Cloud Computing Project Report
On

BUZZWORLD QUIZZ WEBSITE

Department of Computer Engineering & Applications

Institute of Engineering & Technology

Submitted by Group-11

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Declaration

We hereby declare that the work which is being presented in the B.Tech. Project **"BUZZWORLD QUIZZ WEBSITE"**, in partial fulfilment of the requirements for the award of the ***Bachelor of Technology*** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mr. Saurabh Singhal.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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Acknowledgement

In the present world of competition there is a race of existence in which those are having will to come forward succeed. Project is like a bridge between theoretical and practical working. With this willing we joined this particular project in our study. It gives us great pleasure and we are glad to represent the project report of our Cloud Computing Project undertaken during the third year of our graduation era.

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We are highly grateful to Prof. Anand Singh Jalal, Head, Department of Computer Engineering & Application for providing necessary facilities and encouraging us during the course of work. We are thankful to all technical and non-technical staff of the Department of the Computer Science and Engineering for their constant assistance and their co-operation.

Abstract

Online Quiz System (OQS) is a web-based examination system where quiz is taken online i.e. through the internet or intranet using computer system. The purpose of OQS is to take Semester Quizzes in an efficient manner and no time wasting for checking the paper. The main objective of OQS is to efficiently evaluate the candidate through a fully automated system that not only saves lot of time but also gives fast results. Teachers can administer quizzes using the OQS. The system will show result after the examination is finished. A teacher has control in the question bank and is supposed to make schedule for the quiz. The system carries out the examination and auto-grading for multiple choice questions which is fed into the system. Administrative control of the whole system is provided.

The IT initiatives have encouraged various Organizations to develop systems to facilitate their day to day operations. The ONLINE QUIZ will include various Courses (IT, Commerce, Science, etc) and subjects for conducting examinations. This system helps in conducting examinations quickly and can thus help in saving time and the operations will be carried out efficiently.

The main objective of the Online Quiz System is to provide a platform for teachers to take the examination and preparation quizzes easily and also to check those papers online itself which results in unbiased marking. It is also for students to enhance their learning and practising their skills in several fields they want to work on. This project is built on administrative end.

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Introduction

The ‘Quiz Application’ project will be developed to overcome the time consuming problem of manual system. Apart from that in current system, checking the answer sheets after taking test, waste the examiners time, so this application will check the correct answer and save the examiner time and carry the examination in an effective manner. The users which are use this system don’t need to high computing knowledge and also system will inform them while entering invalid data.

Overview and Motivation

We are creating a real-time website to ‘take an online quiz’ effectively and effortlessly having great features involved. This site accommodates attractive interfaces that are easily accessible and understandable by the users.

"Life is not a multiple-choice test, it’s an open book essay exam.”

Quiz of different subjects help us to test our knowledge and evaluate ourselves. People have lot of difficulties in creating a quiz as they have to search for different questions from different sites so we are creating a platform from where the user have to just search once and all the questions of particular subject from different sites will come across him. It will help the user to do his work in an effective way.

Through our website, user will get the question at one place and they will be able to save their time and can create quiz easily and quickly.

AIM

The main aim of Online Quiz System Project is to facilitate a user friendly environment of Blue book implementation and reduces the manual effort. Providing an online comprehensive solution to manage quiz system where the individuals are participating in a team. The purpose of the system is to develop Online Examination System used to test the Domain knowledge of the students, and employees with respect to the particular technology. The manual procedure used for conducting exam is time consuming process and error prone due to human limitations. The System purpose is to completely automate the old manual procedure of conducting exam to Online Web Based Examination System.

Functioning of our Project

The BuzzWorld website will help in the evaluation of students marks and their academic activities. It is very helpful during the online studies. The user do not have to search on different sites for the question. They can directly search it from our website.

In Our project, questions are fetched from different sites using the UI Path Studio. We have connected the backend to our site using Nodejs and MongoDB. The user can see both the questions and the answers. They can even edit the quiz such as they can add and delete as many questions as they want. They can create a well-defined quiz using this platform.

Each user must have unique User-ID and password to login to the dashboard of our website so that the user can visualize his or her information or data such as how many quizzes he has done or created from this site.

This platform is good for many people like teachers, Professors, students of all age groups. People can evaluate their knowledge related to subjects on this platform.

During Covid, as students are studying online so this platform is going to be very fruitful for them.

Functionalities of the project will be as following:

- Able the examiners to punch the MCQ questions online;

- Able the users to solve the questions online;

- Examiners can manage the information regarding exam;

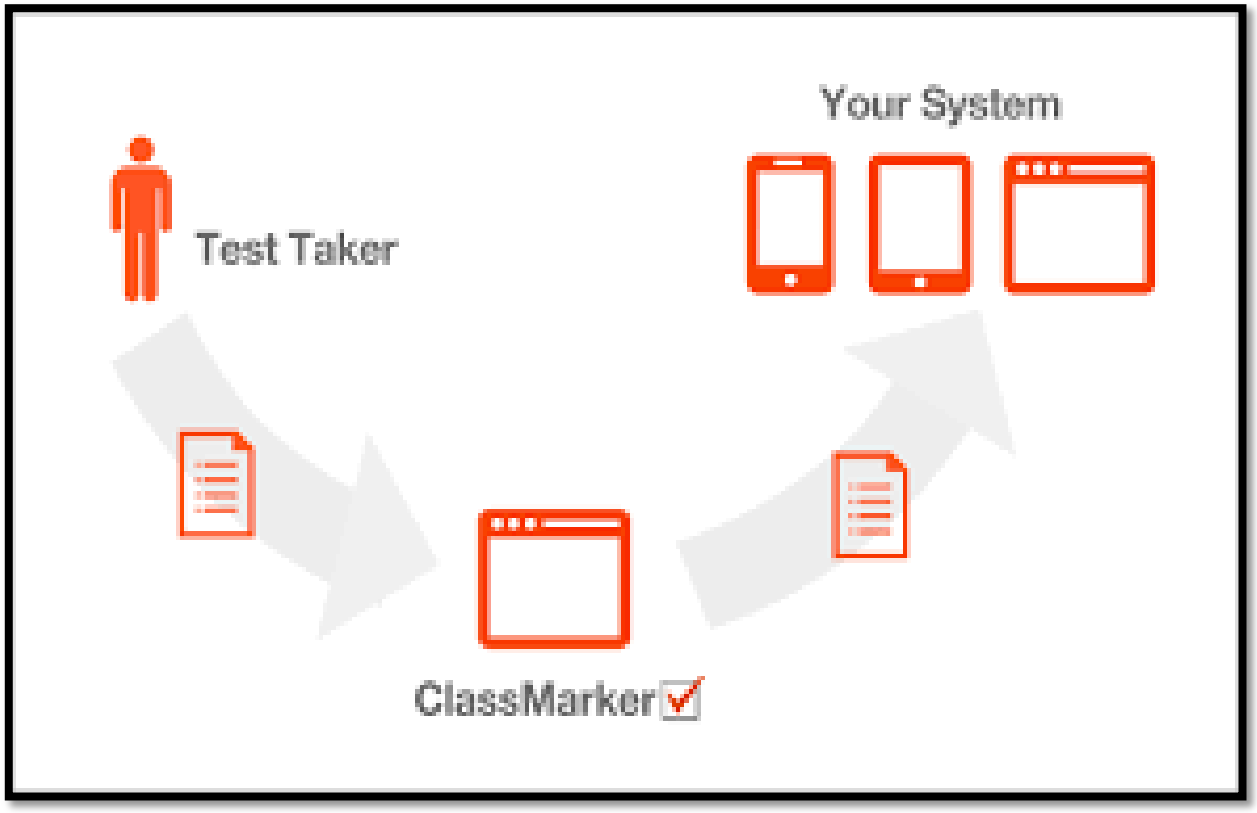
- Correct answers will be evaluated by system (First it should be determining by examiner);

- Users can see their result after submitting the test.

Quiz User Interface working

Quiz Contest is a application developed to conduct 0uiz based on time constraints. Quiz Contest system is accessed by entering the user name and password which is added to the database. Before start of the 0uiz, the rules and regulations are displayed that includes description of the time limit & number of Questions to be answered and scoring methods. Quiz is started by displaying one Question with four options each based on the topics in the subjects you choose, if the answer is correct, the score is incremented by one and no negative

marks for wrong answers. If the time exceeds the time limit next Question will come automatically after giving few limited Questions answer Quiz application will finally direct you to the score page.



Cloud Usage

A Cloud is a virtual space available to deploy the applications. At its simplest, it is delivering the resources and capabilities of information technology dynamically as a service. Cloud Computing is a general term for anything that involves delivering hosted services over the Internet.

We are deploying our website on the cloud. I will help people to explore it more and will available all the time. We are going to deploy it on AWS Platform.

Problem Definition

1. Existing System:

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.

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

2. Proposed System

Manual assessment is prone to errors and is not time efficient as discussed previously. So why not automate the whole assessment process? Why would a teacher spend his/her precious time physically correcting the answer of their students? So our main objective is to create a method that would allow us to make our computers do the whole assessment work and award score to the answers accordingly.

This Web Application provides facility to conduct online examination world-wide. 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.

Features of Proposed System:

i. 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.

ii. 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.

iii. Data Structures: The data in this project are maintained in the tabular form using MongoDB 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.

iv. Safety: No data loss occurs in the quiz system.

1. 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.
2. The results are produced electronically so that nobody is prone to mistakes.

v. 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.

vi. Quality: The project is developed with the help of visual basic 6.0 software which meets the requirement of the user,

System Requirement Analysis

It is 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. However, in order to use the online test tool, a teacher is generally required a great deal of labor.

For example, a teacher needs to create quizzes and input them in the online test tool. In order to solve these problems, we have developed a Web-based online test system which can create quizzes competitively and collaboratively by students for the purpose of reducing the load required for a teacher and promoting interactions among students and between the teacher and students.

FEASIBILITY STUDY

A feasibility study is a high-level capsule version of the entire System analysis and Design Process. The study begins by classifying the problem definition. Feasibility is to determine if it’s worth doing. Once an acceptance problem definition has been generated, the analyst develops a logical model of the system. A search for alternatives is analyzed carefully. There are 3 parts in feasibility study.

1) Operational Feasibility

2) Technical Feasibility

3) Economical Feasibility

Operational Feasibility

Operational feasibility is the measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development. The operational feasibility assessment focuses on the degree to which the proposed development projects fits in with the existing business environment and objectives with regard to development schedule, delivery date, corporate culture and existing business processes. To ensure success, desired operational outcomes must be imparted during design and development. These include such design-dependent parameters as reliability, maintainability, supportability, usability, producibility, disposability, sustainability, affordability and others. These parameters are required to be

considered at the early stages of design if desired operational behaviors are to be realized. A system design and development requires appropriate and timely application of engineering and management efforts to meet the previously mentioned parameters. A system may serve its intended purpose most effectively when its technical and operating characteristics are engineered into the design. Therefore, operational feasibility is a critical aspect of systems engineering that needs to be an integral part of the early design phases.

Technical Feasibility

This involves questions such as whether the technology needed for the system exists, how difficult it will be to build, and whether the firm has enough experience using that technology. The assessment is based on outline design of system requirements in terms of input, processes, output, fields, programs and procedures. This can be qualified in terms of volume of data, trends, frequency of updating in order to give an introduction to the technical system. The application is the fact that it has been developed on windows XP platform and a high configuration of 1GB RAM on Intel Pentium Dual core processor. This is technically feasible .The technical feasibility assessment is focused on gaining an understanding of the present technical resources of the organization and their applicability to the expected needs of the proposed system. It is an evaluation of the hardware and software and how it meets the need of the proposed system.

Economical Feasibility

Establishing the cost-effectiveness of the proposed system i.e. if the benefits do not outweigh the costs then it is not worth going ahead. In the fast paced world today there is a great need of online social networking facilities. Thus the benefits of this project in the current scenario make it economically feasible. The purpose of the economic feasibility assessment is to determine the positive economic benefits to the organization that the proposed system will provide. It includes quantification and identification of all the benefits expected. This assessment typically involves a cost/benefits analysis.

Requirements

Hardware Requirements

- **PC with 250 GB or more hard disk**
- **PC with atleast 2GB RAM**
- **PC with Pentium1 and above**
- **Laptop**
- **Android Phones**

Note: Any one of these devices is required to run our website.

Software Requirements

The application software which we required to build our website are as following:

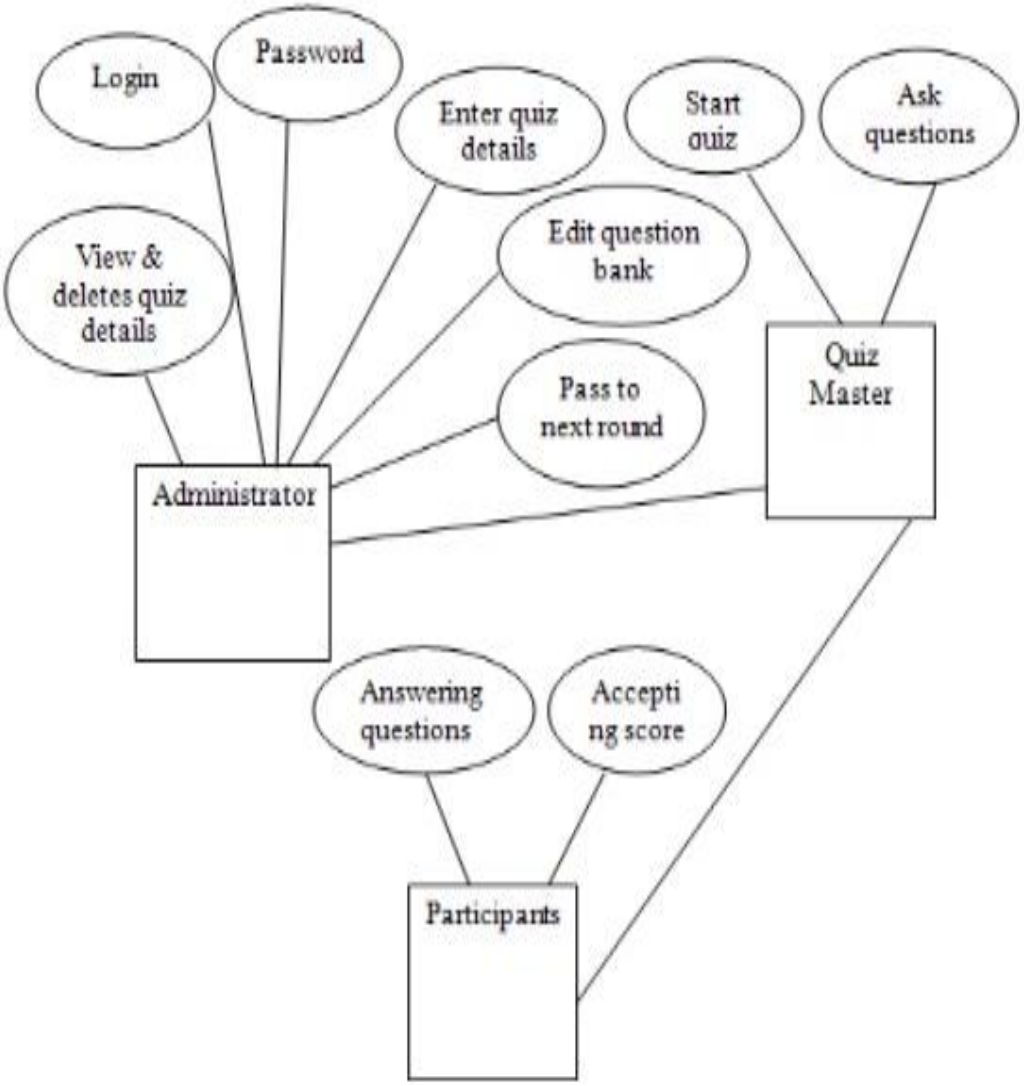
- **Vs Code (Visual Code Studio)**
- **UI Path Studio**
- **MongoDB**

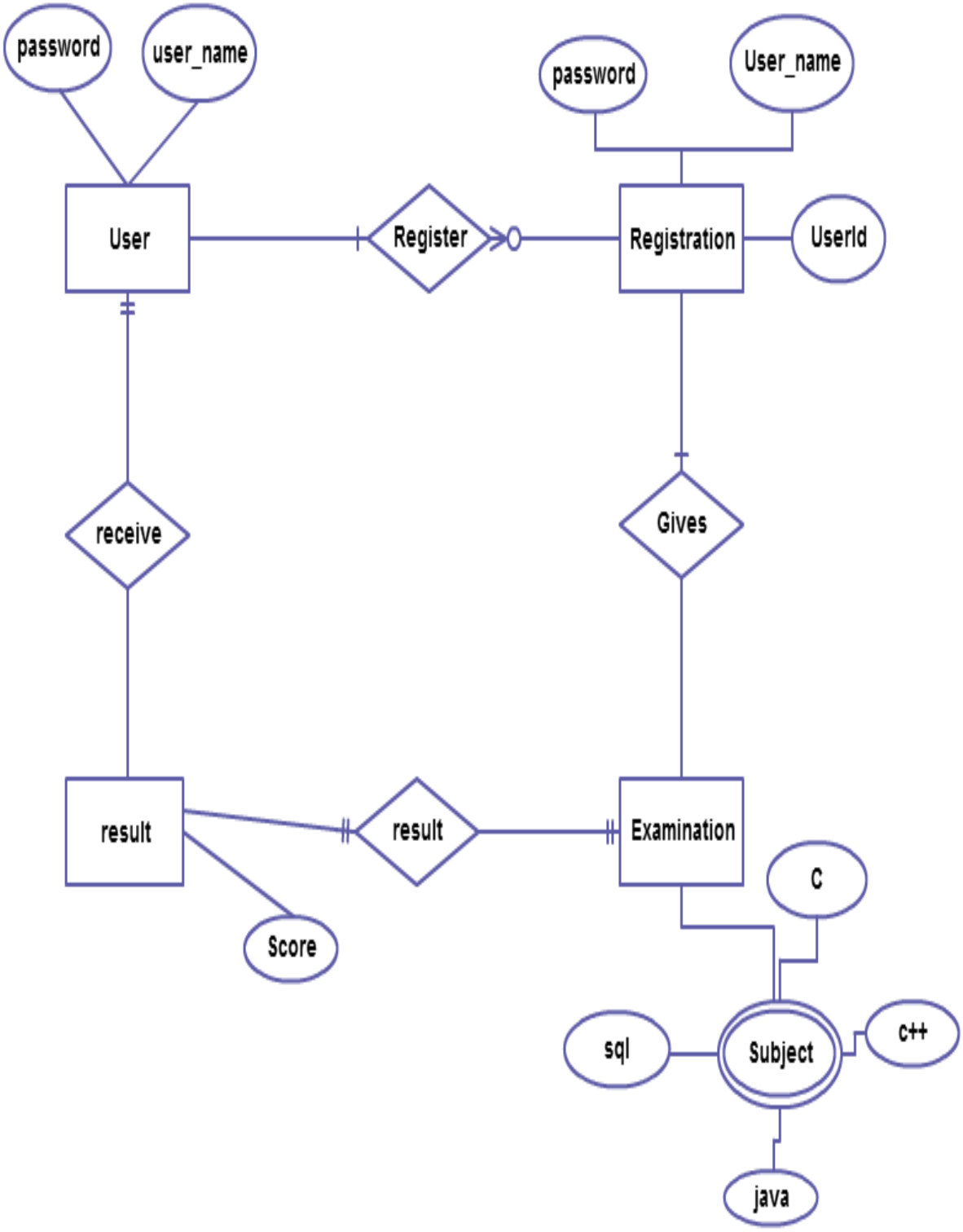
Language Used

- **HTML**
- **CSS**
- **JavaScript**
- **Bootstrap**
- **JQuery**

Software Design

1.ER Diagram




password
user_name
User
Register
password
User_name
Registration
UserId
receive
Gives
result
result
Examination
Score
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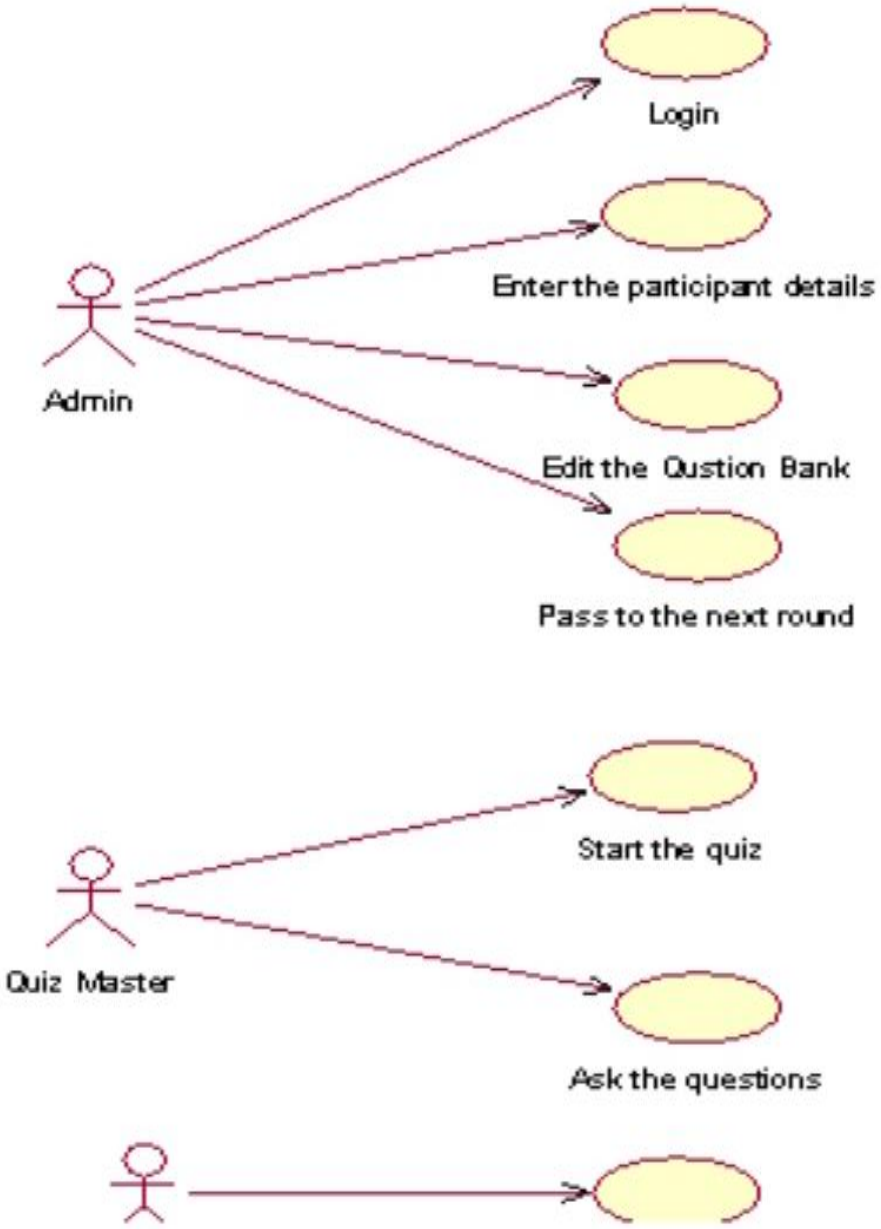
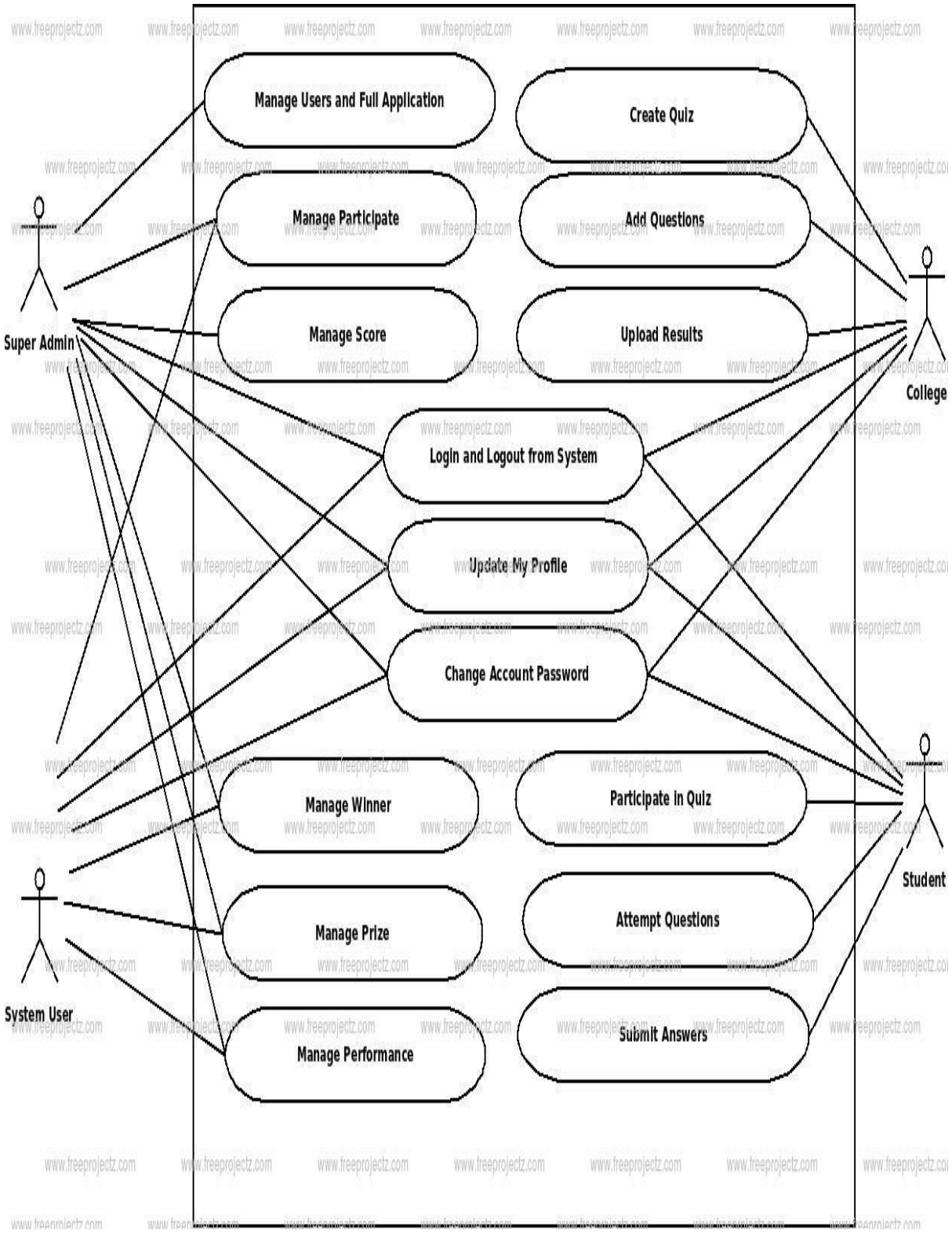
sql
Subject
c++
java

Use Case Diagram




Manage Users and Full Application
Create Quiz
Manage Participate
Add Questions
Manage Score
Upload Results
Login and Logout from System
Update My Profile
Change Account Password
Manage Winner
Participate in Quiz
Manage Prize
Attempt Questions
Manage Performance
Submit Answers
Super Admin
College
Student
System User

IDE Platforms

1. VS Code Studio

Visual Studio Code is a streamlined code editor with support for development operations like debugging, task running, and version control. It aims to provide just the tools a developer needs for a quick code-build-debug cycle and leaves more complex workflows to fuller featured IDEs, such as Visual Studio IDE.

Visual Studio Code combines the simplicity of a source code editor with powerful developer tooling, like IntelliSense code completion and debugging.

First and foremost, it is an editor that gets out of your way. The delightfully frictionless edit-build-debug cycle means less time fiddling with your environment, and more time executing on your ideas

At its heart, Visual Studio Code features a lightning fast source code editor, perfect for day-to-day use. With support for hundreds of languages, VS Code helps you be instantly productive with syntax highlighting, bracket-matching, auto-indentation, box-selection, snippets, and more. Intuitive keyboard shortcuts, easy customization and community-contributed keyboard shortcut mappings let you navigate your code with ease.

Fig.1 Visual Studio Code

For serious coding, you'll often benefit from tools with more code understanding than just blocks of text. Visual Studio Code includes built-in support for IntelliSense code completion, rich semantic code understanding and navigation, and code refactoring.

And when the coding gets tough, the tough get debugging. Debugging is often the one feature that developers miss most in a leaner coding experience, so we made it happen. Visual Studio Code includes an interactive debugger, so you can step through source code, inspect variables, view call stacks, and execute commands in the console.

VS Code also integrates with build and scripting tools to perform common tasks making everyday workflows faster. VS Code has support for Git so you can work with source control without leaving the editor including viewing pending changes diffs.

Fig.2

2. UI Path Studio

This software helps us to fetch different question for the quiz from different sites on the google and show it on the website through backend connectivity.

UiPath is a Robotic Process Automation tool that is used for Windows desktop automation. It is used to automate repetitive/redundant tasks and eliminates human intervention. The tool is simple to use and has a drag and drop functionality of activities.

Fig.3 UIPath

Technologies Used

1. Front-End:

i. HTML

HTML stands for Hyper Text Markup Language. Hypertext Markup Language is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript.HTML describes the structure of a Web page.

"Hypertext" refers to the hyperlinks that an HTML page may contain. "Markup language" refers to the way tags are used to define the page layout and elements within the page. Below is an example of HTML used to define a basic webpage with a title and a single paragraph of **text**.

HTML is an acronym which stands for **Hyper Text Markup Language** which is used for creating web pages and web applications. Let's see what is meant by Hypertext Markup Language, and Web page.

Hyper Text: Hyper Text simply means "Text within Text." A text has a link within it, is a hypertext. Whenever you click on a link which brings you to a new webpage, you have clicked on a hypertext. HyperText is a way to link two or more web pages (HTML documents) with each other.

Markup language: A markup language is a computer language that is used to apply layout and formatting conventions to a text document. Markup language makes text more interactive and dynamic. It can turn text into images, tables, links, etc.

Web Page: A web page is a document which is commonly written in HTML and translated by a web browser. A web page can be identified by entering an URL. A Web page can be of the static or dynamic type.

With the help of HTML only, we can create static web pages**.**

Hence, HTML is a markup language which is used for creating attractive web pages with the help of styling, and which looks in a nice format on a web browser. An HTML document is made of many HTML tags and each HTML tag contains different content.

Fig.4 HTML logo

Features of html

- It is a very **easy and simple language**. It can be easily understood and modified.
- It is very easy to make an **effective presentation** with HTML because it has a lot of formatting tags.
- It is a **markup language**, so it provides a flexible way to design web pages along with the text.
- It facilitates programmers to add a **link** on the web pages (by html anchor tag), so it enhances the interest of browsing of the user.
- It is **platform-independent** because it can be displayed on any platform like Windows, Linux, and Macintosh, etc.
- It facilitates the programmer to add **Graphics, Videos, and Sound** to the web pages which makes it more attractive and interactive.
- HTML is a case-insensitive language, which means we can use tags either in lower-case or upper-case.

ii. CSS

CSS stands for **C**ascading **S**tyle **S**heets. CSS describes how HTML elements are to be displayed on screen, paper, or in other media. CSS saves a lot of work. It can control the layout of multiple web pages all at once. External stylesheets are stored in CSS files.

CSS is used to define styles for your web pages, including the design, layout and variations in display for different devices and screen sizes.

Fig. 5 CSS logo

CSS is the language for describing the presentation of Web pages, including colors, layout, and fonts. It allows one to adapt the presentation to different types of devices, such as large screens, small screens, or printers. **CSS** is independent of HTML and can be **used** with any XML-based markup language.

Cascading **S**tyle **S**heets, 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,variations in display for different devices and screen sizes as well as a variety of other effects.

CSS is easy to learn and understand but it provides powerful control over the presentation of an HTML document. Most commonly, CSS is combined with the markup languages.

CSS information can be provided from various sources. These sources can be the web browser, the user and the author. The information from the author can be further classified into inline, media type, importance, selector specificity, rule order, inheritance and property definition. CSS style information can be in a separate document or it can be embedded into an HTML document. Multiple style sheets can be imported. Different styles can be applied depending on the output device being used; for example, the screen version can be quite different from the printed version, so that authors can tailor the presentation appropriately for each medium.The style sheet with the highest priority controls the content display. Declarations not set in the highest priority source are passed on to a source of lower priority, such as the user agent style. The process is called cascading.

One of the goals of CSS is to allow users greater control over presentation. Someone who finds red italic headings difficult to read may apply a different style sheet. Depending on the browser and the web site, a user may choose from various style sheets provided by the designers, or may remove all added styles and view the site using the browser's default styling, or may override just the red italic heading style without altering other attributes.

Some of the advantages of using CSS are:

- Easier to maintain and update.
- Greater **consistency** in design.
- More formatting options.
- Lightweight code.
- Faster download times.
- Search engine optimization benefits.
- Ease of presenting different styles to different viewers.
- Greater accessibility.

iii. JavaScript

JavaScript, often abbreviated as JS, is a programming language that conforms to the ECMAScript specification. JavaScript is high-level, often just-in-time compiled, and multi-paradigm. It has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions.

JavaScript is a text-based programming language used both on the client-side and server-side that allows you to make web pages interactive. Where HTML and CSS are languages that give structure and style to web pages, JavaScript gives web pages interactive elements that engage a user.

Fig. 6 JavaScript Logo

Javascript (JS) is a scripting languages, primarily used on the Web. It is used to enhance HTML pages and is commonly found embedded in HTML code. JavaScript is an interpreted language. Thus, it doesn't need to be compiled. JavaScript renders web pages in an interactive and dynamic fashion. JavaScript is a scripting or programming language that allows you to implement complex features on web pages — every time a webpage does more than just sit there and display static information for you to look at such as displaying timely content updates, interactive maps, animated 2D/3D graphics etc.

The visual aspects of the website that can be seen and experienced by users are frontend. On the other hand, everything that happens on the background can be attributed to the backend. Languages used for front end are HTML, CSS, Javascript while those used for backend include Java, Ruby, Python.

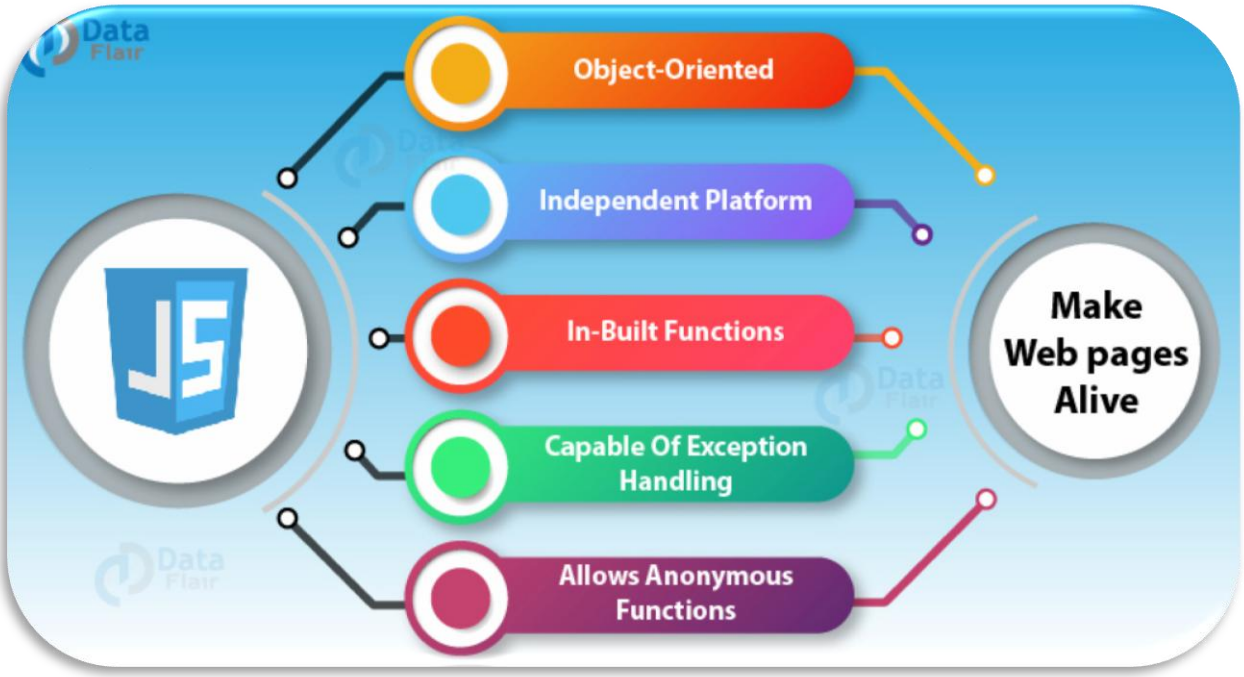


Fig. 7 Features of Javascript

Things that we build using JavaScript:

- Websites: Okay, so you can file this one under 'pretty obvious'. ...
- Web Applications: As browsers and personal computers have continued to improve, so, too, has the abilities to create robust web applications. ...
- Presentations
- Server applications
- Web Servers
- Games
- Art

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.Google's Chrome extensions, Opera's extensions, Apple's Safari 5 extensions, Apple's Dashboard Widgets, Microsoft's Gadgets, Yahoo! Widgets, Google Desktop Gadgets, and Serence Klipfolio are implemented using JavaScript.

iv. Bootstrap

Bootstrap is a potent front-end framework used to create modern websites and web apps. It's open-source and free to use, yet features numerous HTML and CSS templates for UI interface elements such as buttons and forms. Bootstrap also supports JavaScript extensions.

Bootstrap is a framework to help you design websites faster and easier. It includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels, etc. It also gives you support for JavaScript plugins.

Bootstrap is a free and open-source front end development framework for the creation of websites and web apps. In computers, the word bootstrap means to boot: to load a program into a computer using a much smaller initial program to load in the desired program (which is usually an operating system).

The term “bootstrapping” originated with a phrase in use in the 18th and 19th century: “to pull oneself up by one's bootstraps.” Back then, it referred to an impossible task. Today it refers more to the challenge of making something out of nothing.

Fig.8 Bootstrap logo

v. jQuery

jQuery is a lightweight, "write less, do more", JavaScript library. The purpose of jQuery is to make it much easier to use JavaScript on your website. jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish, and wraps them into methods that you can call with a single line of code.

jQuery was introduced to make development with JavaScript easier. It will reduce the development time. Use it to add animation and even handling on your website. jQuery simplifies HTML document traversing, event handling, animating, and Ajax interactions for rapid web development.

jQuery is introduced in 2006, jQuery is one of the earliest frontend frameworks. Despite its launch date, what makes it stand out is its relevance even in today's tech world. Not only does jQuery offer simplicity and ease to use, but it also minimizes the need to write extensive JavaScript codes.

jQuery is not a programming language instead it is a cross-platform JavaScript library. There are many other JavaScript libraries available like Knockout or even Angular (Though Angular uses TypeScript, it compiles to JavaScript at the end) and jQuery is one of the most popular among them.

Fig.9 JQuery Logo

vi. Media Query

Media queries are a feature of CSS that enable webpage content to adapt to different screen sizes and resolutions. They are a fundamental part of responsive web design and are used to customize the appearance of websites for multiple devices.

CSS Media Queries are a feature in CSS3 which allows you to specify when certain CSS rules should be applied. This allows you to apply a special CSS for mobile, or adjust a layout for print.

It uses the @media rule to include a block of CSS properties only if a certain condition is true.

Fig.10 Responsive Layout Screens

Add Breakpoints:

Media queries can help with that. We can add a breakpoint where certain parts of the design will behave differently on each side of the breakpoint. You can add as many breakpoints as you like. Media queries can also be used to change layout of a page depending on the orientation of the browser. You can have a set of CSS properties that will only apply when the browser window is wider than its height, a so called "Landscape" orientation.

2. Back-End:

i. Node JS

Node. js is primarily used for non-blocking, event-driven servers, due to its single-threaded nature. It's used for traditional web sites and back-end API services, but was designed with real-time, push-based architectures in mind.

Node.js is a runtime environment that allows software developers to launch both the frontend and backend of web apps using JavaScript. Although JS underpins all the processes for app assembly, as a backend development environment, Node.

Node JS is not a programming language, but it allows developers to use JavaScript, which is a programming language that allows users to build web applications. This tool is mostly used by programmers who use JavaScript to write Server-Side scripts.

Node.js can handle many concurrent requests. This is the main reason it quickly became popular among developers and large companies. It can handle many simultaneous requests without straining the server.

JS is actually not a framework or a library, but a runtime environment, based on Chrome's V8 JavaScript engine. Node.js provides capabilities to create your own web server which will handle HTTP requests asynchronously. You can use IIS or Apache to run Node.js web application but it is recommended to use Node.

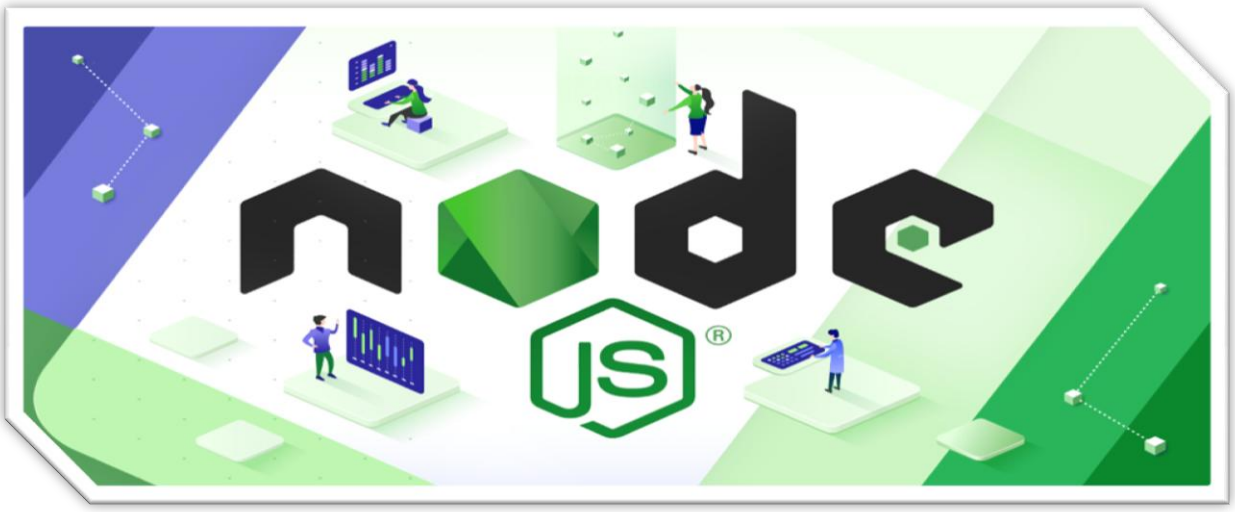


Fig.11 Node.js

ii. MongoDB

MongoDB is an object-oriented, simple, dynamic, and scalable NoSQL database. It is based on the NoSQL document store model. The data objects are stored as separate documents inside a collection instead of storing the data into the columns and rows of a traditional relational database.

Companies and development teams of all sizes use MongoDB because: The document data model is a powerful way to store and retrieve data that allows developers to move fast. MongoDB's horizontal, scale-out architecture can support huge volumes of both data and traffic.

SQL databases are used to store structured data while NoSQL databases like MongoDB are used to save unstructured data. MongoDB is used to save unstructured data in JSON format. MongoDB does not support advanced analytics and joins like SQL databases support.

Fig.12 MongoDB

MongoDB, unfortunately, does not support transactions. So if you need to update more than one document or collection per user request, don't use MongoDB. It may lead to corrupted data, as there is no ACID guarantee. Rollbacks have to be handled by your application.

Advantages of MongoDB

- Schema less − MongoDB is a document database in which one collection holds different documents. Number of fields, content and size of the document can differ from one document to another.
- Structure of a single object is clear.
- No complex joins.
- Deep query-ability. MongoDB supports dynamic queries on documents using a document-based query language that's nearly as powerful as SQL.
- Tuning.
- Ease of scale-out − MongoDB is easy to scale.
- Conversion/mapping of application objects to database objects not needed.
- Uses internal memory for storing the (windowed) working set, enabling faster access of data.

iii. Express JS

Express is a minimal and flexible Node.js web application framework that provides a robust set of features for web and mobile applications. It is flexible as there are numerous modules available on npm, which can be directly plugged into Express. It makes it easier to organize your application's functionality with middle ware and routing; it adds helpful utilities to Node.js HTTP objects; it facilitates the rendering of dynamic HTTP objects.

Express is a minimal and flexible Node.js web application framework that provides a robust set of features to develop web and mobile applications. It facilitates the rapid development of Node based Web applications. Following are some of the core features of Express framework −

- Allows to set up middlewares to respond to HTTP Requests.
- Defines a routing table which is used to perform different actions based on HTTP Method and URL.
- Allows to dynamically render HTML Pages based on passing arguments to templates.

Fig.13 ExpressJS

3. Other:

i. Socket io

Socket.IO is a library that enables real-time, bidirectional and event-based communication between the browser and the server. It consists of: a Node.js server: Source | API. a Javascript client library for the browser (which can be also run from Node.

Socket.IO is a JavaScript library for realtime web applications. It enables realtime, bi-directional communication between web clients and servers. It has two parts: a client-side library that runs in the browser, and a server-side library for Node.js. Both components have a nearly identical API.

What is Socket IO? Socket.IO is the best known node module to build real time web applications like chat rooms,browser games and streaming application. Socket.IO enables real-time bidirectional event-based communication.

As much as you like, until you have so many users that scaling shouldn't be an issue. Longer answer: Node works on an event based system, meaning you could open 10,000 sockets, not send any messages through them, and get close to 0 processor time.

Fig.14 NodeJs Socket.io

ii. Web Scraping

Web scraping is the process of using bots to extract content and data from a website. Unlike screen scraping, which only copies pixels displayed onscreen, web scraping extracts underlying HTML code and, with it, data stored in a database. The scraper can then replicate entire website content elsewhere.

Web scraping is the process of using bots to extract content and data from a website. Unlike screen scraping, which only copies pixels displayed onscreen, web scraping extracts underlying HTML code and, with it, data stored in a database. The scraper can then replicate entire website content elsewhere.
There are four key parts to every web scraping project: Data discovery. Data extraction. Extraction scale.

Site **s**craping can be a powerful tool. In the right hands, it automates the gathering and dissemination of information.

Fig.15 Web Scrapping Cycle

Future Enhancements

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

The various examination agencies are now able to evaluate the test takers freely and cost-effectively through computer-based tests. This website allows users to take online tests and automatically generate results based on the answers marked by the users.

The main aim of our project is create a good interaction between the student and teacher.

- We are trying to do the project at best level to satisfy all the end users (i.e, student/faculty).
- In our future we are decided to provide more security to our website which may not be hacked.
- And we give the choice to student to add their name under the faculty who they wish and get advice for their betterment.
- It will be more empowering.
- Next we are aiming to provide some online classes in to our website.

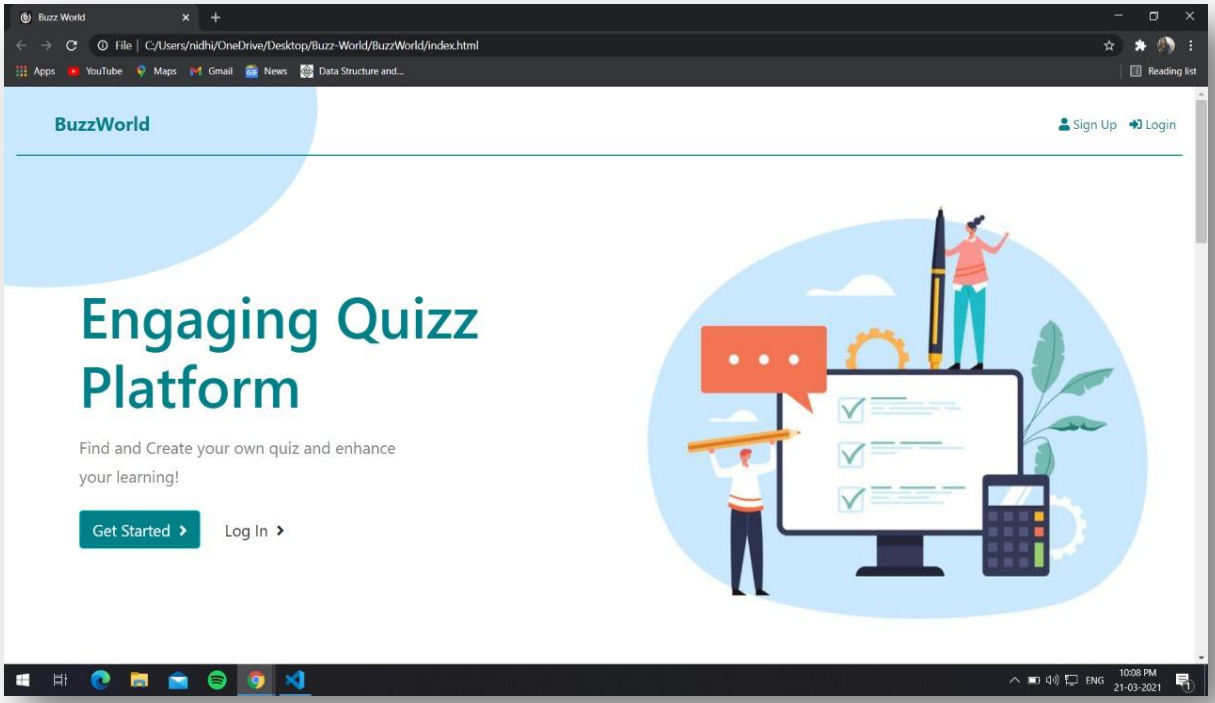
Conclusion

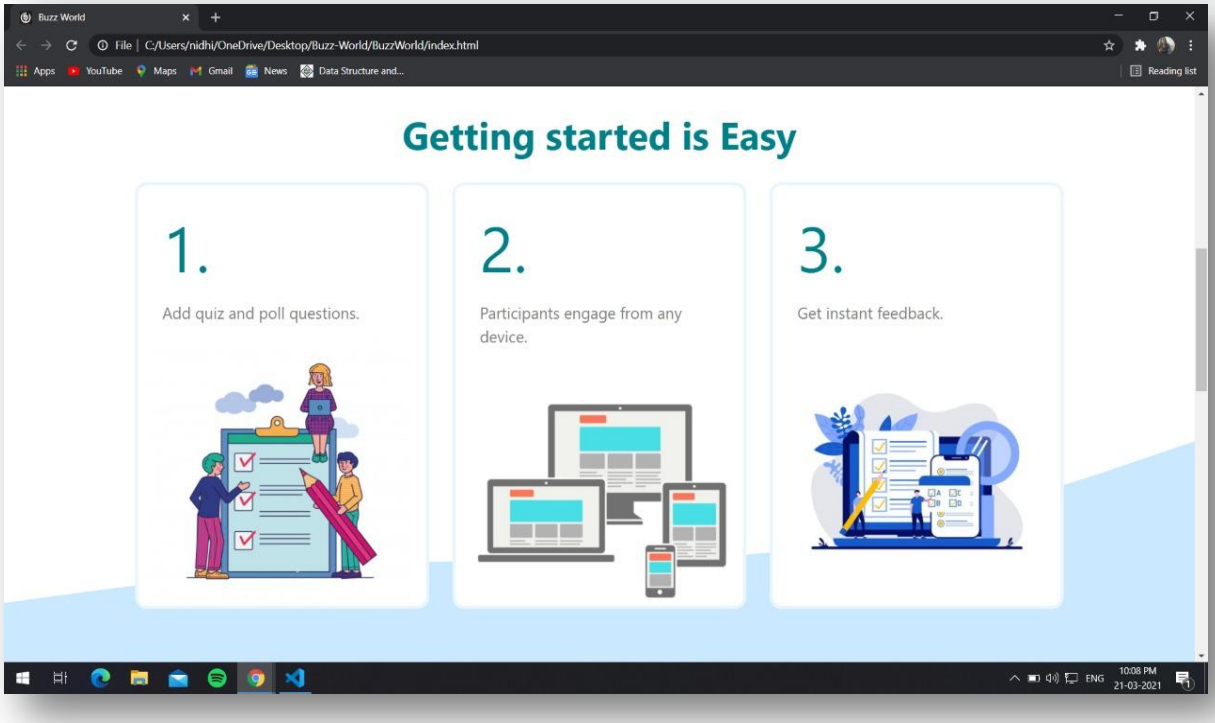
To conclude, this is a simple Online Quiz which able a teacher to punch MCQ question to system which will be store in Server database and able the student to attempt any test for once. The marks of student will be calculated according to questions they attempt and will be displayed by the system to teachers and student. It provides a friendly graphical user interface for the user to interact.

A large number of participants, with instant results of your online quiz (for the creator as well as the participants), a better overview, you're able to randomize your questions and set a timer. That all without the need of an instructor. What's holding you back to not use online quizzes?

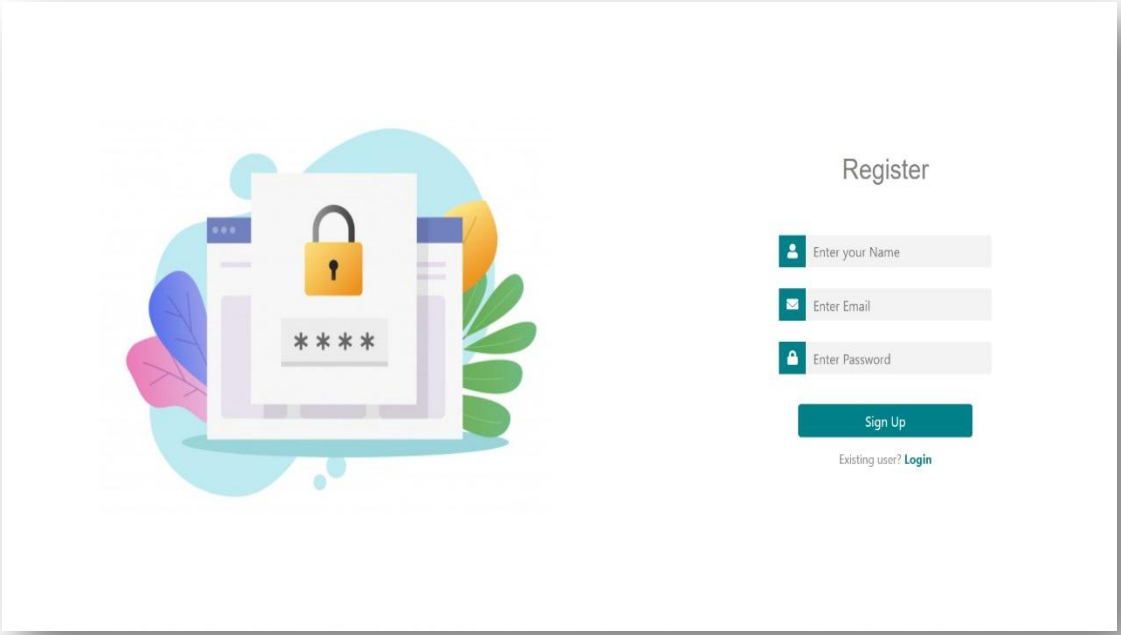
Snapshots of Project

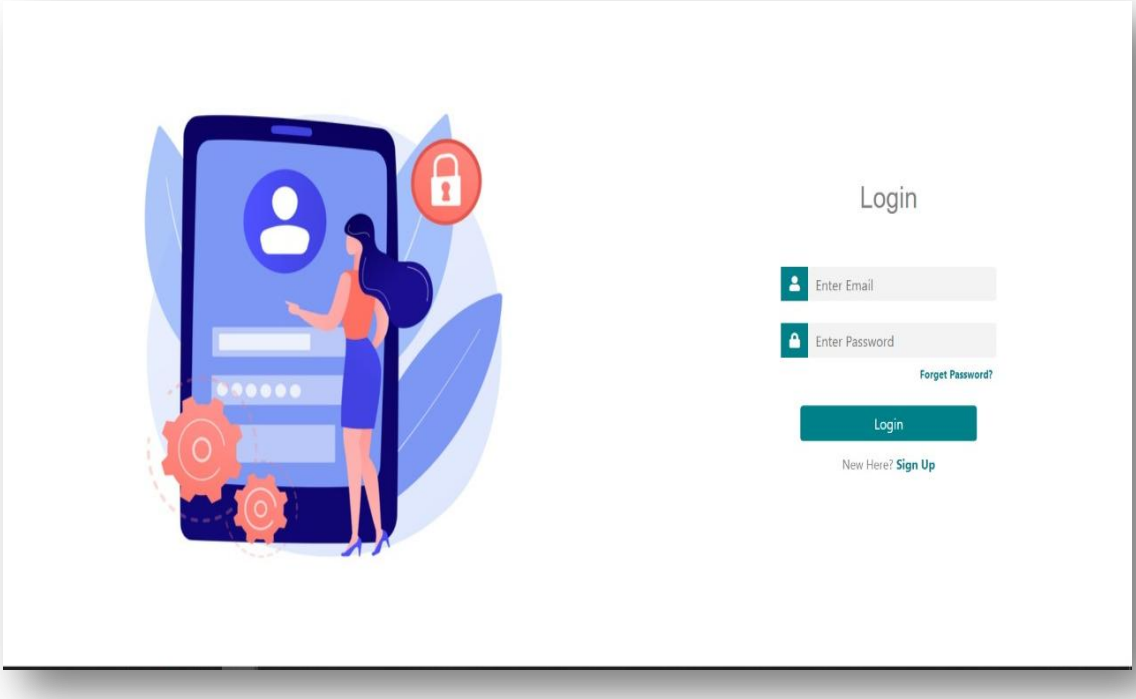
1. Landing Page



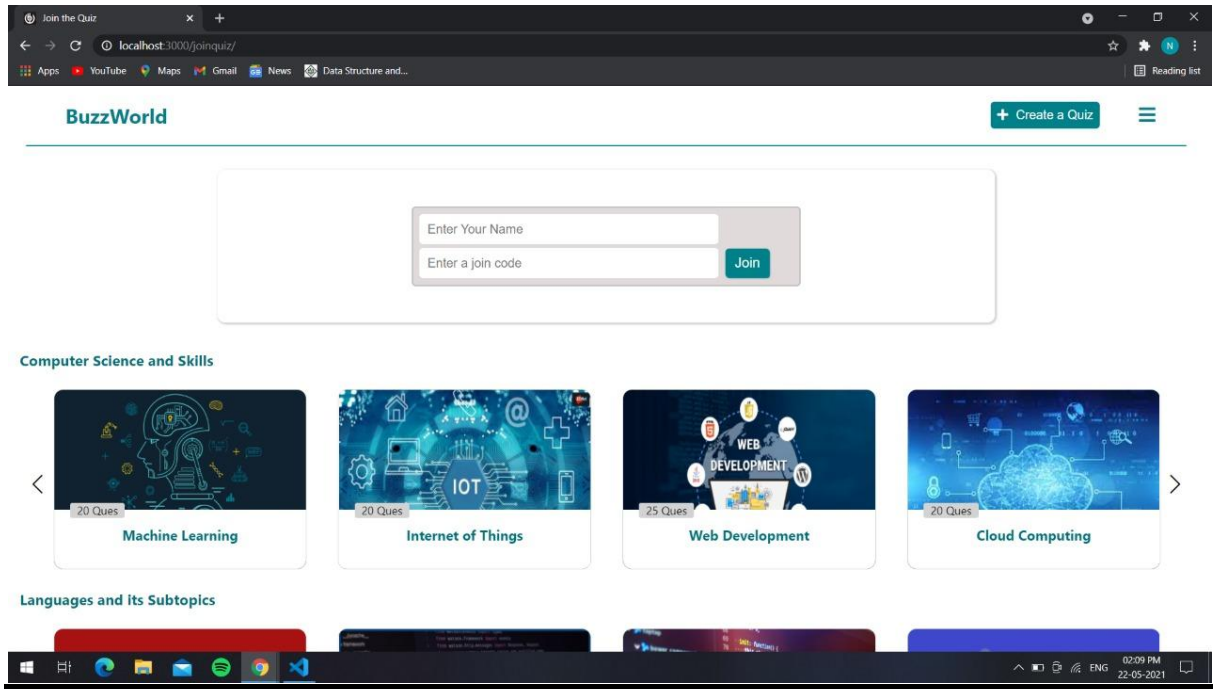


2. Login & Signup Page

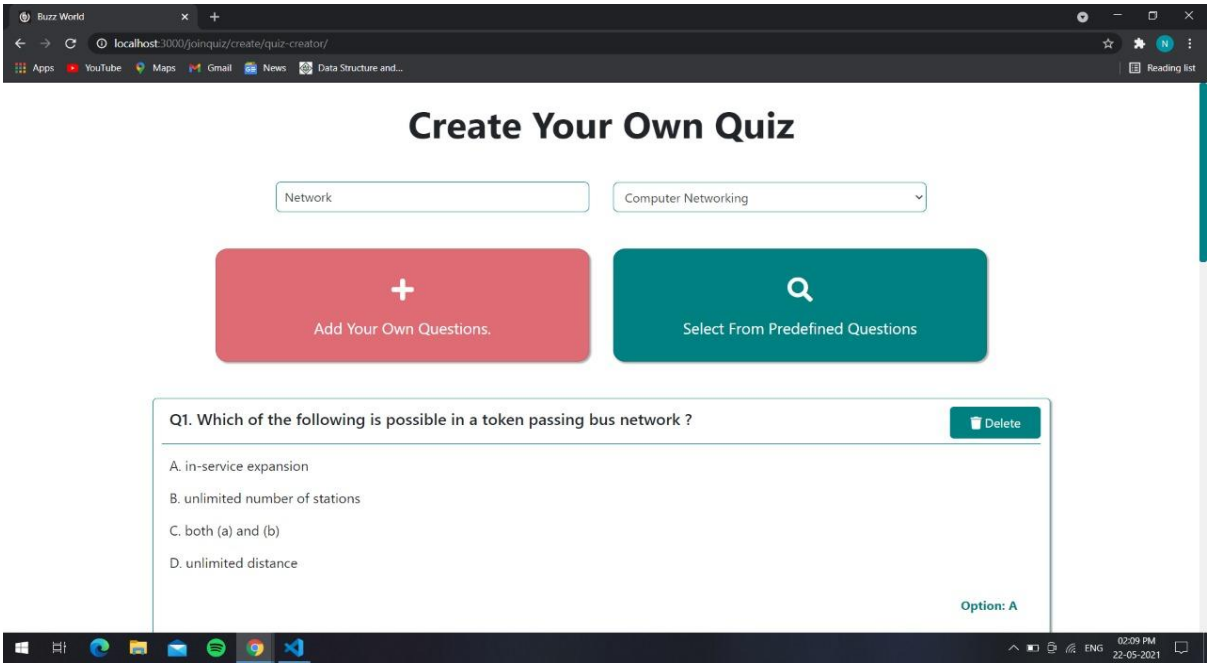


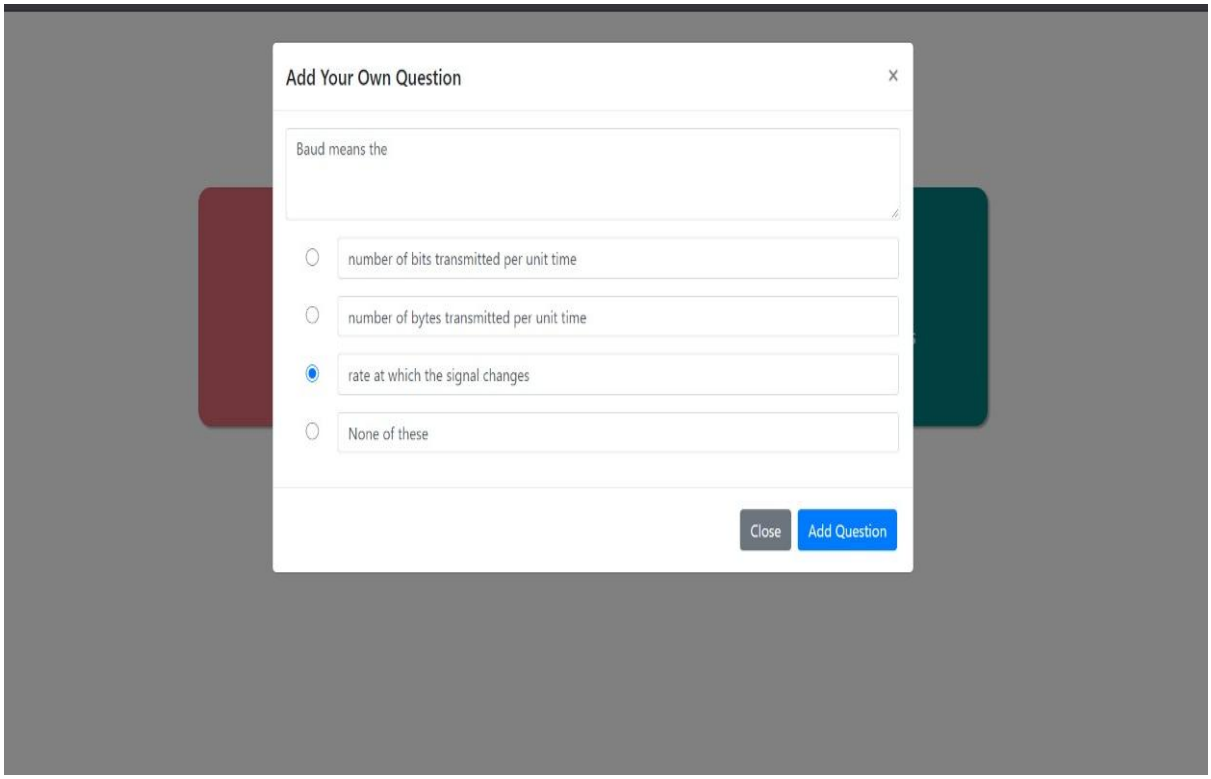


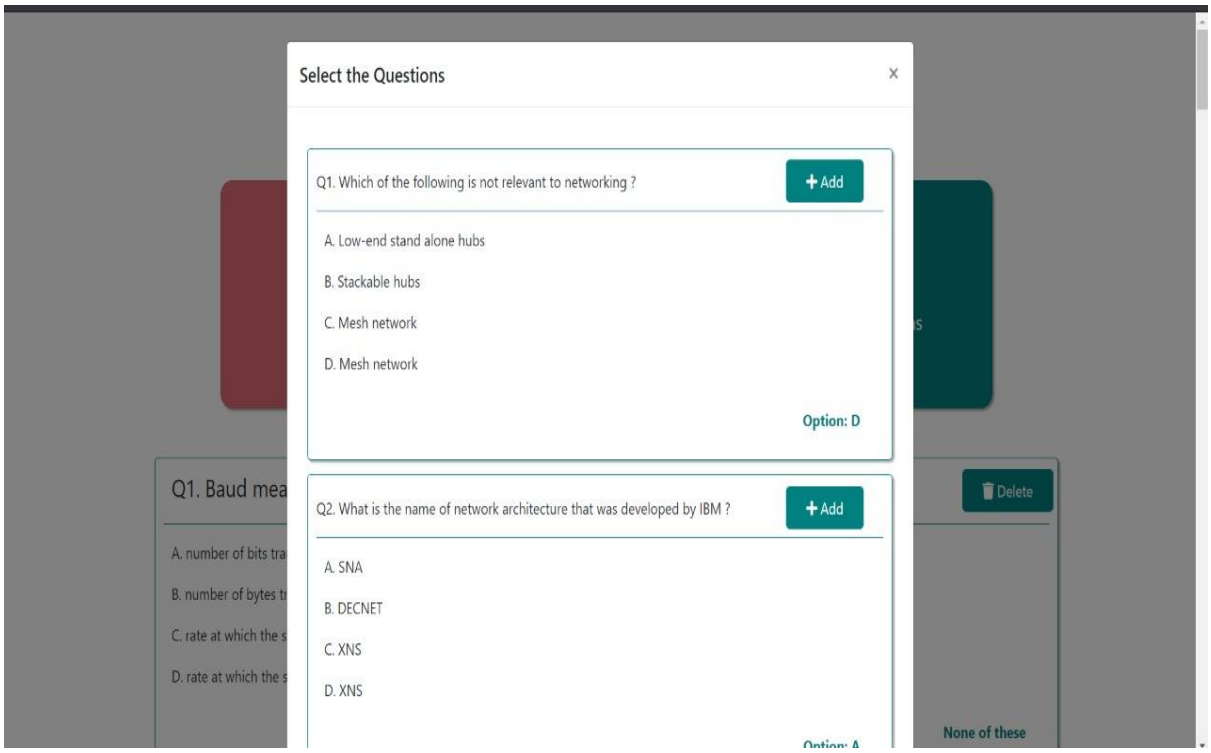
3. Dashboard



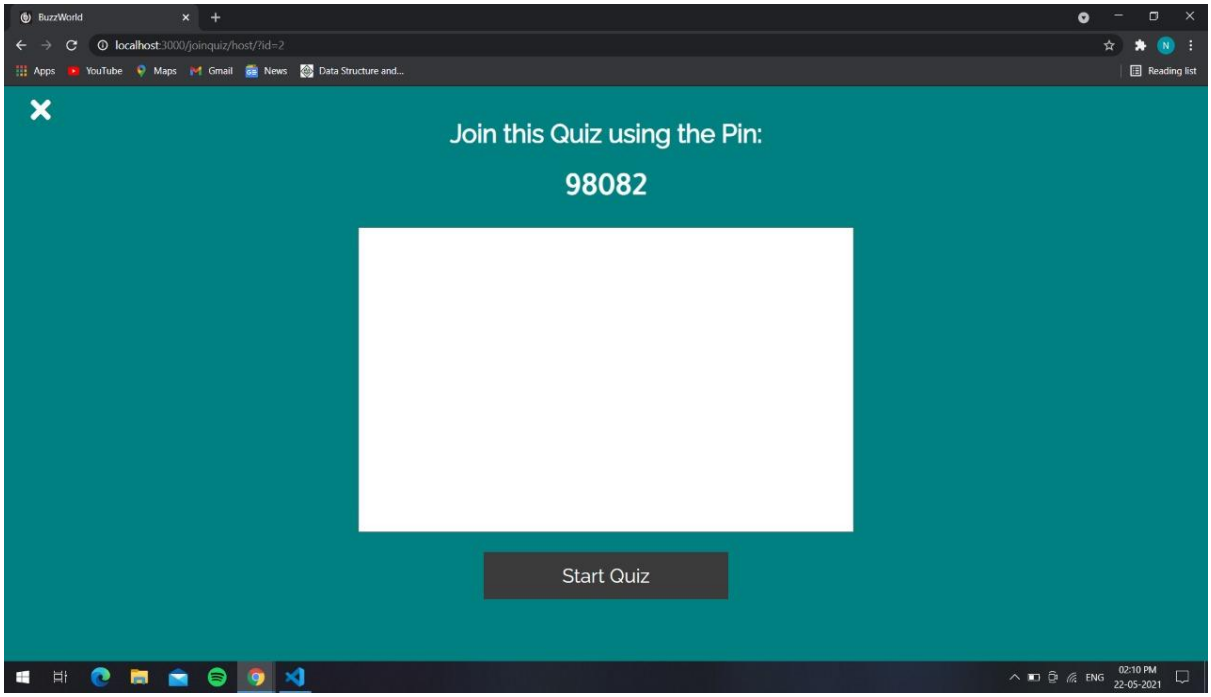
4. Create Quiz Page

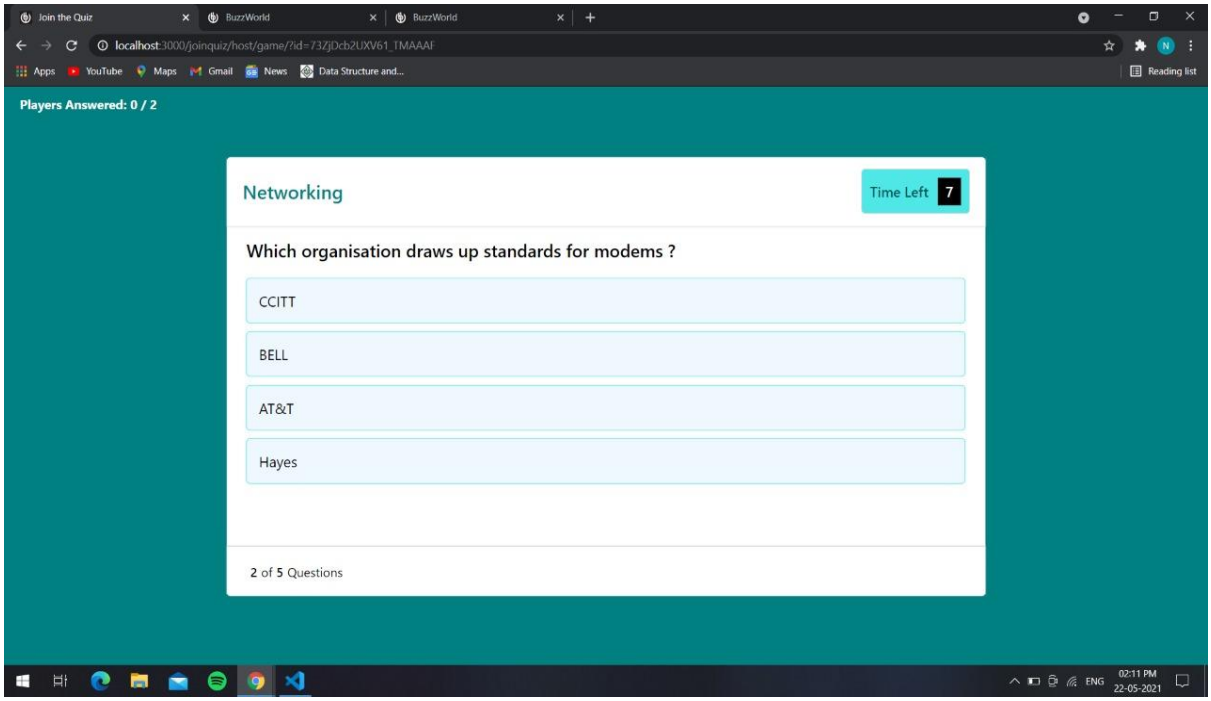



Add Your Own Question
Baud means the
number of bits transmitted per unit time
number of bytes transmitted per unit time
rate at which the signal changes
None of these
Close
Add Question

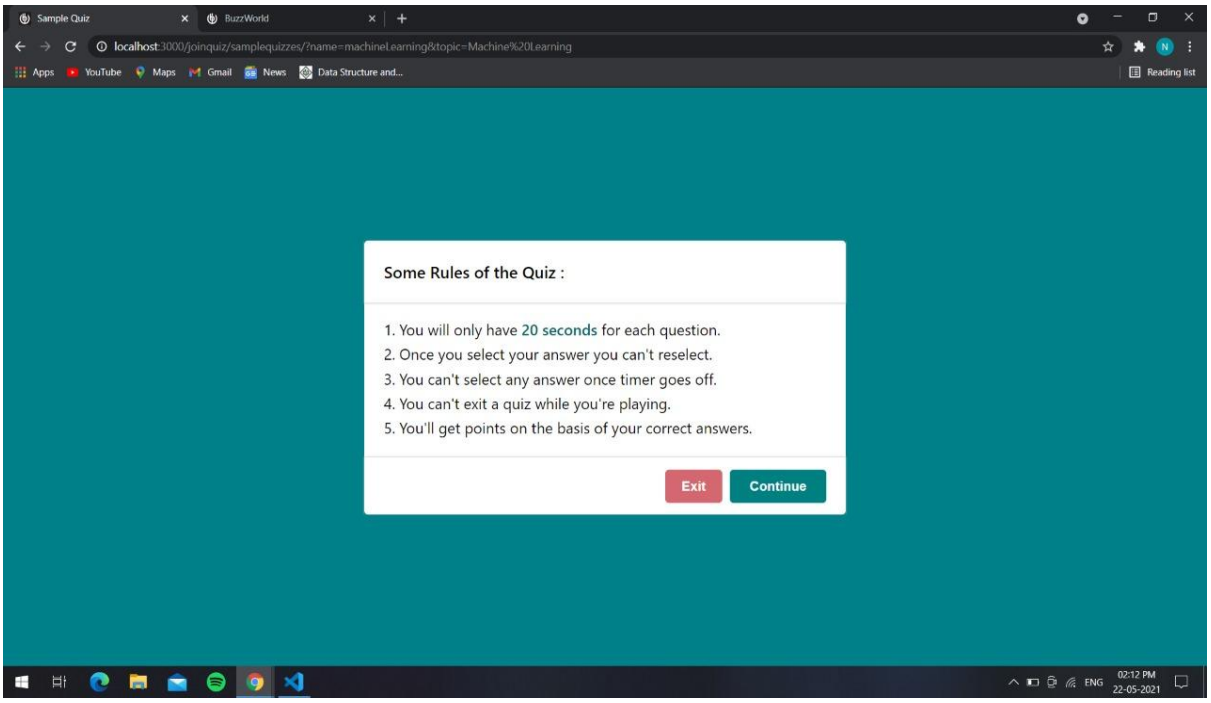

Select the Questions
Q1. Which of the following is not relevant to networking ?
+ Add
A. Low-end stand alone hubs
B. Stackable hubs
C. Mesh network
D. Mesh network
Option: D
Q2. What is the name of network architecture that was developed by IBM ?
+ Add
A. SNA
B. DECNET
C. XNS
D. XNS
Delete
None of these

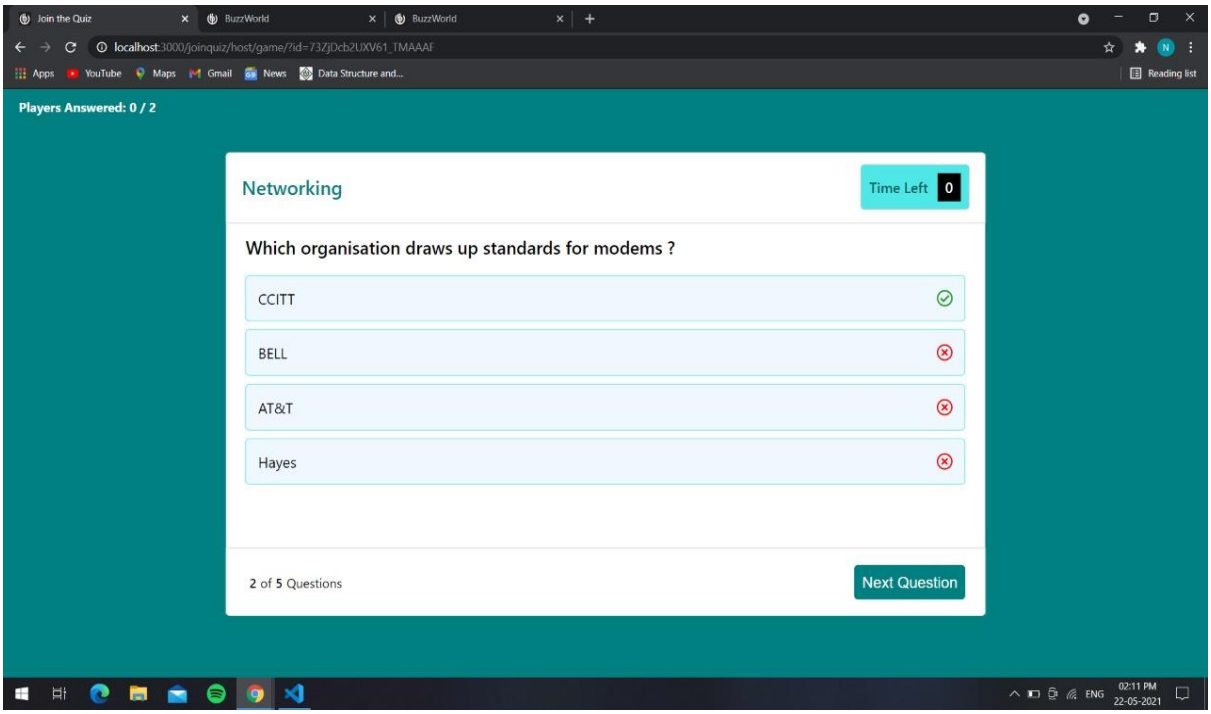
5. Host-Player Quiz

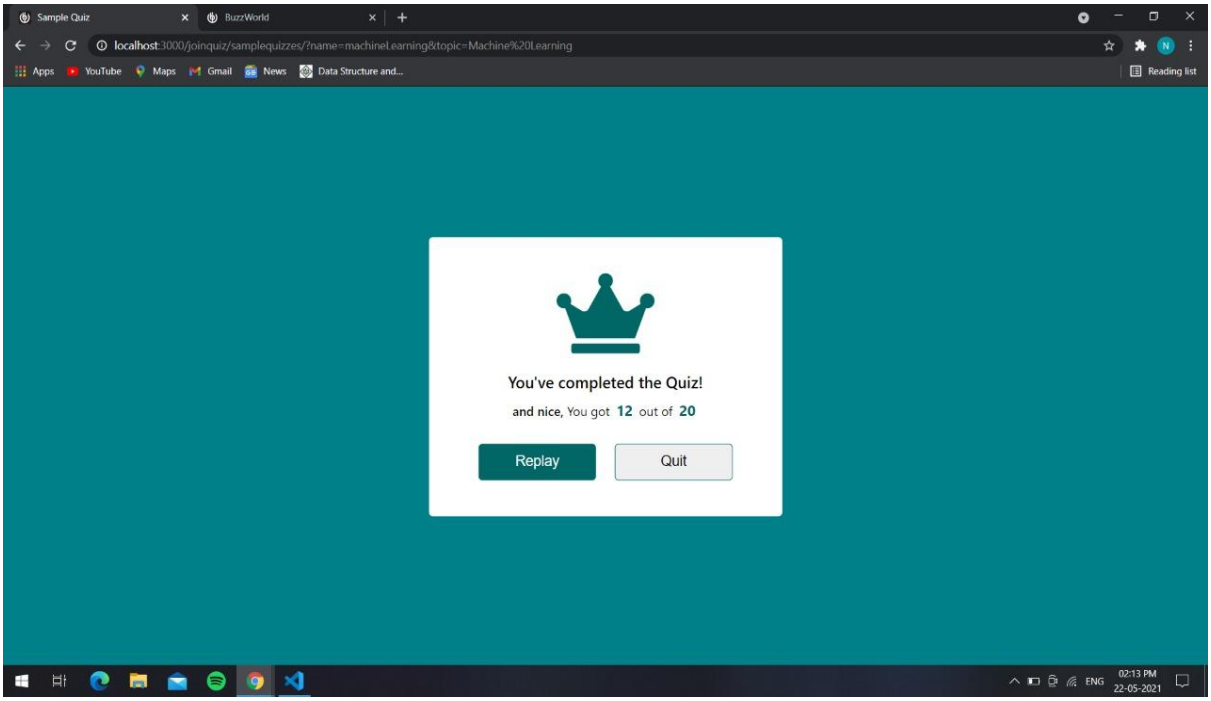




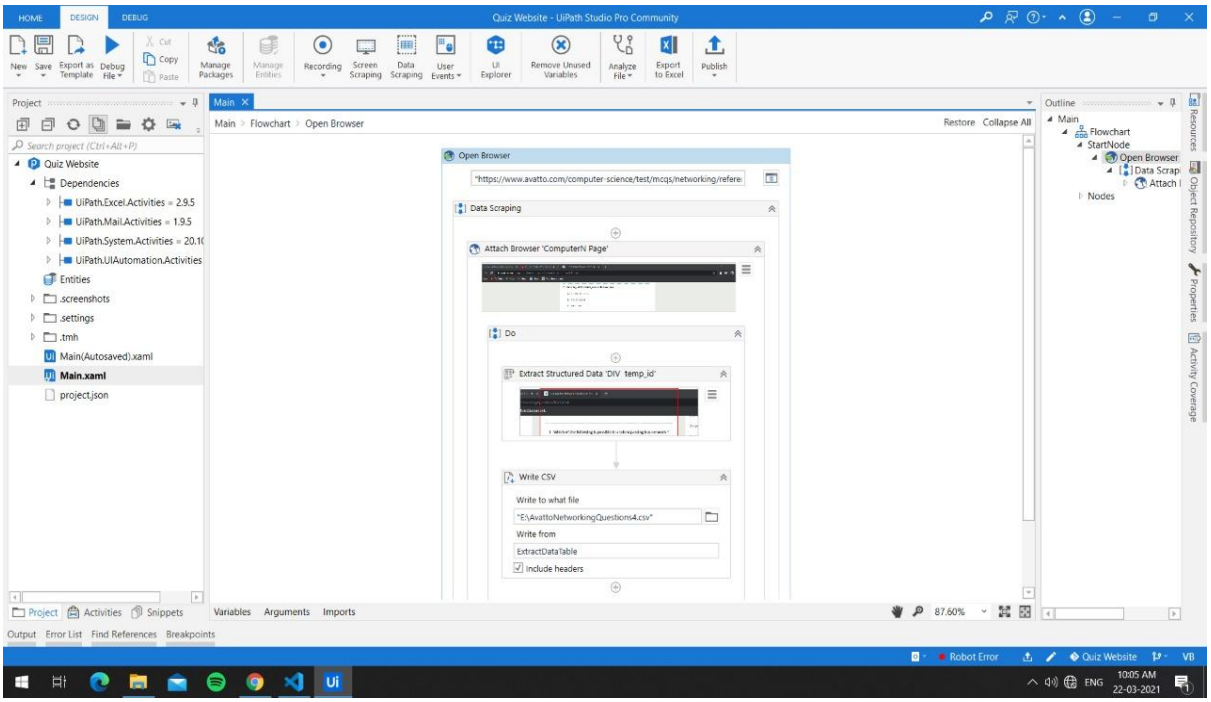
6. Quiz Interface







7. Webscrapping



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