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Ticket Verification and Passenger Authentication using Encrypted QR Code for Airport Verification System

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Abstract: ***Currently, In most of the Airports in India, airline tickets and passenger identity proof are checked manually at the airport entry gate which can lead to the generation of illegitimate passenger migrations. Many individuals may generate fake identities on airline tickets for bad intentions work, leading to threats for the country. To overcome this problem, we are implementing a system in which the personal identity of an individual will be verified before he/she proceeds for booking and the airline ticket will be verified digitally at the airport entry gate. The process will have an Airline ticket that will consist of a QR code which will be MD5 Encrypted, for ticket validation. The same QR code will be scanned and verified by a secured android app at the airport entry gate by security executives, which will be directly linked with Airline databases. Once the scanning and decryption of the QR code are done, the airline ticket details (PNR) of the passengers will be cross verified with the database, which will confirm whether the ticket is genuine or not. Through this implementation, we can overcome many problems such as fake tickets/ identity time consumption, security anxieties, and many illegal migrations.***

Keywords: QR code, QR Scanner, Android Application, Aviation security, QR code Encryption, UID, Database.

I. INTRODUCTION

People with fake e-tickets have emerged because of the new threat to Old Delhi airport security with thirty such persons being in readmission within fourteen months. The safety at the Indira Nehru Gandhi International airport is at most alert within the wake of the capital of Belgium terror attack and multiple hoax bomb calls received virtually daily. The tickets aren't checked at the entry gates and passengers solely need to show a print-out in conjunction with an identification document. Most of this was caught with tickets that were nabbed once they were exiting the building. several of them couldn't provide convincing reasons for going out once stopped by the safety personnel. it's then that their tickets were checked and located to pretend and were fake. during this case, we might have detected that it had been dangerous for the aviation system; it will damage the airport security and management system, therefore we tend to Implement this project to eradicate this disadvantage from the system.

II. LITERATURE SURVEY

Great amounts of individuals travel through airports daily. That presents likely targets for terrorist acts and various kinds of misconduct due to the number of individuals established in one place. Similarly, the high intensity of individuals on massive airliners will increase the unquestionably high death rate with attacks on aircraft, and also the ability to use a hijacked plane as a fatal weapon might offer a tempting target for terrorist acts (such as throughout the 9-11 attacks). On Sept 5, 2018, a serious security flaw at the Lohegaon International Airport came to notice an overseas distant national managed to enter the Airport by showing a false boarding card at the entry gate of the airfield. So we have designed our system to overcome these issues such as fake verification or identity as well as fake passengers who enter the airport and travel illegally throughout the airport. which creates a big threat to the country. the various issues such as fake ID generation or fake airline ticket or boarding pass which then can create trouble to the airport functioning and can, therefore, lead to different problems and also can lead to terrorism were taking illegal identity different terrorists can travel through India.

III. EXISTING SYSTEM

In the current platform, the airport authority still uses the manual verification technique, where the security in-charge checks the passenger printed ticket and sees all the information is the same as that on his identification card. Identification card includes Passenger's Passport, PAN Card, Aadhar Card, Driving License, Voter ID, etc. But the verification technique is manual where the security just verifies and he validates the passenger is real. Here the officials does not much enquire about the passenger. This system is related to India. Here the more concern is related to the ticket, not the passenger whether he is a fake or real person.

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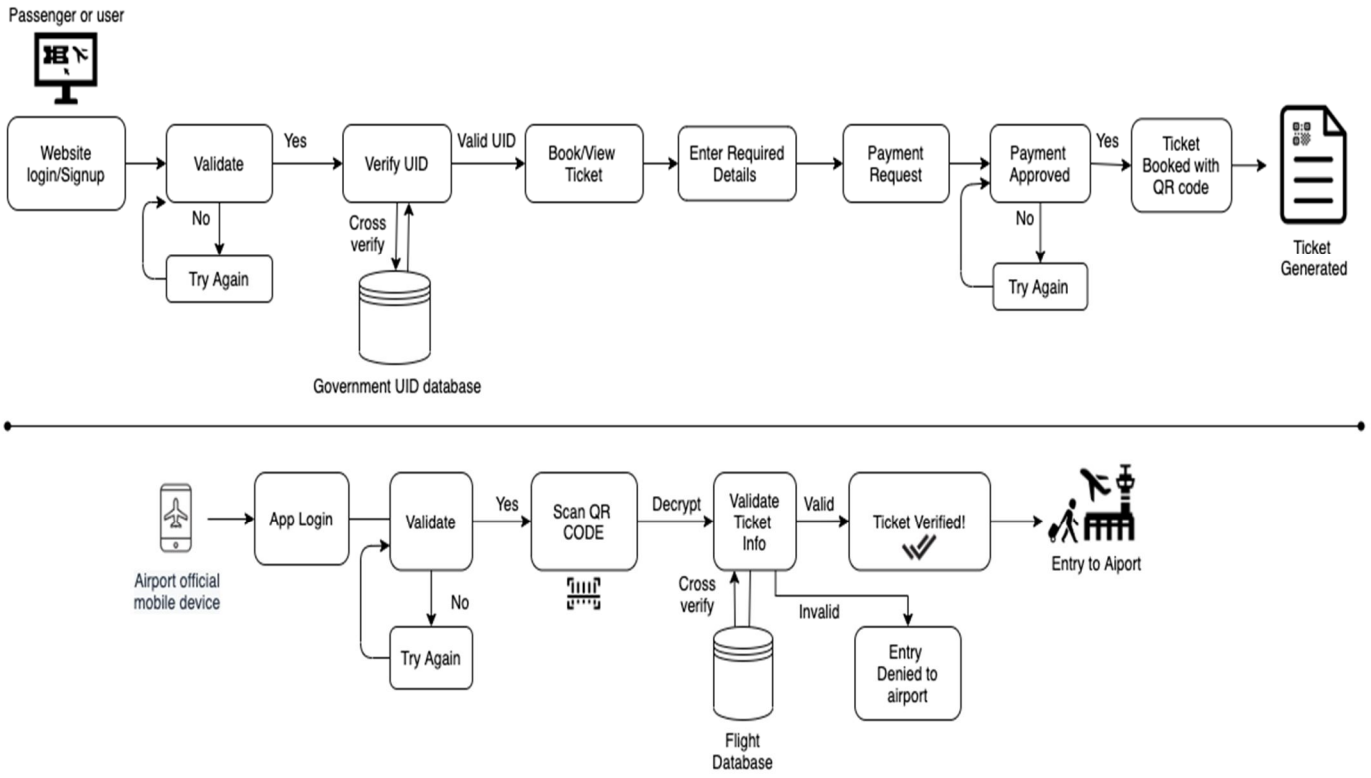
IV. PROPOSED SYSTEM

In the proposed system, we are executing technology that consists of implementing encrypted QR code for the authentication of Airline tickets by using PNR number at the airport entry gate which is to be cross verified with the database. Under this project, there would be a centralized registration system for passengers and verification of passenger identity will be done before booking with the help of his UID details. Post verification of the passenger identity and booking of the airline ticket, each of them would get a unique booking ID (PNR) encoded and encrypted in QR code on the ticket. This QR code will be Scanned and the PNR number shall be fetch to cross-verify with the airline database yo confirm whether the ticket is authentic or not. This verification would be done at the airport entry gate while entering the airport by a secured app. After successful verification, the passenger shall be allowed to enter the airport.

V. WORKING METHODOLOGY

The methodology is implementing the Encrypted QR Code concept on airline tickets for a seamless and digitalized verification process. The QR Code on the airline ticket will consist of the PNR Number used for verification. when the user will log in, before he can book the tickets, he will need to verify his identity by entering his UID first, which shall be cross verified with the government database and validate whether the passenger is authenticated or not. After successful validation, he can proceed to book the tickets, and post-booking, an encrypted QR Code consist of PNR number will be generated on the airline ticket which can be printed. As the QR code is encrypted, it won't be scanned by any regular QR Code scanner app available in the market, as it will be in encrypted form rendered on the ticket. The passenger will take the QR code printed booking ticket or screenshot of it with him and show it to the airport official at the airport entry gate. The airport official will scan the QR Code on the booking ticket with a specialized and secured android application. This Android application will decrypt the QR Code and fetch all the information from it i.e the PNR number. After fetching the number, the application will redirect it to a page, where the PNR will be cross verified with the airline database and the airport departure control system for the correct check-in time of the passenger, and hence, the booking ticket will be verified. In the above stage, if the concern detail i.e the PNR is validated, then the application will notify the same and so the passenger will get entry into the airport.

VI. BLOCK DIAGRAM



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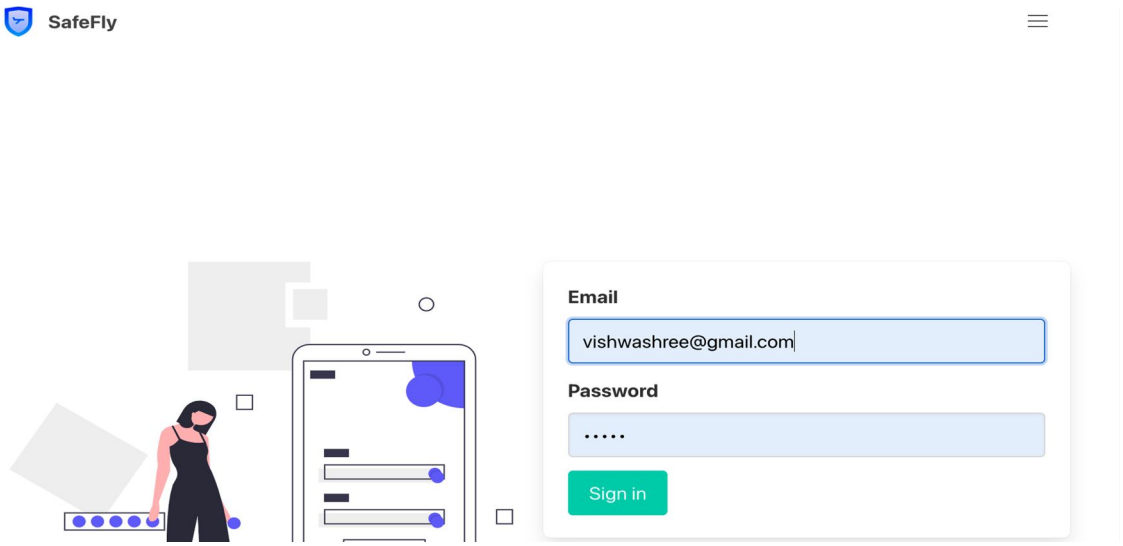
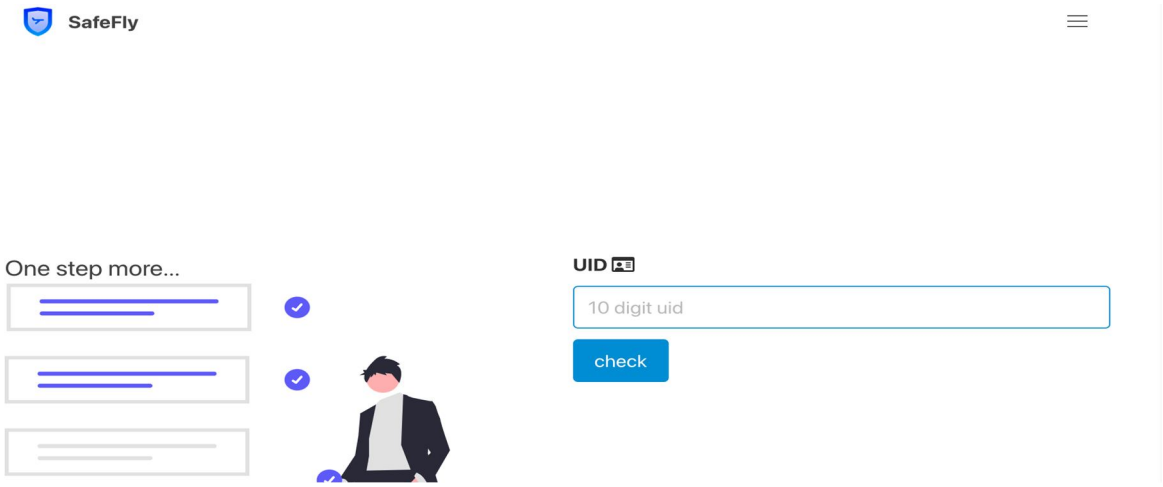
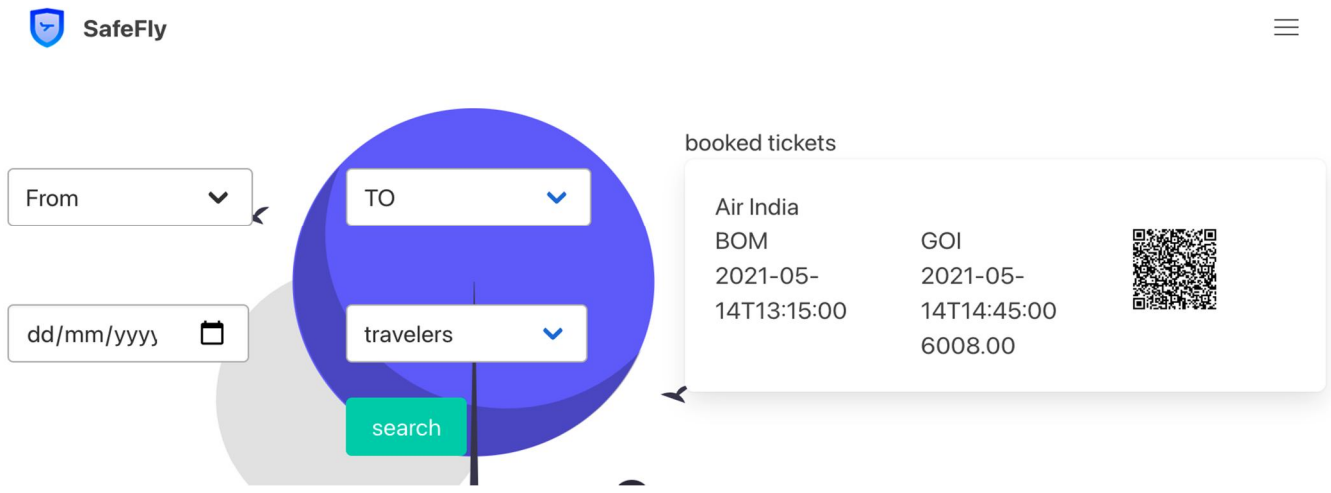
VII. RESULT ANALYSIS



Login Page



UID Verification Page



Booking Page

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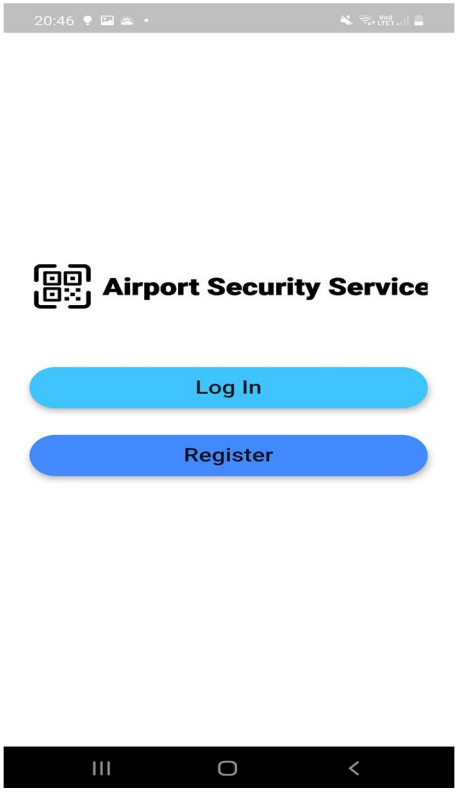
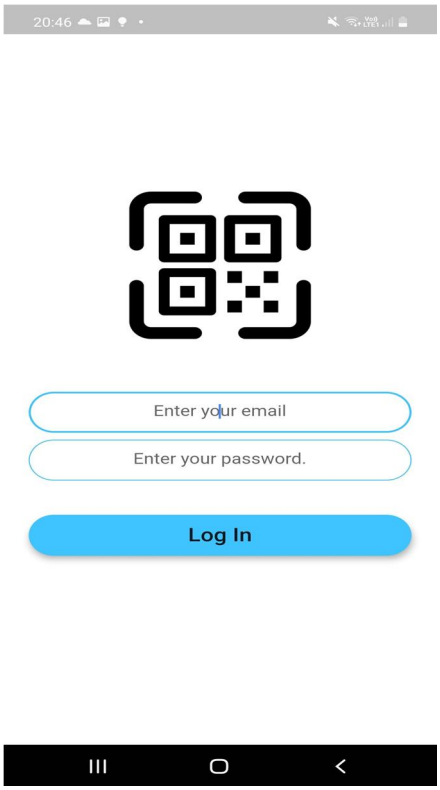
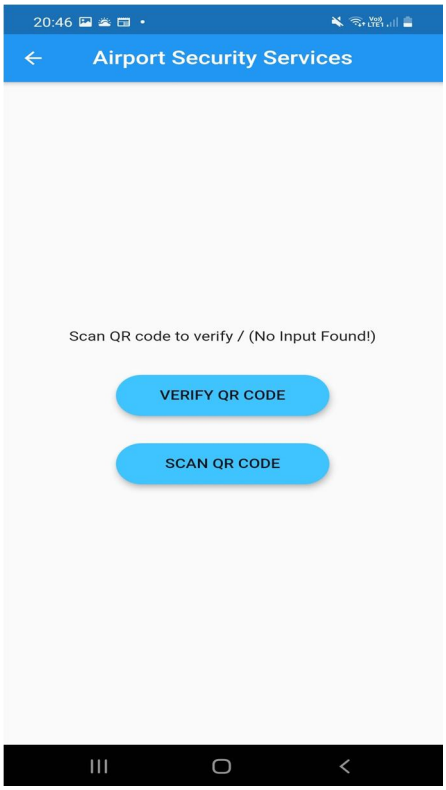
VIII. APPLICATION SCREENSHOTS



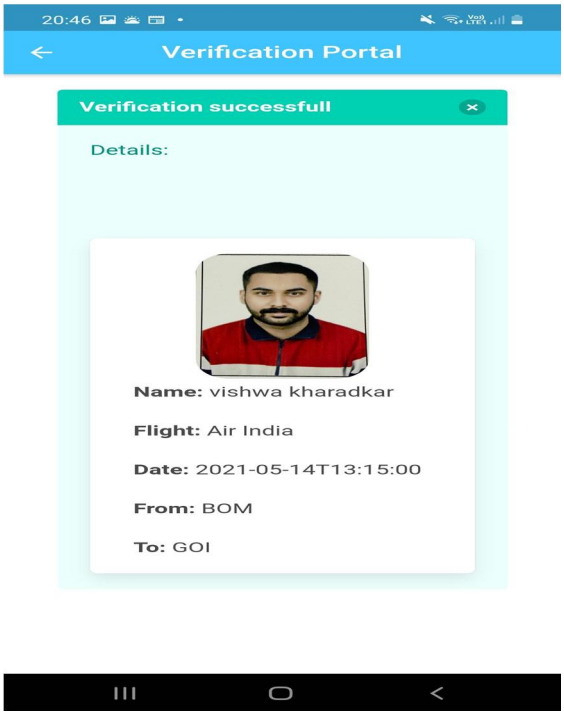
Welcome Screen



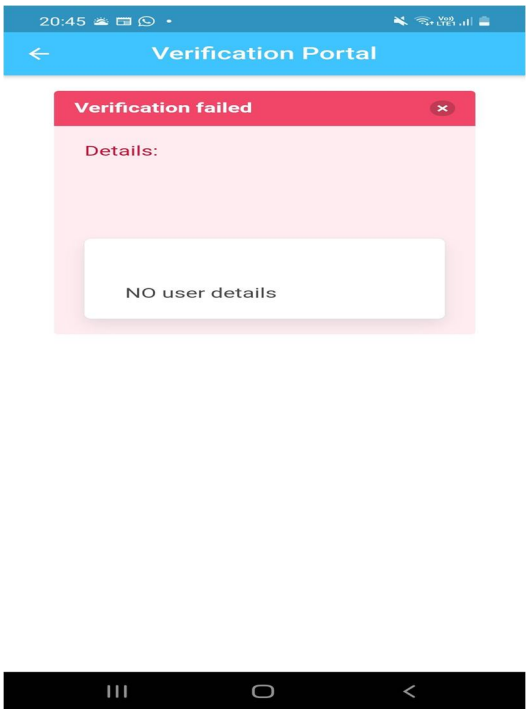
Login Screen



Dashboard



(Successful Verification)



(Unsuccessful Verification)

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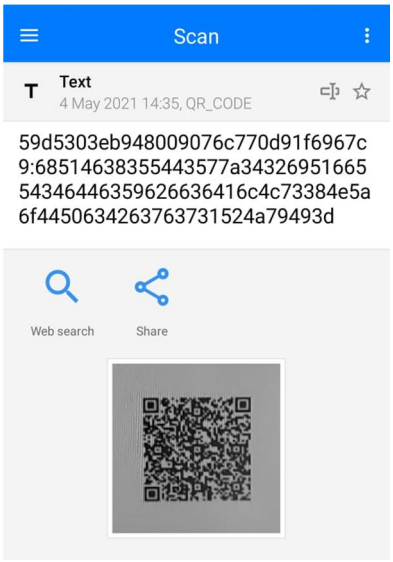

Result By Normal Scanner

IX. ADVANTAGE OVER EXISTING PROJECT

The existing system for verification of passengers at most of the Indian airports is done manually which is very time-consuming and leads to fake identity passenger entry which also makes a problem of customs and other airport procedures as well. By implementing the project, most of the above-concerned problems will be solved. The airport official will scan it and immediately get the real-time output which would be exact and correct authentication. By implementing the project, the process will be very much easy for airport entry officials and less time-consuming will gradually help the airport work more efficiently.

X. CONCLUSION

By using the Encrypted QR code technique for verification and authentication, we can upgrade our Airport Security System to a more advanced level. Applying this Security System, verification and authentication become trustworthy. Using Encrypted QR code technologies for security purposes is reliable and highly accurate. By implementing this system we can overcome many severe crimes like Identity document forgery, Human trafficking, etc. This system will facilitate paperless travel and avoid identity checks at multiple points. This shall also help the aviation system to eradicate various issues such as terrorism threats to passenger security as well as aviation security. Overall this project also helps the smooth functioning and smooth flow of passenger entry verification process with less human intervention and error and in a more fast way. Overall this shall help the country to keep control of security and threats which can be faced by the country or the airport system.

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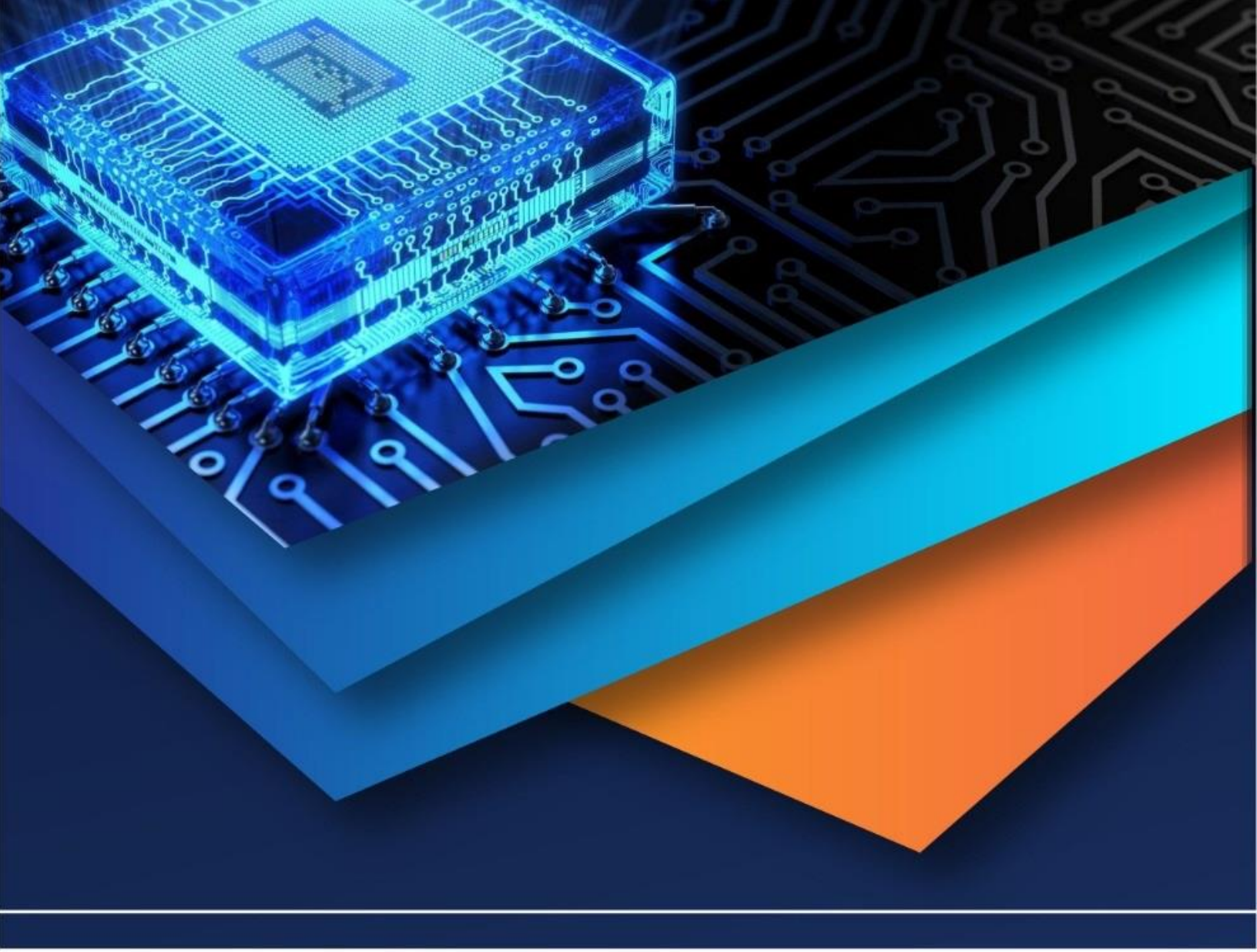

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