

PROJECT REPORT

(Project Term January- May 2024)

One Stop Solutions: An educational purpose website

Submitted by

(Hitesh Bhandari)
(Raghav)

Registration Number : 12220814
Registration Number : 12217111

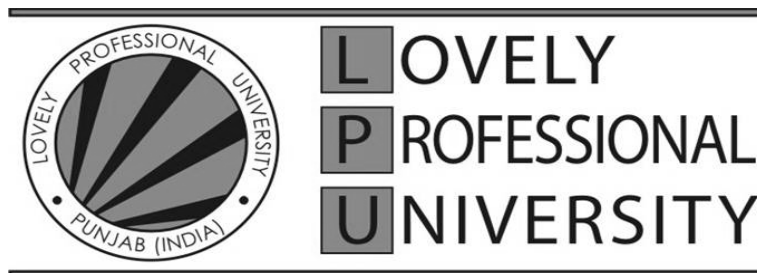
Course Code : INT222

Course Title : Advance Web Development

Submitted To

(Arwinder Dhillon)

School of Computer Science and Engineering



DECLARATION

We hereby declare that the project work entitled (“Pre – Order System”) is an authentic record of our own work carried out as requirements of Capstone Project for the award of B.Tech degree in B-Tech CSE from Lovely Professional University, Phagwara, under the guidance of (Arwinder Dhillon), during January to May 2024. All the information furnished in this project report is based on my own intensive work and is genuine.

Name of Student: Hitesh Bhandari

Registration Number: 12218125

Name of Student: Raghav

Registration Number: 12217111

Date: 15-04-2024

CERTIFICATE

This is to certify that the declaration statement made by the student is correct to the best of my knowledge and belief. He has completed this Project under my guidance and supervision. The present work is the result of his/her original investigation, effort and study. No part of the work has ever been submitted for any other degree at any University. The Project is fit for the submission and partial fulfillment of the conditions for the award of B.Tech degree in CSE from Lovely Professional University, Phagwara.

Arwinder Dhillon
Assistant Professor
School of Computer Science and Engineering,
Lovely Professional University,
Phagwara, Punjab.

Date : 15-04-2024

TABLE OF CONTENTS

1. INTRODUCTION	ERROR! BOOKMARK NOT DEFINED.
1.1 PURPOSE.....	2
1.2 SCOPE.....	3
1.3 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS	4
1.4 REFERENCES.....	4
1.5 OVERVIEW.....	4
2. GENERAL DESCRIPTION.....	5
2.1 PRODUCT PERSPECTIVE	5
2.2 PRODUCT FUNCTIONS	6
2.3 USER CHARACTERISTICS	6
2.4 GENERAL CONSTRAINTS.....	6
2.5 ASSUMPTIONS AND DEPENDENCIES	6
3.PROBLEM ANALYSIS.....	6
2.1 PRODUCT DEFINITION.....	6
2.2FEASIBILITY STUDY	7
2.3PROJECT PLAN.....	7
4. SPECIFIC REQUIREMENTS.....	8
4.1 EXTERNAL INTERFACE REQUIREMENTS.....	8
4.1.1 <i>User Interfaces</i>	8
4.1.2 <i>Hardware Interfaces</i>	8
4.1.3 <i>Software Interfaces</i>	8
4.1.4 <i>Communications Interfaces</i>	8
4.2 FUNCTIONAL REQUIREMENTS.....	8
4.2.1 <i><Functional Requirement or Feature #1></i>	8
4.2.2 <i><Functional Requirement or Feature #2></i>	9
4.2.2 <i><Functional Requirement or Feature #2></i>	9
5. NON-FUNCTIONAL REQUIREMENTS.....	10
5.1 <i>Performance</i>	10
5.2 <i>Reliability</i>	11
5.3 <i>Availability</i>	11
5.4 <i>Security</i>	11
5.5 <i>Maintainability</i>	11
5.6 <i>Portability</i>	11
5.7 DESIGN CONSTRAINTS.....	11
6. ANALYSIS MODELS	12
6.1 DATA FLOW DIAGRAMS (DFD).....	13
7. GITHUB	
LINK.....	13
A. APPENDICES	ERROR! BOOKMARK NOT DEFINED.
A.1 APPENDIX 1	13

1. INTRODUCTION

In today's fast-paced digital era, the quest for quality education is more pronounced than ever before. It's in this dynamic educational landscape that "One Stop Solutions" emerges as a beacon of innovation and convenience. With a steadfast commitment to revolutionize how students access and engage with study materials, our platform aims to streamline the learning process and empower learners worldwide.

At the core of "One Stop Solutions" lies a simple yet powerful premise: to provide students with a centralized hub where they can seamlessly access a plethora of study resources. Gone are the days of scouring multiple websites or sifting through countless textbooks to find the information you need. With just a few clicks, students can unlock a treasure trove of notes, PDFs, textbooks, and references to YouTube lectures—all conveniently housed under one virtual roof.

But "One Stop Solutions" is more than just a repository of educational content; it's a catalyst for collaboration and knowledge sharing. In recognizing the value of peer-to-peer learning, our platform empowers users to contribute their own study materials, enriching the collective pool of resources available to fellow learners. This collaborative ethos fosters a vibrant community where students from diverse backgrounds can come together to exchange ideas, support one another, and collectively strive for academic excellence.

Central to our mission is a relentless focus on user experience. We understand that navigating the vast sea of educational resources can be daunting, especially for students juggling multiple responsibilities. That's why we've designed "One Stop Solutions" with usability and accessibility in mind. Our intuitive interface and robust search functionalities ensure that students can quickly locate the materials they need, whether they're studying from a desktop computer, tablet, or mobile device. With "One Stop Solutions," learning is not only convenient but also tailored to the individual needs and preferences of each user.

Security and privacy are paramount in today's digital landscape, and "One Stop Solutions" is committed to safeguarding the integrity of user data. Through stringent measures and best practices, we prioritize the confidentiality and security of all information shared on our platform. Users can trust that their personal data and uploaded materials are handled with the utmost care and respect, fostering a sense of trust and confidence in our platform.

Languages: HTML (Hypertext Markup Language), CSS (Cascading Style Sheets), JavaScript, jQuery, JSON (JavaScript Object Notation), Bootstrap, Angular, TypeScript, React.js.

1.1. Purpose

The purpose of the "One Stop Solutions" website transcends mere convenience; it embodies a profound commitment to democratizing education and empowering learners worldwide. In a rapidly evolving digital landscape, where access to quality educational resources is often disparate and fragmented, our platform seeks to bridge the gap by providing a centralized hub where students can access a wide array of study materials.

At its core, the purpose of "One Stop Solutions" is to streamline the learning process and enhance academic outcomes for students of all backgrounds and abilities. By aggregating notes, PDFs, textbooks, and references to YouTube lectures in one convenient location, we aim to alleviate the time-consuming and often frustrating task of resource discovery. Whether a student is preparing for an exam, researching a topic, or seeking supplementary materials to enhance their understanding, our platform endeavors to be the go-to destination for all their educational needs.

Beyond mere convenience, "One Stop Solutions" serves as a catalyst for collaboration and knowledge sharing. We recognize that learning is not a solitary pursuit but a communal endeavor enriched by diverse perspectives and experiences. As such, our platform empowers users to contribute their own study materials, fostering a vibrant community where students can learn from and support one another. Through this collaborative ethos, we aim to cultivate a dynamic learning environment that encourages exploration, curiosity, and intellectual growth.

In essence, the purpose of "One Stop Solutions" extends far beyond the confines of traditional education platforms; it represents a paradigm shift in how we approach learning in the digital age. By harnessing the power of technology and community, we seek to democratize access to education and empower learners to take control of their academic journey.

Moreover, "One Stop Solutions" is driven by a commitment to inclusivity and accessibility. We firmly believe that education is a fundamental human right that should be accessible to all, regardless of socioeconomic status, geographic location, or physical ability. Through our platform, we strive to break down barriers to access and create a level playing field where every student has the opportunity to thrive and succeed.

Security and privacy are paramount considerations in today's digital landscape, and "One Stop Solutions" is committed to upholding the highest standards of data protection. We employ robust security measures and adhere to best practices to safeguard the integrity and confidentiality of user data. Users can trust that their personal information and uploaded materials are handled with the utmost care and respect, fostering a sense of trust and confidence in our platform.

1.2 Scope

The scope of the "One Stop Solutions" website encompasses a comprehensive range of features and functionalities aimed at providing students with a holistic educational experience.

1. **Study Materials Access:** The primary scope of the website is to serve as a centralized platform where users can access a diverse array of study materials, including but not limited to lecture notes, PDF documents, textbooks, and references to YouTube lectures.
2. **User Contribution:** The platform enables users to contribute their own study materials, thereby enriching the repository and fostering a collaborative learning environment. This includes the ability to upload notes, PDFs, and other relevant resources to be shared with the community.
3. **User-Friendly Interface:** The scope of the project includes the development of a user-friendly interface that prioritizes ease of navigation and accessibility. The website will be designed to provide a seamless browsing experience across different devices and screen sizes.
4. **Data Security and Privacy:** Ensuring the security and privacy of user data is a critical aspect of the project scope. The website will implement robust security measures to protect user information and uploaded materials from unauthorized access or breaches.
5. **Compatibility and Performance:** The scope includes ensuring compatibility and optimal performance across various web browsers and devices. This involves rigorous testing and optimization to ensure a consistent user experience regardless of the platform used to access the website.
6. **Scalability:** The website will be designed with scalability in mind to accommodate potential growth in user traffic and content volume over time. This includes implementing scalable infrastructure and architecture to support increasing demands on the platform.
7. **Quality Assurance and Testing:** The scope encompasses comprehensive quality assurance and testing processes to ensure the functionality, usability, and reliability of the website. This involves rigorous testing of all features and functionalities to identify and address any issues or bugs before deployment.

1.3 Definitions, Acronyms, and Abbreviations

1. **SRS:** Software Requirements Specification - A document outlining the requirements for the development of the "One Stop Solutions" website.
2. **PDF:** Portable Document Format - A file format used for presenting documents such as lecture notes, textbooks, and study materials in a consistent and accessible manner.

3. URL: Uniform Resource Locator - The address used to access specific resources on the internet, such as web pages or downloadable files.
4. HTML: Hypertext Markup Language - The standard markup language for creating web pages and content on the "One Stop Solutions" website.
5. API: Application Programming Interface - A set of rules and protocols that allows different software applications, such as the "One Stop Solutions" website and external services, to communicate with each other.
6. User Satisfaction: The degree to which users are content with their interactions and experiences with the One Stop solutions, including aspects such as efficiency, accuracy, and customer service.

1.4 Acronyms and Abbreviations:

- SRS: Software Requirements Specification
- UI: User Interface
- PDF: Portable Document Format

1.5 Overview

The "One Stop Solutions" website is a dynamic and innovative platform designed to revolutionize the way students access and interact with educational materials. With a comprehensive array of features and functionalities, the website aims to streamline the learning process, foster collaboration, and empower learners to achieve academic excellence.

At its core, the website serves as a centralized hub where students can access a vast repository of study materials, including lecture notes, PDF documents, textbooks, and references to YouTube lectures. By consolidating these resources into one convenient location, "One Stop Solutions" eliminates the need for students to navigate multiple websites or sift through countless textbooks, saving them time and effort in their studies.

2. General Description

The "One Stop Solutions" website is an innovative online platform tailored to meet the diverse educational needs of students worldwide. Serving as a centralized hub for accessing a wide array of study materials, the website aims to streamline the learning process and empower learners to excel in their academic pursuits. Through an intuitive and user-friendly interface, students can easily navigate through a comprehensive repository of resources, including lecture notes, PDF documents, textbooks, and references to educational videos on YouTube. By consolidating these materials into one convenient location, "One Stop Solutions" eliminates the hassle of searching across multiple platforms, saving students valuable time and effort. One of the distinguishing features of the website is its emphasis on collaboration and community engagement. In addition to accessing pre-existing materials, users have the opportunity to contribute their own study materials, fostering a dynamic ecosystem of knowledge sharing. Whether it's sharing lecture notes, uploading PDF documents, or recommending relevant resources, users play an active role in enriching the educational experience for their peers.

2.1 Product Perspective

"One Stop Solutions" is a centralized online platform revolutionizing education by providing seamless access to diverse study materials and fostering collaborative learning experiences.

2.2 Product Functions

- Access a diverse range of study materials including notes, PDFs, textbooks, and YouTube lecture references.
- Enable users to upload and share their own study materials, fostering a collaborative learning community.
- Provide intuitive search and filtering functionalities for quick and efficient resource discovery.
- Ensure compatibility and accessibility across various devices and screen sizes for seamless user experience.
- Implement robust security measures to protect user data and maintain privacy.

2.3 User Characteristics

The primary users of "One Stop Solutions" are students seeking convenient access to a diverse range of study materials, including notes, PDFs, textbooks, and YouTube lecture references. Additionally, educators may utilize the platform to access supplementary teaching materials or recommend resources to students. The platform also caters to self-learners, researchers, and

collaborators, providing a collaborative learning environment for users to contribute their own study materials and share resources with others within the community.

2.4 General Constraints

Limited technological resources, regulatory compliance obligations, budgetary constraints, and security considerations pose significant challenges for the development of "One Stop Solutions" website.

2.5 Assumptions and Dependencies

We assume that users will have reliable internet access to utilize the platform effectively and that they will adhere to the guidelines for content sharing and interaction. These assumptions are dependent on the availability and reliability of internet service providers and the effectiveness of moderation efforts in enforcing platform guidelines. Additionally, the platform's functionality may rely on integration with third-party services, the availability of diverse study materials for users to access, and the commitment to ongoing updates and maintenance to address bugs and improve performance.

3. Problem Analysis

3.1 Product Definition

The One Stop Solutions for educational resources aims to address the following challenges encountered by students, educators, and administrators:

1. **Accessibility Issues:** Students often struggle to access required educational materials promptly, especially during peak times, resulting in delays in their learning process.
2. **Inefficient Resource Retrieval:** Traditional methods of acquiring study materials can be inefficient, with users spending considerable time searching for and obtaining resources from various sources.
3. **Limited Availability:** Users may encounter limitations in accessing a diverse range of study materials tailored to their specific needs and preferences, hindering their academic progress.
4. **Physical Constraints:** Users may find it inconvenient to physically visit libraries or bookstores to acquire study materials, particularly when faced with time constraints or adverse weather conditions.
5. **Subpar Learning Experience:** Challenges such as long wait times and crowded study areas can detract from the overall learning experience, leading to frustration and dissatisfaction among users.

3.2 Feasibility Analysis

The feasibility of implementing this website is evaluated based on technical, operational, and economic factors specific to educational resource management:

- **Technical Feasibility:** Assessing the technical requirements, such as developing a user-friendly web platform and integrating with existing library systems, to ensure feasible implementation.
- **Operational Feasibility:** Evaluating operational aspects, including user adoption, training needs, and support requirements, to determine the system's effectiveness within the educational institution's environment.
- **Economic Feasibility:** Analyzing the costs associated with developing, deploying, and maintaining the pre-order system to ascertain its economic viability and long-term sustainability within the educational context.

3.3 Project Plan

The project plan outlines the tasks, timelines, and resources necessary to develop and implement the pre-order system for educational resources:

1. **Project Scope:** Defining the scope of the project, including specific features and functionalities tailored to the educational resource management context.
2. **Requirements Gathering:** Soliciting input from stakeholders, such as students, educators, and administrators, to ensure that the system meets their needs and aligns with educational objectives.
3. **System Design:** Designing the architecture, user interface, and database structure of the pre-order system based on identified requirements and educational resource management best practices.
4. **Development:** Developing the frontend and backend components of the pre-order system using relevant technologies and frameworks suitable for educational resource management.
5. **Monitoring and Maintenance:** Monitoring system performance and user feedback post-deployment to ensure continuous improvement and address any evolving needs or challenges within the educational resource management context.

4. Software Requirement Analysis

This section outlines the detailed requirements that will shape the design, development, and evaluation of the pre-order system for educational resources. Each requirement is meticulously crafted to ensure correctness, traceability, clarity, verifiability, prioritization, completeness, consistency, and uniqueness.

4.1 External Interface Requirements

4.1.1 User Interfaces

- The user interface must be user-friendly, intuitive, and tailored to the needs of students, educators, and administrators.
- Users should be able to navigate seamlessly through the platform, browse available resources, and initiate pre-orders effortlessly.

4.1.2 Accessibility

- The system must be accessible via standard web browsers on desktops, laptops, tablets, and mobile devices, ensuring flexibility and convenience for users.
- Responsive design principles should be implemented to ensure optimal viewing and interaction experiences across various screen sizes and devices.'

4.1.3 Communications Interfaces

Communication between the front-end user interface and back-end server should be secure and efficient.

4.2 Functional Requirements

This section describes specific features of the "One Stop Solutions" website project. Each functional requirement is detailed to ensure clarity and guide the development process effectively.

4.2.1 Study Material Browsing

4.2.1.1 Introduction

Users should be able to browse available study materials.

4.2.1.2 Inputs

User navigates to the study materials section of the website.

4.2.1.3 Processing

The system retrieves and displays the list of available study materials from the database.

4.2.1.4 Outputs

User sees a list of study materials with titles and descriptions.

4.2.1.5 Error Handling

If there are no study materials available or if there is an error retrieving the data, a message should be displayed indicating that no materials are currently available.

4.2.1 Study Material Access

4.2.1.1 Introduction

- Users should be able to access study materials based on predefined categories.

4.2.1.2 Inputs

- User selects a category or subject area from the menu.

4.2.1.3 Processing

- The system retrieves and displays study materials corresponding to the selected category from the database.

4.2.1.4 Outputs

- User sees a list of study materials categorized under the selected subject area.

4.2.1.5 Error Handling

- If there are no study materials available for the selected category, a message should be displayed indicating that no materials are currently available in that category.

4.2.2 User Account Management

4.2.2.1 Introduction

- Users should be able to create and manage their accounts on the platform.

4.2.2.2 Inputs

- User provides necessary information such as name, email, and password to create an account.

4.2.2.3 Processing

- The system validates the user input and stores account information securely in the database.

4.2.2.4 Outputs

- User receives a confirmation message upon successful account creation and gains access to additional features such as uploading study materials.

4.2.2.5 Error Handling

- If there are errors in the account creation process, such as invalid email format or duplicate username, appropriate error messages should be displayed, guiding the user to correct the issues.

5.1 Non-Functional Requirements

Non-functional requirements are essential for ensuring the performance, reliability, security, and maintainability of the "One Stop Solutions" website. These requirements must be measurable and achievable at a system-wide level.

5.1.1 Performance

- The website should be capable of accommodating a minimum of 100 concurrent users without significant performance degradation.
- Response times for accessing study materials, browsing content, and interacting with the platform should be kept to a minimum for optimal user experience.
- The website should sustain normal operation during periods of moderate traffic without slowdowns or crashes.

5.1.12 Reliability

- The system should have a high level of reliability, ensuring that users can access study materials consistently without unexpected downtime.
- In the event of system maintenance or updates, users should be notified in advance, and downtime should be kept to a minimum.
- Data integrity should be maintained, with regular backups to prevent loss of user-uploaded materials.

5.1.3 Security

- Robust user authentication mechanisms should be implemented to protect user accounts and personal information.
- Secure connections (HTTPS) should be enforced to encrypt data transmitted between the user's browser and the website.
- Measures should be in place to prevent unauthorized access to sensitive areas of the website, such as the admin dashboard.

5.1.4 Maintainability

- The codebase should be well-organized and documented, making it easy for developers to understand and maintain the website.
- Regular updates and improvements should be made to enhance the functionality and usability of the website.
- User feedback and suggestions should be actively solicited and considered for future updates.

5.1.5 Portability

- The website should be compatible with a wide range of web browsers and devices, including desktops, laptops, tablets, and smartphones.
- Responsiveness and adaptability to different screen sizes should be ensured for a seamless user experience across devices.

5.1.6 Design Constraints

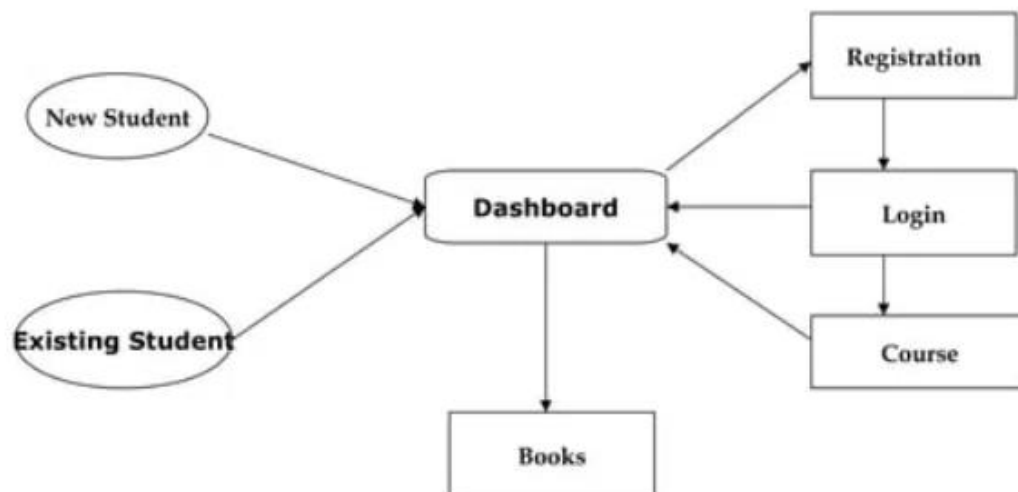
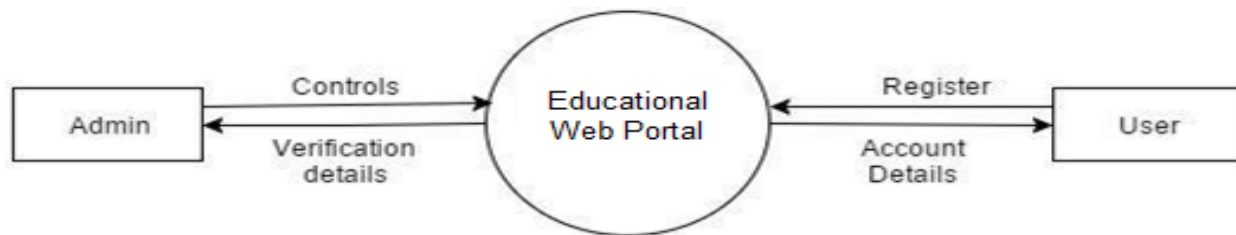
- Compliance with basic web standards and accessibility guidelines should be maintained to ensure usability for all users, including those with disabilities.
- Integration with the university's authentication system should be implemented for user sign-in and sign-up processes.
- Consideration of potential hardware limitations and scalability requirements should be made to accommodate future growth in user traffic and uploaded content.

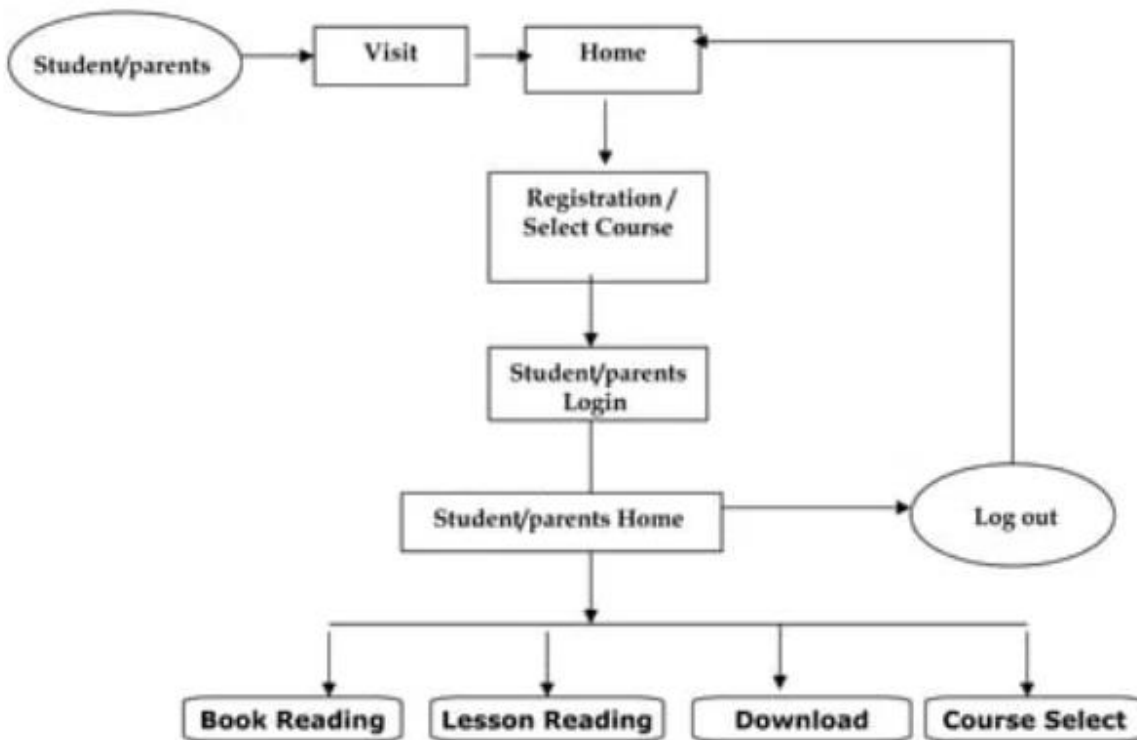
5.1.7 Other Requirements

- Comprehensive documentation should be provided for users, outlining how to access study materials, upload content, and provide feedback.
- User-friendly interfaces and intuitive navigation should be prioritized to ensure ease of use for all users, regardless of technical expertise.
- Ongoing support and assistance should be available to address any user inquiries or issues promptly.

6. Analysis Models

6.1 Data Flow Diagrams (DFD)



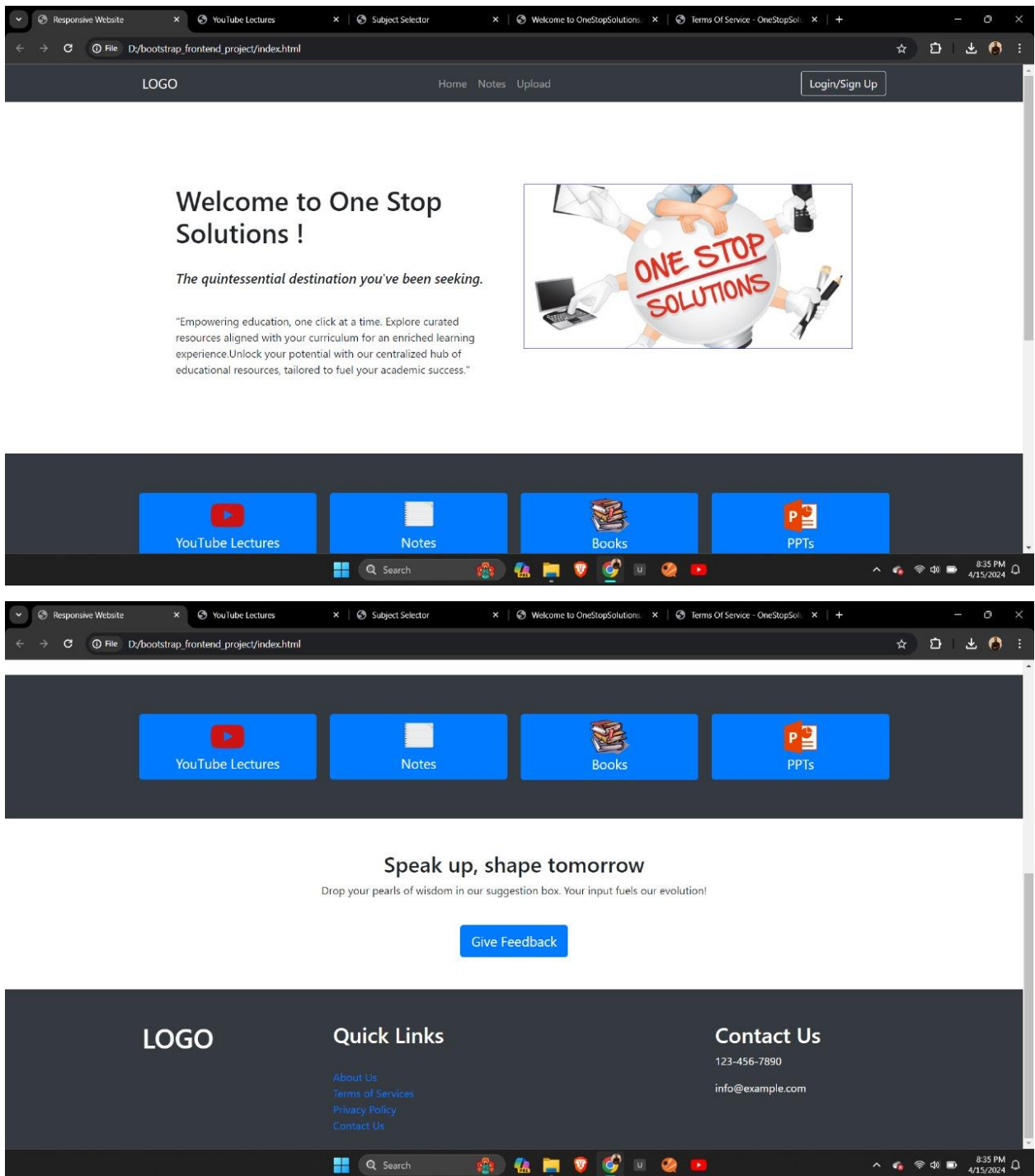


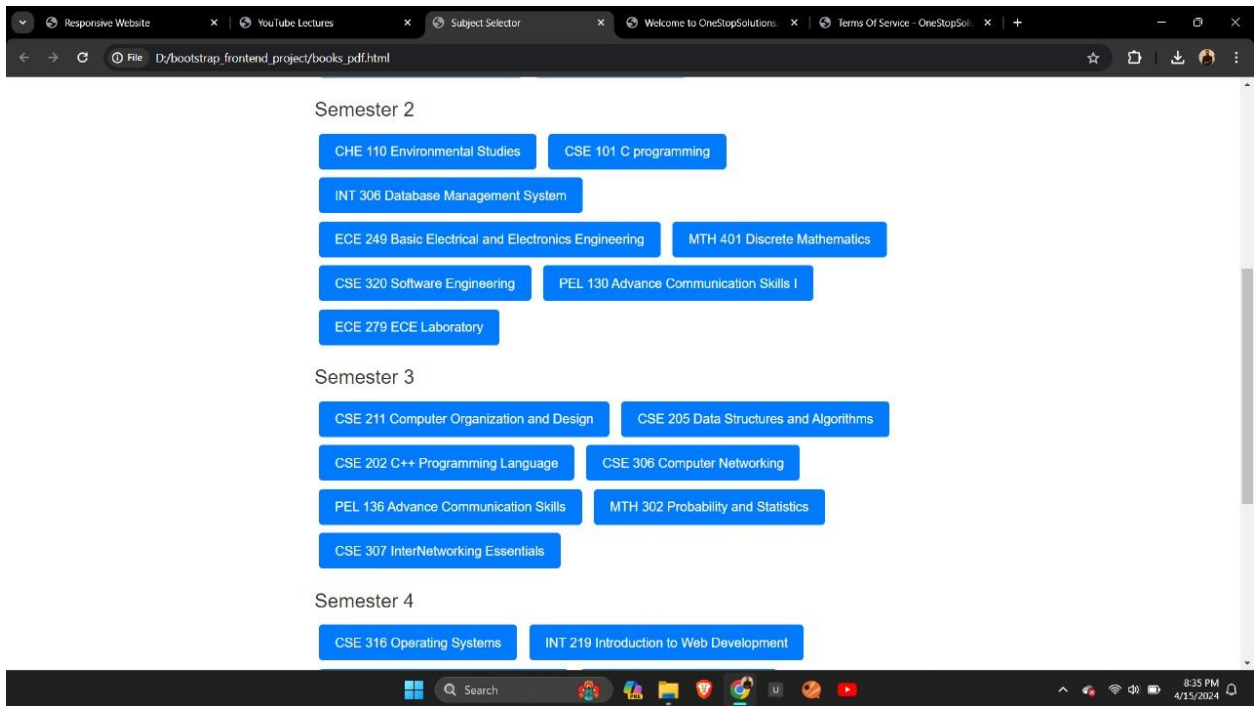
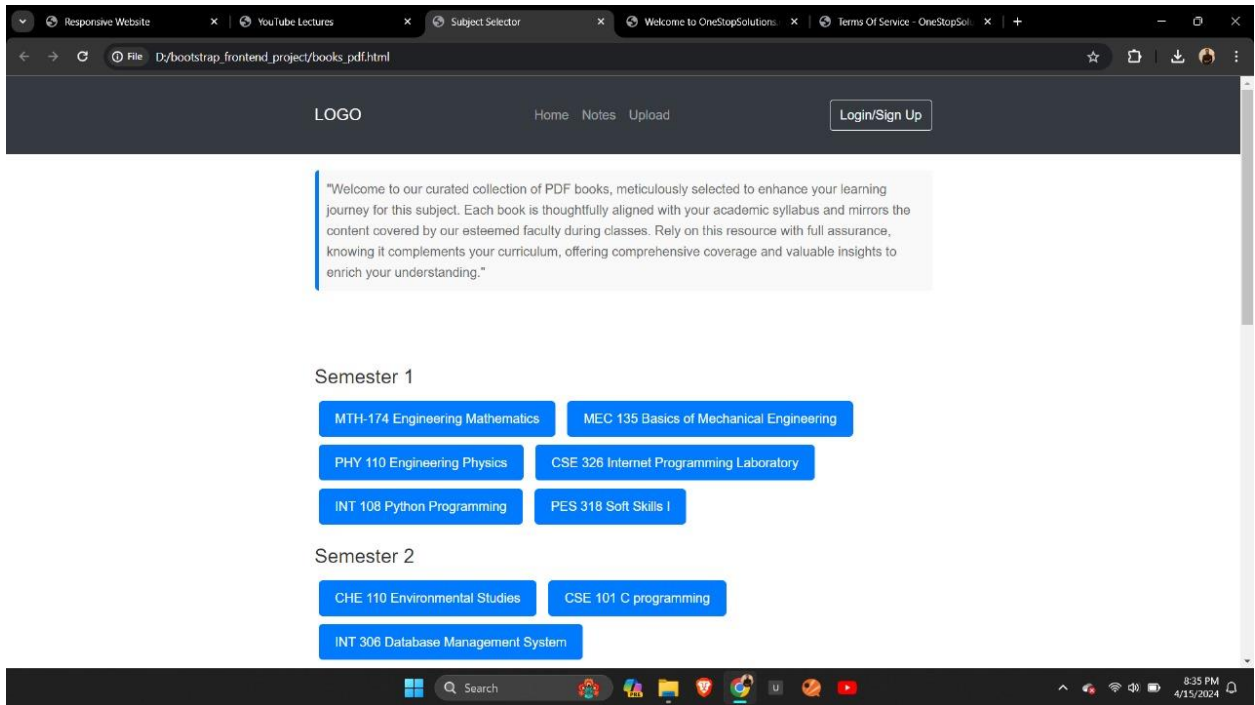
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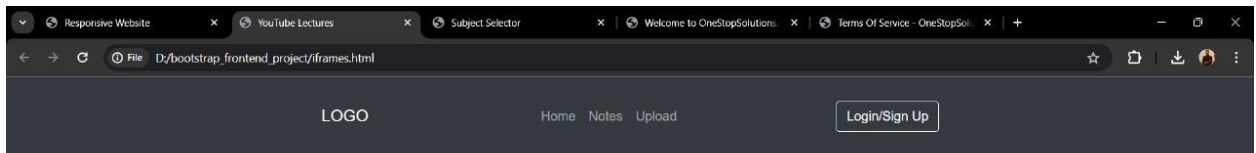
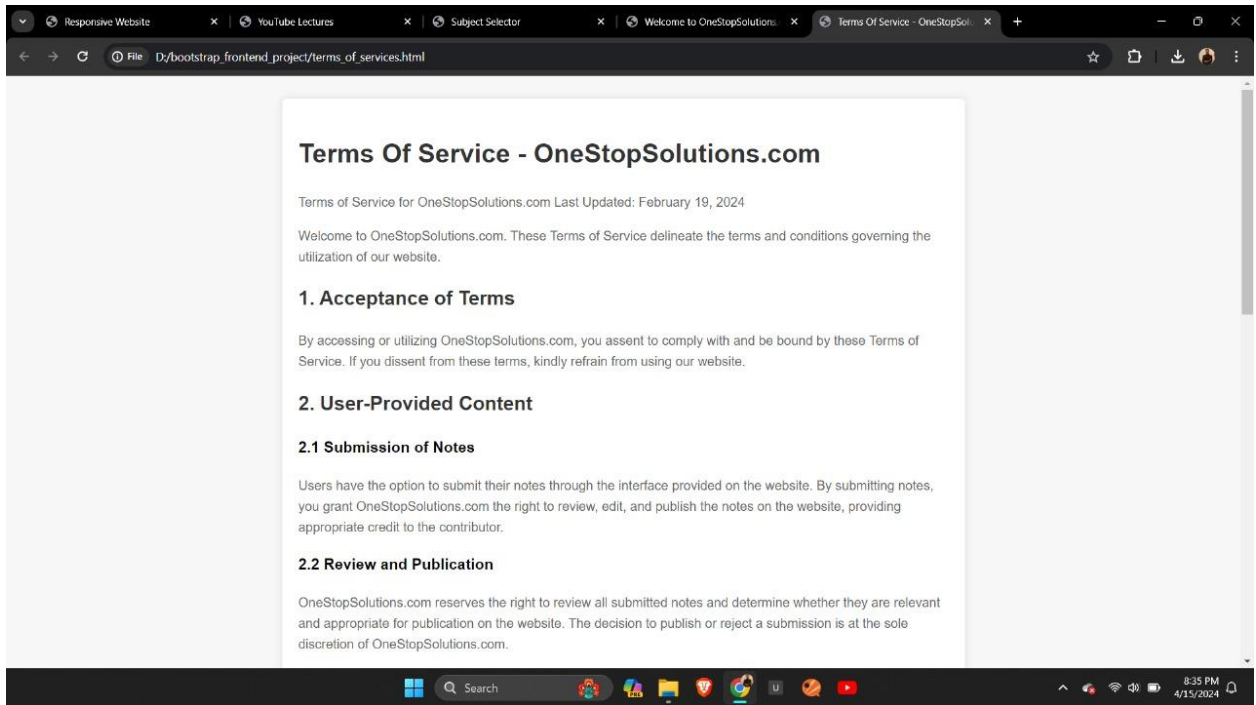
<https://github.com/123hitesh/One-Stop-solutions>

A. Appendices

A.1 Appendix 1







Mathematics - MTH-174



