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المملكة العربية السعودية
جامعه المجمعة
وزارة التعليم العالي
كليه العلوم الزلفي

E-Learning Platform

(EduCare)

Project for a bachelor's degree in computer science & information

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صدق الله العظيم

DEDICATION

To our families who support us through thick and thin and to anyone helped in building this project and gave thoughts and ideas.

ACKNOWLEDGMENTS

We would like to take this opportunity to express our deep sense of gratitude and profound feeling of admiration of our supervisor Afaf Taka, for providing assistance and guidance to us during the semester. Many thanks to all those who helped us in this work.

MAJMAAH UNIVERSITY,
COLLEGE OF SCIENCE AL ZULFI,
DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION

(CERTIFICATE BY STUDENT)

This is to certify that the project titled **"E-Learning platform (EduCare)"** submitted by me (**Aicha Mohammed Al-Hamdan**, **351204718**) under the supervision of **Dr. Afaf Abdulrahman Mohammed** for award of Bachelor degree of the Majmaah University carried out during the Semester 1, 2018-19 embodies my original work.

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ABSTRACT

This study aims to develop E-learning platform for university students. The specific objectives can be summarized in combining electronic content management systems and social networks, help students to exchange ideas which help to think creatively, accessibility of educational materials, encourage students to participate, enhancing student interaction.

The critical success factors for our project is increasing students' interaction among themselves, helps each other understand the content of the material they are studying and sharing appropriate educational content for students

Also it provides different forms of questions, exams and quizzes to be a bank of questions

In order to build this system we study its specifications and requirements by analyzing the system and using uml diagrams to draw all the system stages.

For the implementation, we use design programs to design the system interfaces.

This project will be carried out using unified modeling language (UML), PHP programming language, and MySQL databases to implement the system.

ملخص البحث

تهدف هذه الدراسة إلى تطوير نظام إدارة التعلم الإلكتروني لطلاب الجامعات. يمكن تلخيص الأهداف المحددة في الجمع بين أنظمة إدارة المحتوى الإلكتروني والشبكات الاجتماعية ، ومساعدة الطلاب على تبادل الأفكار التي تساعد على التفكير الإبداعي ، وإمكانية الوصول إلى المواد التعليمية ، وتشجيع الطلاب على المشاركة ، وتعزيز تفاعل الطلاب.

إن عوامل النجاح الحاسمة لمشروعنا هي زيادة تفاعل الطلاب فيما بينهم ، ويساعد بعضهم البعض على فهم محتوى المواد التي يدرسونها ومشاركة المحتوى التعليمي المناسب للطلاب.

كما أنه يوفر أشكالا مختلفة من الأسئلة والامتحانات والاختبارات ليكون بنك الأسئلة

من أجل بناء هذا النظام نقوم بدراسة مواصفاته ومتطلباته من خلال تحليل النظام واستخدام مخططات uml لرسم جميع مراحل النظام.

للتنفيذ ، نستخدم برامج التصميم لتصميم واجهات النظام.

سيتم تنفيذ هذا المشروع باستخدام لغة النمذجة الموحدة (UML) ولغة برمجة PHP وقواعد بيانات MySQL لتنفيذ النظام.

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Chapter 1: Introduction.

1.1 Overview

Instruction pioneers are always searching for the most ideal ways and intends to create instructive organizations keeping in mind the end goal to give an intuitive learning condition that pulls to understudies' advantage and urges them to trade sees. The Internet is a standout amongst other approaches to give an instructive domain.

Understudies utilize the Internet every now and again, get to valuable data, and encourage the making of an instructive stage where every understudy needs clarifications and data about his or her investigation, use however much data as could be expected, and help different understudies.

In our chance, there has been enormous advance in different fields, including training, where ICT has opened another and compelling wellspring of instructing and learning for all people and segments. Instruction through this innovation has turned out to be a standout amongst the most essential mainstays of the age. To the degree that numerous ideas, phrasing, connections and ways of life have changed, is not any more an alternative that can be neglected as much as is important to keep pace with worldwide patterns towards a learning economy, which thusly looks for logical and logical research. Psychological advance and out of scholarly stalemate in view of keeping up the essentialness of learning based learning and additionally research and investigation.

1.2 Problem definition

1.2.1 Goals

The overall goal is to help students develop relationships with other students and help them facilitate communication between students and exchange ideas and allow students to recover what they are studying at any time.

1.2.2 Objectives:

1. Facilitating students' access to threatening forms of questions and tests
2. Help students to exchange ideas, which help to think creatively.
3. Accessibility of educational materials.
4. Encourages students to participate.
5. Enhancing student interaction.
6. Acquiring students skills or competencies crisis to use communication and information technologies

1.2.3 Critical success factors

1. Increase interaction between students and help each other understand the content of the material they are studying
2. Share appropriate educational content for students
3. Provide various forms of questions, exams and tests to be a bank of questions
4. A community that combines all disciplines at all levels
5. Allows all students at all levels to take advantage of the content of the learning platform

1.3 Previous studies

1.3.1 Edmodo

Edmodo is a global education network that helps connect all learners with the people and resources needed to reach their full potential. It is a free educational social networking application. It is being used as an alternative to LMSs by universities and Ministries of Educations and schools all over the world because of its Cost is free, it is designed for teachers and students and online learning. It does not have or promote commercial content, It supports low-bandwidth communications so students and instructors can carry on synchronous (real-time or live) and asynchronous (delayed) conversations without the need for a lot of bandwidth. Additionally, students or instructors with smart phones can access the Edmodo app and/or access the course via their phones, versus a computer, it makes for an excellent course site, allowing for readings to be housed in a library, the formation of small groups, discussions to be archived, third-party apps, and posting of photos and videos. And Edmodo mimics Facebook in use and structure and should thus require very little training to use. It mimics an application with which, many instructors and students are familiar. Shown in figure (1.1)

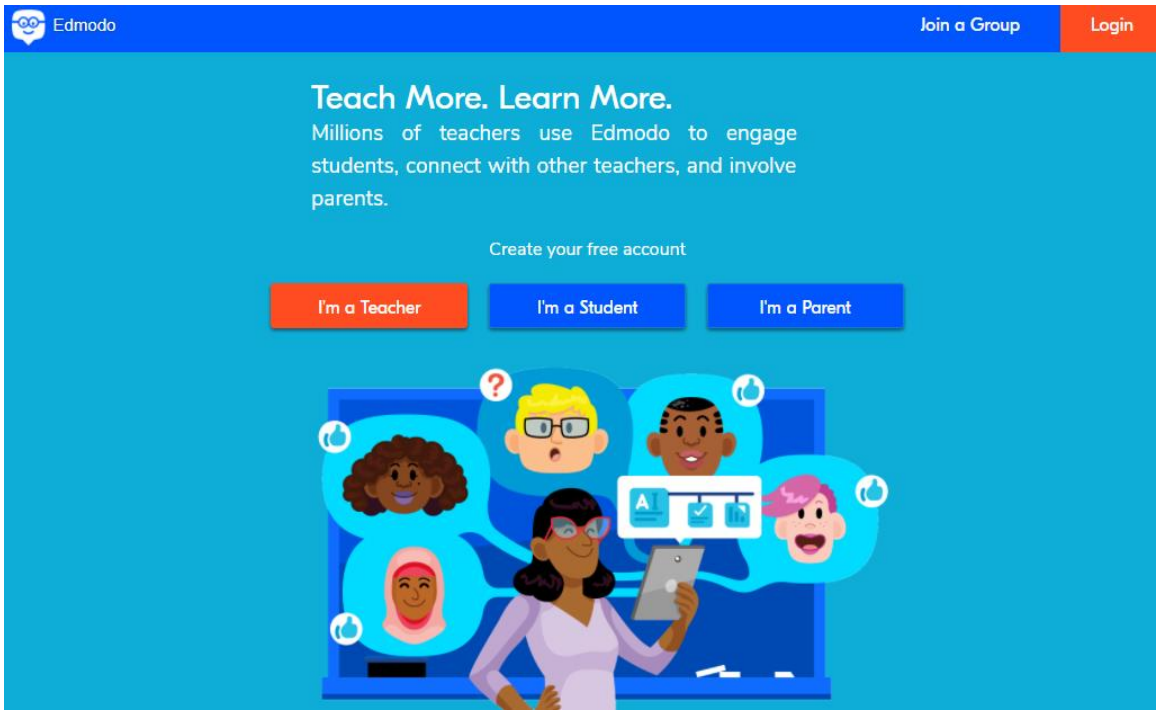


Figure (1.1) Edmodo platform .

1.3.2 Moodle

Moodle is an acronym for "Modular Object-Oriented Dynamic Learning Environment." It is an online educational platform that provides custom learning environments for students. Educators can use Moodle to create lessons, manage courses, and interact with teachers and students. Students can use Moodle to review the class calendar, submit assignments, take quizzes, and interact with their classmates.

Moodle is used by thousands of educational institutions around the world to provide an organized and central interface for e-learning. Teachers and class administrators can create and manage virtual classrooms, in which students can access videos, documents, and tests. Course chat allows students to communicate with the teacher and other students in a secure environment.

Each Moodle classroom and course can be customized by the class administrator. For example, one teacher may choose to provide a wiki that students can edit, while another may opt to use a private web forum for online discussions. Some teachers may use Moodle to simply provide documents to students, while others may use it as the primary interface for quizzes and tests. Individual class sizes can be scaled from a handful of students to millions of users.

In order to create a Moodle learning environment, the Moodle software must be downloaded and installed on a web server. The Moodle platform is open source and is built using a modular design, so advanced users can modify the platform as needed. Individual users, such as teachers and students, can sign up for an account on the Moodle server and access content through either the web interface or the "Moodle Desktop" application. Shown in figure (1.2)

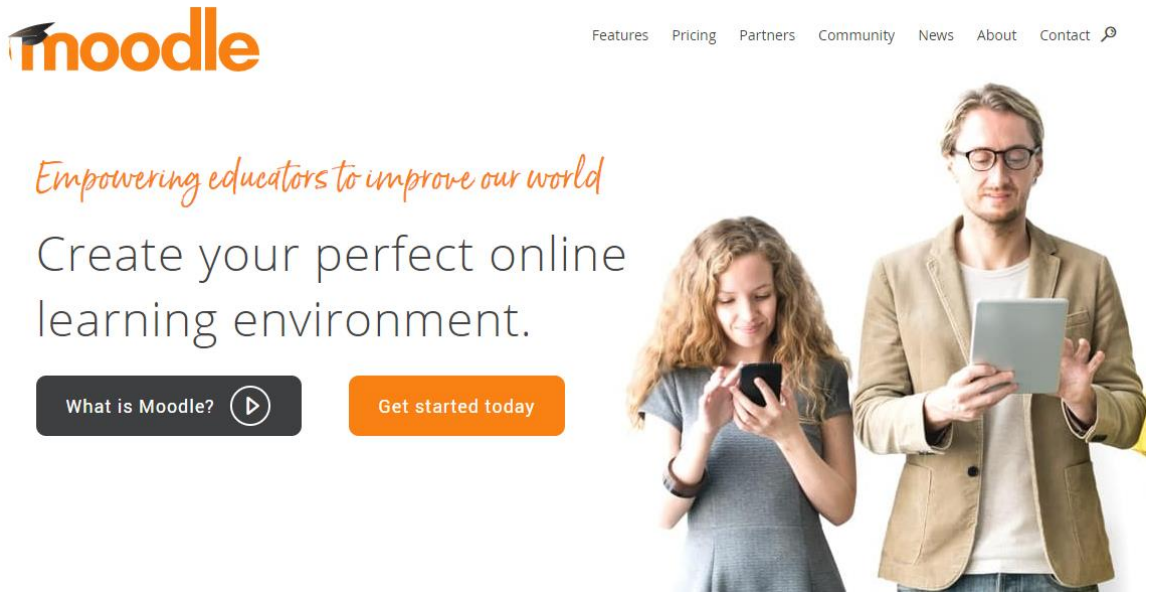


Figure (1.2) Moodle platform .

1.3.3 Sakai

Sakai is a freely available, feature-rich technology solution for learning, teaching, research and collaboration. Sakai is an open source software suite developed by its diverse and global adopter community.

The community surrounding the Sakai project includes individuals, institutions and organizations worldwide that share a common commitment to enhancing teaching, learning and research. This commitment is reflected in how community members come together to pool knowledge, define the needs of academic users, create and share software tools and support each other adopting and using Sakai. Shown in figure (1.3)

Online assessments are one of the core features of a learning platform , and in Sakai 11, the Tests & Quizzes tool benefits from a number of enhancements. Using funds raised from the 2014 Sakai Virtual Conference, the Samigo Tests & Quizzes Enhancements Project (STEP) produced a number of new features and improvements, including:

- Section, group, and individual-specific delivery settings (e.g., due date, length of time to complete the assessment, etc.)
- New question type: Image Map
- Improved reporting capabilities, including the ability to see all assessment submissions for a student
- New side panel that allows students to track question progress in an assessment
- Over 30 other enhancements

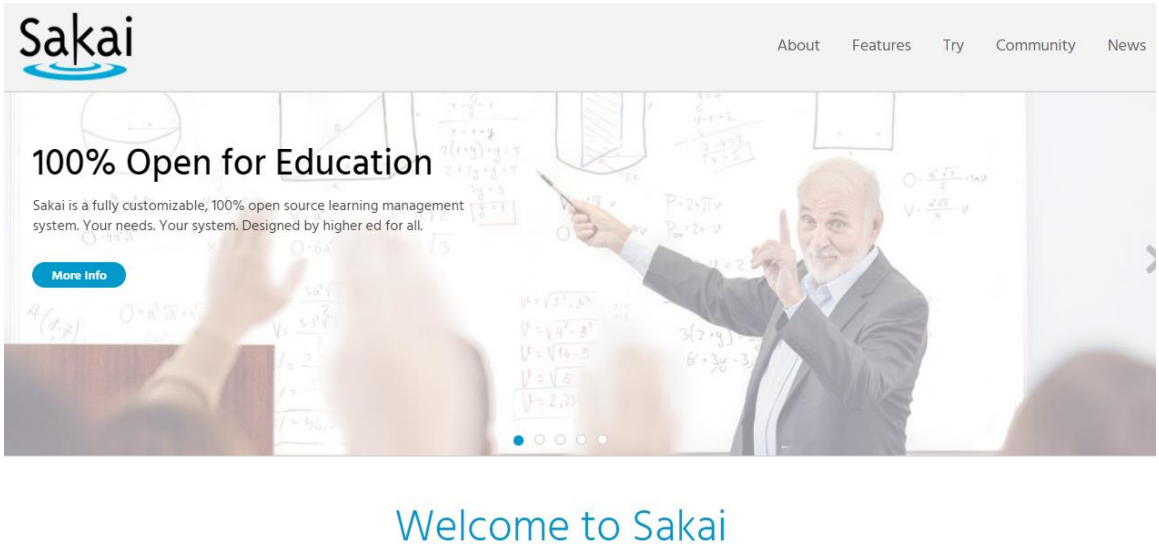


Figure (1.3) Sakai platform .

1.3.4 Degreed

Degreed is an enterprise LMS solution. It enables businesses to manage thousands of courses and platforms in one place so employees can learn at will. There are customizable learning paths, and administrators can track an employee's progress, even outside what the company mandates. It makes talent identification easier, since administrators can see which employees have cross-functional skills.

Administrators can purchase and manage credits for various platforms in a single place, while employees can choose where to spend the dollars, which can be on any learning activity they want. Pricing information is not publicly available, so if this option sounds interesting to you, you will have to request pricing and a demonstration. Shown in figure (1.4)

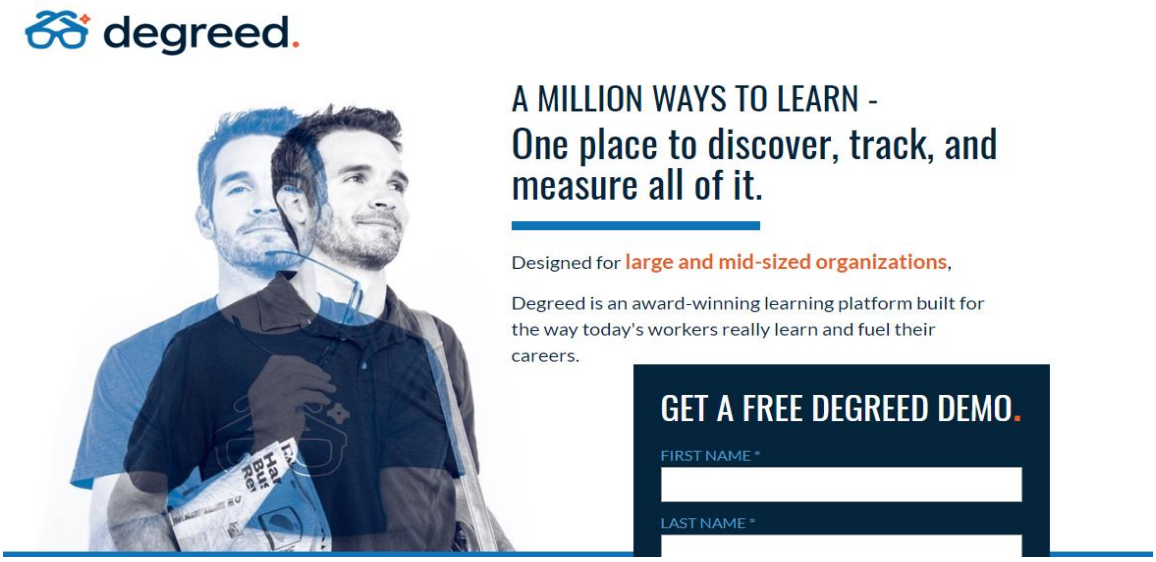


Figure (1.4) Degreed platform .

1.3.5 BizLibrary

BizLibrary LMS offers custom content management, virtual classroom management, certification management and social learning. This is a great option if your business happens to be within a regulatory environment that requires any kind of ongoing licensing, certifications or security training to remain in good standing. Everything is scalable and can be white-labeled for your business.

Entrepreneurs and businesses can choose which courses to mandate for their staffs and the platform will allow for self-enrollment. Pricing information is not publicly available, but you can sign up for a free trial. Shown in figure (1.5)

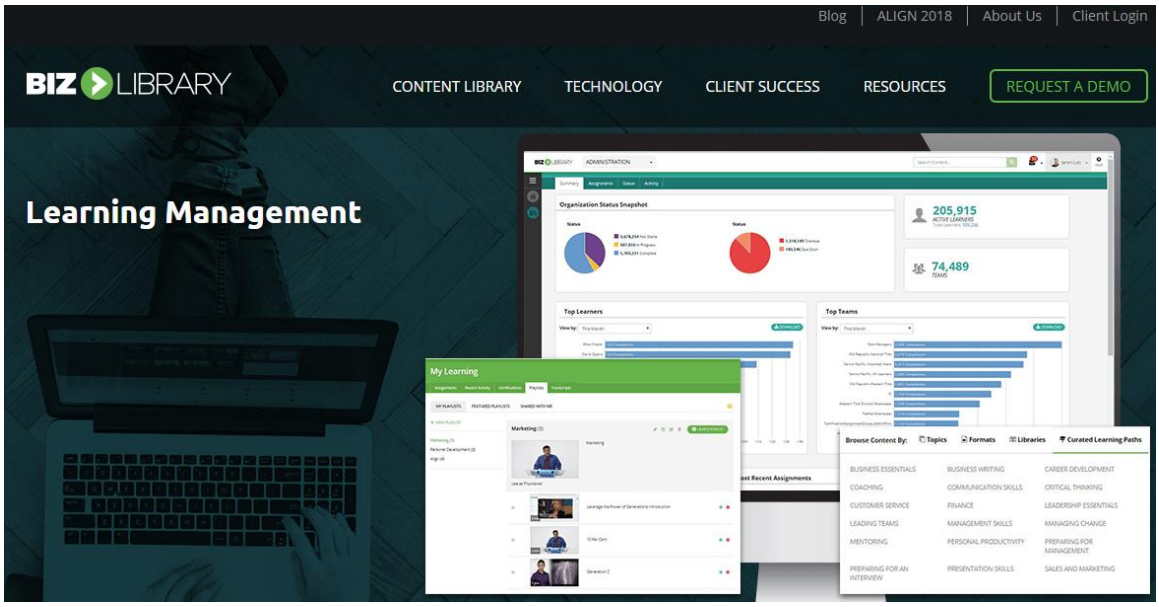


Figure (1.5) BizLibrary platform .

1.3.6 TalentLMS

TalentLMS is an enterprise-friendly learning-platform , or LMS, that can be white-labeled for use by businesses or educators. It's a mobile-friendly cloud platform where users can learn from their tablets, smartphones or laptops. A readily white-labeled solution means enterprises; universities and just about any team, organization or individual can incorporate it, or even re-sell the platform as their own.

Added benefits include complete reports, embedded tools and built-in tests. TalentLMS has a free plan for up to five users and 10 courses. Paid plans range for $29 per month to $349 per month, billed annually, and include anywhere from 25 users to 1,000 users or a customized tailor made plan up to 50,000 users and unlimited. Shown in figure (1.6)

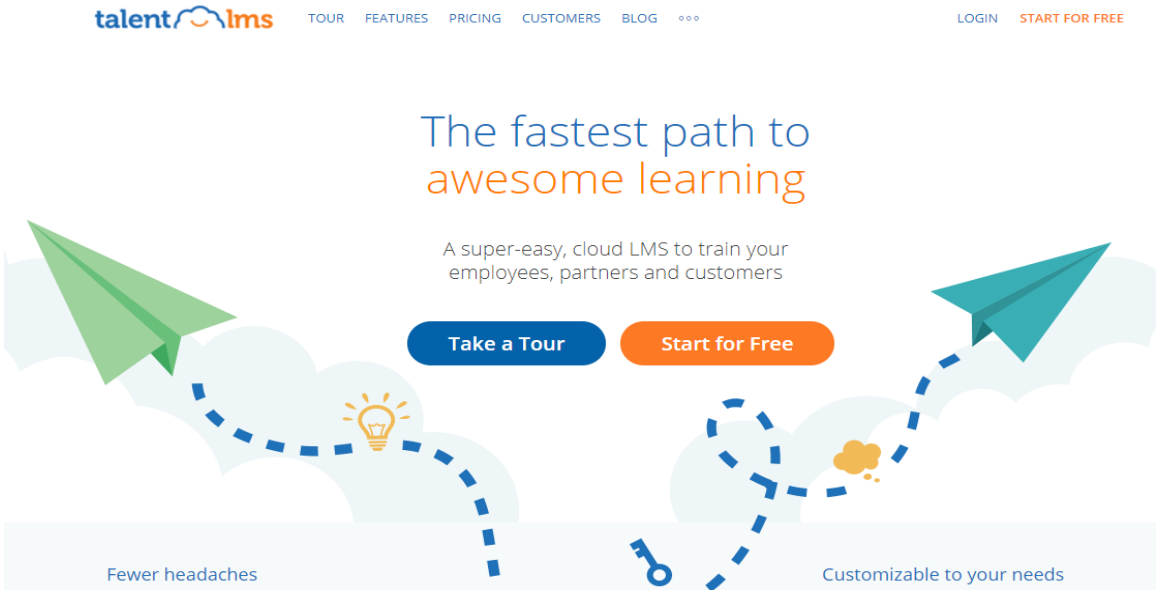


Figure (1.6) Talentlms platform .

1.4 Comparison between various studies

E-learning platforms	Advantages	Disadvantages
Edmodo	• It is a fantastic way to teach social • Edmodo is a safe space for them to learn. • It is a brilliant way to stay connected with your class, and for them to stay connected with each other	• It is difficult for students to upload work from their iPads – it is a multi-step process • With iPads, sometimes students just cannot log in, even though all their details are correct (and they can get on using a laptop).
Moodle	• It's open source • Great community • Widely available • It's familiar • allows for many different types of content formats to be uploaded	• Paid • Not fully developed to cope with big projects. • Lack of complete development • Moodle users frequently complain about the troubles they experience with customization. • Sell content online
Sakai	• Open Source (Free) • Integrates with Google Docs • Tools: grade book, live chat and forums, assignment uploads, online testing. • open source platform that has all of the standard features for online learning	• Community consists of approximately 300 institutions. • Open source, but only certain stakeholders, institutions and commercial affiliates are allowed to contribute to the code. • The system is Java-based
BizLibrary	• Has a strong interface and many features to entice you with. • include video blocks, a recommended course section • Has ability to rate newer videos, peer recognition tools, and course sharing capabilities.	• Not have to ability to sync while it is offline. • There is some depth lacking around very-specific technical and analytics competencies.
TalentLMS	• You Can Easily Customize the Application • The interface is clean and can be easily customized • The system makes it easy to create courses in different categories • The app offers clear instructions on how to create quizzes/tests	• Paid • he vendor could boost the customer support by adding a chat tool • The course setup options and course content variety could be made more robust • The discussion forum could be enhanced to make it possible to network with learners
EduCare	• The platform will have a clear interfaces • It will offer quizzes/tests as a question bank • It will allow student sharing them ideas • It will be familiar • Strong community • Free not paid	• Teachers cannot control on it • Not have to ability to sync while it is offline. • Not fully developed to cope with big projects

Chapter 2: System Analysis.

2.1 Introduction

E-learning system is a Web-based system for training programs and information sharing between individuals giving them the flexibility to access it from their workplace or home. Authorized individuals have 24/7 access to this unique system through URL or through a unique User ID and Password.

The E-learning system goes far beyond conventional training by sharing every idea, managing individual training requirements and reporting training progress. Most E-learning platform s are Web-based and facilitate “anytime, anyplace, any pace” access to learning content and administration.

E-learning platforms enable an organization to effectively train a large group of students spread across the organization. With a Learning Platform, training and e-Learning are managed by software that allows users and administrators alike to easily access tests and assignments reports.

Our E-learning platform is being extensively used in universities and of course colleges.

2.2 UML

2.2.1 Overview

Unified Modeling Language, UML for short, is the international standard notation for OOAD. It is a standardized specialization language that can be used for Object Modeling. It has been defined by the OMG and has already become the de-facto standard for designing Object-Oriented Software Applications. In the field of software engineering, the UML is a standardized specification language for object modeling.

UML is a general-purpose modeling language that includes a graphical notation used to create an abstract model of a system, referred to as a UML Model.

According to the OMG specification, "The Unified Modeling Language (UML) is a graphical language for visualizing, specifying, constructing, and documenting the artifacts of a software-intensive system.

UML offers a standard way to write a system's blueprints, including conceptual things, such as business processes and system functions as well as concrete things such as programming language statements, database schemas, and reusable software components." (Grady, Unified Modeling Language User Guide)

The UML is purely process independent, i.e., it is not tied up with a SDLC process. The basic purpose behind UML modeling is visualizing, constructing, specifying and documenting a system.

It should be noted that UML is a standard; it is not a methodology, process or a procedure. Rather, we use UML as a standard that uses some predefined standard notations with a view to modeling and defining a software system, to document it and define the artifacts involved.

UML is not restricted to modeling software. UML is also used for business process modeling, systems engineering modeling and representing organizational structures. UML has been a catalyst for the evolution of model-driven technologies, which include Model Driven Development MDD, MDE, and MDA.

2.2.2 Goals of UML

The UML was invented primarily to address the challenges faced in the design and architecture of complex systems. The basic objectives or goals behind UML modeling are (James, Unified Modeling Language Reference):

- Define an easy to use and visual modeling language for modeling a system's structure
- Provide extensibility
- Be language and platform independent so that it can be used for modeling a system irrespective of the language and platform in which the system is designed and implemented
- Incorporate the best possible practices at par with the industry standards
- Provide support for Object Orientation, design and apply frameworks and patterns.

2.3 Description of Data Flow Diagram (DFD)

2.3.1 Context diagram

E-learning platform Data flow diagram is often used as a preliminary step to create a summery of the E-learning without going into great detail, which can later be elaborated.it normally, consists of overall application dataflow and processes of the E-learning process. It contains all of the user flow and their entities such all the flow of Student, Activity Log, Assignment, Tests, Subject, levels, specialties. All of the below diagrams has been used for the visualization of data processing and structured design of the E-learning process and working stream.

2.3.2 Overview diagram (level 0)

This is the Zero Level DFD of E-learning Platform, where we have elaborated the high level process of E-learning. It’s a basic overview of the full E-learning platform or process being analyzed or modeled. It is really designed to be an at-a-glance view of specialties and Student showing the system as a single high-level process, with its relationship to external entities of Student, Activity Log and Assignment, Test, levels. That should be easily realized by a wide

audience, including Student, Assignment and specialties In zero level DFD of E-learning Platform , we now have a description of the high level flow of the E-learning system.

High Level Entities and process stream of E-learning Platform:

- **Managing all the Student**
- **Managing all the Activity Log**
- **Managing all the Assignment**
- **Managing all the Specialties**
- **Managing all the Tests**

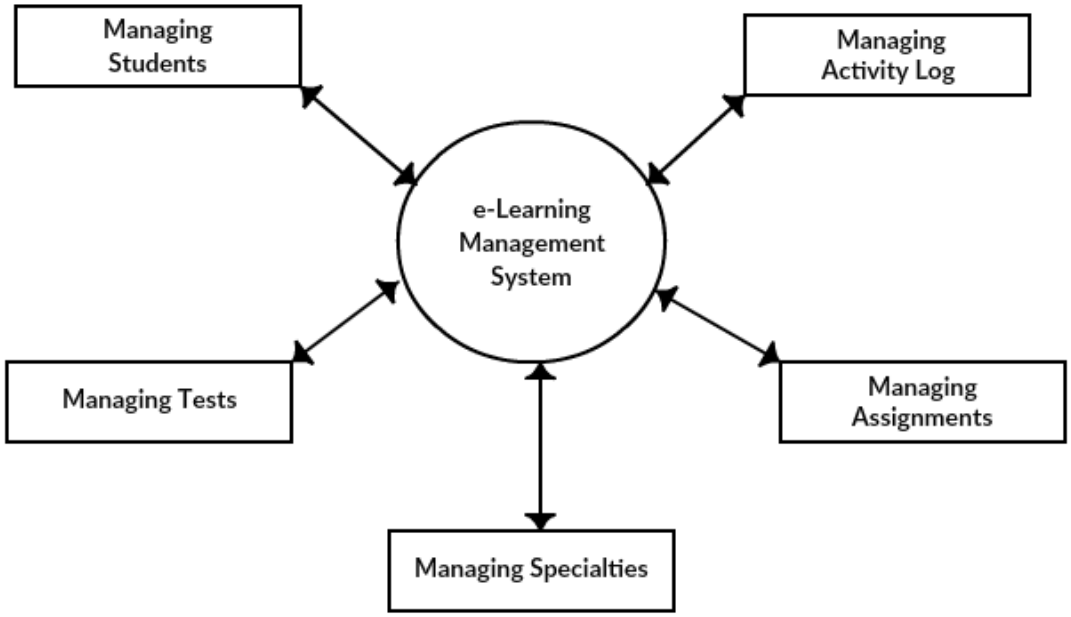


Figure (2.1) Zero Level DFD E-learning platform

2.3.3 Detailed data flows

2.3.3.1 First level data flow diagram (1st level DFD):

First of all levels DFD (1st level) of e-learning platform shows how the system is consisted sub-systems (processes), each of which works with one or more of the data flows to or from another agent, and which together provide all of the features of the e-learning system as an entire. It also identifies inside data stores of college student, subject, test, specialties, task that must be present in order for the e-learning platform to do its job, and shows the flow of information between the various parts of student, assignment, check, specialty of the system. DFD level 1 provides a more detailed large of pieces of the 1st level DFD. You will highlight the primary features of e-learning.

Main entities and output of |first of all level DFD (1st level DFD):

- processing student data and generate report of most students
- processing assignment records and generate report of all assignment
- processing files data and generate report of all tests
- processing specialties records and generate survey of all specialties

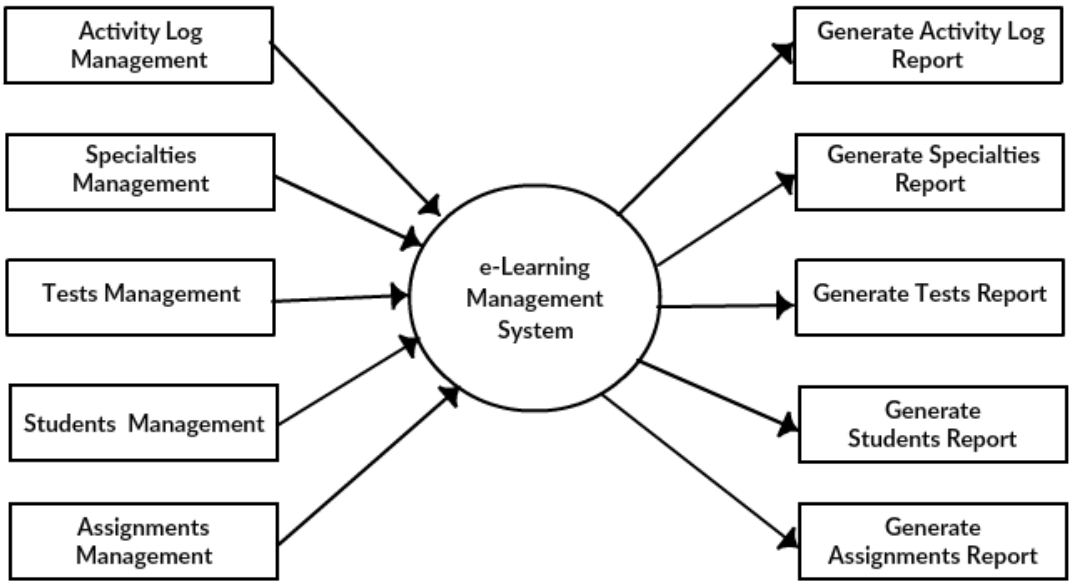


Figure (2.2) first level DFD e-learning platform

2.3.3.2 Second level data flow diagram (2nd level DFD):

DFD level 2 then goes one step deeper into parts of level 1 of e-learning. It may require more functionalities of e-learning to reach the necessary level of detail about the e-learning functioning. First level DFD (1st level) of e-learning platform shows how the system is divided into sub-systems (processes). The 2nd level DFD contains more details of students, tests, specialties, assignment, and activity log.

Low level functionalities of e-learning platform

- Administrator logins to the system and manage all the functionalities of e-learning platform
- Administrator can add, edit, delete and view the records of student, assignment, test, specialty
- Administrator can manage all the details of tests, specialties
- Administrator can also generate reports of student, assignment, tests, specialties
- Administrator can search the details of students, tests subjects
- Administrator can apply different level of filters on report of student, tests
- Administrator can tracks the detailed information of assignment, tests , specialties

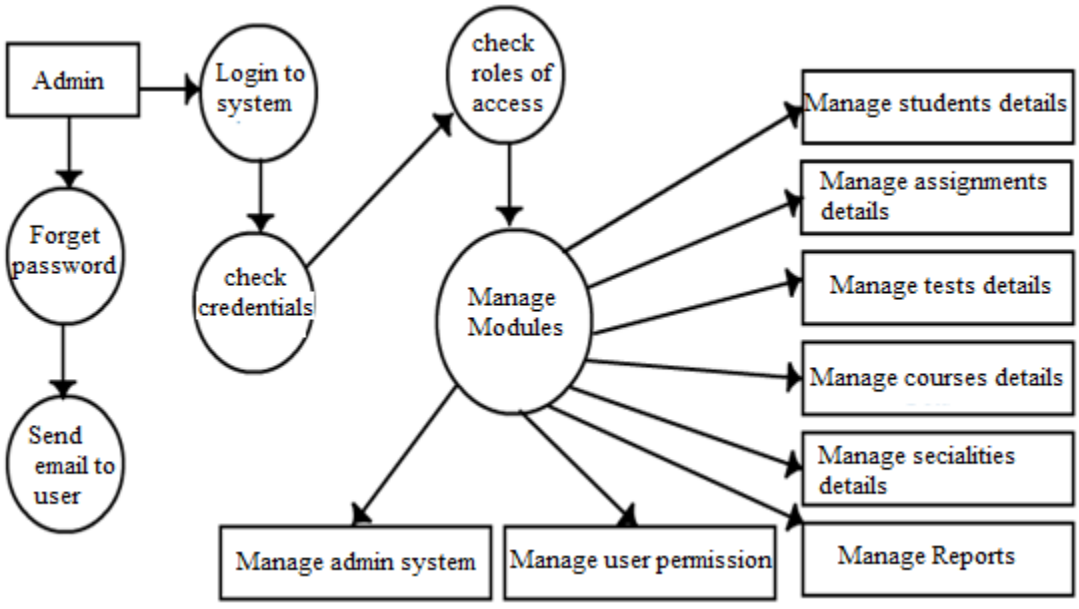


Figure (2.3) second level DFD e-learning platform

2.4 e-learning platform ER diagram

This kind of ER (entity relationship) diagram shows the model of e-learning platform entity. The entity-relationship diagram of e-learning platform represents all the visual instrument of database

tables and the relations between students, tests, specialties and assignment. It used structure data also to define the relationships between structured data sets of e-learning platform functionalities. The main entities of the e-learning platform are students, courses, tests, specialties, assignment.

2.4.1 e-learning platform entities and their attributes:

1. **Student entity:** attributes of students are student_id,student_college_id, student_name,student_mobile,student_email,student_password,student_username, student_password, student_address,student_level
2. **Course entity:** attributes of courses are course_id, course_name, course_description.
3. **Specialties entity:** attributes of specialty are specialty_id, specialty_name, specialty _description
4. **Test entity:** attributes of test are test_id, test_name, test_file, test_description, course_id
5. **Assignment entity:** attributes of assignments are assignment_id, assignment_name, assignment_file, assignment_description, course_id, student_id

2.4.2 Description of e-learning platform database:

1. The details of courses is store into the course tables respective with all tables
2. The details of students is store into the students tables respective with all tables
3. The details of specialties is store into the specialties tables respective with all tables
4. Each entity (courses, students, assignments, tests, specialties) contains primary key.
5. The entity tests, assignment has related with course, students entities with foreign key
6. There are one-to-one and one-to-many relationships available between courses, students, assignments, tests, and specialties
7. All the entities courses, students, assignments, tests, specialties are normalized and reduce duplicity of records
8. I have implemented indexing on each table of e-learning platform tables for fast query execution.

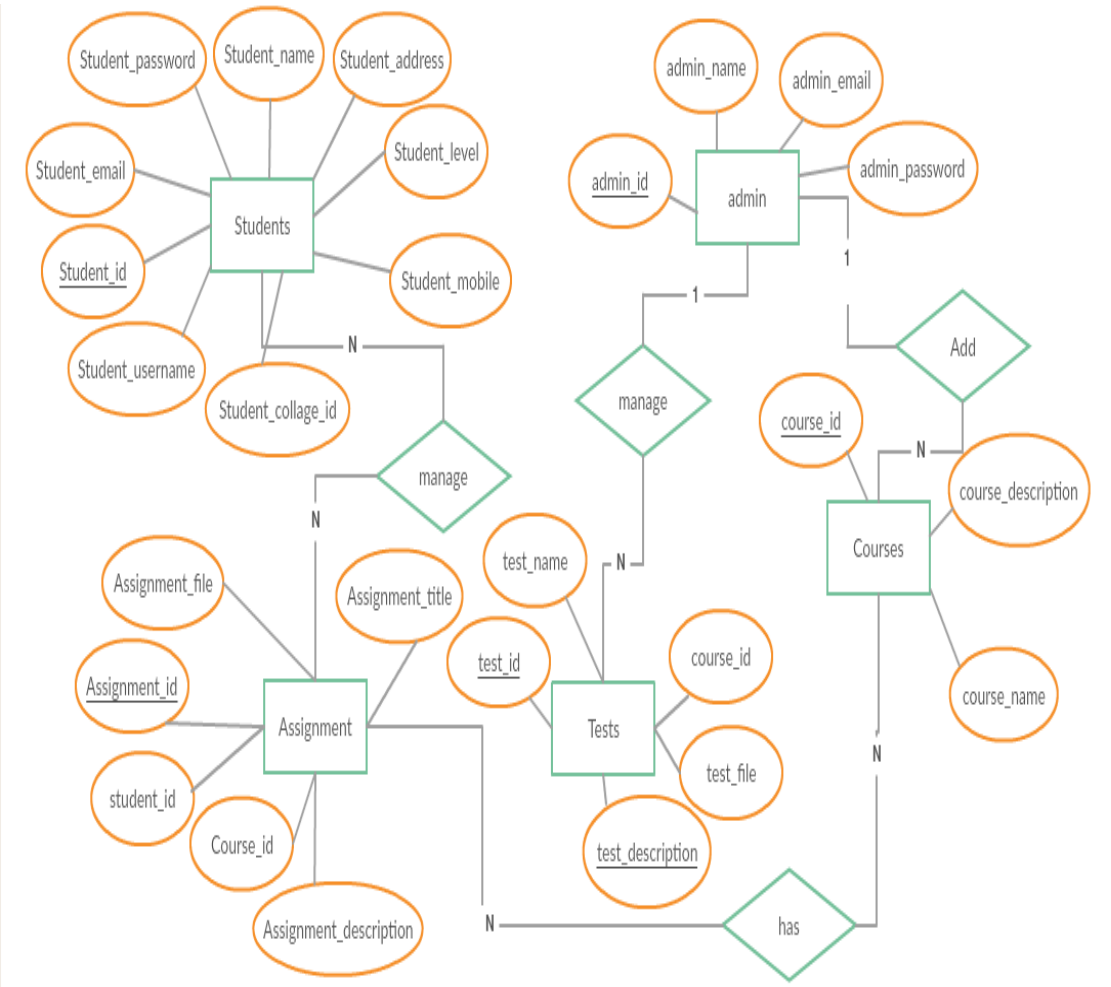


Figure (2.4) ER diagram for E-learning platform

2.5 Other UML Diagrams:

2.5.1 Use case diagram

As shown in figure (2.5) administrator of the EduCare system and the students have various use cases shared with login case.

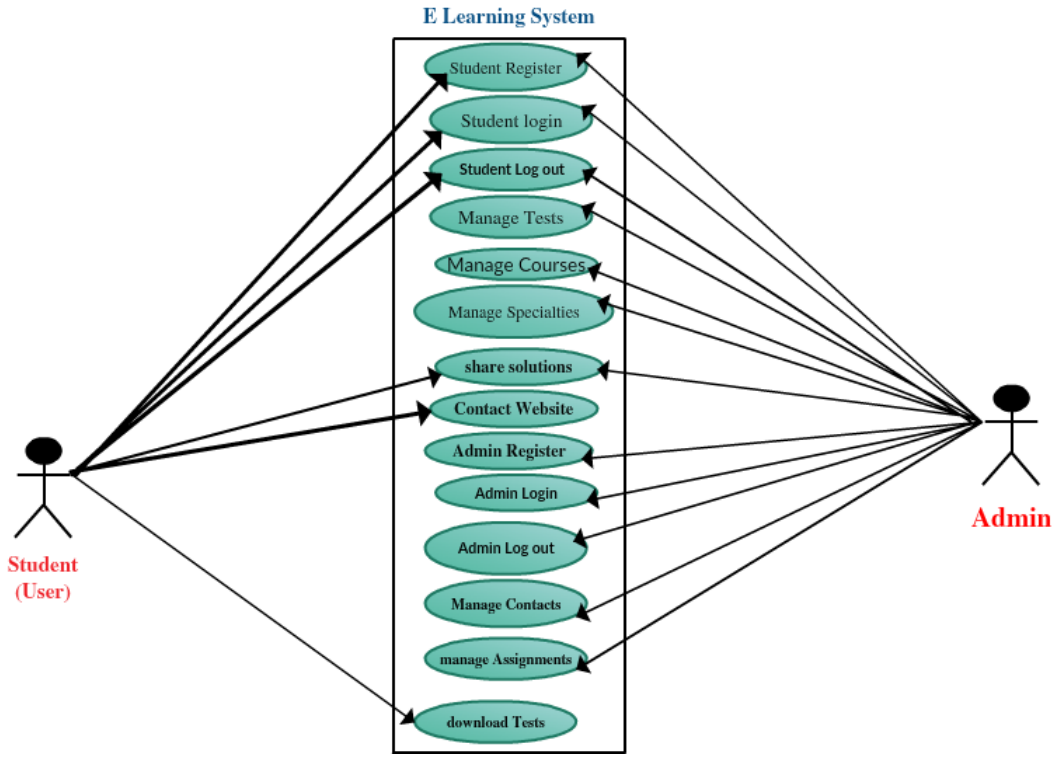


Figure (2.5) Use case diagram for E-learning platform

2.5.2 Activity diagram:

As shown in figure (2.6) students of the EduCare system have various activities shared with login activity.

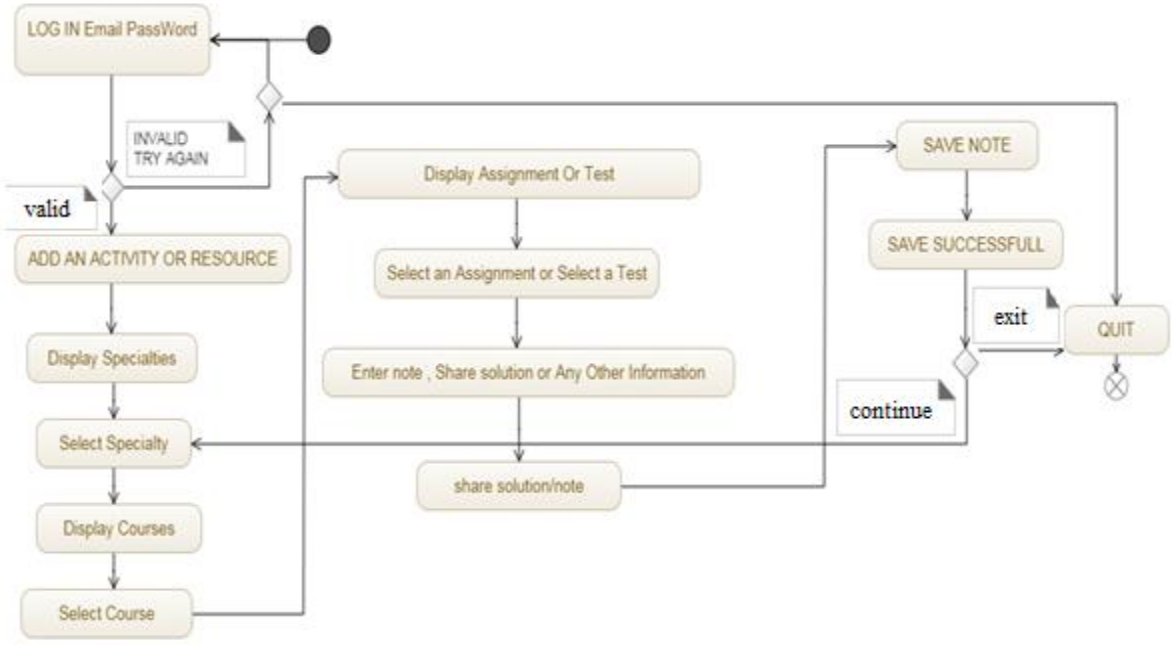


Figure (2.6) Activity diagram for E-learning platform

2.5.3 Sequence Diagram:

As shown in figure (2.7) the interactions between interface (objects) and admin like managing the students, specialties, assignments and tests also it shows the interactions between interface (objects) and students like creating account and adding note ,assignments or solutions

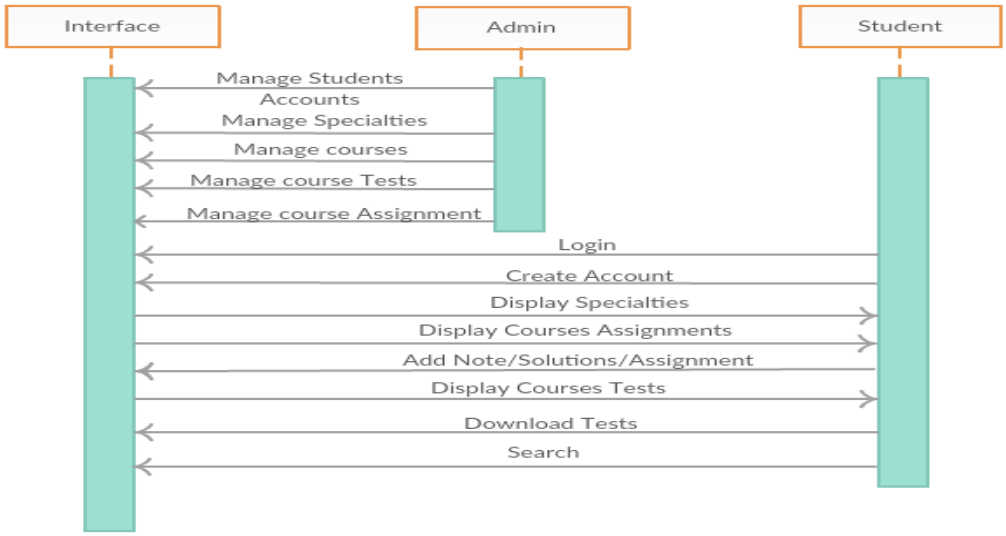


Figure (2.7) Sequence diagram for E-learning platform

2.5.4 Class Diagram:

As shown in figure (2.8) E-learning platform Class Diagram describes the structure of a E-learning platform classes, their attributes, operations (or methods), and the relationships among objects.

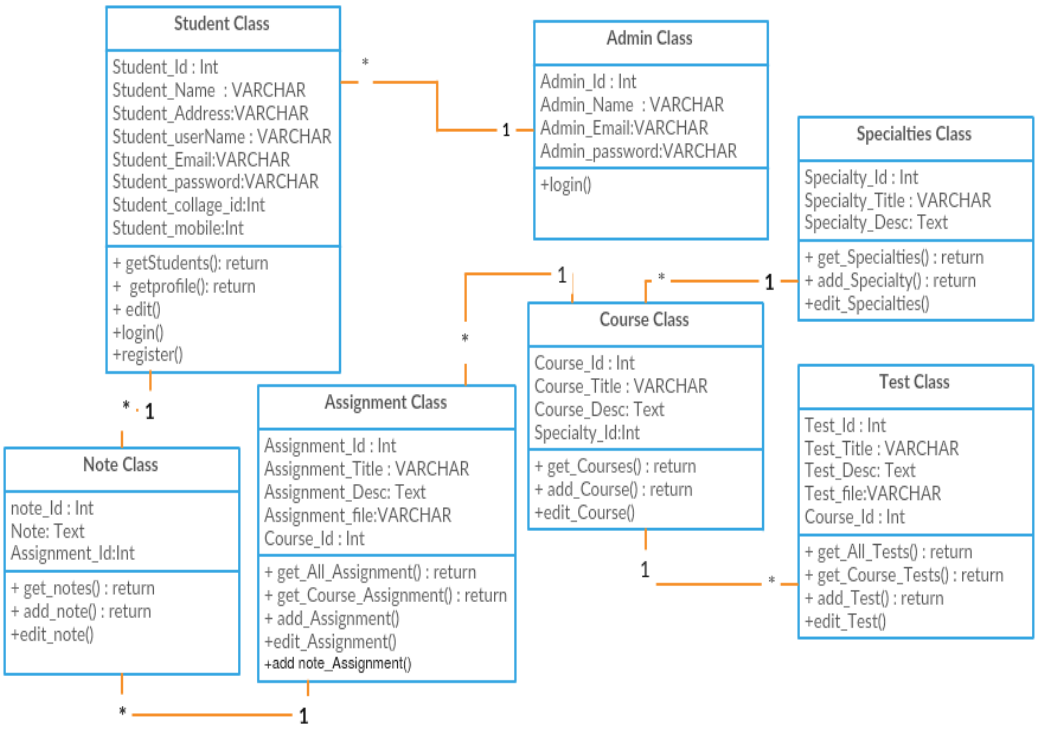


Figure (2.8) Class diagram for E-learning platform

Chapter3: System design

3.1 Overview

Development of software systems requires analyzing of the process to be digitized in order to enable a correct system, a system that functions as required and also to assist the potential users of the system understand the general functionality of the system. The target specifies the system's objectives and constraints to which designers have to confirm. The objective of doing analysis is to remodel the anatomy's major inputs into organized specification.

3.2 Functional Requirements

In this section we will discuss different functional requirement of different user.

3.2.1 Admin

- **FR1:** Create usernames and passwords.
- **FR2:** Manage students account.
- **FR3:** Ability to login and update profile.
- **FR4:** Ability to logout after the completion of process.
- **FR5:** Ability to create, edit or delete courses.
- **FR6:** Ability to create, edit or delete test.
- **FR7:** Ability to create, edit or delete assignments.
- **FR8:** Ability to create, edit or delete specialties.

3.2.2 Students

- **FR1:** ability to download tests
- **FR2:** Ability to view assignments.
- **FR3:** Ability to share solutions of assignments.
- **FR4:** Register data.
- **FR5:** Ability to login and update profile.
- **FR6:** Ability to logout after the completion of the process.

3.3 Non-Functional Requirements

- Consistency.
- Convenience.
- Availability.
- Usability.
- Security.
- Reliability.

3.4 Database Design

This section describes the six tables that are linked to our project. These six tables is described in the following point

- Admin.
- Students.
- Specialties.
- Courses
- Assignments.
- Tests.

3.4.1 Admin

The Admin table stores the information about Admin profile. All the Admins who will manage the system will be saved in this table.

Table 3.1 Admin

Field Name	Data Type	Length	Key	A_T	Default value
Admin_id	Int	11	Primary key	√	None
Admin_email	VARCHAR	150			None
Admin_password	VARCHAR	100			
Admin_name	VARCHAR	50			

3.4.2 Specialties

The table specialty stores all specialties requested through the platform will issue. All of these specialties data will be in this table.

Table 3.3 Specialties

Field Name	Data Type	Length	Key	A_T	Default Value
Specialty_ id	INT	11	Primary Key	√	None
Specialty_ title	VARCHAR	20			None

3.4.3 Student

The table Student stores the information about Student profile. The entire Student who signs up the system will be saved in this table.

Table 3.2 Student

Field Name	Data Type	Length	Key	A_T	Default value
Student_ id	Int	11	Primary Key	√	None
student_username	VARCHAR	20			None
student_ password	VARCHAR	20			None
Student_email	VARCHAR	50			None
Student_name	VARCHAR	50			None
Student_collage_id	Int	10			None
Student_ address	VARCHAR	50			None
Student_ level	VARCHAR	11			None
Student_ mobile	VARCHAR	11			None

3.4.4 Courses

The table course stores all courses belong to specialty through the platform . All of these courses data will be in this table.

Table 3.4 Courses

Field Name	Data Type	Length	Key	A_T	Default Value
Course_ id	INT	11	Primary Key	√	None
Course_ title	VARCHAR	20			None
Course_ description	TEXT				None

3.4.5 Assignment

The table Assignment stores all Assignments which added by students through the platform . All of these Assignments data will be in this table.

Table 3.5 Assignments

Field Name	Data Type	Length	Key	A_T	Default Value
Assignment_ id	INT	11	Primary Key	√	None
Assignment _ title	VARCHAR	50			None
Assignment _ description	TEXT				None
Assignment_file	VARCHAR	50			None
Course_id	Int	11	Foreign key		None

3.4.6 Tests

The table tests stores all tests belong to courses through the platform added by admin. All of these courses data will be in this table.

Table 3.6 Tests

Field Name	Data Type	Length	Key	A_T	Default Value
Test_ id	INT	11	Primary Key	√	None
Test_ title	VARCHAR	20			None
Test_ description	TEXT				None
Test_file	VARCHAR	50			None
Course_id	Int	11	Foreign key		None

3.5 Hardware Requirement:

- Disk space: 160MB free (min) plus as much as you need to store materials. 5GB is probably a realistic minimum.
- Backups: at least the same again (at a remote location preferably) as above to keep backups of the site
- Memory: 256MB (min), 1GB or more is strongly recommended. The general rule of thumb is that e-learning platform can support 10 to 20 *concurrent* users for every 1GB of RAM. 'Concurrent' really means web server processes in memory at the same time (i.e. users interacting with the system within a window of a few seconds). It does NOT mean people 'logged in'.

3.6 Software Requirement:

The last phase of the lifecycle, which comprises all activities associated with the application of the application form. These attempts include programming, testing, training and installing of the system in a creation setting and transition of ownership of the software from the Project Group| to the performing customer.

3. 6. 1 XAMPP

XAMPP is a completely free, easy-to-install Apache division containing MySQL, PHP, and Perl. The XAMPP wide open source package has recently been set up to be incredibly easy to set up also to use.

XAMPP allows website designers and developers to test their work on their own computer systems without Internet connection. In practice, yet, XAMPP is often used to help web pages on the web. A special built-in tool is provided to password-protect the main parts of the package. XAMPP is a perfect solution for web-developers, programmers or admins as it provides all the tools essential for their work.

XAMPP includes the following tools:

- Apache is the world's most widely-used Web server software. Indien is developed and managed by an open community of developers under the auspices of the Indien Software Foundation. This software is designed for an extensive variety of operating systems, including Unix, FreeBSD, Apache, Solaris, Novel, NetWare, OS 10, Microsoft Windows, OS/2, TPF, OpenVMS and eComStation. Produced under the Apache Certificate, Apache is open-source software.

- PHP is a server-side scripting language suitable for web development but also used as a general-purpose development language. It means PHP: Hypertext Preprocessor, the industry recursive backroom. PHP code can be simply combined with HTML code, or it can be used in blend with various tempting engines and web frames. PHP code is usually processed by a PHP interpreter, which is usually implemented as a web server's native module or a Common Gateway User interface (CGI) executable. After the PHP code is translated and executed, the web server sends resulting result to its client, usually in form of a part of the made website - for example, PHP code can create a web page's HTML CODE code, an image, or some other data. PHP has also evolved to include a command-line user interface (CLI) capability and can be employed in standalone graphic applications.

Features:

- In PHP there is no need to specify data type for variable declaration.
- PHP provides cross platform suitability, unlike some other hardware side scripting language.
- PHP supports extended regular phrase that leads comprehensive design matching with exceptional acceleration.
- Predefined error reporting constants are available to create a warning or problem notice.
- My SQL is a popular choice of database use with web applications, and is a central component of the {traditionally used XAMPP. My SQL is also used in many high-profile, large-scale websites, including Google.

3.7 Design the interfaces of EduCare

The main screen designed by Adobe Photoshop.

Adobe Photoshop is a raster graphics editor developed and published by Adobe Systems for macOS and Windows.

Photoshop was created in 1988 by Thomas and John Knoll. Since then, it has become the *de facto* industry standard in raster graphics editing, such that the word "Photoshop" has become a verb as in "to Photoshop an image," "photoshopping" and "Photoshop", though Adobe discourages such use.

3.7.1 Main Page

The main page contains the start button where registered users can enter through the entrance gate, there is also the menu contains whole pages links which students can enter to find tests, courses assignments, about page and frequently asked questions that help students to find answers for questions about the system use.

There is a search button that helps students to search for anything related to any course

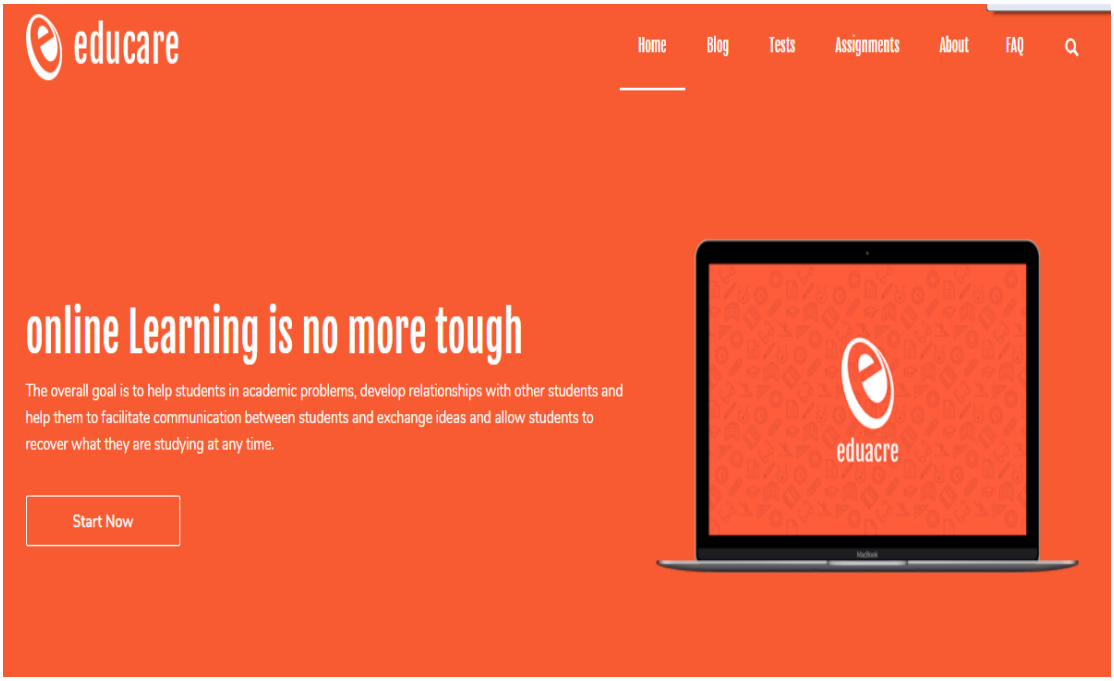


Figure 3.1 main page

3.7.2 Register page

Students can create account on educare platform to get permissions for add new assignment, downloading tests or updating his/her own profile

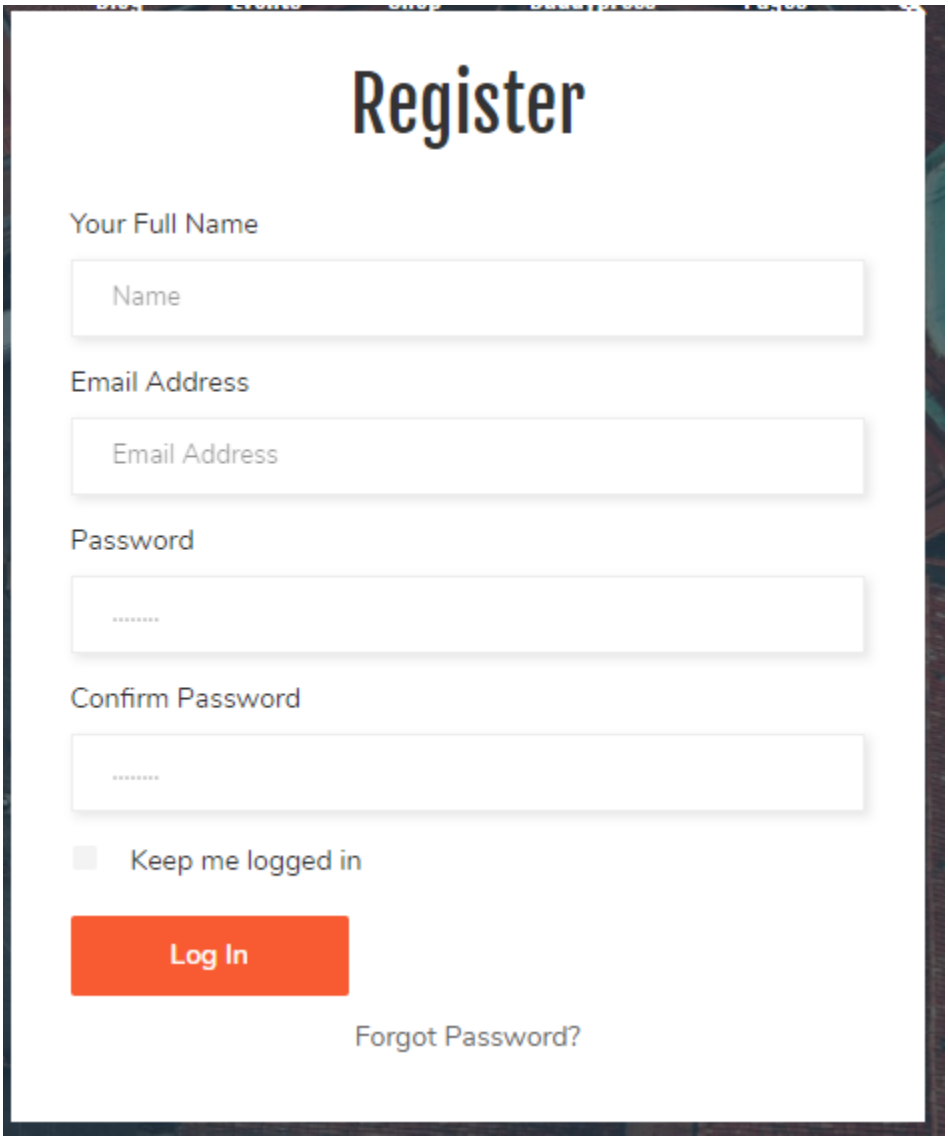


Figure 3.2 register page

3.7.3 Login page:

This page can students enter the system by filling the form with correct credentials to access the pages.

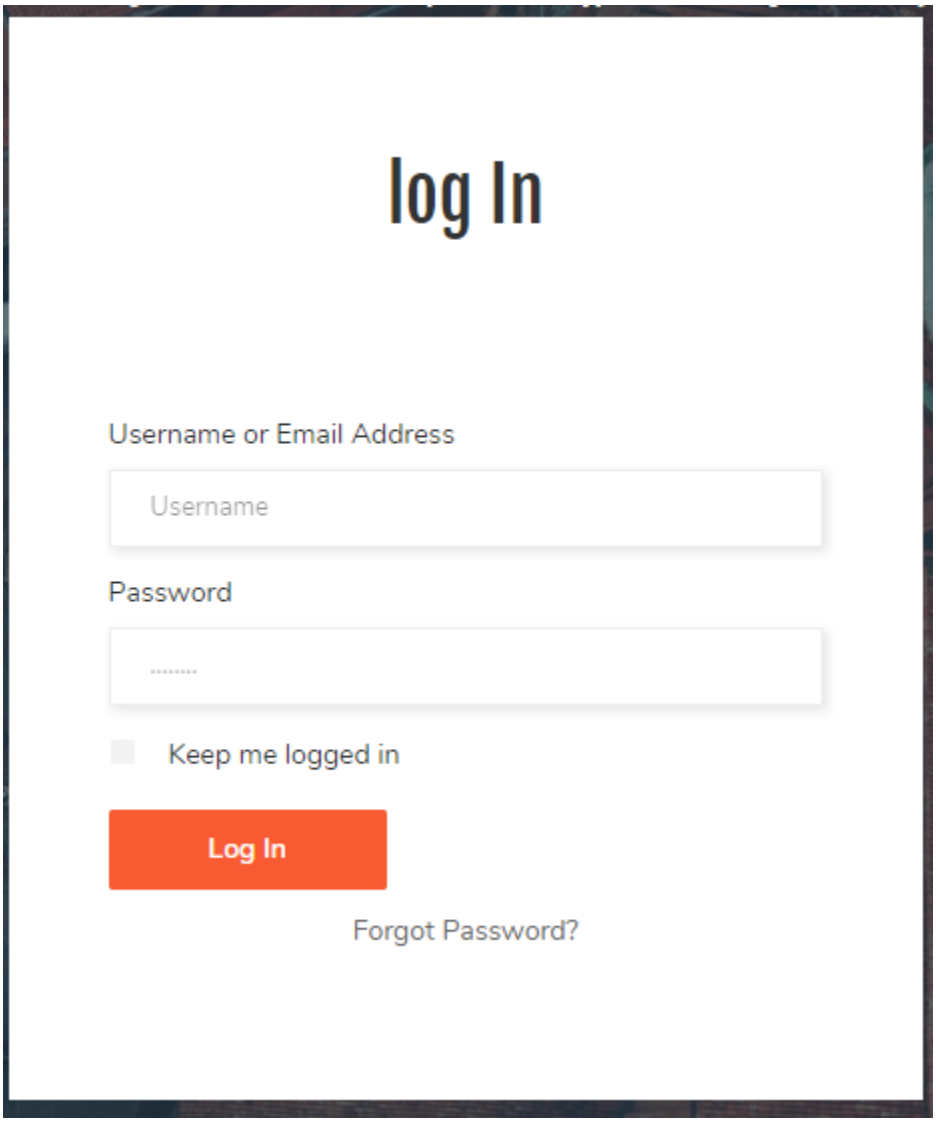


Figure 3.3 login page

3.7.4 Courses page

This page shows lists of existing courses with related total tests and assignments.

Through pressing the buttons, students can enter to the assignments.

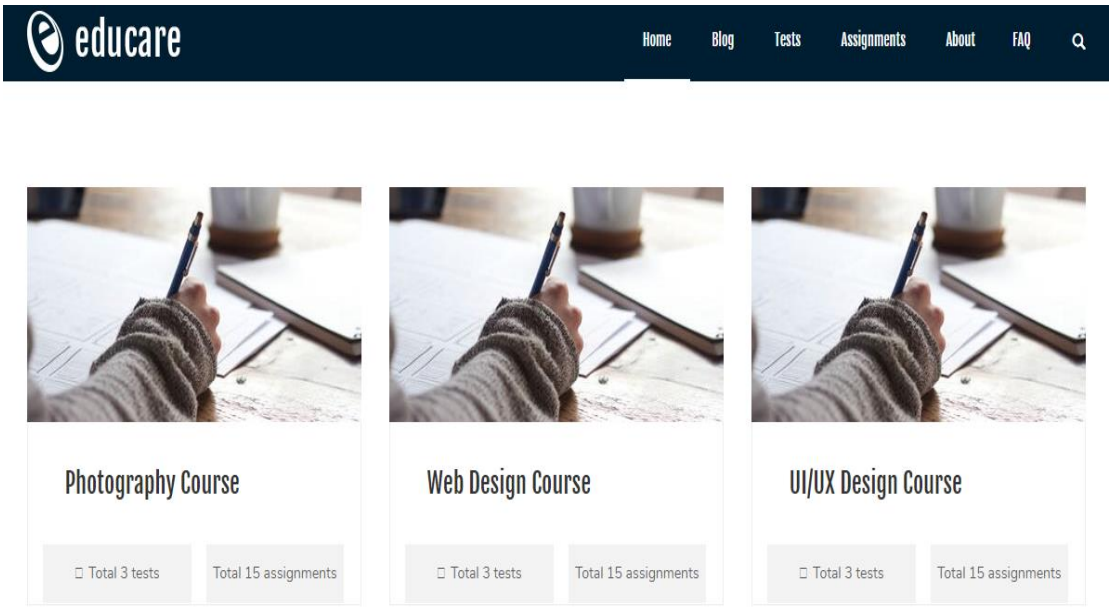


Figure 3.4 Courses page

3.7.5 Course assignments page

This page shows lists of assignments of specific courses. Through pressing the image, students can enter to the assignment details to show it and its comments which were added by students.

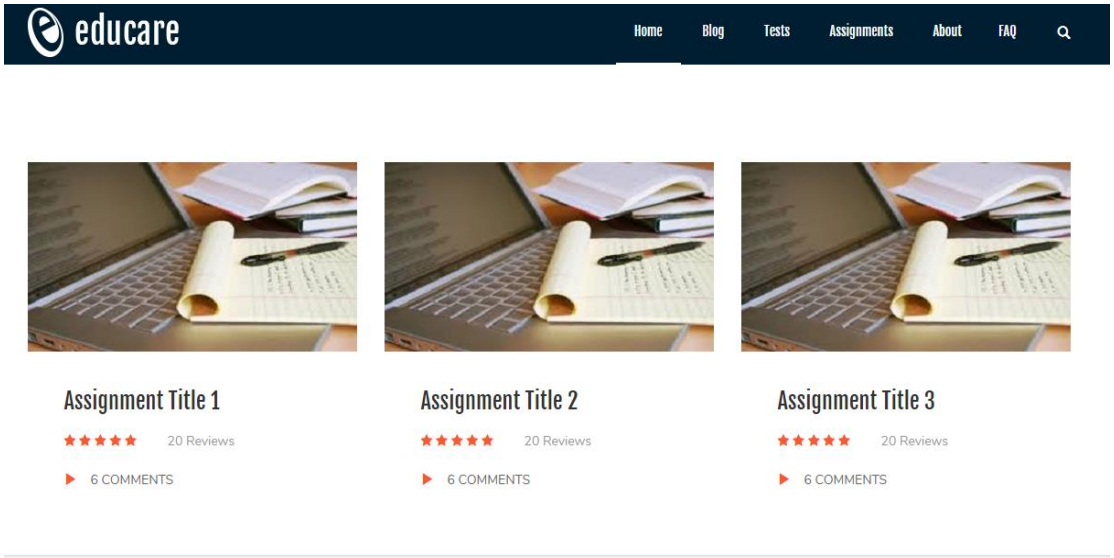


Figure 3.5 Course assignments page

3.7.6 Course tests page

This page shows lists of tests of specific courses.

Through pressing the download button, students can get the test file which is added by admin.

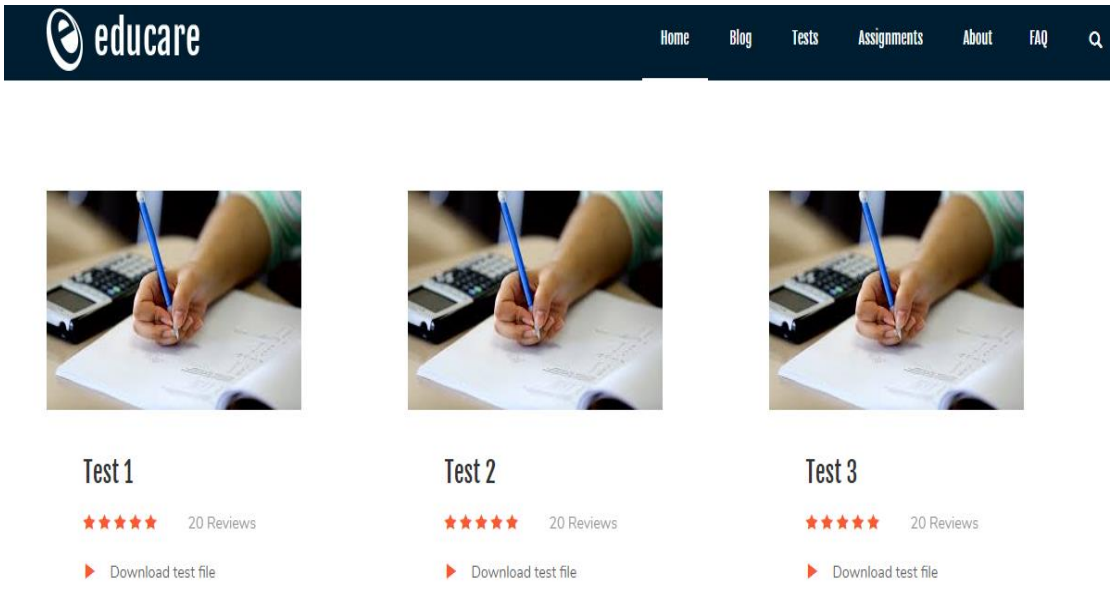


Figure 3.6 Course tests page

Chapter 4: EduCare Project Interfaces

4.1 Students Interfaces

4.1.1 Homepage

As shown in fig (4.1), this is the home page can let students recognize the website which contains menu, registration button and some hints explain the idea of the website.

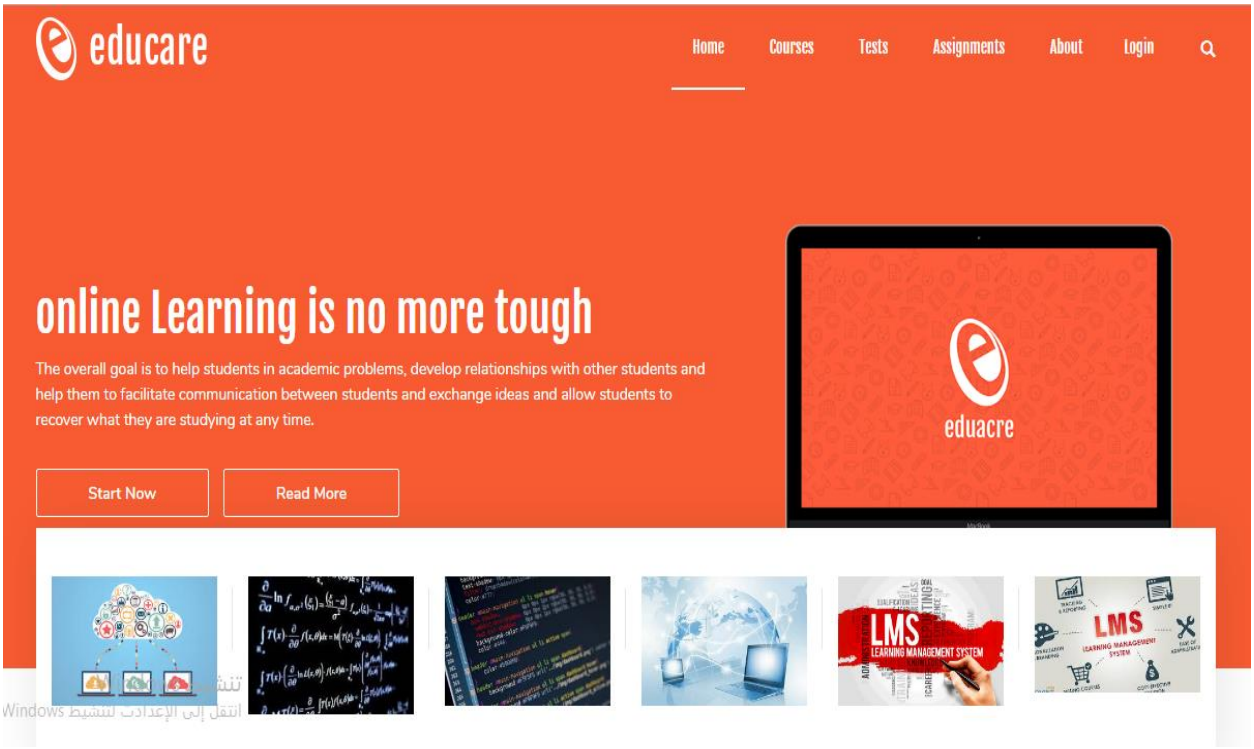


Fig (4.1)

4.1.2 Courses page

As shown in fig (4.2), this is the courses page can let students recognize the whole courses that supported by our website.

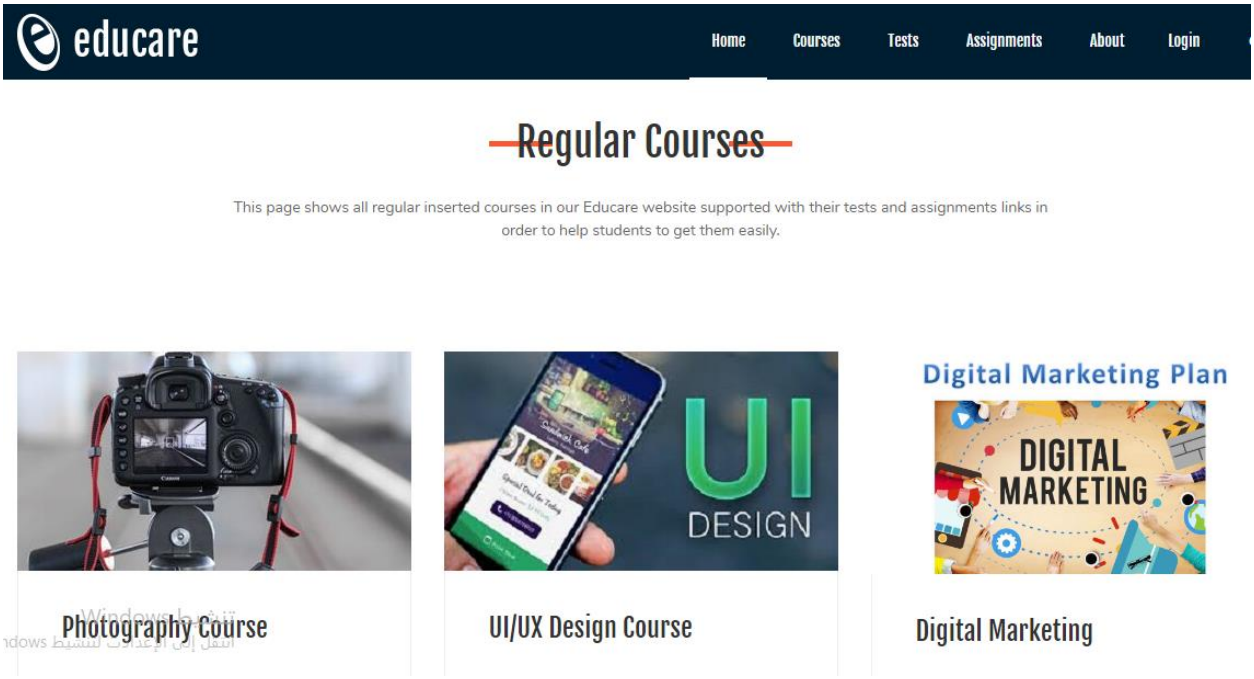


Fig (4.2)

4.1.3 Course assignments page

As shown in fig (4.3), this is the page of assignments of specific course that student can enter to any needed assignment then download, share or read ideas.

Fig (4.3)

4.1.4 Course tests page

As shown in fig (4.4), this is the page of tests of specific course that student can enter to any needed test page then download, share or read solutions.

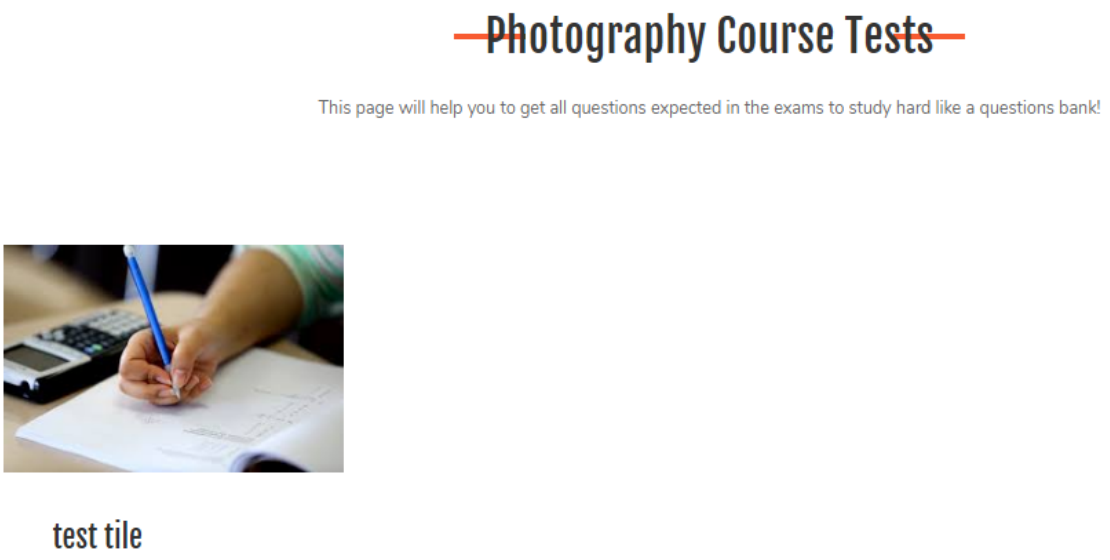


Fig (4.4)

4.1.5 Comments window

As shown in fig (4.5), this is a form of comment that student need to fill to answer or ask or share ideas.

Students can sharing their ideas every assignment or test page

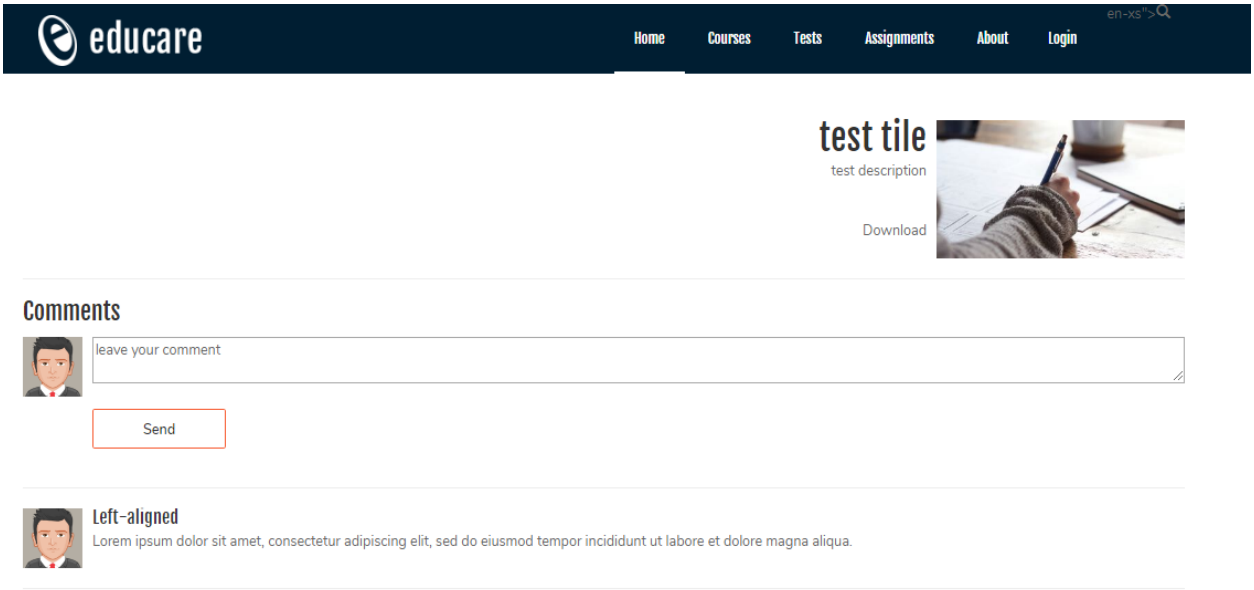


Fig (4.5)

4.1.6 Registration page

As shown in fig (4.6), this is the page of registration that student can access to the system and add assignment or test after registering.

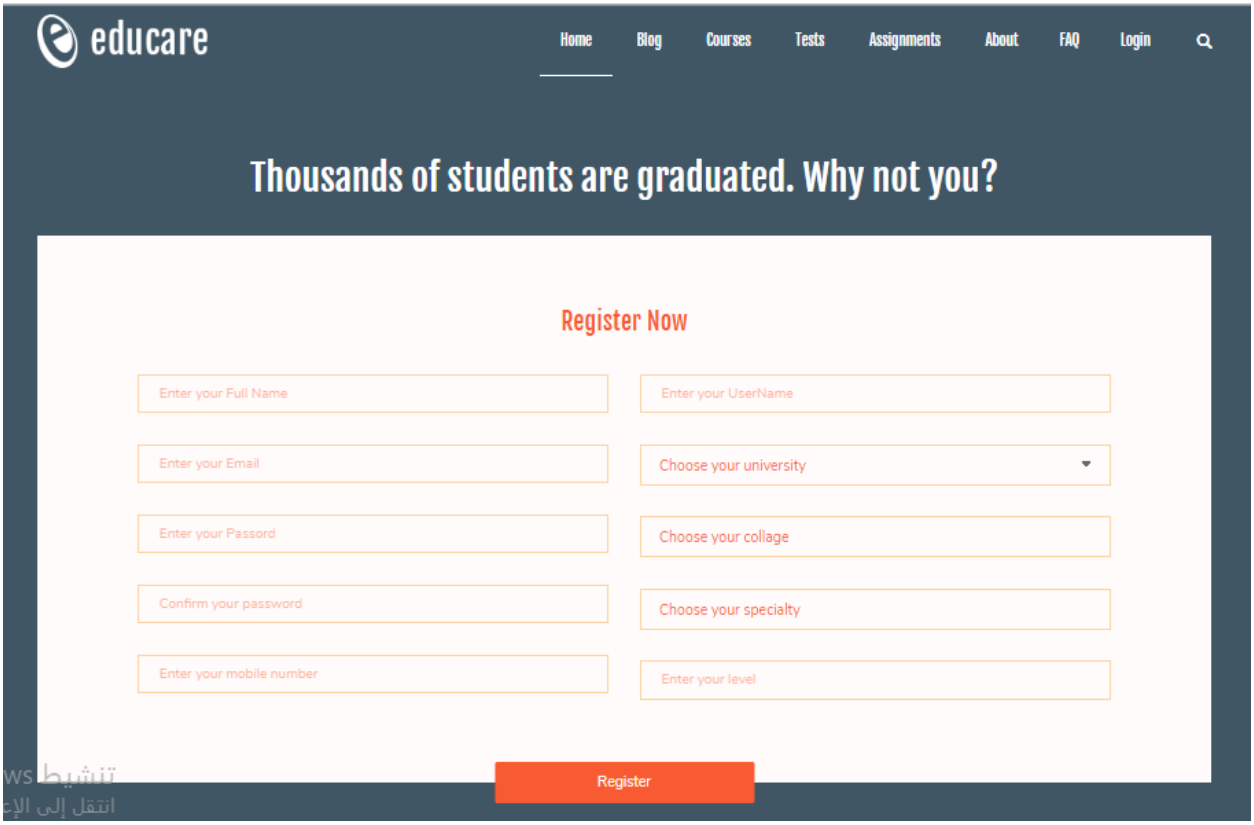


Fig (4.6)

4.1.7 Login page

As shown in fig (4.7), the login form must be filled by correct authentication data to access the website and be able to add new assignments or tests and sharing ideas

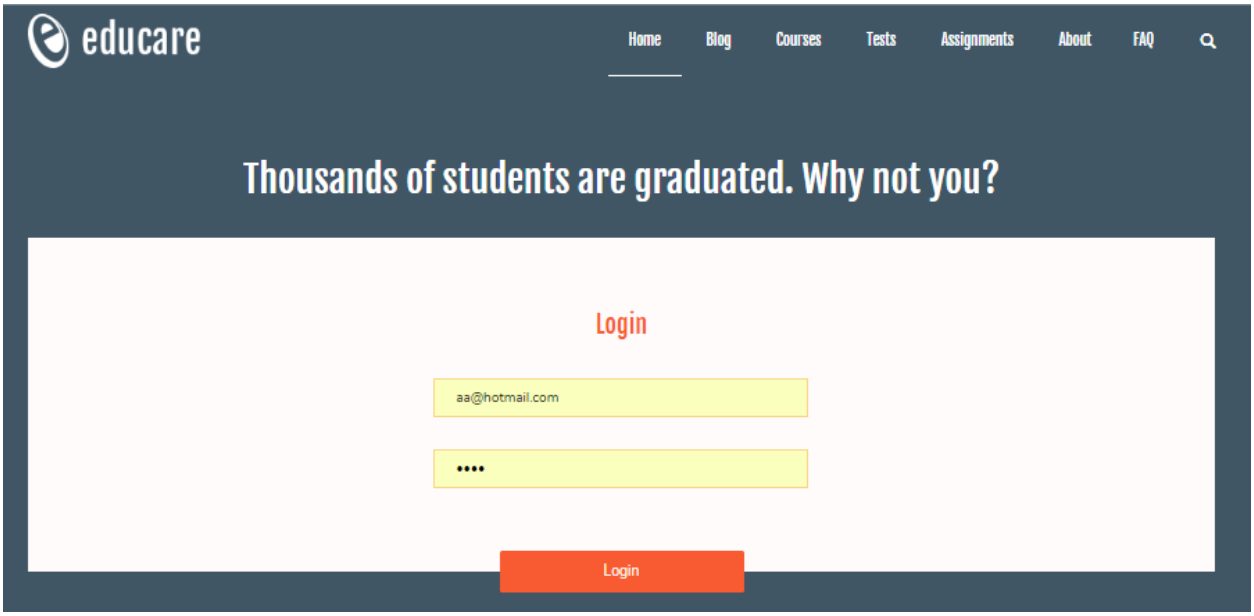


Fig (4.7)

4.1.8 Profile page

As shown in fig (4.8), this is the profile page that can student edit his personal information.

Fig (4.8)

4.1.9 My tests page

As shown in fig (4.9), this is the page of tests that student insert them on the website.

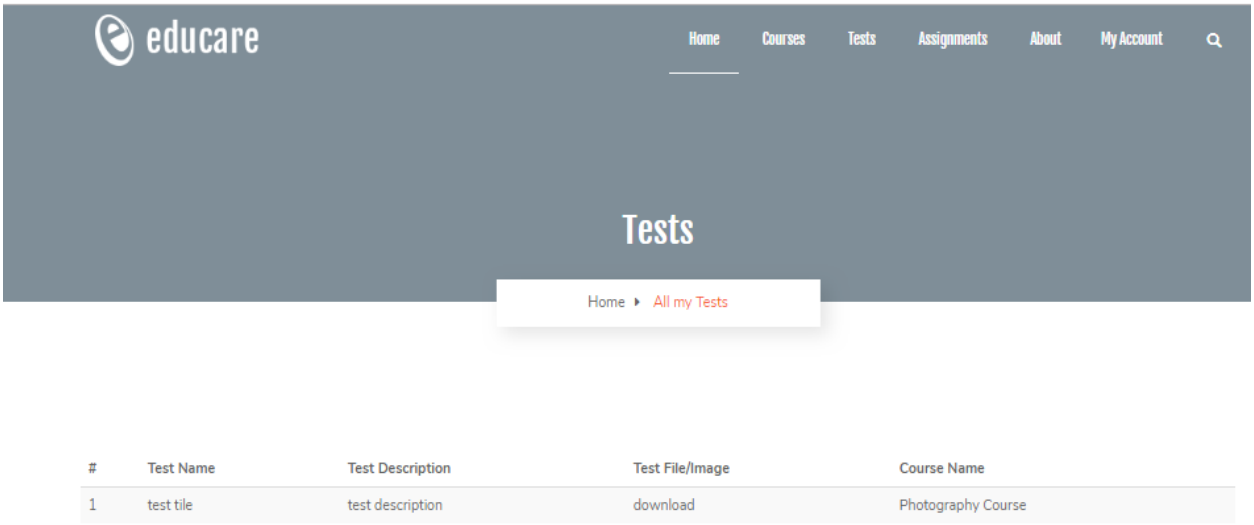


Fig (4.9)

4.1.10 My assignments page

As shown in fig (4.10), this is the page of assignment that student insert them on the website.

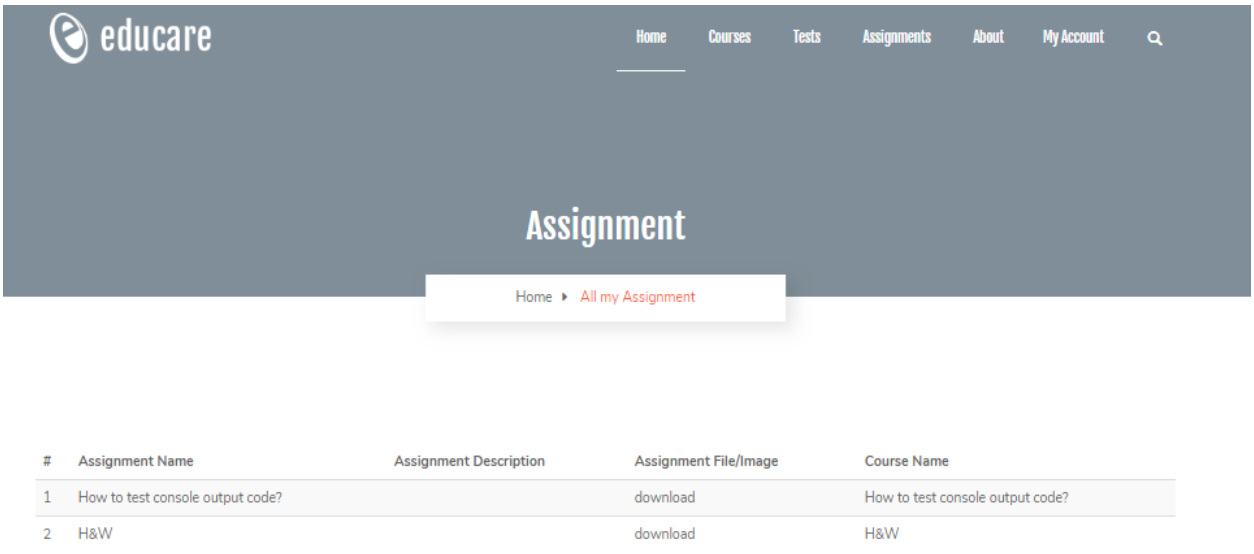


Fig (4.10)

4.1.11 Add New assignment/test page

As shown in fig (4.11), this is the page that student insert test or assignment on the website.

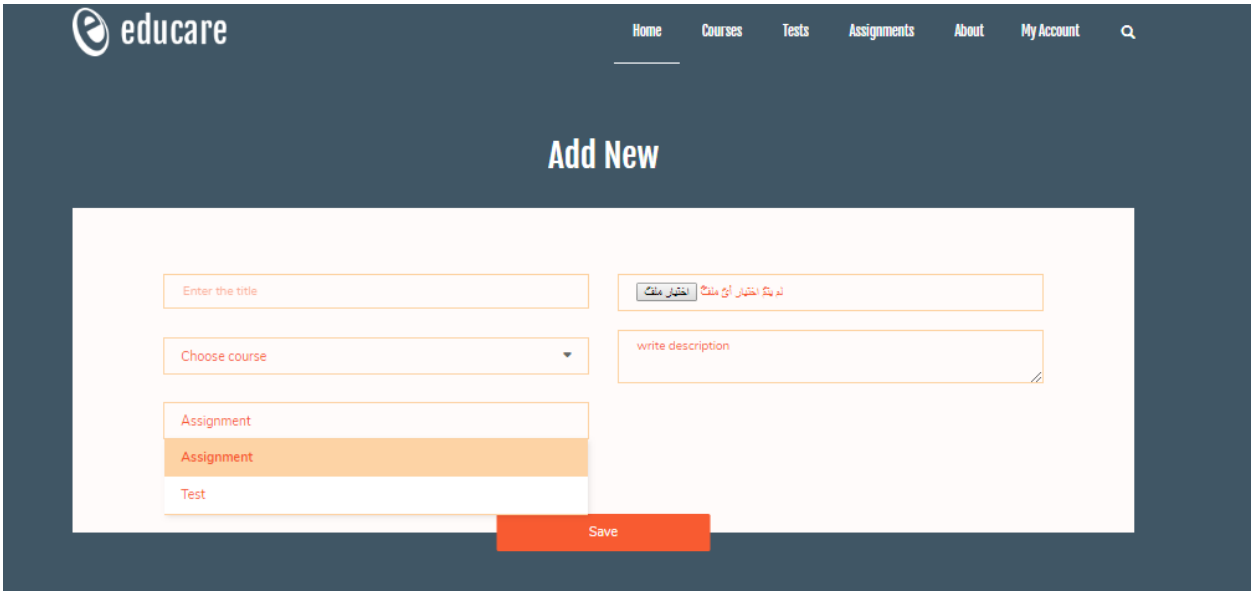


Fig (4.11)

4.1.12 About page

As shown in fig (4.12), this is the page shows the all information about the website services.

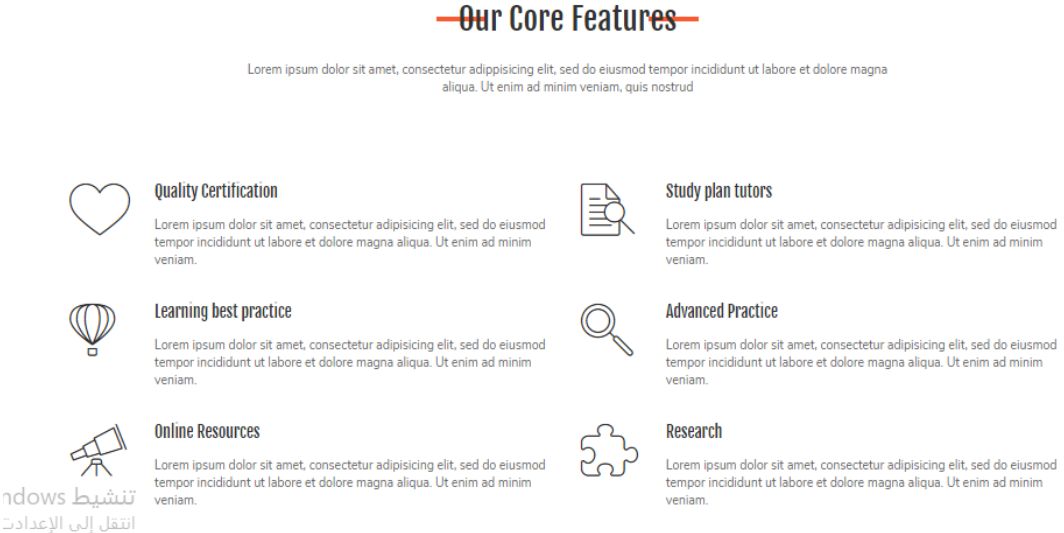


Fig (4.12)

4.2 Admin Interfaces:

4.2.1 Login

This is a login page to admin who can control of the website content

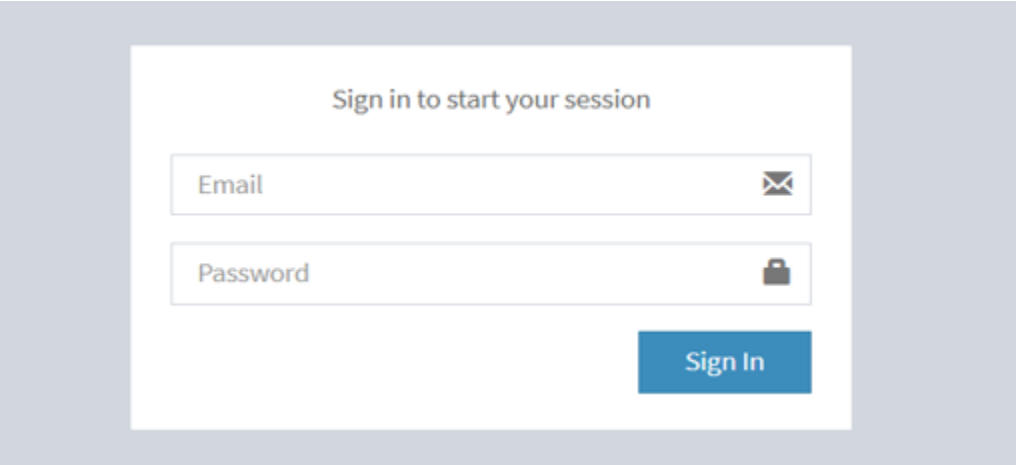


Fig (4.13)

4.2.2 Dashboard home page

This is the home page after correct login, we found that contain menu that let me access to any section.

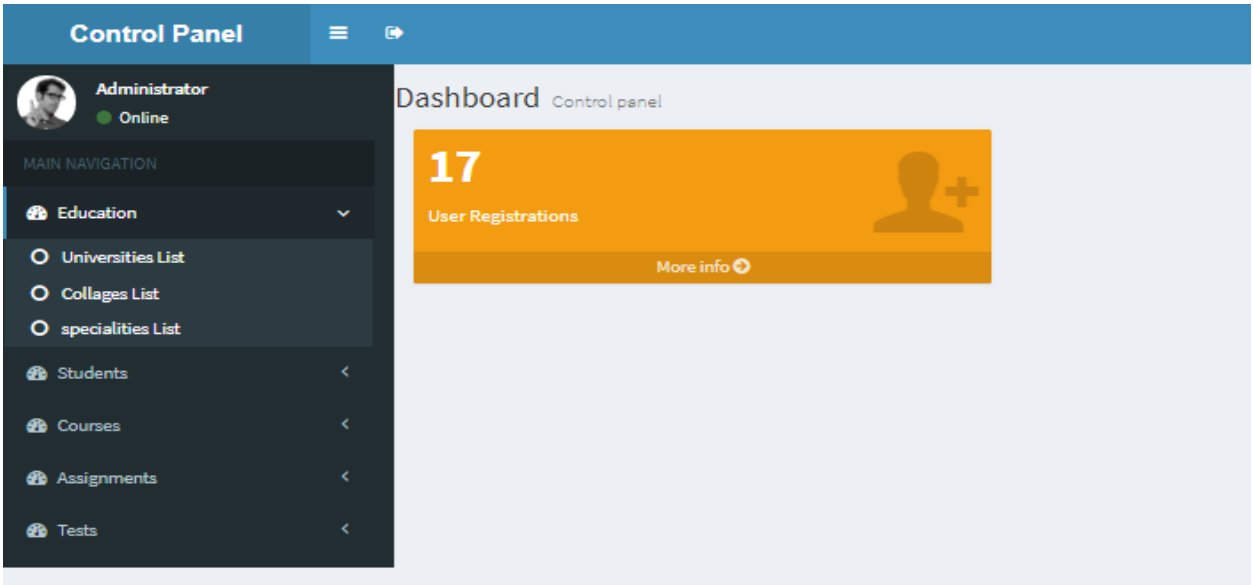


Fig (4.14)

4.2.3 Universities control panel

This is the universities control page that admin can add, edit and delete the data of any university.

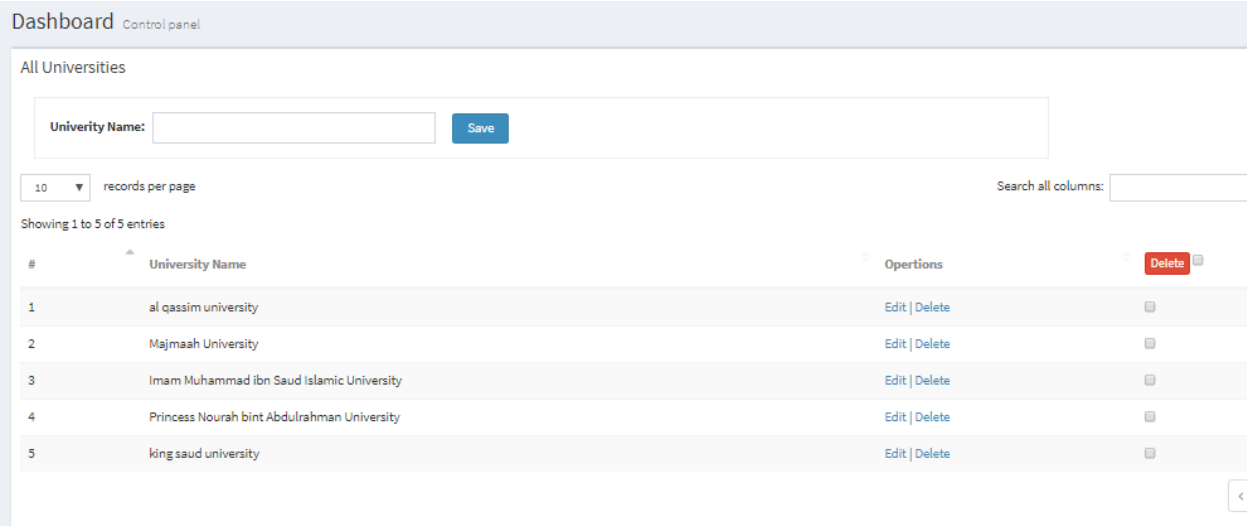


Fig (4.15)

4.2.4 Colleges control panel

This is the collages control page that admin can add, edit and delete the data of any collage.

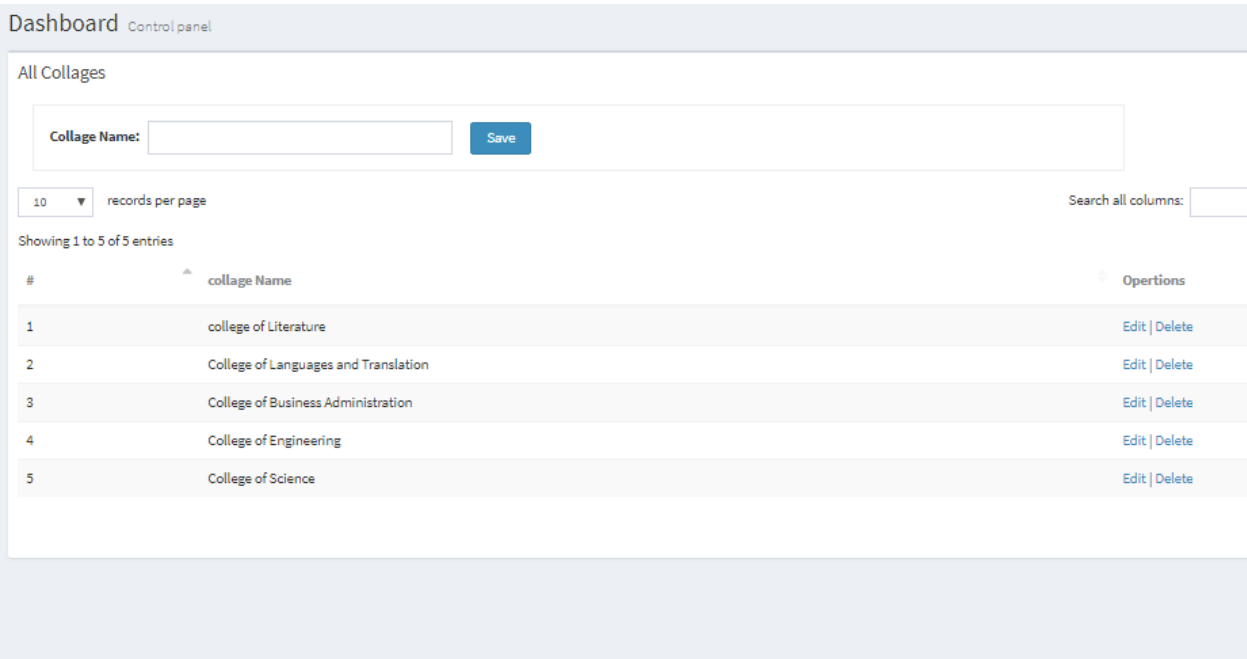


Fig (4.16)

4.2.5 Specialist control panel

This is the specialties control page that admin can add, edit and delete the data of any specialty.

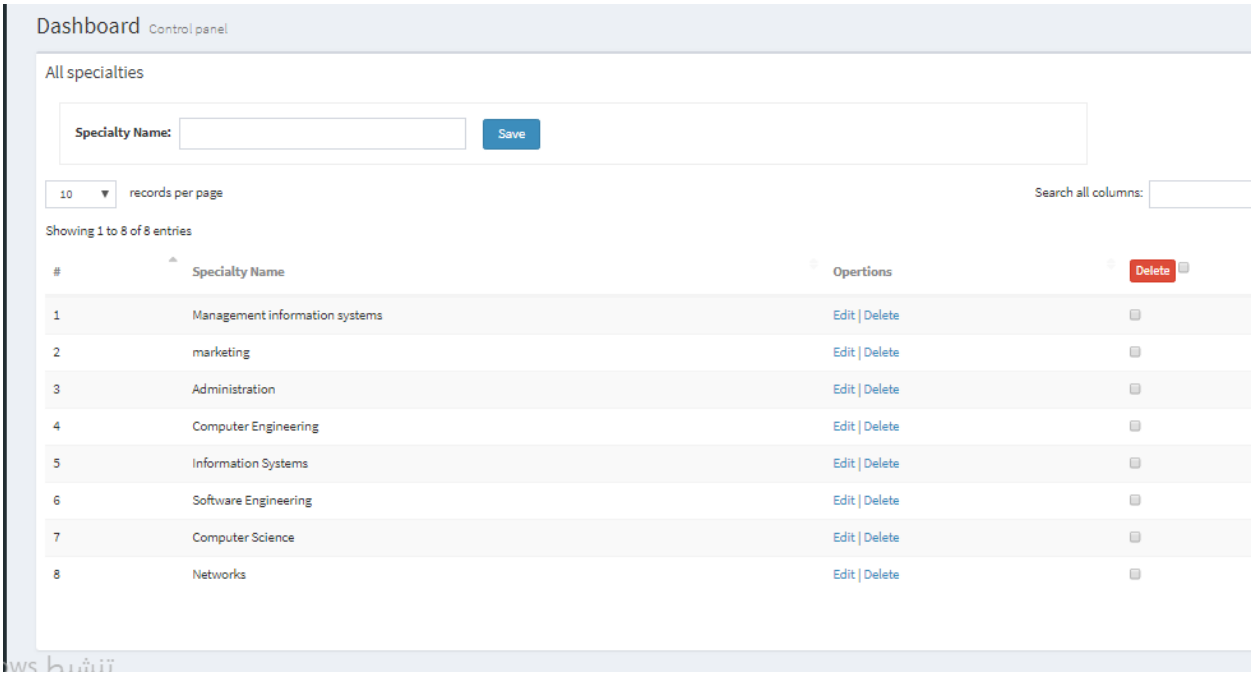


Fig (4.17)

4.2.6 Courses control panel

This is the courses control page that admin can add, edit and delete the data of any course.

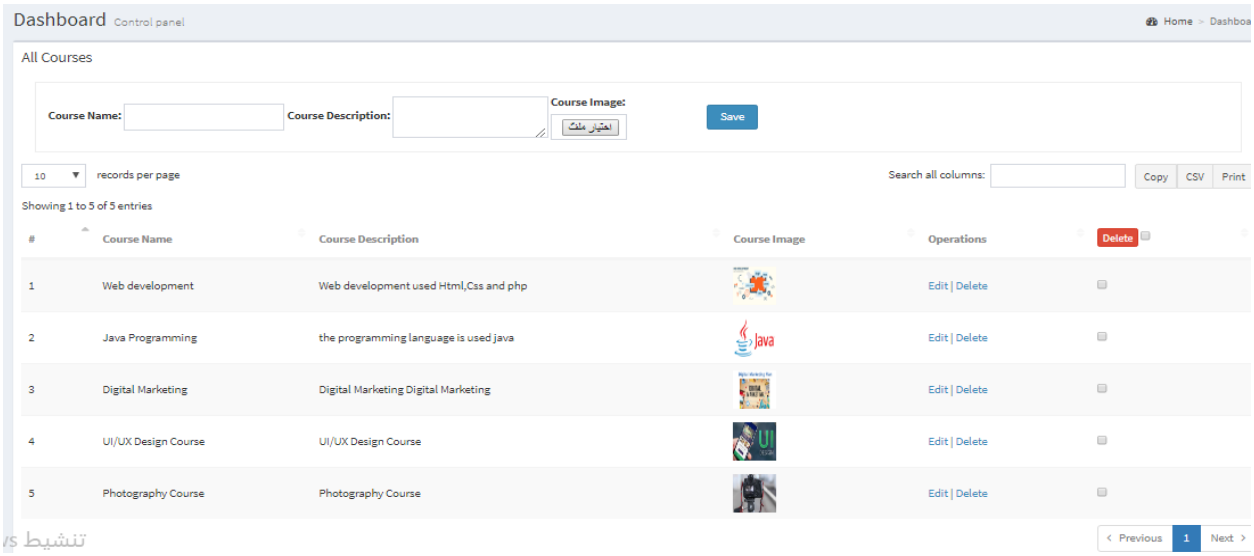


Fig (4.18)

4.2.7 Students control panel

This is the students control page that admin can add, edit and delete the data of any student.

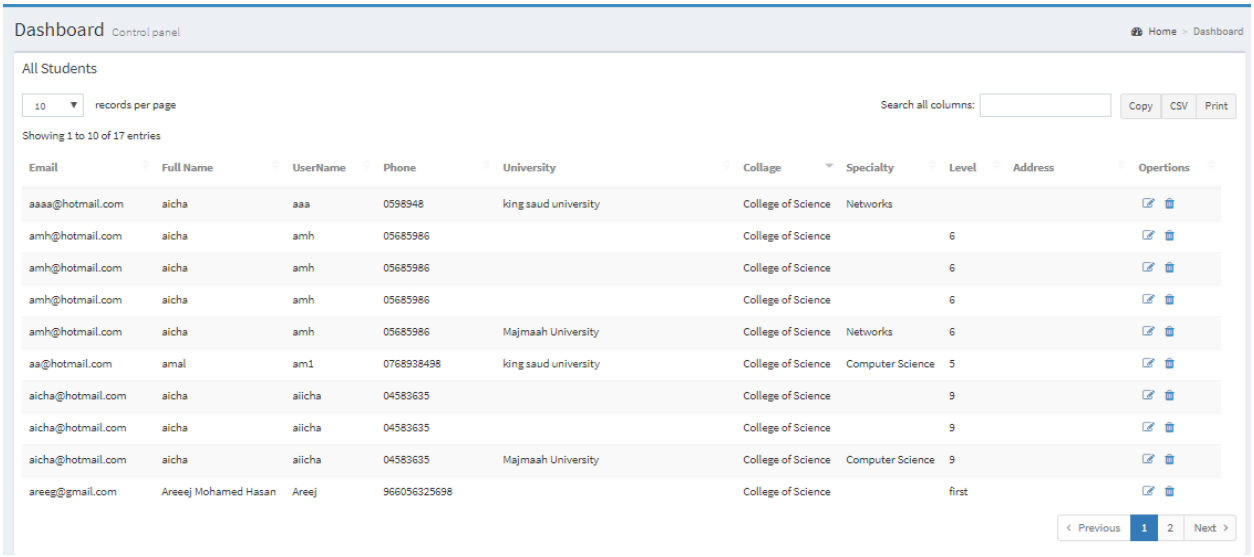


Fig (4.19)

4.2.8 Adding new student

Admin can insert new student by filling the control panel

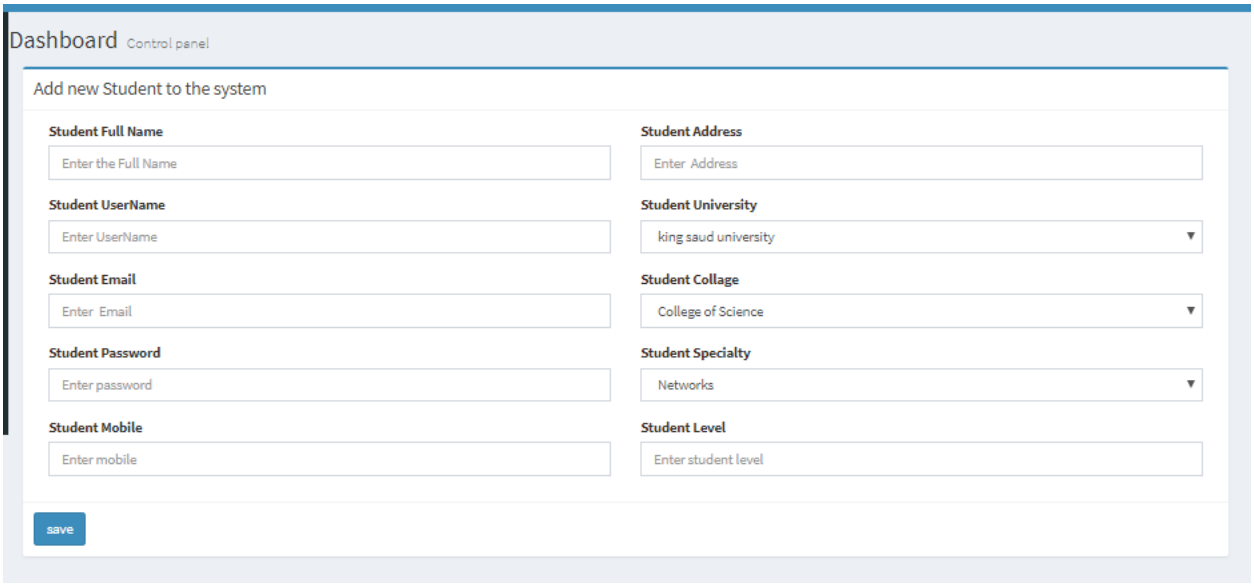


Fig (4.20)

4.2.9 Assignments control panel

This is the assignments control page that admin can add, edit and delete the data of any assignment.

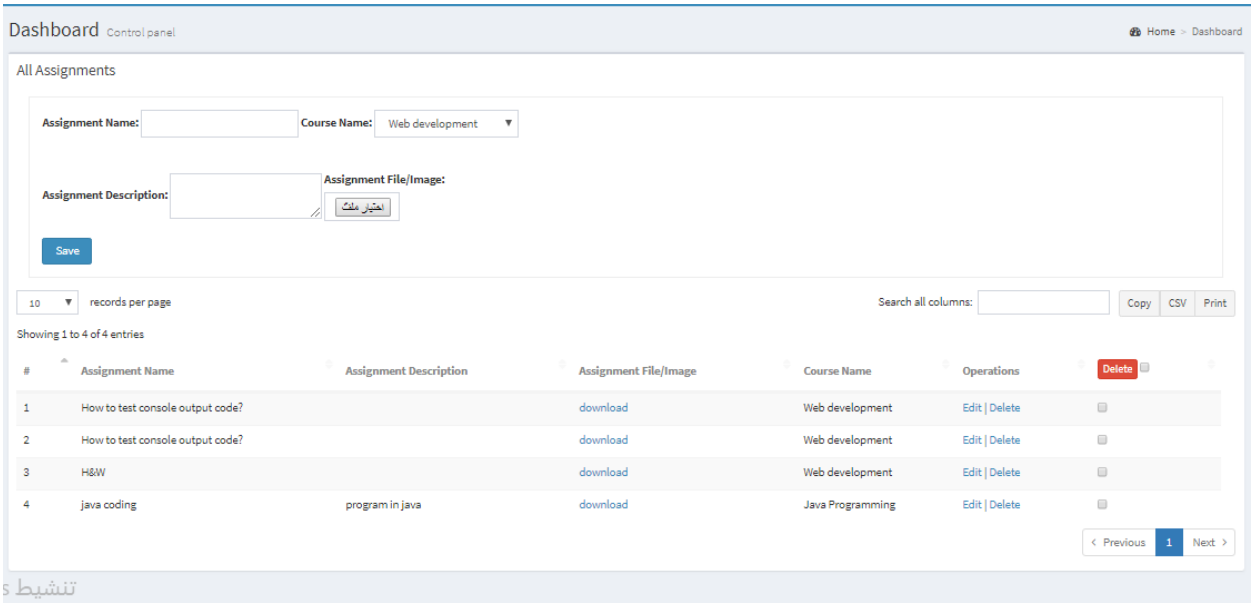


Fig (4.21)

4.2.10 Tests control panel

This is the tests control page that admin can add, edit and delete the data of any test.

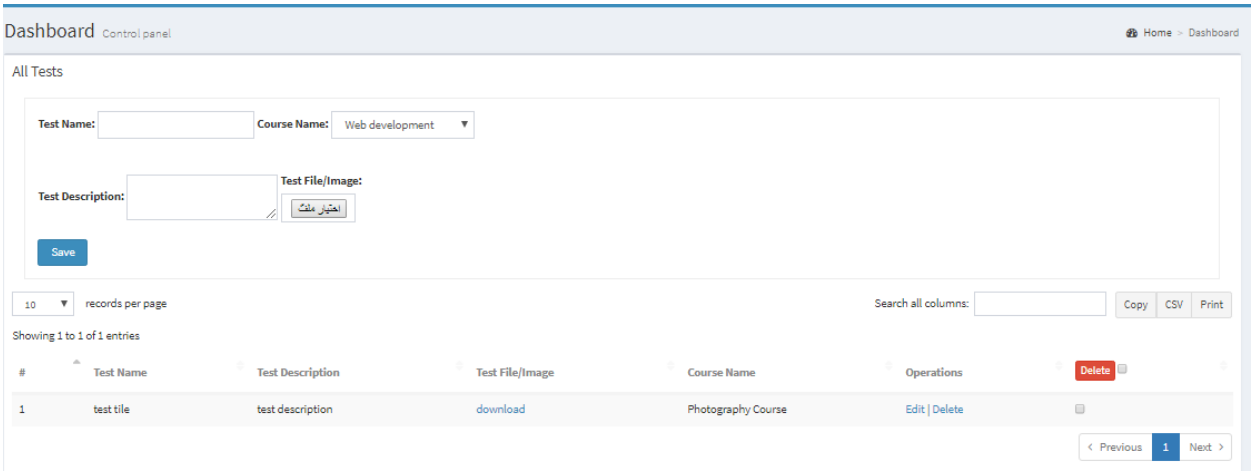


Fig (4.22)

4.3 Report

4.3.1 Student report

Student_mobile	Student_level	Student_address	Student_spec_id	Student_univ_id	Student_collage_id	Student_name	Student_email	student_password	student_username	Student_id
966565789632+	second	Saudi Arabia, Al riyadh	0	0	1	Serine Hazem Mosabih	serine@gmail.com	123456	Serine	1
966056325698	first		0	0	3	Areeej Mohamed Hasan	areeg@gmail.com	123456	Areej	4
11122222222222222	1	ereee	2	7	2	test	test@test.test	123456	test	9
1234564444	1		0	7	2	mmmm	hamdan@hotmail.com	123456	wsd	10
1234564444	1		0	7	2	mmmm	hamdan@hotmail.com	123456	wsd	17
04583635	9		2	11	3	aicha	aicha@hotmail.com	1234	aiicha	18
04583635	9		0	0	3	aicha	aicha@hotmail.com		aiicha	19
04583635	9		0	0	3	aicha	aicha@hotmail.com		aiicha	20
0383789	7		6	10	0	aii	a@hotmail.com	123	ai	21
0383789	7		0	0	0	aii	a@hotmail.com		ai	22
0383789	7		0	0	0	aii	a@hotmail.com		ai	23
0768938498	5		2	8	3	amal	aa@hotmail.com	1234	am1	24
05685986	6		1	11	3	aicha	amh@hotmail.com	1234	amh	28
05685986	6		0	0	3	aicha	amh@hotmail.com		amh	29
05685986	6		0	0	3	aicha	amh@hotmail.com		amh	30
05685986	6		0	0	3	aicha	amh@hotmail.com		amh	31
0598948			1	8	3	aicha	aaaa@hotmail.com	1234	aaa	32
966253253253	2		2	8	3	Dareen Sami Hassan	dareen@gmail.com	123456	darina	33

Fig (4.23)

4.3.2 Course report

user_id	course_id	assign_file	assign_desc	assign_title	assign_id
0	4	1542253418dd.png	program in java	java coding	5
24	5	1542266742zigkP.png		?How to test console output code	8
0	5	1542266744zigkP.png		?How to test console output code	9
24	5	1542267411The Assignment.docx		H&W	10
33	5	1542724132pre1.docx	register page in php with session	Php Hw	12

Fig (4.24)

4.4 Report Layout

4.4.1 Register

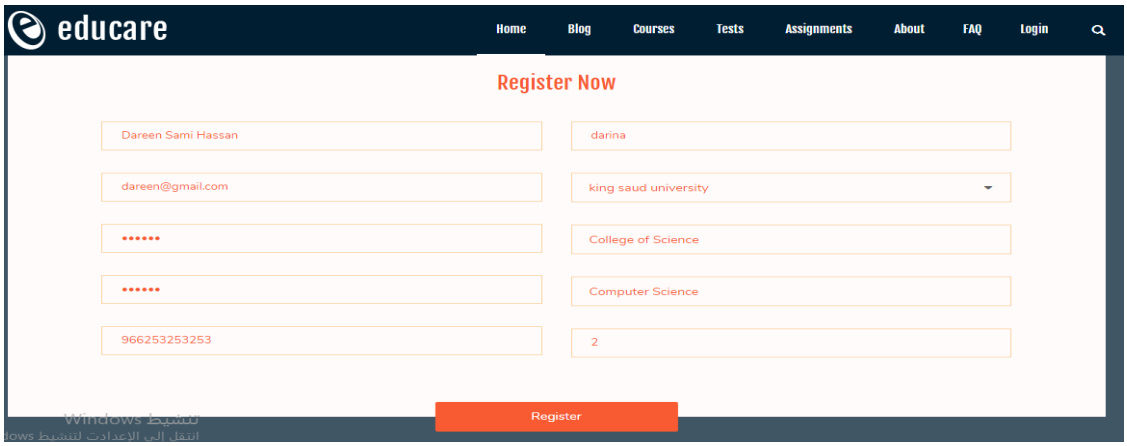


Fig (4.25)

4.4.2 Add new assignment

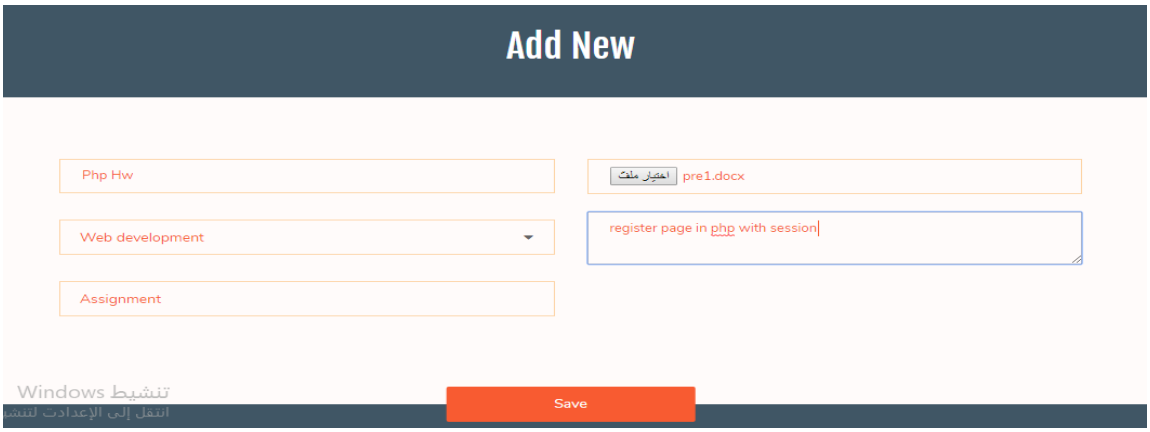
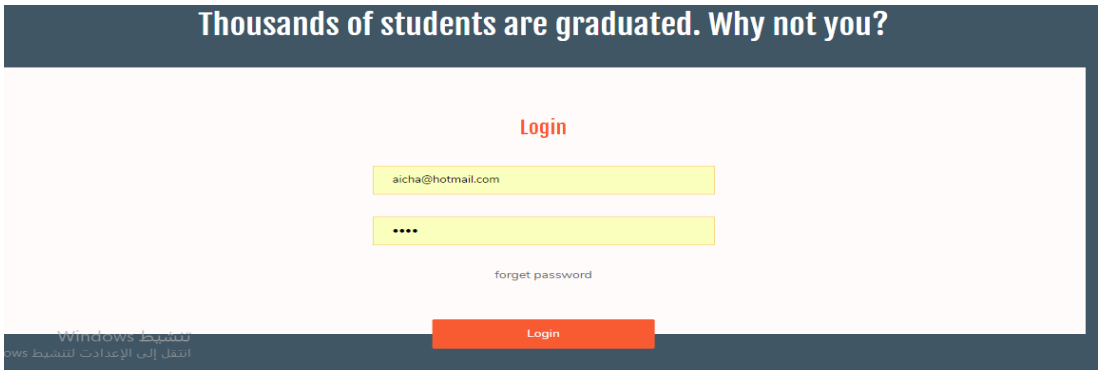


Fig (4.26)

4.4.3 log in



4.5 procedures

4.5.1 Admin dashboard PHP code

```
<?php
                        include 'connection.php';

      $query="SELECT * FROM student ";
      $r=@mysqli_query($dbc,$query);

              //$result = mysql_query($query);x4e3ycdzafg3e

              if(!$r) die ("Could not query: " . mysqli_error($dbc));
              $rows = mysqli_num_rows($r);

?>
  <h3><?php echo $rows;?></h3>
  <p>User Registrations</p>
</div>
```

Fig (4.27)

4.5.2 Add new student PHP code.

```
//insert new order
$query="INSERT INTO `student` (`Student_id`,  `Student_email`, `student_name`, `student_username`,
`student_password`, `Student_address`, `Student_collage_id`, `Student_level`, `Student_mobile`)  VALUES
(NULL, '$student_name', '$Student_email', '$student_username',  '$student_password',  '$Student_address',
'$Student_collage',  '$Student_level',  '$Student_mobile'); ";
$result =mysqli_query($dbc,$query);
if(!$result) die ("Could not query: " . mysqli_error($dbc));

$data['status']=true;
$data['msg']='The user added to the system successfully ';
```

Fig (4.28)

4.5.3 Student List PHP code.

```
<?php
include 'connection.php';

 $query="SELECT student.*, specialties.Specialty_title as Student_collage FROM student
 LEFT JOIN specialties ON student.Student_collage_id = specialties.Specialty_id
 ORDER BY `Student_id` DESC ";
 $r=@mysqli_query($dbc,$query);

        //$result = mysql_query($query);x4e3ycdzafg3e

        //if(!$r) die ("Could not query: " . @mysqli_error());
        $rows = @mysqli_num_rows($r);

        //echo $rows;

        if($rows  > 0 ){
            $students = array();

while ($row = @mysqli_fetch_assoc($r)) {
    $students[] = $row;
}
foreach($students as $ro){
    $x++;?>
    <tr>
      <td><?php echo $ro['Student_email'] ; ?></td>
      <td><?php echo $ro['Student_name']; ?></td>
      <td><?php echo $ro['student_username']; ?></td>
      <td><?php echo $ro['Student_mobile']; ?></td>
      <td><?php echo $ro['Student_collage']; ?></td>
      <td><?php echo $ro['Student_level'] ; ?></td>
      <td><?php echo $ro['Student_address'] ; ?></td>
      <td style="display: block;">
```

Fig (4.29)

Chapter 5: Conclusion and Recommendation

5.1 Conclusion

The eLearning system is one of the most important systems that help students to obtain and share the forms of assignments and tests among students and allow them to share their opinions and discuss these duties, which facilitates their learning process and increases their understanding of the subjects. The eLearning system is designed to accommodate future upgrading and development without the need for building a new system to fit with the growing needs and demands of the system. Having this system hosted online means the ability of both technicians and administrator to track and respond to demands of students at any time beyond the boundaries and walls of college which add one more advantage to replacing the paper-based style.

5.2 Future work

5.2.1 Implementation

Implementation is the completing, execution, or routine with regards to an arrangement, a technique, or any outline, thought, display, particular, standard or strategy for accomplishing something. All things considered, execution is the activity that must take after any preparatory reasoning with the end goal for a remark happen.

5.2.2 Testing Stages

With the exception of little projects, frameworks ought not to be tried as a solitary, solid unit. Vast frameworks are worked out of sub-frameworks that are worked out of modules, which are made out of techniques and capacities. The testing procedure ought to thusly continue in stages where testing is done incrementally in conjunction with framework execution. The most generally utilized process comprises of five phases:

1. **Unit Testing:** Individual segments are tried to guarantee that they work accurately. Every part is tried autonomously without other framework segments.
2. **Module Testing:** This includes the testing of autonomous segments, for example, systems and capacities. A module epitomizes related parts so it can be tried without other framework modules.
3. **Subsystem Testing:** This stage includes testing accumulations of modules which have been incorporated into sub-frameworks. Sub-frameworks might be freely planned. The

most widely recognized issues which emerge in vast programming frameworks are sub-framework interface confounds. The sub-framework test process ought to consequently focus on the recognition of interface blunders by thoroughly practicing the interfaces.

4. **System Testing:** Sub frameworks are coordinated to make up the whole framework. The testing procedure is worried about discovering mistakes that outcome from unexpected cooperation's between sub-frameworks and framework parts. It is likewise worried about approving that the framework meets its utilitarian and non-useful prerequisites.
5. **Acceptance Testing:** This is the last stage in the testing procedure before the framework is acknowledged for operational utilize. The framework is tried with information provided by the framework procurer as opposed to reproduced test information. Acknowledgment testing may uncover blunders and exclusions in the framework necessities definition on the grounds that the genuine information practices the framework in various routes from the test information. It might likewise uncover prerequisites issues where the framework's offices don't generally address the client's issues or the framework's execution isn't worthy.

5.3 Recommendation

Regardless of the fact that the basic objectives of the work have been met, there is still room for further improvement better and easier e-learning system. The solutions proffer by this application can be extended to other forms of e-learning platform. It is therefore recommended that further research be carried out on this work to improve it functionality and increase its features.

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Appendix

Registering PHP Code

```php
<?php session_start();
    include 'connection.php';
$Student_email=test_input($_POST['Student_email']);
$student_name=test_input($_POST['student_name']);
$student_username=test_input($_POST['student_username']);
$Student_university=test_input($_POST['Student_university']);
$Student_collage=test_input($_POST['Student_collage']);
$Student_spec=test_input($_POST['Student_spec']);
$Student_level=test_input($_POST['Student_level']);
$Student_mobile=test_input($_POST['Student_mobile']);


$okay_email = preg_match('/^[A-z0-9_\-.]+[@][A-z0-9_\-]+([.][A-z0-9_\-]+)+[A-z.]{2,4}$/', $Student_email);
//if(empty($pass)) echo 'pass';die();
 $data=array();
 if( !empty($Student_email)  ){

    if($okay_email){

        if(isset($_POST['Student_id']) && trim($_POST['Student_id']) != ''){
            $Student_address=test_input($_POST['Student_address']);

            $Student_id = $_POST['Student_id'];
             //update
            $query="UPDATE student SET `Student_id`='$Student_id',`Student_email`='$Student_email', `Student_name`='$student_name',
            `student_username`='$student_username',`student_password`='$student_password' ,`Student_address`='$Student_address'
            ,`Student_univ_id`='$Student_university',`Student_collage_id`='$Student_collage',`Student_spec_id`='$Student_spec' ,
            `Student_level`='$Student_level' ,`Student_mobile`='$Student_mobile'  WHERE `Student_id`=$Student_id;";
            $result =mysqli_query($dbc,$query);
            if(!$result) die ("Could not query: " . mysqli_error($dbc));
            $data['status']=true;
            $data['msg']='User data updated successfully';
         }else{

             $student_password_c=test_input($_POST['student_password_c']);
             $student_password=test_input($_POST['student_password']);
             if($student_password == $student_password_c){
             //insert new order
             $query="INSERT INTO `student` (`Student_id`,  `Student_email`, `Student_name`, `student_username`, `student_password`, `Student_address`,
             `Student_univ_id`,`Student_collage_id`,`Student_spec_id`, `Student_level`, `Student_mobile`)
             VALUES (NULL, '$Student_email', '$student_name', '$student_username',  '$student_password',  '$Student_address'
             ,  '$Student_university', '$Student_collage','$Student_spec',  '$Student_level',  '$Student_mobile'); ";
             $result =mysqli_query($dbc,$query);
            if(!$result) die ("Could not query: " . mysqli_error($dbc));
```

Login code

```php
<?php session_start();
    include 'connection.php';

    $data=array();

    if($_SERVER['REQUEST_METHOD']=='POST') {
      $email=test_input($_POST['Student_email']);
      $pass=test_input($_POST['student_password']);
        if(!empty($email) && !empty($pass)){


            $q="SELECT * FROM student WHERE Student_email='$email' AND student_password='$pass'";
            $r=@mysqli_query($dbc,$q);

            if(@mysqli_num_rows($r)){
              $row=@mysqli_fetch_assoc($r);
              $id=$row['Student_id'];

              $_SESSION['Student_id']=$id;
              $_SESSION['Student_email']=$row['Student_email'];
              $_SESSION['Student_name']=$row['Student_name'];
              $_SESSION['role']='student';
              unset($_POST);
             $data['status']=true;
             $data['msg']='Successfully logined.!';

            }else{
            $data['status']=false;
            $data['msg']='Email or password is invalid!.';
            }
        }else{
            $data['status']=false;
            $data['msg']='Please fill all fields';
        }
    }
        echo json_encode($data);
     ?>
```

Add test/assignment

```php
<?php session_start();
    include 'admin/connection.php';
//print_r($_POST);die();
$action=test_input($_POST['action']);
$course_id=test_input($_POST['course_id']);
$user_id=$_SESSION['student_id'];
//$assign_id=test_input($_POST['assign_id']);
$title=test_input($_POST['title']);
$desc=test_input($_POST['desc']);
//$assign_old_file=test_input($_POST['assign_old_file']);

$allowTypes = array('jpg','png','jpeg','gif','pdf','doc','docx');
$data=array();
switch ($action) :
    case 'assignment':
        $targetDir = "img/assign/";
$fileName = time().basename($_FILES["file"]["name"]);
$targetFilePath = $targetDir . $fileName;
$fileType = pathinfo($targetFilePath,PATHINFO_EXTENSION);
        move_uploaded_file($_FILES["file"]["tmp_name"], $targetFilePath);
 $query="INSERT INTO `assignment`(`assign_title`,`assign_desc`,`assign_file`,`course_id`,`user_id`) VALUES ('$title','$desc','$fileName','$course_id','$user_id')" ;
                $result =mysqli_query($dbc,$query);
                if(!$result) die ("Could not query: " . mysqli_error($dbc));

                header('Location: myassign.php?status=1&msg=successfully inserted!');
break;
case 'test':
    $targetDir = "img/test/";
$fileName = time().basename($_FILES["file"]["name"]);
$targetFilePath = $targetDir . $fileName;
$fileType = pathinfo($targetFilePath,PATHINFO_EXTENSION);
        move_uploaded_file($_FILES["file"]["tmp_name"], $targetFilePath);

    $query="INSERT INTO `tests`(`test_title`, `test_desc`, `test_file`,`course_id`,`user_id`) VALUES ('$title','$desc','$fileName','$course_id','$user_id' )" ;
                $result =mysqli_query($dbc,$query);
                if(!$result) die ("Could not query: " . mysqli_error($dbc));

                header('Location: mytest.php?status=1&msg=successfully inserted!');
    break;
    endswitch;
```

View courses

```php
        <?php include 'admin/connection.php';
$query="SELECT courses.* FROM courses";
$r=@mysqli_query($dbc,$query);
$rows = @mysqli_num_rows($r);
$x=0;
if($rows  > 0 ){
$courses = array();
while ($row = @mysqli_fetch_assoc($r)) {
    $courses[] = $row;
}}?>
```

Assignment view

```php
<?php
$query="SELECT assignment.* FROM assignment where assignment.assign_id=".$_GET['assign'];
$r=@mysqli_query($dbc,$query);
$rows = @mysqli_num_rows($r);
$x=0;
if($rows  > 0 ){
$assignments = array();
while ($row = @mysqli_fetch_assoc($r)) {
    $assignments[] = $row;
}}
//print_r($assignments);die();?>
```

Test view

```php
<?php
$query="SELECT tests.* FROM tests  where course_id=".$_GET['course'] ;
$r=@mysqli_query($dbc,$query);
$rows = @mysqli_num_rows($r);
$x=0;
if($rows  > 0 ){
$tests = array();
while ($row = @mysqli_fetch_assoc($r)) {
    $tests[] = $row;
}}
```