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Communify: Website for Intra-College Communication

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Abstract: ***This research paper explores a college website for the college community website - Communify. The main goal of the website is to provide an alternative to other social media platforms where all the notices get cluttered and important notices are often overlooked by the students. The website is designed for the dispersal of college notices, activities as well as activities and events of various college clubs in a systematic and organized manner. The website is also designed such that and academic activities and events are less mundane and more interactive to keep students engaged on the website.***
Keywords: web development, social networks, colleges, forums, community, messages

I. INTRODUCTION

An ever-connected world is the outcome of, and the facilitation for internet-based social networking sites and mobile applications. With the changing nature of teaching and learning in universities, traditional channels of communication as well as incumbent social networks have been felt to be too slow, disorganized, and incompetent at communicating the importance and urgency of messages being delivered. A primary example of this can be last-minute class cancellation/preponement/postponement communicated via WhatsApp would be lost in the endless stream of messages that an average user receives (within WhatsApp) and thus lead to lack of timely communication. As such, avenues of formal communication, mainly e-mails also suffer from the same spamming of messages by college clubs, competition messages and other newsletters. Another major problem involved with these is the inconsistency across domains. Scheduling of college events or change in class schedules are informed via messages, but are not reflected in the college web portal calendar. This means that the faculty that schedules classes is not, by design, informed of their classes being cancelled. This happens mainly due to the large number of college events in which students participate or are invited to, the details of which are not centrally communicated to the faculty. A third problem arises with regards to categorization. The same email address and the college WhatsApp groups that will receive important messages like examination timetable, rescheduling, major events are also the groups that receive hundreds of promotional messages regarding clubs, internships, promotional events, inter-college events etc. As such, one important message can be ignored between the plethora of unimportant, even inconsequential messages. Pertaining primarily to engineering institutes is the lack of automation that can be done in this regard. So many emails and messages can be automated and made consistent to produce a message, edit the timetable and display changes for selected group/groups of students without involving faculties, head of departments, guardian faculties, class representatives and so on. This saves institutes valuable time required in dispersing important messages, puts consistency into action and categorize them as per importance. Another important problem that the platform wishes to address is the problem of consistency. Many college professors use the official website (VOLP) and others use Google Classroom for assignment submission. Furthermore, syllabus is declared on another website (vit.edu) while MCQ tests are conducted on VOLP. Communify wishes to bring submissions, tests, notices and resources under a single umbrella. This will increase visibility of important messages and possibly even compliance with given instructions. This paper discusses the methodology in designing this website. This has been prepared as a concept and has not been deployed to the students yet. We start with surveying and then use insights from the survey to design the website. We now proceed with the front-end development and back-end development of the website to test it out. After this, we carry out initial user testing for a few students in the college. We work on the bugs/inconsistencies reported by them. The authors, encountered all such problems have thus developed a website for intra-college communication named Communify, as college can be thought of as a pool of multiple distinct and overlapping communities communicating with each other. As such, they have implemented chats, posts, calendar, and community forums within this website. The authors have defined two types of users, namely faculty, clubs, and students. They will have differing rights and control over the database and will interact with each other.

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II. METHODOLOGY

A. Survey

The initial hypothesis that was framed was: "Large number of messages on college WhatsApp groups and email make it difficult to read the important messages." This hypothesis was then broken down into multiple survey questions asking the sample user about devices that they use, applications and websites that they use and frequency of the messages received. Some of the questions were:
How many messages do your college groups have in a day approximately? (Numerical answer)
Constant flow of messages on college groups is unhelpful while keeping track of submissions/deadlines. (Agree/Disagree)
Constant flow of messages on college groups is unhelpful for me to read the important messages. (Agree/Disagree)

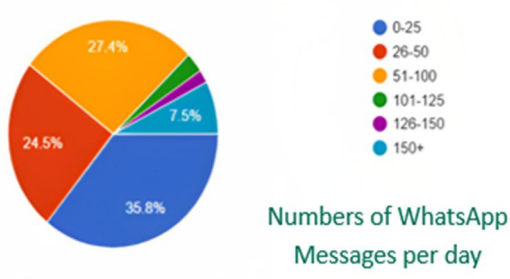


Fig. 1 A pie chart showing responses to the survey Google Form to the question: "How many messages do your college groups have in a day approximately?"

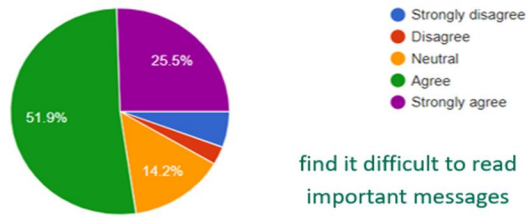


Fig. 2 A pie chart showing responses to the survey Google Form to the question: "Constant flow of messages on college groups is unhelpful for me to read the important messages (Agree/Disagree on a five-point scale)"

According to our survey, almost 60% students receive more than 50 messages per day and almost 80% students agreed that because of this they find it difficult to keep track of important messages.

B. Features

Having surveyed 106 (out of a batch of 1200+) students within the institute, the answers to these survey questions were analysed and converted into feature and design requirements for the website. Feature requirements that were mapped were:
One-way communication channels since most students use personal social media effectively for one-on-one two-way communication with peers

1) Segregation of messages
2) Calendar

Forums for discussions as students within a batch tend to encounter similar questions with respect to curriculum, schedule, and events

C. Prototyping

Now an initial prototype using wireframing was made using pen and paper. After initial discussions, front-end designs were made for a few pages. We finalized on the colour pallet and the members of the team designing front-end began designing other pages.

D. Development

Having discussed problems and solutions, front-end development and database definition began concurrently. Weekly meetings would help maintain synergy between both the prongs of development. Front-end was developed using HTML, CSS, JS and back-end was done using Django framework in Python. Databases were defined, managed, manipulated and migrated in SQLite.

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E. Merging

Front-end, back-end and database were then combined and tested to make a usable website. This was enabled using GitHub, where the authors collaborated and edited their files in a single repository. Python's Django framework was used to initialize the repository after which all the front-end HTML, CSS, JS files were loaded and linked onto it.

F. Alpha Testing

Alpha testing involved showing and asking a select number of candidates to use the website and report initial inconsistencies in design and other programming bugs. These bugs were resolved after being reported and design inconsistencies were cleaned out.

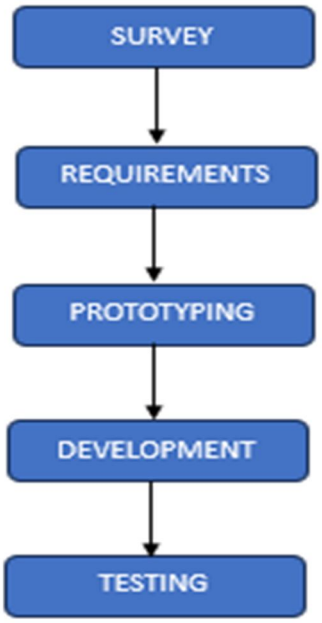


Fig. 3 A Flow diagram detailing the methodology we used for development of this website

III.RESULTS AND DISCUSSION

A. Message Dispersal

A college platform for the communication and facilitation of important college academic, extracurricular notices, club activities and college events in an organized manner

B. Q&A forum usage

A forum for students to ask and clarify their doubts regarding various activities at the college level and exchange ideas regarding academic and project related activities. Since students have common subjects and thus, they would encounter common problems. As such, when such problems are addressed for everyone at once, the forum would increase in usability for the students using it.

C. Posts Interaction

A interactive post system such as liking and sharing posts on the website to make academic process less mundane and more interactive and interesting. This would also be important to gauges the importance of posted content to the users.

D. Safety

To enhance security of our website, google authentication is implemented, which adds an extra layer of safety to our webpage. It also restricts our platform to a particular organization by allowing only users having ids under the administration of organization. For an intra-college website, this is a very viable option.

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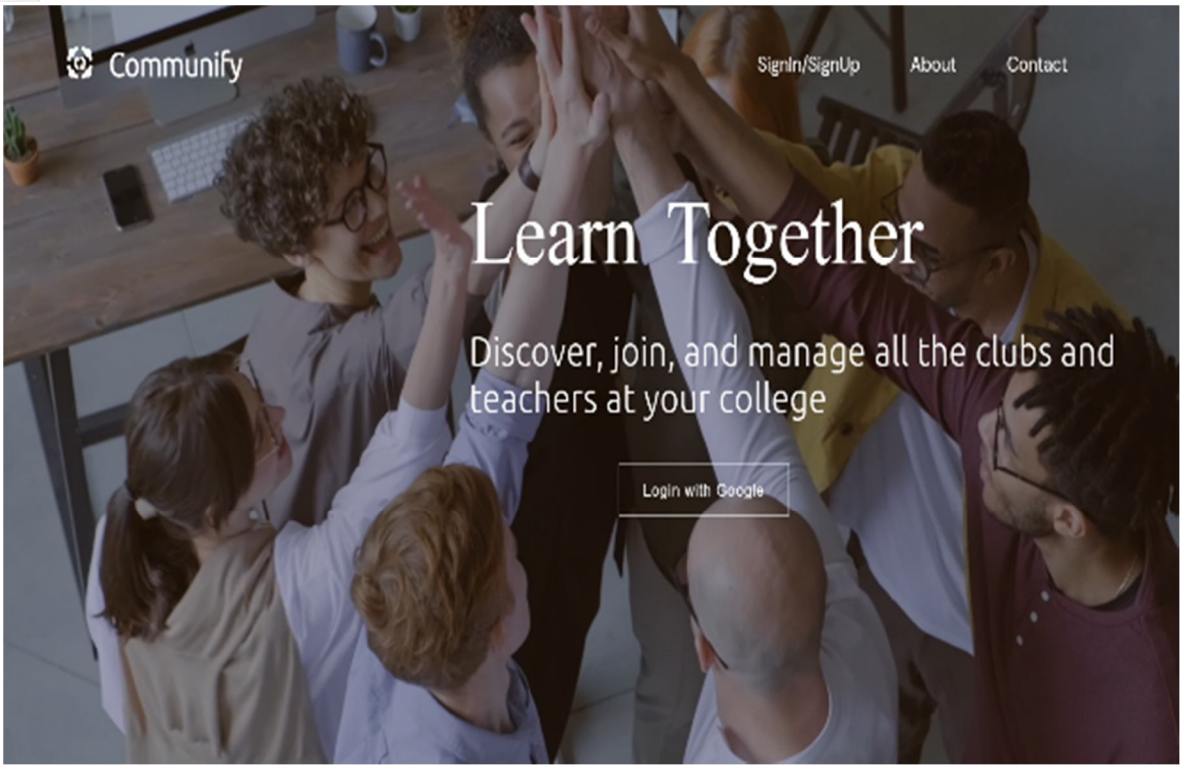


Fig. 4 Homepage of the website

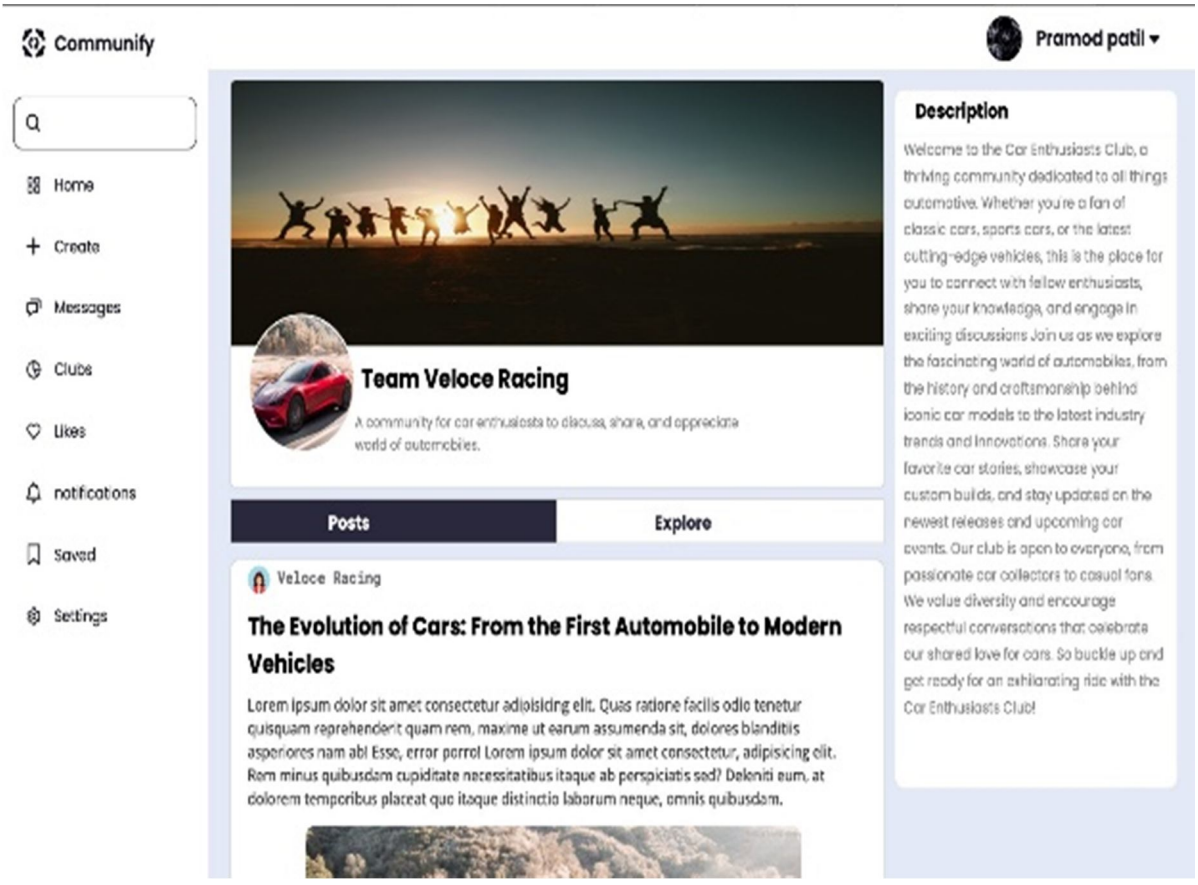


Fig. 5 This is the club landing page, designed for college committees and clubs to showcase their events

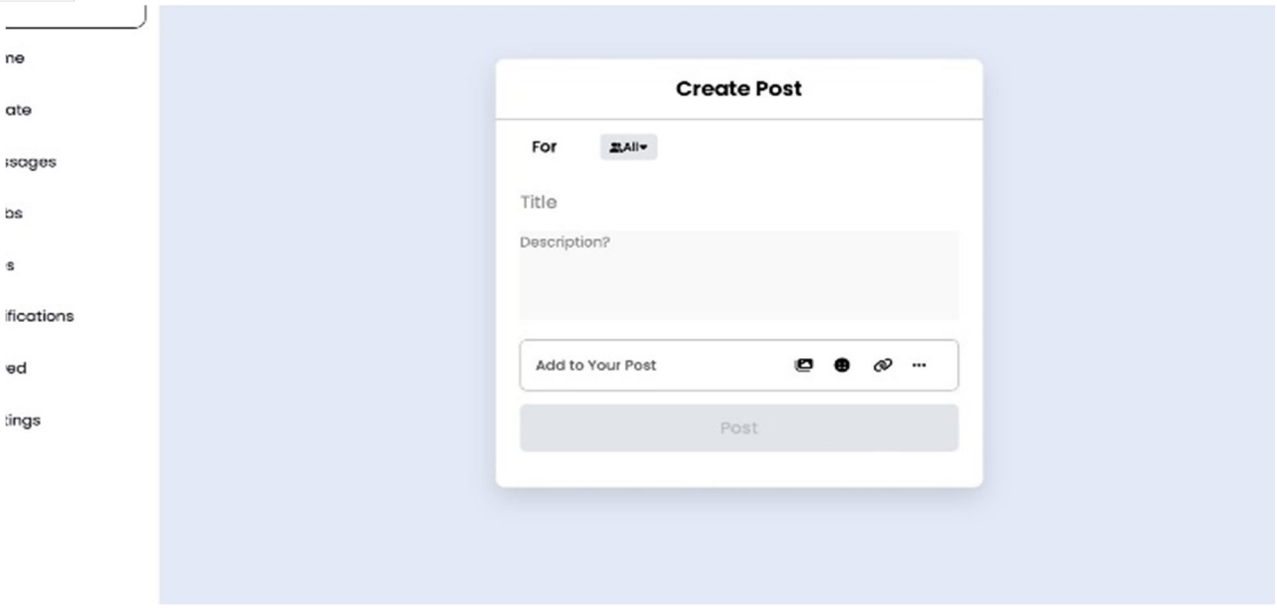


Fig. 6 User interface showing the 'Create Post' feature for all users on the website

IV. FUTURE SCOPE

A. AI-ML Integrations

The collection of large data can be used to apply AI to develop internal chatbots that can be used to access organizational information. It can also be used with ML algorithms to study student's interaction with messages and information and deploy features that increase the efficiency of communication.

B. Merging with Official College Website

Merging the website with the official college website and granting the college admin status to monitor the website and integrate the activities of the website with official website.

C. App Development

The development of a mobile application to provide easier accessibility and better usage can be done. This would increase usability of features like assignment submission.

D. Tests and Assignment Submissions

A centralized platform to conduct and submit tests and assignments given by the college thus providing easier accessibility and efficient storage.

E. Rolling out for other Institutes

Launching the website/application for other colleges. In this case, the website would be deployed as a software service for other institutes to use.

F. Polling Feature

A polling feature so that college can conduct polls so that college can know about the opinions of students on different topics.

V. CONCLUSIONS

Communify is a platform that aims at improving the communication among students and academic institution. It's structured message delivery system organizes information from various sources into categories, ensuring that students receive important announcements, event notifications, and academic discussions in a clear and organized format timely. The platform's user-friendly interface and intuitive navigation enable students to access and interact with messages conveniently.

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We anticipate that Communify will continue to evolve and play a vital role in facilitating effective communication and engagement among students and academic communities. The platform's impact extends beyond structured message delivery, promoting a collaborative and inclusive environment that supports academic growth and community involvement. Communify also supports personal growth by providing a platform to students to learn from each other, exchange their valuable ideas and access multiple resources.

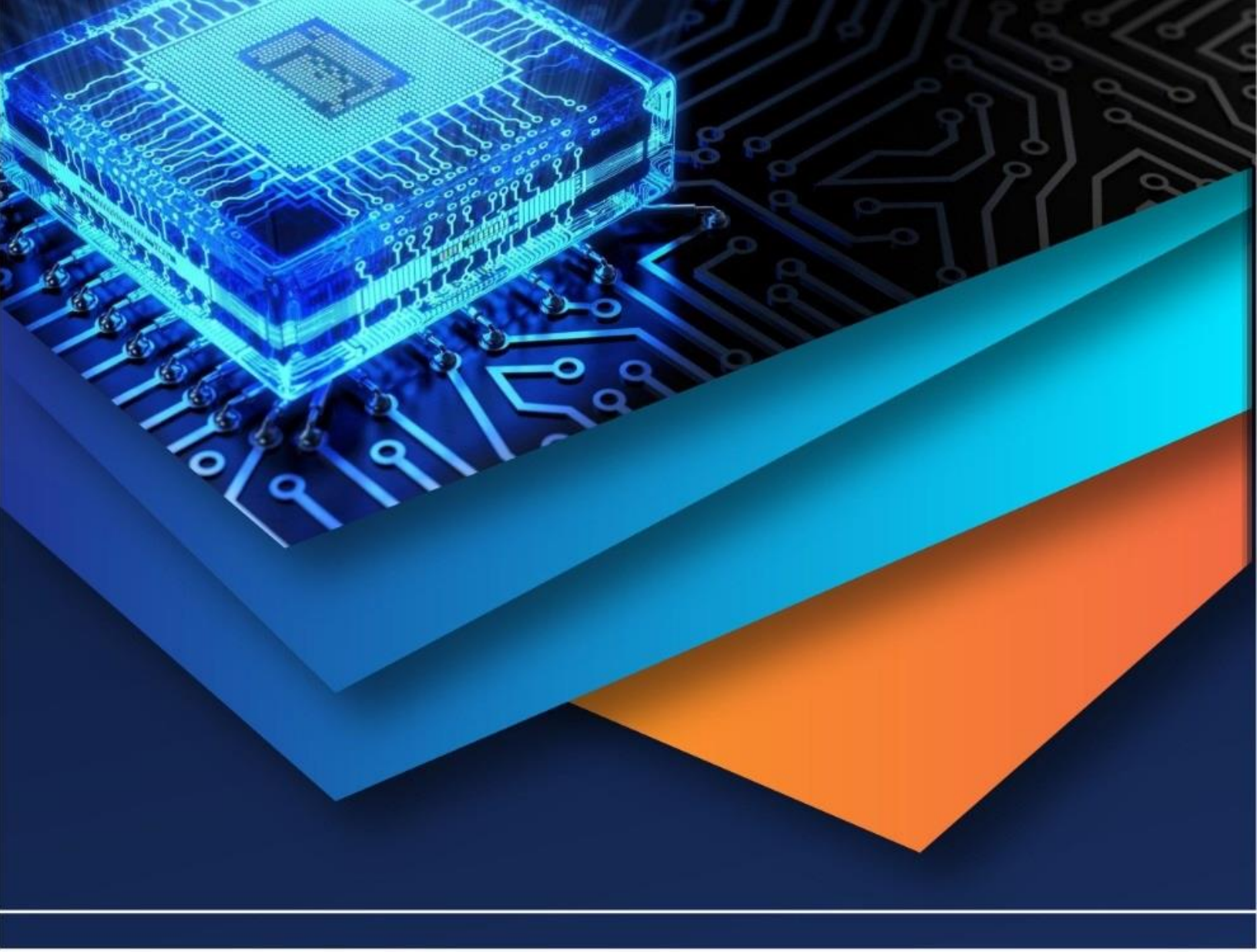
VI. ACKNOWLEDGMENT

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