جامعة الرازي

كلية تقانة المعلومات

Elrazi University

Information Technology

Fifth batch

Online examination system

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CHAPTER ONE

INTRODUCTION

1.1 Overview

The teacher or course builder creates an account with an exam builder. In such an exam system you can create questions and add them to the exam. You can choose between multiple choice questions or free text questions. The students are provided with a link to the exam system, they sign up and can take the exam. They see the results immediately afterwards.

1.2 Background

Examination system is conducting a test online to measure the knowledge of the participants on a given topic. In the olden days, everybody had to gather in a classroom at the same time to take an exam. With online examination students can do the exam online, in their own time, with their own device, regardless of where they live. You only need a browser and an internet connection.

The big benefit of online examination is the cost and time saving, both for students and teachers. The biggest limitation is that you have to be online to use an online examination system. Hence the name "online".

1.3 Motivation

The main Point of OES :

i. Is to provide all the features that an Examination System must have with the "interfaces that doesn't Scare it's Users
ii. Speed and accuracy.
iii. needed less manpower to execute the examination
iv. The weak development of the examination system at (Al-Razi University)

1.4 Problem statement

The cost of papers and pencils, Errors that may occur due to a mistake in the student's handwriting clarity, A lack of student tools, such as a calculator, Slow correction process, that’s problems happened in traditional exams system, and most of the developments of the traditional exams systems are the conversion of the correction process from manual to correction by the machine

1.5 Aim of the project

i. Design web application
ii. Speed up exams process
iii. Speed up Correction process time
iv. Reducing the costs

1.6 Research objectives

i. Analysis of some previous systems

ii. Collecting information on project tools

iii. Designing system functions

iv. Database connection

v. Design the interface

1.7 Research scope

This research focusing on developing a web application that implement the idea of online examining system

1.7 Benefits

i. **Accessibility and flexibility:** Online examination makes exams flexible. Now, exams can be conducted to anywhere and anytime.
ii. **Cost saving:** Online examination saves lots of money and efforts.
iii. **Save Time:** Online examination system saves lots of time of students as well as exam authority.
iv. **Easy to track:** If you can't track your efforts, you'll never be able to see if your strategy is work

1.8 Methodology

The phases to define this project are:

i. Definition of problem.
ii. Analysis.
iii. Design.
iv. Testing.
v. Implementation.

1.9 Research Organization

i. The first chapter discussed the background of the online exam system to the problem and goals.
ii. The second semester will discuss the literature review of the thesis in both the general aspect and the electronic part of the test as a survey.
iii. Chapter Three discusses the analysis and design of proposed solutions for the project.
iv. Chapter 4 discusses how the design will be developed and how the design will be implemented.
v. The fifth chapter will discuss the results of the final conclusion of the project.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

The chapter will discuss the literature review of the thesis in both the general aspect and the electronic part of the test as a survey.

2.2 Related work

Deepankar et al **]1]** in customary framework directing exam is extremely repetitive work for analyst and educator too. The entire procedure of allocating exam and assessing their score after the test was done physically till date. Be that as it may, online examination framework is absolutely electronic framework. The framework goes for diminishing expenses connected with directing exams over a timeframe and accomplishing complete computerization of examination framework related assignments like enlistment, distribution of results, which prompts a high level of framework effectiveness.

The main objective of this online exam system is to reduce the work of conducting the exam.

The online examination system is a web-based application which is useful all over the educational and corporate sector

Muna & Firas [2]Today, Online Examination System is considered a fast-developing examination method because of its accuracy and speed. It is also needed less manpower to handle the examination.

Since the traditional have many drawbacks such as time consuming, Difficulty of analyzing the test manually, More observers are required to take exam of many students, Results are not accurate since calculations is done manually, The chance of losing exam's result is higher in current systems, Checking of result is time consuming since it done manually, Limitation of no of student can give examination at a time.

Using an open source language gives us more flexibility, but at the same time it required more time to be programmed. The proposed Online Examination System (OES) can be easily adopted by universities and institutions in order to make the exam more secure and more flexible. The system is subdivided into two main subsystems (student and administrator) that are designed to give the system maximum benefit by demonstrating carefully each subsystem service. (2)

Vivek[3] Time pressures leads to use of more efficient exam tools, such as online exams, instead of traditional paper exams. But teachers may face challenges when introducing on line exams in a higher education context. This paper describes what sort of challenges will be there when introducing online exams.

It provides user friendly environment for both test conductors & students. It establishes a network between the institutes and the students. Institutes enter on the site the questions they want in the exam. These questions are displayed as a test to the eligible students. The answers enter by the students are then evaluated and their score is calculated and saved. This score then can be accessed by the institutes to determine the passes students or to evaluate their performance.

Shubham [4]An Online Examination System is a web software solution, which allows any institute or industry to set up, direct and manage examinations via an online environs. Some of the problems faced during manual examination systems are the retard take place in result processing, filing poses a problem, chance of loss of records is more as well as searching records is hard.

With the use of this system, we can moderately conclude that: It can help the authorization of the educational institution to maintain the safety and integrity of its important data like record of attendance, exam results, etc. as the data shall instantly be transmitted on the cloud wireless. The authorities not need to worry about misplacement pervert of attendance registers or exam registers, etc.

Prabhat et al[5] In schools and universities educators don't get an opportunity to make and outline a test for the students and give them reviews as needed. This online examination framework will enable educators to make test and students will have the capacity to take test. It will be simple for teachers to set them up well for the better test.

We believe online format will enable instructors to produce test better and it will likewise help them to monitor their student’s progress. As this will be accessible for nothing, this can be utilized by anybody for instructive or appraisal reason. It will likewise help the understudies to comprehend

2.3 LITERATURE SURVEY

many different researches have focused on the subject of an online examination system these works can be represented as following: SIETTE: Guzman and Conejo (2005) proposed an online examination system called System of Intelligent Evaluation using Tests for Tele-education (SIETTE). SIETTE is a web-based environment to generate and construct adaptive tests. It can be used for instructional objectives, via combining adaptive student self-assessment test questions with hints and feedback. SIETTE supports secure login and portability features. On the other hand, the other features: resumption capability, multi-instructor, random question selection, random questions distribution and random choices distribution are missing [3]. EMS: Rashad Et. Al. (2010) proposed a web-based online examination system called Exam Management System (EMS). EMS manages the examination and auto-grading for students exams and supports conducting exams, (6)

The table below shows the summary of the related work.

Table 2: Related Work Summary

Reference	Author	Summary
1	Deepankar et al	The online examination system is a web-based application which is useful all over the educational and corporate sector
2	Muna & Firas	More secure and flexible
3	Vivek	It provides user friendly environment for both test conductors & students.
4	Shubham	Authorize the educational institution to maintain the integrity and integrity of its important data such as: • Attendance Record • And test results • Transfer data instantly to the cloud.
5	Prabhat et al	We believe the online format will enable teachers to produce a better test It will be available free of charge

Chapter three

Methodology

3.1 Overview

This chapter introduce the methodology, Software Development Lifecycle (SDLC), analysis and design phases

3.2 Introduction

System development methodology is discussed alongside the various frameworks used to structure, plan and monitor the system development process.

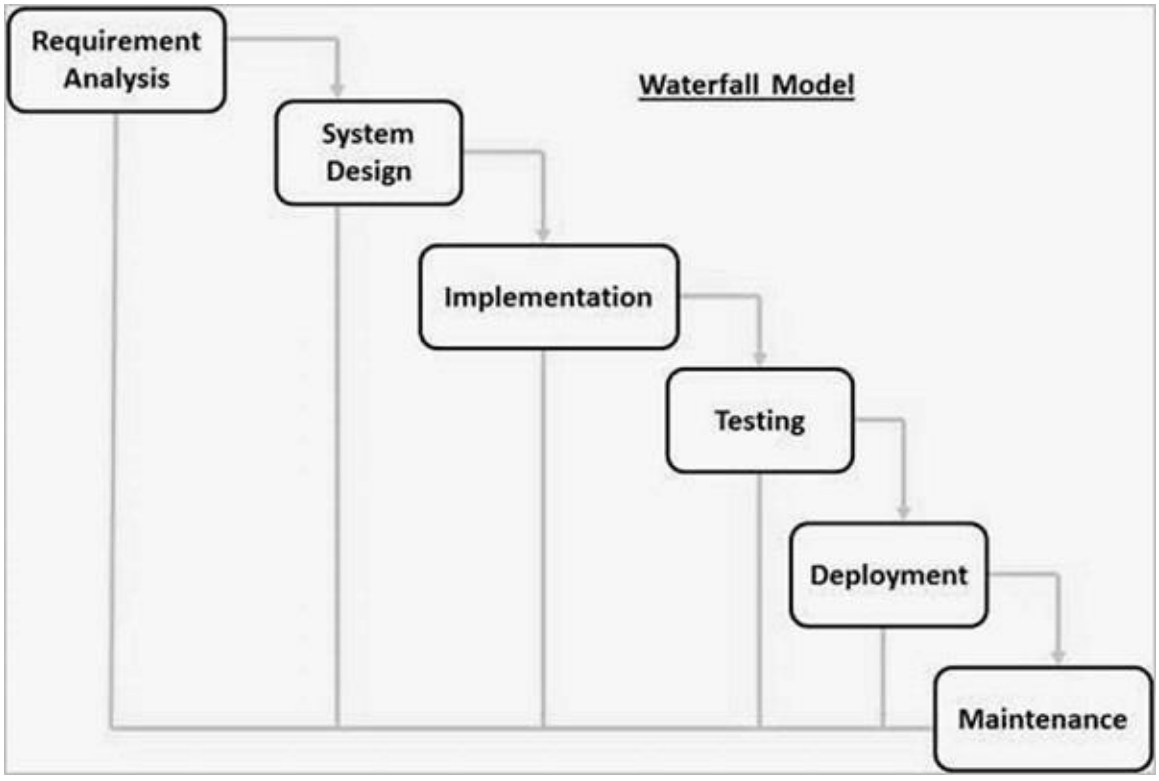
3.3 SDLC

The software development life cycle (SDLC) is a framework defining tasks performed at each step in the software development process. SDLC is a structure followed by a development team within the software organization. It consists of a detailed plan describing how to develop, maintain and replace specific software.

3.4 Waterfall Model - Design

Waterfall approach was first SDLC Model to be used widely in Software Engineering to ensure success of the project. In "The Waterfall" approach, the whole process of software development is divided into separate phases. In this Waterfall model, typically, the outcome of one phase acts as the input for the next phase sequentially.

The following illustration is a representation of the different phases of the Waterfall Model.



3.4.1 Requirements collection and analysis

all possible requirements for the system to be developed at this stage are recorded and documented in the requirements specification document

3.4.2 System Design

Requirements specifications are studied from the first stage in this stage and the system design is prepared. This system design helps define hardware and system requirements and helps define the overall system architecture.

3.4.3 Implementation

With input from the system design, the system is first developed into small programs called modules, which are integrated into the next stage. Each unit is developed and tested for its functions, which is referred to as unit testing.

3.4.4 Integration and Testing

All modules developed in the implementation phase are integrated into a system after testing each module. After integration, the entire system is tested for any errors or failures.

3.4.5 System deployment

Once functional and non-functional testing is completed; The product is either deployed in the customer's environment or brought to market.

3.4.6 Maintenance

There are some issues that arise in a customer's environment. To fix these issues, patches are released. Also, to improve the product, some better versions have been released. Maintenance is performed to introduce these changes to the customer's environment.

3.5 Tools: The tools that we used in this research

3.5.1 PHP:

(Iterative acronym for PHP: Hypertext Preprocessor) is a widely used open source general purpose scripting language that is particularly suitable for web development and can be embedded in HTML**.[7]**

3.5.2 CSS:

Stands for "Cascading Style Sheet." Cascading style sheets are used to format the layout of Web pages. [8]

3.5.3 MySQL:

Pronounced "My S-Q-L" or "My Sequel", is an open source relational database management system. It is based on Structured Query Language (SQL), which is used to add, remove, and modify information in a database. Standard SQL commands, such as ADD, DROP, INSERT, and UPDATE can be used with MySQL.

[9]

3.5.4 Bootstrap

Bootstrap is a free and open source front end development framework for the creation of websites and web apps. [10]

3.5.5Ajax

Ajax (Asynchronous JavaScript and XML) is a method of building interactive applications for the Web that process user requests immediately [11]

3.5.6 Jquery

Jquery is a JavaScript library that allows web developers to add extra functionality to their websites. [12]

3.5.7HTML

Hypertext Markup Language (HTML) is the standard markup language for documents designed to be displayed in a web browser. [13]

Chapter Summary

The chapter described the software methodology, software development life cycle. Tools and methods used also presented.

CHAPTER 4

IMPLEMENTATION

4.1 Overview

This chapter will discuss practical implementation this project and show the functionalities of the system.

4.2 System Interfaces

The following section is about the interfaces in the system it contains sample of the interfaces.

4.3 Home page (Students Login-Page)

As shown in the figure below the student login page, which represents the home page in the system, as it is the first page that will appear when you log in to the site through which the student can log in through his "student ID"

Also, through the same page, you can move to the professor (lecturer) page.

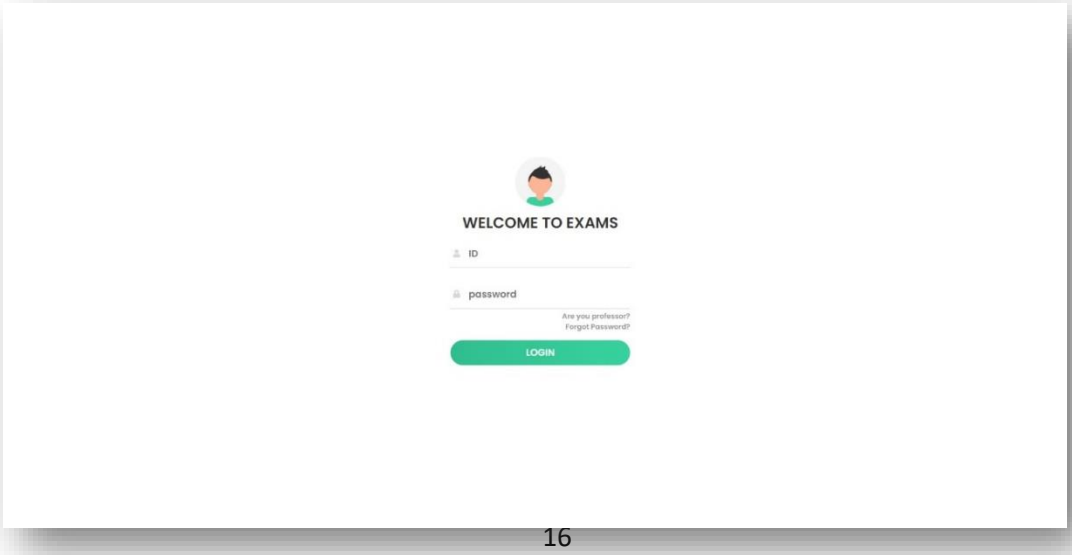


Figure.4.3: Login-Page

4.4 Student Welcome page

As shown in the figure below when the student's Information is verified, a welcome page will appear for the student linked to the student’s name based on his information from the database

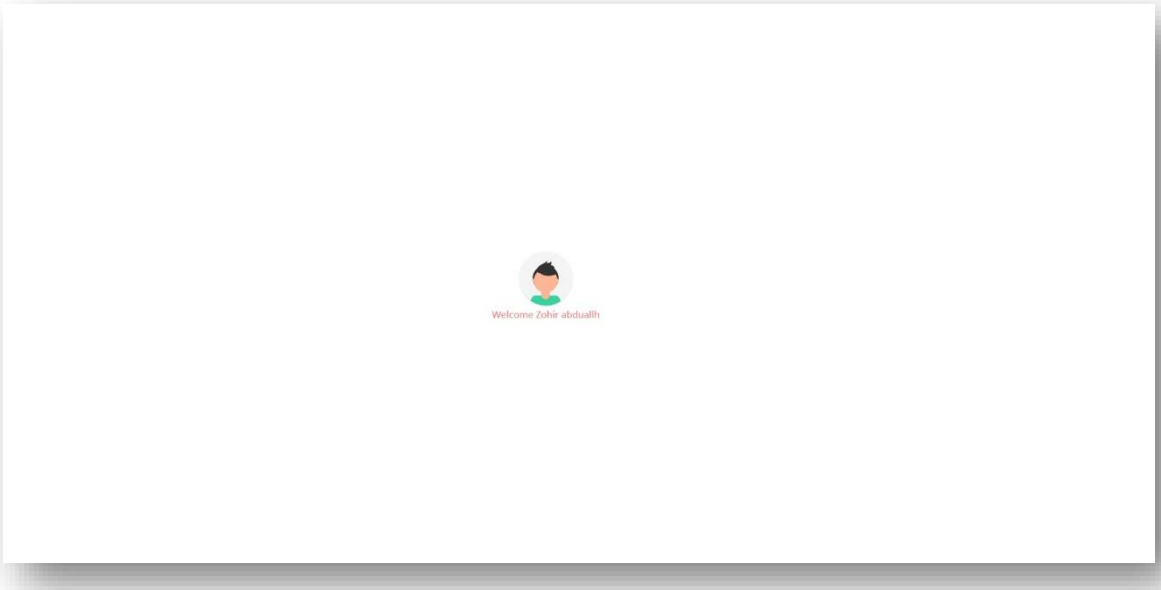


Figure.4.4: Student Welcome page

4.5 Student professors(lecturer) list

As shown in the figure below, here we can see a list of professors, showing the name and gender of the professor, and a button to enter the exam

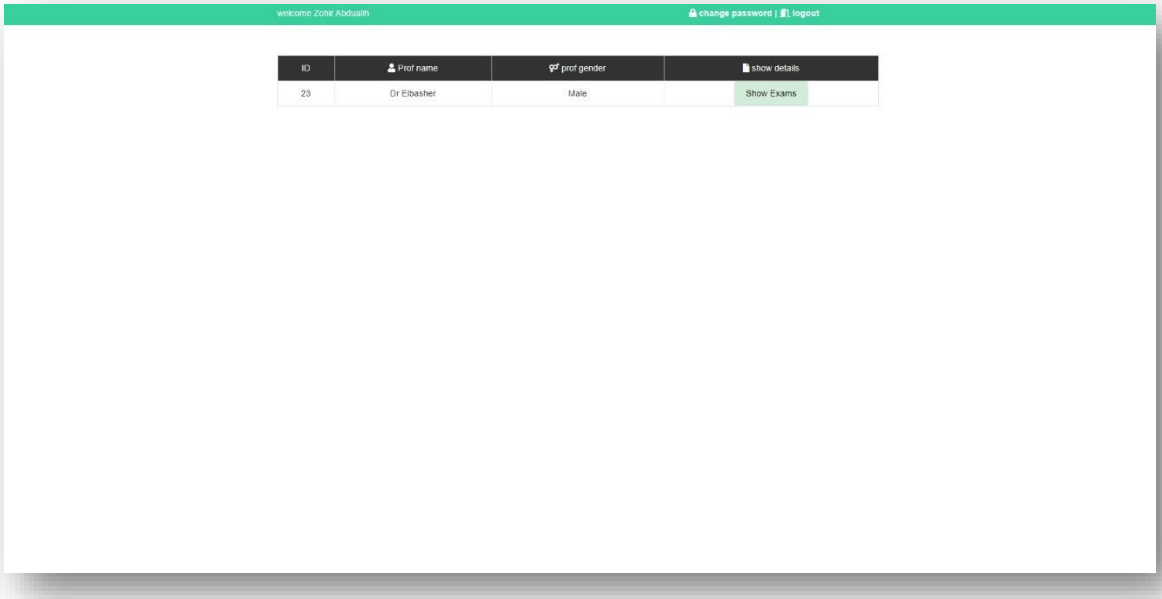


Figure.4.5: Student professors (lecturer)list

4.6 Professor(lecturer) exam list

As shown in the figure below, after choosing a professor, the student will see the exams for this professor

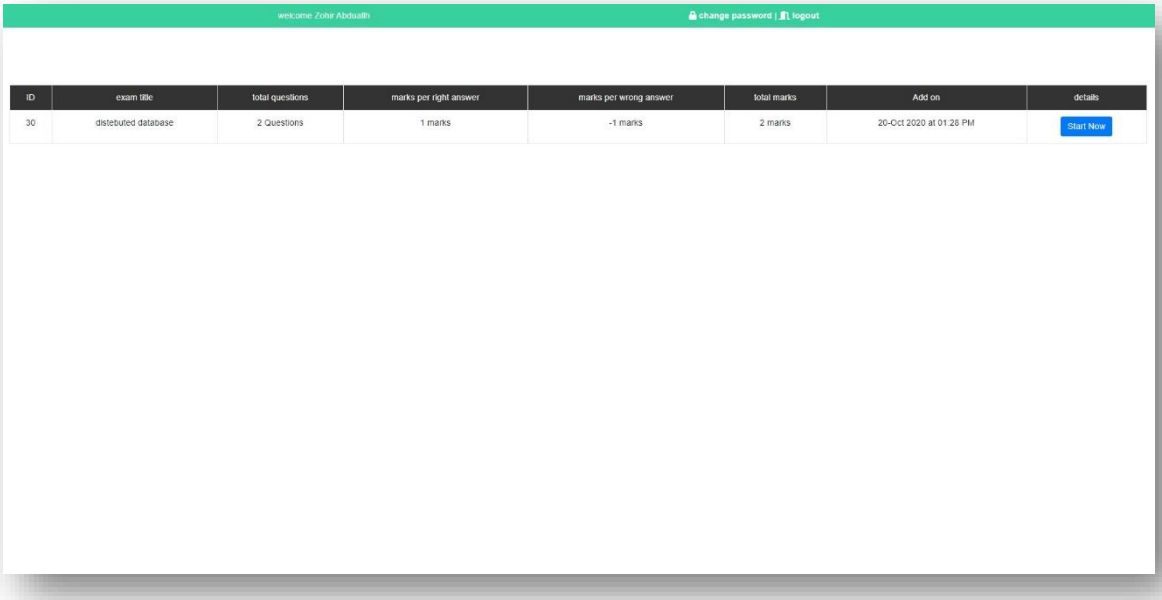


Figure.4.6: Professor(lecturer) exam list

4.7 Exam process

As shown in the figure below, after the available exam is selected, the exam process page will appear for the student to take his exam

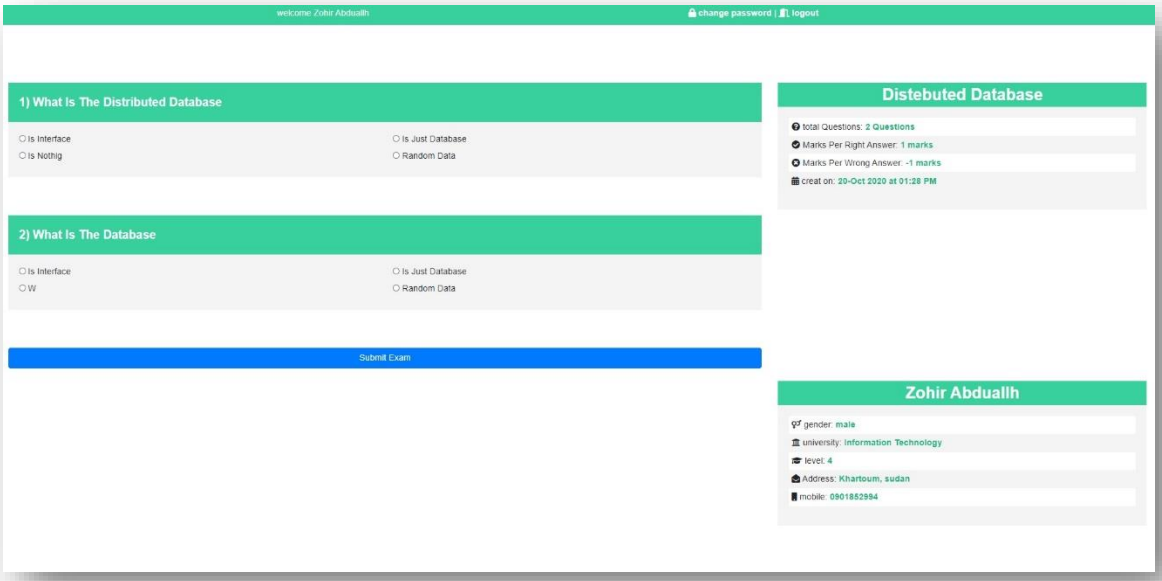


Figure.4.7: Exam process

4.8 Professor (lecturer) login-page

As shown in the figure below, the professor's login page, the professor can log in using his name and password.

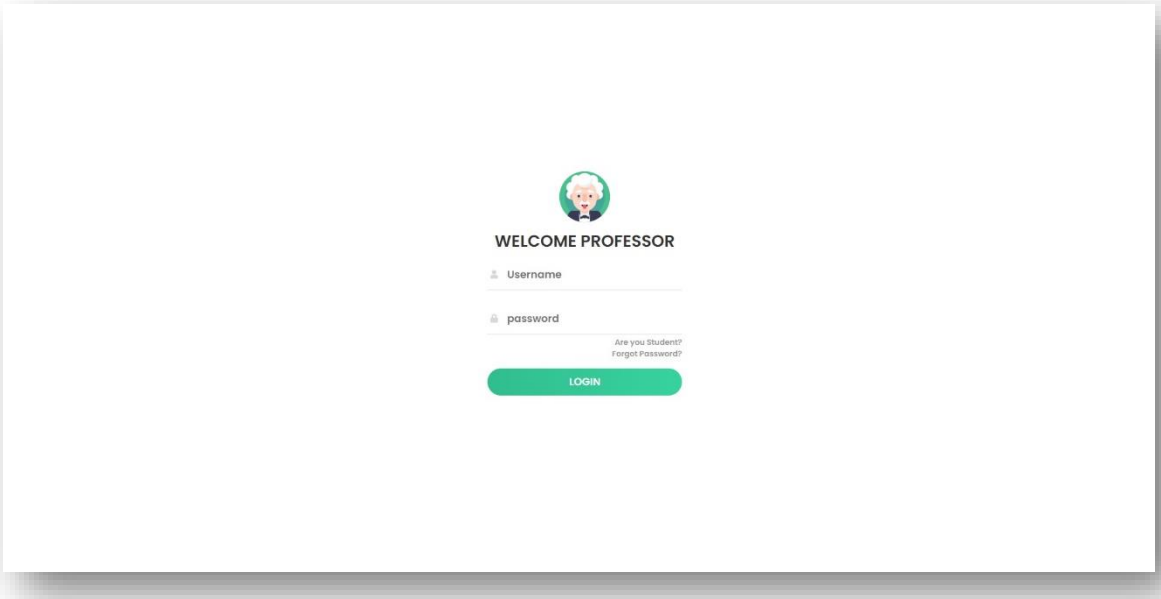


Figure.4.8: Professor (lecturer) login-page

4.9 Professor (lecturer) welcome page

As shown in the figure below when the professor's information is verified, a welcome page will appear for the professor linked to the professor’s name based on his information from the database

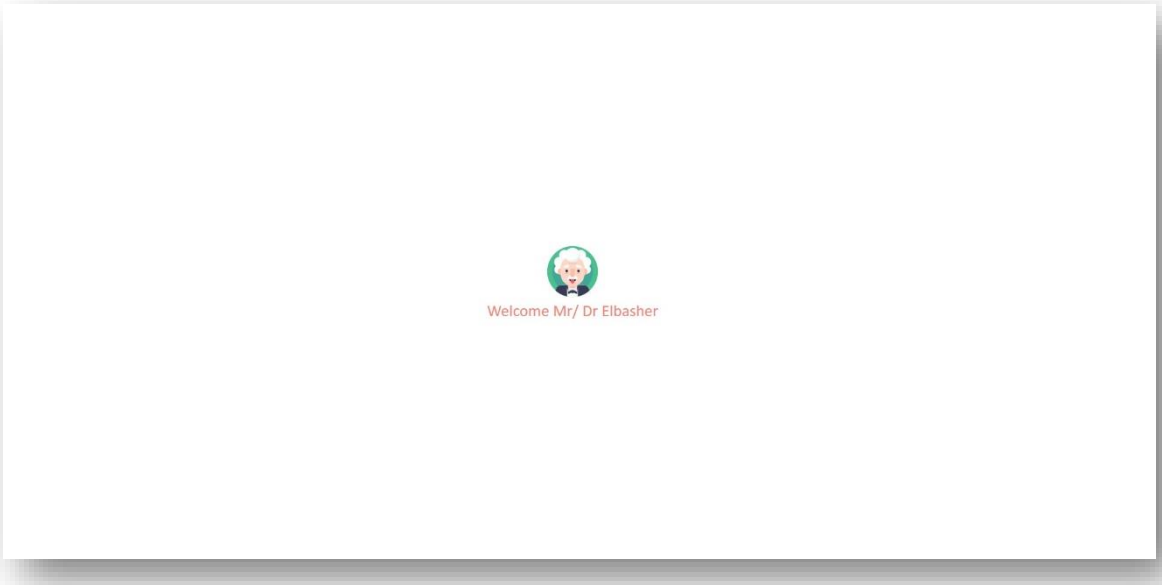


Figure.4.9: Professor (lecturer) welcome page

4.10 Add exam form

As shown in the figure below, the page for adding a new exam, as we see there is a form that contains the exam title, the number of questions and all the information related to the exam

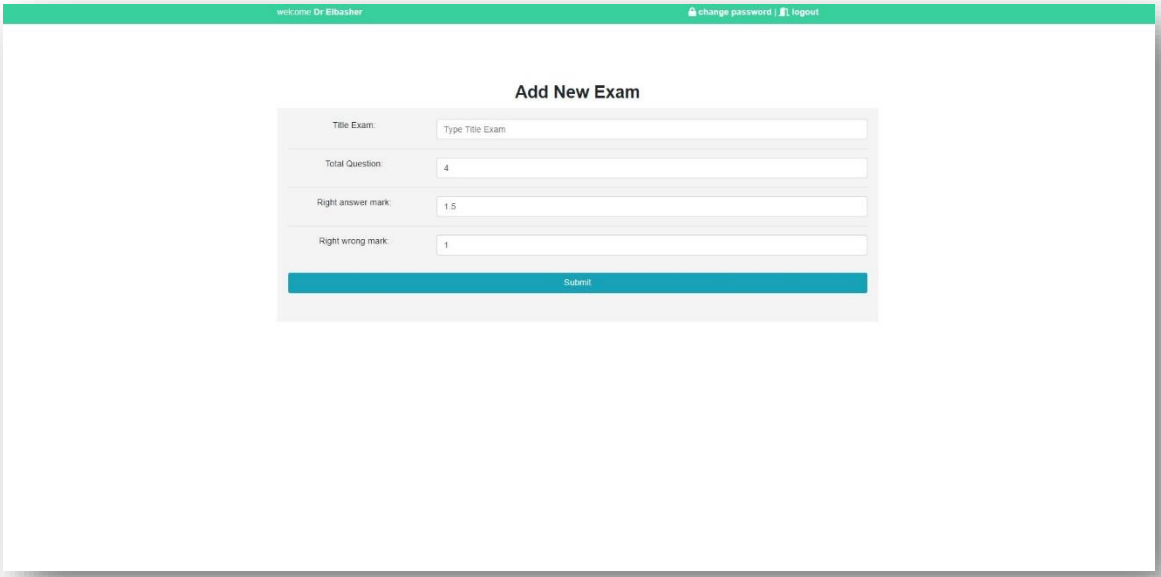


Figure.4.10: Add exam form

4.11 Add exam options form

As shown in the figure below, the page for adding options for the exam that we previously added

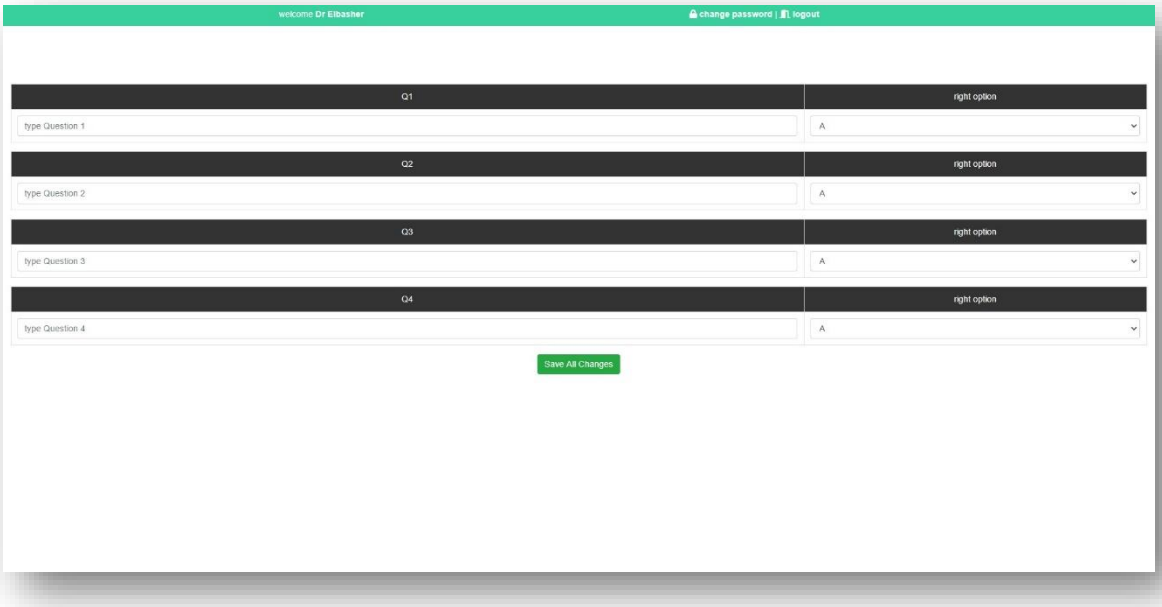


Figure.4.11: Add exam options form

4. 12UML

The Unified Modeling Language (UML) is a general-purpose, developmental, modeling language in the field of software engineering that is intended to provide a standard way to visualize the design of a system.[1]

4.12.1 Use Case Diagram

This Use Case Diagram is a graphic depiction of among Examination Management System. It represents the methodology used in system analysis to identify, clarify, and organize system requirements of Examination Management System. The main actors of Examination Management System in this Use Case Diagram are: student and lecturer

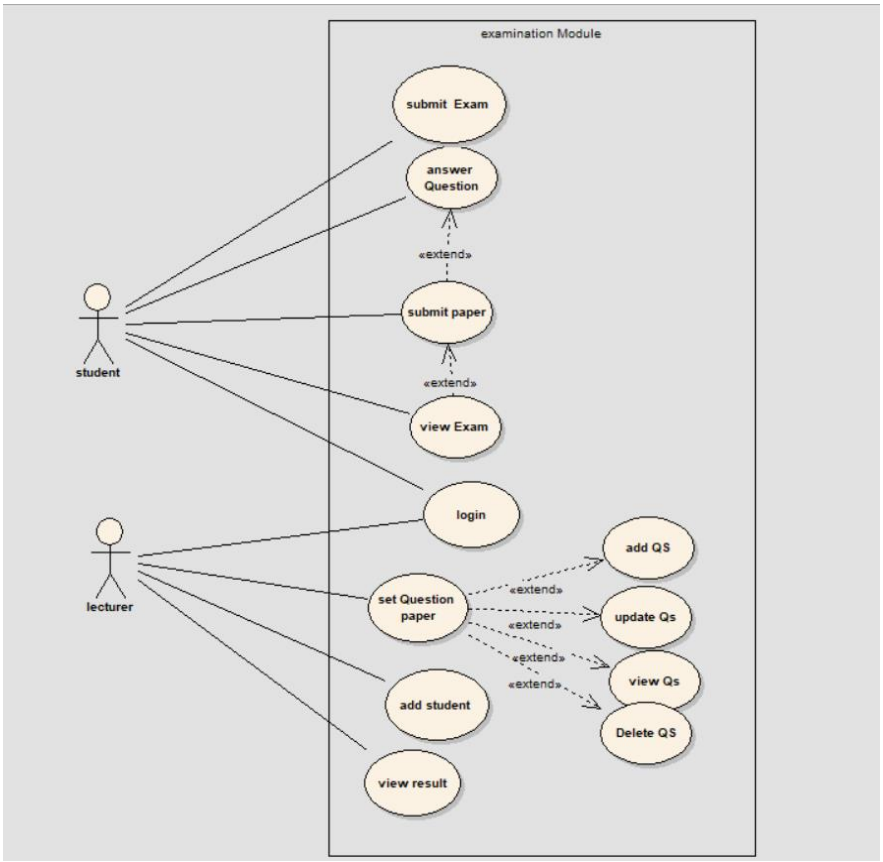


Figure 4.12.1 Use Case Diagram

4.12.2 Class diagrams

Class diagrams are one of the most useful types of diagrams in UML as they clearly map out the structure of a particular system by modeling its classes, attributes, operations, and relationships between objects.

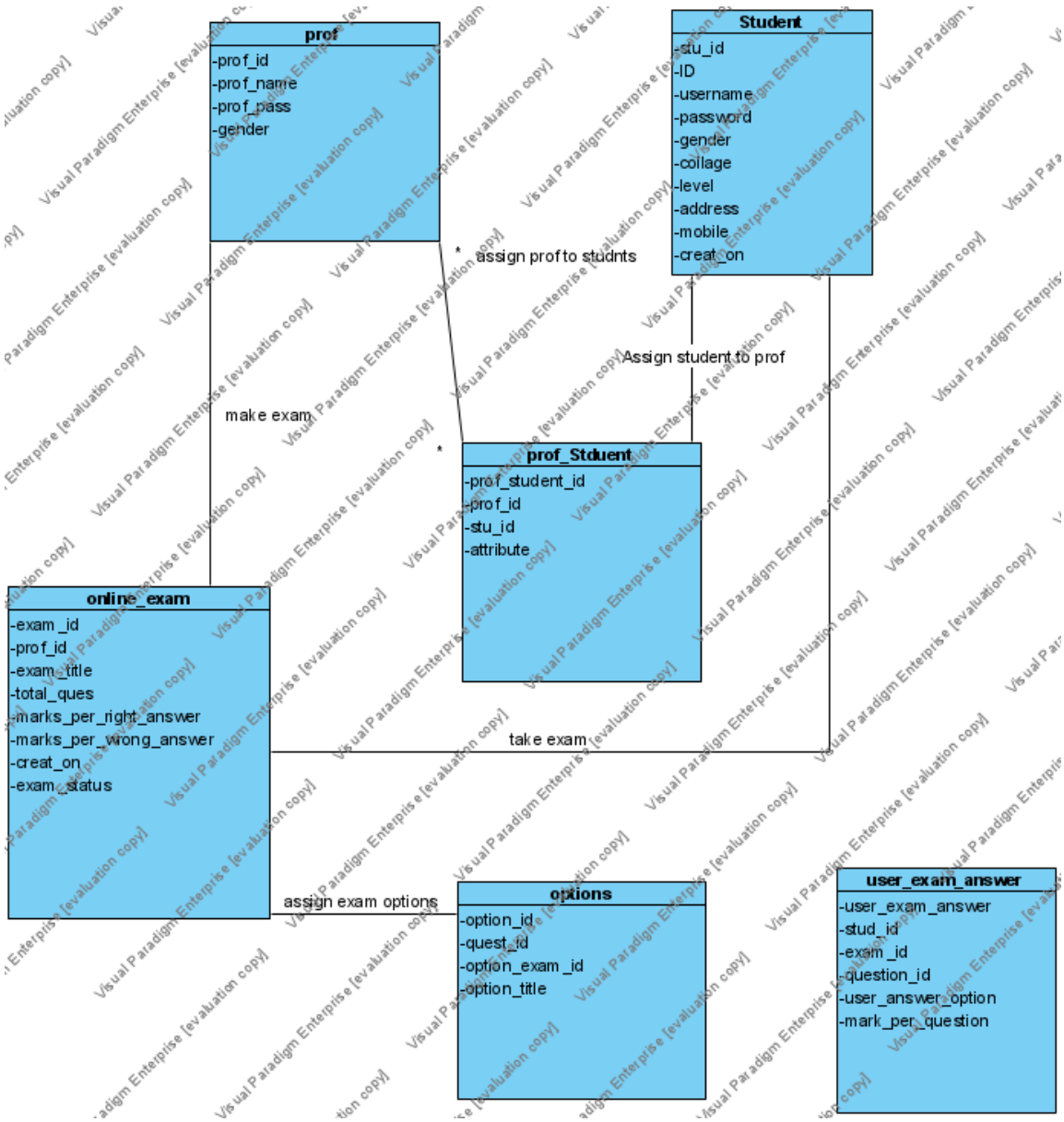
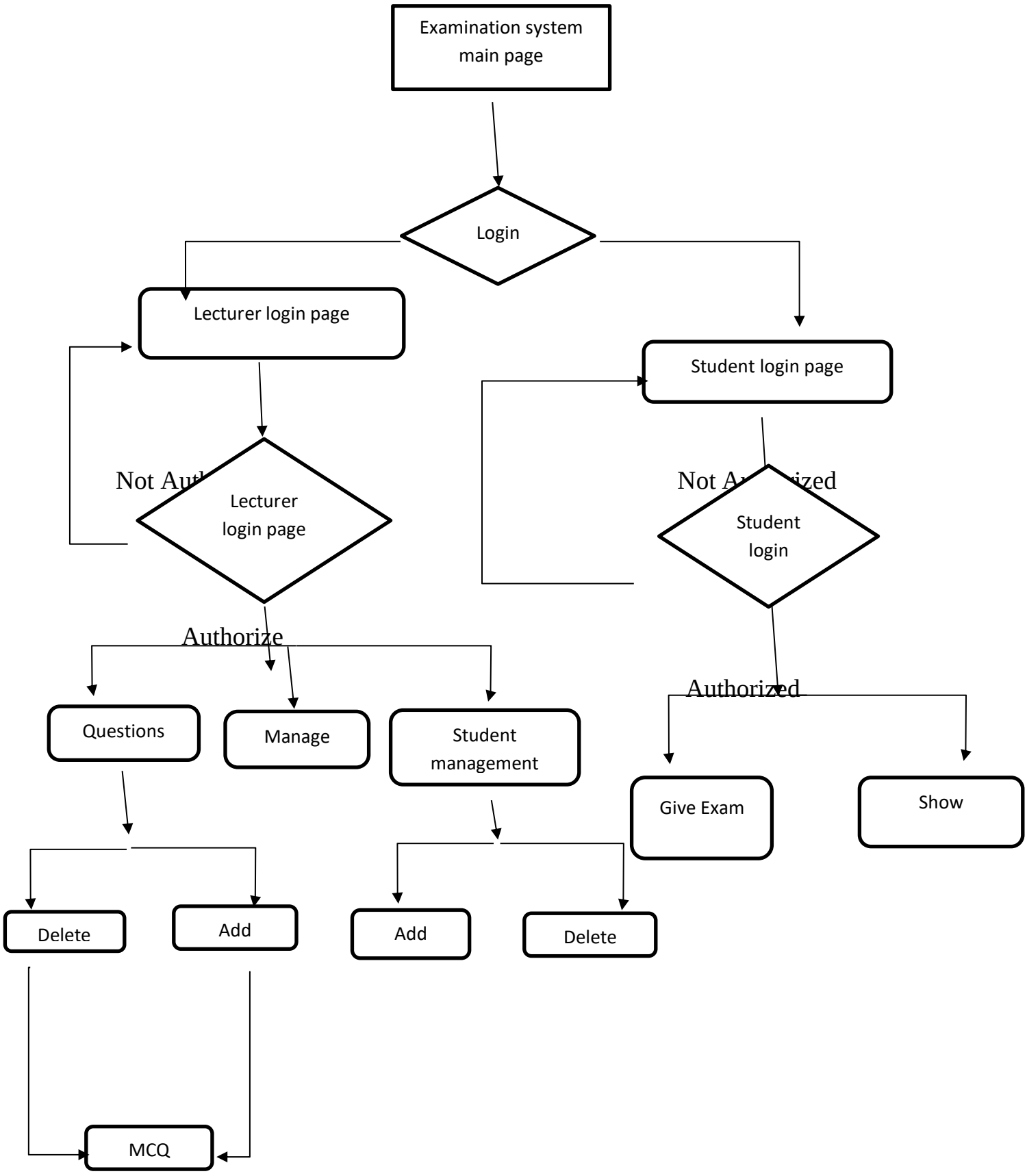


Figure4.12.2 Class diagrams

4.12.3 Flowchart

A flowchart is a type of diagram that represents a workflow or process. A flowchart can also be defined as a graphic representation of an algorithm, a stepwise approach to solving a task.

The flowchart shows the steps as squares of different types, and their arrangement by connecting the squares with arrows. This graphic representation illustrates a solution model for a given problem. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields.


Examination system main page
Login
Lecturer login page
Student login page
Not Aut
Lecturer login page
Not A ized
Student login
Authorize
Authorized
Questions
Manage
Student management
Give Exam
Show
Delete
Add
Add
Delete
MCQ

Chapter Summary

The chapter described IMPLEMENTATION of the system, .and Furthermore, detailed description of use case, class case diagram, flow chart of system and methods used also presented

also Explain the method of presentation and use, and what the system will be like, its structure, and the relationship between the components of this system, with illustrations and logical relationships.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Overview

This chapter presents the conclusion and recommendation for the project.

5.2 Conclusion

We have created the examination system and result system for Al-Razi University. The whole project provides a base for students to take their exam using software and allow lecturers to add questions and answers into the system. The system is developed using php programming language and data are saved in the database.

examination system for introduction to management course is the best compared to paper-based exam. The automated system helps students and lecturers to save time and makes the process faster. The testing system presented here will continue to save the cost of the testing process and provide a safe testing environment for the student and the university.

5.3 Recommendations

As a part of the recommendation further on some functions should be implemented like: The application should support an automated time setting to let the student know how many hours and minutes are left for them to complete the examination. Use of the DyKnow Classroom Management system is recommended during online exams to ensure no screen-capture software is running on student machines, to limit access to other programs and web sites if desired, and to take attendance. Before using the DyKnow Classroom Management system

References

[1] Deepankar, Shubham, Aishwarya, Puspendu, 2016 , 'ONLINE EXAMINATION SYSTEM' ,International Research Journal of Engineering and Technology (IRJET) , vol. 03, no. 01

[2] Muna R. Hameed - Firas. A. Abdullatif , 2017 , 'Online Examination System' , International Advanced Research Journal in Science, Engineering and Technology , vol. 04 , no. 03

[3] Dr. Vivek Chaplot , 2016 , 'REVIEW OF ONLINE EXAMINATION SYSTEM' ,International Research Journal of Engineering and Technology (IRJET) , Vol. 03, no. 07

[4] Shubham Bobde - Suraj Chaudhari - Jagupati Golguri - Prof. Rahul Shahane , 2017 , 'Web Based Online Examination System' , GRD Journals- Global Research and Development Journal for Engineering , vol. 02 , no. 05

[5] Prabhat Maity - Swapnil Patil - Pratiksha Pednekar - Akshata Sawant - Prof. Monali Rupnar , 2018 , 'Online Examination System' , International Research Journal of Engineering and Technology (IRJET) , vol. 05 , no 03

[6] Muna R. Hameed - Firas. A. Abdullatif , 2017 , 'Online Examination System' , International Advanced Research Journal in Science, Engineering and Technology , vol. 04 , no. 03

[7] https://www.php.net/manual/en/intro-whatis.php

[8]https://techterms.com/definition/css

[9]https://techterms.com/definition/mysql

[10]https://whatis.techtarget.com/definition/bootstrap

[11]https://searchwindevelopment.techtarget.com/definition/Ajax

[12]https://techterms.com/definition/jquery [13]https://en.wikipedia.org/wiki/HTML