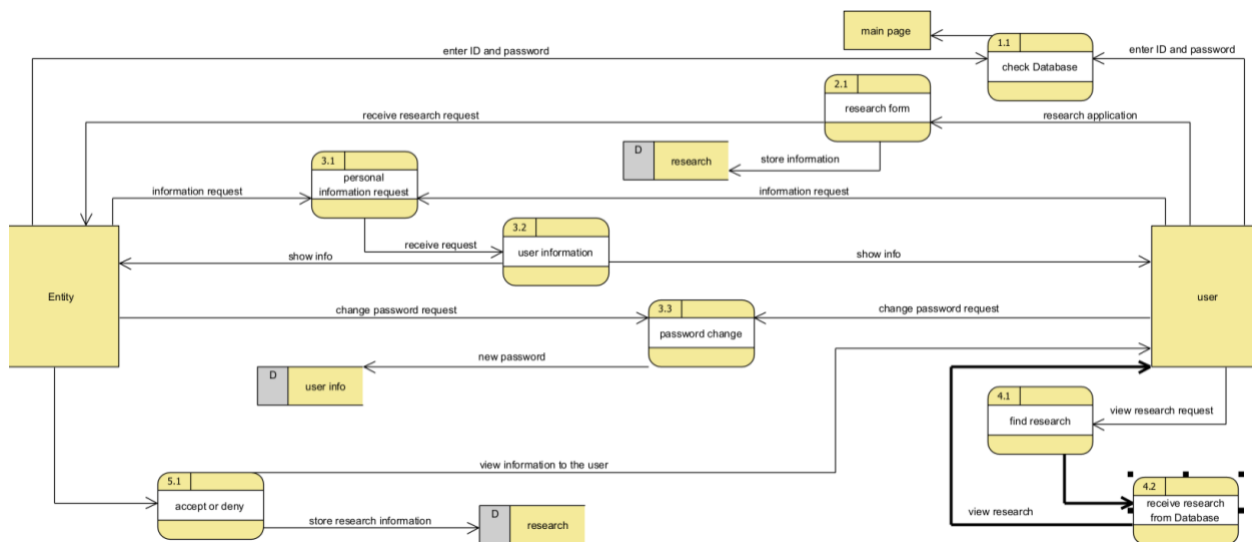


Figure 4. Level-1 DFD for the proposed project

Use-Case Diagram

A use case diagram is a graphical depiction of a user's possible interactions with a system. A use case diagram shows various use cases and different types of users the system has and will often be accompanied by other types of diagrams as well [2].

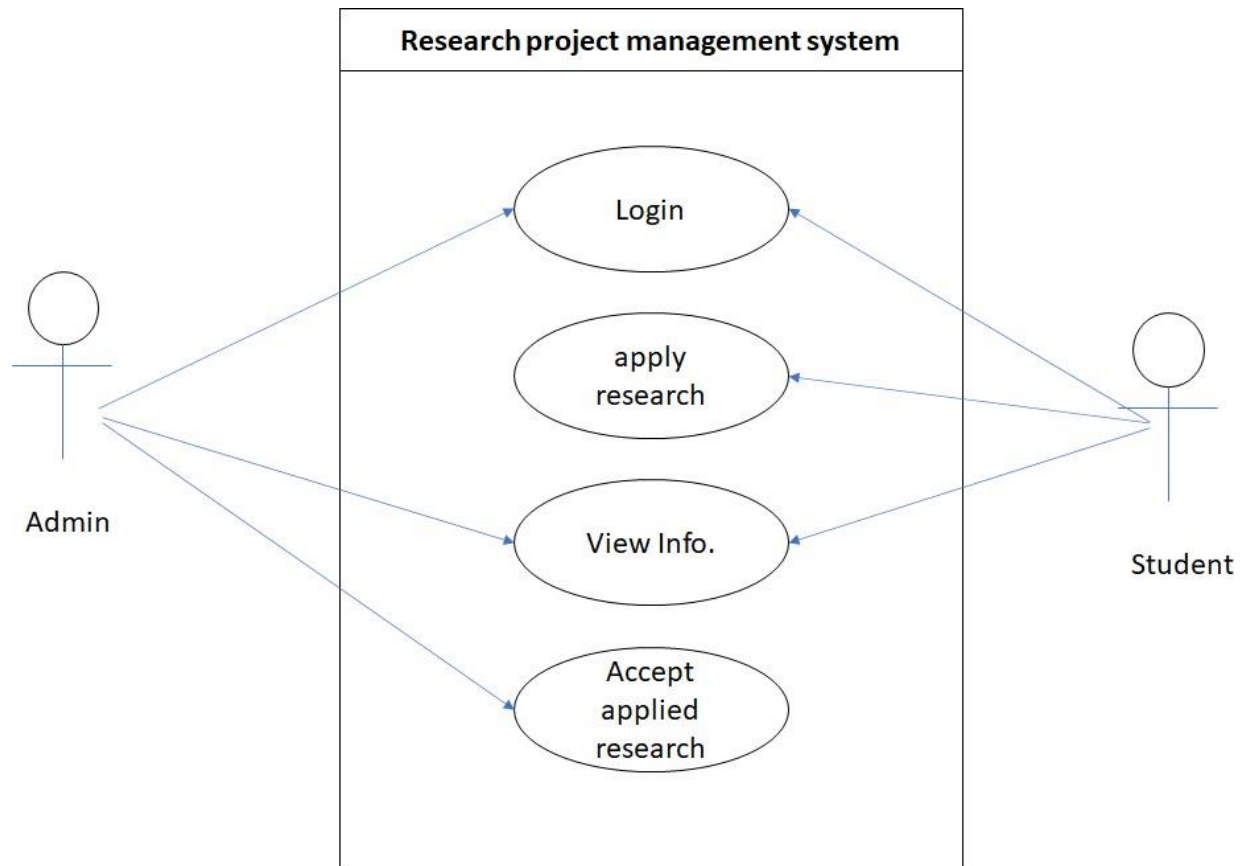


Figure 5. Use-Case diagram

Software Models

This section presents the main software models for the proposed project.

Software Architectural Model

An architectural model is a rich and rigorous diagram, created using available standards, in which the primary concern is to illustrate a specific set of tradeoffs inherent in the structure and design of a system or ecosystem [3].

The software architectural model shows the main software components and the relationships between those components [3].

Model-View-Controller (MVC) separates presentation and interaction from the system data. The system is structured into three logical components that interact with each other. The Model component manages the system data and associated operations on that data. The View component defines and manages how the data is presented to the user. The Controller component manages user interaction (e.g., key presses, mouse clicks, etc.) and passes these interactions to the View and the Model [3].

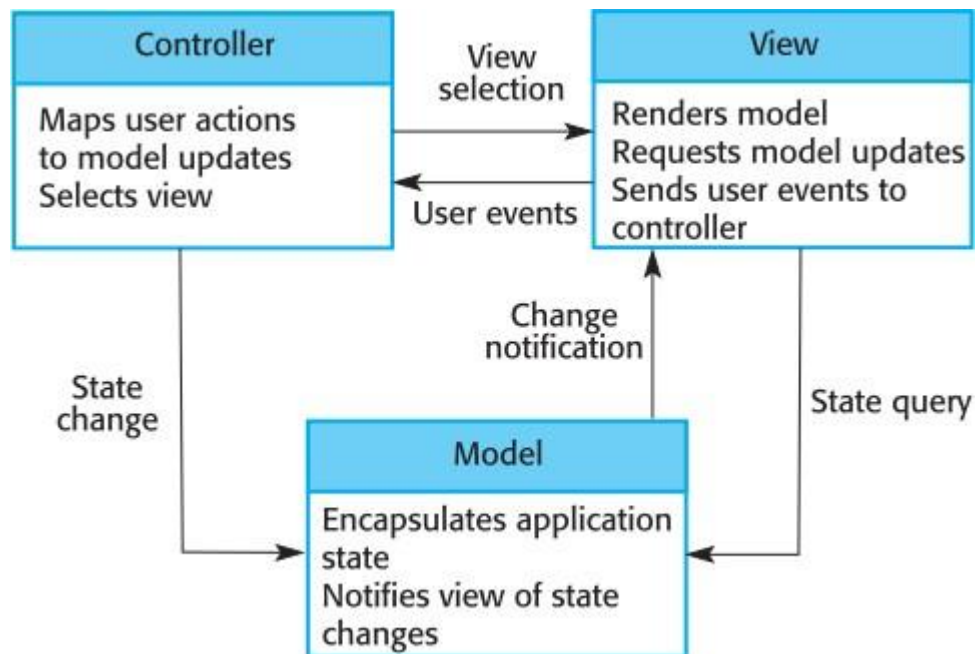


Figure 6. the organization of the suggested software system as Model-View-Controller

4. Software Design

In this section we present the software design of the Database, forms, reports, interfaces, and dialogues.

Designing Database

We propose in this section the design of the database, As Database design is the organization of data according to a database model.

Entity Relationship Diagram (ERD)

entity relationship diagram (ERD), also known as an entity relationship model, is a graphical representation that depicts relationships among people, objects, places, concepts, or events within an information technology (IT) system.

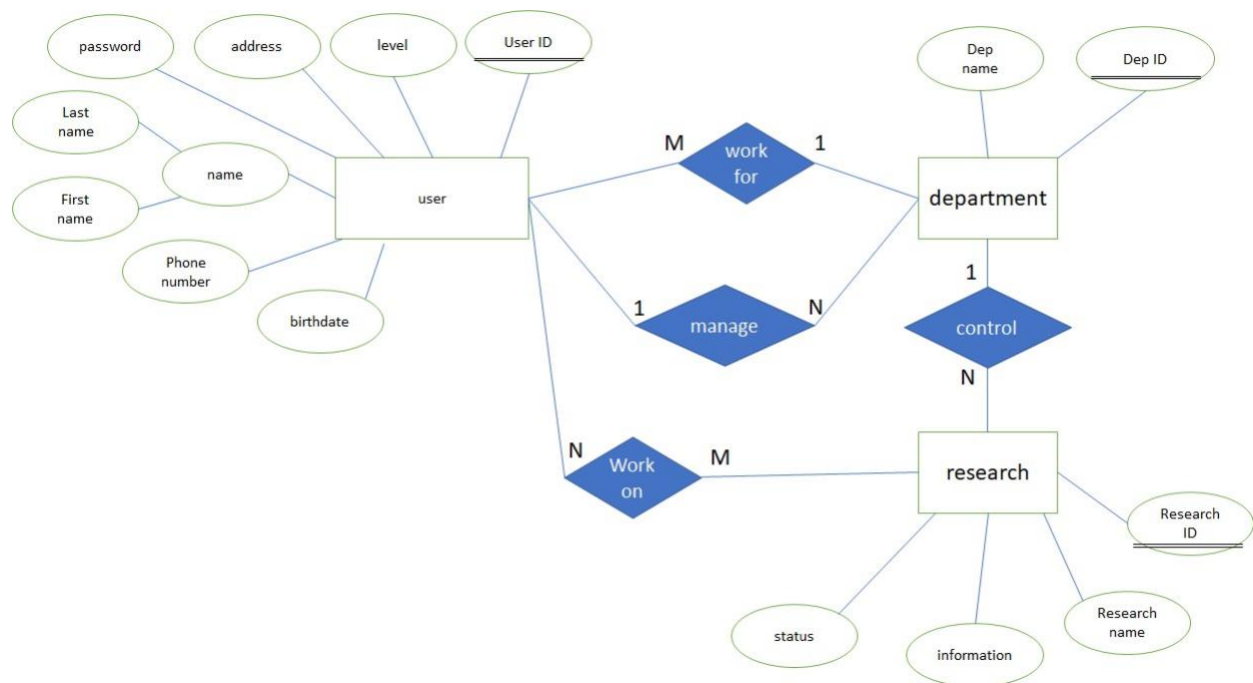


Figure 7. ERD for the proposed project

Relational Database Model

The purpose of the relational model is to provide a declarative method for specifying data and queries

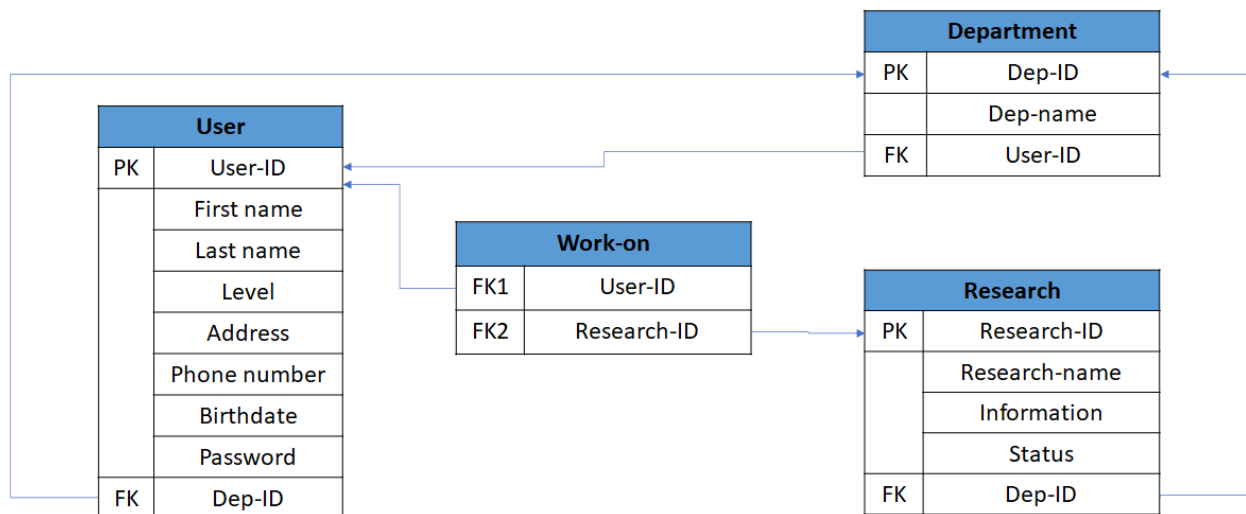


Figure 8. relational database model for the proposed project

Normalization

Normalization is the process of structuring a database

A. First Normal Form

Rules To set a table to first normal form:

- Each cell must be single value
- Entries in a column are same type
- Rows uniquely identified

user_id	First name	Last name	level	Phone number	address	birthdate	password	Department id	Department name	Research id	Research name
220101	ali	ali	1	079	Amman	1-1-1991	1234	2201	CS	1	Network
220102	Mohammad	Mohammad	1	079	Zarqa	22-2-1990	1234	2201	CS	1	Network
220201	Ahmad	Ahmad	1	079	Irbid	3-1-1990	1234	2202	MIS	1	Network
220202	Noor	Noor	1	079	Aqaba	25-2-1992	1234	2202	MIS	2	Computer
220203	Huda	Huda	1	079	Amman	3-3-1990	1234	2202	MIS	2	Computer
220301	Mustafa	Mustafa	1	079	Amman	4-1-1990	1234	2203	SE	3	Management
220302	Noor	Noor	1	079	Zarqa	5-2-1992	1234	2203	SE	4	Class

Figure 9. first normal form

B. Second Normal Form

To set a table to second normal form all attributes (not-key-columns) depend on the key

user_id	First name	Last name	level	Phone number	address	birthdate	password
220101	ali	ali	1	079	Amman	1-1-1991	1234
220102	Mohammad	Mohammad	1	079	Zarqa	22-2-1990	1234
220201	Ahmad	Ahmad	1	079	Irbid	3-1-1990	1234
220202	Noor	Noor	1	079	Aqaba	25-2-1992	1234
220203	Huda	Huda	1	079	Amman	3-3-1990	1234
220301	Mustafa	Mustafa	1	079	Amman	4-1-1990	1234
220302	Noor	Noor	1	079	Zarqa	5-2-1992	1234

Department id	Department name	Research id	Research name
2201	CS	1	Network
2201	CS	1	Network
2202	MIS	1	Network
2202	MIS	2	Computer
2202	MIS	2	Computer
2203	SE	3	Management
2203	SE	4	Class

Figure 10. second normal form

C. Third Normal Form

All fields can be determined only by the key in the table and no other column

user_id	First name	Last name	level	Phone number	address	birthdate	password
220101	ali	ali	1	079	Amman	1-1-1991	1234
220102	Mohammad	Mohammad	1	079	Zarqa	22-2-1990	1234
220201	Ahmad	Ahmad	1	079	Irbid	3-1-1990	1234
220202	Noor	Noor	1	079	Aqaba	25-2-1992	1234
220203	Huda	Huda	1	079	Amman	3-3-1990	1234
220301	Mustafa	Mustafa	1	079	Amman	4-1-1990	1234
220302	Noor	Noor	1	079	Zarqa	5-2-1992	1234

Department id	Department name
2201	CS
2202	MIS
2203	SE

Research id	Research name
1	Network
2	Computer
3	Management
4	Class

Figure 11. third normal form

Designing Forms and Reports

In this section we will present the main forms and pages for the suggested project

Form Design

This project has many forms, but in this section, we will present the main forms for the project

A. Design of Startup Form

This form shows up when the project starts



Figure 12. Design of The Startup Form

B. Design of Login page

This page allows the user to login into the system using his ID and password

Figure 13. Design of login page

C. Design of Registration Page

This page allows the user to create a new account in the system

The screenshot shows a software window titled "Form1" containing a registration form. The form is divided into two main sections. The left section contains several input fields with corresponding labels in Arabic: "الرقم الوظيفي:" (Employee Number), "الاسم:" (Name), "اسم العائلة:" (Family Name), "العنوان:" (Address), "رقم الهاتف:" (Phone Number), "تاريخ الميلاد:" (Date of Birth) with a date picker showing "06/18/2022", "الكلية:" (Faculty) with a dropdown menu, and "كلمة السر:" (Password). Below these fields is a large, dark, rounded button labeled "تسجيل" (Register). To the left of this button is a black square button with a white left-pointing arrow. The right section of the form features a large, dark, curved graphic with the white Arabic text "انشاء حساب جديد" (Create New Account).

Figure 14. Design of registration page

D. Design of Applying for Research Form

This page allows the user to apply for research in the system by entering the required information

And it has many forms:

user_apply_research

077 الهاتف: mohammad mohammad اسم الباحث: 2201 الرقم الوظيفي:

167 رقم البحث:

عنوان البحث:

عنوان البحث باللغة الانجليزية:

الحقل العلمي للبحث:

أهداف البحث:

نبذة مختصرة:

النتائج المتوقعة من المشروع البحثي:

الجهات المستفيدة من المشروع البحثي:

حفظ

بيانات البحث 1

بيانات البحث 2

خطة التنفيذ

إرسال الطلب

Figure 15. Design of first form of applying for research

user_apply_research

077 الهاتف: mohammad mohammad اسم الباحث: 2201 الرقم الوظيفي:

167 رقم البحث:

الجهات الاخرى الداخلية والخارجية التي تدعم المشروع

الجهة الداعمة:

قيمة الدعم بالدينار:

البحوث الاخرى التي دعمت من جامعة مؤتة للباحث

research_id	research_name	research_name_en	owner_id	owner_name	research_field	research_goal	research_explained	rese
1	k.m.k.m.k.m		2201	mohammad moh...	k.m.k.m.k.m	1111111	...	k.m
3	m.k.m		2201	mohammad moh...	k.m	k.m	...	m
4	oooooooooooo		2201	mohammad moh...	oooooooooooo	oooooooooooo	...	oooooooooooo

حفظ

بيانات البحث 1

بيانات البحث 2

خطة التنفيذ

إرسال الطلب

Figure 16. Design of second form of applying for research

user_apply_research

الرقم الوطني: 2201 اسم الباحث: mohammad mohammad الهاتف: 077

رقم البحث: 167

الجدول الزمني والتكلفة للمراحل الأساسية للبحث (وصف المرحلة، من تاريخ، إلى تاريخ، التكلفة بالدينار)

الاحتياجات المطلوبة لكل مرحلة (احتياجات المرحلة، القيمة الإجمالية، المبررات)

حفظ

بيانات البحث 1
بيانات البحث 2
خطة التنفيذ
إرسال الطلب

Figure 17. Design of third form of applying for research

E. Design of Submit Form

At the end of entering the required information, this page appears for submitting the user's research

user_apply_research

الرقم الوطني: 2201 اسم الباحث: mohammad mohammad الهاتف: 077

رقم البحث: 167

1- يرجى مراجعة البيانات المدخلة والتأكد من صحتها للمرة الأخيرة

2- طباعة الطلب ورقياً

3- مراجعة مجلس القسم ومجلس الكلية لبدء الرأي الإلكتروني لتتمكن من التعديل على الطلب في حال إعادته للدراسة

4- عند الضغط على زر إرسال لن تتمكن من تعديل الطلب أو طباعته بعد ذلك إلا في حال إعادته للدراسة

5- تسليم نسخة مطبوعة موقعة من مجلس القسم ولجنة البحث العلمي في الكلية وعميد الكلية بعد أخذ الموافقات الإلكتروني

إرسال

بيانات البحث 1
بيانات البحث 2
خطة التنفيذ
إرسال الطلب

Figure 18. Design of submit form

F. Design of View Info Form

This page allows the user to view his/her information



The screenshot shows a window titled 'user_info' with a dark gray header bar containing standard window controls. The main content area is white and displays user information in a two-column layout. The left column contains the values: 2201, mohammad mohammad, amman, 077, 2000-01-01, and 0000. The right column contains the corresponding labels in Arabic: الرقم الوظيفي:, اسم المستخدم:, العنوان:, رقم الهاتف:, تاريخ الميلاد:, and الرقم السري:. Below the labels, there is a dark gray button with a circular arrow icon and the text 'تعديل البيانات'. At the bottom left, there is a dark gray button with a white left-pointing arrow. On the right side of the window, there is a large, dark gray, curved shape with the word 'معلوماتي' (My Information) written in white Arabic script.

2201	الرقم الوظيفي:
mohammad mohammad	اسم المستخدم:
amman	العنوان:
077	رقم الهاتف:
2000-01-01	تاريخ الميلاد:
0000	الرقم السري:

تعديل البيانات

←

معلوماتي

Figure 19. Design of View info form

G. Design of Edit Info Form

This form allows the user to edit his/her info



The screenshot shows a window titled 'user_edit_info' with a dark gray header bar containing standard window controls. The main content area is white and displays user information in a two-column layout. The left column contains input fields with the following values: 2201, mohammad mohammad, amman (highlighted in blue), 077, 2000-01-01, and 0000. The right column contains the corresponding labels in Arabic: الرقم الوظيفي:, اسم المستخدم:, العنوان:, رقم الهاتف:, تاريخ الميلاد:, and الرقم السري:. Below the labels, there is a dark gray button with the text 'حفظ' (Save). At the bottom left, there is a dark gray button with a white left-pointing arrow. On the right side of the window, there is a large, dark gray, curved shape with the word 'تعديل بياناتي' (Edit My Information) written in white Arabic script.

2201	الرقم الوظيفي:
mohammad mohammad	اسم المستخدم:
amman	العنوان:
077	رقم الهاتف:
2000-01-01	تاريخ الميلاد:
0000	الرقم السري:

حفظ

←

تعديل بياناتي

figure 20. Design of Edit Info Form

H. Design of View User Research Form

This form allows the user to view his/her research

The screenshot shows a web application window titled 'user_research'. The main content area displays a table with columns: research, research, research, owner_id, owner_r, research, research, research, research, research, research, research, research, status, reason, and editable. The table contains several rows of data, with the last row highlighted in blue. The sidebar on the right contains a 'RESEARCH' header and a list of navigation options: الصفحة الرئيسية, معلوماتي, عرض أبحاثي, تقديم بحث جديد, and تعديل البحث. There is also a Windows watermark in the bottom right corner.

figure 21. Design of View User Research Form

I. Design of Edit Research Form

This form allows the user to edit his/her research

The screenshot shows a web application window titled 'user_edit_research'. The form is designed for editing research details. It includes a header with a 'بحث' button and a text input field for 'ادخل رقم البحث لتعديل عليه:'. The form fields are organized into two columns. The left column contains: اسم البحث باللغة الانجليزية, الجهة المستفيدة من البحث, الجهة الداعمة, قيمة الدعم, الجدول الزمني للبحث, الاحتياجات المطلوبة للبحث, and السبب. The right column contains: رقم البحث, الحقل العلمي للبحث, اهداف البحث, نبذة مختصرة, النتائج المتوقعة من البحث, and حالة البحث. A 'تقديم البحث' button is at the bottom center. On the right side, there is a logo for 'جامعة البعث' (Baath University) featuring a globe and the university's name in Arabic and English.

figure 22. Design of Edit Research Form

J. Design of Admin Interface Form

This form shows the admin interface for the project

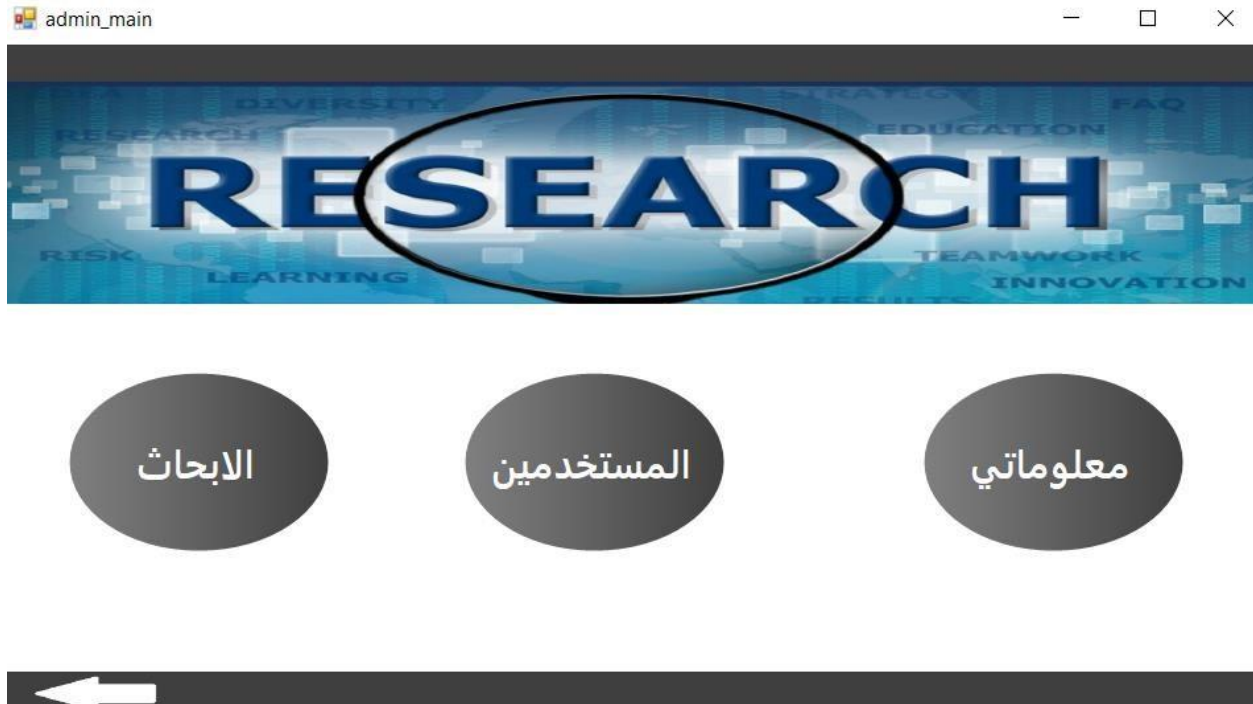


figure 23. Design of Admin Interface Form

K. Design of Admin View Users Form

This form allows the admin to view all the user's information

Id	first_name	last_name	address	phone_number	birthdate	password	level	dept
0					2022-05-31		1	
33	aa	aa	aa	078	06/16/2000	33	1	???? ?????
55	aya	aya	amman	077	06/16/2000	55	1	
96	ww	ww	ww	079	06/16/2000	96	1	???? ???? ?
100	heba	heba	amman	078	06/16/2000	100	1	
444	aya	ali	amman	0795551324	06/12/2000	444	1	???? ?????
2200	admin	admin	amman	079	2000-01-01	0000	2	
2201	mohammad	mohammad	amman	077	2000-01-01	0000	1	

Figure 24. Design of Admin View Users Form

L. Design of Admin Reply for Applied Research Form

This form allows the admin to reply for the applied research



figure 25 Design of Admin Reply for Applied Research Form

Report Design

Figure 21 represent the report design for the proposed project



Figure 26. Design of report

Designing Interfaces and Dialogues

In this section we will present the interface design and dialogue design for the system

Interface Design

Figure 22 represent the interface design for the proposed project



Figure 27. interface design

Dialogue Design

In this section we present the design of software dialogues that interact with the proposed project

A. Design of login dialogue

Figure 23 present the login dialogue that appears when the user enters wrong user ID or wrong password or both

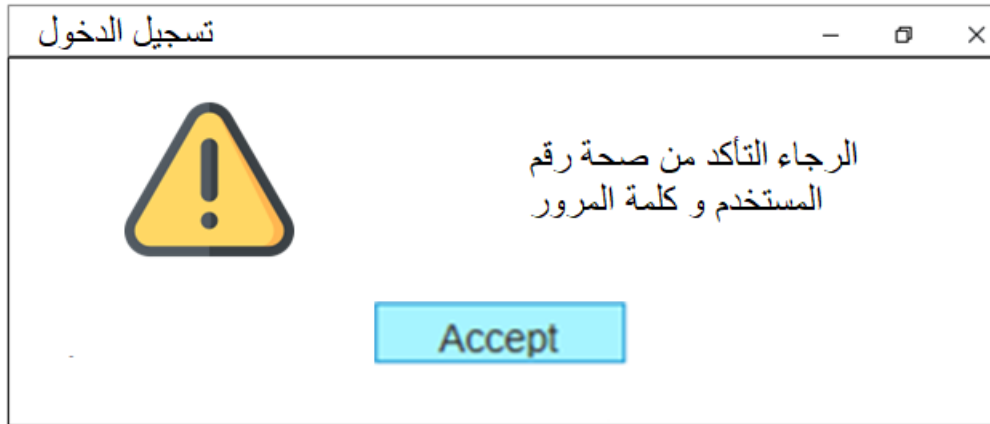


Figure 28. login dialogue

B. Applying for research dialogue

Figure 24 present the applying for research dialogue that appears when the user press "submit research" button

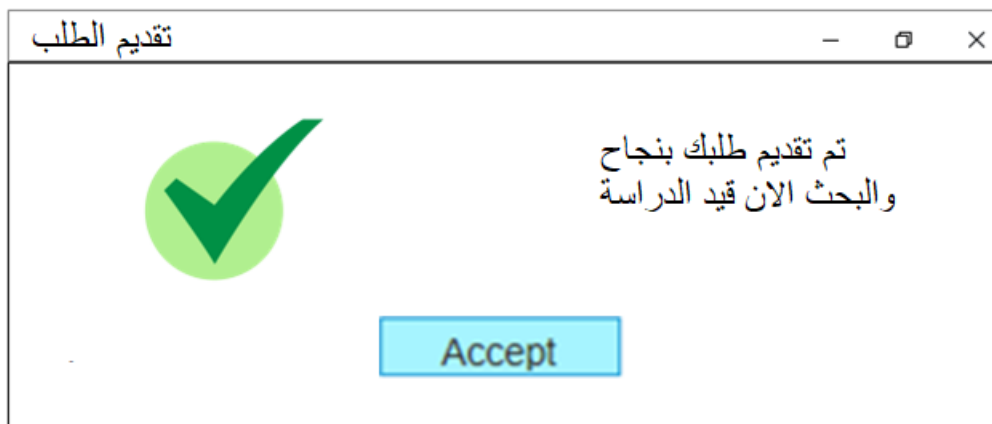


Figure 29. applying for research dialogue

C. Change password Dialogue

Figure 25 present the change password dialogue that appears when the user change his/her password

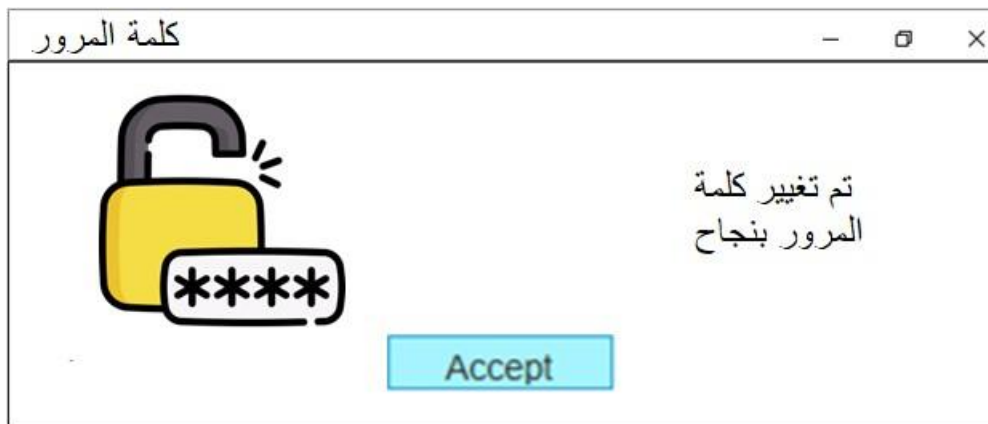


Figure 30. change password dialogue

D. Registration dialogue

Figure 26 present registration dialogue that appears when the user creates new account on the system

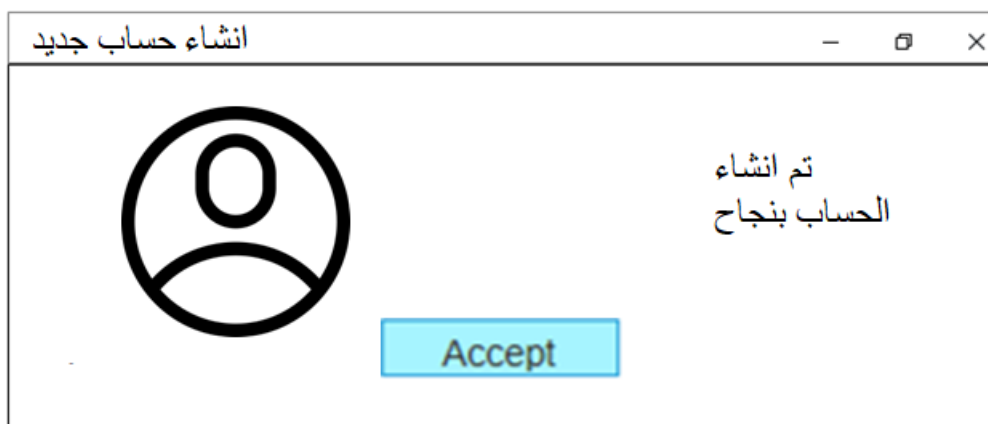


Figure 31. registration dialogue

Chapter 3

SOFTWARE SCREEN USER MANUAL

1. Introduction

The User Manual contains all essential information for the user to make full use of the information system.

This manual includes a step-by-step procedure for system access and use.

2. Software Pages

This section shows the main pages of our software implementation and how the user could interact with them

Login Page

Figure 27 shows the login page where the user has to enter his/her ID and password to access the system as shown otherwise the user will not be able to access the system

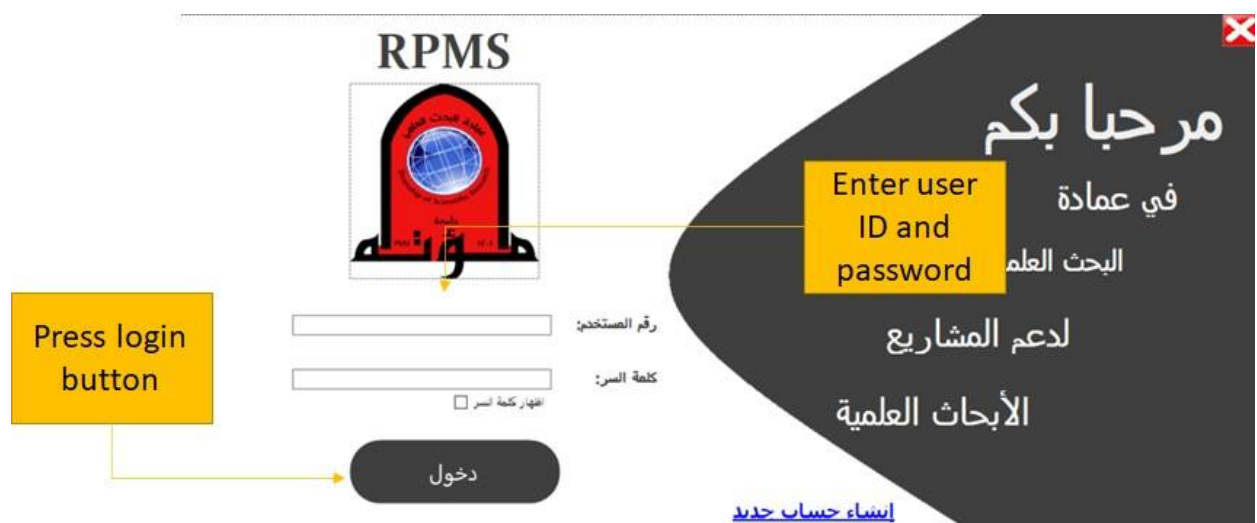


Figure 32. login user manual

Main Page

Figure 28 show the main page user manual

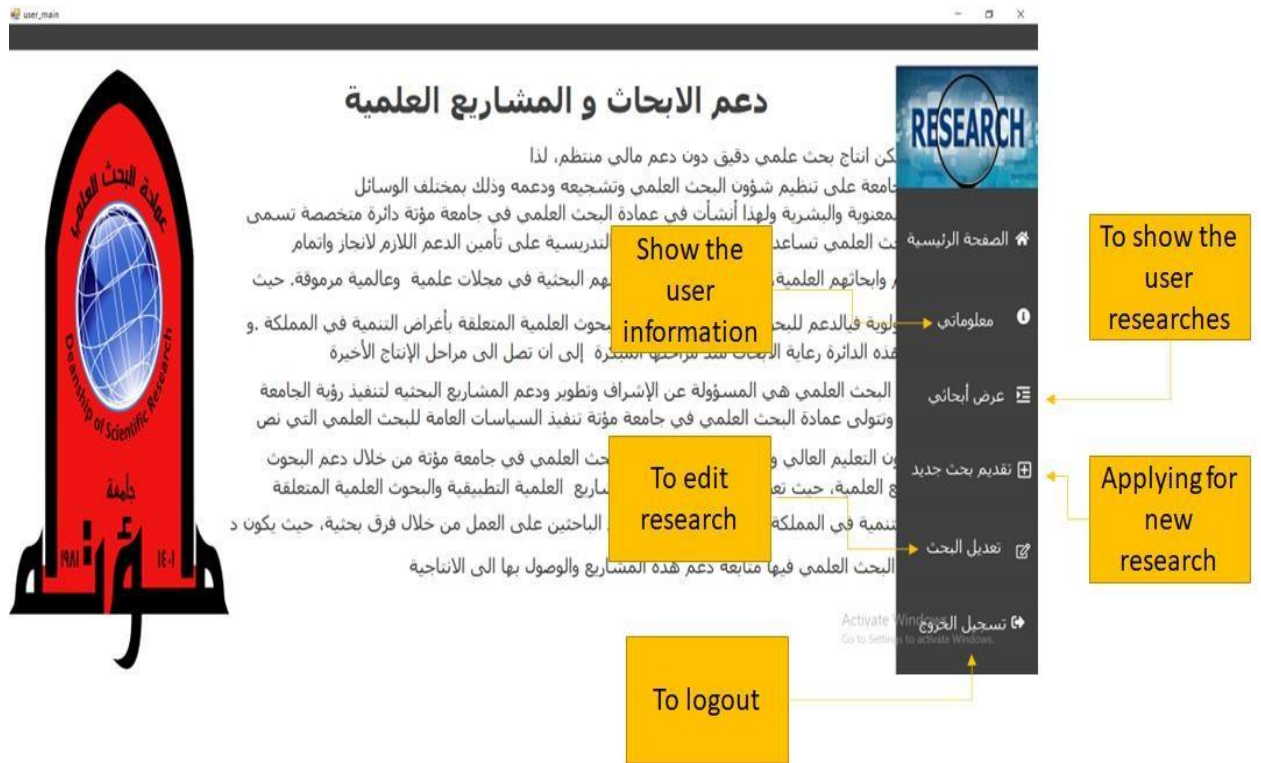


Figure 33. main page user manual

Registration Page

Figure 29 show the user manual for registration page and how the user can register in the system

The image shows a screenshot of a registration form titled "Form1". The form contains several input fields with corresponding Arabic labels:

- الرقم الوطني: (National Number)
- الاسم: (Name)
- اسم العائلة: (Family Name)
- العنوان: (Address)
- رقم الهاتف: (Phone Number)
- تاريخ الميلاد: (Date of Birth) - with a date picker showing 06/18/2022
- الكلية: (Faculty) - with a dropdown menu
- كلمة السر: (Password)

At the bottom of the form is a button labeled "تسجيل" (Register). To the right of the form is a large dark grey area with the text "انشاء حساب جديد" (Create New Account) in white. Three yellow callout boxes provide instructions:

- "Enter the required information" points to the input fields.
- "Press create new account button" points to the "تسجيل" button.
- A small yellow box with a left arrow points to the "تسجيل" button.

Figure 34. registration page user manual

Applying for Research Page

Figure 30 shows applying for research user manual and how the user could apply for new research

The screenshot displays a web form for applying for research. The form is titled 'الرقم الوطني: 2201' and 'اسم الباحث: mohammad mohanning'. It includes a 'رقم البحث: 80' and a 'الهاتف: 077'. The form fields are: 'عنوان البحث:', 'عنوان البحث باللغة الانجليزية:', 'المحلل العلمي للبحث:', 'اهداف البحث:', 'نتيجة مختصرة:', 'النتائج المتوقعة من المشروع البحثي:', and 'الجهات المستفيدة من المشروع البحثي:'. A yellow box with the text 'enter all required information' points to the form fields. A yellow box with the text 'Press submit button' points to the 'إرسال' button. Below the form, there is a section for '2 طباعة الطلب ورقياً' and 'إرجاء مراجعة البيانات المدخلة والتأكد من صحتها للمرة الأخيرة'. The text below this section reads: 'أرجاء مجلس القسم ومجلس الكلية لبدء الرأي الإلكتروني تمكن من التعديل على الطلب في حال إعادته للدراسة', 'بند الضغط على زر إرسال لن تتمكن من تعديل الطلب أو طباعته بعد ذلك إلا في حال إعادته للدراسة', 'للم نسخة مطبوعة موقعة من مجلس القسم ولجنة البحث العلمي في الكلية وعميد الكلية بعد أخذ الموافقات الإلكتروني', and 'إرسال'.

Figure 35. applying for research user manual

Change Password Page

Figure 31 show change password user manual and how the user could change his/her password

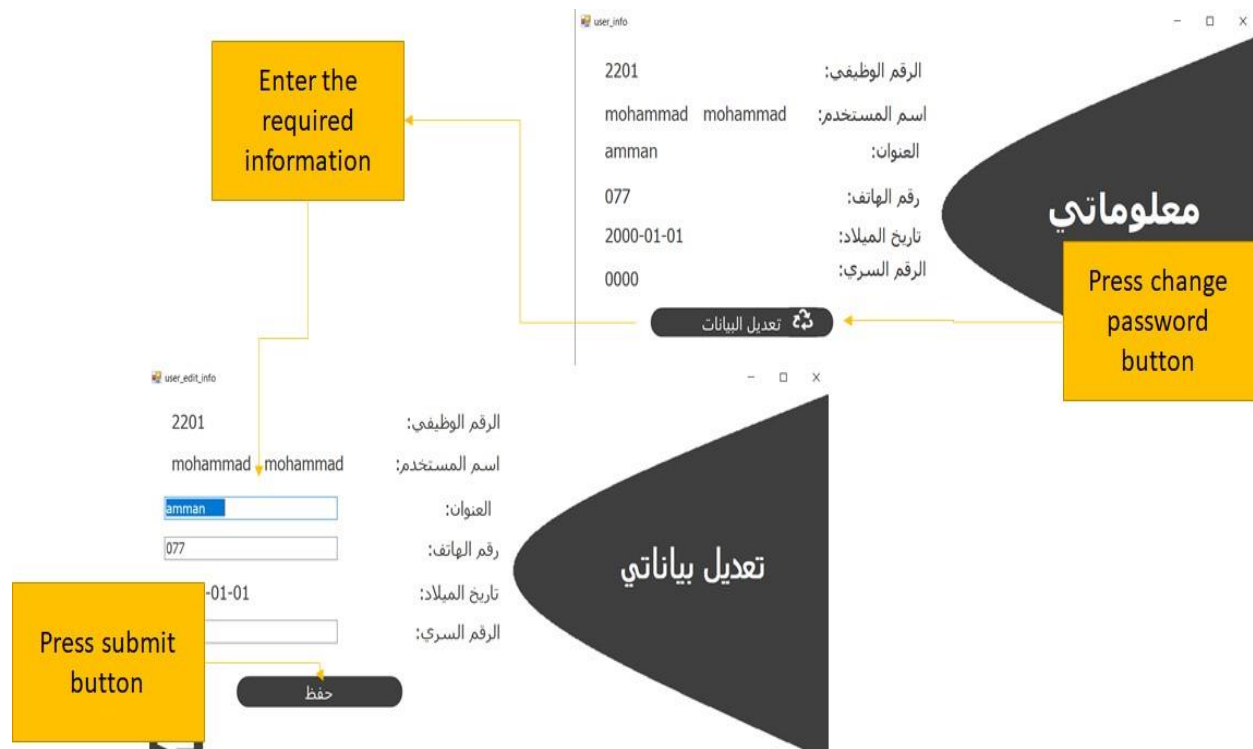


Figure 36. change password user manual

Chapter 4

SOFTWARE SOURCE CODE "IMPLEMENTATION"

1. Introduction

This chapter presents the main source code of the suggested software project

2. Software Code

This part of the documentation represents the code of the software

Login Code

figure 32 shows part of the login code in the proposed software project

```
Try
Dim con1 As New SqlCommand("select * from users where id='" & Trim(username_TB.Text) & "' ", con)
Dim dr As SqlDataReader = con1.ExecuteReader
Dim passchk As String

While (dr.Read())
    passchk = Trim(dr(1))

    levelchk = dr(2)

    If (passchk = password_TB.Text) Then

        If (levelchk = 1 Or levelchk = 2) Then
            doc_main.Show()
        ElseIf (levelchk = 3) Then
            student_page.Show()
        End If

    Else
        MsgBox("الرجاء التأكد من كلمة السر")
    End If
End While
```

Figure 37. login code

Change password Code

figure 33 shows part of the login code in the proposed software project

```
con.Open()
Try
    Dim con1 As New SqlCommand("select * from doc_info where الرقم_الوظيفي='" & TextBox1.Text & "'", con)
    Dim dr As SqlDataReader = con1.ExecuteReader
    While (dr.Read())
        TextBox2.Text = dr(1)
    End While

    dr.Close()
    confirm_button.Visible = "true"

Catch ex As Exception
    MsgBox(ex.Message)
    MsgBox("Call 079*****")
Finally
    con.Close()
End Try
```

Figure 38. change password code

Apply for research Code

figure 34 shows part of the login code in the proposed software project

```
con.Open()
Try
    Dim com As New SqlCommand("insert into subjects values('" & Trim(TextBox1.Text) & "', '" & Trim(TextBox2.Text) & "', '" & Trim(TextBox3.Text) & "', '" & Trim(TextBox4.Text) & "', '" & Trim(TextBox5.Text) & "', '" & Trim(TextBox6.Text) & "', '" & Trim(TextBox7.Text) & "', '" & Trim(TextBox8.Text) & "', '" & Trim(TextBox9.Text) & "', '" & Trim(TextBox10.Text) & "')", con)

    Dim i As Integer = com.ExecuteNonQuery
    MsgBox(i & " record inserted")
Catch ex As Exception
    MsgBox(ex.Message)
    MsgBox("Call 079*****")
Finally
    con.Close()
    TextBox1.Text = ""
    TextBox2.Text = ""
    TextBox3.Text = ""
    TextBox4.Text = ""
    TextBox5.Text = ""
    TextBox6.Text = ""
    TextBox7.Text = ""
    TextBox8.Text = ""
    TextBox9.Text = ""
    TextBox10.Text = ""
End Try
```

Figure 39. apply for research code

Registration Code

figure 35 shows part of the login code in the proposed software project

```
con.Open()
Try
    Dim com As New SqlCommand("insert into doc_info values('" & Trim(TextBox1.Text) & "', '" & Trim(TextBox2.Text) & "', '" & Trim(TextBox3.Text) & "', '" & Trim(TextBox4.Text) & "', '" & Trim(TextBox5.Text) & "', '" & Trim(TextBox6.Text) & "', '" & Trim(TextBox7.Text) & "', '" & Trim(TextBox8.Text) & "')", con)

    Dim i As Integer = com.ExecuteNonQuery
    MsgBox(i & " record inserted")
    Dim v As Integer = com2.ExecuteNonQuery
    MsgBox(v & " record inserted")

Catch ex As Exception
    MsgBox(ex.Message)
    MsgBox("Call 079*****")
Finally
    con.Close()
    TextBox1.Text = ""
    TextBox2.Text = ""
    TextBox3.Text = ""
    TextBox4.Text = ""
    TextBox5.Text = ""
    TextBox6.Text = ""
    TextBox7.Text = ""
    TextBox8.Text = ""
End Try
```

Figure 40. registration code

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