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Development of Course and Online Certification Process for Student Application Using React JS

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Abstract: ***This project aims to develop an online course application with certification and apply features using ReactJS for the frontend, NodeJS for the backend, and MySQL for the database. The application will have two main modules, one for the students and one for the admin. The student module will allow them to browse and apply for courses, view their course progress, and download their certificates upon completion. The admin module will enable the administrator to manage courses, approve student applications, view student progress, and generate certificates for completed courses. The project's primary objective is to provide an easy-to-use and efficient platform for students to apply and learn online and for the administrators to manage the system effectively.***

I. INTRODUCTION

Online course enrollment system is a web based enrollment software that helps you to enroll to the courses that any student wishes to study online. It is ideal for all the school students , college students or any educational camps, corporate training programs or anyone. It also provides time to time current status information of the courses that are enrolled by the user. The users can enroll into their desired courses and get certification by filling up the form for enrollment with all necessary details

II. OBJECTIVE

The objective of the online student software certification enrollment system using React and Node.js is to provide an efficient and user-friendly platform for students to enroll in courses and apply for certification online. The system aims to streamline the enrollment process, reduce administrative workload, and provide an effective means for tracking student progress and generating certificates.

III. LITERATURE REVIEW

1) V.K. Gupta, M. Manickam, & S. Sharma (2020). A Review on Student Enrollment System Using Node.js and React.- From the paper it is inferred that Node.js is a platform built on Chrome's JavaScript runtime that allows developers to create server-side applications in JavaScript. React, on the other hand, is a JavaScript library that is used for building user interfaces.
2) Wahab, M. Ilyas, & A. Gul (2021). Web-based Student Enrollment System Using Node.js and React. - This paper presents a web-based student enrollment system using Node.js and React, focusing on the design and implementation of the system. the paper presents a comprehensive and well-documented approach to developing a web-based student enrollment system using Node.js and React
3) M. Haque & M. Islam (2020). A Review of Student Enrollment System Using React and Node.js. - This paper presents a review of the student enrollment system using React and Node.js, highlighting the advantages and disadvantages of this approach. The paper describes the architecture and design of the system, which includes a backend built using Node.js
4) Skalicky, S., & Skladanek, R. (2018). Real-time web applications with React, Node.js, and Firebase. In 2018 IEEE 16th World Symposium on Applied Machine Intelligence and Informatics (SAMI) (pp. 000471-000476). IEEE.

IV. MODULES OF PROJECT

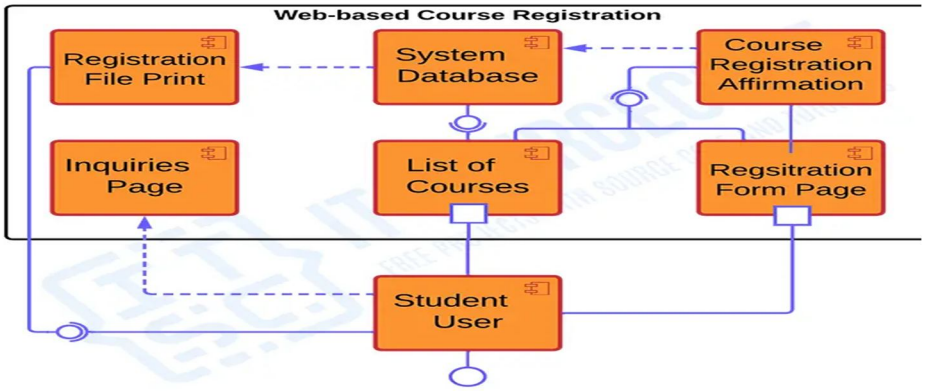
This project basically contains seven modules . those modules were listed below.

1) *Authentication Module:* This module will enable users to log in or sign up using their email and password credentials. The authentication module will also allow users to reset their passwords.
2) *Student Module:* This module will allow students to browse and search for courses, apply for courses, view their course progress, and download their certificates upon completion. Students will also be able to view their payment history and update their profile information.

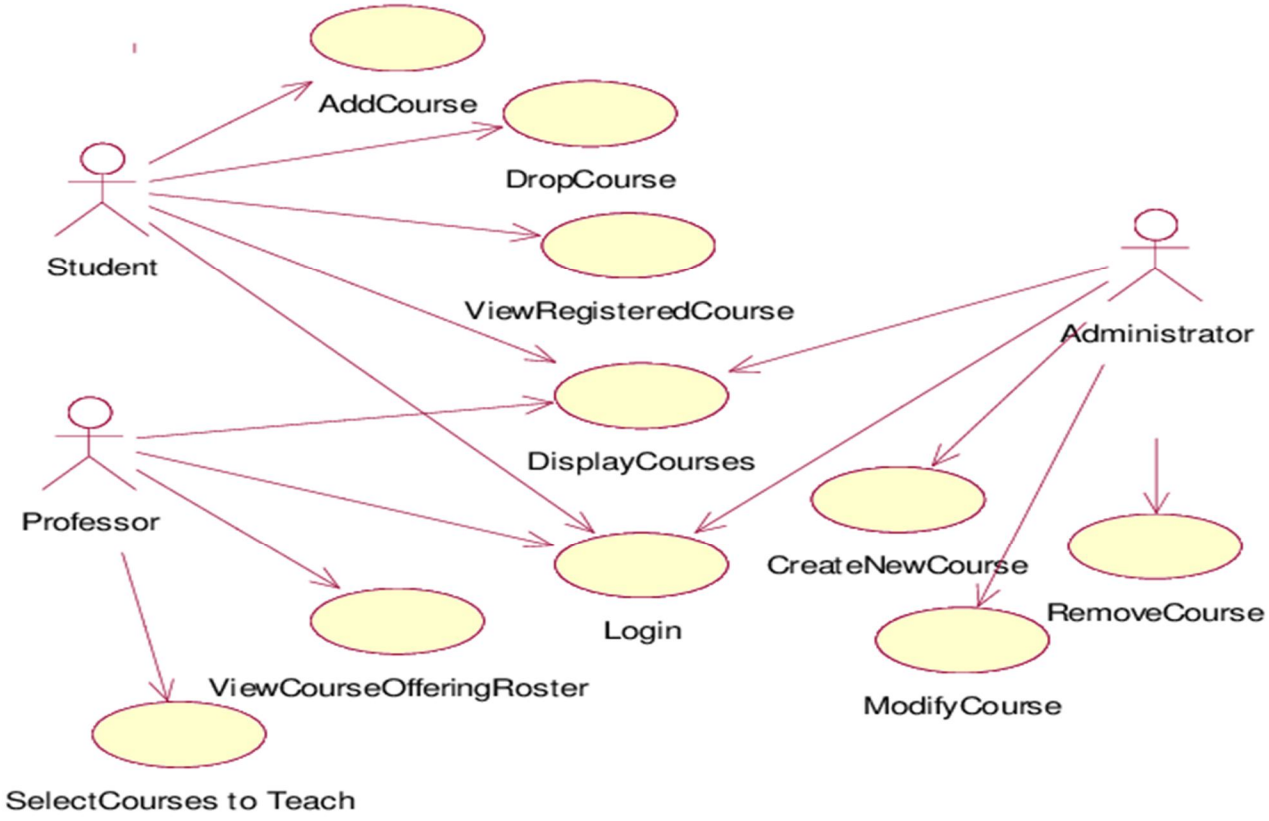
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3) *Admin Module:* This module will enable the administrator to manage courses, approve student applications, view student progress, and generate certificates for completed courses. The admin module will also allow the administrator to manage the payment information of the students.
4) *Course Management Module:* This module will allow the administrator to manage courses, including adding new courses, modifying existing courses, and deleting courses.
5) *Payment Module:* This module will enable the administrator to manage payment information, including managing payment transactions, refunding payments, and generating payment reports.
6) *Certification Module:* This module will allow the administrator to generate certificates for completed courses and enable students to download their certificates from their profile.
7) *Notification Module:* This module will enable the application to send notifications to admin, including application for courses and payment due dates

V. COMPONENT DIAGRAM



VI. USE CASE DIAGRAM



VII. SYSTEM SPECIFICATION

1) PROCESSOR NAME : DUAL CORE
2) PROCESSOR SPEED : 1.8 GHZ
3) MOTHER BOARD : ASUS
4) HARD DISK DRIVE : 80 GB
5) RAM CAPACITY : 1GP RAM
6) MONITOR : SAMSUNG 15'INCH
7) KEYBOARD : 108 LOGITECH
8) MOUSE : LOGITECH

VIII. SOFTWARE SPECIFICATION

1) FRONT END - React js
2) BACKEND - NodeJS
3) DATABASE -MySQL

IX. RESULTS

The Online Student Software Certification Enrollment System Using React Js is created Successfully and their results were shown in the form of screenshots below.

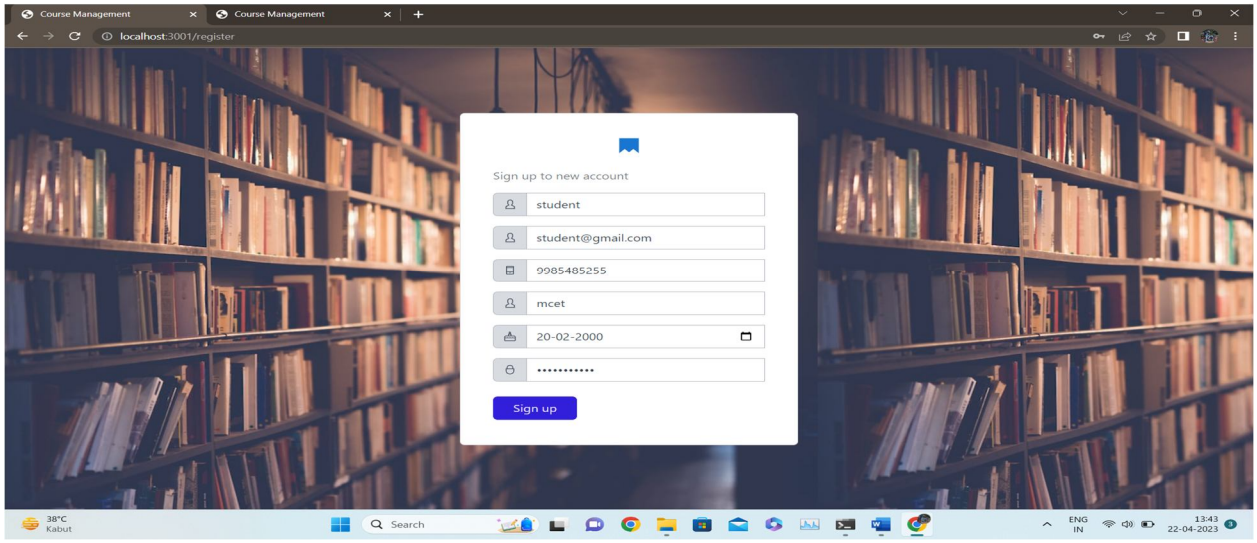


Fig.1 Sign up page

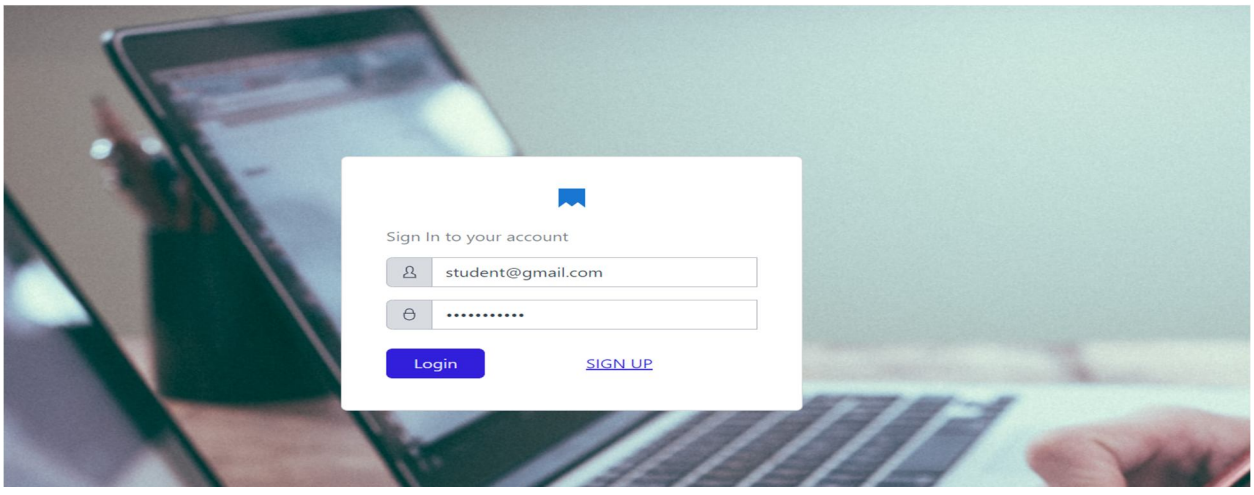


Fig.2 Log in page

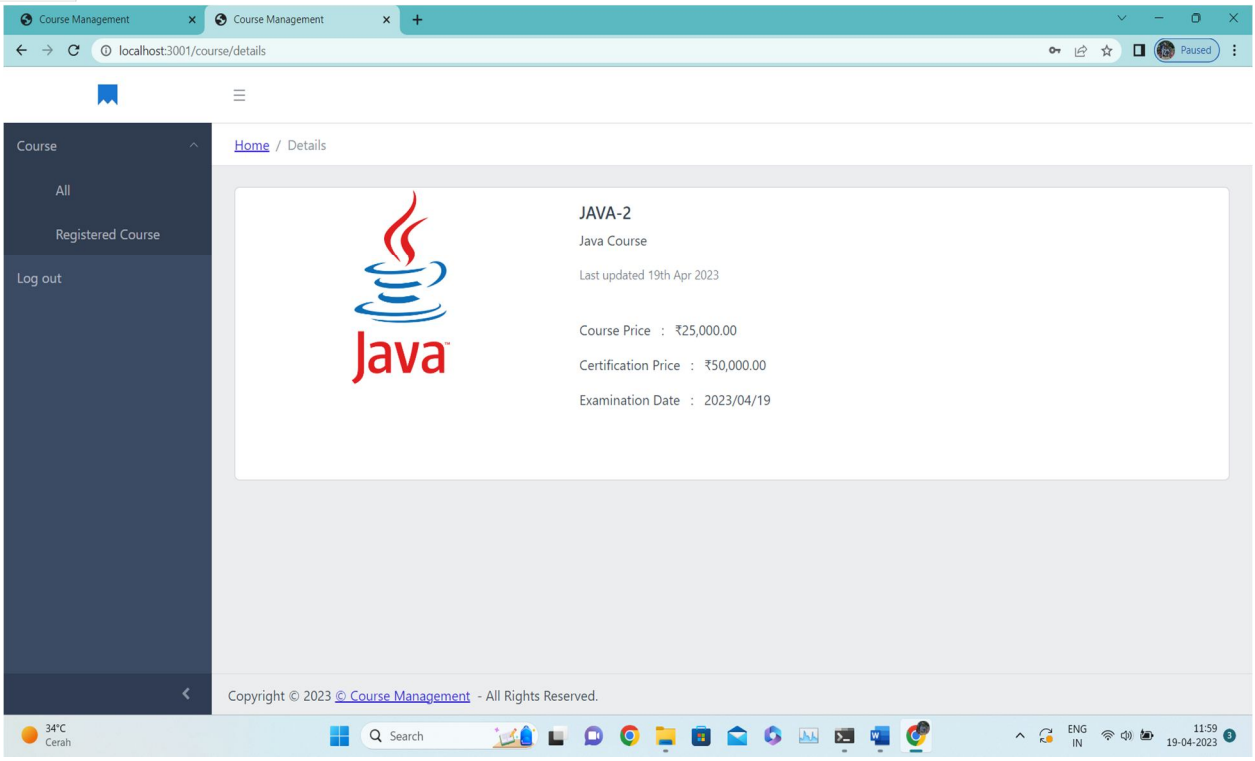


Fig.3 Listed course page

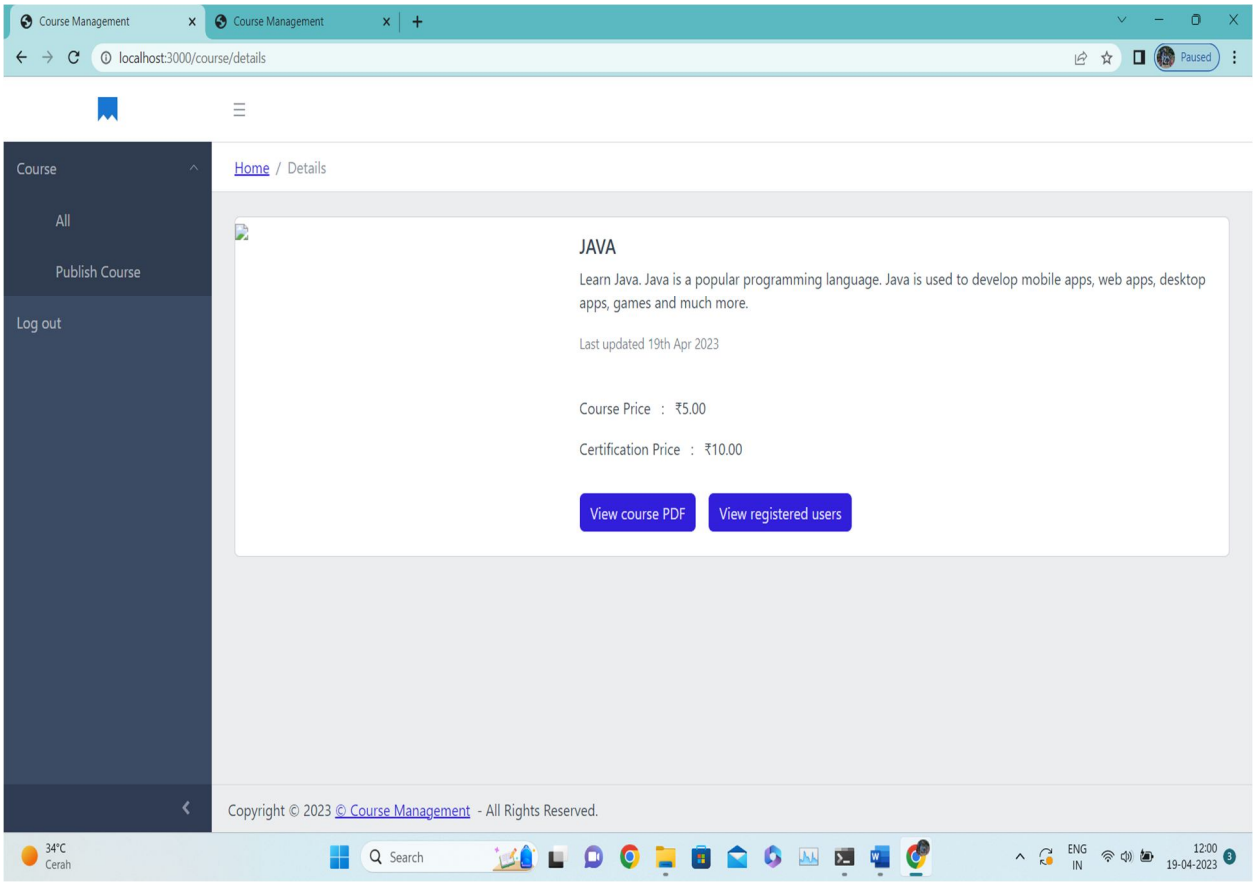


Fig.4 Admin Page for course management

X. CONCLUSION

In conclusion, the online student software certification enrollment system using React and Node.js is a valuable tool for educational institutions and organizations. The system provides a user-friendly and efficient way for students to enroll in courses, apply for certification, and track their progress. Additionally, the system provides administrators with a centralized platform to manage courses, monitor student progress, and generate certificates.

From the literature review, it is evident that there are several benefits to using React and Node.js for the development of such a system. The use of React allows for the creation of a responsive and dynamic user interface, while Node.js enables the creation of a scalable and efficient backend.

Despite the benefits, there are also some limitations to using React and Node.js. For instance, the learning curve for these technologies can be steep for developers who are unfamiliar with them. Additionally, the use of JavaScript on both the frontend and backend may lead to code complexity and maintenance issues.

To address these limitations, it is important for developers to have a strong understanding of the underlying technologies and best practices for their use. Additionally, it may be beneficial to consider alternative technologies or frameworks based on the specific needs and requirements of the system.Overall, the online student software certification enrollment system using React and Node.js has the potential to streamline the enrollment and certification process for students while providing administrators with the tools to effectively manage courses and track student progress.

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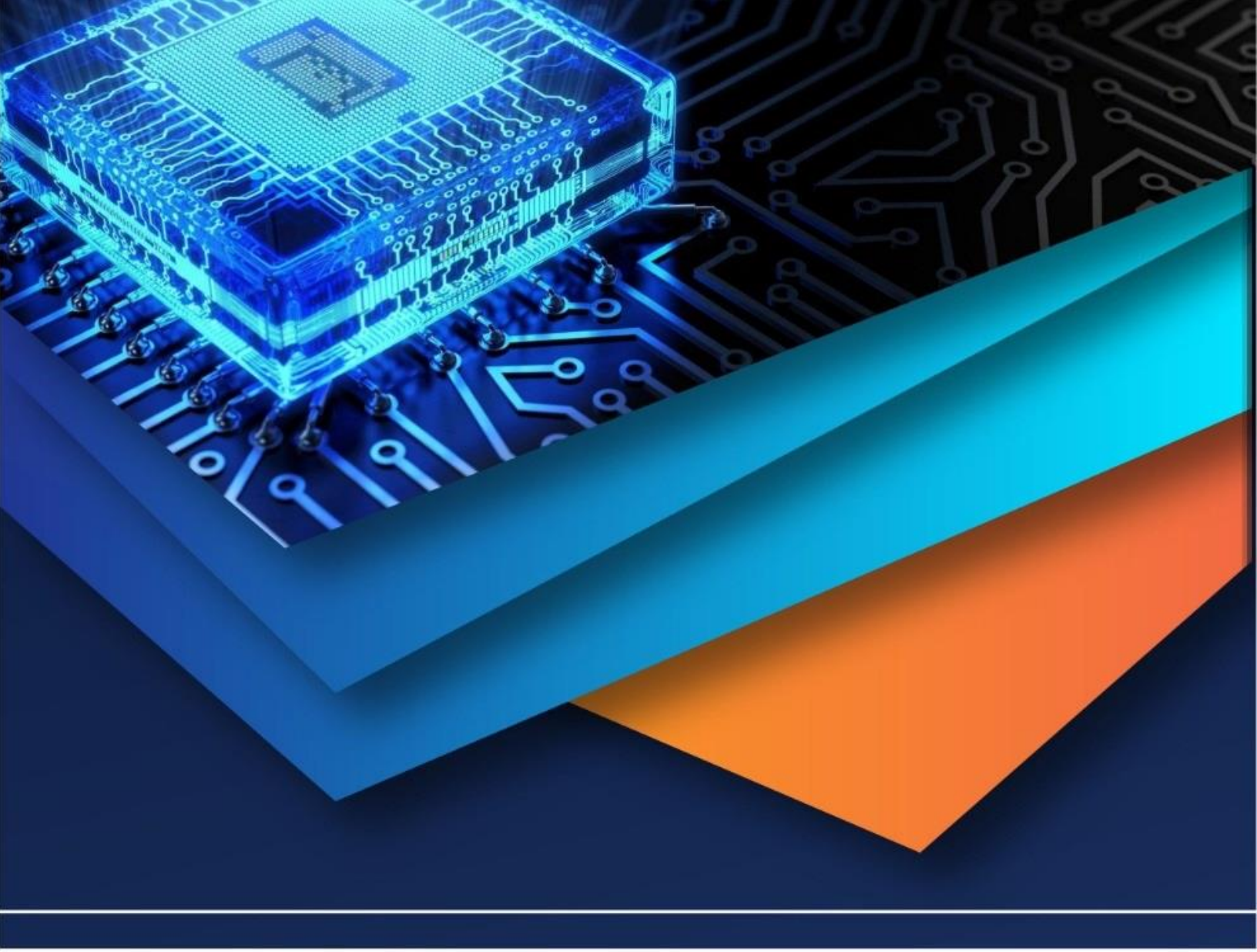
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