MINI PROJECT

(2023-24)

"E-Learning"

Project Report

Institute of Engineering & Technology

Submitted By

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Declaration

I/we hereby declare that the work which is being presented in the Bachelor of technology. Project **"E-Learning"**, in partial fulfillment 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 **Mrs. Ruchi Gupta, Senior Trainer, Dept. of CEA, GLA University.**

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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CERTIFICATE

This is to certify that the project entitled “E-Learning”, carried out in Mini Project – I Lab, is a Bonafide work by Krishna Saxena, Samiksha and Saniya Gupta and is submitted in partial fulfillment of the requirements for the award of the degree Bachelor of Technology (Computer Science & Engineering).

Signature of Supervisor:

Name of Supervisor: Ms. Ruchi Gupta

Date: 04-12-2023

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ACKNOWLEDGEMENT

Presenting the ascribed project paper report in this very simple and official form, we would like to place my deep gratitude to GLA University for providing us the instructor Ms. Ruchi Gupta, our technical trainer and supervisor.

She has been helping us since Day 1 in this project. She provided us with the roadmap, the basic guidelines explaining on how to work on the project. She has been conducting regular meeting to check the progress of the project and providing us with the resources related to the project. Without his help, we wouldn't have been able to complete this project.

And at last, but not the least we would like to thank our dear parents for helping us to grab this opportunity to get trained and also my colleagues who helped me find resources during the training.

Thanking You

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ABSTRACT

This project introduces a cutting-edge Real-Time E-Learning System, meticulously engineered to provide a comprehensive solution for monitoring and managing vehicle movements. Leveraging a sophisticated tech stack that includes HTML, CSS, JavaScript, the systemseamlessly integrates web and mobile applications, ensuring a robust and versatile platform.

Key features of the system include real-time Course, enabling users to learn with precision. Ensuring the website is accessible to users with disabilities by providing features like screen reader compatibility, closed captioning for videos, and alternative text for images.

Platforms often offer discussion forums or chat rooms where learners can interact, ask questions, and discuss topics with peers and instructors. This fosters collaborative learning and peer-to-peer support.

In conclusion, the Real-Time E-Learning System represents a significant achievement in the field, offering a powerful and scalable solution for efficient Learning. Its versatility, user-friendliness, and integration capabilities make it a valuable asset in diverse applications, from fleet management to logistics and beyond.

CONTENTS

CHAPTER-1

INTRODUCTION

1.1 CONTEXT

This Web Application “E-Learning” has been submitted in partial fulfilment of the requirements forthe award of the degree of Bachelor of Technology in Computer Science and Engineering at GLA University, Mathura supervised by Mrs. Ruchi Gupta. This project has been completed approximately one month and has been executed in modules, meetings have been organised to check the progress of the work and for instructions and guidelines.

1.2 MOTIVATION

The motivation behind the development of website is deeply rooted in the transformative impact it promises to bring to businesses grappling with the intricacies of fleet management. Traditional methods often translate into missed opportunities, increased operational costs, and compromised security. Learning is motivated by the vision to empower businesses with a solution that not only addresses these pain points but serves as a catalyst for enhanced efficiency, cost-effectiveness, and overall operational excellence. By offering real-time E-Learning, historical data retrieval, and automated notifications, strives to empower organizations to make informed decisions, optimize routes, and ensure the safety and security of their valuable assets.

1.3 OBJECTIVE

To provide accessible education regardless of geographical location or time constraints. E-learning allows learners to access educational materials and resources at their own pace and convenience, fostering a more flexible learning environment.

1.4 SOURCES

Universities, colleges, schools, and educational organizations often develop and provide content for e-learning websites. They may offer course materials, lectures, and resources from their curriculum.

Individuals with expertise in specific fields create content such as lectures, presentations, videos, and assessments for courses. These experts contribute their knowledge and teaching materials to e-learning platforms.

CHAPTER -2 SOFTWARE REQUIREMENT ANALYSIS

2.1 HARDWARE AND SOFTWARE REQUIREMENTS

Hardware Requirement

- Processor: Core i3
- Operating System: Windows 7/10/11 or Linux
- RAM: 4GB (Min)
- Hardware Devices: Laptop/PC
- Hard Disk: 1TB
- Display: Min. 720p

Software Requirement

- Technology Implemented: Full Stack Web Technologies
- Language Used: HTML/CSS, JavaScript.
- Web Browser: Google Chrome, Mozilla Firefox

2.2 MODULES AND FUNCTIONALITIES

This project will support on all internet-based devices such as mobile phones, laptop, tablets, etc.

Enable instructors to create, organize, and manage courses. This includes uploading content, structuring lessons, adding assessments, and setting up course schedules.

2.3 FEASIBILITY OF PROJECT

The E-Learning - Real-Time System demonstrates strong feasibility:

- **Technical:** The chosen technology stack is robust, scalable, and integrates well with mapping APIs and mobile platforms.
- **Economic:** A cost-benefit analysis favors the system, with expected returns through enhanced operational efficiency and reduced costs.
- **Operational:** User-friendly interfaces and minimal training requirements ensure easy adoption by students.

- **Scheduling:** Realistic development timelines and a phased implementation approach allow for efficient project delivery.
- **Legal and Ethical:** Compliance with data privacy regulations, robust security measures, and clear user consent address legal and ethical considerations.

2.4 USE OF PROJECT

The Learning - System serves as a comprehensive solution for every student.system ensures operational transparency through live monitoring, timely alerts for critical events, and detailed reporting. The admin dashboard offers centralized control, while integration capabilities ensure seamless collaboration with third-party systems. Offer certificates or badges upon course completion to acknowledge and validate learners' achievements. These credentials can be shared and added to resumes or profiles.

BASIC TERMINOLOGY

1. Agile

A is for agile, a major buzzword across the entire tech industry right now. Agile web development essentially refers to a particular way of working, and you'll often hear this term in the start-up world. In an agile team, web developers will work according to weekly or biweekly sprints. A sprint usually consists of five phases: design, develop, test, deploy and review. You can learn more about agile web development in this article.

2. Algorithm

An algorithm is basically a set of steps for carrying out certain tasks. In computer programming, algorithms are a key part of problem-solving. When creating an algorithm, developers will document all the necessary steps it took to arrive at a solution to a problem, and what each step involved.

3. Adaptive design

The way in which a website is built determines how it appears on different devices. Adaptive design creates a website in several different layouts, each suited for different screen sizes. Depending on what device is being used to access the website, the website will adapt and deliver the appropriate layout. See also: responsive design and mobile-first.

4. Browser

A web browser is the software used to access the internet and display web pages. When you type a web address or URL into the browser, you are effectively sending out a series of requests. The browser will gather all the different elements that make up that particular webpage, such as images, ads and content, from wherever they are stored (i.e., different directories or servers) in order to display the page that you see. The most common browsers include Microsoft Internet Explorer, Google Chrome, Mozilla Firefox, Safari for Apple, and Opera.

5. Code

Of course, you can't call yourself a web developer until you know what code is! Code is essentially what web developers write using programming languages (scroll down to languages in this glossary!). To see exactly what code looks like, right-click on your internet browser window and click "view page source". You'll then be able to see the code that's behind this particular website.

6. CSS

CSS stands for Cascading Style Sheets. It is a markup language responsible for the visual elements of a website. HTML (another markup language) is used to determine the structure and content of the webpage. Web developers will then use CSS to style this content; in other words, CSS tells the browser how the HTML elements should be displayed. CSS is used to apply colours and to determine font, text size and alignment, to name just a few. Interested in learning more about it?

CHAPTER-4 TECHNOLOGY USED

4.1 WEB DEVELOPMENT

Web development is the work involved in developing a Web site for the Internet (World Wide Web) or an intranet (a private network).[1] Web development can range from developing a simple single static page of plain text to complex web applications, electronic businesses, and social network services. A more comprehensive list of tasks to which Web development commonly refers, may include Web engineering, Web design, Web content development, client liaison, client-side/server-side scripting, Web server and network security configuration, and e-commerce development.

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

For larger organizations and businesses, Web development teams can consist of hundreds of people (Web developers) and follow standard methods like Agile methodologies while developing Web sites. Smaller organizations may only require a single permanent or contracting developer, or secondary assignment to related job positions such as a graphic designer or information systems technician. Web development may be a collaborative effort between departments rather than the domain of a designated department. There are three kinds of Web developer specialization: front-end developer, back-end developer, and full-stack developer. Front-end developers are responsible for behaviour and visuals that run in the user browser, while back-end developers deal with the servers.

But first it would be great to see the two different types of Web Development: -

- **Front-end:** Suppose you want to create a website for your art gallery. So how should the website look? Well, artsy of course!!! And while looking artsy, it should also have all the relevant information about your gallery such as its address, details about your art-pieces, their prices, etc. Are you getting where this is going? Front End web development basically deals with making your website look like it should! This includes all the details of your website that the users will see and communicate with. All those artsy images, live animations, navigation menus, etc. that you add to your website are a part of Front-End web development. So, the better your frontend is, the higher the chances of good user experience (And also of all your paintings selling out!!!) The main technologies required for Front End development are HTML5, CSS3, and JavaScript.

4.3 TOOLS AND LANGUAGES

Tools used to build the Android App are: -

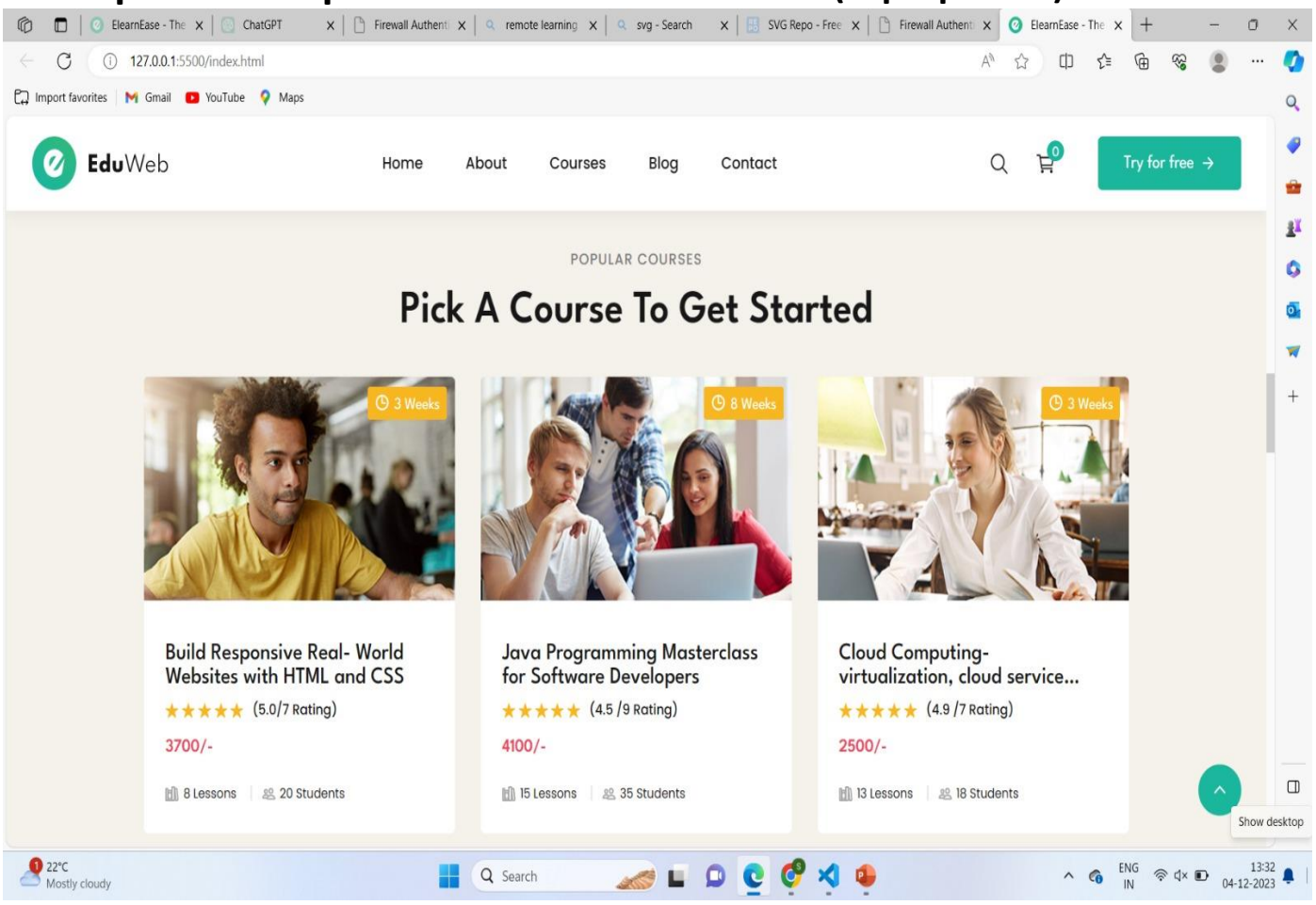
- **VS Code**: VS Code is a source-code editor developed by Microsoft for Windows, Linux and MacOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded git.
-

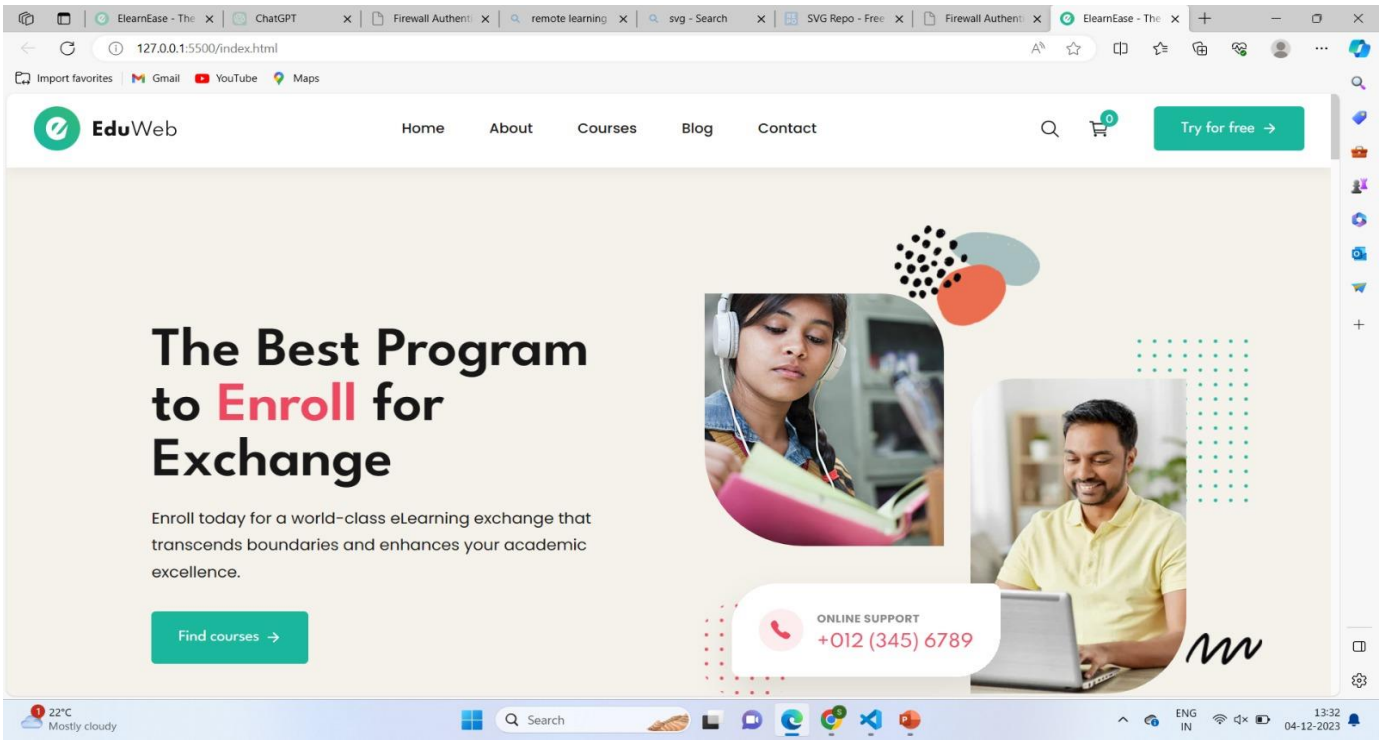
Languages used in building a Web Application are classified as per the Front End and Back End. For designing the Front End of an application, we have used Html, CSS, JavaScript. and for designing the Back End we have used Firebase, Node JS.

- **HTML:** HTML Hypertext Markup Language is an algorithmic language used to create pages on a computer that can be viewed by viewers / viewers.

- **CSS:** CSS is the language we use to style an HTML document. CSS describes how HTML elements should be displayed. This tutorial will teach you CSS from basic to advanced.

Chapter-5 – Implementation User Interface (Laptop View)





5.1 IMPLEMENTATION AND USER INTERFACE

FOOTER SECTION:-