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CMRTC Student Forum (cmrtcstdforum) using Web Development

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ABSTRACT: CMRTC Student forum is a website developed to implement new learning curriculums, and procedures that makes the academic experience of the students and faculty equally pleasant. This website serves as an all-in-one digital platform where students of the academic institution can access various course materials and grasp the knowledge of subjects all together, whereas the faculty of the same institution can easily and efficiently manage the courses and share the resources. This website is designed for the intuitive navigation across devices and employs cutting-edge technology that ensures security and seamless integration with existing academic systems. This website's main goal is to fill the gap between students and faculty, to foster enhanced communication, smoother collaboration and enriched educational experiences. Resource sharing is the central theme for this website, this creates an intuitive learning environment where students feel empowered with easy access to resources, and faculty can effectively communicate and support their students.

KEYWORDS: Website development, Resource sharing, Academics

I. INTRODUCTION

In the modern-day world, where internet is seamless and everything is online, there are efforts to make education as an online platform where everyone can access the necessary and basic need of education through a smart phone that can barely fit in our hands [1].

This kind of Miniaturization is what we need for a perfectly healthy online learning platform [2]. There are so many companies across the world where they try to make this a real life routine, for example BYJUS, Grammarly, Cuemath and etc. This website is the next step in this progression of online learning platforms [3].

This website named "cmrtcstdforum" aims to fill the gap between the teaching faculties and the learning students, by directly bringing them together into a single platform.

In this website, we give access to the faculty and students alike (almost similar access), where they can share the resources that are crucial to the academics of the students. But, the resources shared by faculties will always be marked with high priority. Students can also share the resources that they find outside the educational institutions as long as they are relevant to the subject [4-6].

It provides the means of having easy access to the course materials. It offers the efficient procedures to share resources and communicate with students and faculties.

In this website, user's can multiple webpages which are interlinked. First with a landing page, which is a front for the website. Then, a about page which shows the documentation of the journey of this website [7].

Finally, users can access their resources through a series of webpages, being the first one to choose their branch, then their regulation for proper selection and zero deviation from the intended syllabus [8-10].

After selecting the regulation, user's now will choose their year and semester, for proper aligning of the intended subjects. Then user's will be taken to the final webpage, where the user should select the intended subject.

In the subject's columns, there are resources submitted by students and by teachers making it strong in terms of reliability. The resources are to be downloaded in a zip file format, which can hold multiple documents all at once.

In conclusion, "cmrtestdforum" created a digital learning space where everyone in the academic community feels connected, supported, and empowered to make their most out of their educational journey.

II. WEBSITE DEVELOPMENT PROCEDURE

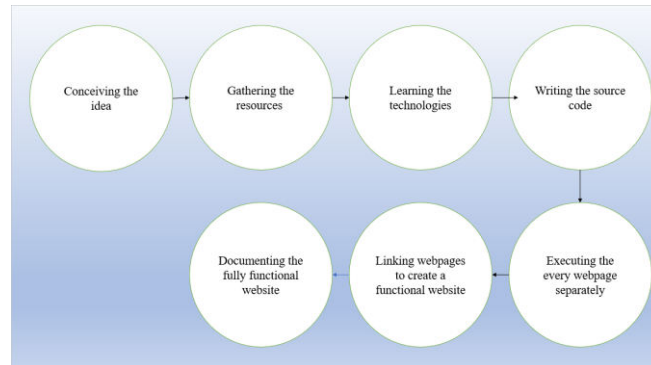


Figure 1. Website development procedure

This project involves many steps including Initialization to Implementation to Deployment and finally Maintenance and updates. Initialization is where the project is initialized i.e. the main idea is conceived. This step also identifies the objective scope and stakeholders.

Research and Requirement gathering, in this phase the existing methods are analyzed and their drawbacks were identified. The elimination of the drawbacks of the existing systems are the main requirements of the current proposed system.

Once the planning and design phase starts, it's main objective is to conceptualize the website, its architecture and features, mainly user interface of the platform. These are well designed and documents in this phase.

After the planning and designing phase, the implementation begins, where the code for the website is written, and the integration of frame works take place accordingly.

During the testing phase, the platform is being tested for any glitches and bugs that will be reported by the test audience and it can help in fixing the issues before deployment.

After deployment, the feedback collection and iterations that follow will become crucial. This phase incorporates the user's experience and suggestions to enhance the platform's usability.

After deployment, finally the projects enters into the maintenance stage, where regular monitoring, troubleshooting and updates are performed to ensure the platform remains secure.

Through these steps the project evolves and improves, ultimately delivering a robust online learning platform with the requirement that are tailored to individual educational institutions.

III. WEBSITE ARCHITECTURE

In this section, we discuss the architecture of the website. The main page named as landing page, which is followed by the Departments:

- H&S
- ECE
- CSE
- IT
- MECH



- CIVIL
- CSD
- CSM

Once the branch is selected it presents the curriculum to choose from which can be ranging from r19 to r22.

More detailed architecture is explained below

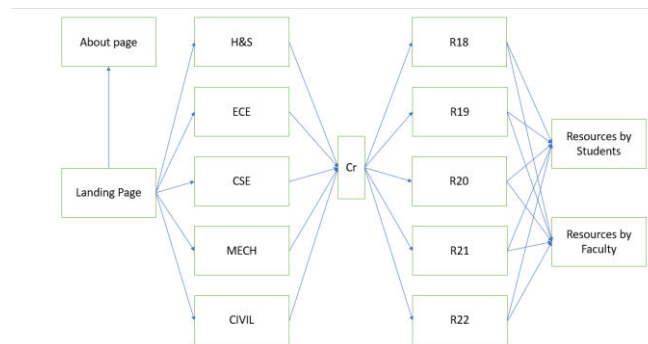


Fig 2 Website Architecture

IV. TECHNOLOGIES USED

A. HTML5: Hypertext markup language serves as the foundational language for structuring and organizing content on web pages. It is primarily used in front end development.

It plays a crucial role in defining the layout, semantics and hierarchy of elements that comprise the user interface on the website.

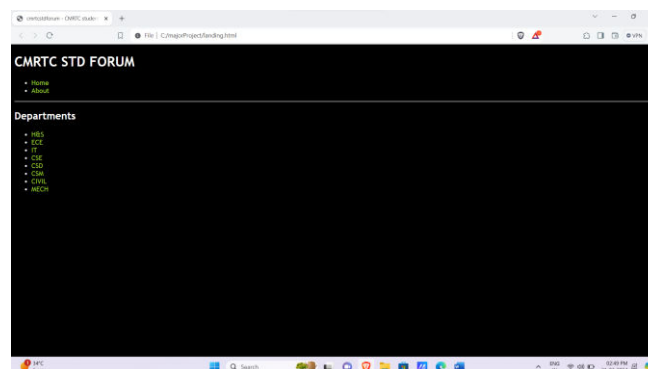
B. CSS3: In the frontend development, Cascading Style Sheets plays an important role in defining the visual presentation and styling of the website that is written with HTML Elements.

C. NODE.JS: It is a runtime environment that allows developers to execute JS Code on the server side. One of the Key advantages of Node.js is, it is event driven, non-blocking I/O model which allows for handling multiple concurrent connections effectively

D. MYSQL: It is a popular open-source relational database management system that is used in backend development. It is used mostly for its reliability, performance and scalability

V. RESULTS

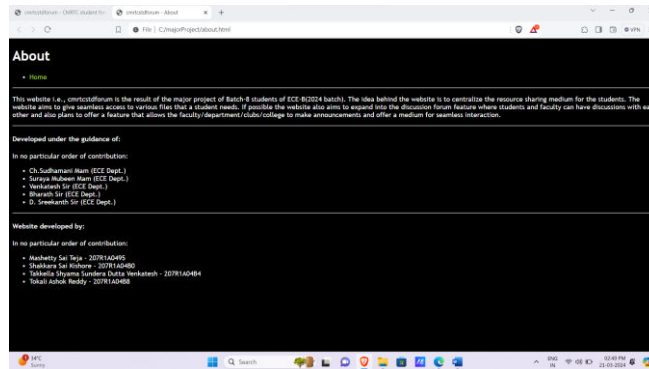
Landing page





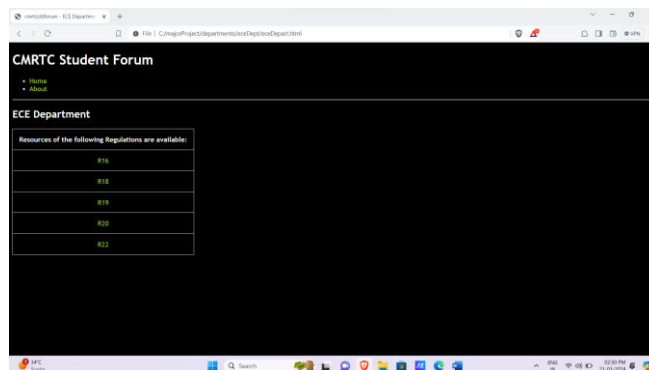
This is the landing page of the website. This can also be called as a home page, which acts as a start for this website. Through here user can navigate to any part of the website.

About Page



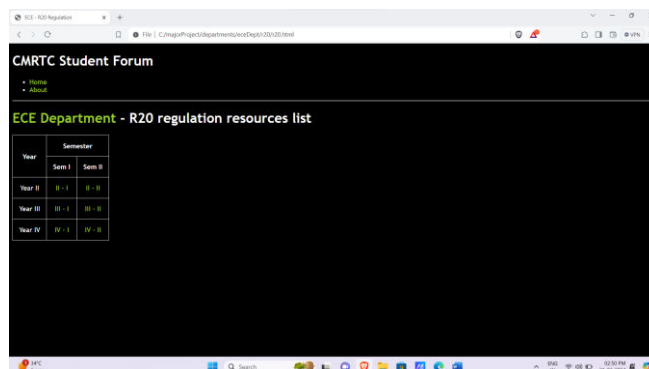
This page contains the Project details, and people who helped through out the development of the project. This page is a documented evidence of the journey of this project. It includes Project Guides, Project Co-Ordinator's, Students who worked on the project.

ECE Department:



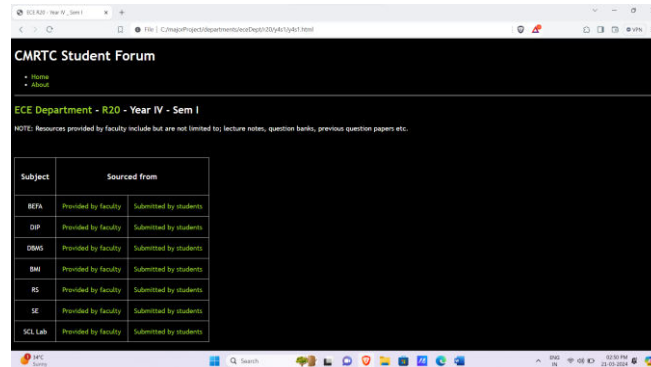
This is the Home page of Electronics and communication department. Here, user's can find and select the regulation that applies to them. By clicking and opening the regulation user can select a certain semester.

R20 page



This page, is regulation of 2020. This page opens up the subjects and syllabus, each semester and year wise. This page, user selects the required year and semester to access the proper resource. By selecting the proper year and semester, user can access the proper subjects and proper resources which are reliable for user's preparation.

Sem 4-1



This is the final page before user's can access the resources. The resources are to be downloaded in a zip file which can hold multiple documents. This page, resources can be seen two types, which is submitted by students and by teachers, making it diverse and proper in terms of reliability.

VII. CONCLUSION AND FUTURE SCOPE

The CMRTC Student Forum is a significant step forward in educational technology, designed to improve collaboration between students and teachers. It incorporates features like user authentication, course management, discussion forums, and resource repositories to create a comprehensive learning platform. By providing a centralized hub for accessing academic materials, participating in discussions, submitting assignments, and receiving feedback, it empowers users to take charge of their learning journey. This fosters active participation, critical thinking, and lifelong learning among students.

The platform prioritizes user engagement, accessibility, and security, ensuring a safe and inclusive space for academic collaboration. Additional features like event calendars, notifications, and analytics tools enhance the user experience, keeping users informed, organized, and motivated.

Looking ahead, the CMRTC Student Forum aims to continue evolving by integrating advanced technologies such as artificial intelligence (AI) and machine learning (ML) to personalize learning pathways and provide tailored support to students. It also seeks to promote interdisciplinary collaboration and experiential learning opportunities beyond traditional classroom settings, preparing students for the modern workforce.

Moreover, the platform aims to support holistic student development by integrating features for mental health support, career guidance, and personal development resources. It also plans to cater to diverse learning needs by offering multilingual support, accessibility features, and flexible learning formats.

Overall, the CMRTC Student Forum aspires to revolutionize education, creating a vibrant learning community that inspires curiosity, creativity, and lifelong learning.

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