AUTOMATED ONLINE EXAMINATION SYSTEM

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CERTIFICATION

We, the undersigned, hereby certify that this project work was carried out by **UHEBOR KENNETH** of the department of Computer Science.

We also certify that the work is adequate in scope in partial fulfillment of the requirements for the award of Higher National Diploma (HND) in Computer Science.

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DEDICATION

This project work is dedicated to God Almighty for his goodness and mercies all over my life.

AKNOWLEDGEMENT

I want to sincerely acknowledge God's mercy and grace in my life, all through my academic struggle.

I also want to acknowledge of my supervisor and my Head of Department a man of honor and integrity, in the person of Mr. Sylvester Akhetuamen for his fatherly support academically for all his assistance during the conduct of this great task.

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Abstract

An online examination system is a software solution, which allows any industry or institute to arrange, conduct and manage examinations via an online environment. Online examination is an essential ingredient in electronic and inter-active learning: both teachers and students are benefited from this. Online examination system is a web-based examination system where examinations are given online. Either through the internet or intranet using computer system. The main goal of this online examination system is to effectively evaluate the student thoroughly through a totally automated system that not only reduce the required time but also obtain fast and accurate results. In this project, we proposed a system with automatic assessment technique is generated. The algorithms for calculations word frequency. Matching keywords, analyzing linguistics, generating grades are proposed in this system. The system is implemented by using PHP,

MYSQL, HTML and CSS respectively. The performance of the system is evaluated with a large number of students and questions as well as answers.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Online examination refers to an assessment system that relies on Internet-based software system for grading student performances. It allows anyone to attend an exam from home or anywhere through the Internet. In online examination, students can attend the exam online at their own time, and using their own devices, regardless of where they live, Students just need a browser and an Internet connection. We need a more time saving and more accurate examination system as the number of students are increasing day by day. The online Examination System is free for all and very user-friendly (Hussain et al., 2020).

The explosive growth of the Internet is making available radical new means of communication that affect life in diverse areas as business, entertainment and education.

While older methods of accomplishing tasks continue to be used, the Internet offers unique advantages (Rahneva, 2014). One important area of application of the web technology is in the development of web-based testing and

assessment (Iyilade & Adekunle, 2015). Before the massive influx of Information Technology (IT), students's academic performances were evaluated via paper-based system of assignments and tests.

Since recent progress in state-of-the-art IT has advanced significantly, educational products are now available electronically (including the web technologies) and new methods of educational assessment have emerged.

The World Wide Web (WWW) has gained popularity within educational sector and become an inexpensive, easily accessible way to communicate, disseminate information, teach and examine courses and conduct researches. Consequently, there exists wide preference and adoption of web-based testing and assessment over the traditional paper based method of assessment which has over decades been characterized by examination questions leakages, human errors during the marking and recording of scores. Web-based testing and assessment systems offer greater flexibility than the traditional approach because test could be offered at different times by students and in different locations (Akanbi & Adetunji, 2012). E Examination system rides on the huge success of

Information and Communication Technology (ICT) and its various features, security, reliability and consistency. The system simplifies the examination process by computer aided control and automatic marking to reduce the complex paper work (Meng & Lu, 2011).

In this current adoption of ICT towards promoting distance education where distance between leaners and instructors is no longer a barrier, Web-based Examination System (WES) is an effective solution for mass education evaluation. The system is based on a Browser/Server framework which carries out the examination and auto-grading for objective questions. The system facilitates conducting examinations, collection of answers, auto marking the submissions and production of reports for the test. It will be used via Internet and is therefore suitable for both local and remote examination (Akanbi and Adetunji, 2012).

The system developed reduces the large proportion of workload on examination, grading and reviewing. It also has the potentials to reduce drastically examination malpractice as examinees are duly authenticated online in a real-time manner and their results are released some few minutes after the completion of the examination because where the lecturer would spend weeks marking scripts and grading manually, the computer would grade the students as soon as they finish their paper, get their already stored continuous assessment and produce their eventual result. It also enhances effective distance education as examinees can write examination in any part of the world and equally get their results instantly (Wang et al, 2010).

1.2 Statement of the Problem

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. With the development of information technology and use it in an orderly and properly helps to overcome the existing error in the manual system. Online examination system saves the exams information in a database, and this make it an easier way to give exam teachers can add theirs exams rules, and student can give exam in a totally automated system.

Some of the problems faced during manual examination systems are the delays occurred in result processing, filing poses a problem, filtering of records is difficult. The chance of loss of records is high also record searching is difficult. Maintenance of the system is also very difficult and takes lot of time and effort. Online examination is one of the crucial parts for online education system. It is efficient, fast enough and reduces the large amount of material resource. Students can participate exam through online. They can view the result after completing exam. This web application provides facility to conduct online examination worldwide.

At present, the traditional test method is mainly based on paper. The shortcoming of this method is: overload of work, delay of statistics and evaluation, error-prone, etc. With the popularity of computer and the development of the network, we need a new test platform to solve these problems.

Combined with the actual demand, we design and develop a set of simple, convenient, high maneuverability, safety good online examination system based on Web.

1.3 Aim and Objective of the Study

Is to design an online examination system that will improve the conduct of examination in any type of institution.

The objective of this system is to:

1. Save the time of examination section and minimize the use of manpower.

2. Store the logs of candidates and their marks and backup for future use.

3. Help in reducing paper work.

4. Reduce the hectic job of assessing the answers given by the candidates.

5. To conduct examination in an efficient manner and reduce the tedious paper work.

6. To generate various reports almost instantly when and where required

1.4 Significance of the study

The significance of the study is that it will bring to light the relevance of adopting online examination system for employee short Listing or e-recruitment

system and the need for its adoption by organizations and institution. It will help organizations solve the present challenges they are facing in attracting eligible and professional employees by providing a software system that processes the application of different applicants. It will also save them time and cost of recruiting. In addition, other scholars seeking for valuable information on the subject will find this research material relevant.

Online examination system will be of benefit to student and institutions. This system will reduce the cost of conducting examination. With this system, institutions will experience free and fair examination. Students are able to access their result on time. The system will help students to maximize their potential since they know that the examination is computer based and there will be no cheating.

1.5 Definition of terms

- **Examination**: An examination is an educational assessment intended to measure a test-takers knowledge, skill, aptitude, physical fitness, or classification in many other topics
- **E-Examination:** a system that -involves the conduct of examinations through the web or the Intranet (Jewan, & Vibhakar, 2013)
- **Computer-based test:** The use of information technology in assessment such as educational assessment etc.
- **Web-based:** an application is any program that is accessed over a network connection using HTTP, rather than existing within a device's memory

- **Institution**: an organization founded for a religious, educational, professional, or social purpose.
- **Automation**: the creation and application of technologies to produce and deliver goods and services with minimal human intervention

CHAPTER TWO

LITERATURE REVIEW

2.1 Review of Iterated Literature

In Online Examination System, researchers are trying to change the traditional manual examination in the educational institution. It may help the said institution to nurture up and elevate the functionality of the institute. After surfing several educational web pages at home and abroad, we found countable number of online examination system. After going through several global online examination system, we found the following works worth notable.

A variety of research focuses on the subject of an online test system, these actions can be demonstrated as: SIETTE: Gujman and Conejo (2015) presented an Online Examination System called System of Intelligent Evaluation using Test for Tele-education (SIETTE).SIETTE is a internet based environment to generate and construct adaptive tests. They provide online test system in the universities. This is a internet based system developed in PHP and MySQL. The test consists of multiple choice questions of different types. Selecting question in view the

appropriate importance for different subject is randomized. Answers are evaluated and scores obtained in a database along with the answer given by the student. The examiner can get immediate result in different form-common markers, detailed general mark lists. Where marks obtained by student in each subject of the subject as well as answer sheets of each student are shown. PHP and MYSQL l 'Online Examination System can be modified and adapted to suit the needs of any educational institutions, primary and secondary schools, colleges and professional institutions. This software is suitable specifically for conducting competitive exams such as recruitment tests (Karal and Cebi, 2011).

2.2 History of e-examination

Examination, they say is not a true test of knowledge. In our contemporary society, this axiom holds only in theory but not in practice. Examination that is supposed to be conducted and evaluated in confidence is now seen with students even before the date and time the examination is scheduled to take place.

History has it that ancient China; was the first country in the world that implemented a nationwide standardized examination, which was called the "imperial examination". The main purpose of this examination was to select able candidates for specific governmental positions. The imperial examination was established by the Sui Dynasty in 605 AD and was later abolished by the Qing Dynasty 1300 years later at 1905. England adopted this examination system in

1806 to select specific candidates for positions in Her Majesty's Civil Service. This examination system was later applied to education and it started to influence other parts of the world as it became a prominent standard (e.g. regulations to prevent the markers from knowing the identity of candidates), of delivering standardized tests (Stephen, 2018).

There are three methods of examination: written examinations, oral examinations and physical fitness examination. In written examinations we have the multiple choice questions. Multiple choice questions have two sub categories. The first category is called True/False. This requires the student to choose all answers that are appropriate. True/False questions present candidates with a binary choice - a statement is either true or false. This method presents problems, as depending on the number of questions, a significant number of candidates could get one hundred percent (100%) just by guesswork, and should on average get fifty percent (50%) (George, 2015). The second category is called Best-Answer question. This requires the student to only answer from a list of options. Other forms of questions in written examinations include:

Matching - a matching item is an item that provides a defined term and requires a test taker is to match identifying characteristic to the correct term.

Fill-in-the-Blank - a fill-in-the-blank item provides a student with identifying characteristics and requires the student to recall the correct term.

Essay - in essay, an item is given to a student. Essay typically requires a student to write a response to fulfill the requirements of the item. In administrative terms, essay items take less time to construct. As an assessment tool, essay items can test complex learning objectives as well as processes used to answer the question. The items can also provide a more realistic and generalized task for examination.

Mathematical questions - most mathematics questions, or calculation questions from subjects such as chemistry, physics or economics employ a style which does not fall in to any of the above categories. Instead, most mathematics questions simply state a question and require the candidate to solve it, usually with marks given more for the steps taken than for the correct answer.

Oral Examination – is a type of examination where the student is tested based on his ability to face a panel and answer questions by speaking. Assessment is based on how much the student can comport his/herself.

Physical Fitness Examination - is a test designed to measure physical strength, agility, and endurance. They are commonly employed in educational institutions as part of the physical education curriculum, in medicine as part of diagnostic testing, and as eligibility requirements in fields that focus on physical ability such as military or police.

2.3 Types of Exam

1) **Traditional Examination System:** Traditional examination system is the leading examination system all over the world. Student gather in a place to participate at the examination. They attend the exam with pen, paper and brain (School, 2015).

2) **Open Book Exam:** It is not popular in our country. Sometimes quiz or programming based exam are held on open book exam. Students are granted to bring book with them during the exam and they are able to use book during answering (Mahmud et al., 2020).

3) **Online Examination:** It is the new concept all over the world. In this system, students are able to attend the exam from home or anywhere. By using Internet they can participate in the examination (Kotwal et al., 2016).

2.4 Traditional versus Electronic Tests

In educational institutions, tests are conducted to evaluate the academic progress of learners; review, compare and measure the effectiveness of methods of instruction; serve as basis of guidance and counselling to students, selection for prize award and employment and grading for the purpose of certification.

In the context of education system, one possible purpose of a test is to assess whether a learner has attained an educational goal. The outcome of such a test can help instructors analyze problems with his method(s) of instruction and to better understand the learner's strengths and weaknesses in a given subject. Test can be

used to fine-tune the instruction environment or method based on the analytical results to improve the instructor's teaching performance (Chen, et. al., 2015). There are currently two methods for conducting tests: (i)The traditional method of using paper and pencil tests, including the creation of test items, the grading of students' test sheets, and the analysis of learner's responses for each test item, which is considered to be tedious; and (ii) Computer-Based Tests, an electronic examination, allows test activities to be carried out using different electronic platform/environment. Basically, the electronic examination (e- Examination) system involves the conduction of examinations using various electronic devices (mobile phones, computers etc) connected to the testing system via the Internet or the Intranet. The process is predominantly automated, which means the administration, grading, reviewing of the examination is of little effort. Usually the examination is in form of multiple-choice test.

Ayo, et. al. (2017) defines e-examination as a system that involves the conduct of examinations through the web or the intranet. They proposed a model for e-Examination in Nigeria where all applicants are subjected to online entrance examination as a way of curbing the irregularities as proposed by the Joint Admissions Matriculation Board (JAMB), a body saddled with the responsibility of conducting entrance examinations into all the Nigerian universities. This model was designed and tested in Covenant University, one of the private universities in

Nigeria. Their findings revealed that the system has the potentials to eliminate some of the problems that are associated with the traditional methods of examination such as impersonation and other forms of examination malpractices.

Gardner, et. al. (2012) in their work developed a computer-supported learning system, named CECIL, which included an interesting function of 'self-Assessment' to enhance students' learning effectiveness. The function of 'self-assessment' is equipped with item pools and teachers can administer and construct examinations easily through the Internet. They also pointed out that the advantages of item pools are that 'teachers are able to incorporate large item banks (item pools) from textbook publishers and batch load these questions with a minimum of manual effort'. Moreover, Gardner et al. (2012) also stated that teachers who administer and construct an examination through the Internet have the advantage of helping students to check their understanding of the learning materials at all hours.

Wang et al. (2014) in their work developed an assessment system using Triple-A Model (assembling, administering, and appraising) as the baseline qualification in order to provide the most comprehensive form of Computer-Based Test (CBT) or Web-Based Test (WBT) and to be more suitable for teacher education. The Triple-A Model includes the essential functions of CBT system. Assembling deals with the construction of item pools, test items, and schedules of tests. Administering is to assign the test items and item choices randomly, provide

examination passwords for testees to apply the test through Web as well as collecting and recording the scores data of the tests. Appraising focuses on analyzing the collected/processed data of tests and to generate the statistic report.

Zhenming, et. al. (2013) proposed a web-based operational skills examination and evaluation system for computer courses. In another research work by Rashad, et. Al (2010), a web-based online examination system was proposed. The system carries out the examination and auto-grading for student's examinations. The system facilitates conducting examinations, collection of answers, auto marking the submissions and production of reports for the test. It supports many kinds of questions. It was used via Internet and is invariably suitable for both local and remote examination. The system could help lecturers, instructors, teachers and others who are willing to create new examinations or edit existing ones as well as students participating in the examinations.

The system was built using various open source technologies. AJAX, PHP, HTML and MYSQL database are used in this system. An auto-grading module was generalized to enable different examination and question types. The system was tested in the Mansoura University Quality Assurance Centre. The test proved the validity of using this kind of web based systems for evaluating students in the institutions with high rate of students.

Online examination system is one of the method of taking exams which is does not require any kind of a piece of paper or a pen. It is the fast growing method to take exams over online. Speed and accuracy is the reason behind the famous of this method because speed and accuracy is the backbone of this system. Many researchers have already researched about online examination system and have developed a online examination system to keep an eye on this researches as a reference and these all are the following:

Zhenming et al (2013):They developed an online examination system based on web browser/server framework. SIETTE Guzman and Cenejo (2015):They developed a online examination system called as SIETTE; (System of intelligent Evaluation using Tests for Tele education). Ayo et a (2017):They proposed a model of e-examination. Jim and sean (2016):They justified the e-assessment can be taken in different ways. Zhenming et al (2013):They developed an online examination system based on web browser/server framework. Which supports some premium basic features ,carriers out the examination and provide the auto grading system for objective questions and operating questions like programming, edit MS word,Power point,MS windows, Excel etc.

These are the really necessary keywords of any developed system. SIETTE Guzman and Cenejo (2015):They developed a online examination system called as SIETTE (System of intelligent Evaluation using Tests for Tele education).The

above developed system supports the login and some basic features but doesn't supports the premium features such as random questions selection ,random choices distribution, resumption capabilities, random questions distribution. Ayo et a (2017): They proposed a model of e-examination. The software was developed in private university in Nigeria. The reason behind the developed such as software is to conduct the entrance examination for all Nigeria universities called JAMB (Joint Admission Matriculation Board).This software was designed and tested in Covenant university they were the private university in Nigeria. They found the software really helpful for conducting neat and clean with accuracy entrance examination. It is eliminates the problems that are associated with the traditional methods of entrance examination. Jim and sean (2016): They justified the e-assessment can be taken in different ways. First of all they made a e-assessment via internet and then the mindset has been done that we can enhance the e-assessment to a online examination system. And they thought that there will be a many different ways to take the assessment and e- examination.They continuously added the content and they took the shape of e- examination portal finally. Because it is the far away different and accurate than of the traditional method to take any of the entrance examination or assessment. Computer based examination is one of the best and satisfied method of taking used to create and evaluate examination. This system architecture consist of 3 sections:- frontend, backend and database server.

For the design of the system we used interpreted programming language javascript, client side Ajax techniques, in order to send and retrieve data from the server, css for the styling of web pages and the relational database management system Mysql.

2.5 E-Examination (Computer-Based Examination)

In many tertiary institutions in Nigeria, the conduct of examinations as well as the process of producing results has been fraught with various problems leading to inability to release results on time, inability of some students to get their results and several incomplete results. These problems can be mitigated using electronic medium.

E-examination, as used in this paper, refers to a system that involves the conduct of examinations through the web or the intranet using the computer system. Recently, because Internet and database technology have been fully developed, CBT which before was once hosted only on personal computers (PCs) or local area networks (LANs), has now gradually been upgraded to work on the Internet using browsers as the test interface so that users can use it anywhere in the world. WES has been seen to be an effective solution for mass education evaluation (Zhenming etal, 2013).

Computer-based examination and test tools have been applied for different purposes, e.g. placement tests, entry-level tests (prognostic tests), self-assessment

tests, regular written and oral examinations (selective and diagnostic examinations), and online surveys.

2.6 Advantage of Online Examination System

Online examination system can make the student's life easier because they do not need any paper and pen for examination. It is eco-friendly and forward-thinking approach to daily processes is essential in a world where students can graduate into an environmental crisis caused by climate change. Students will imbibe these values over the course of their education. Online examination can be effective and efficient. The students do not waste so much time to answer the questions because they only click on the best answer that is provided. Great features with this exam conducting system is that there is not any compromise with data security. Question paper leak in online examination is not possible at all. All can full believe on examination process over its security feature. In this online system, set of question papers are a lock in a security system and that will only open at the time of examination (Yang, 2016). The sheer amount of resources that can be used to set up a single exam is mind-boggling — from teachers setting the test to administrators ensuring that all students receive enough copies of the exam paper. The online examination system removes many of these procedures and the

related labor costs, which have a significant and positive impact on the bottom line of the method implementing educational institution. Another advantage of online examination is that we can know our scores just after the exam. Student can give online exam anytime anywhere. Report analysis can check anytime and can improve yourself. The major feature which adds up to the online examination, It is scalable over a larger region.

It can serve a larger audience and has the potential to do so. Sometimes, instructors can be very busy on a given day and do not have any time to check the exams. Online examination can solve this problem. The instructor does not need to check all of the exams. Online examination can do. It can be easily accessed 24/7 over the open test period. It can be timed to allow M minutes to answer N number of questions. It gives immediate test feedback when a test is submitted. Students can take advantage of special media; video, audio, or pictures. Student can check their progress on a single click. This enables you to track the report and progress of a child just on a click. Improvement in a child is checked through a progress report made by the software (Yueru, 2019).

2.7. Empirical Review

Many different researches have focused on the subject of an online examination system these work can be represented as following: SIETTE: Guzman and Conejo (2015) 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 (Tallent-Runnels et al., 2016).

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, collects the answers, auto mark the submissions, and produce the reports for the test. EMS supports secure login, multi-instructor, and portability features. However, the other features: resumption capability, random question selection, random questions distribution, and random choices distribution are missing (Downing et al., 2016). The project evaluates the examiners by using the online examination system concept. The exams will be totally customizable. This system will check results automatically basing on students answers. Fagbola et. al. (2013) developed a Computer Based Test System (CBTS). CBTS is a web-based online examination system developed to address issues such as lack of timing flexibility for automation candidates log-off upon expiration of allowed time, result integrity,

guaranty, stand-alone deployment, need for flexibility, robustness, designed to support the examination processes and overcome challenges framing the conduct of examination, auto- marking, auto- submission, and generation report of examination result (Tallent-Runnels et al., 2016).

CHAPTER THREE

METHODOLOGY AND SYSTEM DESIGN

This technical paper intends to showcase the development of e-examination application towards enhancing effective distance education where digital divide is eliminated in access to qualitative education across the globe.

The application was developed using different programming models and languages which include HTML, CSS and PHP (for the front-end interface) and MYSQL (for the backend) and served through a web server, APACHE. The use of HTML and CSS, which is a markup language for information presentation and a styling language respectively, allow for the user-interface to be designed and properly laid out. To enable dynamic content generation, PHP (a web scripting language) is used to generate dynamic contents based on the user of the system and the corresponding content stored in the backend database which is managed by MySQL. The web server is used to serve the webpages to users when they are needed, and also to interpret the PHP scripting commands contain in the page. In other words, the computer simply acts as the medium for students to take

examinations, for teachers to construct tests, and for the transmission of test papers.

3.1 Web-based Examination System Phases

This WES has three phases. Namely:

(i) The presentation phase offers an interface to the user.

(ii) The business/logic phase serves as the middleware that is responsible for processing the user's requests.

(iii) The database phase or question bank serves as the repository of a pool of questions to be answered by the student.

3.2 Development Languages

Cascading Style Sheet (CSS)

It is a set of rules that allow user to control how the web document will appear in the web browser. It defines the formatting applied to a Website, including colors, background images, typefaces (fonts), margins, and indentation. The basic purpose of CSS is to allow the designer to define a style (a list of formatting details such as fonts, sizes, and colors) and then, to apply it to one or more portions of HTML pages using a selector. CSS information can be specified in three different places: (i) within the specific tags in the document body (Inline

CSS), (ii) at the top of the document within a <style> block, or combined with named or containers in the document body (Embedded CSS), and (iii) in one or more separate files shared across many Web pages (External CSS)

Hyper Text Mark-up Language (HTML)

It is the core technology in which all Web pages are written. HTML is not a programming language rather it is a mark-up language for collection of mark-up tags to describe Web pages. Mark-up is made up of tags, and tag names are enclosed in angle brackets.

Hypertext Pre-processor (PHP)

It is a widely-used Open Source general-purpose scripting language that is specifically suited for Web development and can be embedded into HTML. Unlike other CGI script written in other languages like Perl or C, where lots of commands are written to output HTML, the PHP code is enclosed in special start and end tags that allow you to jump into and out of PHP mode. What distinguishes PHP from something like client-side JavaScript is that the code is executed on the server?

Structured Query Language (SQL)

This is the standard language designed to access relational databases.

System Architecture

The architecture of the system design is 3-tier. The tiers are presentation tier, middle tier and data tier. The presentation tier is the user interface and it is designed using

HTML. The middle tier connects the presentation tier and data tier together. The middle tier is also called application tier or business logic. The middle tier was designed using PHP and it runs on the server. The data tier is the part of the system that is responsible for storing data (database). The database management system used for developing this system is MySQL database server. Architecture of the system is shown below.

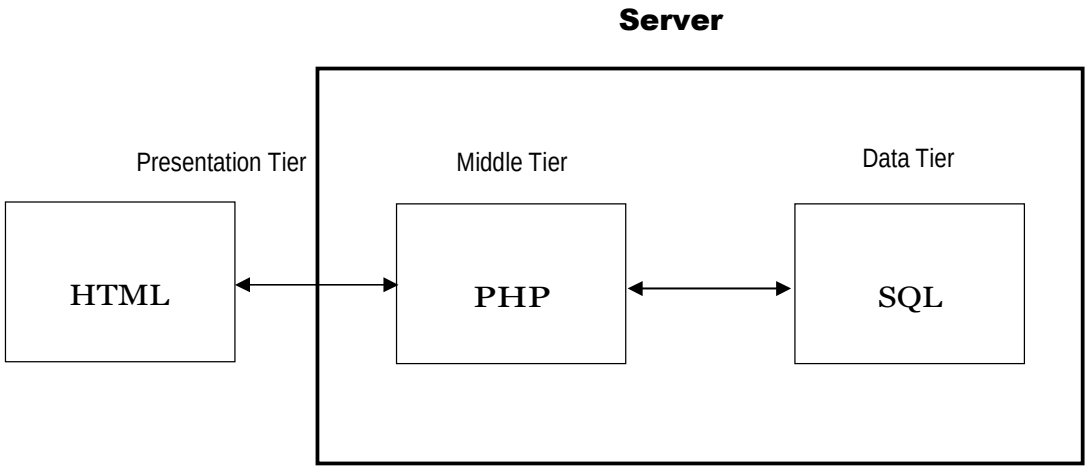


Figure 1: System Architecture

To make software development easier and faster, Integrated Development Environment (IDE) may be adopted. An IDE is a software application that provides comprehensive facilities to computer programmers for software development. An IDE normally consist of a source code editor; build automation tools and a debugger (Burd, 2005).

MySQL Workbench

MySQL is the world's most popular open source database, enabling cost effective delivery of reliable, high-performance and scalable web-based and embedded database application. The data in MySQL are stored in tables.

MySQL workbench is a unified visual tool for database architectures, developers, and DBAs. It provides data modeling, SQL development and comprehensive administration tools for server configuration, user administration, backup and much more. MySQL workbench enables a DBA, developer, or data architect to manage databases. It includes everything a data modeler needs for creating complex Entity Relational (ER) models, forward and reverse engineering and also delivers key features for performing difficult change management and documentation tasks that normally require much time and effort. MySQL workbench delivers visual tools for creating, executing and optimizing SQL queries. The SQL editor provides color syntax highlighting, auto-complete, reuse of SQL snippets and execution history of SQL. The database connections panel enables developers to easily manage database connections. The object browser provides instant access to database schema and objects.

Dreamweaver CS5

Dreamweaver is a web design and development application that provides a visual WYSIWYG editor (colloquially referred to as the design view) and a code editor with standard features such as syntax highlighting, code completion and

code collapsing as well as more sophisticated features such as real-time syntax checking and code introspect for generating code hints to assist the user in writing code. The design view facilitates rapid layout design and code generation as it allows users to quickly create and manipulate the layout of HTML elements. It also features an integrated browser for previewing developed webpages in the program's own preview pane in addition to allowing content to be open in locally installed web browsers. Dreamweaver provides transfer and synchronization features, the ability to find and replace lines of text or code by search terms or regular expressions across the entire site, and a templating feature that allows single-source update of shared code and layout across entire sites without server-side includes or scripting. Dreamweaver like other HTML editors, edit files locally then uploads them to the remote web server using FTP, SFTP or WebDAV.

3.3 System Design

Database (Backend) Design

Database design is concerned with how data is represented and stored within the system.

The examination questions, answers, grades, and reviews must be stored in a persistent way. Moreover, we need to keep information about the students. The system stores the above information in a MySQL Database server. Such database

has been chosen since it is open source, and there are implementations available for the main architectures

User Interface (Frontend) Design

Usability is the ease with which a user can learn to operate, prepare inputs for, and interpret outputs of system or component. This usability of a system is made less more or less stressful by the usability and complexity of the user interface. The user interface of a system is therefore the part of the system that the end user interacts with. User interface design is concerned with how users add information to the system and with how the system presents information back to them.

Bootstrap

Bootstrap is a collection of tools for creating websites and web applications. It contains HTML and CSS-based design templates for typography, forms, buttons, navigation and other interface components as well as optional JavaScript extensions. Bootstrap was developed at Twitter as a framework to encourage consistency across internal tools.

Bootstrap is compatible with all major browsers and it also supports responsive design i.e. the layout of web pages adjusts dynamically, taking into account the characteristics of the device used (PC, tablet, mobile phone). Bootstrap

works by proving a clean and uniform solution to the most common, everyday interface tasks developers come across.

It is flexible enough to work for many unique design needs.

3.4 Existing Examination System

The existing system is human entry and keeping of the details of the student who are registered already & it is very difficult for each student to come in the exam center to give there exam. It is very problematic to the students from afar distance to reach the exam center. This system is required to prepare registration form, application form and question paper for the students and required to print a lot of number manual calculate how many students registered and verification of details of the students in a month by hand is very difficult. This requires quite a lot of time and wastage of money as it requires quite lot of manpower to do that another factor that takes into accounts that is the possibility of errors. The existing system is that all cannot be used for personal and quick reference. Even the other staff teacher can make quick entries than it responsible person is not present.

- Time Consuming for creating question paper
- Time to check right and wrong answers
- Calculation of Marks
- Limitation of number of student can give examination on time
- Require teacher to monitor exam center

- Student needs to come exam center

3.5 Proposed System

The modern automated system is developed with the aim to overcome the drawbacks of existing manual system. The proposed system has got many advantages were People from different parts of the world can register very easily. The new system is more automated. It is maze in such a manner that the entire new student can understand all the options in it very easily. It is made in a quick and easy referential manner. Access to all important matters were not always locked and can be opened easily at the time of urgency. The advantages of proposed system were that security is maintained in the new system. Securities for all necessary data are maintained off the record as it is easily understandable and user friendly, quick entries can be made in this system provides complete online web based solution, including student registration, tests, storing of results.

- Complete web based administrator can manage examination & question bank from web interface.
- No geographical boundary
- Student can deliver examination from anywhere of the world.
- 100% accuracy in result calculation
- Randomization of question set

CHAPTER FOUR

SYSTEM REQUIREMENTS AND SPECIFICATIONS

4.1 Functional Requirements

Functional requirement defines the capabilities and functions that a system must be able to perform successfully. In software engineering and system engineering a functional requirement defines a function of a system or its component. These functions are the set of inputs, the behavior and outputs of the system in question. In order words it captures the intended behavior of the system. This behavior may be expressed as services, tasks or functions the system is required to perform and it shows the features that differentiate the system from other systems. Functional requirements should include: Descriptions of data to be

entered into the system, descriptions of operations performed by each screen, descriptions of work-flows performed by the system, which can enter the data into the system and how the system meets applicable regulatory requirements

The intended software's functions are highlighted below:

- The system has a homepage where respective users (administrator & students) can login to perform their different operations.
- The system has the test page where the student would be presented with test questions to be answered by him/her. The system then automatically adds the marks allocated in each question to determine the total mark for the test.

Non-functional Requirements

These define system properties and constraints e.g. reliability, response time and storage requirements. Constraints are I/O device capability, system representations, etc. It is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. This should be contrasted with functional requirements that define specific behavior or function.

4.2 The Functions of the Online Examination System

As shown in figure 2, roles of the online examination system have student, teacher and administrator.

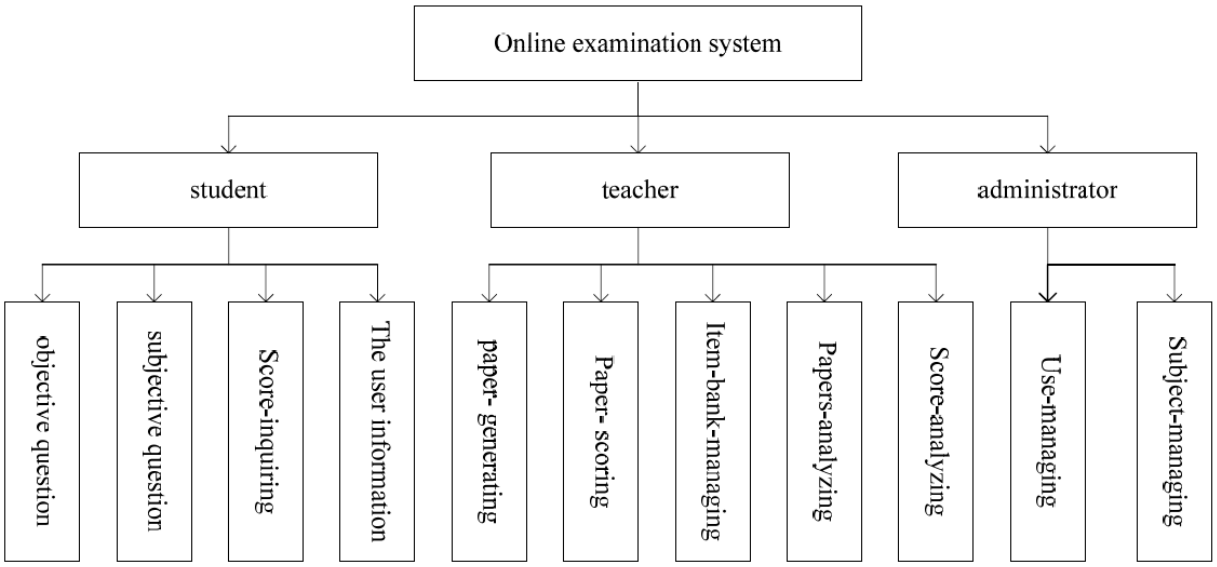


Figure 2. Function module diagram of online examination system

A. Subsystem of Student

1) Objective question module

At present, the system supports objective questions, such as single topic selection, multiple choice, and judgment question.

This module involves unit test and final examination.

Objective question module is the first part of tests that a student participates in. After students login in subject selection page, select the corresponding subject and type of tests, then the system will automatically jump to page of objective questions. In this page, students must finish the test within the given time. When

students submit paper, the system will record their answers to the database and show about the correct answers and score of the objective questions.

In addition, the system sets the test time depending on the type of tests. The time is displayed on page of the test.

2) Subjective question module

At present, the system supports short answer question and essay question.

Subjective question module is the second part of tests that a student takes part in. It also involves unit test and final exam.

The subjective topic test is a kind of test that is arranged by teachers. When students submit paper, the system will record their answers to the database.

On the page of subjective topic test, the system uses the timer similarly.

3) Score-inquiring module

For objective question test, the system will give scores immediately when students submit answers. If questions on the paper are subjective, the teachers will send email to students after correcting the answers online.

Students also can login in the system to click the scores query button in the navigation bar. The system will jump to student achievement page. This page shows the students' grade of all the subjects, moreover, students can choose to view the details of each subject. Detailed page includes the scores of all kinds of questions.

4) The user information module

It shows teachers' information, students' information, etc.

B. Subsystem of Teacher

1) Paper-generating module

The system randomly organizes questions to make up a test paper automatically.

According to their own needs, all the teachers can automatically extract the questions from the item bank to form a test paper by setting the parameters. These parameters are: question types, score of every type, degree of difficulty, and chapters, etc (Liang and Sun, 2019).

2) Item-bank-managing module

In this module, teachers can enter questions into item bank, modify, delete, and inquire questions.

3) Paper- scoring module

This module is one of the core functions of the online examination system. It includes automatic and manual mode.

The automatic mode needs to match the students' the correct answers. In the system, the types of objective questions are divided into single topic selection, multiple choice, and judgment question. According to the characteristics of the

different types of questions, the system designs different matching algorithms of the correct answers and quickly calculates the student's test scores. At the end of the exam, the system will automatically give scores for students to look at in according to the students' answers (Guo, 2011).

In the manual mode, teachers correct subjective questions online. When the examination is over, teachers score students' answers and record scores into database.

4) Score-analyzing module

This module provides the score of each test about each student, and displays the scores of all kinds of questions.

With this module, students can learn about their weaknesses and advantages in detail.

5) Papers-analyzing module

The system automatically generates statistical results of each exam, including score distribution, total score, and average score, which can help teachers master the study state of all the students. On the basis of these results, teachers can change teaching strategies, and improve teaching methods (Xiao, 2018).

C. Subsystem of Administrator

The following are the main function modules of the subsystem.

1) Subject- managing module

In this module, teachers can create new examination subjects and administrators can manage all the subjects.

2) User -managing module

The online examination system involves students, teachers, and administrators. Only the administrators have the authorities of user management.

4.3 Algorithm of Auto-Generating Paper

The algorithm of automatically generating paper is an important part of the online examination system. Common algorithms of generating paper are: random algorithm, heuristic algorithm, genetic algorithm. This system adopts the random algorithm for generating paper. The following is the specific process of algorithm realization, as shown in figure 3.

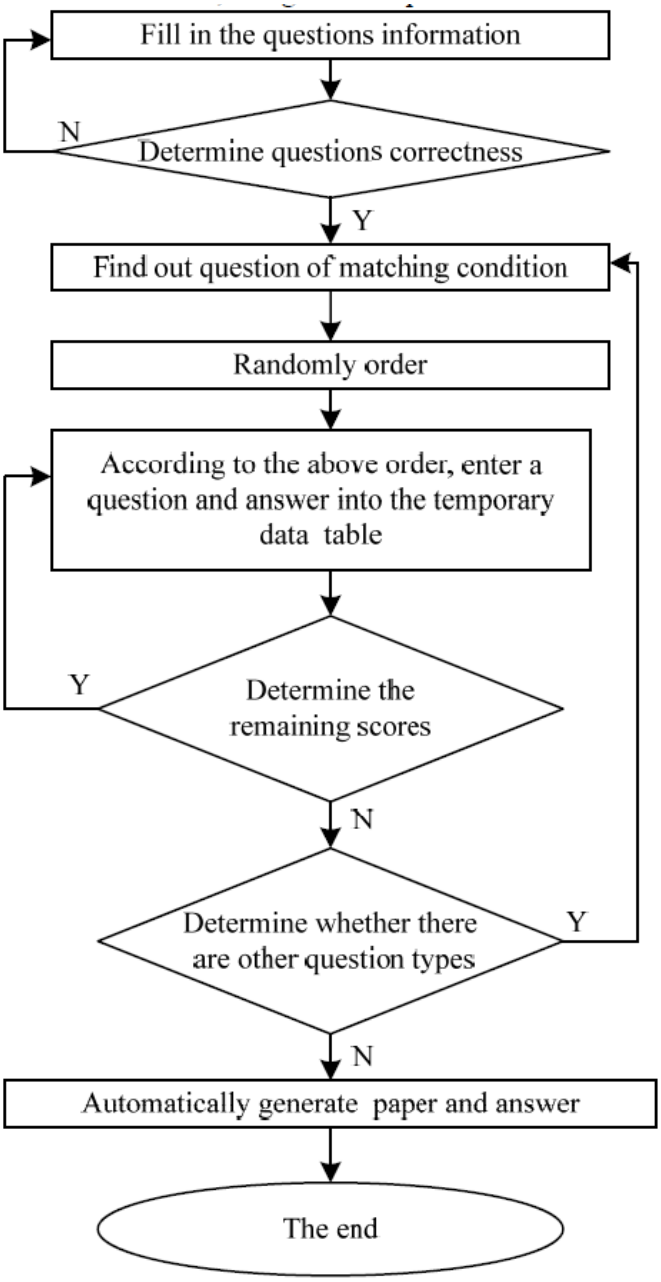


Figure 3. The flow diagram of generating paper

Parameters of a paper are: question types, score of every type, degree of difficulty, and chapters, etc.

4.4 System Security

Online examination system as an important part of the assessment of students' learning outcomes, which needs to be confidential to the examinee and the related questions.

The related data and operation must ensure the safety of the whole system.

For system operators, administrators need to assigns different operating authority. Before operating, the system needs to authenticate the user's access. Only an operator with corresponding rights is allowed to related operations; otherwise, his operations are refused. In addition, the systems interfaces of the user are not allowed to access or operate are hidden. In order to ensure the data security of the system, it is necessary to strengthen the security of database management system, preventing illegal data destruction and loss of important data. In database security, mandatory access control and custom access control need to be implemented. The system assigns different user roles for different database users, and grants the permissions for user roles of the system. In addition, the system needs to strengthen the management of user access permissions. Only a specific permission operator can do the corresponding operation. The system needs to adopt two methods of access control and network control, ensuring no unauthorized access to the whole system and no illegal use to each function.

4.5 Genetic Algorithm for time table generation system

The Timetabling Genetic Algorithm is the major component of our application and project which produces the timetable for even / odd semester as the output. The Timetable generation system takes various inputs from the end-user such as department, semester, roll no etc. This all are as a input for timetable generation, we designed the timetabling generating genetic algorithm reduces time consumption and he pain in framing the timetable manually. Fig 2. It shown

Date	Start time	End time	ID	Subject	Sec	num Students	Room	Sign
01-03-2012	09.00	12.00	236-210	PRINCIPLES OF ENG GEOLOGY	01	57	S817	X
01-03-2012	09.00	12.00	230-342	CHEMICAL ENGINEERING LAB I	01	43	S817	O

~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
X	O	X	O	X	O	X	O	X	O	X
X	O	X	O	X	O	X	O	X	O	X
X	O	X	O	X	O	X	O	X	O	X
X	O	X	O	X	O	X	O	X	O	X
X	O	X	O	X	O	X	O	X	O	X

Fig2. Result of S817 Area

4.6 Features of Online Examination System:

- The login systems should be there & secured by the prefect password.
- Should have the ability to save the answer given by the student along with the question.
- Availability of answer checking system.

- Updated profile.
- Log out after the completion
- Admin panel.

Overview of the Used language & sever –

- Front End:
    a) HTML: Hyper text markup language which is used to create & save the web documents like – notepad.
    b) CSS: Cascading Style Sheets used to create attractive layout.
    c) Java-Script: A programming language which is commonly used with web browsers.
- Back End:

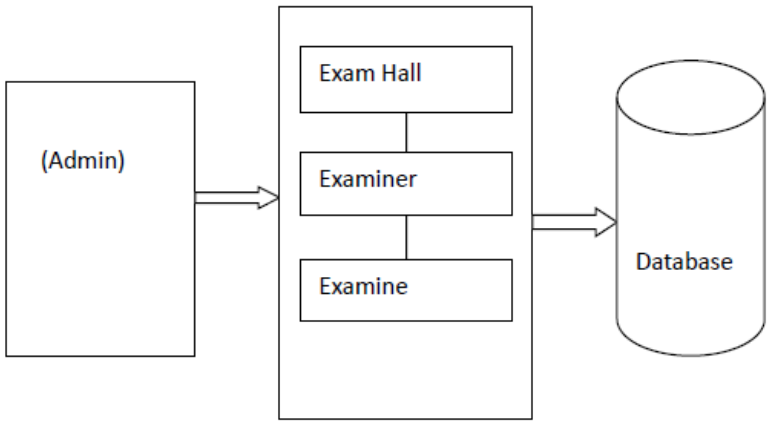
a) PhP: Hyper text preprocessor (PHP) a scripting language which is used to create a dynamic web page in HTML, XML or other document types as per the demand of the student. It is open source software.

b) MySQL: MySQL is a database which is mainly used for accessing querying, updating and managing data in databases.

- Software Used / Servers used:

a) WAMP: A software stack for the Microsoft windows operating system consisting of the Apache web server and this server works as the platform for

the web development and web data-base. Creates an environment to run the php language.



4.7 Architecture Structure of Online Examination System

In the examination system web browser is considered as the admin/main controlling unit; java server page as the business logic tier to achieve it function & database system as the database layer.

In the examination system the data tier was realized with database which was used to store the business data such as questions & papers MS-ACCESS was used to achieve the data tier.

Function Module diagram of Online Examination System:

Fig 2.was the function module diagram of Online Examination System; consisting of three modules in the system including monitoring, question paper generation and examine.

- Monitoring – the function of this module was to monitor the examination hall along with the examiner & examine.
- Paper generation – the function of this module was to generate the paper according to the specified requirements. It was the basic function of the Online Examination System.
- Online test – User could use the function of online test to randomly select a paper and login to the system at a given time the campus network.

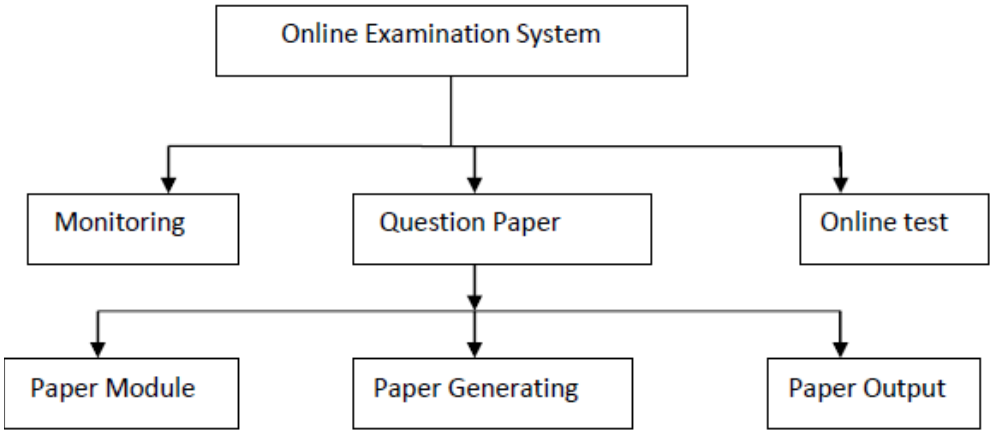


Fig.2 Online Examination System

Data table:

Administrator table:

S.No	Filed name	Data type	Description
1	User name	Text	Store user name for checking correct username
2	Password	Text	store password corresponding to user
3	User type	Text	User type Administrator

Teacher table:

S.No	**Filed name**	**Data type**	**Description**
1	Teacher id	Number	Unique key for every teacher
2	Teacher name	Text	Name of teacher

Student table:

S.No	Filed name	Data type	Description
1	Student id	Number	Unique key for every student
2	Student name	Text	Name of the student
3	Course id	Number	Unique code for subject
4	Course name	Text	Name of the subject
5	Result	Text	Evaluation of the data

4.8 Online Examination System Planning

It is necessary to plan the design and selection of modules to be involved in the development as the E-learning requires software applied to works over a network in order to serve the function of remote exam the Online Examination System consists of hardware and software pre-requisites. The Examination Phase is Managed Locally by the Student, all Questions, and Answers are Stored in the Temporary and Redundant Storage to Facilitate the Resumption Capability.

A facility value is appoint to the each question according to a determined fixed scale (e.g. 0-100 & 0-10). For the question selection, binary-tree technique algorithm is Student.

This algorithm works in the way below:

1- Among the questions in the applicable subject a question with medium level difficulty is asked first (e.g. if scope of 0-100 is used in question with 40 difficulty score). If student answers the question correctly, higher difficulty bracket (40-100 scope) is share equally to determine the difficulty level of the following question in our process the question with level of 75 is asked. If the student answers the question crudely, the lower difficulty bracket (0-50 scope) is share equally and a question with 15 difficulty level is asked.

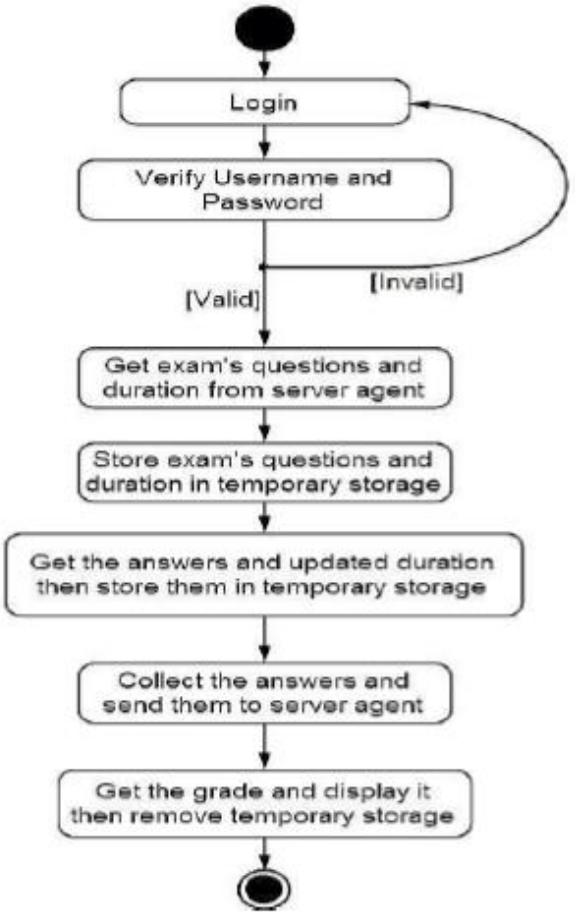
2- In the consecutive questions the difficulty score of the next question is determined by share equally the upscale or downscale entrance value scope due to the difficulty level of the latest question.

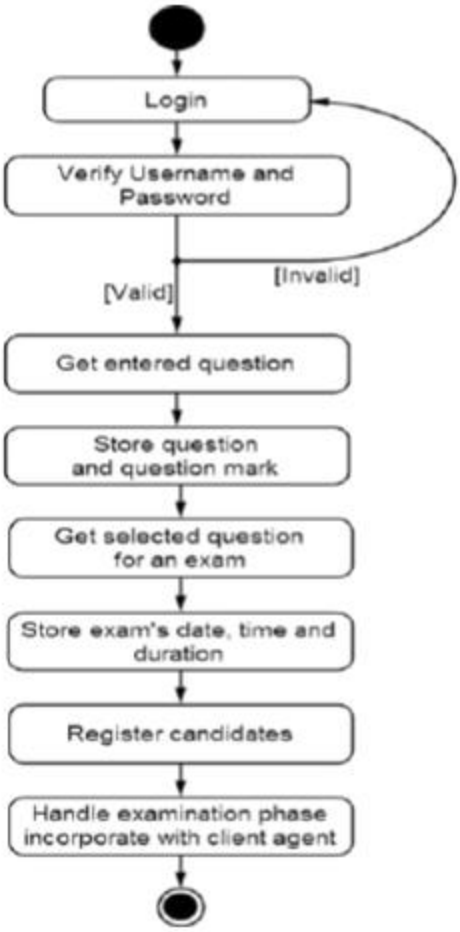
3- There is essential entrance values required to be used in the algorithm such as:

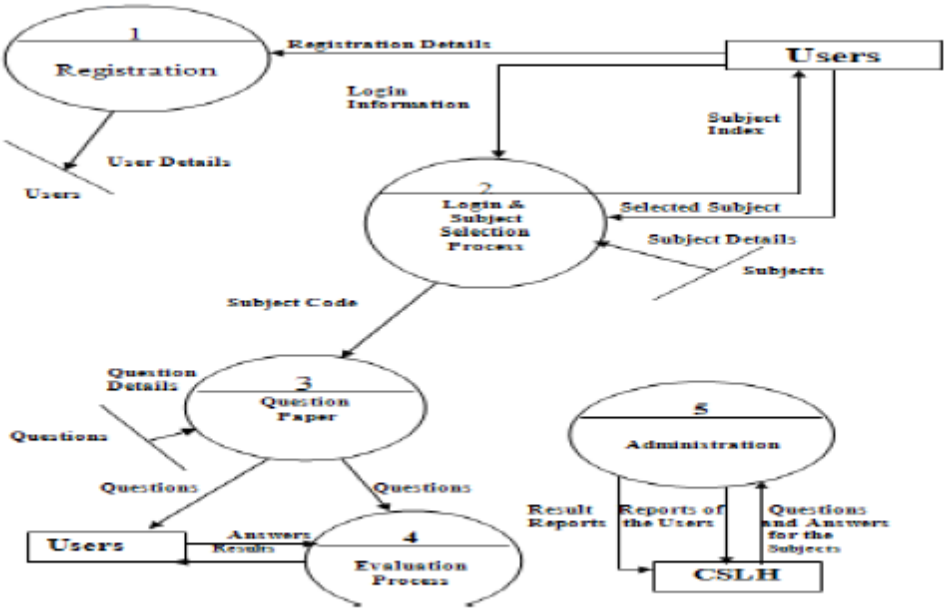
- •The maximum amount of question,
    - The minimum amount of question,
    - The largest difficulty score difference to let us consider the waving has slowed down,
    - The number of question needed to be asked to students to finish the test after the slowdown of the waving.
    - The inauguration strategy followed after the algorithm stopped (directly related to the entrance specified above).

4- There must be acceptable amount of questions (on the same difficulty level) prepared to reduce the probability of the face same question to the acceptable level. The expert system, searching for how well the computers get human conducted jobs done, is one of sub-branches of artificial intelligence programming science. An expert system is computer software relying on knowledge and deduction to perform a hard task which is supposed to be undertaken by expert people. It has a database consisting of information specialized in a proficiency subject as it is similar to the expertise of a person in a specialization area such as logically.

Data Flow Chart:-




Login
Verify Username and Password
[Invalid]
[Valid]
Get entered question
Store question and question mark
Get selected question for an exam
Store exam's date, time and duration
Register candidates
Handle examination phase incorporate with client agent


1
Registration
Registration Details
Users
Login Information
Subject Index
User Details
Users
2
Login & Subject Selection Process
Selected Subject
Subject Details
Subjects
Subject Code
Question Details
3
Question Paper
Questions
Questions
Questions
5
Administration
Users
Answers
Results
4
Evaluation Process
Result Reports
Reports of the Users
Questions and Answers for the Subjects
CSLH

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

This study design and develop the online examination system. This system overcomes the defects of the traditional detection method based on paper, and improves the efficiency of learning and testing. Of course, functions of the system are not perfect. This study will constantly expands and improve functions of the system. 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.The administrator's functions are clearly identified to be able to manipulate user's information such as add (register), delete users and managing the exam materials and content such as add, delete questions, Thus the proposed system is easy and flexible because for future maintenance and development because each subsystem can be handled separately without influence on other system.

5.2 Conclusion

Online examination system is a user friendly system, which is very easy and convenient to use. The system is complete in the sense that it is operational and it is tested by entering data and getting the reports in proper order. But there is always a scope for improvement and enhancement. During the development of this, coding standards are followed for easy maintainability and extensibility. The project was successfully designed and is tested for accuracy and quality.

The following conclusions can be deduced from the development of the project:

(a) Automation of the entire system improves the efficiency.

(b) It provides a friendly graphical user interface which proves to be better when compared to the existing system.

(c) It gives appropriate access to the authorized users depending on their permissions.

(d) It effectively overcomes the delay in communications.

(e) Updating of information becomes so easier.

(f) System security, data security and reliability are the striking features.

5.3 Recommendations

The author wishes to make the following recommendation:

i. Review the scope so as to widen the present study to ensure improvement in the existing.

ii. Implementation of the system because its effectiveness can go a long way towards improving of the credibility of the institution/training training courses.

iii. Any institution/training centers can adopt and modify the system since it was found to be cost effective.

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APPENDIX I: PROGRAM SOURCE CODES

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<meta name="viewport" content="width=device-width, initial-scale=1">

<title><?php
include_once 'dbConnection.php';
session_start();
if(isset($_SESSION['name']))
{
echo $_SESSION['name'];
}
else
{
echo '|| Test Your Skill';
}
?> || Test Your Skill </title>
<link  rel="stylesheet" href="../css/bootstrap.min.css"/>
<link  rel="stylesheet" href="../css/bootstrap-theme.min.css"/>
<link rel="stylesheet" href="../css/main.css">

<link  rel="stylesheet" href="../css/font.css">
<script src="../js/jquery.js" type="text/javascript"></script>


<script src="../js/bootstrap.min.js"  type="text/javascript"></script>

<link href='http://fonts.googleapis.com/css?family=Roboto:400,700,300' rel='stylesheet' type='text/css'>


<script>

</script>
</head>
```

```
<body  style="background:#eee;">
<div class="header">
<div class="row">
<div class="col-lg-6">
<span class="logo">Admin Portal</span></div>
<?php
include_once 'dbConnection.php';
$email=$_SESSION['email'];
if(!(isset($_SESSION['email']))){
header("location:index.php");

}
else
{
$name = $_SESSION['name'];;

include_once 'dbConnection.php';
echo '<span class="pull-right top title1" ><span class="log1"><span class="glyphicon glyphicon-user" aria-hidden="true"></span>  <b>Hello,</b></span><a href="dash.php" class="log log1"><b>'.$name.'</b></a> | <a href="logout.php?q=account.php" class="log">
<span class="glyphicon glyphicon-log-out" aria-hidden="true"></span> <b>Log Out</b></button></a></span>';
}?>

</div></div>

<!-- admin start-->
<!--navigation menu-->
<nav class="navbar navbar-default title1">
<div class="container-fluid">

<!-- Brand and toggle get grouped for better mobile display -->
<div class="navbar-header">

<button type="button" class="navbar-toggle collapsed" data-toggle="collapse" data-target="#bs-example-navbar-collapse-1" aria-expanded="false">

<span class="sr-only">Toggle navigation</span>
```

```
<span class="icon-bar"></span>
<span class="icon-bar"></span>
<span class="icon-bar"></span>
</button>
<a class="navbar-brand" href="dash.php?q=0"><b>Dashboard</b></a>
</div>
<!-- Collect the nav links, forms, and other content for toggling -->
<div class="collapse navbar-collapse" id="bs-example-navbar-collapse-1">
<ul class="nav navbar-nav">
<li <?php if(@$_GET['q']==0) echo'class="active"'; ?>><a href="dash.php?q=0">Home<span class="sr-only">(current)</span></a></li>
<li <?php if(@$_GET['q']==1) echo'class="active"'; ?>><a href="dash.php?q=1">User</a></li>
<li <?php if(@$_GET['q']==2) echo'class="active"'; ?>><a href="dash.php?q=2">Ranking</a></li>
<li <?php if(@$_GET['q']==3) echo'class="active"'; ?>><a href="dash.php?q=3">Feedback</a></li>
<li class="dropdown <?php if(@$_GET['q']==4 || @$_GET['q']==5) echo'active"'; ?>">
<a href="#" class="dropdown-toggle" data-toggle="dropdown" role="button" aria-haspopup="true" aria-expanded="false">Quiz<span class="caret"></span></a>
<ul class="dropdown-menu">
<li><a href="dash.php?q=4">Add Test</a></li>
<li><a href="dash.php?q=5">Remove Test</a></li>


</ul>
</li><li class="pull-right"> <a href="logout.php?q=account.php"><span class="glyphicon glyphicon-log-out" aria-hidden="true"></span> Signout</a></li>

</ul>
</div><!-- /.navbar-collapse -->
</div><!-- /.container-fluid -->
</nav>
<!--navigation menu closed-->
<div class="container"><!--container start-->
<div class="row">
<div class="col-md-12">
<!--Default Page-->
```

```
<?php if(@$_GET['q']==0.5) {
echo '<div class="panel"><center><h1 class="title" style="color:#660033">Welcome to Admin Portal!!</h1><center><br /></div>';
}?>
<!--Default Page Ends-->
<!--home start-->

<?php if(@$_GET['q']==0) {

$result = mysqli_query($con,"SELECT * FROM quiz ORDER BY date DESC") or die('Error');
echo  '<div class="panel"><div class="table-responsive"><table class="table table-striped title1">
<tr><td><b>S.N.</b></td><td><b>Topic</b></td><td><b>Total question</b></td><td><b>Marks</b></td><td><b>Time limit</b></td><td></td></tr>';
$c=1;
while($row = mysqli_fetch_array($result)) {
$title = $row['title'];
$total = $row['total'];
$sahi = $row['sahi'];
$time = $row['time'];
$eid = $row['eid'];
$q12=mysqli_query($con,"SELECT score FROM history WHERE eid='$eid' AND email='$email'" )or die('Error98');
$rowcount=mysqli_num_rows($q12);
if($rowcount == 0){
echo
'<tr><td>'.$c++.'</td><td>'.$title.'</td><td>'.$total.'</td><td>'.$sahi*$total.'</td>
<td>'.$time.' min</td>
<td><b><a href="../account.php?q=quiz&step=2&eid='.$eid.'&n=1&t='.$total.'" class="pull-right btn sub1" style="margin:0px;background:#99cc32"><span class="glyphicon glyphicon-new-window" aria-hidden="true"></span> <span class="title1"><b>Start</b></span></a></b></td></tr>';
}
else
{
echo '<tr style="color:#99cc32"><td>'.$c++.'</td><td>'.$title.' <span title="This quiz is already solve by you" class="glyphicon glyphicon-ok" aria-
```

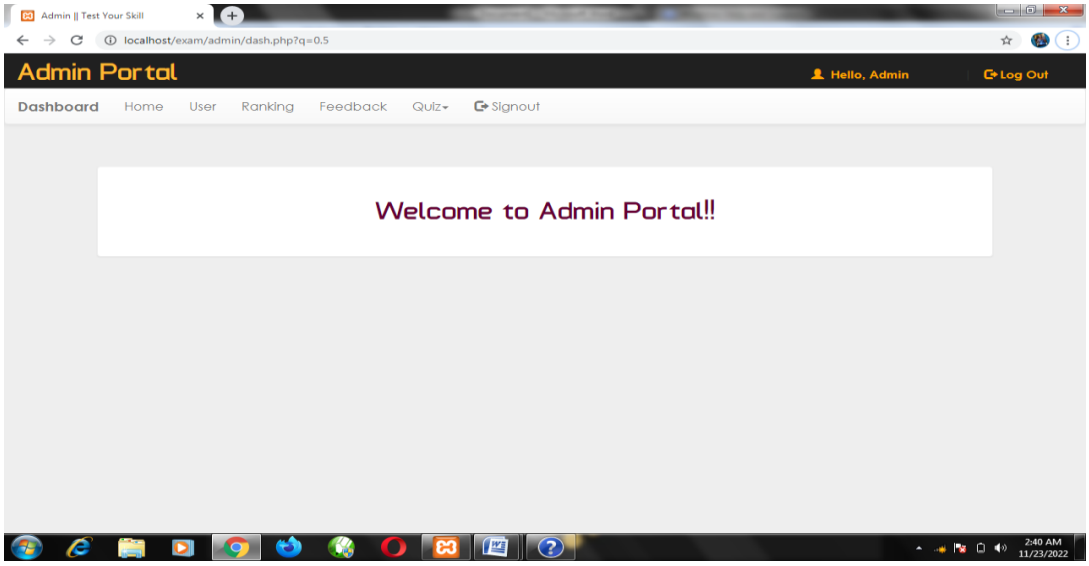
```
hidden="true"></span></td><td>'.$total.'</td><td>'.$sahi*$total.'</td><td>'.$time
.' min</td>
<td><b><a  href="../update.php?q=quizre&step=25&eid='.$eid.'&n=1&t='.$total.'"
class="pull-right btn sub1" style="margin:0px;background:red"><span
class="glyphicon glyphicon-repeat" aria-hidden="true"></span> <span
class="title1"><b>Restart</b></span></a></b></td></tr>';
}
}
$c=0;
echo '</table></div></div>';

}

//ranking start
if(@$_GET['q']== 2)
{
$q=mysqli_query($con,"SELECT * FROM rank  ORDER BY score DESC " )or
die('Error223');
echo  '<div class="panel title"><div class="table-responsive">
<table class="table table-striped title1" >
<tr
style="color:red"><td><b>Rank</b></td><td><b>Name</b></td><td><b>Gende
r</b></td><td><b>College</b></td><td><b>Score</b></td></tr>';
$c=0;
while($row=mysqli_fetch_array($q) )
{
$e=$row['email'];
$s=$row['score'];
$q12=mysqli_query($con,"SELECT * FROM user WHERE email='$e' " )or
die('Error231');
while($row=mysqli_fetch_array($q12) )
{
$name=$row['name'];
$gender=$row['gender'];
$college=$row['college'];
}
$c++;
echo                                                                    '<tr><td
style="color:#99cc32"><b>'.$c.'</b></td><td>'.$name.'</td><td>'.$gender.'</td><
td>'.$college.'</td><td>'.$s.'</td><td>';
```

```
}
echo '</table></div></div>';}

?>
<!--home closed-->
<!--users start-->
<?php if(@$_GET['q']==1) {

$result = mysqli_query($con,"SELECT * FROM user") or die('Error');
echo  '<div class="panel"><div ><table class="table table-striped title1">
<tr><td><b>S.N.</b></td><td><b>Name</b></td><td><b>Gender</b></td><td
><b>College</b></td><td><b>Email</b></td><td><b>Mobile</b></td><td></t
d></tr>';
$c=1;
while($row = mysqli_fetch_array($result)) {
$name = $row['name'];
$mob = $row['mob'];
$gender = $row['gender'];
$email = $row['email'];
$college = $row['college'];

echo
'<tr><td>'.$c++.'</td><td>'.$name.'</td><td>'.$gender.'</td><td>'.$college.'</td>
<td>'.$email.'</td><td>'.$mob.'</td>
<td><a title="Delete User" href="../update.php?demail='.$email.'"><b><span
class="glyphicon glyphicon-trash" aria-
hidden="true"></span></b></a></td></tr>';
}
$c=0;
echo '</table></div></div>';

}?>
<!--user end-->

<!--feedback start-->
<?php if(@$_GET['q']==3) {
$result = mysqli_query($con,"SELECT * FROM `feedback` ORDER BY
`feedback`.`date` DESC") or die('Error');
echo  '<div class="panel"><div class="table-responsive"><table class="table table-
striped title1">
```

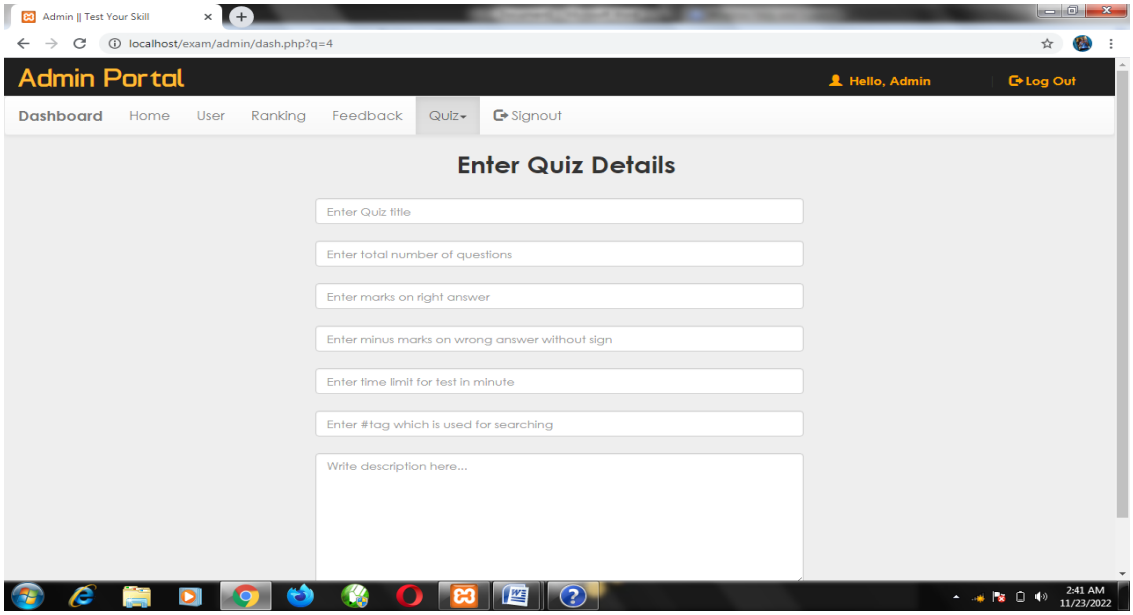
```
<tr><td><b>S.N.</b></td><td><b>Subject</b></td><td><b>Email</b></td><td
><b>Date</b></td><td><b>Time</b></td><td><b>By</b></td><td></td><td><
/td></tr>';
$c=1;
while($row = mysqli_fetch_array($result)) {
$date = $row['date'];
$date= date("d-m-Y",strtotime($date));
$time = $row['time'];
$subject = $row['subject'];
$name = $row['name'];
$email = $row['email'];
$id = $row['id'];
echo '<tr><td>'.$c++.'</td>';
echo '<td><a title="Click to open feedback"
href="dash.php?q=3&fid='.$id.'">'.$subject.'</a></td><td>'.$email.'</td><td>'.$da
te.'</td><td>'.$time.'</td><td>'.$name.'</td>
<td><a title="Open Feedback" href="dash.php?q=3&fid='.$id.'"><b><span
class="glyphicon glyphicon-folder-open" aria-
hidden="true"></span></b></a></td>';
echo '<td><a title="Delete Feedback" href="../update.php?fdid='.$id.'"><b><span
class="glyphicon glyphicon-trash" aria-hidden="true"></span></b></a></td>

</tr>';
}
echo '</table></div></div>';
}
?>
<!--feedback closed-->

<!--feedback reading portion start-->
<?php if(@$_GET['fid']) {
echo '<br />';
$id=@$_GET['fid'];
$result = mysqli_query($con,"SELECT * FROM feedback WHERE id='$id' ") or
die('Error');
while($row = mysqli_fetch_array($result)) {
$name = $row['name'];
$subject = $row['subject'];
$date = $row['date'];
$date= date("d-m-Y",strtotime($date));
```

```
$time = $row['time'];
$feedback = $row['feedback'];

echo '<div class="panel"<a title="Back to Archive" href="../update.php?q1=2"><b><span class="glyphicon glyphicon-level-up" aria-hidden="true"></span></b></a><h2 style="text-align:center; margin-top:-15px;font-family: "Ubuntu", sans-serif;"><b>'.$subject.'</b></h1>';
echo '<div class="mCustomScrollbar" data-mcs-theme="dark" style="margin-left:10px;margin-right:10px; max-height:450px; line-height:35px;padding:5px;"><span style="line-height:35px;padding:5px;">- <b>DATE:</b> '.$date.'</span>
<span style="line-height:35px;padding:5px;"> <b>Time:</b> '.$time.'</span><span style="line-height:35px;padding:5px;"> <b>By:</b> '.$name.'</span><br />'.$feedback.'</div></div>';}
}?>
<!--Feedback reading portion closed-->

<!--add quiz start-->
<?php
if(@$_GET['q']==4 && !(@$_GET['step']) ) {
echo '
<div class="row">
<span class="title1" style="margin-left:40%;font-size:30px;"><b>Enter Quiz Details</b></span><br /><br />
<div class="col-md-3"></div><div class="col-md-6"> <form class="form-horizontal title1" name="form" action="update.php?q=addquiz" method="POST">
<fieldset>


<!-- Text input-->
<div class="form-group">
<label class="col-md-12 control-label" for="name"></label>
<div class="col-md-12">
<input id="name" name="name" placeholder="Enter Quiz title" class="form-control input-md" type="text" required="required">

</div>
```

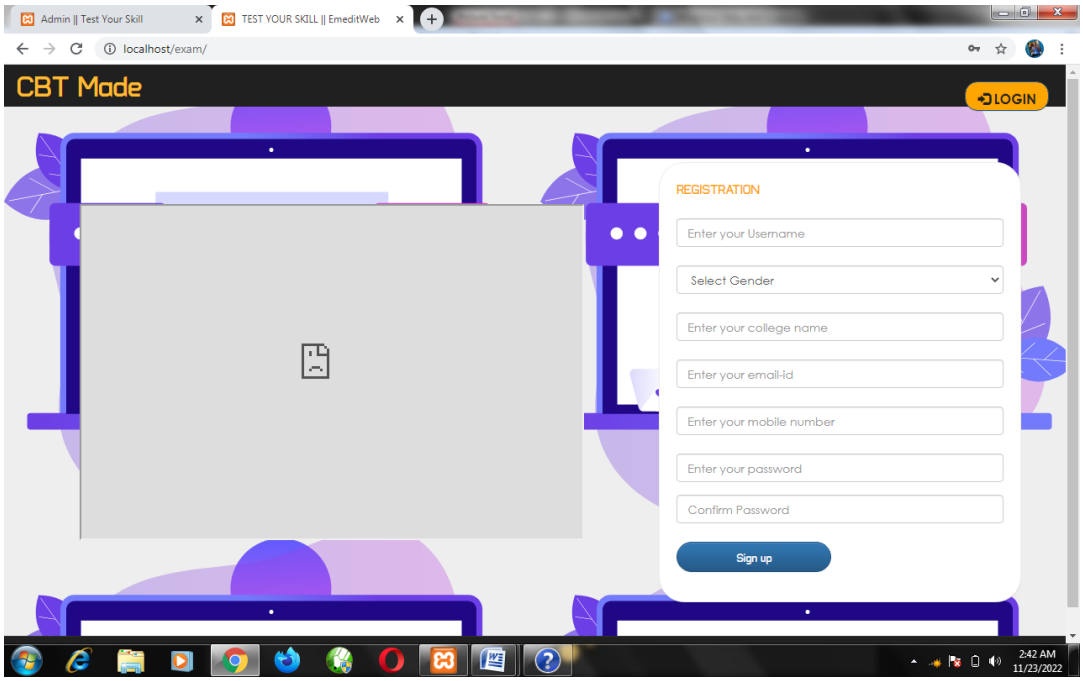
APPENDIX II: PROGRAM SCREENSHOTS



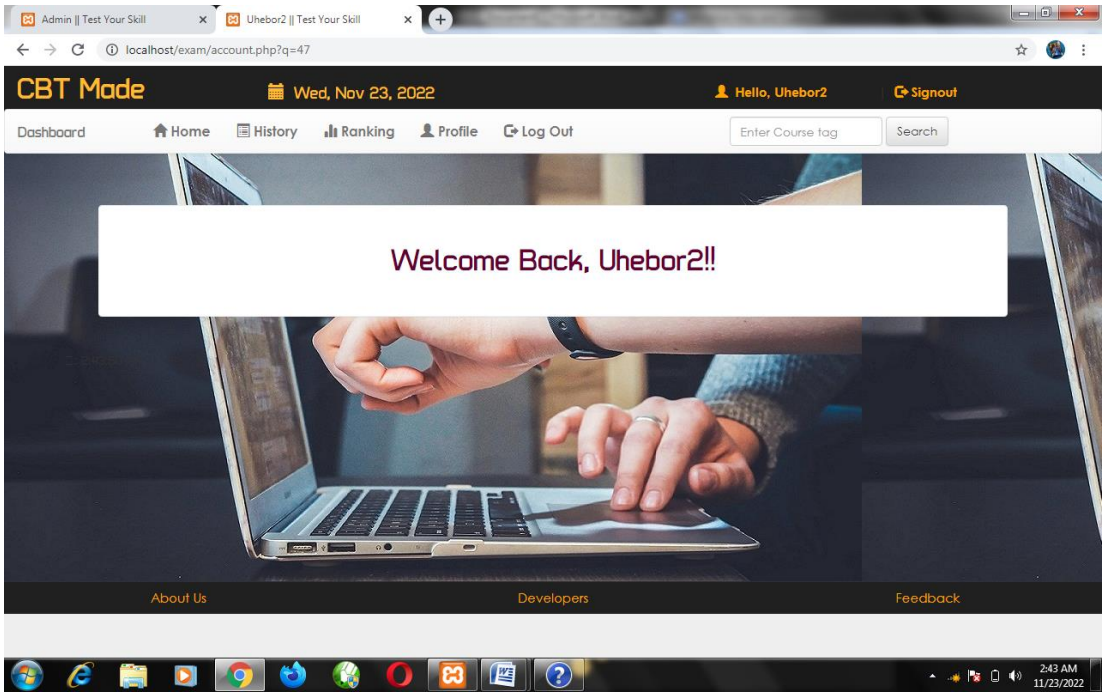
Admin portal (quiz details)



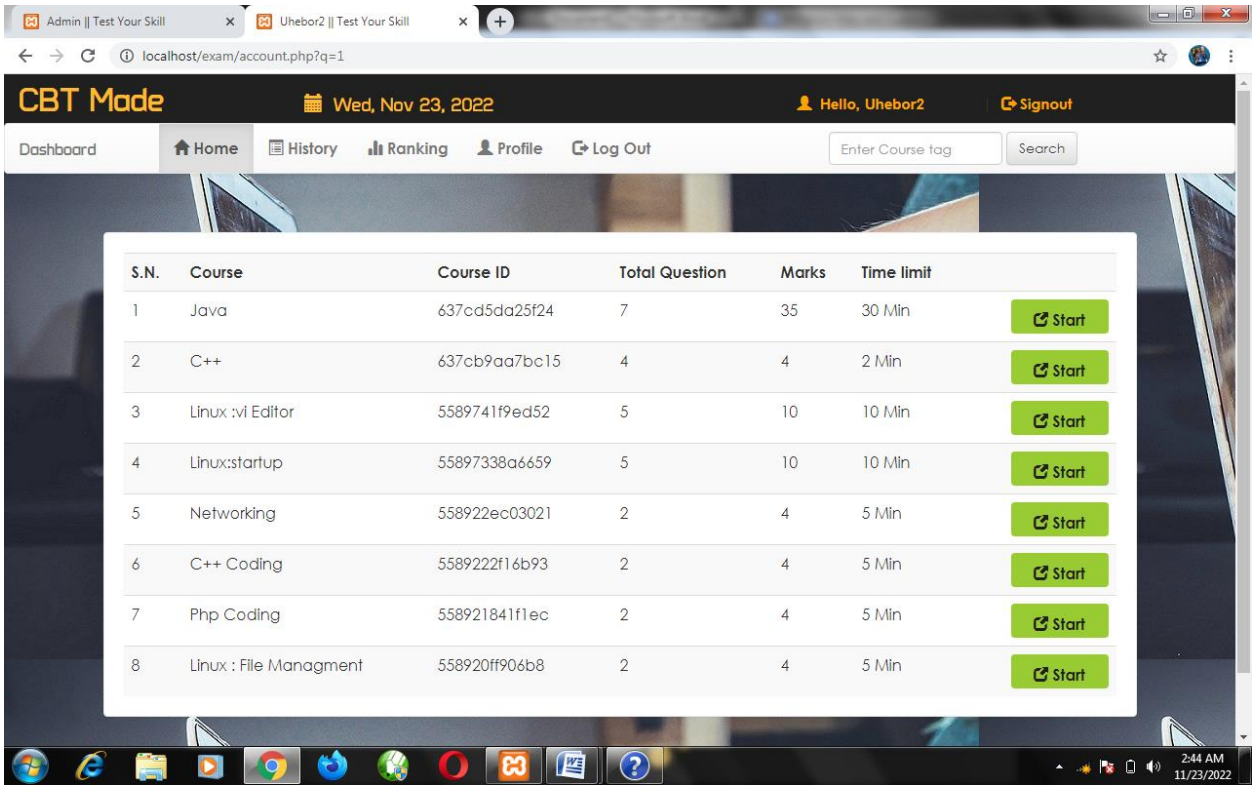
Admin portal (quiz details)



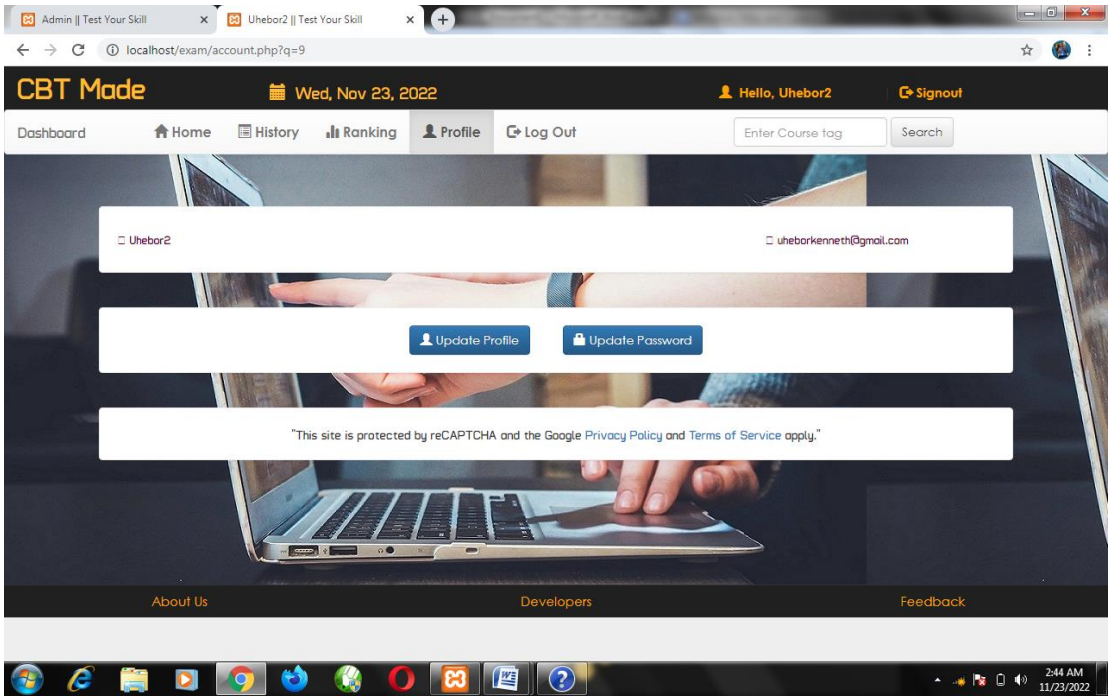
Computer base test Login



Computer base test



Computer base test Questions



Student Profile