

STUDYTASKMATE WEBAPP

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Abstract—

The Task Management and Course Learning Platform is an integrated web-based system designed to enhance productivity and enable structured digital learning. This dual-purpose application empowers users to efficiently manage tasks through features like nested task lists, real-time updates, select/unselect functionalities, and performance tracking, while also offering a streamlined educational experience through a robust course marketplace. Utilizing modern technologies such as React, Redux Toolkit, MongoDB, and Razorpay, the platform ensures seamless user interactions, secure payment handling, and responsive media delivery via Cloudinary. Admins are equipped with tools to monitor user activity, create and sell educational content, and manage lectures and users. With its user-friendly design, real-time functionality, and scalable architecture, this platform serves both individuals and organizations seeking a centralized solution for task coordination and digital education

Keywords:

React.js, Redux Toolkit, MongoDB, Mongoose, .NET Core, Razorpay, Cloudinary, Tailwind CSS, Zod, Framer Motion

I. INTRODUCTION

In today's digital-first educational era, the need for robust and accessible platforms that enable both learning and content creation is more vital than ever. This project aims to bridge the gap between learners and educators by providing a comprehensive web-based solution that allows users to buy courses, create their own courses, and manage tasks via an integrated To-Do app.

Unlike traditional LMS (Learning Management Systems), this platform emphasizes simplicity, user autonomy, and functionality. From beginners looking for new skills to content creators wanting to share knowledge, our website acts as a bridge—providing intuitive tools for seamless course interactions and everyday productivity.

II. LITERATURE REVIEW

THE LITERATURE REVIEW FOR A TASK MANAGEMENT AND COURSE LEARNING PLATFORM INVOLVES EXAMINING EXISTING SYSTEMS, FRAMEWORKS, AND TECHNOLOGIES RELATED TO PRODUCTIVITY TOOLS, E-LEARNING SOLUTIONS, AND WEB-BASED APPLICATION DESIGN. THIS REVIEW ENCOMPASSES STUDIES ON TASK ORGANIZATION METHODS, USER INTERFACE USABILITY, ONLINE COURSE DELIVERY MECHANISMS, AND USER ENGAGEMENT STRATEGIES. IT ALSO INCLUDES ANALYSIS OF BACKEND ARCHITECTURES UTILIZING MONGODB, NODE.JS, PHP, OR .NET TECHNOLOGIES, AS WELL AS FRONTEND LIBRARIES SUCH AS REACT FOR DYNAMIC USER EXPERIENCES.

MOREOVER, THE REVIEW COVERS THE INTEGRATION OF THIRD-PARTY SERVICES LIKE RAZORPAY FOR SECURE ONLINE PAYMENTS AND CLOUDINARY FOR EFFICIENT MEDIA HOSTING. KEY THEMES INCLUDE REAL-TIME SYNCHRONIZATION, SCALABILITY OF TASK TRACKING SYSTEMS, SECURITY IN USER DATA HANDLING, AND THE EFFECTIVENESS OF COURSE DELIVERY THROUGH DIGITAL PLATFORMS. BY EVALUATING CURRENT SOLUTIONS AND IDENTIFYING THEIR STRENGTHS AND

LIMITATIONS, THE LITERATURE REVIEW PROVIDES A FOUNDATION FOR BUILDING A COMPREHENSIVE, USER-CENTRIC TASK AND LEARNING MANAGEMENT SYSTEM.

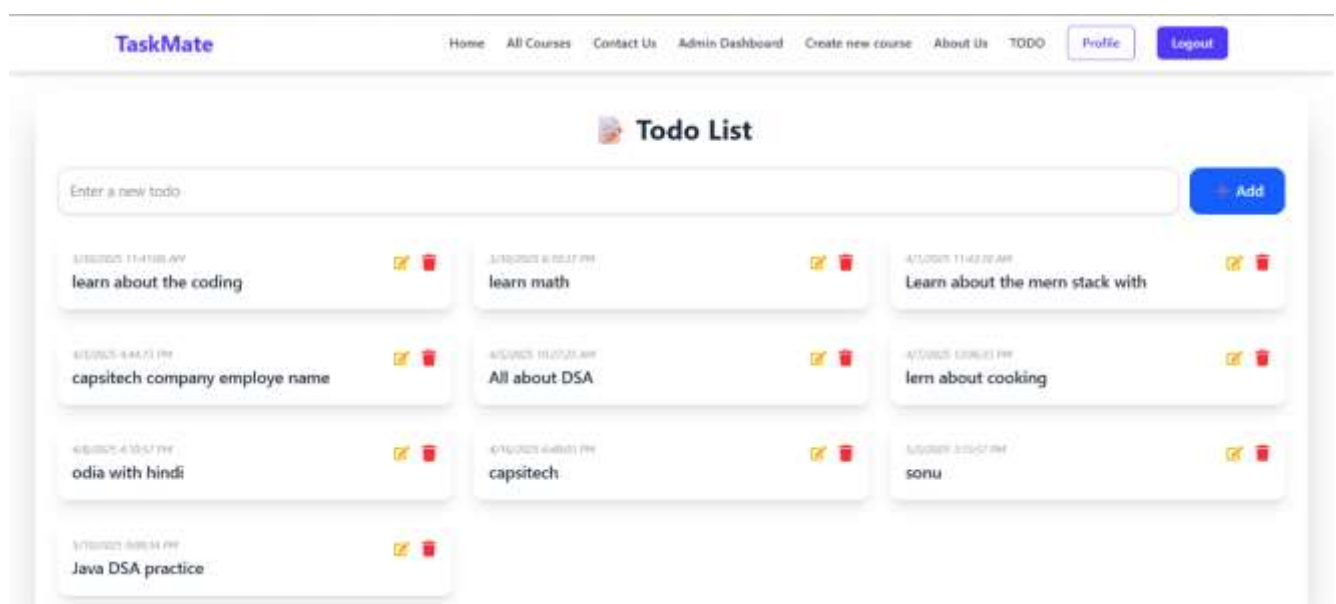
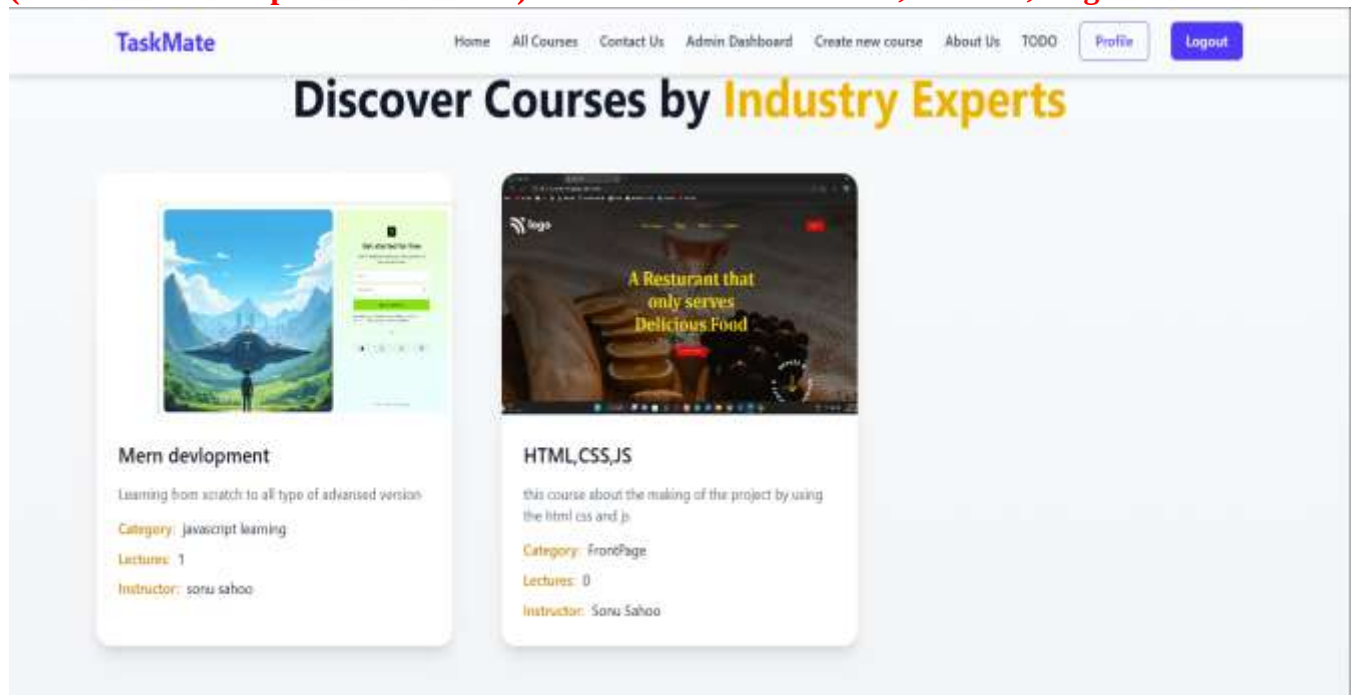
III. SYSTEM DESIGN

THE SYSTEM DESIGN FOR A TASK MANAGEMENT AND COURSE LEARNING PLATFORM FOCUSES ON CREATING A SCALABLE, MODULAR, AND USER-CENTRIC ARCHITECTURE THAT INTEGRATES TASK TRACKING WITH DIGITAL LEARNING CAPABILITIES. THE PLATFORM IS STRUCTURED INTO TWO MAIN MODULES: A TASK MANAGEMENT SYSTEM FOR CREATING, ORGANIZING, AND MONITORING TASKS, AND A COURSE MODULE FOR BROWSING, PURCHASING, AND STUDYING LECTURES ONLINE.

THE BACKEND DESIGN UTILIZES TECHNOLOGIES SUCH AS MONGODB AND .NET CORE TO HANDLE DATA STORAGE, AUTHENTICATION, AND API ENDPOINTS, ENSURING SECURITY AND PERFORMANCE. ON THE FRONTEND, REACT AND REDUX TOOLKIT ENABLE DYNAMIC STATE MANAGEMENT AND RESPONSIVE USER INTERFACES, ENHANCED WITH TOOLS LIKE ZOD FOR VALIDATION AND FRAMER MOTION FOR INTERACTIONS. PAYMENT INTEGRATION IS ACHIEVED USING RAZORPAY, AND MEDIA CONTENT IS HOSTED VIA CLOUDINARY FOR EFFICIENT DELIVERY.

IV. IMPLEMENTATION

The implementation of the task management and course learning platform involves a series of coordinated development steps to ensure functionality, reliability, and user engagement. Initial stages include setting up the backend using MongoDB and .NET Core for database management, user authentication, and API development. Concurrently, the frontend is built using React and Redux Toolkit to provide a dynamic and responsive interface for task handling and course interaction. Zod is integrated for form validation to enhance user input accuracy, while Cloudinary is utilized to manage and deliver lecture videos and user media efficiently. Razorpay is incorporated for secure and seamless payment processing. Real-time features such as task updates, course access control, and user role management are implemented to ensure a smooth experience. Finally, extensive testing and optimization are carried out across different devices and screen sizes, culminating in the deployment of a scalable, user-friendly web platform.



V. RESULTS

THE RESULTS OF THE TASK MANAGEMENT AND COURSE LEARNING PLATFORM HIGHLIGHT ITS EFFECTIVENESS IN ENABLING USERS TO ORGANIZE TASKS EFFICIENTLY AND ACCESS DIGITAL COURSES SEAMLESSLY. THROUGH THE INTEGRATION OF ROBUST TECHNOLOGIES SUCH AS MONGODB, .NET CORE, REACT, AND REDUX TOOLKIT, USERS EXPERIENCE REAL-TIME INTERACTIONS, RELIABLE DATA MANAGEMENT, AND A RESPONSIVE USER INTERFACE. THE PLATFORM SUCCESSFULLY SUPPORTS TASK CREATION, EDITING, DELETION, AND STATUS TRACKING, ALONG WITH FEATURES LIKE SELECTING OR UNSELECTING ALL TASKS. IN THE LEARNING MODULE, USERS CAN BROWSE AVAILABLE COURSES, COMPLETE PAYMENTS THROUGH RAZORPAY, AND ACCESS LECTURES HOSTED SECURELY ON CLOUDINARY. ADMINISTRATORS ARE ABLE TO MONITOR USER ACTIVITY, MANAGE COURSES, AND OVERSEE PAYMENTS EFFECTIVELY.

VI. CONCLUSION

IN CONCLUSION, THE DEVELOPMENT OF THE TASK MANAGEMENT AND COURSE LEARNING PLATFORM MARKS A SIGNIFICANT STEP TOWARDS ENHANCING

PRODUCTIVITY AND ONLINE EDUCATION THROUGH A SINGLE, INTEGRATED SYSTEM. BY COMBINING ROBUST BACKEND INFRASTRUCTURE WITH A DYNAMIC AND RESPONSIVE FRONTEND, THE PLATFORM PROVIDES USERS WITH EFFICIENT TOOLS FOR TASK ORGANIZATION AND SEAMLESS ACCESS TO DIGITAL LEARNING CONTENT. THE IMPLEMENTATION OF SECURE PAYMENT SYSTEMS, CLOUD-BASED MEDIA STORAGE, AND REAL-TIME FEATURES ENSURES A SMOOTH AND RELIABLE USER EXPERIENCE. ADDITIONALLY, THE ADMINISTRATIVE CONTROL PANEL EMPOWERS ADMINS TO MANAGE USERS, TASKS, AND COURSES EFFECTIVELY. LOOKING AHEAD, THE PLATFORM CAN BE FURTHER ENHANCED THROUGH THE INTEGRATION OF ADVANCED ANALYTICS, PERSONALIZATION FEATURES, AND MOBILE APPLICATION SUPPORT. OVERALL, THE PROJECT SUCCESSFULLY ADDRESSES MODERN USER NEEDS FOR TASK MANAGEMENT AND E-LEARNING, DELIVERING A SCALABLE, USER-CENTRIC SOLUTION FOR BOTH INDIVIDUALS AND ORGANIZATIONS.

ACKNOWLEDGEMENT

We extend our heartfelt gratitude to all individuals and institutions who played a vital role in the successful development of the task management and course learning platform. We sincerely thank our mentors and project guides for their constant support, technical guidance, and valuable suggestions throughout the project.

We acknowledge the contributions of the open-source community and technology providers whose tools and platforms—including .NET Core, MongoDB, React, Redux Toolkit, Razorpay, and Cloudinary—were integral in building and deploying the application.

We also appreciate the feedback and encouragement received from peers and early users, which helped shape a more user-centric and functional solution. This project would not have been possible without the collective efforts of everyone involved, and we are deeply thankful for their contributions.

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