MINI PROJECT-I REPORT (2020-21)

ONLINE QUIZ GENERATOR

Department of Computer Engineering & Applications



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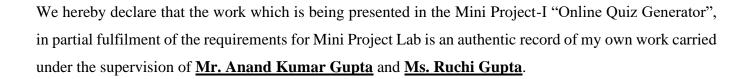
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Certificate

This is to certify that the project entitled "Online Quiz Generator" carried out in Mini Project-I is a bonafied work done by **Pratibha Dixit** (**181500498**) and **Megha Kansal** (**181500382**) and is submitted in partial fulfilment of the requirement of the project to be submitted under Mini Project-I for 5th semester.

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Thanking You All,

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Abstract

ONLINE QUIZ forms the lifeline of the Educational Institutes to the functioning of the Examination. It is very essential for an Institute to handle the Examinations and their results. It is very useful for an Institute to test its students continuously for their mutual development. This system is helpful for conducting Multiple Choice Questions (M.C.Q's) in the Examinations which can be conducted regularly as well as for surprise tests and provides immediate results saving the precious time of faculties to check the papers and prepare mark sheets.

The IT initiatives have encouraged various Organizations to develop systems to facilitate their day to day operations. The "Online Quiz Generator" system helps in conducting examinations quickly and can thus help in saving time and the operations will be carried out efficiently.

The traditional examination system with long, time consuming conducting and evaluating process, the online exam systems offers you the speedy and accurate solutions within desired time limit. The assessment is fast, reliable and accurate.

Online testing also reduces the printing of tests and other materials required for teaching as well as stationary required to conduct a pen-paper test.

The traditional examination system with long, time consuming conducting and evaluating process. In case of paper-based exam the verification of answers and result processing are huge and prone to error.

The online exam systems offer you speedy and accurate solutions within the desired time limit. Giving grades for online tests is easier than the conventional way of examination and is a time-saving advantage for educators. The assessment is fast, reliable and accurate. In online assessment, the result is more exact. With the effective use, any Institute can use the "Online Quiz Generator" for conducting quick examinations

and getting better results in less time.

It is a good source of interactivities among students and between the teacher and students. It is done in order to improve student's comprehension levels and learning motivation. As one of their tools, online test tools are quite effective.

So, we have developed a Web-based online test/quiz system which can create quizzes competitively and collaboratively for students for the purpose of reducing the load required for a teacher and promoting interaction among teachers and students.

CHAPTER-1 INTRODUCTION

1.1 General Introduction To The Topic:

Now a days, the web base quiz systems are getting popular with tremendous speed. As the technology is spreading throughout the world the automated systems are also taking the place of manual systems. Currently big institutes are running their online quiz systems at a very successful rate. As the time is progressing the online quiz is making interest to the faculties and also to the students. In the developed cities and organizations people are understanding that how the online quiz system is far better and efficient. With the recent time this system is vastly growing in this techno world.

The "Online Quiz Generator" is a web application for to take online test in an efficient manner and no time wasting for checking the paper. The main task of "Online Quiz Generator" is to efficiently evaluate a candidate thoroughly through a fully automated system that not only saves a lot of time but also gives fast results.

For students they give papers according to their convenience and time and there is no need of using extra things like answer sheets, question papers etc.

The traditional examination system with long, time consuming conducting and evaluating process, the online exam systems offers you the speedy and accurate solutions within desired time limit. The assessment is fast, reliable and accurate.

Fewer resources are required in online exams as compared to pen-paper test. Students can easily access the exams through the internet so it reduces the need for faculty and staff.

A physical campus, requirement of adequate faculty and study material, seating arrangements etc. are all mandatory for the traditional method.

Online testing also reduces the printing of tests and other materials required for teaching as well as stationary required to conduct a pen-paper test.

The traditional examination system with long, time consuming conducting and evaluating process. In case of paper-based exam the verification of answers and result processing are huge and prone to error.

The online exam systems offer you speedy and accurate solutions within the desired time limit. Giving grades for online tests is easier than the conventional way of examination and is a time-saving advantage for educators. The assessment is fast, reliable and accurate. In online assessment, the result is more exact. The recruiter just sends a mail to the candidates for the post and it will be reached to the millions of register candidates.

The online exam provides flexibility and security for question paper as each student can get random questions of same exam pattern.

It is not possible to set different exam paper for different student and there are chances of leakage of exam paper while passing it to different examination centers.

A great advantage of online testing is its accessibility to students with disabilities. Computers can be customized to cater to those with various physical disabilities.

The physically disabled students have limited access to such traditional methods of educations and examination. Reaching the campus, writing the papers could be an obstacle for them.

Online exams offer the option of adding videos, images, sound clips, PDFs and more to a test item to help enrich the content.

The use of multimedia simultaneously helps an online test be more inclusive for all types of test takers, such as those who are more visual learners.

Online test comes up with several built-in features designed to prevent cheating like browser lock-down, disables keys like Print Screen, arrow keys and ESC, which means that test-takers cannot save screenshots of the test, or go back to a previous screen and change their answer. Another key security feature is dual-proctor login, where the administrator must be logged in first before a test taker can write the test. This prevents students from accessing the test questions ahead of time and unfairly preparing for them.

Whereas in the traditional exams, cheating could be simpler as there is no other alternatives.

This web application can be used anywhere and at any time as it is a web based application (user location doesn't matter). No restriction that examiner has to be present when the candidate takes test.

1.2 Area Of Computer Science:

Web development is the work involved in developing a Web site for the Internet (World Wide Web) or an intranet (a private network). Web development can range from developing a simple single static page of plain text to complex Web-based Internet applications (Web apps), electronic businesses, and social network services. A more comprehensive list of tasks to which Web development commonly refers, may include Web engineering, Web design, Web content development, client liaison, client-side/server-side scripting, Web server and network security configuration, and e-commerce development.

Among Web professionals, "Web development" usually refers to the main non-design aspects of building Web sites: writing markup and coding. Web development may use content management system (CMS) to make content changes easier and available with basic technical skills.

For larger organizations and businesses, Web development teams can consist of hundreds of people (Web developers) and follow standard methods like agile methodologies while developing Web sites. Smaller organizations may only require a single permanent or contracting developer, or secondary assignment to related job positions such as graphic designer or information systems technician. Web development may be a collaborative effort between departments rather than the domain of a designated department.

There are three kinds of Web developer specialization:

- 1. Front-end Developer
- 2. Back-end Developer
- 3. Full-stack Developer

Front-end developers are responsible for behaviour and visuals that run in the user browser, while backend developers deal with the services. Whereas, full-stack developers are combination of both front-end developers and back-end developers.

1.3 <u>Hardware And Software Requirements:</u>

1.3.1 <u>Hardware Requirements Specification:</u>

Processor : Intel Pentium III or later

Main Memory(RAM) : 256 MB

Cache Memory : 512 KB

Monitor : 14 inch Color Monitor

Keyboard : 108 Keys

Mouse : Optical Mouse

Hard Disk : 160 GB

1.3.2 <u>Software Requirements Specification:</u>

Front End/Language : PHP, CSS, JavaScript

Back End/Database : MYSQL

Additional Tools : XAMPP Server

Operating System : Windows 7, 8, 9, 10, XP

CHAPTER-2

PROBLEM DEFINITION

2.1 Existing System:

Examinations are one of the most common methods of measuring learning in education systems throughout the world. At virtually every stage of the learning process, exams are used to verify that the learner is ready to move on to the next stage. However, many people believe that the role of examinations should be reconsidered.

Paper based written examinations have their flaws. The biggest problem with the traditional examinations is that they only assess the performance of the student on the day of the exam. As a result a bright student who couldn't prepare well for the exam due to reasons that were beyond their control will get a poor grade. This is unfair. If the student performed well throughout the year in class tests and other informal assessments, there is no justification for giving them a poor grade just because they failed to perform well in one examination. Written examinations also encourage mugging. Parents and teachers force students to learn answers by heart with the sole objective of getting a good score. Many of these students don't understand the concepts and yet they get good marks. They won't be able to answer the same questions if you ask them a few days later. This kind of learning will benefit neither the student nor the society.

Some of major problems of pen and paper based examinations:

The first problem is that there are loads of hard copied documents being generated. This brings us to the

age-old discussion of keeping information in the form databases versus keeping the same on sheets of paper. Keeping the information in the form of hard-copied documents leads to the following problems. Secondly, they have a poor predictive quality because they only judge a student's ability under set conditions and limited time. Many times a student who is otherwise good may get anxious or confused under strict conditions and perform exam may not up to the mark. Thirdly, many exams encourage teaching to the test practice. This is to say, teaching a fixed curriculum focused on passing a specific exam. This method limits the curriculum to a set range of knowledge and skills. Obviously such practice does not provide many educational benefits. However, if some improvements are made to remove the above mentioned drawbacks, exams certainly provide many educational advantages. Therefore, I believe that the benefits of exams far outweigh their drawbacks.

Exams clearly have a role to play in ensuring proper, objective assessment of achievement. However, exams need to be carefully designed and supplemented with other forms of assessment if they are to be a truly useful component of the educational system.

2.2 Drawbacks Of Existing System:

- **i.** Lack of space It becomes a problem in itself to find space to keep the sheets of paper being generated as a result of the ongoing discussion. The documents being generated are too important to be ill-treated.
- ii. Filing poses a problem Filing the documents categorically is a time consuming and tedious exercise.
- **iii. Filtering is not easy** It becomes hard to filter relevant documents for the irrelevant ones if the count of the same crosses a certain manageable number.
- iv. Reviewing becomes time-consuming All the process done manually at the centers and all the records are maintained on the papers. So the maintenance of the record is very difficult in the departments and as well as it's very difficult for the workers to check the record. The Existing system is paper based, time consuming, monotonous, less flexible and provides a very hectic working schedule. The chance of loss of records is high and also record searching is difficult. Maintenance of the system is also very difficult and takes lot of time.
- v. Limited flexibility- Using traditional paper-based assessments often does not allow for the customization of questions. The questions used may be standard, university set queries without instructors being able to add tailored course-specific questions. Using a paper-based process also doesn't afford much flexibility in terms of the reports that can be generated for instructors and faculty. Standard reports are often used without the ability to present results differently, whether showing results over time or across multiple courses.
- **vi. High cost** A major disadvantage of using paper assessments is the high cost associated with the process. The number of personnel involved as well as the printing, distributing, scanning, rekeying, filing and archiving is very costly. When institutions move to an online system these significant costs can often be reduced by at least 50 percent.

vii. Non eco-friendly- A lot of paper is needlessly wasted in the traditional evaluation process. Wasting such a valuable environmental resource often goes against the institution's 'green' initiatives and university-wide goals.

viii. Result Processing: is slow due to paper work and requirement of staff.

2.3 Proposed System:

Effective exam management is critical to establishing academic achievement and competency. Every year thousands of students appear for various highly competitive examinations to pursue their career goals. Until recently, educational institutions used traditional solutions to administer these large scale examinations. The traditional examination solutions involve hours of preparation and coordination, and authorities have to track student exam registration details, identity verification, hall ticket details, and other data manually. Test examiners could only evaluate the paper-based answer scripts on-premises, and there was also the risk of misplacing answer scripts as it changed hands. This often led to delay in result publication.

Online examination systems facilitate seamless coordination of various aspects, from registration, creating an exam and candidate verification, as well as security and result tabulation. These exam systems come with online invigilation and proctoring features to ensure a fair examination process.

This Web Application provides facility to conduct online examination worldwide.

It saves time as it allows number of students to give the exam at a time and displays the results as the test gets over, so no need to wait for the result. It is automatically generated by the server. Administrator has a privilege to create, modify and delete the test papers and its particular questions. User can register, login and give the test with his specific id, and can see the results as well.

Tests and quizzes have always been a motivator to study harder when students know that their progress will be judged upon an exam, a performance review etc. It sets a deadline for when material needs to be learned by and diligent students know they must adhere to that.

The use of different forms of testing, such as multiple choice tests, fill-in-the-blanks, true or false, or essay questions can also be used to assess the progress of students with different learning styles. Catering to the needs of different learning styles is an important aspect of e-learning which gives it the edge over traditional learning models. It is a good idea to use different types of material, and varying types of tests and quizzes to engage everyone in an online class.

An important note on online quizzing and testing is the ability a learner has to research the web for answers and creating tests should be done with that in mind. If something is too hard and/or a little off topic in terms of the material taught, it is likely to be researched online. If the tests are too easy, they will be dismissed and passed over without much being learned. Thus tests should be structured in a way that encourages learners to think back to the material taught within the course rather than looking for answers elsewhere.

2.4 Features Of Proposed System:

- ENVIORNMENT FRIENDLY: Straight out of the gate, an online examination system cuts down the negative impact traditional pen and paper exams have on the environment. The sheer amount of reduction in the use of paper is immense and wastage of paper is also curbed. In a world where students will be graduating into an environmental crisis being caused by climate change, this kind of eco-friendly and forward-thinking approach to everyday processes is important. Students will imbibe these values over the course of their education.
- TECHNOLOGICALLY FORWARD: Another key advantage to using the online examination system is that it integrates well into a technologically rich world. The use of pen and paper in professional situations is reducing. Most work is done using email, text messages, computers for presentations, computer-based design, etc. Making students familiar with a variety of interfaces using this system is preparing them for the real world. It is likely their familiarity with such an interface and process will be especially helpful for events such as training and testing even in the future after they have graduated.
- SAVES ON TIME INVESTMENT: Creating, administering and evaluating a test are timeintensive tasks for everyone involved from the student to the teachers. Using an online
 examination system allows some amount of reduction in the time investment required of the
 examination process as a whole. This is because features like addition and import of questions,
 easy access to the exam for students, and batch-wise evaluations allow students and teachers to
 save valuable time that would ordinarily be wasted on non-primary tasks and instead direct those
 energies towards actually setting and assessing scholarly progress for students.
- **REDUCES LABOR COST:** The sheer amount of resources that can be used to set up a single examination is mind-boggling from teachers setting the examination to administrators ensuring that enough copies of the exam paper have been made for all students. Using an online examination system eliminates many of these processes and the associated labour costs, which directly and positively impacts the bottom line of the educational institution implementing the system.
- **FUNCTIONAL CAPABILITIES:** The ultimate aim of this project is to help the quiz analysis and facilitate the faculties the faculties for easy evaluation of the students and generation of the automatic score cards. The system shall display the set of questions with certain rules. It also

displays the category for which the students wish to answer. Once the student has completed choosing the category starts answering the questions. The mark is given and report is generated based on the correct answers.

- **PERFORMANCE LEVEL:** The scope of this project gives immense opportunity for the students to know their levels in quiz. It provides effective software so as to help the students as well as the evaluators who are involved in evaluating the student's performance.
- **DATA STRUCTURES:** The data in this project are maintained in the tabular form using MYSQL in the form of database. It provides easy access to the user. Easy category questions are maintained in the database which provides easy for the user to access and choose the category.
- **SAFETY:** No data loss occurs in the quiz system. It is very much protected in such a way that it gives permission to the students to access only when the username and password is correct. The results are produced electronically so that nobody is prone to mistakes.
- **RELIABILITY:** We assure that the project is completely authenticated in order to enhance security and corruptions of database as well as the software. The person is given access only if he/she has a valid username and password.
- **QUALITY:** The project is developed with the help of visual basic 6.0 software which meets the requirement of the user, the project is checked whether the phases individually have a served its purpose.

CHAPTER-3

OBJECTIVE

3.1 General Objective For Using Online Examination

Platform:

Even in this modern digital age where everyone is connected and everything is online, there are many organizations that still rely on pen and paper as the trusted method by which they deliver exams and assessments. The traditional exam-hall approach dates back over 3,000 years, where an Imperial Examination was run in China to select suitable candidates for the civil service. Apart from the fact that you could potentially be executed if you were caught cheating, very little has changed in terms of the process associated with running pen and paper-based exams – candidates come to an exam hall and record their answers on paper, whilst being watched over by one or more supervisors.

But just because it's always been done like this, doesn't negate the significant issues associated with the exam-hall approach. Aside from the logistical challenges of finding and managing test centres and the administration associated with securely routing paper exams and answer sheets to all the various places they need to go, there are also significant draw backs for candidates. Is it logical that after studying all the course material online, a working professional has to take time off work and travel miles to sit their accreditation exam? If a university student has to re-sit a faculty exam, it is fair to expect them to cut short their summer work experience and fly home early?

A lack of flexibility is probably the most obvious drawback for candidates when it comes to running face-to-face exams, but this extends a lot further than just the logistics of travel. Consider an accountant taking an advanced qualification, it seems unreasonable to expect them to produce a set of accounts on a sheet of paper when they are used to working online. Office work today consists of spreadsheets and text editors. It is impossible to replicate this world using one-dimensional pen and paper and that puts candidates at a distinct disadvantage when taking their exam. It imposes a different way of doing things – having to map out answers in advance before actually starting to write. The pressure of exams is more enough to contend with.

Interestingly, one of our clients who runs exams with essay-style answers experienced a 12% increase in the pass rate when they moved to online assessment. Based on feedback from candidates who were surveyed after the exam, they directly attribute this increase two factors. One was that candidates could edit their answers before submitting and the second was that candidates did not have to write for three hours. The overall quality of the responses in terms of content, structure and legibility was far better than in previous exam sittings! Definitely something to think about.

3.2 <u>Objective Behind Development Of "Online Quiz Generator"</u>:

Technological advancements in this era of digitization along with being a boon to the world have been advantageous to the educational sector too. The introduction of online exam software replaced the conventional system of assessment.

The various examination conducting agencies are now able to evaluate the test takers freely and cost-effectively through computer-based tests. This article discusses the objectives of an online quiz system.

Before proceeding further let us understand the concept of "Online Quiz Generator" system. This software allows users to take online tests and automatically generate results based on the answers marked by the users.

Let's now discuss the reason for the introduction of "Online Quiz Generator" in the modes of conducting an assessment.

- ✓ Conduct Exams Effortlessly: Computer-based tests as a method of conducting an assessment enable users to manage an exam easily. The functionalities of an exam software such as user-friendly dashboard, multiple languages, support for multiple question types and formats, detailed reporting, automatic instant results help in smooth conduction.
- ✓ **Reduce exam anxiety amongst test takers:** The flexibility associated with computer-based test takers as they can take the exam at any time of the day that coincides with their preferred sleep/wake cycles.
- ✓ Promote social interaction between the test takers and experts: An online environment provides exam preparation with experts or peers as they can review the course content together. Online assessment is possible through an exam software which lays the real foundation of academic teaching as it facilitates discussion with teachers and other students.
- ✓ **Prevents cheatings:** Cheating amongst the test-takers in the examination hall is one of the major drawbacks of pen-paper based assessment. Online examination manages to avoid the possibilities of

secretly using unfair means to get the right answers up to a large extent. The presence of various functionalities in exam software prevents cheating irrespective of the test taker's location.

- ✓ Safe and secure data: Various tools offered by exam software have enabled the assessment conducting agencies to manage the crucial data related to examination questions and test-takers safely.
- ✓ **Reduce administrative burden:** Organizing and running exams online not only reduces an organizations administrative burden but also saves cost and time. Online examination/quiz with its objective to make evaluation massive but simple, cost-effective and faster has replaced the pen-paper based assessment. The examination managing agencies have started preferring computer-based test to instill their lost faith in the method of conducting an evaluation.

CHAPTER-4

IMPLEMENT&TION

DETAILS

4.1 <u>Detail Description Of Technology Used:</u>

Following is the brief description about various technologies used while designing this system:

PHP (Hypertext Preprocessor):

Hypertext Preprocessor is a widely used, general-purpose scripting language that was originally designed for web applications.

PHP code is usually processed on a web server by a PHP interpreter implemented as a module, a daemon or as a Common Gateway Interface (CGI) executable. On a web server, the result of the interpreted and executed PHP code – which may be any type of data, such as generated HTML or binary image data – would form the whole or part of an HTTP response. Various web template systems, web content management systems, and web frameworks exist which can be employed to orchestrate or facilitate the generation of that response. Additionally, PHP can be used for many programming tasks outside of the web context, such as standalone graphical applications and robotic drone control. Arbitrary PHP code can also be interpreted and executed via command-line interface (CLI).

The standard PHP interpreter, powered by the Zend Engine, is free software released under the PHP License. PHP has been widely ported and can be deployed on most web servers on almost every operating system and platform, free of charge.

The PHP language evolved without a written formal specification or standard until 2014, with the original implementation acting as the *de facto* standard which other implementations aimed to follow. Since 2014, work has gone on to create a formal PHP specification.

By September 2020, two out of every three websites using PHP are still on discontinued PHP versions, and almost half of all PHP websites use version 5.6 or older, that not even Debian supports (while Debian 9 still supports version 7.0 and 7.1, those versions are unsupported by The PHP Development Team). In addition, PHP version 7.2, the most popular supported PHP version, will stop getting security updates on November 30, 2020 and therefore unless PHP websites are upgraded to version 7.3 (or newer), 84% of PHP websites will thus use discontinued versions.

> PHP Advantages:

A popular choice in today's web world is using PHP. PHP is a general-purpose scripting language that is especially suited to server-side web development where PHP generally runs on a web server. Its clarity in design, well organized modules and better upkeep of various technologies, make it the most popular

language in the online industry today. Its popularity and credibility can be judged by the fact that reputed organizations like Harvard University and popular social networking site Facebook, both are based on PHP. This is possible because PHP websites can be easily maintained, improved and updated from time to time.

There are several reasons why Php programming language is in the forefront of website development:

- 4.1.1 **Easy and Simple to Learn:** PHP is considered one of the easiest scripting languages. Compared to other web languages, PHP doesn't require a manual or intensive studying. PHP syntax is logical and well-organized. Even command functions are easy to understand, as they tell the developer what function they perform. As a result, web developers find it very easy to create and optimize the application.
- 4.1.2 **Extremely Flexible:** PHP is highly flexible whether it is during an ongoing project or after completing the project. Flexibility in a scripting language is very crucial, as functionality can change anytime during the course of a project. The best part about PHP is the ability to make changes even after starting the project and this saves valuable time.
- A developer does not have to write fresh codes or command functions, as changes to the existing codes and functions can be done and used.
- 4.1.3 **Easy Integration and Compatibility:** PHP is compatible with a large majority of operating systems. It can easily run on different platforms, including UNIX, Solaris and Linux. As it can be integrated without effort with other technologies, such as Java, existing software does not require re-development. This saves time and money.
- 4.1.4 **Efficient Performance:** Depending on how the web developer codes, PHP has the potential to turn in an efficient language. It is scalable when used for writing codes and can also be used for creating a large number of applications. It is the programming language of choice when a website has several webpages.
- 4.1.5 **Cost-Efficient:** PHP is an open-source web language, hence is completely free. There is no expense involved in purchasing expensive licenses or software. It can work efficiently with different databases, such as MySQL, Apache, and PostgreSQL. The cost of developing a website using PHP is minimal.
- 4.1.6 **Gives Web Developer More Control:** Compared to other programming languages, PHP allows the website developer to have more control. Other programming languages are bogged down by long, complicated scripts, but this isn't true for PHP. A few simple lines of code are sufficient.

Furthermore, PHP allows tags, and hence, website developers can add and/or mix HTML tags, making the content extremely dynamic.

Developers don't have to worry about placing codes in the right place when using PHP, as it is written between tags. Hence, functions and codes do not have to be written in any specific order, as long as they are within the tags.

PHP has a very helpful, active, and widespread PHP community. Also, this scripting language offers a lot of resources, such as commands, functions, and codes, which can easily be rewritten and used without incurring any cost. The ease of use, easy integration, cost efficiency, and easy access makes PHP one of the most popular server-side programming languages.

> JavaScript:

JavaScript is an object-oriented scripting language used to enable programmatic access to objects within both the client application and other applications. It is primarily used in the form of client-side JavaScript, implemented as an integrated component of the web browser, allowing the development of enhanced user interfaces and dynamic websites. JavaScript is a dialect of the ECMA Script standard and is characterized as a dynamic, weakly typed, prototype-based language with first-class functions. JavaScript was influenced by many languages and was designed to look like Java, but to be easier for non-programmers to work with Java Script was originally developed by Brendan Eich of Netscape under the name Mocha, which was later renamed to Live Script, and finally to JavaScript.

It is a programming language that is characterized as dynamic, weakly typed, prototype-based and multiparadigm.

Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it, and major web browsers have a dedicated JavaScript engine to execute it.As a multiparadigm language, JavaScript supports event-driven, functional, and imperative (including object-oriented and prototype-based) programming styles. It has APIs for working with text, arrays, dates, regular expressions, and the DOM, but the language itself does not include any I/O, such as networking, storage, or graphics facilities. It relies upon the host environment in which it is embedded to provide these features.

Initially only implemented client-side in web browsers, JavaScript engines are now embedded in many other types of host software, including server-side in web servers and databases, and in non-web programs

such as word processors and PDF software, and in runtime environments that make JavaScript available for writing mobile and desktop applications, including desktop widgets.

The terms *Vanilla JavaScript* and *Vanilla JS* refer to JavaScript not extended by any frameworks or additional libraries. Scripts written in Vanilla JS are plain JavaScript code.

Although there are similarities between JavaScript and Java, including language name, syntax, and respective standard libraries, the two languages are distinct and differ greatly in design. JavaScript was influenced by programming languages such as Self and Scheme.

> Apache:

The name 'Apache' was chosen from respect for the Native American Indian tribe of Apache, well-known for their superior skills in warfare strategy and their inexhaustible endurance. It also makes a cute pun on "a patchy web server", a server made from a series of patches but this was not its origin. The group of developers who released this new software soon started to call themselves the "Apache Group". The Apache HTTP Server, colloquially called Apache, is a free and open-source cross-platform web server software, released under the terms of Apache License 2.0. Apache is developed and maintained by an open community of developers under the auspices of the Apache Software Foundation.

> SQL Server:

SQL is Structured Query Language, which is a computer language for storing, manipulating and retrieving data stored in a relational database. SQL is the standard language for Relational Database System. All the Relational Database Management Systems (RDMS) like MySQL, MS Access, Oracle, Sybase, Informix, Postgres and SQL Server use SQL as their standard database language.

Also, they are using different dialects, such as –

- MS SQL Server using T-SQL,
- Oracle using PL/SQL,
- MS Access version of SQL is called JET SQL (native format) etc.

MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses. MySQL was owned and sponsored by the Swedish company MySQL AB, which was bought by Sun Microsystems (now Oracle Corporation). In 2010, when Oracle acquired Sun, Widenius forked the open-source MySQL project to create MariaDB.

MySQL is a component of the LAMP web application software stack (and others), which is an acronym for Linux, Apache, MySQL, Perl/PHP/Python. MySQL is used by many database-driven web

applications, including Drupal, Joomla, phpBB, and WordPress. MySQL is also used by many popular websites, including Google (though not for searches), Facebook, Twitter, Flickr, and YouTube.

MySQL is written in C and C++. Its SQL parser is written in yacc, but it uses a home-brewed lexical analyzer.MySQL works on many system platforms, including AIX, BSDi, FreeBSD, HP-UX, eComStation, i5/OS, IRIX, Linux, macOS, Microsoft Windows, NetBSD, Novell NetWare, OpenBSD, OpenSolaris, OS/2 Warp, QNX, Oracle Solaris, Symbian, SunOS, SCO OpenServer, SCO UnixWare, Sanos and Tru64. A port of MySQL to OpenVMS also exists.

The MySQL server software itself and the client libraries use dual-licensing distribution. They are offered under GPL version 2, or a proprietary license.

Support can be obtained from the official manual. Free support additionally is available in different IRC channels and forums. Oracle offers paid support via its MySQL Enterprise products. They differ in the scope of services and in price. Additionally, a number of third party organisations exist to provide support and services, including MariaDB and Percona.

> CSS:

Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

Cascading Style Sheets, fondly referred to as CSS, is a simple design language intended to simplify the process of making web pages presentable.

CSS handles the look and feel part of a web page. Using CSS, you can control the color of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colors are used, layout designs, and variations in display for different devices and screen sizes as well as a variety of other effects.

➤ Advantages Of CSS:

- CSS saves time You can write CSS once and then reuse same sheet in multiple HTML pages. You can define a style for each HTML element and apply it to as many Web pages as you want.
- Pages load faster If you are using CSS, you do not need to write HTML tag attributes every time. Just
 write one CSS rule of a tag and apply it to all the occurrences of that tag. So less code means faster
 download times.

- **Easy maintenance** To make a global change, simply change the style, and all elements in all the web pages will be updated automatically.
- Superior styles to HTML CSS has a much wider array of attributes than HTML, so you can give a far better look to your HTML page in comparison to HTML attributes.
- Multiple Device Compatibility Style sheets allow content to be optimized for more than one type of
 device. By using the same HTML document, different versions of a website can be presented for handheld
 devices such as PDAs and cell phones or for printing.
- Global web standards Now HTML attributes are being deprecated and it is being recommended to use
 CSS. So its a good idea to start using CSS in all the HTML pages to make them compatible to future
 browsers.

> Bootstrap:

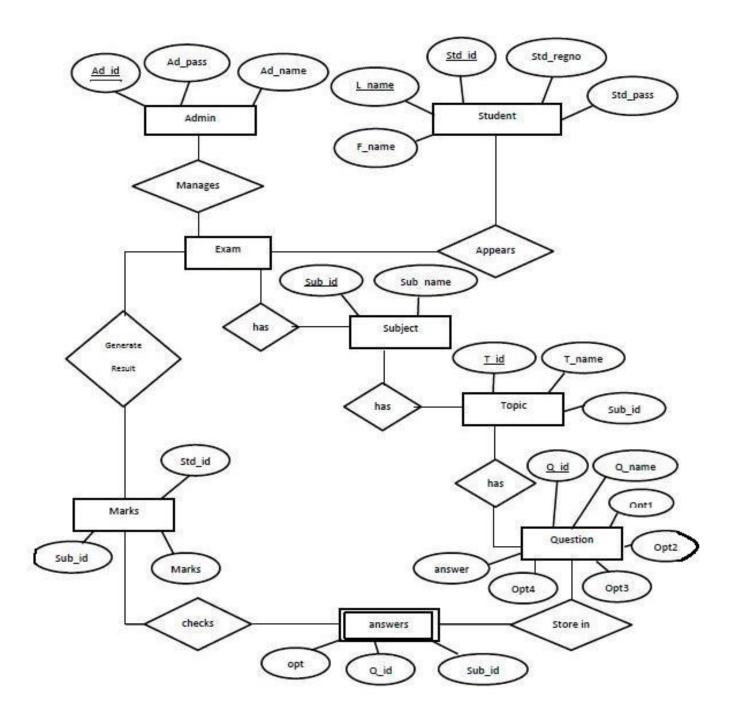
Originally created by a designer and a developer at Twitter, Bootstrap has become one of the most popular front-end frameworks and open source projects in the world.

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

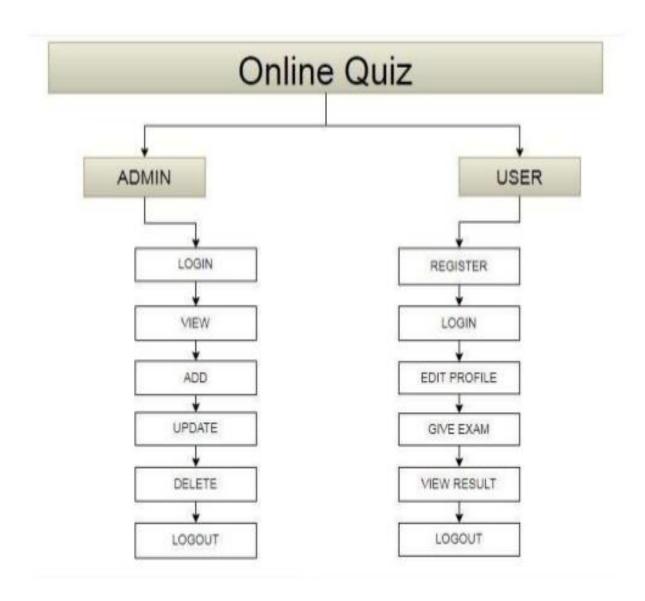
Bootstrap is a free and open front-end framework for designing websites and web applications. It contains HTML - and CSS -based design templates for typography, forms, buttons, navigation and other interface components, as well as optional JavaScript extensions. Unlike many earlier web frameworks, it concerns itself with front end development only.

Bootstrap is the second most-starred project on GitHub, with more than 129,000 stars. Bootstrap comes with several JavaScript components in the form of jQuery plugins. They provide additional user interface elements such as dialog boxes, tooltips, and carousels. They also extend the functionality of some existing interface elements, including for example an auto-complete function for input fields. In version 1.3, the following JavaScript plugins are supported: Modal, Dropdown, Scrollspy, Tab, Tooltip, Popover, Alert, Button, Collapse, Carousel and Typeahead.

4.2 ERD (Entity Relationship Diagram):



4.3 Model Hierarchy Diagram:



CHAPTER-5

CODE REPOSITORY

LINK

Our source code is available at both below repositories you can use any of the given below link to access the code of our Mini Project-I, "Online Quiz Generator".

Link-1 to Pratibha Dixit's repository:-

Link: https://github.com/pratibhadixit3990/Mini-Project

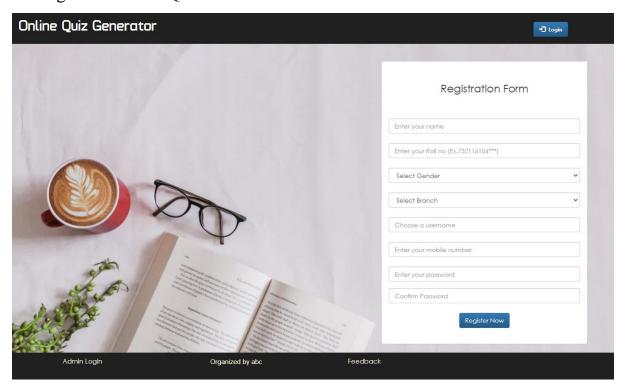
Link-2 to Megha Kansal's repository:-

Link: https://github.com/meghakansal12/MiniProject-Online_Quiz_Generator

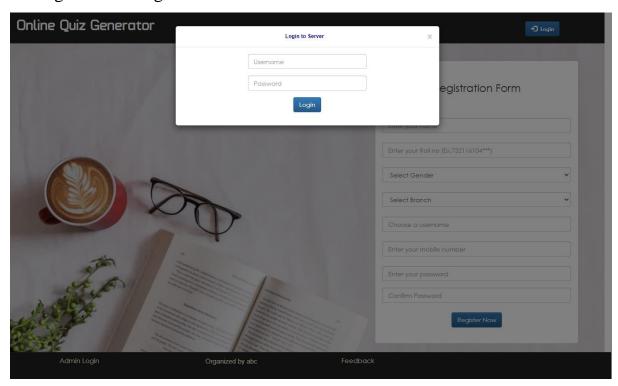
CHAPTER-6

SCREENSHOTS

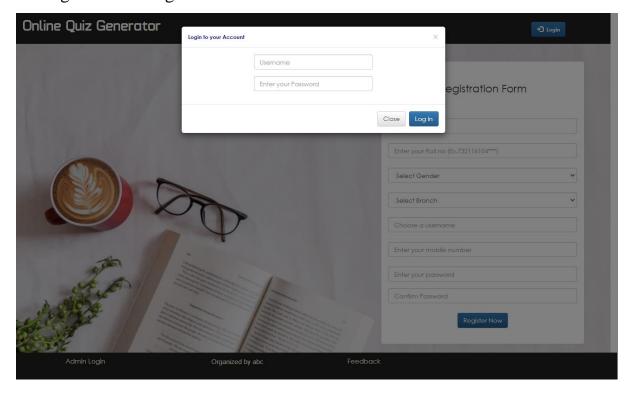
6.1 Front Page Of "Online Quiz Generator":



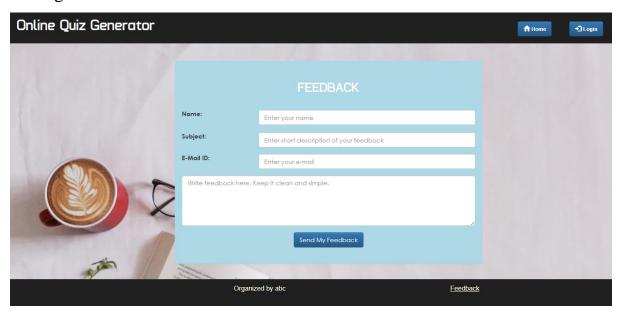
6.2 Front Page Admin Login:



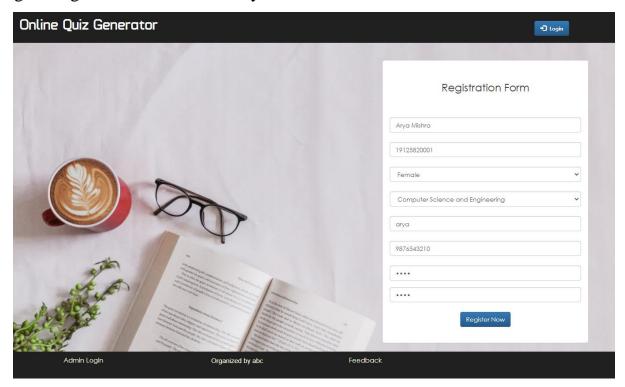
6.3 Front Page Student Login:



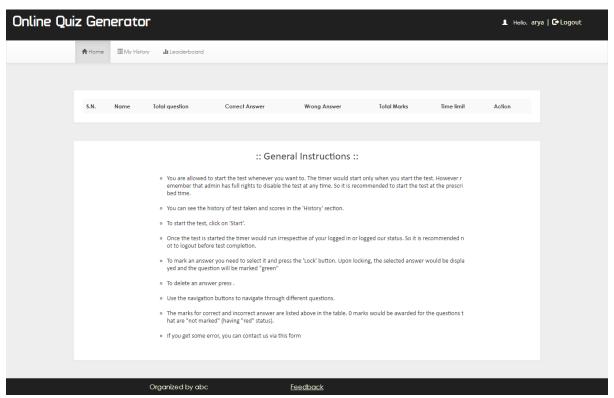
6.4 Front Page Feedback Panel:



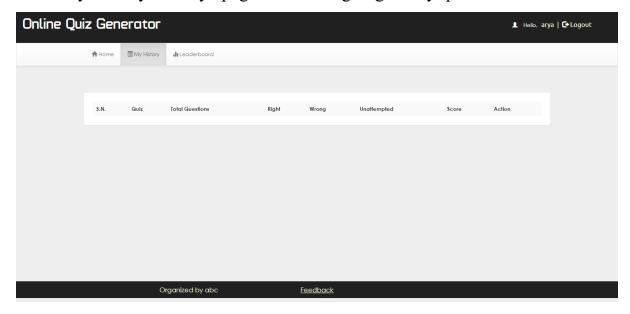
6.5 Registering A Student Named "Arya Mishra":



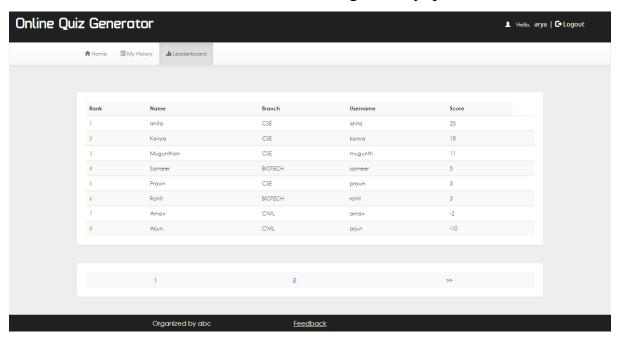
6.6 Student Arya's "Home" page before assigning of any quiz:



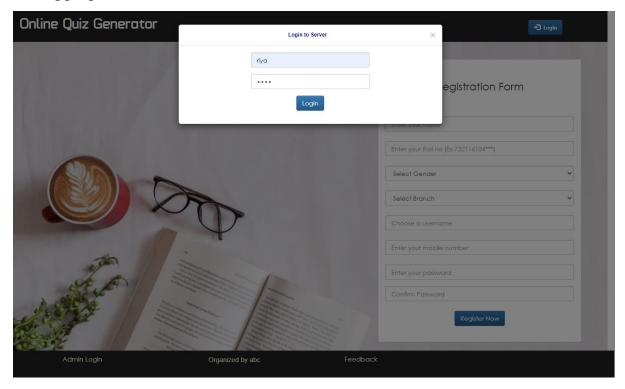
6.7 Student Arya's "My History" page before assigning of any quiz:



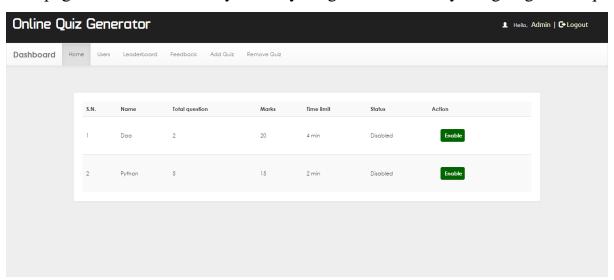
6.8 Student Arya's "Leaderboard" page before giving any quiz (You can see her name is not there on the leaderboard as until now she has not given any quiz as she is a new student):



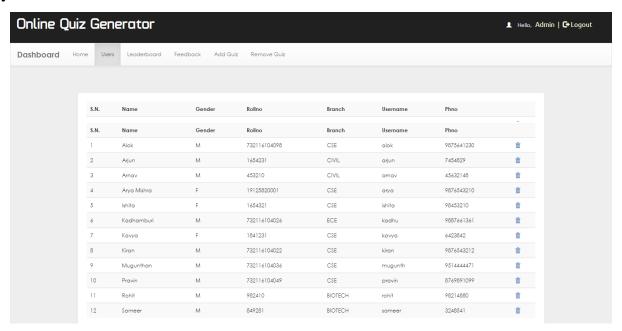
6.9 Now, logging in as Admin:



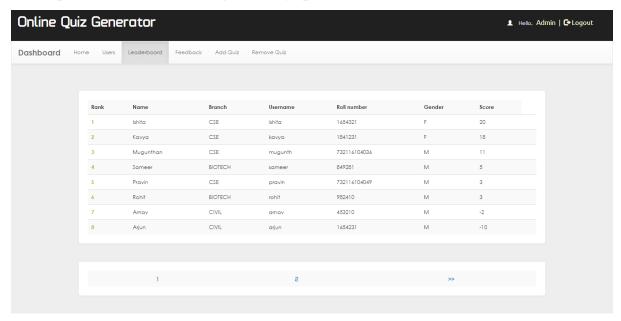
6.10 Admin's "Home" page containing of quizzes assigned by him/her earlier (as you can see status of both quizzes are disabled hence it cannot be seen on the home page of the new student Arya's "Home" page but if any of them is enabled it will be seen on student's "Home" page. But we will show you everything from scratch by assigning a new quiz):



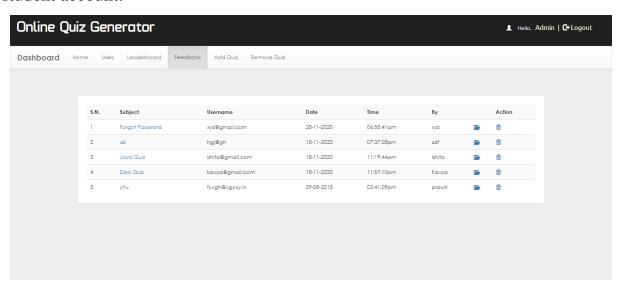
6.11 Admin's "Users" page consisting of all the students enrolled along with our new student Arya:



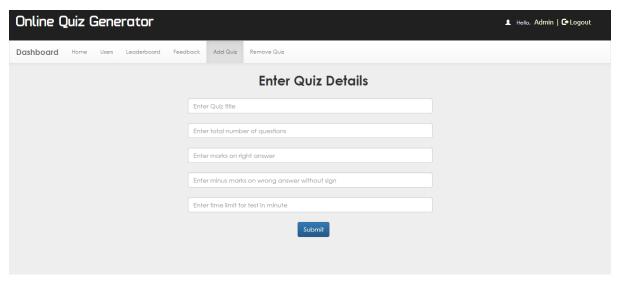
6.12 Admin's "Leaderboard" page (Here you will not be able to see our new student Arya's name as up till now she has not given any quiz so her overall score is not counted):



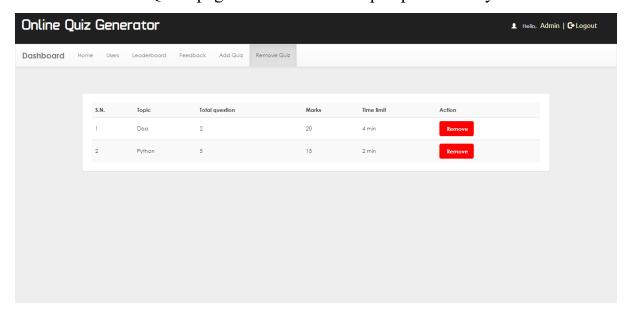
6.13 Admin's "Feedback" page consists of all the feedbacks submitted from the front page or student account:



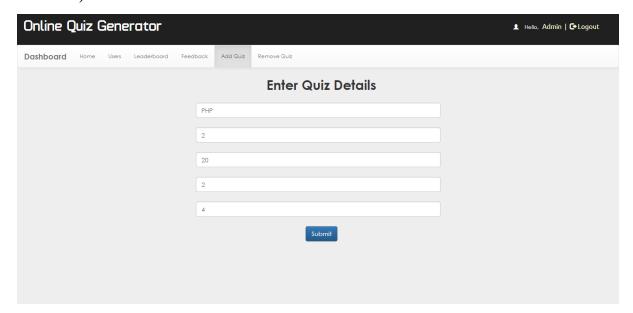
6.14 Admin's "Add Quiz" page used to create new quizzes for students:



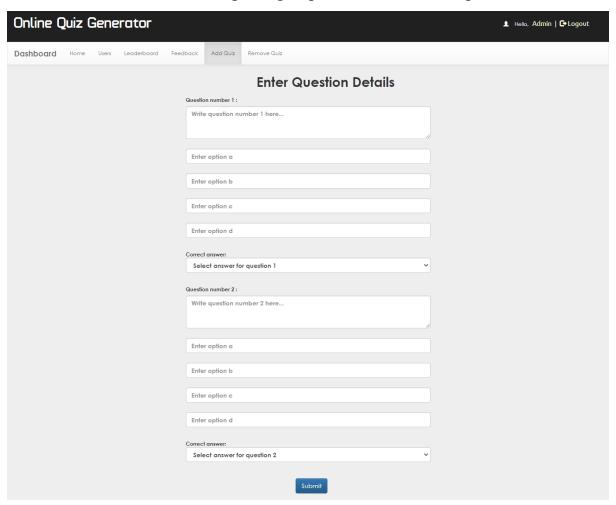
6.15 Admin's "Remove Quiz" page used to remove a quiz permanently from Admin account:



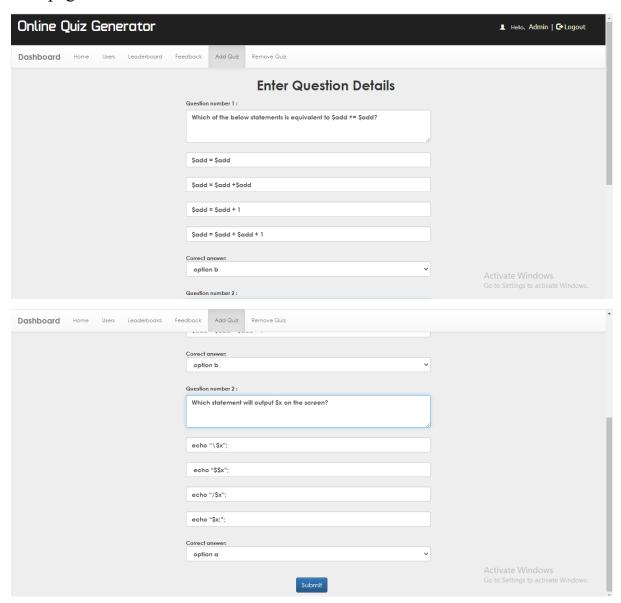
6.16 Now, let's add a new quiz from admin login for students on "PHP" (So, accordingly title of our quiz is "PHP", total number of questions are 2, marks on each correct/right answer is 20, negative marks for each incorrect/wrong answer is 2, total test time allotted to student is 4 minutes):



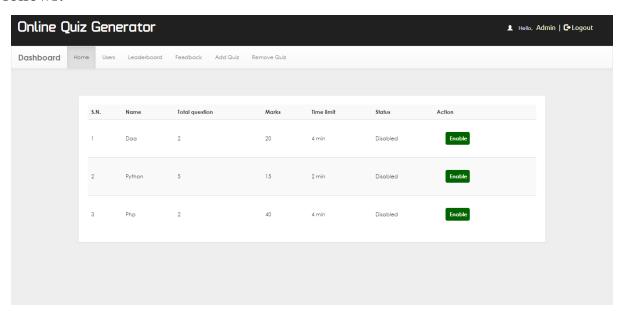
6.17 After submitting above form our quizzes input page will show up with the required essentials we asked for, i.e., for inputting 2 questions for "PHP" quiz:



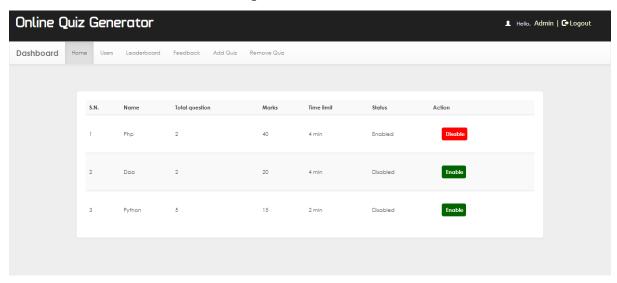
6.18 Now, entering questions and required answers as follows on Admin's "Enter Question Details" page:



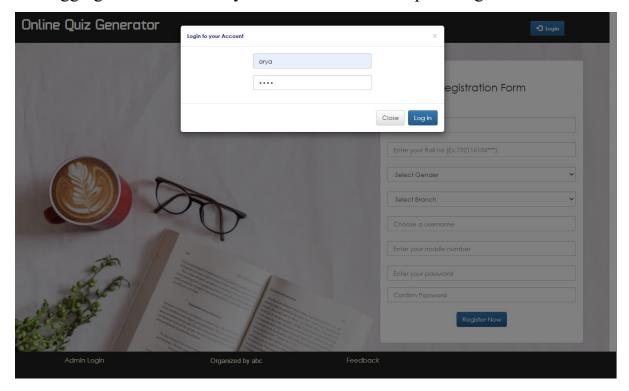
6.19 After submitting the above form the given quiz will appear on Admin's "Home" page as follows:



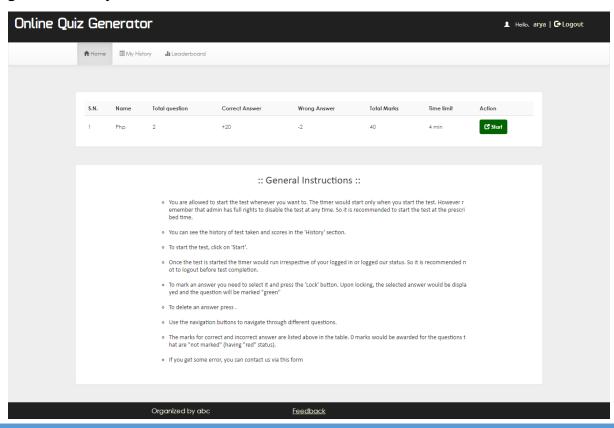
6.20 Now if Admin wants to assign quiz named "PHP" which he has recently created to students than he/she can enable the quiz as follows:



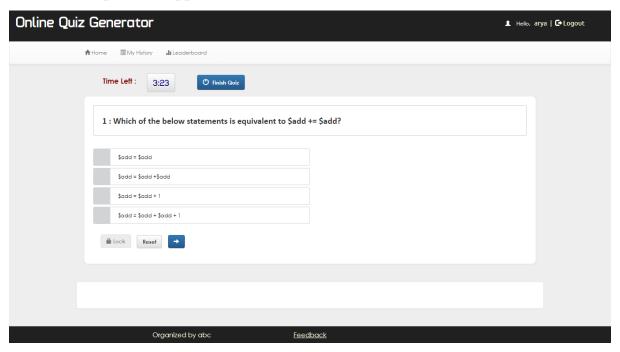
6.21 Now logging in as student "Arya" who is here to take quiz assigned to her:



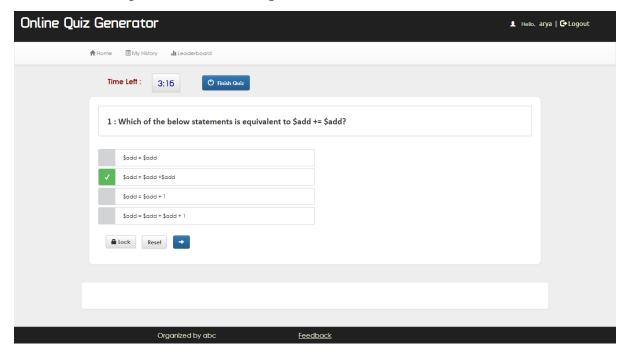
6.22 Now, you can see that Arya's "Home" page looks different as it contains the quiz assigned to her by Admin:



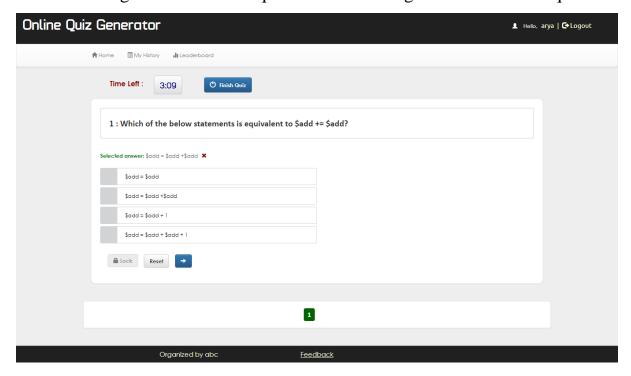
- 6.23 Now, starting the quiz as Arya and simultaneously giving first answer correct and second answer as wrong to see what happens:
 - 6.23.1 First question appears as:



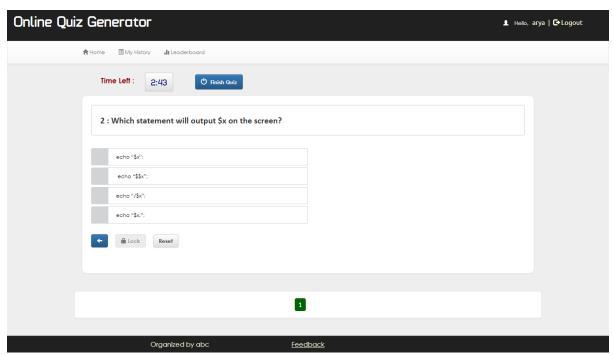
6.23.2 Choosing answer for First question:



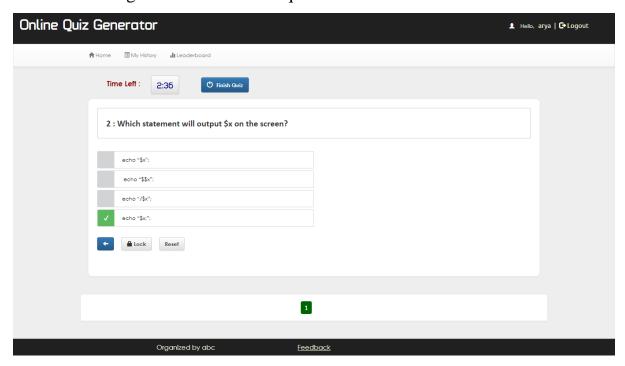
6.23.3 Locking answer for First question and moving further to Second question:



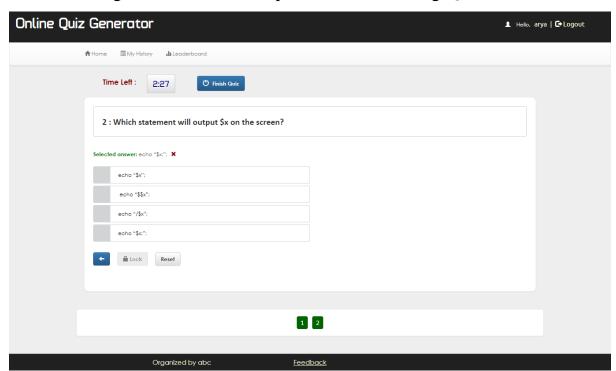
6.23.4 Second question appears as:



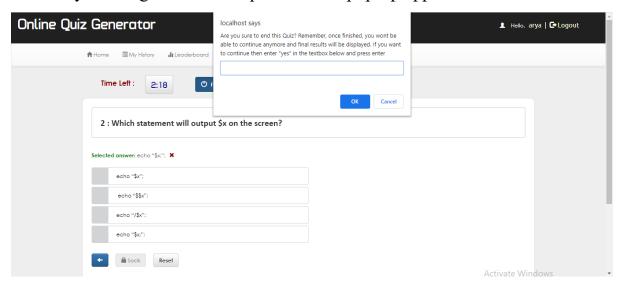
6.23.5 Choosing answer for Second question:



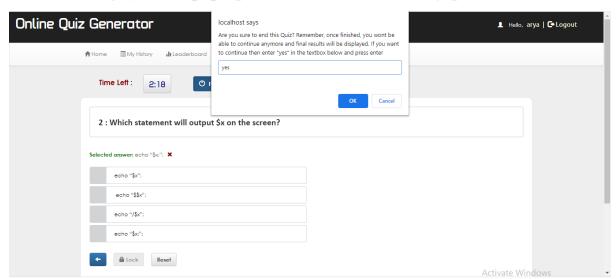
6.23.6 Locking answer for Second question and Finishing Quiz:



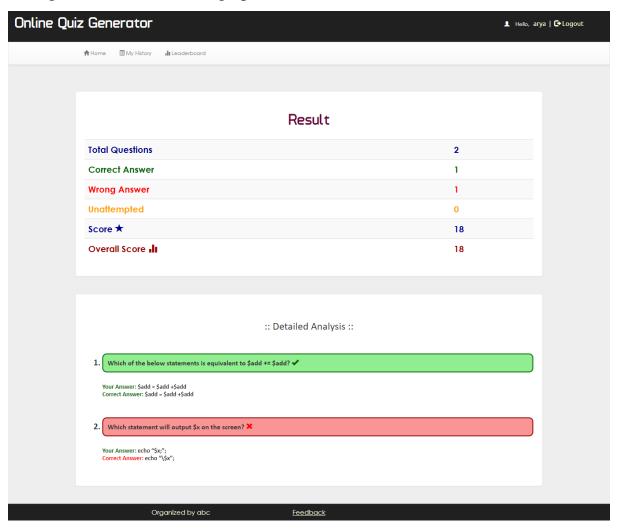
6.23.7 By clicking on "Finish" quiz button a pop-up appears:



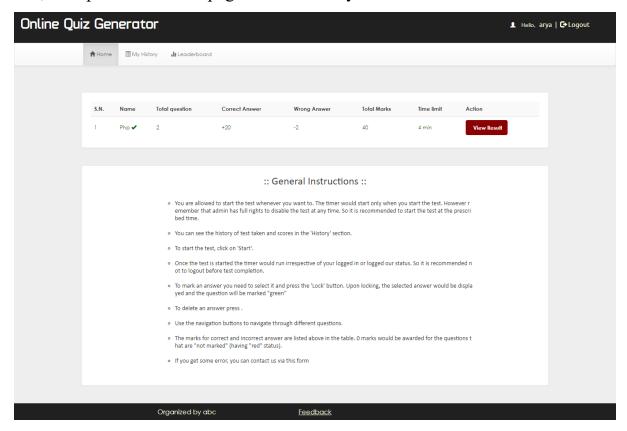
6.23.8 Writing "yes" on pop-up to ensure we are finishing quiz:



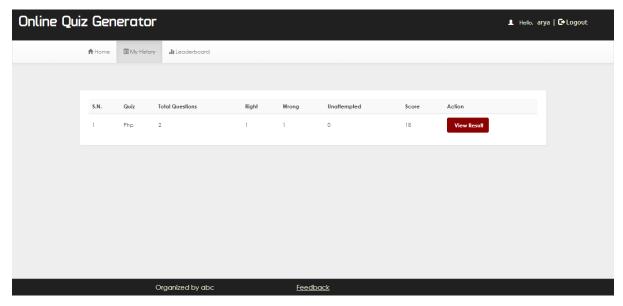
6.24 After typing "yes" and clicking on "OK" we will directly be navigated to results page which will include score tab that will contain the score gained by student from total marks allotted, overall score that is average score of the score gained by students from quizzes attempted by the student and "Detailed Analysis" section to show the summary of correct/right and incorrect/wrong options:



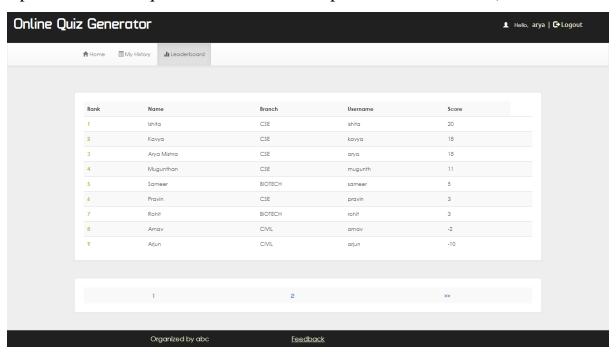
6.25 Now, the updated "Home" page of student Arya is as follows:



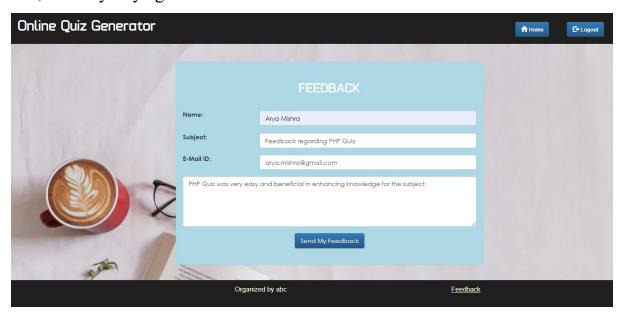
6.26 Now, the updated "My History" page of student Arya is as follows:



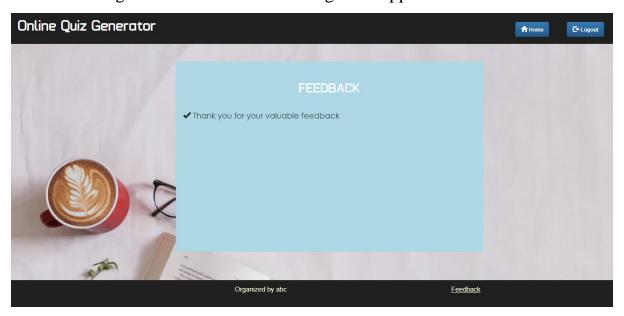
6.27 Now, the updated "Leaderboard" page of student Arya is as follows (now as Arya has attempted at least one quiz hence her name is updated on leaderboard):



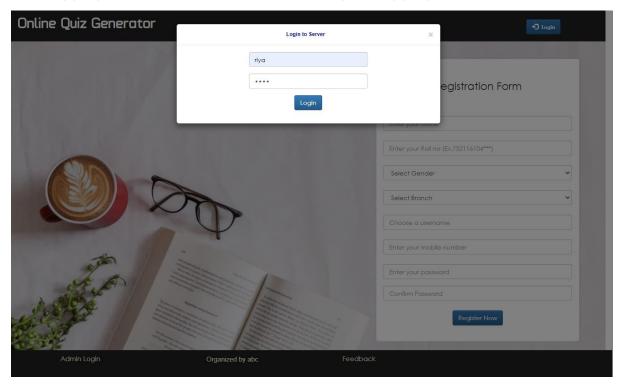
6.28 Now, let's say Arya gave a feedback from her account as below:



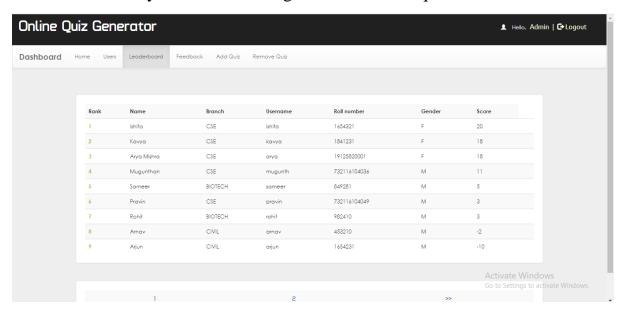
6.29 After submitting the feedback below message will appear:



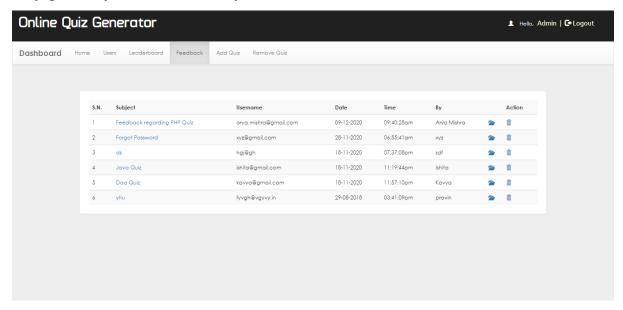
6.30 Now, logging out from student account and again logging in for Admin account:



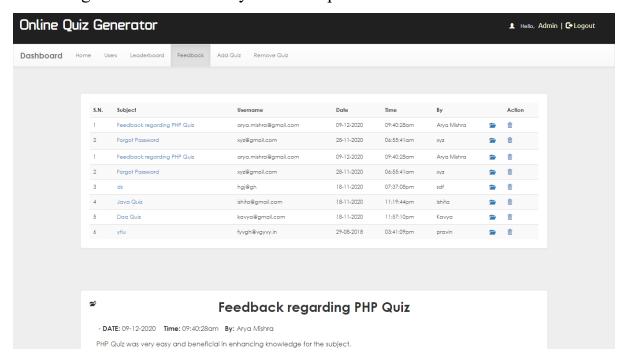
6.31 Now, we can see updated results on Admin "Leaderboard" page as now it contains name of our new student Arya also as she has given at least one quiz:



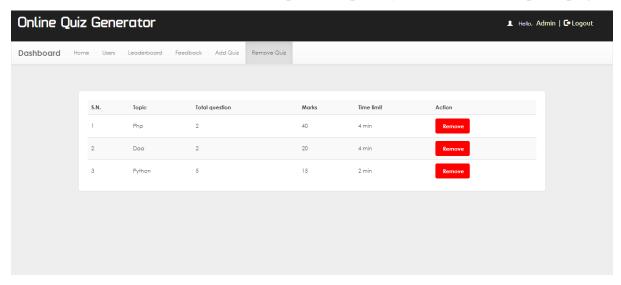
6.32 We can also see updated feedbacks on Admin "Feedback" page as a new feedback is recently given by our student "Arya":



6.33 On clicking on feedback of "Arya" it will open as follows:



6.34 Now, Admin can remove this "PHP" quiz completely from "Remove quiz" page:



CHAPTER-7

REFERENCES

We referred to the following resources:

- Our ongoing Full-Stack lectures and lab assignments
- Website for Web-development: https://www.beta-labs.in/
- Google search
- YouTube videos
- Website: https://www.w3schools.com/
- Course for Full-Stack Development on Udemy
 - 1. Course name: The Complete 2020 Web Development Bootcamp

Link: https://www.udemy.com/course/the-complete-web-development-bootcamp/

Attended By: Pratibha Dixit

2. Course name: Web Development Masterclass- Complete Certificate Course

Link: https://www.udemy.com/course/web-development-masterclass-complete-certificate-course/

Attended By: Megha Kansal