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Medicare Professional

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Abstract: ***Smartphones have hit every side and every house nowadays. As a result, people use useful smartphone apps to make their daily lives simpler. The number of smartphone apps relating to physical fitness and the goal of maintaining a healthy daily routine is increasing. In order to provide an accessible health care infrastructure, this paper focuses on designing a smartphone application. By using this app the users can get numerous features/benefits such as login or sign up, medicine reminder, nearest ambulance booking feature, doctor's appointment, search for a specialist, separate medical folder for a patient. The application has two interfaces - Patient side and the Doctors side. The doctor side has features like the- My Patients, Appointments, Profile, Patient's Request, Doctors Calendar. The Patient's side contains - a search doctors, medical folder, my doctors, patient's profile and doctors appointment. Firebase is used as the backend with Authentication for email and password whereas the real time database is used to keep the track of the ambulance which takes latitude and longitude as parameters.***
Keywords: healthcare, fitness, firebase, prescription, HINTS.

I. INTRODUCTION

A fundamental necessity of any human being is health care. The health care system is primarily funded for minimal to no pay by the government. The enormous number of patients makes it impossible for government hospitals to offer quality health services for them. As a result, thousands of private clinics are being set up to satisfy the increasing demand for quality health care for the masses. So anytime you start to take care of a patient, you first try to gather some details for the hospital. In certain situations, this material is not only difficult to locate but also impossible to comprehend. They find it very difficult to choose a suitable hospital, especially when people from rural areas come to urban areas for better health care facilities. In addition, it raises several challenges when comparing a variety of hospitals to find better solutions.

A smartphone application for making health care more accessible for the masses is suggested in this paper. The explanation for preferring android platforms is that in India, the cost of an android phone is affordable and even poor people can afford to get one. In addition, Android phones are popular and they are used without inconvenience by all ages and groups of people. Clinics, inpatient wards, outpatient services, emergency departments, surgical theatres, intensive care units (ICUs), labs, and other clinical sites are all part of the healthcare system. As a result, working in the healthcare system necessitates a high level of mobility among healthcare workers, as well as communication and collaboration among a variety of people, including colleagues and patients. Prior to the widespread availability of cell phones in the 1990s, healthcare workers mostly utilized pagers for mobile communication. During the 1990s, the introduction of mobile Personal Digital Assistants (PDAs) allowed healthcare workers to manage their contacts and calendars electronically, resulting in the addition of another gadget to their pockets. A pager, a cell phone, and a PDA have all been replaced by a single device known as a "smartphone," which is becoming increasingly popular among healthcare professionals and the general public.

The advent of mobile health technology in healthcare administration in recent years has helped to address regional and systemic obstacles and facilitate the delivery of health care. In 2018, on their smartphones, approximately 50 percent of mobile phone users have at least 1 mobile health service. An instrument to assess patient experience in relation to health information systems has been created by the Agency of Healthcare Research and Quality. Evidence has shown that mobile health applications from which alerts and medical details are provided to patients will enhance patient service. A variety of studies have found that mobile health applications can enhance opioid adherence for patients with chronic diseases, monitor eating habits for patients with diabetes, and promote the collection of blood pressure readings for patients with hypertension.

The application will provide Login/Sign-up for the patient as well as the doctor. You need to provide the email and password for the login. The doctor's side window contains the list of patients who have visited him/her. The appointments of the patient that he/she has to take follow up.The model also contains the doctor's profile. The patient's request to accept the appointment. The patients window contains the patient's profile, search for the doctor, patient's medical folder.list of the doctors that the patient has consulted.to book an appointment. Nearest ambulance available. Medicine reminder for patients.

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II. LITERATURE REVIEW

Both medical scientists and tech developers are promoting the development of the mobile app industry with the goal of helping users and patients with exercise and health guidelines [1]. Therefore, professionals from all areas of science work closely to develop wellness apps by experimenting with the steady release of new functionality, often motivated by consumer criteria.The author suggested a mobile application which enables patients to handle data on their vital statistics and communicate the medical details to health care providers[2]. In reality, more than 97,000 health applications designed to measure health parameters (e.g., blood pressure, weight, blood glucose levels, etc.) have been included in the two most common app stores (e.g., Android and Apple)[3]. Paul Krebs[4] found that at least one wellness app was downloaded by more than half of the mobile phone owners surveyed in their report (58.23 percent of 1,604 validated participants). Nevertheless, the researchers found that 45.7 percent of consumers quit using these apps due to high data use, loss of interest, and unrevealed access costs for those who continued to use health apps every day. Furthermore, Krebs et al. observed that the key consumers of health apps are young, skilled, affluent, and stable people by analyzing the details presented by the participants in their study.Jennifer K Carroll conducted a study to examine the social component of the everyday lives of people and how this impacted their well-being in order to provide more facts [5]. They analyzed the responses of a group of participants surveyed who responded to HINTS on everyday activities such as physical exercise, intake of fruit and vegetables and weight loss. They found that gender, age, and education were the most representative social factors (i.e., sex, race, and income) that affected the use of health apps.

Anderson [6] took a different view of the role of smartphone applications in supporting customers afflicted by chronic diseases such as diabetes, asthma, blood pressure, depression, etc., in a recent study. More thoroughly, this report attempts to explain how the use of self-monitoring health apps can lead to extending life expectancy. To this end, they performed a semi-structured interview that exposed the relevance of the usage and feasibility of self-monitoring health and fitness applications available on the market to meet the needs of consumers. Similarly, Sama et al.[7] found that the primary form of interaction depends on a self-monitoring experience in order to test the features of the most common health apps. They picked a representative selection of 400 apps for this review (selected in the Apple iTunes marketplace). The findings showed how 74.8% of the apps examined engage consumers with a target of self-monitoring. In 2016, a systematic literature review was published by Whitehead and Seaton[8] over a span of ten years to clarify the efficacy of mobile healthcare applications in supporting chronic diseases. They found scientific data that suggests the relief of wellness applications primarily for diabetes mellitus, coronary disorders, and chronic lung diseases for long-term illness control.

III. METHODOLOGY

This section discusses how to put the suggested model into action.

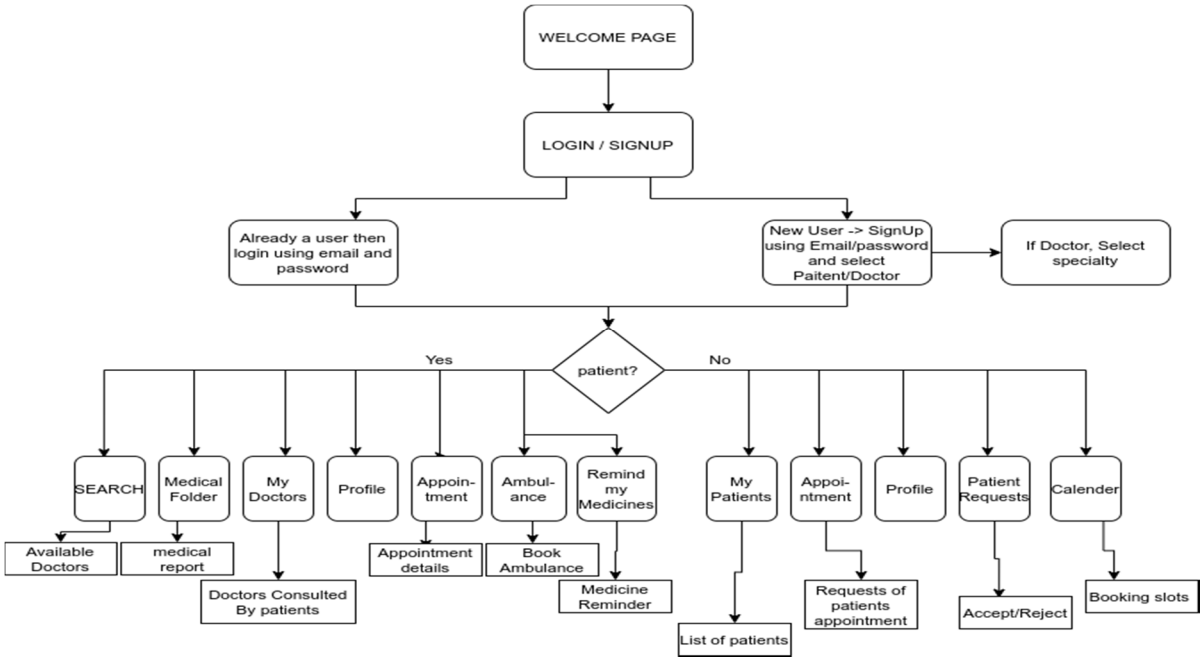


Fig 1: Proposed Model Flow Diagram

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Welcome page - The user is prompted to login(if already a user of the app) or signUp(for a new user) using his email address and password.

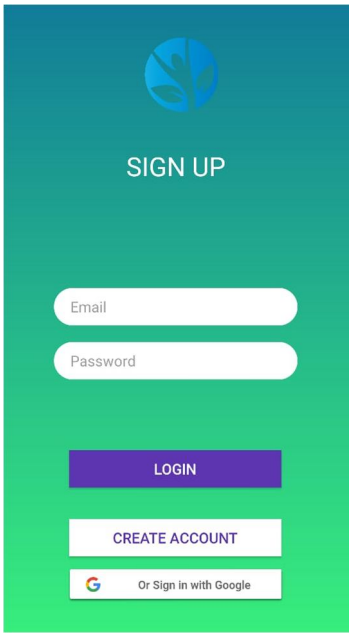


Fig 2. Login/Signup

1) After login, the user will be directed to the homepage of the application. If a user has signed Up, then the user needs to enter his/her full name, birthday and telephone number and select your role i.e. doctor/patient.
2) If the user is "Patient", then he/she gets options like search, medical folder, My doctors, profile, appointment,ambulance and medicines reminder options.

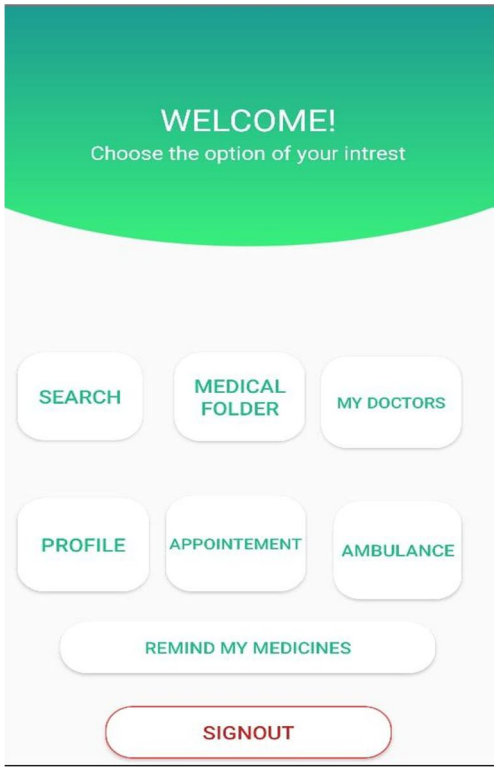


Fig 3. Patient's home screen

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In the "SEARCH" menu, users can see the doctors list. Then after selection of the doctor, the "BOOK" option can be applied to book the appointment with the doctor.

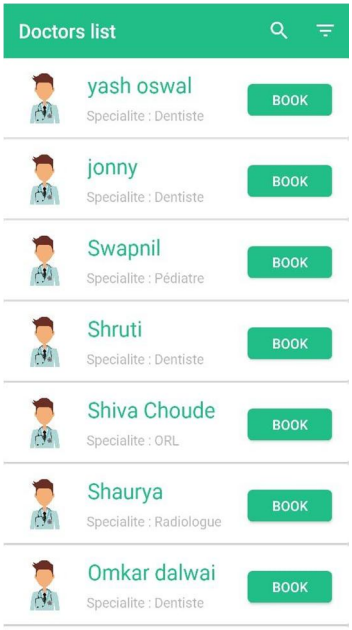


Fig 4. Search Doctor

After booking, the user has two choices whether to go for "Consultation" or "Hospitalization". After confirming the appointment, the patient can book for the slots with the date and time available. At last, it will display the confirmation page. The second option is a medical folder where the patient can see his/her prescription given by the doctor. The next menu is of my doctor in which the patient can see the name of the doctor for which he/she has booked the appointment. Also, the patient can contact the doctor from the contact details. In the profile menu the patient can see his/her details. In the appointment menu the patients can see the status of the appointment booking request with the date and time and status of the appointment whether the doctor has accepted/rejected/checked.

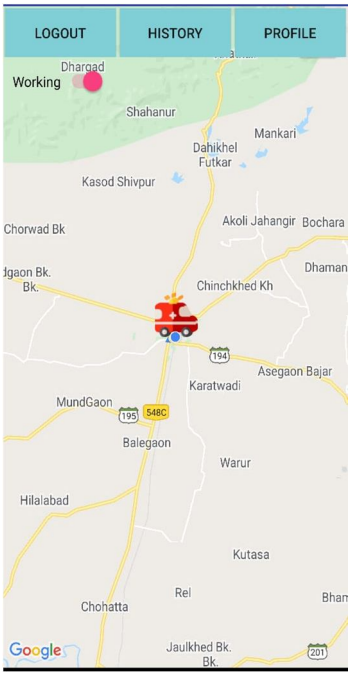


Fig.5 Driver Side

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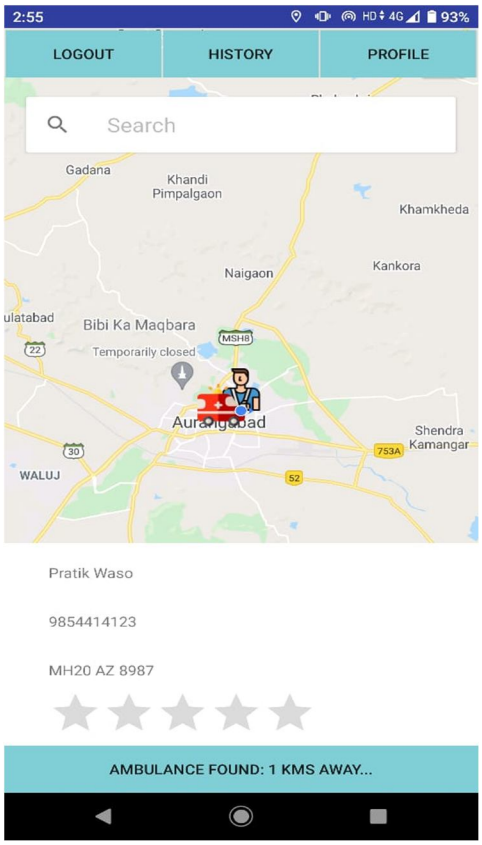


Fig 6. Patient booking confirmation

Another important feature on a patient's side is finding an ambulance where the user can choose the appropriate role i.e whether he is driver or patient. For a patient he/she can find the nearest ambulance and book the ambulance.

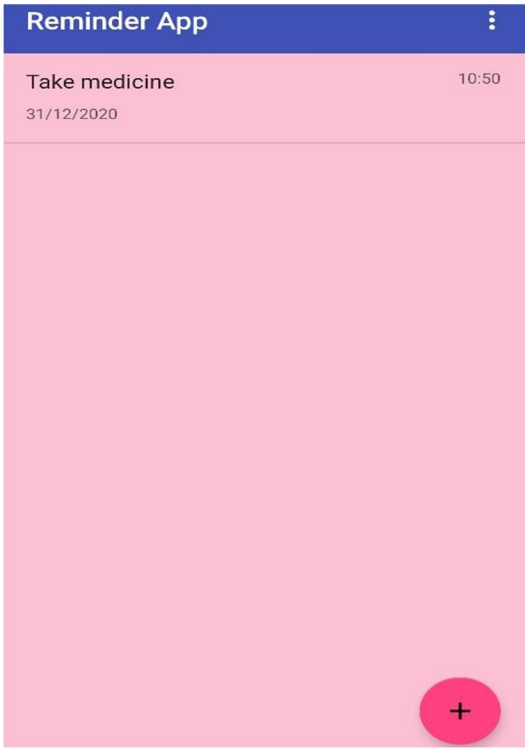


Fig 7. Medicine Reminder

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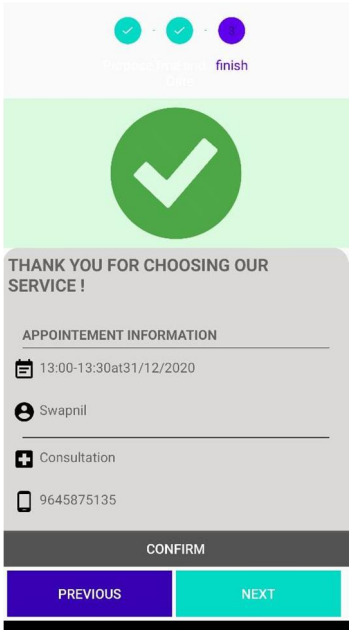


Fig 8. Appointment Confirmation

In the “remind my medicine” menu the patient can set the remainder of the medicine i.e when to take which medicines.

3) If the user is “Doctor”, then he/she gets options like My Patients, Appointment, Profile, Patient’s Appointment Request, My Calendar. In the “MY PATIENTS” section, the doctor can see the patient's name, mobile number, and patient’s medical folder where the doctor can see the prescription, description of the disease and treatment given to the patient. In the “Appointment” section the doctor can see the appointments booked by the patient. In the “Profile” section the doctor can see their own details and if they wish to update it, they can do it. In the “PATIENT’S REQUEST” section, the doctor can approve/ reject a patient's appointment request, as per their convenience. In the “MY CALENDAR” section, the doctor can give their timings according to the available date and time and create the appointment booking slot for the patient.

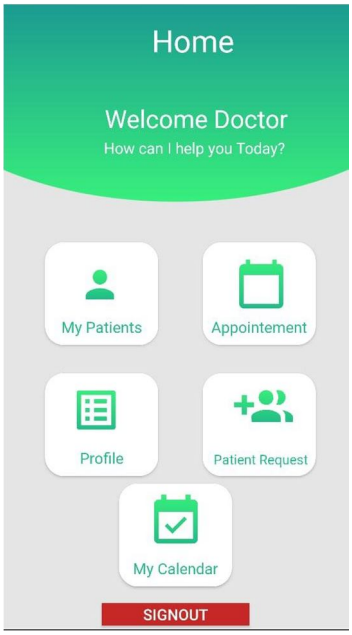


Fig 9. Doctor’s Home Page

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IV. FUTURE SCOPE

Any application or business practice carried out around the world has room for improvement; however, the goal should be to keep the practice as simple as possible so that even a non-technical consumer with no technical knowledge of the field may use it. By using AI and Deep Learning we can create medicare chatbot to get 24*7 assistance. The Patient's Payment transaction feature can be included in this model.

V. CONCLUSION

In this age of science and technology, people are getting ways to solve their daily problems easier and more conveniently. Scientists and experts are now paying attention to health care, and they are creating a helpful framework to save lives and care for lives. This paper illustrates a health care tool focused on a mobile application that can be a friend to the masses like a company. They can use the app to find several conveniences that can alter the way people respond in emergency situations.Instead of being scared, people can find that with the aid of this app, a fast and easy way to get to the solution. We hope to work extensively on this in the future to improve it to a new level for the betterment of individuals, especially the physically challenged people. We're really looking forward to using artificial intelligence to help people recognise symptom-based diseases. Thus, it is hoped that a mobile health care system would be a valuable part of daily life.

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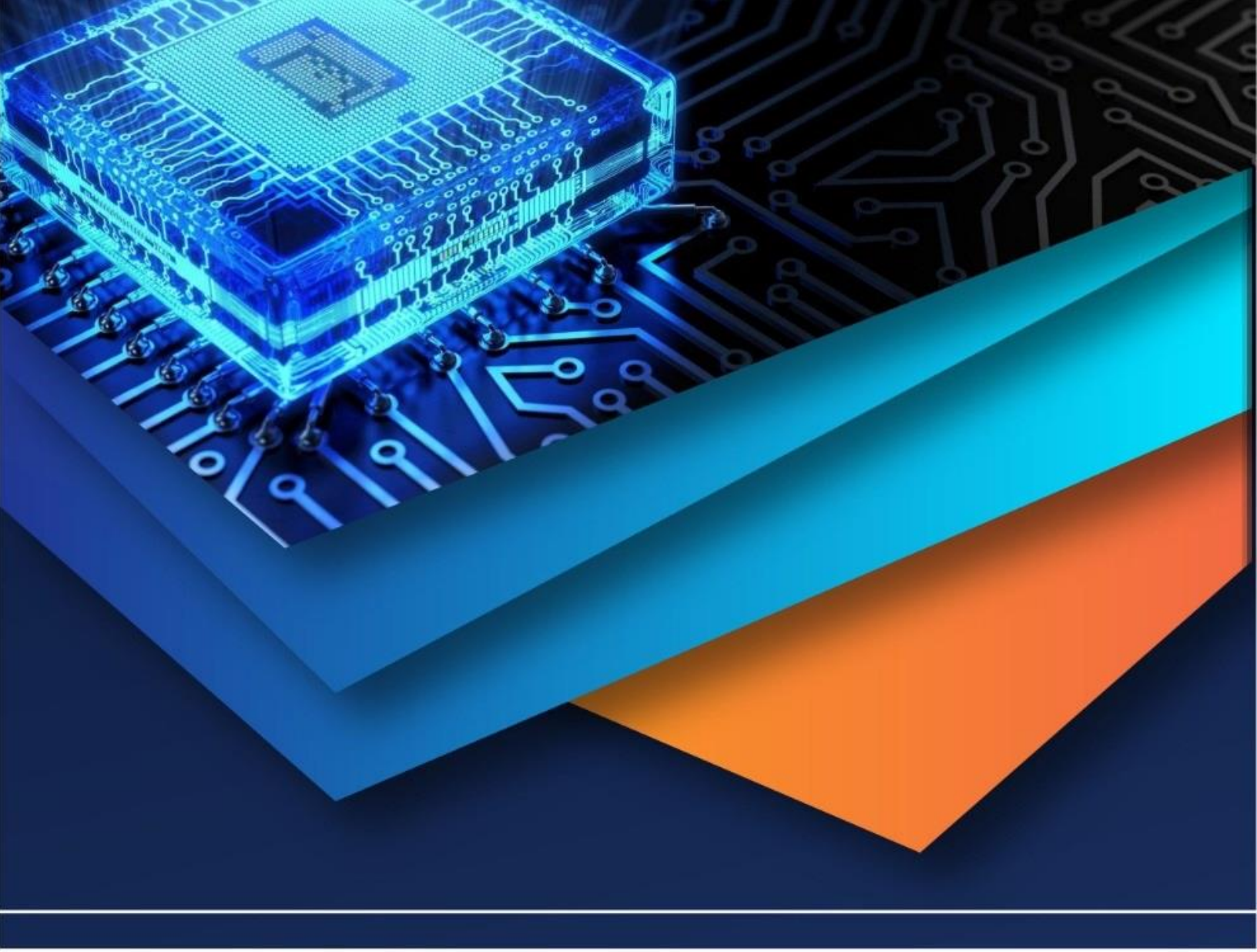
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