**QUIZATO**

**A PROJECT REPORT**

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**Submitted in partial fulfilment of**

**the Requirements for the Degree**

**of**

**MASTER OF COMPUTER APPLICATIONS**

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**Submitted to**

**DEPARTMENT OF COMPUTER APPLICATIONS**

**KIET Group of Institutions, Ghaziabad Uttar Pradesh-201206**

**(AUGUST 2021)**

**DECLARATION**

I hereby declare that the work presented in this report entitled “QUIZATO",

was carried out by me. I have not submitted the matter embodied in this report for the

award of any other degree or diploma of any other University or Institute.

I have given due credit to the original authors/sources for all the words,

ideas, diagrams, graphics, computer programs, experiments, results, that are not my

original contribution.

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the original authors/sources.

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**CERTIFICATE**

Certified that Ravindra Yadav (enrollment no. 190029014005170) have carried out

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1. P.J. Abdul Kalam Technical University (AKTU) (formerly UPTU), Technical

University, Lucknow under my supervision. The project report embodies original

work, and studies are carried out by the student himself/herself and the contents of

the project report do not form the basis for the award of any other degree to the

candidate or to anybody else from this or any other University/Institution.

**Date:**

This is to certify that the above statement made by the candidate is correct to the best

of my knowledge.

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Dr. Vipin Kumar

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Signature of Internal Examiner Signature of External Examiner

**ABSTRACT**

It is good source of inter activity among students and also between the teacher

and students. It is done in order to improve student’s learning motivation.

This is a multiple-choice questions web application. The name of this web

application is Quizato.

In this web application the uniqueness is that, the user can set their time

according to their requirement.

Because sometime some question takes more time to solve and some question

takes less time and timer is also important for increase your question solving speed.

User will be interested because difficulty level of questions will be increase

day by day.

Quizzes in e-learning can be used to motivate learners, help them remember

what they learned, and assess what they learned.

**ACKNOWLEDGEMENTS**

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**CHAPTER 1**

**INTRODUCTION**

* 1. **PROJECT DESCRIPION**

The ONLINE QUIZ is a web application for to take online test in an efficient manner and no time wasting for checking the paper. The main objective of ONLINE QUIZ is to efficiently evaluate the candidate thoroughly through a fully automated system that not only saves 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 thing like paper, pen etc. This can be used in educational institutions as well as in corporate world.

All these operations have a scope of improve learning. In the centre of all these processes lies a motivation. The vital question here is how to find a particular subject’s quiz? The obvious response to this question is by using the particular subject’s name. In this web quiz application, we are mainly focusing on technical subjects (like PHP, Java Script, HTML, DBMS, data structure etc.)

Almost all organizations now-a-days, are conducting their objective exams by online examination system, it saves students time in examinations. Organizations can also easily check the performance of the student that they give in an examination.

In the world of internet, all task has been done through internet, so we have decided why Quizzes have not conducted through internet. In this web application it will require less labour force for organize quizzes and it will be more accurate and less time consuming and at the same time. This web quiz application helps the user to increase his/her knowledge.

**1.2 PROJECT SCOPE**

This Web Application provides facility to conduct online quiz sessions. It saves time as it allows number of students to give the exam at a time and displays the results with correct answer of quizzes the test gets over, so no need to wait for the result.

This project has a wide scope as it is better than the manual quiz. It, being an application based on web may be taken at any place or any time as the location is not considered. The presence of the proctor is not required while the candidate is appearing for the Quiz.

The ‘MCQ Web Quiz Application’ project developed to overcome the time-consuming problem of manual system. Correct answer and save the teacher time and carry the quiz 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.

**1.3 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.

**CHAPTER 2**

**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 analysed carefully. There are 3 parts in feasibility study.

**2.1 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 behaviours are to be realised. A system design and development require 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**.**

**2.2 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**.**

**2.3 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.

**CHAPTER 3**

**ORGANISATION OF THE REPORT**

**3.1 INTRODUCTION**

This section includes the overall view of the project i.e., the basic problem definition and the general overview of the problem which describes the problem in layman terms. It also specifies the software used and the proposed solution strategy.

**3.2 SOFTWARE REQUIREMENTS SPECIFICATION**

This section includes the Software and hardware requirements for the smooth running of the application.

**3.3 DESIGN & PLANNING**

This section consists of the Software Development Life Cycle model. It also contains technical diagrams like the Data Flow Diagram and the Entity Relationship diagram.

**3.4 IMPLEMENTATION DETAILS**

This section describes the different technologies used for the entire development process of the Front-end as well as the Back-end development of the application.

**3.5 RESULTS AND DISCUSSION**

This section has screenshots of all the implementation i.e., user interface and their description.

**3.6 SUMMARY AND CONCLUSION**

This section has screenshots of all the implementation i.e., user interface and their description.

**CHAPTER 4**

**SOFTWARE/Hardware REQUIREMENTS SPECIFICATION**

**4.1 Hardware Requirements**

**Number Description**

1 PC with 250 GB or more Hard disk

2 PC with 2 GB RAM.

3 PC with Pentium 1 and above**.**

**4.2 Software Requirements**

**Number Description Type**

1 Operating System Windows XP / Windows

2 Language JavaScript

Html

CSS

3 Database MySQL

Json Server

4 IDE Visual Code

5 Browser Google Chrome

**CHAPTER 5**

**DESIGN & PLANNING**

**5.1 Software Development Life Cycle Model**

* **5.1.1 WATERFALL MODEL**

The waterfall model was selected as the SDLC model due to the following reasons:

• Requirements were very well documented, clear and fixed.

• Technology was adequately understood.

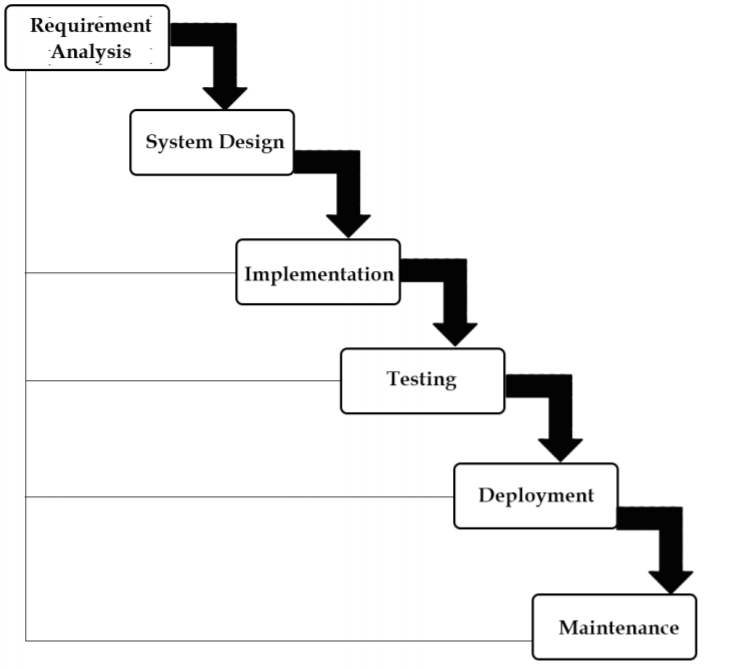
• Simple and easy to understand and use.

• There were no ambiguous requirements.

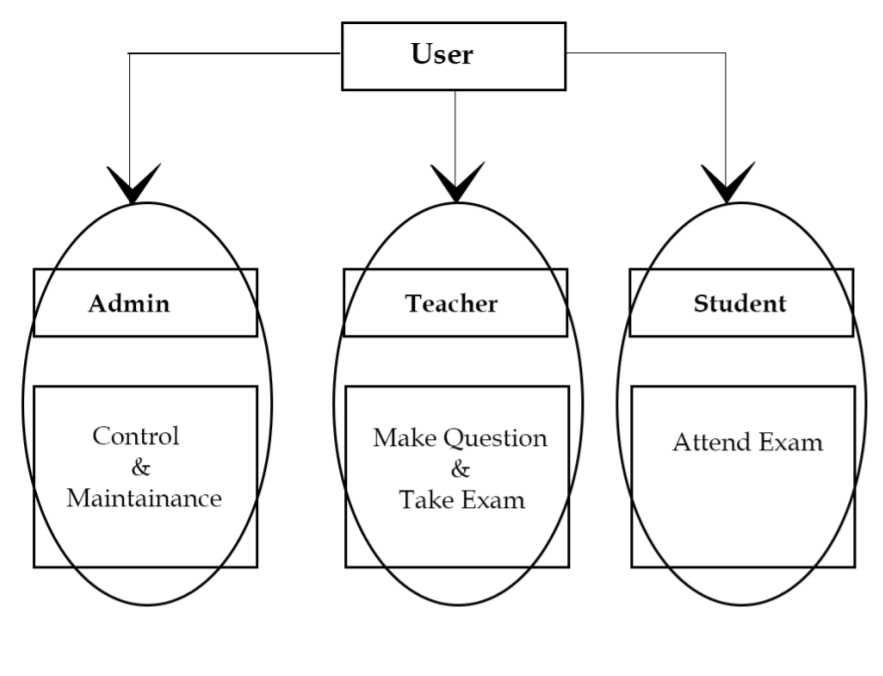
• Easy to manage due to the rigidity of the model. Each phase has specific deliverables and a review process.

Waterfall Model is a sequential model that divides software development into pre-defined phases. Each phase must be completed before the next phase can begin with no overlap between the phases. Each phase is designed for performing specific activity during the SDLC phase. It was introduced in 1970 by Winston Royce.

Waterfall testing is a software testing methodology that matches the postulates of Waterfall software development. Waterfall implicates that there is a sequence of stages in which the output of each stage becomes the input for the next. Waterfall approach is also known as the linear-sequential life cycle model.



**5.2 GENERAL OVERVIEW**

****

Here will be three type users Admin, which will control and maintain the Quizato. Teacher will make Question and Take exam while Student can only attend the exam.

**CHAPTER 6**

**IMPLEMENTATION DETAILS**

In this Section we will do Analysis of Technologies to use for implementing the project

**6.1 FRONT END**

**6.1.1 HTML**

HTML stands for Hyper Text Markup Language. It is used to design web pages using a markup language. HTML is the combination of Hypertext and Markup language. Hypertext defines the link between the web pages. A markup language is used to define the text document within tag which defines the structure of web pages. This language is used to annotate (make notes for the computer) text so that a machine can understand it and manipulate text accordingly. Most markup languages (e.g. HTML) are human-readable. The language uses tags to define what manipulation has to be done on the text.

HTML is a markup language used by the browser to manipulate text, images, and other content, in order to display it in the required format. HTML was created by Tim Berners-Lee in 1991. The first-ever version of HTML was HTML 1.0, but the first standard version was HTML 2.0, published in 1999.

**Elements and Tags:**

HTML uses predefined tags and elements which tell the browser how to properly display the content. Remember to include closing tags. If omitted, the browser applies the effect of the opening tag until the end of the page.

**HTML page structure:**

The basic structure of an HTML page is laid out below. It contains the essential building-block elements (i.e. doctype declaration, HTML, head, title, and body elements) upon which all web pages are created.

**<DOCTYPE! html>:**

This is the document type declaration (not technically a tag). It declares a document as being an HTML document. The doctype declaration is not case-sensitive.

**<html>:**

This is called the HTML root element. All other elements are contained within it.

**<head>:**

The head tag contains the “behind the scenes” elements for a webpage. Elements within the head aren’t visible on the front-end of a webpage. HTML elements used inside the <head> element include:

<style>

<title>

<base>

<noscript>

<script>

<meta>

<link>

**<body>:**

The body tag is used to enclose all the visible content of a webpage. In other words, the body content is what the browser will show on the front-end.

An HTML document can be created using any text editor. Save the text file using .html or .htm. Once saved as an HTML document, the file can be opened as a webpage in the browser.

**NOTE:** Basic/built-in text editors are Notepad (Windows) and TextEdit (Macs). Basic text editors are entirely sufficient for when you’re just getting started. As you progress, there are many feature-rich text editors available which allow for greater function and flexibility.

**6.1.2 JavaScript**

JavaScript (js) is a light-weight object-oriented programming language which is used by several websites for scripting the webpages. It is an interpreted, full-fledged programming language that enables dynamic interactivity on websites when applied to an HTML document. It was introduced in the year 1995 for adding programs to the webpages in the Netscape Navigator browser. Since then, it has been adopted by all other graphical web browsers. With JavaScript, users can build modern web applications to interact directly without reloading the page every time. The traditional website uses js to provide several forms of interactivity and simplicity.

Although, JavaScript has no connectivity with Java programming language. The name was suggested and provided in the times when Java was gaining popularity in the market. In addition to web browsers, databases such as CouchDB and MongoDB uses JavaScript as their scripting and query language.

**Features of JavaScript**:

1. All popular web browsers support JavaScript as they provide built-in execution environments.

2. JavaScript follows the syntax and structure of the C programming language. Thus, it is a structured programming language.

3. JavaScript is a weakly typed language, where certain types are implicitly cast (depending on the operation).

4. JavaScript is an object-oriented programming language that uses prototypes rather than using classes for inheritance.

5. It is a light-weighted and interpreted language.

6. It is a case-sensitive language.

7. JavaScript is supportable in several operating systems including, Windows, macOS, etc.

8. It provides good control to the users over the web browsers.

**History of JavaScript:**

In 1993, Mosaic, the first popular web browser, came into existence. In the year 1994, Netscape was founded by Marc Andreessen. He realized that the web needed to become more dynamic. Thus, a 'glue language' was believed to be provided to HTML to make web designing easy for designers and part-time programmers. Consequently, in 1995, the company recruited Brendan Eich intending to implement and embed Scheme programming language to the browser. But, before Brendan could start, the company merged with Sun Microsystems for adding Java into its Navigator so that it could compete with Microsoft over the web technologies and platforms. Now, two languages were there: Java and the scripting language. Further, Netscape decided to give a similar name to the scripting language as Java's. It led to 'JavaScript'. Finally, in May 1995, Marc Andreessen coined the first code of JavaScript named 'Mocha'. Later, the marketing team replaced the name with 'Live Script'. But, due to trademark reasons and certain other reasons, in December 1995, the language was finally renamed to 'JavaScript'. From then, JavaScript came into existence.

**Application of JavaScript:**

JavaScript is used to create interactive websites. It is mainly used for:

o Client-side validation,

o Dynamic drop-down menus,

o Displaying date and time,

o Displaying pop-up windows and dialog boxes (like an alert dialog box, confirm dialog box and prompt dialog box),

o Displaying clocks etc.

**6.1.3 JQUERY**

jQuery is an open-source JavaScript library that simplifies the interactions between an HTML/CSS document, or more precisely the Document Object Model (DOM), and JavaScript.

Elaborating the terms, jQuery simplifies HTML document traversing and manipulation, browser event handling, DOM animations, Ajax interactions, and cross-browser JavaScript development.

Note: The only library available today that meets the needs of both designer types and programmer types is jQuery.

jQuery is widely famous with its philosophy of “Write less, do more.” This philosophy can be further elaborated as three concepts:

• Finding some elements (via CSS selectors) and doing something with them (via jQuery methods) i.e., locate a set of elements in the DOM, and then do something with that set of elements.

• Chaining multiple jQuery methods on a set of elements

• Using the jQuery wrapper and implicit iteration

**Using jQuery (JS) library on HTML page**

There are several ways to start using jQuery on your web site.

1. Use the Google-hosted/ Microsoft-hosted content delivery network (CDN) to include a version of jQuery.

2. Download own version of jQuery from jQuery.com and host it on own server or local filesystem.

Note: All jQuery methods are inside a document-ready event to prevent any jQuery code from running before the document is finished loading (is ready).

**6.1.4 JSON**

JavaScript Object Notation (JSON) is an open-standard file format that uses human-readable text to transmit data objects consisting of attribute–value pairs and array data types (or any other serializable value). It is a very common data format used for asynchronous browser–server communication, including as a replacement for XML in some AJAX-style systems. JSON is a language-independent data format. It was derived from JavaScript, but many modern programming languages include code to generate and parse JSON-format data. The official Internet media type for JSON is application/json. JSON filenames use the extension. json. Douglas Crockford originally specified the JSON format in the early 2000s. It was first standardized in 2013 in RFC 7158 and ECMA-404. The latest JSON format standard was published in 2017 as RFC 8259, and remains consistent with ECMA-404. That same year, JSON was also standardized as ISO/IEC 21778:2017. The ECMA and ISO standards describes only the allowed syntax, whereas the RFC covers some security and interoperability considerations. JSON grew out of a need for stateless, real-time server-to-browser communication protocol without using browser plugins such as Flash or Java applets, the dominant methods used in the early 2000s.JSON was originally intended to be a subset of the JavaScript scripting language (specifically, Standard ECMA-262 3rd Edition—December 1999and is commonly used with JavaScript, but it is a language-independent data format. Code for parsing and generating JSON data is readily available in many programming languages. JSON's website lists JSON libraries by language.

**6.1.5 CSS**

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML.CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.CSS is designed to enable the separation of presentation and content, including layout, colours, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content. 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.

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 colour of the text, the style of fonts, the spacing between paragraphs, how columns are sized and laid out, what background images or colours 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 HTML or XHTML.

**Who Creates and Maintains CSS?**

CSS is created and maintained through a group of people within the W3C called the CSS Working Group. The CSS Working Group creates documents called specifications. When a specification has been discussed and officially ratified by the W3C members, it becomes a recommendation.

These ratified specifications are called recommendations because the W3C has no control over the actual implementation of the language. Independent companies and organizations create that software.

NOTE − The World Wide Web Consortium, or W3C is a group that makes recommendations about how the Internet works and how it should evolve.

**CSS Versions**

Cascading Style Sheets level 1 (CSS1) came out of W3C as a recommendation in December 1996. This version describes the CSS language as well as a simple visual formatting model for all the HTML tags. CSS2 became a W3C recommendation in May 1998 and builds on CSS1. This version adds support for media-specific style sheets e.g., printers and aural devices, downloadable fonts, element positioning and tables.

**6.1.6 Bootstrap**

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation and other interface components. Bootstrap is the third-most starred project on GitHub, with more than 135,000 stars, behind only free Code Camp (almost 305,000 stars) and marginally behind Vue.js framework. According to Alexa Rank, Bootstrap getbootstrap.com is in the top-2000 in US while vuejs.org is in top-7000 in US. Bootstrap is a web framework that focuses on simplifying the development of informative web pages (as opposed to web apps). The primary purpose of adding it to a web project is to apply Bootstrap's choices of colour, size, font and layout to that project. As such, the primary factor is whether the developers in charge find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all HTML elements. The result is a uniform appearance for prose, tables and form elements across web browsers. In addition, developers can take advantage of CSS classes defined in Bootstrap to further customize the appearance of their contents. For example, Bootstrap has provisioned for light- and dark-colored tables, page headings, more prominent pull quotes, and text with a highlight. Bootstrap is a web framework that focuses on simplifying the development of informative web pages (as opposed to web apps). The primary purpose of adding it to a web project is to apply Bootstrap's choices of color, size, font and layout to that project. As such, the primary factor is whether the developers in charge find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all HTML elements. The result is a uniform appearance for prose, tables and form elements across web browsers. In addition, developers can take advantage of CSS classes defined in Bootstrap to further customize the appearance of their contents. For example, Bootstrap has provisioned for light- and dark-coloured tables, page headings, more prominent pull quotes, and text with a highlight.

Bbootstrap was developed by Mark Otto and Jacob Thornton at Twitter. It was released as an open-source product in August 2011 on GitHub.

In June 2014 Bootstrap was the No.1 project on GitHub.

**Why use Bootstrap**

Following are the main advantage of Bootstrap:

o It is very easy to use. Anybody having basic knowledge of HTML and CSS can use Bootstrap.

o It facilitates users to develop a responsive website.

o It is compatible on most of browsers like Chrome, Firefox, Internet Explorer, Safari and Opera etc.

**What is a responsive website?**

A website is called responsive website which can automatically adjust itself to look good on all devices, from smart phones to desktops etc

**What Bootstrap package contains**

**Scaffolding**:

Bootstrap provides a basic structure with Grid System, link styles, and background.

**CSS**:

Bootstrap comes with the feature of global CSS settings, fundamental HTML elements style and an advanced grid system.

**Components**:

Bootstrap contains a lot of reusable components built to provide iconography, dropdowns, navigation, alerts, pop-overs, and much more.

**JavaScript Plugins**:

Bootstrap also contains a lot of custom jQuery plugins. You can easily include them all, or one by one.

**Is Bootstrap Best?**

Bootstrap is more than efficient to create a responsive and mobile first website but it is not the best in the industry. There is an alternative of Bootstrap named W3.CSS which is smaller, faster, and easier to use.

**Customize**:

Bootstrap components are customizable and you can customize Bootstrap's components, LESS variables, and jQuery plugins to get your own style.

**6.2.1 VS Code:**

Visual Studio Code is a source-code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git. Users can change the theme, keyboard shortcuts, preferences, and install extensions that add additional functionality.

Microsoft has released most of Visual Studio Code's source code on the Microsoft/vocode repository of GitHub using the "Code – OSS" name, under the permissive MIT License, while the releases by Microsoft are proprietary freeware.

In the Stack Overflow 2019 Developer Survey, Visual Studio Code was ranked the most popular developer environment tool, with 50.7% of 87,317 respondents reporting that they use it.

Visual Studio Code was first announced on April 29, 2015, by Microsoft at the 2015 Build conference. A Preview build was released shortly thereafter. On November 18, 2015, Visual Studio Code was released under the MIT License, having its source code available on GitHub. Extension support was also announced.[13] On April 14, 2016, Visual Studio Code graduated from the public preview stage and was released to the Web.

**6.3 Hardware**

**6.3.1 RAM**

RAM (Random Access Memory) is the internal memory of the CPU for storing data, program, and program result. It is a read/write memory which stores data until the machine is working. As soon as the machine is switched off, data is erased.

access time in RAM is independent of the address, that is, each storage location inside the memory is as easy to reach as other locations and takes the same amount of time. Data in the RAM can be accessed randomly but it is very expensive.

RAM is volatile, i.e., data stored in it is lost when we switch off the computer or if there is a power failure. Hence, a backup Uninterruptible Power System (UPS) is often used with computers. RAM is small, both in terms of its physical size and in the amount of data it can hold.

RAM is of two types −

• Static RAM (SRAM)

• Dynamic RAM (DRAM)

**Static RAM (SRAM)**

The word static indicates that the memory retains its contents as long as power is being supplied. However, data is lost when the power gets down due to volatile nature. SRAM chips use a matrix of 6-transistors and no capacitors. Transistors do not require power to prevent leakage, so SRAM need not be refreshed on a regular basis.

There is extra space in the matrix, hence SRAM uses more chips than DRAM for the same amount of storage space, making the manufacturing costs higher. SRAM is thus used as cache memory and has very fast access.

Characteristic of Static RAM

• Long life

• No need to refresh

• Faster

• Used as cache memory

• Large size

• Expensive

• High power consumption

**Dynamic RAM (DRAM)**

DRAM, unlike SRAM, must be continually refreshed in order to maintain the data. This is done by placing the memory on a refresh circuit that rewrites the data several hundred times per second. DRAM is used for most system memory as it is cheap and small. All DRAMs are made up of memory cells, which are composed of one capacitor and one transistor.

Characteristics of Dynamic RAM

• Short data lifetime

• Needs to be refreshed continuously

• Slower as compared to SRAM

• Used as RAM

• Smaller in size

• Less expensive

• Less power consumption

**6.3.2 Hard Drive**

It is also called HDD,” disk drive,” (hard drive) or hard disk is a non-volatile. The hard disk drive is the primary storage unit of the computer. This is where your data, programs and the Windows system that is used to make your computer are physically saved in a digital form (string composed of 0s and 1s). There hard disk capacity is expressed in gigabytes (GB). Harder disk drive will have a large capacity, the more you can install programs or store documents in your computer.

**Types of Computer Hard Disk Drives**:

There are at present two standards discs: ATA-IDE and SATA. The ATA-IDE standard, although still widespread, is doomed to disappear in favour of SATA. SATA hard drives are indeed faster and have a much larger storage capacity.

**Difference Between Internal & External Hard Disk**

Internal Hard Drive and External Hard Disk share a similar feature.

• The main difference is that internal hard drive is installed inside to your desktop computer or External Hard Disk are connected via USB 2.0.

• Internal hard drive store all of data, while external hard disk is to protection your data in case corruption takes place.

• Internal hard drive is much faster than an External Hard Disk. The internal drive is connected advanced technology bus.

**Hard Disk Drive Physical Description:**

A hard disk consists of a stack of disk platters that are made up of aluminium alloy of glass coated with a magnetic material; actually, most hard disks have from two to eight platters. Each side of each platter has a read/write head that floats over the surface of the rapidly spinning disk and picks up (reads) magnetically stored data, or records (writes) data onto the disk. It’s just liked a tape recorder, except that in a hard disk, the head doesn’t touch the disk surface. Instead, the read/write heads float on an extraordinarily thin cushion of air, about the height of a fingerprint. Really. That’s why it’s important not to jostle your hard disk or kick it while it’s doing its work.

The surface of a disk is divided into imaginary tracks and sectors. Tracks are concentric circles where the data is stored. These tracks are numbered from the outermost ring to the innermost ring, starting from zero. Disk sectors refer to the number of fixed size areas that can be accessed by one of the disk drive’s read/write heads, in one rotation of the disk, without the head having to change its position. An intersection of a track and a disk sector is known as track sector.

Each sector is uniquely assigned a disk address before a disk drive can access a piece of data. In order to make the disk usable, first it must be formatted to create tracks and sectors. The track sectors are grouped into a collection known as cluster. It refers to the basic allocation unit for storage on a disk.

On the hard disk you’ll keep the operating system, and copies of all the software applications you use, such as your word processor and your spreadsheet program, plus copies of all the documents or files you create. The hard drive is sometimes referred to as the “C drive” due to the fact that Microsoft Windows designates the “C” drive letter to the primary partition on the primary hard drive in a computer by default. While this is not a technically correct term to use, it is still common. For example, some computers have multiple drive letters (i.e. C, D, E) representing areas across one or more hard drives.

Some computers don’t absolutely need a hard disk for storing things they use floppy disks instead. But a hard disk drive is much, much faster than a floppy disk drive, and it stores much more information. And as software programs and operating systems get more sophisticated, they also take up more disks space-so much disk space that many programs and systems can’t even fit on a floppy disk. These days, almost every computer has a hard disk.

**CHAPTER 7 : TESTING**

**7.1 : UNIT TESTING**

**7.1.1 Introduction**

In computer programming, unit testing is a software testing method by which individual units of source code, sets of one or more computer program modules together with associated control data, usage procedures, and operating procedures, are tested to determine whether they are fit for use. Intuitively, one can view a unit as the smallest testable part of an application. In procedural programming, a unit could be an entire module, but it is more commonly an individual function or procedure. In object-oriented programming, a unit is often an entire interface, such as a class, but could be an individual method. Unit tests are short code fragments created by programmers or occasionally by white box testers during the development process. It forms the basis for component testing. Ideally, each test case is independent from the others. Substitutes such as method stubs, mock objects, fakes, and test harnesses can be used to assist testing a module in isolation. Unit tests are typically written and run by software developers to ensure that code meets its design and behaves as intended.

**7.1.2 Benefits :**

The goal of unit testing is to isolate each part of the program and show that the individual parts are correct. A unit test provides a strict, written contract that the piece of code must satisfy. As a result, it affords several benefits.

1. **Find problems early :**

Unit testing finds problems early in the development cycle. In test-driven development (TDD), which is frequently used in both extreme programming and scrum, unit tests are created before the code itself is written. When the tests pass, that code is considered complete. The same unit tests are run against that function frequently as the larger code base is developed either as the code is changed or via an automated process with the build. If the unit tests fail, it is considered to be a bug either in the changed code or the tests themselves. The unit tests then allow the location of the fault or failure to be easily traced. Since the unit tests alert the development team of the problem before handing the code off to testers or clients, it is still early in the development process.

**2 ) Facilitates Change :**

Unit testing allows the programmer to refactor code or upgrade system libraries at a later date, and make sure the module still works correctly (e.g., in regression testing). The procedure is to write test cases for all functions and methods so that whenever a change causes a fault, it can be quickly identified. Unit tests detect changes which may break a design contract.

**3 ) Simplifies Integration :**

Unit testing may reduce uncertainty in the units themselves and can be used in a bottom-up testing style approach. By testing the parts of a program first and then testing the sum of its parts, integration testing becomes much easier.

**4 ) Documentation :**

Unit testing provides a sort of living documentation of the system. Developers looking to learn what functionality is provided by a unit, and how to use it, can look at the unit tests to gain a basic understanding of the unit's interface (API).Unit test cases embody characteristics that are critical to the success of the unit. These characteristics can indicate appropriate/inappropriate use of a unit as well as negative behaviors that are to be trapped by the unit.

**7.2 : INTEGRATION TESTING**

Integration testing (sometimes called integration and testing, abbreviated I&T) is the phase in software testing in which individual software modules are combined and tested as a group. It occurs after unit testing and before validation testing. Integration testing takes as its input modules that have been unit tested, groups them in larger aggregates, applies tests defined in an integration test plan to those aggregates, and delivers as its output the integrated system ready for system testing.

**7.2.1 Purpose:**

The purpose of integration testing is to verify functional, performance, and reliability requirements placed on major design items. These "design items", i.e., assemblages (or groups of units), are exercised through their interfaces using black-box testing, success and error cases being simulated via appropriate parameter and data inputs. Simulated usage of shared data areas and inter-process communication is tested and individual subsystems are exercised through their input interface. Test cases are constructed to test whether all the components within assemblages interact correctly, for example across procedure calls or process activation, and this is done after testing individual modules, i.e., unit testing. The overall idea is a "building block" approach, in which verified assemblages are added to a verified base which is then used to support the integration testing of further assemblages.Software integration testing is performed according to the software development life cycle (SDLC) after module and functional tests. The cross dependencies for software integration testing are: schedule for integration testing, strategy and selection of the tools used for integration, define the cyclomatical complexity of the software and software architecture, reuse-ability of modules and life-cycle and versioning management.Some different types of integration testing are big-bang, top-down, and bottom-up, mixed (sandwich) and risky-hardest. Other Integration Patterns[2] are: collaboration integration, backbone integration, layer integration, client-server integration, distributed services integration and high-frequency integration.

**7.3 : SOFTWARE VERIFICATION AND VALIDATION**

**7.3.1 Introduction**

In software project management, software testing, and software engineering, verification and validation (V&V) is the process of checking that a software system meets specifications and that it fulfills its intended purpose. It may also be referred to as software quality control. It is normally the responsibility of software testers as part of the software development life-cycle. Validation checks that the product design satisfies or fits the intended use (high-level checking), i.e., the software meets the user requirements.This is done through dynamic testing and other forms of review.Verification and validation are not the same thing, although they are often confused. Boehm succinctly expressed the difference between

Validation : Are we building the right product?

Verification : Are we building the product right?

According to the Capability Maturity Model (CMMI-SW v1.1)

Software Verification: The process of evaluating software to determine

whether the products of a given development phase satisfy the conditions imposed at the start of that phase.

Software Validation: The process of evaluating software during or at the end of the development process to determine whether it satisfies specified requirements.

In other words, software verification is ensuring that the product has been built according to the requirements and design specifications, while software validation ensures that the product meets the user's needs, and that the specifications were correct in the first place. Software verification ensures that "you built it right". Software validation ensures that "you built the right thing". Software validation confirms that the product, as provided, will fulfill its intended use.

From Testing Perspective

Fault – wrong or missing function in the code.

Failure – the manifestation of a fault during execution.

Malfunction – according to its specification the system does not meet its specified functionality.

Both verification and validation are related to the concepts of quality and of software quality assurance. By themselves, verification and validation do not guarantee software quality; planning, traceability, configuration management and other aspects of software engineering are required.Within the modeling and simulation (M&S) community, the definitions of verification, validation and accreditation are similar:

M&S Verification is the process of determining that a computer model,

simulation, or federation of models and simulations implementations and their associated data accurately represent the developer's conceptual description and specifications.

M&S Validation is the process of determining the degree to which a

model, simulation, or federation of models and simulations, and their associated data are accurate representations of the real world from the perspective of the intended use(s).

**7.3.2 Classification of Methods:**

In mission-critical software systems, where flawless performance is absolutely necessary, formal methods may be used to ensure the correct operation of a system. However, often for non-missioncritical software systems, formal methods prove to be very costly and an alternative method of software V&V must be sought out. In such cases, syntactic methods are often used.

**7.3.3 Test Cases:**

A test case is a tool used in the process. Test cases may be prepared for software verification and software validation to determine if the product was built according to the requirements of the user. Other methods, such as reviews, may be used early in the life cycle to provide for software validation.

**7.4 : Black-Box Testing:**

Black-box testing is a method of software testing that examines the functionality of an application without peering into its internal structures or workings. This method of test can be applied virtually to every level of software testing: unit, integration, system and acceptance. It typically comprises most if not all higher level testing, but can also dominate unit testing as well.

**7.4.1 Test Procedures**

Specific knowledge of the application's code/internal structure and programming knowledge in general is not required. The tester is aware of what the software is supposed to do but is not aware of how it does it. For instance, the tester is aware that a particular input returns a certain, invariable output but is not aware of how the software produces the output in the first place.

**7.4.2 Test Cases**

Test cases are built around specifications and requirements, i.e., what the application is supposed to do. Test cases are generally derived from external descriptions of the software, including specifications, requirements and design parameters. Although the tests used are primarily functional in nature, non-functional tests may also be used. The test designer selects both valid and invalid inputs and determines the correct output, often with the help of an oracle or a previous result that is known to be good, without any knowledge of the test object's internal structure.

**7.5 : White-Box Testing**

White-box testing (also known as clear box testing, glass box testing, transparent box testing, and structural testing) is a method of testing software that tests internal structures or workings of an application, as opposed to its functionality (i.e. black-box testing). In white-box testing an internal perspective of the system, as well as programming skills, are used to design test cases. The tester chooses inputs to exercise paths through the code and determine the appropriate outputs. This is analogous to testing nodes in a circuit, e.g. in-circuit testing (ICT). White-box testing can be applied at the unit, integration and system levels of the software testing process. Although traditional testers tended to think of white-box testing as being done at the unit level, it is used for integration and system testing more frequently today. It can test paths within a unit, paths between units during integration, and between subsystems during a system–level test. Though this method of test design can uncover many errors or problems, it has the potential to miss unimplemented parts of the specification or missing requirements.

**7.5.1 Levels**

**1 ) Unit testing :**

White-box testing is done during unit testing to ensure that the code is working as intended, before any integration happens with previously tested code. White-box testing during unit testing catches any defects early on and aids in any defects that happen later on after the code is integrated with the rest of the application and therefore prevents any type of errors later on.

**2 ) Integration testing :**

White-box testing at this level are written to test the interactions of each interface with each other. The Unit level testing made sure that each code was tested and working accordingly in an isolated environment and integration examines the correctness of the behaviour in an open environment through the use of white-box testing for any interactions of interfaces that are known to the programmer.

**3 ) Regression testing** :

White-box testing during regression testing is the use of recycled white-box test cases at the unit and integration testing levels.

**7.5.2 Procedures**

White-box testings basic procedures involves the tester having a deep level of understanding of the source code being tested. The programmer must have a deep understanding of the application to know what kinds of test cases to create so that every visible path is exercised for testing. Once the source code is understood then the source code can be analyzed for test cases to be created. These are the three basic steps that white-box testing takes in order to create test cases:

Input involves different types of requirements, functional specifications,detailed designing of documents, proper source code, security specifications. This is the preparation stage of white-box testing to layout all of the basic information.

Processing involves performing risk analysis to guide whole testing process, proper test plan, execute test cases and communicate results. This is the phase of building test cases to make sure they thoroughly test the application the given results are recorded accordingly.

Output involves preparing final report that encompasses all of the above preparations and results.

**7.6 : SYSTEM TESTING**

System testing of software or hardware is testing conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements. System testing falls within the scope of black-box testing, and as such, should require no knowledge of the inner design of the code or logic. As a rule, system testing takes, as its input, all of the "integrated" software components that have passed integration testing and also the software system itself integrated with any applicable hardware system(s).

The purpose of integration testing is to detect any inconsistencies between the software units that are integrated together (called assemblages) or between any of the assemblages and the hardware. System testing is a more limited type of testing; it seeks to detect defects both within the "inter-assemblages" and also within the system as a whole.

System testing is performed on the entire system in the context of a Functional Requirement Specification(s) (FRS) and/or a System Requirement Specification (SRS). System testing tests not only the design, but also the behavior and even the believed expectations of the customer. It is also intended to test up to and beyond the bounds defined in the software/hardware requirements specification(s).

**Note: Because my Project is in progress therefore my Project is not completely done and some step according this file is not done like testing.**

**CHAPTER 9 : Advantage**

* **It saves the student's money:**

There are so many Plate-form on internet which charged for Quiz test. Before taking test user have to buy their courses and after that they be able to attend quiz but here no need of buy any course and no any investment by which user have to spent money.

* **It saves more time:**

This online web quiz application will helps to save user’s time Because there will not be any instruction for taking test. It will be user friendly so user can move easily without any instruction by this user can save their time.

* **No instructor needed:**

There are no need of instructor for users because our web-application will be user friendly and user can easily take test.

* **It saves paper.**

If there conducting offline Exam then we have to spent paper for providing questions to students and for taking response, but it is totally paperless.

* **User can manage exam time according their requirement:**

Sometimes some questions take less time and some questions takes more time to think and solve ,so user can set the timer of quizzes according to their requirement.

**CHAPTER 10 : Conclusion**

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

User can manage exam time according their requirement. User can test themselves anytime any where. User can attempt quiz also anytime anywhere.

A large number participants can participate. This web application will be user friendly.