UI/UX REDESIGN OF
RAJALAKSHMI ENGINEERING COLLEGE
ERP WEBSITE

A MINI-PROJECT REPORT

Submitted by

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BONAFIDE CERTIFICATE

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ABSTRACT

The Enterprise Resource Planning (ERP) system plays a vital role in managing academic and administrative processes at Rajalakshmi Engineering College (REC). However, the existing ERP website suffers from outdated UI/UX design, complex navigation, and limited responsiveness, which negatively impact user experience. This project focuses on the UI/UX redesign of the REC ERP website to enhance usability, improve accessibility, and provide a seamless digital experience.

The redesign process involves user research, wireframing, and prototyping, leading to a modernized visual design and streamlined navigation. Key improvements include a single-page website structure to reduce loading time, a feedback mechanism to enhance user interaction, and an assignment submission history feature to improve usability. Additionally, graphical enhancements ensure a visually engaging interface. While the project considers backend integration with SQL/MongoDB for potential future enhancements, the primary focus remains on front-end improvements to create an intuitive and efficient user experience.

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CHAPTER 1

INTRODUCTION

Enterprise Resource Planning (ERP) systems are essential for managing academic and administrative activities in educational institutions. At Rajalakshmi Engineering College (REC), the ERP website serves as a central platform for students and faculty to access vital information, including student records, attendance, course materials, and other academic resources. However, the existing ERP system suffers from outdated UI/UX design, complex navigation, and limited responsiveness, leading to a suboptimal user experience. This project aims to redesign the UI/UX of the REC ERP website to improve usability, accessibility, and overall efficiency by modernizing the interface and simplifying navigation. Key features include a single-page design, a feedback mechanism to enhance user engagement, and a dedicated section for tracking assignment submissions. These improvements are designed to make the ERP system more user-centric, enhancing both student and faculty interactions with the platform.

CHAPTER 2

LITERATURE REVIEW

2.1 Mobile App UX/UI Design for Existing Desktop ERP Systems(Published:2023-9-15) A case study by Nauman Khokhar details the transformation of a desktop-based ERP system into a mobile application for DG Cement. The project addressed challenges such as complex workflows and the need for real-time data access. By conducting thorough user research, wireframing, and prototyping, the redesign resulted in a more intuitive and accessible mobile interface, enhancing user engagement and operational efficiency.

2.2 User Interface Redesign of Dental Clinic ERP System Using Design Thinking (Published:2019-September) Researchers Amalia Suzianti and Galang Arrafah applied the Design Thinking methodology to revamp the UI of a dental clinic's ERP system. The existing system faced issues related to user dissatisfaction and inefficiency. Through empathy mapping, prototyping, and usability testing, the redesigned interface better aligned with clinical workflows, resulting in improved user satisfaction and system usability.

2.3 User Experience in ERP System Development - Maja Schylström's thesis explores methods to enhance user experience in ERP system development. The study emphasizes the importance of integrating UX practices into the development process and discusses actions to increase developers' ability to improve user experience in their everyday work.

2.4 SIAK-NG User Interface Design with Design Thinking Method to Support System Integration (Published:2023-7-10) Naila Zaafira's research focuses on improving the user interface of the University of Indonesia's academic portal, SIAK-NG, using the Design Thinking approach. The study addresses user complaints and difficulties related to the existing interface design and aims to provide recommendations that align with user requirements through methods such as storyboarding, empathy mapping, and usability testing.

2.5 Navigating the Challenges in Enterprise UX Desig**n** (Published:2024-11-13) An article by the LogRocket Blog discusses the unique challenges faced in enterprise UX design, including balancing complexity and usability, designing for multiple roles, and handling legacy systems. The insights provided are valuable for understanding the intricacies involved in redesigning complex systems like academic ERPs.

CHAPTER 3

SOFTWARE USED

When incorporating a discussion about using Figma in the redesign of the REC ERP application's user interface into a project report, you can elaborate on the rationale behind choosing Figma, the specific features used during the redesign, and the outcomes achieved.

3.1 Tool Selection

In the initial phase of the REC ERP application redesign project, our team conducted a comprehensive evaluation of various UI/UX design tools to select the most effective software for our needs. Figma emerged as the optimal choice due to its robust collaborative features and web-based accessibility. Its capability to allow multiple designers and stakeholders to work simultaneously on the same files in real time significantly streamlined our design process. Additionally, Figma’s extensive library of plugins and integrations offered valuable extensions that enhanced our productivity and creativity.

3.2 Design Implementation with Figma

Utilizing Figma, our team embarked on a structured redesign of the REC ERP application, focusing on enhancing user experience and interface aesthetics. Figma's vector tools enabled precise adjustments and creation of high-fidelity design elements, ensuring that our visuals were sharp and scalable across different device screens. The component system was particularly beneficial, it allowed us to build a cohesive design language by creating reusable UI components. This approach not only maintained consistency throughout the application but also expedited the design process by eliminating repetitive tasks.

Figma 124.4.7

3.3 Prototyping and Feedback

An integral part of our redesign process involved prototyping and iterative testing using Figma’s interactive prototyping features. We were able to link our design frames and apply transitions and animations to simulate real-world application usage, which was crucial for conducting usability testing sessions. Stakeholders could interact with the prototype directly on Figma, providing immediate feedback which was then swiftly incorporated into the design. This iterative cycle helped in refining interface elements and enhancing the overall user journey within the RAJALAKSHMI ENGINERRING COLLEGE ERP application.

3.4 Visual Studio Code (VS Code) (For Frontend Development)

VS Code is a lightweight yet powerful code editor known for its flexibility and ease of use. Rich Extension Support Plugins like Live Server (for real-time preview) and Emmet (for rapid coding) improve efficiency. Integrated Git Support simplifies version control and tracking of code changes.

VSCODE 1.98

3.5 Outcome and Impact

The adoption of Figma significantly impacted the success of the REC ERP application's redesign project. Post-launch analytics demonstrated an improvement in user engagement and satisfaction rates, underscoring the effectiveness of the new user interface. The project not only met but exceeded our initial objectives, establishing a scalable and intuitive design framework that supports future enhancements and maintains the evolving needs of our users.

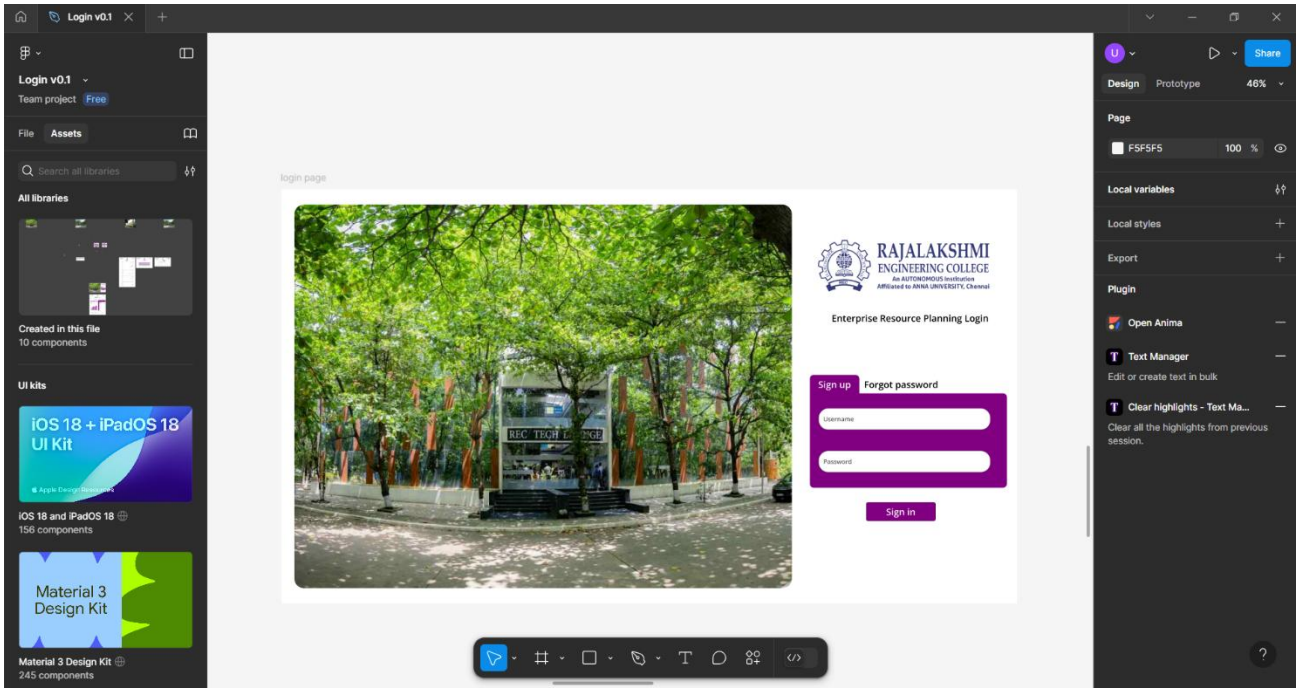

Fig 1: The user interface of the "FIGMA" software.

CHAPTER 4

TECHNICAL OVERVIEW OF EXISTING SYSTEM

The Enterprise Resource Planning (ERP) system of Rajalakshmi Engineering College (REC) is developed by MasterSoft, a company specializing in educational ERP solutions. While specific technical details about REC's ERP system are not publicly disclosed, insights can be drawn from MasterSoft's general offerings and the observable features of REC's ERP interface. Below is an overview based on available information

4.1 Software Architecture

MasterSoft's ERP solutions are designed as comprehensive, cloud-based systems that integrate various institutional functions into a unified platform. This centralized architecture ensures seamless data flow across departments, facilitating efficient management of academic and administrative operations.

4.1.1 Front End

The user interface of REC's ERP system provides a user-friendly interface accessible via web browsers. The login page includes features such as CAPTCHA verification and a virtual keyboard, enhancing security during user authentication. The design emphasizes simplicity and functionality, ensuring that students and faculty can navigate the system with ease.

4.1.2 Back End

While specific details about the back-end technologies used in REC's ERP system are not publicly available. MasterSoft's ERP solutions are known to incorporate the latest technological stacks to ensure adaptability and flexibility. The back-end likely includes robust server-side logic to manage complex institutional workflows and data processing

4.1.3 Database

The ERP system's database serves as a centralized repository for all institutional data, including student records, faculty information, course details, and administrative documents. MasterSoft emphasizes data security and streamlined processes, suggesting that the database is designed to handle large volumes of information securely and efficiently.

4.1.4 User Interface and Experience

The user interface of REC's ERP system is designed to provide a seamless experience for its users. Features such as CAPTCHA and virtual keyboards on the login page enhance security, while the overall layout focuses on intuitive navigation. MasterSoft's commitment to incorporating the latest technology stack likely contributes to a responsive and efficient user experience.

4.2 LIMITATIONS

4.2.1 Limitations of the Current IRCTC Mobile App Technology

While the REC ERP website is equipped with a range of technologies to handle its vast user base and complex functionalities, several limitations persist that impact its performance, usability, and overall user satisfaction. Identifying these limitations is crucial for guiding future improvements and redesign efforts. Below, we discuss some of the primary limitations currently faced by the REC ERP website:

4.2.2 User Interface and User Experience (UI/UX)

4.2.2.1 Complex Navigation Users often struggle to find essential features due to unclear menus and a lack of intuitive design. This can lead to a frustrating experience, particularly for new users who may find it difficult to locate specific functionalities.

4.2.2.2 Outdated Design The interface appears outdated compared to modern web applications, with minimal use of visually appealing elements. Aesthetic elements, intuitive layouts, and interactive feedback are areas needing significant enhancement to meet current user expectations.

4.2.3 Accessibility

4.2.3.1 Limited Accessibility Features The website does not fully accommodate users with disabilities, lacking features such as screen reader support, voice commands, and sufficient contrast for visually impaired users. This restricts access for a significant segment of potential users.

CHAPTER 5

PROPOSED RE-DESIGN

The proposed redesign of the REC ERP system aims to improve its usability, performance, and accessibility while addressing the challenges faced by users. The new system will feature a modern user interface (UI) with an intuitive layout, ensuring a smoother navigation experience. The dashboard will be structured for better organization of information, reducing clutter and making key functions easily accessible. The color scheme and font hierarchy will be improved for better readability, while a responsive design will ensure compatibility across different screen sizes, including mobile devices.

Performance optimization will be a key focus in the redesign. The system will incorporate faster load times by optimizing resource management and reducing unnecessary data processing. A more efficient authentication system will enhance security while maintaining ease of access for students, faculty, and administrators. The redesign will also include clear error messages and real-time feedback mechanisms, improving the overall user experience when interacting with forms, submissions, and system notifications.

Additionally, the navigation structure will be simplified to minimize the number of steps required to access important features. Search functionality will be enhanced to allow users to quickly find relevant information without unnecessary delays. The goal of this redesign is to create a more user-friendly and efficient ERP system that meets the daily needs of students and faculty while ensuring smooth operation for administrative tasks.

5.1 ADVANTAGES

5.1.1 Advantages of Redesigning the REC ERP Website

A comprehensive redesign of the REC ERP website could bring numerous benefits, ranging from improved user experience to increased operational efficiency and security. Here are the key advantages that a redesign could offer:

5.1.2 Enhanced User Experience (UX)

The redesigned REC ERP system provides a cleaner and more structured interface, improving usability for students, faculty, and administrators. The navigation is simplified, reducing the time required to access essential features. Additionally, the system ensures a consistent UI design, making it more intuitive and user-friendly.

5.1.3 Streamlined navigation

The redesign focuses on reducing clutter and improving the organization of information. The introduction of an enhanced search feature allows users to quickly find necessary data, minimizing the time spent navigating through menus. Frequently used features are placed more prominently for easier access.

CHAPTER 6

OUTPUT

PROJECT LINK

https://github.com/udaykrishna19/Mini-project-T8.git

Fig 2: The Login Page

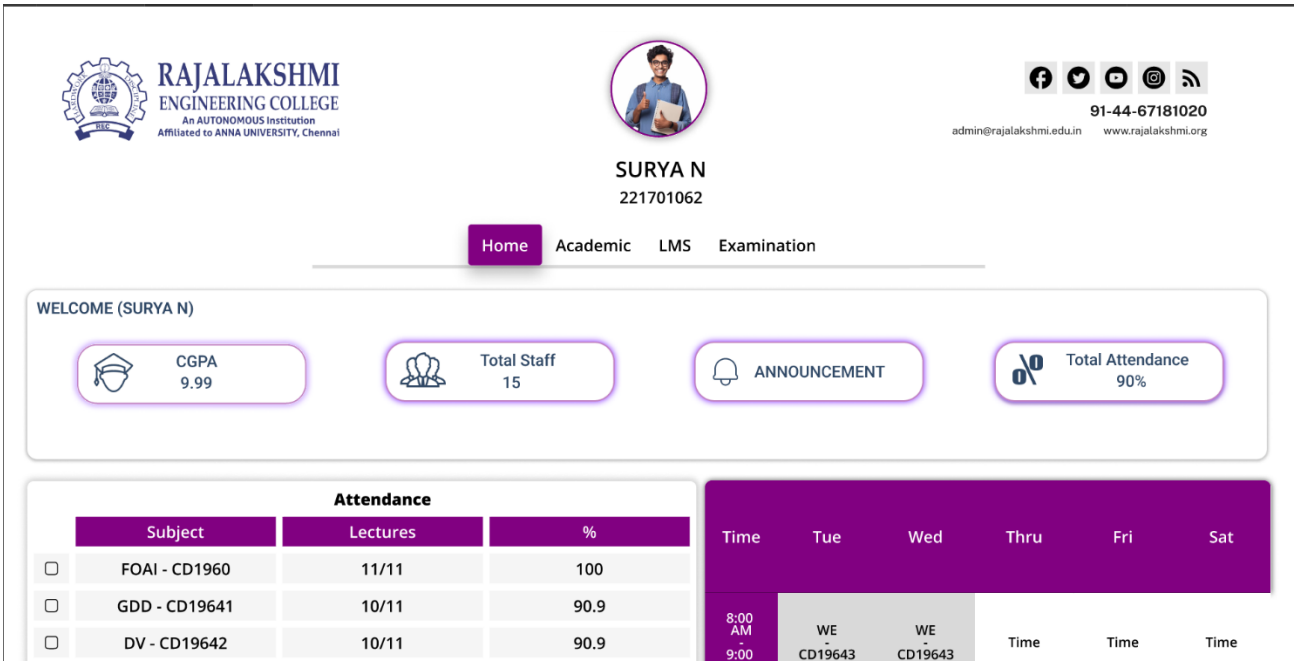

Fig 3: Home page

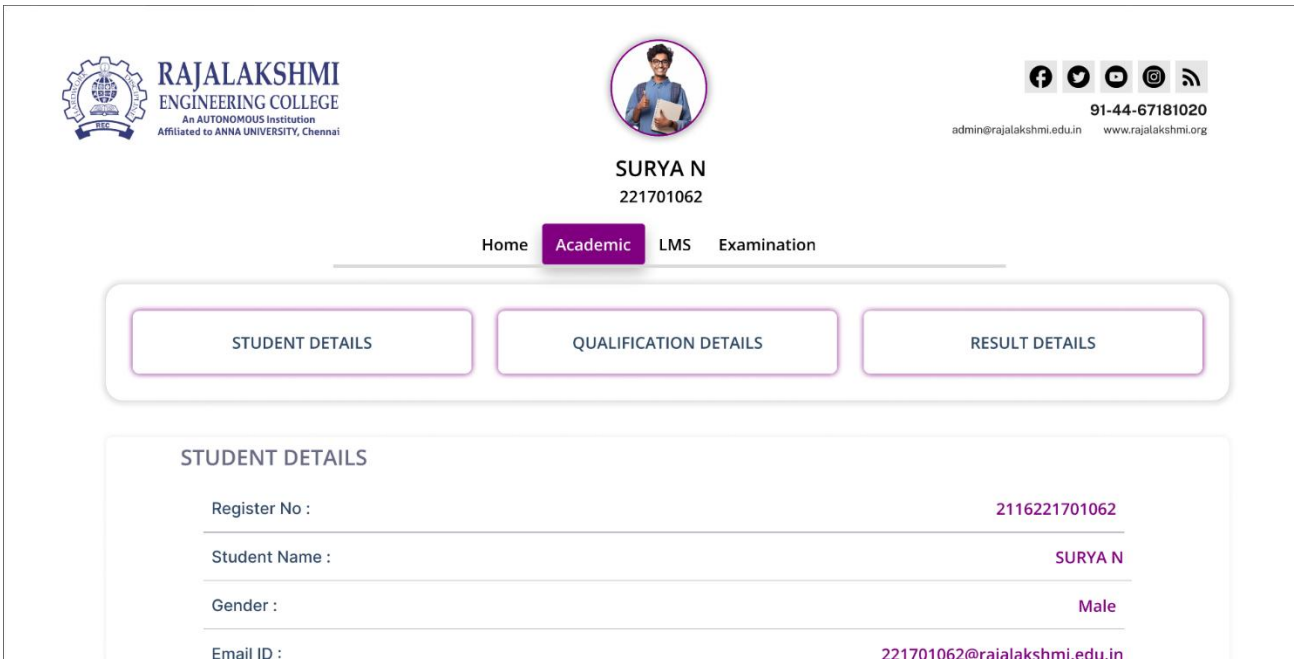

Fig 4: Academic Page

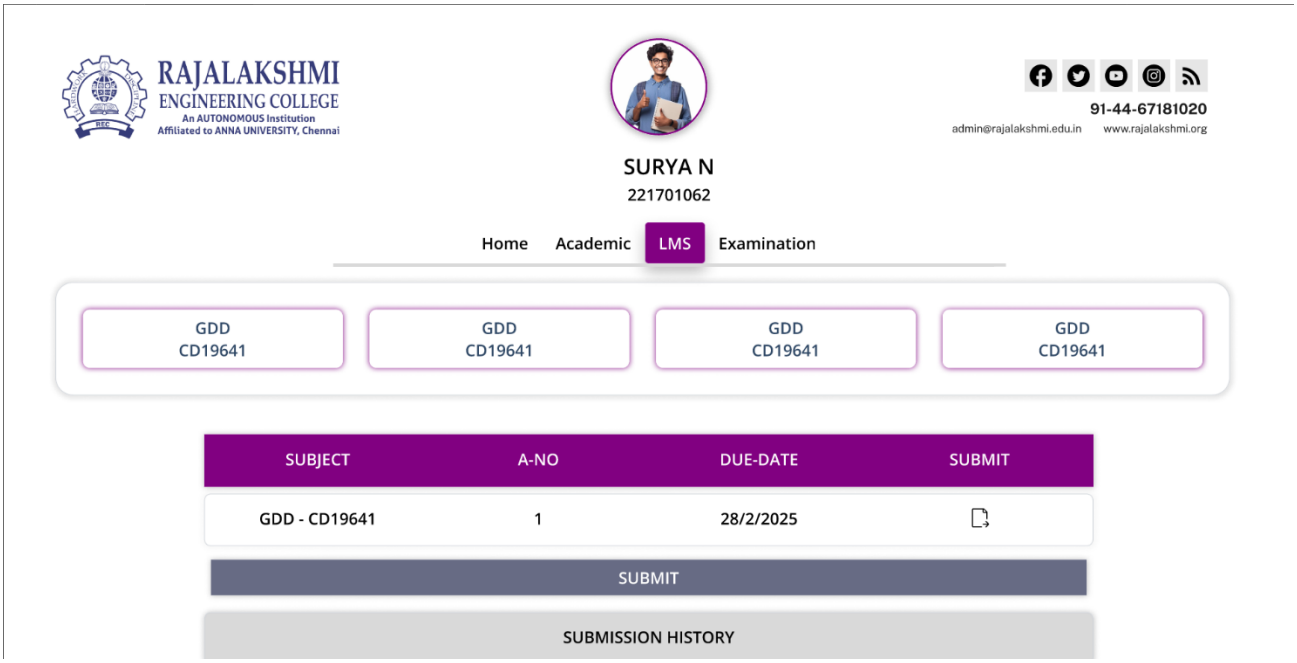

Fig 5: LMS page (Learning management system).

CHAPTER 7

CONCLUSION

The redesigned REC ERP system aims to address the limitations of the current platform by enhancing user experience, accessibility, scalability, and performance. By implementing a modern UI, improved navigation, and optimized system responses, the new design ensures a more intuitive and efficient interaction for students, faculty, and administrators. The incorporation of better error handling, faster data processing, and responsive layouts significantly improves usability, making essential tasks easier to perform.

Through these advancements, the ERP system will become a more reliable and user-friendly platform, capable of supporting the growing needs of the institution. The redesign focuses on seamless functionality and ease of access, ensuring that academic and administrative processes run smoothly. Overall, this project highlights the importance of continuous improvement in digital systems to provide a better experience for all users while maintaining efficiency and scalability.

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