LIVE SCHOOL FOR WORLD CLASS FREE EDUCATION

A PROJECT REPORT

Submitted by,

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in partial fulfillment for the award of the degree

of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND TECHNOLOGY (DEVOPS).

Under the guidance of,

Mr. RAJAN THANGAMANI Assistant Professor – School of CSE



PRESIDENCY UNIVERSITY, BENGALURU

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PRESIDENCY UNIVERSITY SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that the Project report "LIVESCHOOL FOR WORLD CLASS FREE EDUCATION" being submitted by "SHAIK SHARFARAJ AHAMMED, MOHAMMED SHAZAMAAN SAUD M, SAYYID KAAMIL, LUBNA TABASSUM" bearing roll number(s) "20201CDV0027, 20201CDV0003, 20201CDV0008" in partial fulfillment of requirement for the award of degree of Bachelor of Technology in Computer Science and Technology (DevOps) is a bonafide work carried out under my supervision.

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DECLARATION

We hereby declare that the work, which is being presented in the project report entitled LIVE SCHOOL FOR WORLD CLASS FREE EDUCATION in partial fulfillment for the award of Degree of Bachelor of Technology in Computer Science and Technology (DevOps), is a record of our own investigations carried under the guidance of RAJAN THANGAMANI, Assistant Professor, School of Computer Science and Engineering, Presidency University, Bengaluru.

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

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ABSTRACT

Within India, education furnishes individualities with knowledge and expertise, enabling them to make well- informed opinions and break free from the cycle of poverty. This approach aims not only to change their immediate circumstances but also to escape the cycle of adversity that might else persist through generations, fostering adaptability and long- term positive impact. The envisioned plan involves establishing an online and interactive gateway that links volunteer educators, such as educated homemakers and retired individuals, with scholars from any corner of the globe. This accessible educational website will permit scholars to participate in classes on any topic at any given time and from any location. The idea is to attack the educational challenges in orphanages and grease a means for knowledgeable individuals in withdrawal homes to impart their wisdom. Incorporating innovative technologies such as virtual reality and interactive simulations into the online educational platform will provide students with immersive learning experiences, catering to various learning styles and preferences. Developing a robust monitoring and evaluation system for the online educational portal will enable continuous improvement and refinement of the learning modules, ensuring the highest quality of education delivery and relevance to the evolving needs of students.

Promoting a curriculum that emphasizes critical thinking, problem-solving, and practical application of knowledge will not only equip individuals with academic expertise but also nurture the development of essential life skills, empowering them to navigate challenges effectively and make informed decisions in various aspects of their lives. In conclusion, education in India serves as a catalyst for empowerment, enabling individuals to escape the grip of poverty. The initiative, centered on orphaned children employs targeted mentorship programs and a worldwide online platform. The incorporation of innovative technologies enhances the overall impact, fostering resilience and positive, enduring outcomes for both individuals and communities.

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CHAPTER-1

INTRODUCTION

Within India, Education furnishes individuals with knowledge and expertise, enabling them to make well-informed decisions and break free from the cycle of poverty. Through the education of orphaned children, we not only alter their lives but also contribute to disrupting the cycle of poverty and illiteracy that may endure through successive generations.

The envisioned plan involves establishing an online and interactive gateway that links volunteer educators, such as educated homemakers and retired individuals, with students from any corner of the globe.

This accessible educational website will permit students to participate in classes on any topic at any given time and from any location. The objective is to tackle the educational challenges in orphanages and facilitate a means for knowledgeable individuals in retirement homes to impart their wisdom.

This application will serve as a medium for numerous such scenarios, connecting those eager to acquire knowledge with those willing to impart it.

CHAPTER-2 LITERATURE SURVEY

Data Analysis:

Percentage score	Score interpretation
75% to 100%	High
54% to 74%	Moderate
0% to 49%	Low

Source: Nurul & Suziyani (2018)

Among the 99 participants, 52.1% fell within the age range of 15-16 (n = 51), while 47.9% (n = 48) were in the 16-17 age group. Additionally, 39.8% of the students (n = 39) hailed from rural regions, whereas 60.2% (n = 61) resided in urban areas.

Students' Views on Online Learning:

No.	Item	Frequency				Total of	Interpretation	
		SD	D	MA	A	SA	agreement (MA, A and SA)	
1.	I feel I am eligible to use the computer.	2 (2.0%)	4 (4.0%)	26 (26.3%)	38 (38.4%)	28 (28.3%)	92 (92.9%)	High
2.	I am comfortable using electronic communication equipment.	1 (1.0%)	4 (4.1%)	24 (24.2%)	33 (33.3%)	36 (36.4%)	93 (93.9%)	High
3.	Effectiveness – there is no difference between online	28 (28.3%)	33 (33.3%)	25 (25.3%)	9 (9.1%)	4 (4.0%)	38 (38.4%)	Low

No.	Item	Frequency				Total of	Interpretation	
		SD	D	MA	A	SA	agreement (MA, A and SA)	
	learning and conventional learning.							
4.	I am motivated when using online learning compared with conventional learning.	24 (24.2%)	34 (34.3%)	31 (31.3%)	8 (8.1%)	2 (2.1%)	41 (41.5%)	Low
5.	I can complete group assignments using online learning.	12 (12.1%)	21 (21.2%)	36 (36.4%)	22 (22.2%)	8 (8.1%)	66 (66.7%)	Average
6.	Conventional or face-to-face learning with teachers is important.	2 (2.0%)	0 (0%)	8 (8.1%)	27 (27.3%)	62 (62.6%)	97 (98.0%)	High

^{*}SD=Strongly Disagree; D=Disagree; MA=Moderately Agree; A=Agree; SA=Strongly Agree

No.	Item	Frequency	Total	Interpretation
Onlin	e learning challenges: internet acces	ss at home.		
1.	Broadband Internet line	30 (30.6%)	93 (93.9%)	High
2.	Smartphone Internet data line	63 (63.3%)		
3.	None	6 (6.1%)	6 (6.1%)	Low
Onlin	e learning challenges: computer fac	ilities.		
4.	My own	29 (29.3%)	77 (77.8%)	High
5.	Use with Family	48 (48.5%)		
6.	None	22 (22.2%)	22 (22.2%)	Low
Onlin	e learning challenges: smartphone fa	acilities.		
7.	My Own	77 (77.8%)	97 (98%)	High
8.	Use with family	20 (20.2%)		
9.	None	2 (2.0%)	2 (2.0%)	Low
Onlin	e learning challenges: I get limited i	nternet access for the	e following reasons.	
10.	High financial cost	14 (14.7%)	14 (14.7%)	Low
11.	Signal problems/internet access limitations	61 (61.1%)	61 (61.1%)	Moderate
12.	Other reasons	24 (24.2%)	24 (24.2%)	Low

The data also reveals that 6.1% of students (n=6) lacked internet access at home, and 22.2% (n=22) did not have computer facilities available. Merely 29.3% (n=29) possessed a personal computer, while 48.5% (n=48) shared technological resources with family members. The majority of respondents owned a smartphone (77.8%, n=77), with 20.2% (n=20) sharing smartphones with family members (parents or siblings). In contrast, a mere 2% (n=2) of participants did not own smartphones, but it is likely that the majority used computers for online learning.

Pros:

Students who approach e-learning with optimism and enthusiasm will find it conducive to their academic success.

Opting for online learning allows students to pursue their studies independently, free from environmental constraints.

Cons:

The personal motivation of students to acquire knowledge plays a crucial role in their educational success, and their attitudes significantly impact the effectiveness of online learning.

Clarity in the school curriculum regarding the use of any platform or device is essential for students to seamlessly continue their studies.

Online Education and its Effective Practice:

E-Learning provides an alternative avenue for student education (Wang, 2014), focusing on critical thinking and creativity. However, digital courses are frequently dictated by technology (Callaway, 2012; Cole, Shelley, & Swartz, 2014) and are primarily crafted for the convenience of the online system and technology. To foster intellectual rigor and the cultivation of informed and individual perspectives, further exploration is required on leveraging technology and software to involve students in diverse and continual dialogues across various online formats. Additional research is necessary to scrutinize how group designs influence social interaction and the sense of a learning community, considering the diverse personalities, learning styles, and skill levels of group members.

Earlier studies primarily examined participants' posted content. With technological advancements, researchers should investigate the roles played by various technological tools in promoting more effective social interaction and the growth of a learning community, such as audio and/or video conferencing via Google Hangout and Skype, social network media, and virtual reality environments.

Interactivity, Cooperation, and the Online Learning Community:

- Initiating efforts to build a learning community should commence at the start of a course and persist throughout the term.
- Both students and instructors should actively contribute to constructing the learning community.
- Asynchronous and synchronous technologies should be both utilized to establish a shared space for student-instructor interaction.
- A variety of strategies should be implemented to stimulate discussions.
- Both task-oriented discussions and social interactions should be actively encouraged.
- Students should be assigned tasks that necessitate collaboration.

Merits:

- Enhance accessibility to learning and training for equitable opportunities.
- Provide chances for updating workforce skills.
- Enhance the quality of existing educational structures within the organization.
- Expand the capacity for education in new subject areas for the people.
- Offer a blend of education with work and family life.

Constraints:

Expanding access to education and training, especially for underserved populations, can be financially demanding.

If institutions are compelled to expand too rapidly or to accommodate students with varying levels of preparation, it could compromise the overall quality of education.

Providing educational opportunities compatible with work and family responsibilities can pose challenges, especially for students or adults.

Keeping up with the latest skills and technologies can be a hurdle for both individuals and orphanages, necessitating continual adaptation and investment in resources.

If not implemented carefully, policies aimed at increasing access and equity could worsen existing inequalities.

CHAPTER-3

RESEARCH GAPS OF EXISTING METHODS

In the existing methods of research and information retrieval, there is a noticeable research gap regarding the integration of an AI Chabot that can provide instant answers by leveraging the vast knowledge available on Google and personal notes. This integration aims to enhance the efficiency and effectiveness of information retrieval by utilizing the capabilities of artificial intelligence and natural language processing.

Traditionally, researchers and individuals rely on manual search methods, such as browsing through search engines or referring to their personal notes, to find relevant information. However, these methods can be time-consuming and may not always yield accurate and upto-date results. Additionally, the process of sifting through large amounts of information can be overwhelming and may lead to information overload. By incorporating an AI Chabot into the research process, users can directly interact with the Chabot to ask specific questions, eliminating the need for manual searches.

The Chabot, powered by advanced AI algorithms, can instantly retrieve relevant information from Google's vast database and cross-reference it with the user's personal notes. This integration provides a seamless and efficient way to access information, saving time and effort. The AI Chabot can utilize natural language processing techniques to understand and interpret user queries, ensuring accurate and relevant responses. It can also adapt and learn from user interactions, continuously improving its performance and understanding of user preferences. By bridging the gap between traditional search methods and AI-powered Chabot technology, this research project aims to provide a novel and effective solution for instant information retrieval.

The integration of AI Chabot capabilities with Google and personal notes can significantly enhance the research process, making it faster, more accurate, and more convenient for users. This research gap highlights the need for an innovative approach that leverages AI and natural language processing to provide instant answers from Google and personal notes. The proposed integration has the potential to revolutionize the way researchers and individual's access information, ultimately improving productivity and knowledge acquisition.

Verification of content accuracy: Research is needed to develop automated or semiautomated systems that can effectively verify the accuracy and reliability of educational content on YouTube or any other platform. This could involve exploring machine learning algorithms, natural language processing techniques, and user-generated feedback mechanisms to assess the credibility of videos.

Structured learning: Further research is required to investigate methods for organizing and crating educational content on YouTube or any other platform to provide a more structured learning experience. This could involve developing algorithms or recommendation systems that suggest a sequence of videos or playlists based on specific learning objectives or subject areas.

Enhancing interactivity: Research is needed to explore ways to introduce more interactivity in YouTube videos or any other platform, such as embedded quizzes, interactive transcripts, or real-time discussions. This could involve developing new technologies or tools that enable learners to engage with instructors, ask questions, and collaborate with other learners directly within the YouTube or any other platform.

Regulating pacing: Research is needed to explore methods for providing learners with more control over the pacing of their learning on YouTube or any other platform. This could involve developing features that allow users to adjust playback speed, bookmark or tag specific sections of videos, or provide interactive timestamps for easier navigation.

Subscription-based models: Further research is required to explore the feasibility and effectiveness of subscription-based models on online learning platforms like Udemy or any other platform. This could involve studying different subscription pricing structures, analyzing user preferences, and evaluating the impact on learner engagement, completion rates, and overall user satisfaction.

Affordability and cost-effectiveness: Research is needed to investigate alternative pricing strategies on Udemy or any other platform that provide more cost-effective options for learners. This could involve exploring tiered pricing models, bundle discounts, or subscription plans that offer access to multiple courses at a reduced cost.

Long-term learner engagement: Further research is required to understand the factors that influence long-term engagement and continued learning on Udemy or any other platform. This could involve studying user behavior, motivations, and perceived value to identify strategies that encourage learners to continue their learning journey and invest in ongoing education.

Quality assurance: Research is needed to explore mechanisms for ensuring the quality and consistency of courses on Udemy or any other platform. This could involve developing review systems, peer feedback mechanisms, or quality assurance frameworks that evaluate the content, delivery, and learning outcomes.

Personalization and adaptive learning: Further research is required to explore methods for personalizing the learning experience on Udemy or any other platform. This could involve leveraging learner data and analytics to provide personalized recommendations, adaptive learning paths, and targeted interventions to address individual learning needs.

Accessibility for diverse learner populations: Research can focus on improving the accessibility of educational platforms like YouTube and Udemy for learners with disabilities or diverse learning needs. This can involve developing features such as closed captions, audio descriptions, and compatibility with assistive technologies to ensure inclusivity and equal access to educational content.

Gamification and Engagement: Research can investigate the integration of gamification elements and techniques into educational platforms. This can involve incorporating game-like features such as badges, leader boards, and rewards to enhance learner motivation, engagement, and retention of knowledge.

Integration of emerging technologies: Research can focus on exploring the integration of emerging technologies such as virtual reality (VR), augmented reality (AR), or artificial intelligence (AI) into educational platforms. This can involve developing immersive learning experiences, intelligent tutoring systems, or adaptive learning algorithms that enhance learner engagement and facilitate personalized learning pathways.

Ethical considerations in online education: Further research is needed to address ethical considerations in online education platforms. This can involve investigating issues such as data privacy, algorithmic bias, and the ethical use of learner data to ensure transparency, fairness, and responsible practices in educational platforms.

Teacher professional development: Research can focus on developing effective models and strategies for the professional development of online instructors and educators. This can involve exploring methods for training instructors in online pedagogy, instructional design, and technology integration to enhance their teaching effectiveness and support learner success.

Cross-cultural considerations: Further research is required to investigate cross-cultural considerations in online education platforms. This can involve studying the impact of cultural differences on learner engagement, preferences, and learning outcomes, and developing culturally responsive approaches to content creation and delivery.

Long-term impact and sustainability: Research can examine the long-term impact and sustainability of online education platforms like YouTube and Udemy. This can involve studying the retention and transfer of knowledge and skills acquired through these platforms and assessing the long-term benefits for learners' career growth and personal development.

Integration of real-world applications: Further research can explore ways to integrate real-world applications and hands-on experiences into online education platforms. This can involve incorporating virtual labs, interactive simulations, or project-based learning opportunities to bridge the gap between theoretical knowledge and practical skills.

User experience and interface design: Research can focus on improving the user experience and interface design of online education platforms. This can involve conducting user studies, usability testing, and iterative design processes to create intuitive and user-friendly interfaces that enhance learner engagement and satisfaction.

CHAPTER-4

PROPOSED MOTHODOLOGY

Utilization of an AI: It provides quick and efficient problem-solving assistance to students. This approach aims to enhance the learning experience by leveraging the capabilities of artificial intelligence and natural language processing to address students' questions and help them find solutions promptly.

The AI chatbot acts as a virtual assistant that students can interact with to obtain immediate answers and guidance for their queries. By integrating the chatbot into the learning environment, students can receive real-time support without the need to wait for human assistance. This not only saves time but also empowers students to continue their learning process uninterrupted.

The AI chatbot is designed to understand students' questions and provide accurate and relevant responses. It utilizes natural language processing techniques to interpret the queries and retrieve the most appropriate information from its knowledge base. The chatbot can access a wide range of resources, including textbooks, online references, and educational websites, to ensure comprehensive and reliable answers.

Moreover, the AI chatbot can adapt and learn from its interactions with students, continuously improving its performance and understanding of their needs. This adaptive capability enables the chatbot to provide personalized assistance tailored to each student's requirements and learning style.

By incorporating the AI chatbot into the learning process, students can benefit from instant problem-solving assistance, allowing them to overcome hurdles and progress in their studies more efficiently. The chatbot's availability also encourages self-directed learning and empowers students to take control of their educational journey.

Requirement Analysis: Explain the specific methods used for requirement analysis, such as surveys, interviews, and focus groups. Describe the sample size, selection criteria, and the types of questions asked to gather insights on user preferences, expectations, and pain points.

Literature Review: Provide an overview of the literature review process, including the sources consulted, such as academic journals, books, and reputable websites. Highlight the key themes, theories, and findings from the literature that informed the design and development of the educational website.

Design and Development: Elaborate on the design and development process, detailing the steps taken to create the educational website. Discuss the iterative design cycles, wire framing, prototyping, and usability testing conducted to ensure a user-centered and engaging interface. Mention the collaboration with instructional designers, web developers, and user experience experts to ensure the website's effectiveness.

Data Collection: Explain the methods used to collect relevant data, such as user feedback, usage analytics, surveys, and assessments. Provide details on how data was collected, including the sample size, data collection tools, and any ethical considerations taken into account.

Evaluation and Iteration: Discuss the process of evaluating the performance and impact of the educational website. Explain how user testing, feedback loops, and assessment of learning outcomes were conducted. Describe how the findings from the evaluation process were used to identify areas for improvement and iterate on the design, content, and features of the website.

CHAPTER-5 OBJECTIVES

Utilization an AI chatbot to answer user questions: Chatbots are AI software that simulate online conversations with users in natural language. They have become an important tool in various industries, including customer service experiences and providing quick and accurate responses to frequently asked questions.

Website Device Screen Supportivity: The objective is to ensure optimal user experience and interaction with the educational website across a wide range of devices. This includes responsive design techniques to adapt the website layout and functionality to different screen sizes, resolutions, and device types. By employing industry best practices and leveraging cutting-edge technologies, we aim to provide users with a seamless and immersive learning experience, enabling them to access educational materials and achieve their learning goals conveniently, regardless of the device they use.

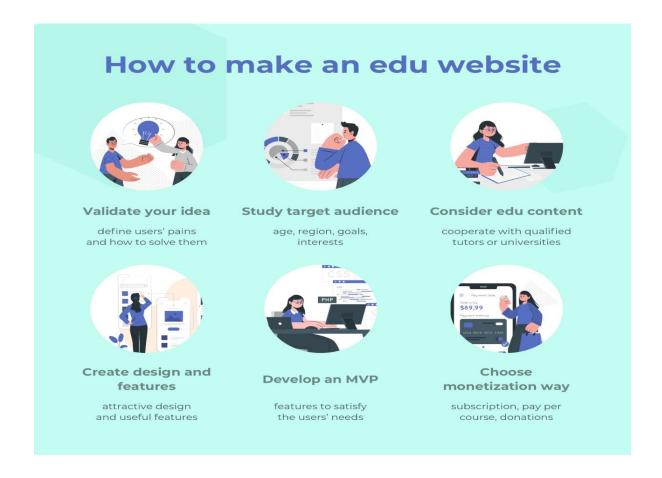
Accessible Learning Materials: The objective is to democratize access to high-quality learning materials that may not be readily available through traditional educational channels. This objective aims to bridge the gap in access to educational resources, particularly for underprivileged students and those in remote areas. By curating and providing free access to a diverse range of learning materials, including e-books, videos, interactive modules, and other digital resources, we strive to create an inclusive and equitable learning environment. This objective aligns with the principles of open education and aims to empower learners by removing barriers to knowledge acquisition and skill development.

Personalized Curriculum Design: The objective is to design and implement a learner-centric curriculum that provides users with a well-structured learning pathway tailored to their individual needs, interests, and skill levels. Through careful analysis of user profiles, preferences, and prior knowledge, we aim to create personalized learning journeys that allow users to start their educational endeavors with a clear plan and easy access to the required resources. By offering a diverse range of learning materials, adaptive assessments, and personalized recommendations, we strive to enhance engagement, motivation, and learning outcomes.

Continuous Assessment and Improvement: The objective is to establish a robust system for continuous assessment, feedback, and improvement of the educational content and delivery methods. This includes the integration of assessment tools, data analytics, and feedback mechanisms to collect valuable insights on user performance, preferences, and satisfaction. By leveraging data-driven insights, we aim to identify areas for improvement, refine the content, and optimize the learning experience. This iterative approach ensures that the educational website remains relevant, effective, and aligned with the evolving needs of the users.

Creating Student and Teacher Environment and Interactivity: The objective is to facilitate effective communication, collaboration, and interactivity between students and teachers within an online learning environment. Recognizing the importance of social connection and face-to-face interaction, our website incorporates various online meeting platforms such as Zoom, Microsoft Teams, Google Meet, etc. These platforms enable live virtual classrooms, interactive sessions, and real-time communication between teachers and students. By fostering a sense of community, promoting engagement, and facilitating seamless interaction, we aim to create an immersive and enriching learning experience.

CHAPTER-6 SYSTEM DESIGN & IMPLEMENTATION



Heading Structure: Determine the appropriate heading levels and hierarchy to be used throughout the website. This involves considering the semantic meaning of headings, their relationship to content sections, and their impact on accessibility and usability

Component Integration: Define how different components, such as user authentication, content management, and interactive features, will be integrated into the website. This includes determining the dependencies and interactions between components, ensuring seamless communication and data flow, and adhering to established design patterns and principles. By carefully planning and implementing component integration, the website can achieve a cohesive and efficient system architecture.

Data Management: Design and implement the data management system for the educational website. This involves determining the database structure, data models, and data storage mechanisms. Consideration should be given to data security, scalability, and performance optimization. By employing appropriate data management techniques, the website can efficiently handle user data, content, and other relevant information.

User Interface and User Experience: Design and implement the user interface (UI) and user experience (UX) elements of the website. This includes creating visually appealing and intuitive interfaces, optimizing navigation and interaction patterns, and ensuring consistency in design elements and branding. By focusing on UI/UX best practices, the website can provide an engaging and user-friendly experience for learners, instructors, and administrators.

Testing and Quality Assurance: Develop a comprehensive testing and quality assurance strategy to ensure the functionality, performance, and reliability of the educational website. This includes conducting unit testing, integration testing, and user acceptance testing to identify and resolve any bugs, errors, or usability issues. By rigorously testing the system, the website can deliver a high-quality and error-free user experience.

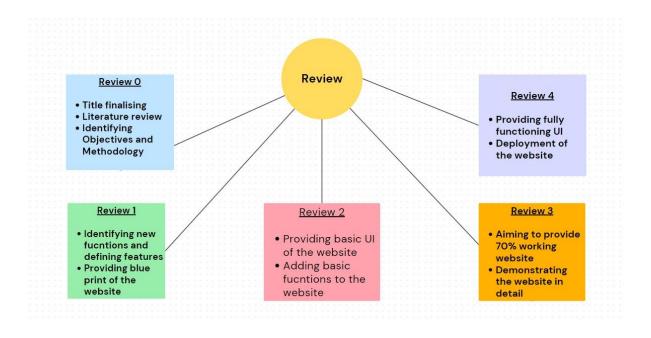
Deployment and Maintenance: Plan and execute the deployment of the educational website to a production environment. This involves setting up hosting infrastructure, configuring server environments, and ensuring proper security measures are in place. Additionally, establish a maintenance plan to address ongoing updates, bug fixes, and feature enhancements to keep the website up-to-date and secure.

System Design and Implementation

To ensure an engaging and interactive user interface, as well as responsiveness, the front-end technologies used in the development of the educational website will include HTML, CSS, JavaScript, and a web framework such as React. This combination of technologies will streamline development and enhance the overall user experience. For efficient storage and organization of website data, a suitable database management system such as MongoDB is utilized.

These databases will store and manage various data types, including user information, course content, and other relevant data. To build the core functionality of the educational website, back-end technologies such as Node.js are employed. These frameworks provide a solid foundation for developing the necessary server-side logic, handling data processing, and ensuring smooth communication between the front-end and the database. For effective documentation, version control, and collaboration among team members, Git in conjunction with GitHub will be utilized. Git's version control capabilities, along with GitHub's platform for hosting code and managing development processes, will ensure comprehensive version management and enhance team collaboration and coordination. By incorporating these technologies and practices into the system design and implementation, the educational website will be equipped with a user-friendly interface, efficient data management, robust functionality, effective website analytics, and streamlined collaboration.

CHAPTER-7 TIMELINE FOR EXECUTION OF PROJECT (GANTT CHART)



CHAPTER-8 OUTCOMES

By implementing an AI chatbot to answer user questions, our project aimed to achieve several outcomes that would enhance the user experience and streamline customer support.

With the AI chatbot's ability to instantly analyze and generate responses, users would receive quick and efficient answers to their questions. This would significantly reduce response times compared to traditional customer support methods.

Unlike human agents, the AI chatbot could operate round-the-clock, providing support and answering questions at any time of the day. This would ensure constant availability and accessibility to users, regardless of their time zone or location.

By automating the process of answering common questions, the AI chatbot would allow for scalability without the need for additional human resources. This would result in cost savings for the organization while still providing quality customer support. With faster response times, enhanced user engagement, and constant availability, the implementation of the AI chatbot would contribute to improved customer satisfaction. Users would feel supported and valued, leading to a positive overall experience with our service.

Improved access to education

Our free education website can help overcome barriers to accessing quality education by providing students with access to a wide range of educational resources. This includes interactive lessons, multimedia content, and practice exercises Students who may face financial constraints, lack of transportation, or limited resources can benefit from the convenience and availability of these online resources.

Enhanced learning outcomes

The personalized learning experiences offered by a free education website can contribute to improved academic performance. These experiences are tailored to students' individual needs and learning styles, allowing them to learn at their own pace and focus on areas where they need more support. Additionally, the website can provide opportunities for students to engage with other learners and educators, fostering collaboration and further enhancing their learning experience.

Increased opportunities for personal growth and development

A free education website can provide students with access to information and resources that support their personal and social skill development. This includes communication, problem-solving, and critical thinking skills The website can also connect students with mentors and role models who can provide guidance and support, facilitating their personal growth and development.

Improved employment prospects

By offering vocational training and career guidance, a free education website can help students prepare for the workforce and improve their employment prospects. Students can acquire relevant skills and knowledge in various fields, such as technology, healthcare, business, and more. The website can also provide resources for resume building, interview preparation, and job search strategies, further enhancing students' employability.

Expanded access to higher education

A free education website can serve as a platform for students to explore higher education options. It can provide information about colleges, universities, and scholarship opportunities, enabling students to make informed decisions about their future education. Additionally, by offering online courses and degree programs, the website can provide flexible options for students who may not have access to traditional higher education institutions.

Lifelong learning opportunities

The availability of a free education website can promote a culture of lifelong learning. Individuals of all ages can access a variety of courses and resources that cater to their interests and learning needs. This encourages continuous growth and empowers individuals to pursue learning throughout their lives.

Bridging the education gap

A free education website can help bridge the education gap by reaching underserved communities and providing equal access to quality educational resources. By offering content in multiple languages and accommodating diverse learning needs, the website can address disparities in education and promote inclusivity.

CHAPTER-9

RESULTS AND DISCUSSIONS

Target audience and goals: Educational websites should consider their target audience and set clear goals. The target audience can range from middle school children to adults, and the goals can vary from popularizing knowledge on a topic to deepening the study of a subject.

User experience and interface: It is important to prioritize user experience and create an intuitive interface for the educational website. User testing and considering user requirements and preferences can help ensure a positive user experience.

Enhanced learning outcomes: An educational website can contribute to enhanced learning outcomes by providing personalized learning experiences tailored to individual needs and learning styles. It can also facilitate engagement with other learners and educators, fostering collaboration and further enhancing the learning experience.

Market research and audience preferences: Conducting market research and understanding the preferences and needs of the target audience can help in creating tailored content and design that resonates with them.

Promotion through digital marketing: Digital marketing can play a vital role in promoting an educational website and achieving growth targets. Utilizing digital marketing strategies can help reach a wider audience and increase visibility.

Access to educational resources: Educational websites can provide access to a wide range of educational resources, including interactive lessons, multimedia content, and practice exercises. This can help overcome barriers to accessing quality education, such as financial constraints or limited resources.

Personal growth and development: Educational websites can offer resources and information that support personal and social skill development, such as communication, problem-solving, and critical thinking. They can also connect students with mentors and role models, providing guidance and support for personal growth.

Employment prospects: A quality education provided through an educational website can improve students' employment prospects. By offering vocational training and career guidance, the website can help students acquire relevant skills and knowledge, preparing them for the workforce.

Equity and inclusivity: Educational websites can contribute to bridging the education gap by reaching underserved communities and providing equal access to quality educational resources. By offering content in multiple languages and accommodating diverse learning needs, they can promote inclusivity.

Continuous learning and lifelong learning opportunities: Educational websites can foster a culture of continuous learning by providing resources and courses for individuals of all ages. This encourages lifelong learning and personal growth.

Adaptive learning technology: Educational websites can leverage adaptive learning technology to personalize the learning experience further. By using algorithms and data analytics, the website can dynamically adjust the difficulty level of content or suggest personalized learning paths based on individual progress and performance.

Gamification elements: Incorporating gamification elements, such as badges, leaderboards, and rewards, can make the learning experience more engaging and motivating for users. This can enhance user participation and encourage them to explore and learn more.

Collaborative learning opportunities: Educational websites can facilitate collaborative learning by providing features like discussion forums, group projects, and virtual classrooms. This enables learners to connect with peers, exchange ideas, and engage in meaningful discussions, fostering a sense of community and shared learning.

Mobile accessibility: Ensuring that the educational website is mobile-friendly and responsive is crucial in today's digital landscape. Mobile accessibility allows learners to access educational resources anytime, anywhere, using their smartphones or tablets, making learning more convenient and accessible.

Feedback and assessment mechanisms: Incorporating feedback and assessment mechanisms, such as quizzes, assessments, and progress tracking, can help learners gauge their understanding and progress. This allows for self-assessment and provides opportunities for improvement.

Continual improvement and updates: Educational websites should strive for continual improvement by regularly updating and expanding their content. Staying up-to-date with the latest research, trends, and advancements in the field ensures the website remains relevant and valuable to its users.

Community engagement: Encouraging community engagement through features like usergenerated content, testimonials, and success stories can create a sense of belonging and inspire others in their learning journey. This can foster a supportive learning community and encourage active participation.

Integration with real-world applications: Linking the educational content with real-world applications and examples can help learners see the practical relevance of what they are learning. This bridges the gap between theory and practice and enhances the overall learning experience.

Diverse content formats: Offering educational content in various formats, such as videos, caters to different learning preferences and styles. This ensures that learners can engage with the material in a way that suits them best.

CHAPTER-10

CONCLUSION

In conclusion, our educational platform embraces the power of on-demand learning, providing users with the flexibility to access educational content at their convenience. Through cloud-based servers and databases, we ensure seamless access to a vast repository of educational materials, empowering learners to engage with knowledge anytime, anywhere. Moreover, our platform offers live interactive sessions facilitated by real-time video conferencing technology. Leveraging renowned solutions like Zoom, Microsoft Teams, and Google Meet, we enable synchronous communication between learners and educators, fostering engaging and immersive learning experiences.

To cater to individual learning needs, our platform employs personalized learning paths. By tracking learner preferences and progress, we generate content recommendations based on data points. Utilizing user behavior analysis and data analytics, we ensure that learners receive tailored educational experiences that optimize their growth and development. Ensuring accessibility, our website is designed responsively using HTML5 and CSS3. This multi-device compatibility allows seamless user experiences across laptops, smart phones, and desktop PCs. Our responsive web design guarantees that the user interface adapts to different screen sizes, maintaining consistency and ease of use. To accommodate a growing user base, our platform relies on scalable cloud infrastructure. Whether it be AWS, Azure, or Google Cloud, our infrastructure scales seamlessly to handle increased traffic and user demands, ensuring optimal performance and uninterrupted access

.

In addition to the comprehensive features and commitments mentioned above, our educational platform goes the extra mile to enhance the user experience by incorporating an AI chatbot directly on the webpages. This AI chatbot serves as a virtual assistant, providing immediate and accurate responses to any questions asked by users in real-time.

The integration of the AI chatbot on our platform adds an extra layer of convenience and accessibility for learners. Whether they have a specific question about a topic or need clarification on a concept, the AI chatbot is readily available to provide prompt and accurate responses, enhancing the overall learning experience.

Moreover, the AI chatbot continuously learns and improves through user interactions and feedback. By collecting data on user queries and analyzing patterns, the chatbot becomes more intelligent and efficient over time, ensuring that it consistently delivers high-quality responses and adapts to the evolving needs of users.

With the incorporation of the AI chatbot, our educational platform not only offers on-demand learning, personalized learning paths, live interactive sessions, and responsive design but also provides immediate and intelligent assistance through the AI chatbot, making the learning journey seamless, enriching, and user-centered.

REFERENCES

- [1] Online Education and Its Effective Practice: A Research Review Authors: Anna Sun and Xiufang Chen Rowan University, Glassboro, NJ, USA Journal of Information Technology Education: Research Volume 15, 2016
- [2] The Effectiveness and Challenges of Online Learning for Secondary School Students A Case Study— AJUE Authors: Zulaikha Mohd Basar, Azlin Norhaini Mansor, Khairul ,Bity Salwana AliasPublished: 31 July 2021
- [3] Bell, B. S., & Fedeman, J. E. (2013). E-learning in postsecondary education. The Future of Children, 23(1), 165-185.
- [4] Bryant, J., & Bates, A. J. (2015). Creating a constructivist online instructional environment. Tech Trends, 59(2), 17-22.
- [5] Crawford-Ferre, H. G., &Wiest, L. R. (2012). Effective online instruction in higher education. The Quarterly Review of Distance Education, 13(1), 11-14.
- [6] Finch, D., & Jacobs, K. (2012). Online education: Best practices to promote learning. Proceedings of the Human Factors and Ergonomics 56th Annual Meeting.
- [7] Moore, M., &Kearsley, G. (2012). Distance education: A systems view of online learning (3rd ed.). Belmont, CA: Wadsworth.
- [8] Sadera, W. A., Robertson, J., Song, L., & Midon, M. N. (2009). The role of community in online learning success. Journal of Online Learning and Teaching, 5(2), 277-284.
- [9] T. Hatzia postolou and I. Paras kakis, "Enhancing the Impact of Formative Feedback on Student Learning through an Online Feedback System." Electron. J. E-learning, vol. 8, no. 2, pp. 111–122, 2010.

- [10] M. M. Trusca, D. Wassenberg, F. Frasincar, and R. Dekker, "A Hybrid Approach for Aspect-Based Sentiment Analysis Using Deep Contextual Word Embeddings and ierarchical Attention," arXivPrepr. arXiv2004.08673, 2020.
- [11] R. Muthasima, S. Sumpeno, and Y. K. Suprapto, "Twitter Sentiment Analysis of Juvenile Behaviour Deviations using LSA (Latent Semantic Analysis)," in Journal of physics: Conference Series, 2019, vol. 1201, no. 1, p. 12026.
- [12] A. Collomb, C. Costea, D. Joyeux, O. Hasan, and L. Brunie, "A study and comparison of sentiment analysis methods for reputationevaluation," Rapp. Rech. RR-LIRIS-2014-002, 2014.
- [13] M. Ahmad, S. Aftab, I. Ali, and N. Hameed, "Hybrid tools and techniques for sentiment analysis: a review," Int. J. Multidiscip. Sci.Eng, vol. 8, no. 3, pp. 29–33, 2017.
- [14] B. Samal, A. K. Behera, and M. Panda, "Performance analysis of supervised machine learning techniques for sentiment analysis," in 2017 Third International Conference on Sensing, Signal Processing and Security (ICSSS), 2017, pp. 128–133.
- [15] Ò. Romero Llombart, "Using machine learning techniques for sentiment analysis."
- [16] D. D. Dsouza, Deepika, D. P. Nayak, E. J. Machado, and N. D. Adesh, "Sentimental analysis of student feedback using machine learning techniques," Int. J. Recent Technol. Eng., vol. 8, no. 1 Special Issue 4,pp. 986–991, 2019.
- [17] I. A. Kandhro, S. Wasi, K. Kumar, M. Rind, and M. Ameen, "Sentiment Analysis of Students Comment by using Long-Short Term Model.
- [18] Q. Lin, Y. Zhu, S. Zhang, P. Shi, Q. Guo, and Z. Niu, "Lexical based automated teaching evaluation via students' short reviews," Computer Appl. Eng. Educ., vol. 27, no. 1, pp. 194–205, 2019.
- [19] Eksail, F.A.A., Afari, E. (2020). Factors affecting trainee teachers' intention to use technology, 2681–2697.

- [20] Harrison E. and McTavish, M. (2018). 'i' Babies: Infants' And Toddlers' Emergent Language And Literacy in a Digital Culture of devices. Journal of Early Childhood Literacy 18, 163-188.
- [21] HasifahBinti Abdul, A. (2020). KeberkesananPembelajaranMenggunakan Forum DalamSistem E-Learning: KajianKesPelajarTahun 4spi. Johor. Penerbit Universitiy Technology Malaysia.
- [22] S. Rani and P. G. Kumar, "Rule Based Sentiment Analysis System." 2014.
- [23] D. Kan, "Rule-based approach to sentiment analysis at ROMIP 2011,"2011.
- [24] M. Farhadloo, "Statistical Models for Aspect-Level Sentiment Analysis." UC Merced, 2015.
- [25] S. Deerwester, S. T. Dumais, G. W. Furnas, T. K. Landauer, and R. Harshman, "Indexing by latent semantic analysis," J. Am. Soc. Inf. Sci., vol. 41, no. 6, pp. 391–407, 1990.
- [26] P. Koncz and J. Paralic, "An approach to feature selection for sentiment analysis," in 2011 15th IEEE International Conference on Intelligent Engineering Systems, 2011, pp. 357–362.
- [27] G. Salton and M. J. McGill, "Introduction to Modern Information Retrieval McGraw Hill Book Company," New York, 1983.
- [28] S. Tan and J. Zhang, "An empirical study of sentiment analysis for chinese documents," Expert Syst. Appl., vol. 34, no. 4, pp. 2622–2629, 2008.
- [29] E. T. Rother, "Revisãosistemática X revisãonarrativa," Acta Paul. Enferm., vol. 20, no. 2, pp. v–vi, Jun. 2007, doi: 10.1590/S0103- 21002007000200001.
- [30] F. Colace, M. De Santo, and L. Greco, "SAFE: A Sentiment Analysis Framework for E-

Learning.," Int. J. Emerg. Technol. Learn., vol. 9, no.6, 2014.

- [31] A. Ortigosa, J. M. Martín, and R. M. Carro, "Sentiment analysis in Facebook and its application to e-learning," Computer. Human Behavior., vol. 31, pp. 527–541, 2014.
- [32] P. Kaewyong, A. Sukprasert, N. Salim, and A. Phang, "The possibility of students' comments automatic interpret using lexicon based sentiment analysis to teacher evaluation," in 3rd International Conference on Artificial Intelligence and Computer Science (AICS2015), 2015, pp. 179–189.
- [33] V. Kagklis, A. Karatrantou, M. Tantoula, C. T. Panagiotakopoulos, and V. S. Verykios, "A learning analytics methodology for detecting sentiment in student fora: A case study in Distance Education," Eur. J. pen, Distance E-learning, vol. 18, no. 2, pp. 74–94, 2015.
- [34] M. A. Ullah, "Sentiment analysis of students feedback: A study towards optimal tools," in 2016 International Workshop on Computational Intelligence (IWCI), 2016, pp. 175–180.
- [35] K. Z. Aung and N. N. Myo, "Sentiment analysis of students' comment using lexicon based approach," in 2017 IEEE/ACIS 16th international conference on computer and information science (ICIS), 2017, pp. 149–154.
- [36] G. G. Esparza et al., "A sentiment analysis model to analyze students reviews of teacher performance using support vector machines," in International Symposium on Distributed Computing and Artificial Intelligence, 2017, pp. 157–164.
- [37] Kousalya L and Subhashini R, "Sentimental Analysis for Students' Feedback using Machine Learning Approach," Int. Res. J. Eng. Technol., p. 1106, 2008.
- [38] D. D. Dsouza, Deepika, D. P. Nayak, E. J. Machado, and N. D. Adesh, "Sentimental analysis of student feedback using machine learning techniques," Int. J. Recent Technol. Eng., vol. 8, no. 1 Special Issue 4, pp. 986–991, 2019.
- [39] I. A. Kandhro, S. Wasi, K. Kumar, M. Rind, and M. Ameen, "Sentiment Analysis of

Students Comment by using Long-Short Term Model," Indian J. Sci. Technol., vol. 12, no. 8, pp. 1–16, 2019, doi: 10.17485/ijst/2019/v12i8/141741.

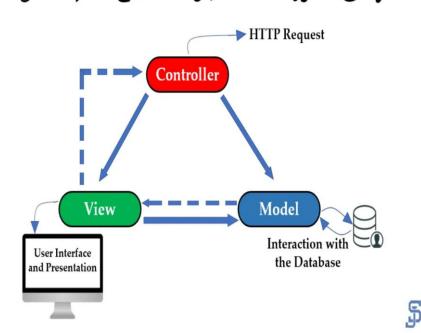
[40] Q. Lin, Y. Zhu, S. Zhang, P. Shi, Q. Guo, and Z. Niu, "Lexical based automated teaching evaluation via students' short reviews," Computer Appl. Eng. Educ., vol. 27, no. 1, pp. 194–205, 2019.

APPENDIX-A PSUEDOCODE

Working Architecture:

When it comes to developing web application, having a well structured architecture is essential. MVC stands for Model-View-Controller, an architectural pattern that separates an application into three components: the Model, the View, and the Controller. MVC is one of the most frequently used industry-standard web development frame work to create scalable and extensible projects.

- Model: The Model represents the data and business logic of the application. In the MERN stack, the Model is typically implemented using MongoDB, a popular NoSQL database. It defines the structure of the data and provides methods to interact with the database. Mongoose, an object modeling library for MongoDB and Node.js, is commonly used for managing the models.
- 2. View: The View is responsible for presenting the data to the user. In the MERN stack, the View is built using React.js, a powerful JavaScript library for building user interfaces. React components define the UI elements, and JSX (JavaScript XML) is used to describe their structure and appearance. The View receives data from the Model and renders it in a user-friendly format.
- 3. Controller: The Controller acts as an intermediary between the Model and the View. It receives user input from the View, updates the Model accordingly, and then updates the View to reflect the changes. In the MERN stack, the Controller is implemented using Express.js, a lightweight web application framework for Node.js. Express routes handle incoming requests, call the appropriate methods on the Model, and render the updated View.



Model-View-Controller Architecture Block Diagram

Backend Index.js:

In this process, we have meticulously set up MongoDB as our backend database system, ensuring a robust foundation for our application. Leveraging the capabilities of the mongoose package, we employed its built-in function, mongoose.connect, to establish a seamless connection with the MongoDB Database.

Our backend application operates efficiently on port 3000, providing a designated and easily accessible point of interaction.

To facilitate the organization and retrieval of data, we thoughtfully defined route paths, creating a structured and intuitive system for backend data access. Additionally, we proactively addressed cross-origin resource sharing (CORS) issues in the browser by incorporating the cors package into our setup. This strategic decision ensures seamless communication between our backend and frontend, enhancing the overall user experience.

Understanding the significance of safeguarding sensitive information, we adopted the dotenv package. This allowed us to securely store essential access keys in a separate .env file, fortifying the confidentiality and security of our application[1][4]. By implementing these strategic measures, we've not only established a robust connection with MongoDB but also prioritized security, efficiency, and seamless data management in our backend architecture.

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Front-end Home.js:

Code:

This React code defines the functional component Home, representing the home page of a web application. The component imports several custom components, such as Course Card, ServicesSpace, Events Space, and Navbar, enhancing modularity and maintainability. The Home component encapsulates the entire structure of the home page.

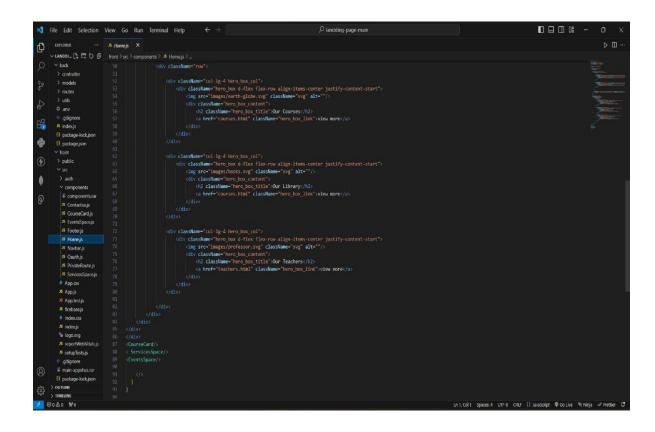
The JSX within the component includes a navigation bar (Navbar) and various sections styled using CSS classes. Notably, it features a hero slider container showcasing two slides with dynamic background images and animated text content. This engaging slider promotes the application's learning and teaching aspects.

The subsequent section, named "hero_boxes," exhibits three hero boxes, each containing an image, a title, and a link. These hero boxes direct users to explore different sections of the application, such as courses, the library, and information about teachers.

Additionally, the code renders instances of custom components like CourseCard, ServicesSpace, and EventsSpace, suggesting the inclusion of additional functionalities or information related to courses, services, and events on the home page.

In essence, this React code establishes a well-structured and visually appealing home page, incorporating modular components for better code organization and maintainability.

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Node Packages for Back-End:

1) Name and Version:

Name: "main-app"

Version: "0.1.0"

Private: true (indicates it's a private package, not intended for publication)

2) Scripts:

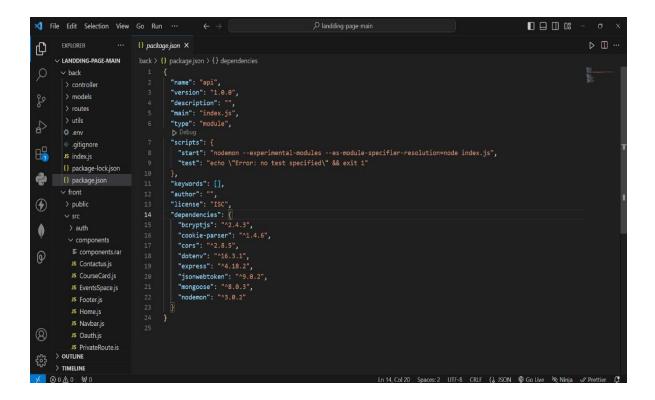
start: Command to start the development server.

build: Command to build the production-ready application.

test: Command to run tests using Jest.

eject: Command to eject from Create React App configuration.

- 3) ESLint Configuration: Extends configurations for ESLint, including those for React and Jest.
- 4) Browserslist: Specifies browser compatibility settings for both production and development environments.



Front-End App.js:

Code:

Import Statements:

The code begins by importing necessary styles and modules. Notably, it imports components for the application's pages, such as Home, Footer, Contactus, StudentSignup, Signup, TeacherSignup, StudentLogin, TeacherLogin, StudentProfile, and TeacherProfile.

BrowserRouter and Routes:

The <BrowserRouter> component from the React Router library establishes the context for routing in the application.

<Routes> component is used to define the routes for different pages. Inside it, <Route> components are utilized to associate specific paths with corresponding components.

Route Configuration:

The <Route> components define the mapping between URLs and React components. Each route specifies a path and the React component (element) to render when that path is matched.

Navigation Routes:

Example routes include "/" for the Home component, "/signup" for the Signup component, "/studentSignup" for the StudentSignup component, and similar paths for other pages.

Comments:

There is a commented-out section <HeaderWithNav/>, which suggests a potential inclusion of a navigation header that might be part of a shared layout.

Footer:

The <Footer/> component is rendered outside the <BrowserRouter>, indicating that it remains constant across different pages.

In summary, this code sets up a React application with routing capabilities. It defines routes for various pages and associates them with specific React components, allowing for seamless navigation within the application.

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                                                   // import HeaderWithNav from "./components/HeaderWithNav";
import Home from "./Home";
import Footer from "./components/Footer";
import Contactus from "./components/Contactus";
import StudentSignup from "./components/StudentSignup";
import Signup from "./components/FeacherSignup"
import TeacherSignup from "./components/TeacherSignup"
import StudentLogin from "./components/StudentLogin";
import TeacherLogin from "./components/StudentProfile";
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               JS setupTests.js
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Back-end Server.js

Code:

Imports:

The code imports necessary modules like express for the server, mongoose for MongoDB interaction, bcrypt for password hashing, and cors for enabling Cross-Origin Resource Sharing.

Server Setup:

An Express app is created, and the server listens on port 5000.

Middleware:

Middleware is set up using app.use() to enable JSON parsing (express.json()) and CORS handling (cors()).

Database Connection:

It connects to a MongoDB database using the mongoose.connect() method. The connection

string contains credentials and the database cluster information.

User Schema:

A MongoDB schema (userSchema) is defined using Mongoose, representing the structure of a user document with fields for email, password, and userType.

User Model:

A Mongoose model (User) is created based on the defined schema.

Signup Endpoint:

The server has a POST endpoint (/api/signup) to handle user registration.

It hashes the provided password using bcrypt before saving the user details to the MongoDB database.

Login Endpoint:

There's a POST endpoint (/api/login) for user login.

It compares the provided password with the hashed password stored in the database, responding with success or failure accordingly.

Error Handling:

Both signup and login endpoints have error handling to manage exceptions and respond with appropriate status codes and messages.

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          JS Signup.js
                                                  <div className="form_input">
          JS StudentLogin.js
                                                 <label htmlFor="email">Email</label>
```

```
JS TeacherLogin.js X
                                                                                                             front > src > components > JS TeacherLoginjs > ...
1   import React, { useState } from "react";
2   import axios from "axios";
3   import { NavLink } from "react-router-dom";
                    ∨ BACK AND FRONT
                                 index.html
                                {} manifest.ison

    public.rar

    robots.txt

                                                                                                                                      export default function TeacherLogin() {
    const [email, setEmail] = useState("");
    const [necessor configuration of the configura
                                                                                                                                                       const [password, setPassword] = useState("");
const [passShow, setPassShow] = useState(false);
                                  ∨ components
                                      # studentheader.c...
                                                                                                                                                      const handleLogin = async (event) => {
   event.preventDefault();
                                      JS StudentHeader.js
ş
                                       JS StudentProfile.js
                                        JS StudentSidebar.js
                                                                                                                                                                            email,
                                      JS StudentSubjects...
                                      # SudentProfile.css
 •
                                     ∨ teacher
                                      JS TeacherHeader.js
                                                                                                                                                                       // console.log("Login successful");
alert("Login successful");
 @
                                      # TeacherProfile.css
                                      JS TeacherProfile.js
                                      JS TeacherSidebar.is
                                      JS TeacherSubjects.is
                                    JS Contactus.is
                                                                                                                                                                } else {
| alert("Login failed:", response.data.message);
                                    JS CourseCard.is
                                    JS Dashboard.js
                                    JS EventsSpace.js
                                                                                                                                                                       alert("Error during login:", error.message);
                                    JS HeaderWithNav.js
                                    JS ServicesSpace.js
                                    JS Signup.js
                                                                                                                                                                                      div className=
<div className=
                                                                                                                                                                                 <div className="form data">
                                     JS StudentLogin.js
                                      JS StudentProfile.is
```

```
D
        EXPLORER
                                                                  JS TeacherSignup.js X
      V BACK A... [→ [→ [→ ] ]  front > src > components > JS TeacherSignup.js > ...
           JS StudentProfile.js
           # studentsidebar....
                                              <div className="form_data";</pre>
           JS StudentSidebar.js
                                            JS StudentSubjects...
           # SudentProfile.css

✓ teacher

          JS TeacherHeader.js
           # TeacherProfile.css
           JS TeacherProfile.js
                                               ÷
           JS TeacherSidebar.is
           JS TeacherSubjects.is
(
                                                   value={fname}
onChange={(e) => setFname(e.target.value)}
          JS Contactus.is
          JS CourseCard.is
 •
          JS Dashboard.is
                                                     type="text"
          JS EventsSpace.is
 6
          JS Footer.js
          # Header.css
                                                 <div className="form_input">
    <label htmlFor="email">Email</label>
          JS HeaderWithNav.js
          # mix.css
          JS Navbar.js
                                                     type="email"
                                                   type='email'
value={email}
onChange={(e) => setEmail(e.target.value)}
          JS ServicesSpace.is
          JS Signup.js
          JS StudentLogin.js
          JS StudentProfile.is
          # students.css
          JS StudentSignup.is
          JS TeacherLogin.js
                                                  <div className="form_input"
          JS TeacherProfile.is
                                                    <div className="two":
          JS TeacherSignup.js
          # App.css
                                                       type={!passShow ? "password" : "text"}
         JS App.js
                                                       value={password}
                                                       onChange={(e) => setPassword(e.target.value)}
```

```
JS StudentProfile.js X JS TeacherLogin.js

✓ back

                         import React from 'react'
import "./SudentProfile.css"
     > node modules
     gitignore
     {} package-lock.json
     {} package.json
                      6 function StudentProfile() {
     JS server.js

✓ public

÷
      > fonts.gstatic.com
                                   > images
                                     Edit Profile
•
      index.html
ၜ
                                     <div className="profile-field">
    <label className="profile-label">Avatar</label>
                                       components
       # studentheader.c...
       JS StudentHeader.js
       JS StudentProfile.js
       # studentsidebar....
       JS StudentSidebar.js
       JS StudentSubjects...
                                     # SudentProfile.css
       ∨ teacher
       JS TeacherHeader.js
       JS TeacherProfile.js
```

```
JS jquery-3.2.1.min.js X JS TeacherLogin.js
Ф
       ∨ BACK AND FRONT
        ∨ back
         > node_modules
                                                     "object" == typeof module && "object" == typeof module.exports ? module.exports = a.document ? b(a, !0) : function(a) {
    if (!a.document) throw new Error("jQuery requires a window with a document");
         .gitignore
         {} package-lock.json
         {} package.json
         ∨ front
         > node modules
                                                        d = a.document,
e = Object.getPrototypeOf,
f = c.slice,

∨ public

ş
           > fonts.gstatic.com
                                                         g = c.concat,
h = c.push,
i = c.indexOf,
•
                                                        j = {},
k = j.toString,
l = j.hasOwnProperty,
m = l.toString,
•

✓ plugins

            > OwlCarousel2-2.2.1
0
            > scrollmagic
            > bootstrap4
                                                    function p(a, b) {
   b = b || d;
                                                          var c = b.createElement("script");
           o index.html
                                                         c.text = a, b.head.appendChild(c).parentNode.removeChild(c)
           {} manifest.ison

≡ public.rar

    robots.txt

             # studentheader.c...
              JS StudentHeader.is
              JS StudentProfile.js
                                                               return b.toUpperCase(
              # studentsidebar..
              JS StudentSidebar.js
```

```
JS jquery-3.2.1.min.js X JS TeacherLogin.js
Ф
                                          ∨ BACK AND FRONT

✓ back

           {} package-lock.json
                                                     } : b(a)
}("undefined" != typeof window ? window : this, function(a, b) {
                                                           "undefined" != typeof window ? wi
"use strict";
var c = [],
    d = a.document,
    e = Object.getPrototypeOf,
    f = c.slice,
    g = c.concat,
    h = c.push,
    i = c.indexOf,
    j = {},
    k = j.toString,
    l = j.hasOwnProperty,
    m = 1.toString,
    n = m.call(Object),
    o = {};
÷
            > fonts.astatic.com
             > images
             JS custom.js
•
              > OwlCarousel2-2.2.1
9
             > scrollmagic
             > bootstrap4
                                                           function p(a, b) {
   b = b || d;
   var c = b.createElement("script");
   c.text = a, b.head.appendChild(c).parentNode.removeChild(c)
              # main_styles.css
             o index.html
            {} manifest.json

    public.rar

                                                                  t = /^-ms-/,
u = /-([a-z])/g,
v = function(a, b) {
    return b.toUpperCase()
               # studentheader.c...
               JS StudentHeader.js
                # studentsidebar...
```

```
Ð
       EXPLORER
                                              JS Footer.js X JS TeacherLogin.js
          > bootstrap4
          # responsive.css
                                          <div class="super container"</pre>
                                         ę
           # studentheader.c...
                                                                        <h1>Subscribe to newsletter</h1>
           JS StudentProfile.js
•
           # studentsidebar....
           JS StudentSidebar.js
9
           JS StudentSubjects...
                                                                # SudentProfile.css
           ∨ teacher
                                                                         <form action="post";</pre>
                                                                           div class-newsletter_form d-flex flex.nd-row flex-column flex.xs-column align-items-center justify-content-center">
cinput id="newsletter_email" class="newsletter_email" type="email" placeholder="Email Address" required="required" data-error="Valid email is
          JS CourseCard.is
          JS Dashboard.is
          JS EventsSpace.is
          JS Footer.js
           # Header.css
           JS HeaderWithNav.is
```

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| Decoration | State | Apple | State |
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| Mode |
```

```
JS StudentProfile.js X JS TeacherLogin.js
Ф
      ∨ BACK A... [] [] ひ 🗊
                                  front > src > components > JS StudentProfile.js > ...

1 import React from 'react'
                                            import StudentHeader from "../components/student/StudentHeader"

✓ components

✓ student

            # studentheader.c...
            JS StudentHeader.js
                                            export default function StudentProfile() {
            JS StudentProfile.js
             # studentsidebar....
                                                {/* <Navbar disabled={true} /> */}
<StudentHeader/>
            JS StudentSidebar.js
             JS StudentSubjects...
÷
             # SudentProfile.css
            JS TeacherHeader.js
            # TeacherProfile.css
            JS TeacherProfile.js
•
            JS TeacherSidebar.js
            JS TeacherSubjects.js
@
           JS CourseCard.is
           JS Dashboard.is
           JS EventsSpace.is
           # Header.css
           JS HeaderWithNav.js
           # mix.css
           JS Navbar.js
           JS ServicesSpace.js
           JS Signup.js
           JS StudentLogin.js
            JS StudentProfile.js
           JS StudentSignup.js
```

```
JS StudentSignup.js X JS TeacherLogin.js
Ð

    VBACKA_ [¹, [²] [¹] [ð]
    front >sc > components > 15 StudentSignupjs > ...

    V src
    1 import React, { useState } from "react";

    ∨ components
    2 import axios from "axios";

                ∨ student
                                                        import "./mix.css";
import { NavLink } from "react-router-dom";
import Navbar from "./Navbar";
                 JS StudentHeader.js
                 JS StudentProfile.js
                JS StudentSidebar.js
                                                          const [fname, setFname] = useState("");
const [email, setEmail] = useState("");
                JS StudentSubjects...
                                                           const [password, setPassword] = useState("");
const [passShow, setPassShow] = useState(false);
ę
                 # SudentProfile.css
                JS TeacherHeader.is
                                                           const handleSignup = async (event) => {
  event.preventDefault();
                 # TeacherProfile.css
                JS TeacherProfile.js
                JS TeacherSidebar.is
                JS TeacherSubjects.is
              JS Contactus.is
                                                                  email,
                JS Dashboard.js
                                                                 if (response.data.success) {
   alert("Signup successful");
                JS HeaderWithNav.js
                                                                    window.location.href = "./StudentLogin";
                ServicesSpace.js
                JS Signup.js
                                                                  catch (error) {
    alert("Error during signup:", error.message);
    console.log("Error during signup:", error.message);
                StudentLogin.js
                JS StudentProfile.is
                JS StudentSignup.js
                  TeacherLogin.js
```

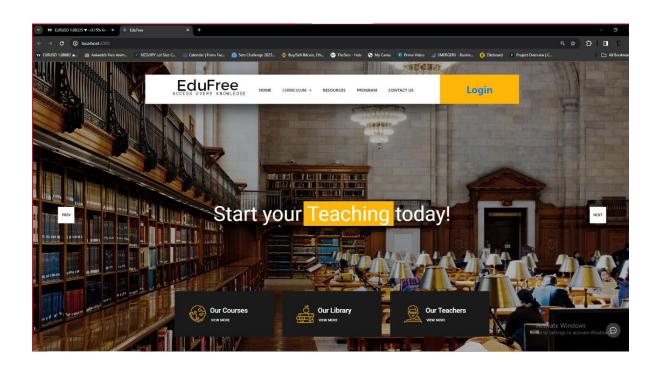
School of Computer Science and Engineering (DevOps), Presidency University.

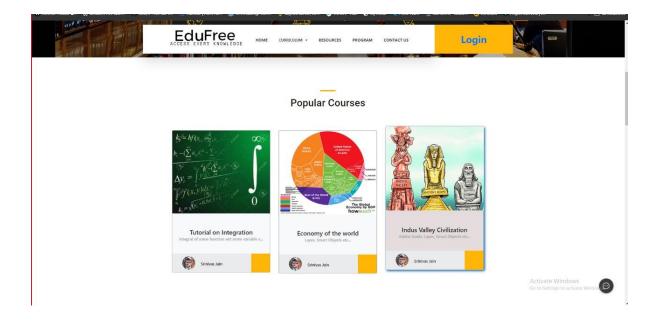
```
JS App.js X JS StudentSignup.js
               EXPLORER
Ф
                                                                                                                                        JS TeacherLogin.js
            ∨ BACK A... [] [] ひ 🗗
                                                            front > src > JS App.js > ♥ App
                                                                           import "./App.css";
import { BrowserRouter, Routes, Route } from "react-router-dom";
                                                                          // import HeaderWithNav from "./components/HeaderWithNav"; import Home from "./Home"; import Footer from "./components/Footer"; import Contactus from "./components/Contactus"; import StudentSignup from "./components/StudentSignup"; import Signup from "./components/TeacherSignup" import TeacherSignup from "./components/TeacherSignup" import StudentLogin from "./components/StudentLogin"; import TeacherLogin from "./components/StudentLogin"; import StudentProfile from "./components/StudentProfile"; import TeacherProfile from "./components/StudentProfile";
                      # studentheader.c...
                       # studentsidebar....
                      JS StudentSidebar.js
                      JS StudentSubjects...
÷
                      # SudentProfile.css

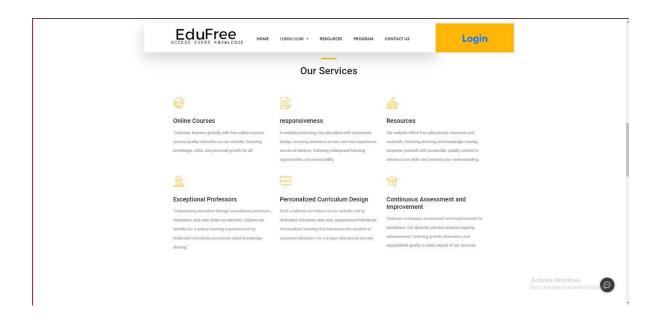
✓ teacher

                     JS TeacherHeader.js
(
                      # TeacherProfile.css
                      JS TeacherProfile.js
 •
                                                                               return (
                      JS TeacherSidebar.js
                      JS TeacherSubjects.js
 0
                     JS Contactus.js
                                                                                              <Route path="/" element={<Home />} />
<Route path="/signup" element={<Signup />} />
                    # Header.css
                                                                                               <Route path="/studentSignup" element={<StudentSignup />} />
                    JS HeaderWithNav.js
                                                                                              <Route path="/teacherLogin" element={<TeacherLogin />} />
<Route path="/studentLogin" element={<StudentLogin />} />
<Route path="/TeacherSignup" element={<TeacherSignup />} />
<Route path="/StudentProfile" element={<StudentProfile />} />
<Route path="/TeacherProfile" element={<TeacherProfile />} />
                    JS Navbar.js
                     JS ServicesSpace.js
                    JS Signup.js
                     JS StudentLogin.js
                    JS StudentProfile.js
                     # students.css
                     JS StudentSignup.is
                     JS TeacherLogin.js
                                                                                         <Footer /
```

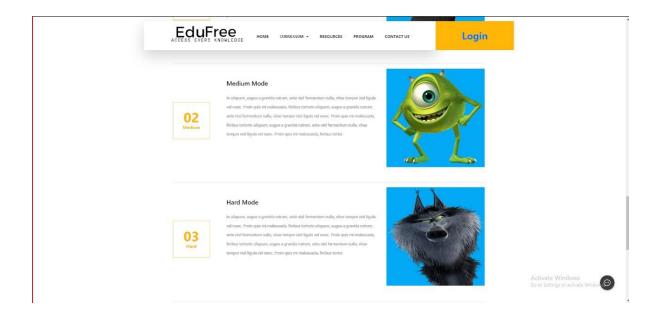
APPENDIX-B SCREENSHOTS

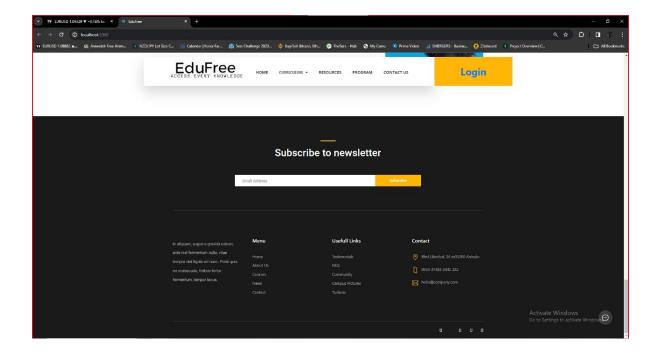


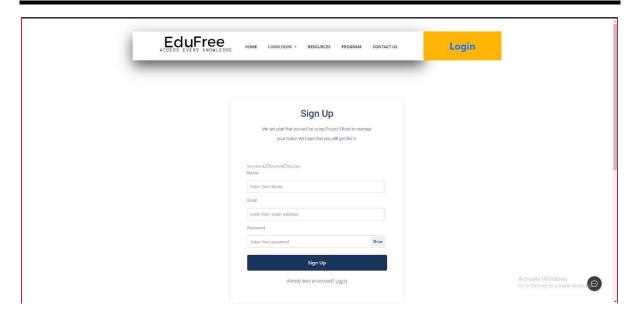


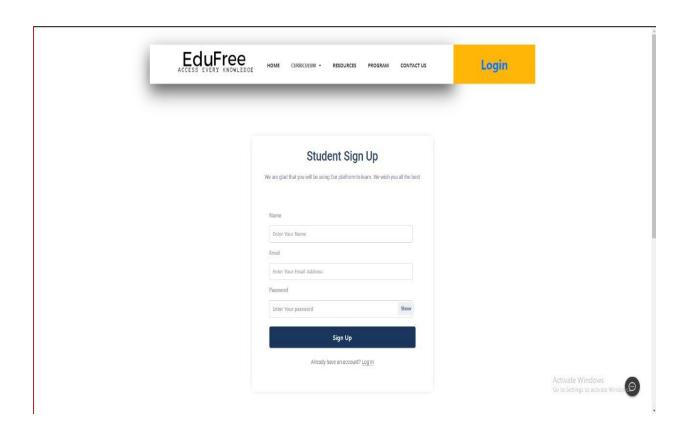


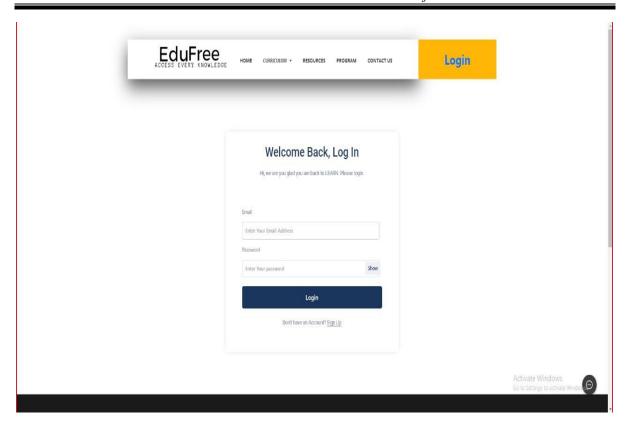


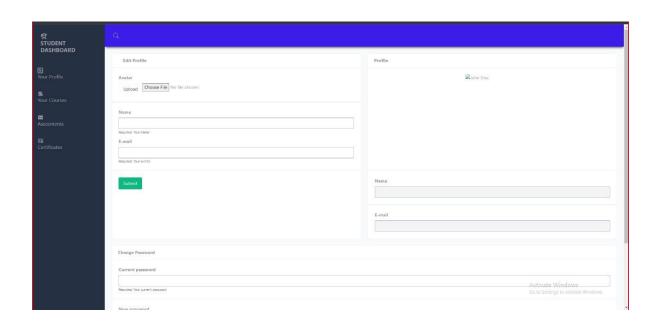


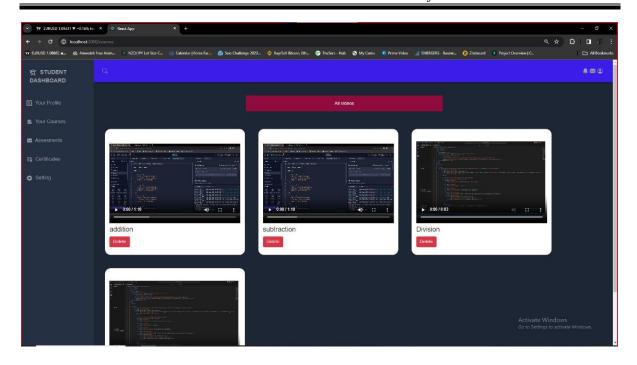


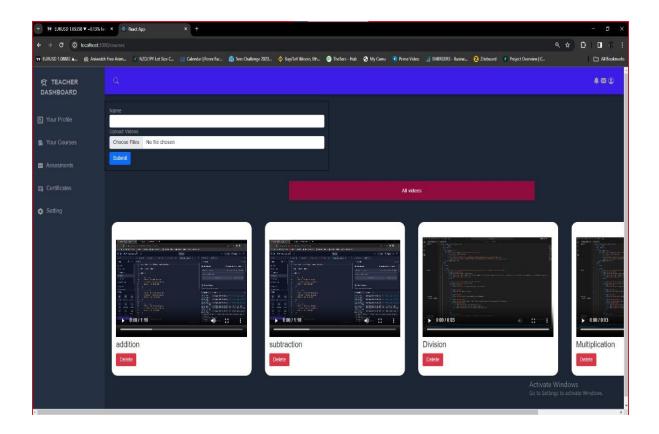


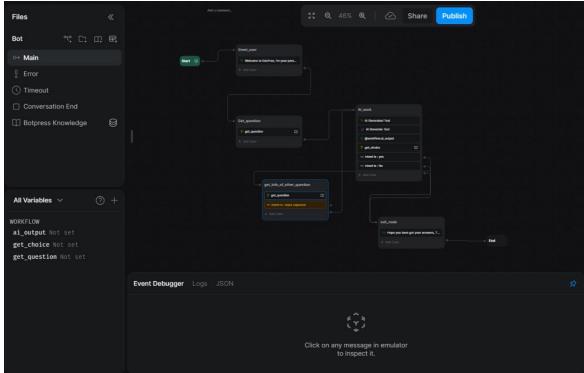


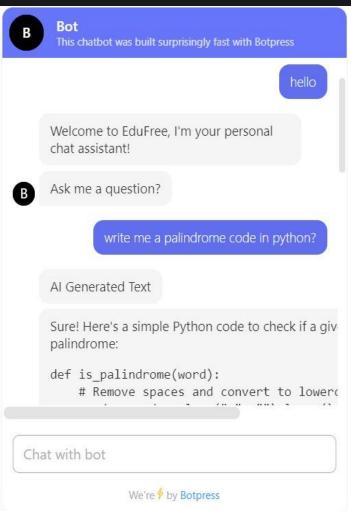












APPENDIX-C ENCLOSURES PLAGIARIZED REPORT

Research Paper FF rajan

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Sustainable Development Goals







































The Project Work carried out here is mapped to SDG-9 Industry Innovation and Infrastructure