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Android Application for Critical Patient Monitoring System

Sindhu Jain[1], Dr. Ravi Kumar G K[2], Kavitha H M[3]
[1]*PG student, Dept. of CSE BGSIT-Adichunchanagiri University, B.G Nagar, Karnataka, India*
[2] *Professor, Head R &D, Dept. of CSE BGSIT-Adichunchanagiri University, B.G Nagar, Karnataka, India*
[3]*Research scholar,Dept of CSE,BGSIT-Adichunchanagiri University, B.G Nagar, Karnataka, India*

Abstract: ***Nowadays Telemedicine is fast developing application for the easy interaction between patient and care-givers where medical information is transferred between them through phone or Internet for the purpose of remote medical examination or procedures. Therefore Telemedicine can be applied to the wast extend in the field of ICU. In this method, the critic patient's vital signs like, heartbeat, body temperature, respiration and blood pressure values are entered into the database .Later then it is uploaded into the web based server and sent to care-givers phone using ANDROID technology***
Keywords: Telemedicine,vita lsigns, ANDROID technology.

I. INTRODUCTION

Critic patient parameters like heart beat,body temperature, blood pressure, respiration and many other parameters have become a common features of an intensive care unit. When there is drastic changes in threshold values occurs at vital-signs collected using non-invasive sensors from such patients in the hospital's intensive units. Care-givers can detect the unexpected life-threatening conditions. We commonly think of a patient monitor as something that watches for and alerts against serious events in patients at critical stage. Patient monitoring can be defined as "repeated or continuous observations or measurements of the patient, his or her physiological function, and the function of life support equipment, for the purpose of guiding management decisions, to make critic interventions, and assessments of those interventions. A patient monitor alerts caregivers, also provide drastic changes in the threshold values used to control directly connected through life-support devices. Here, we discuss how alert message alerts caregivers through network. In the past, most clinical data were in the form of heart beat, respiration, blood pressure but here we include integrating data from bedside instruments which measure body temperature. When there occur drastic changes in the threshold values, the server alerts to the care-givers about the critic stage of the patient. For example, patient monitoring may be performed for diagnostic purposes in the emergency room or for therapeutic purposes in the operating room. Techniques that just a few years ago were used only in the ICU are now routinely used on general hospital units and in some situations by patients at home.

System Model

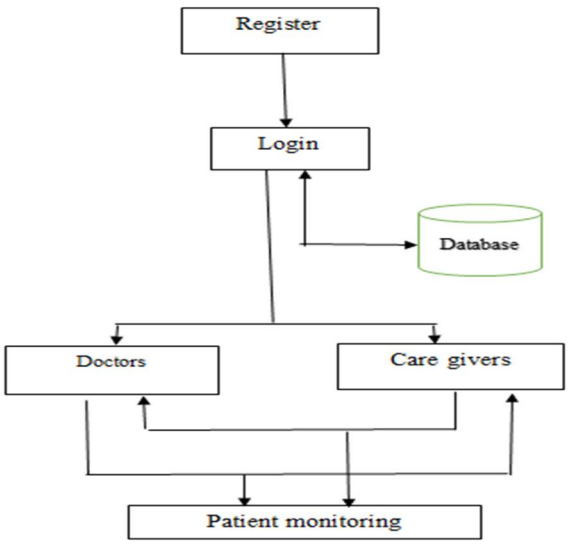

Fig.1: Architecture

1) Update analyzed checkups
2) Register
3) login
4) Refer patients for the day
5) Send E-prescription
6) Register
7) Emergency Notification

A. Web part

1) *Admin:* Professionals in hospital management, also known as health services management, usually have the job title of hospital manager or hospital administrator. They typically coordinate and direct the delivery of healthcare services in a hospital system.

B. Android Part

1) *Doctor*

a) Register by Entering Valid Data Fields
b) Login Using Valid Username And Password
c) Look after the drastic changes about critical patient at ICU.
d) Provide the prescription, if he/she not available at hospital.
e) View Test reports which is send by Referenced Doctors.
f) Send Test Report to doctor with delivery time.

2) *Nurse/Others*

a) Register by Entering Valid Data Fields
b) Login Using Valid Username And Password
c) Consult doctor if he/se is not available at hospital.
d) View Prescription reports which is send by Referenced Doctors.
e) Proceed with treatment as referred by doctors.

C. Modules Description

1) The doctor's information should not be disclosed when patient's record is shared.
2) Sometimes, there may be misuse of this app on the name of doctor. Verification process should be considered to reduce this fault interpretation. Validation of each field is processed.
3) The database should be created with the ambulance information which is accessible by patient on the time of emergency.
4) Alert message arrived to those who logged on to the application.
5) Caregivers insist the doctor's when he/she is not present at hospital during the time of emergency by providing patient health record.

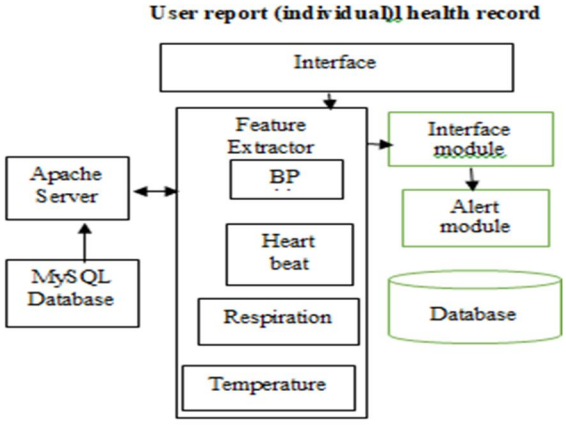

Fig 2: Proposed frame work

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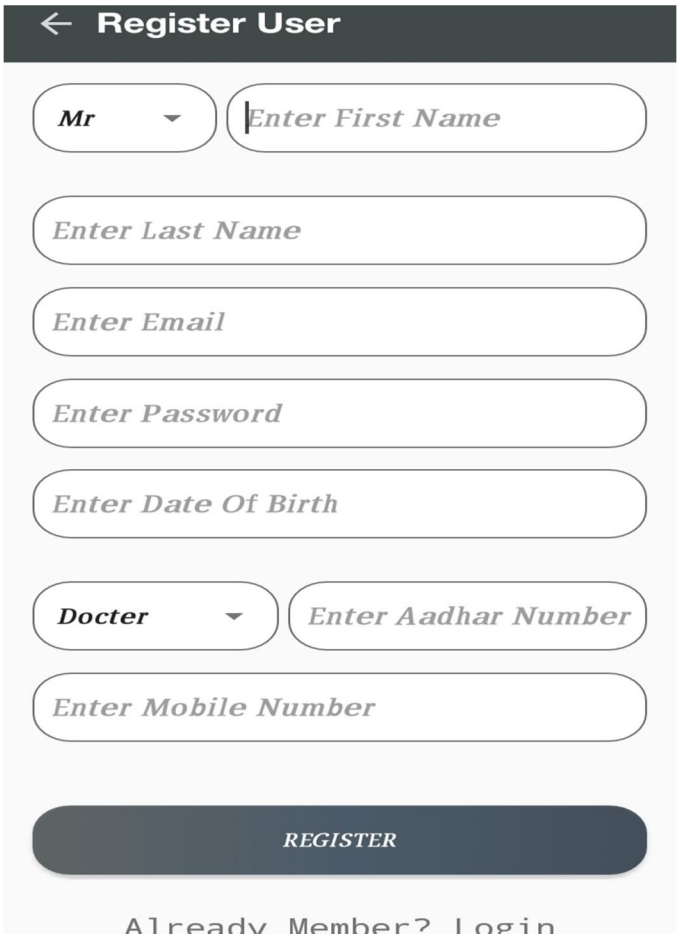
II. SNAPSHOTS

Snapshot 1: App icon

This is the app icon used to represent the ICU Monitoring Application in Android system.



Snapshot 2: Register page.

User can register into the application by providing valid mentioned information

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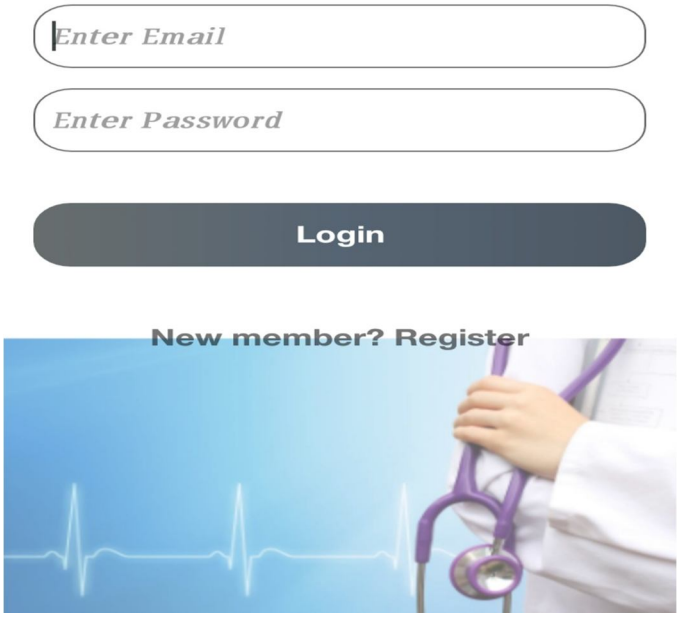
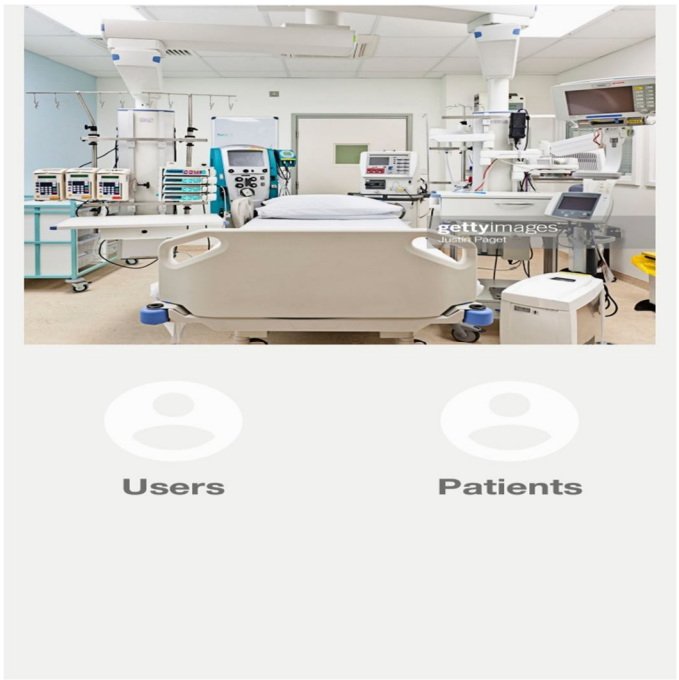


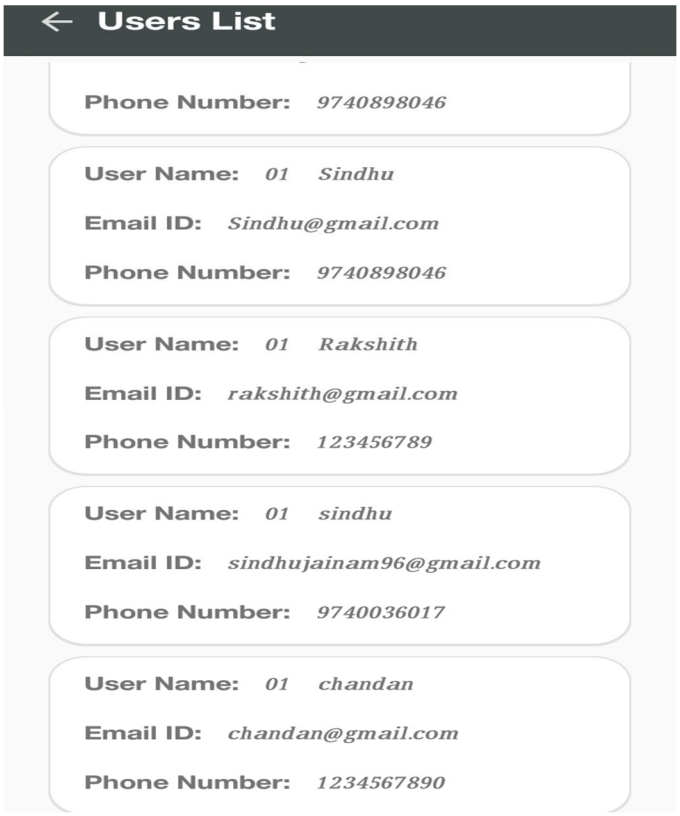
Snapshot 3: User login page.

Registered user can easily logged into the application by providing email id and password.



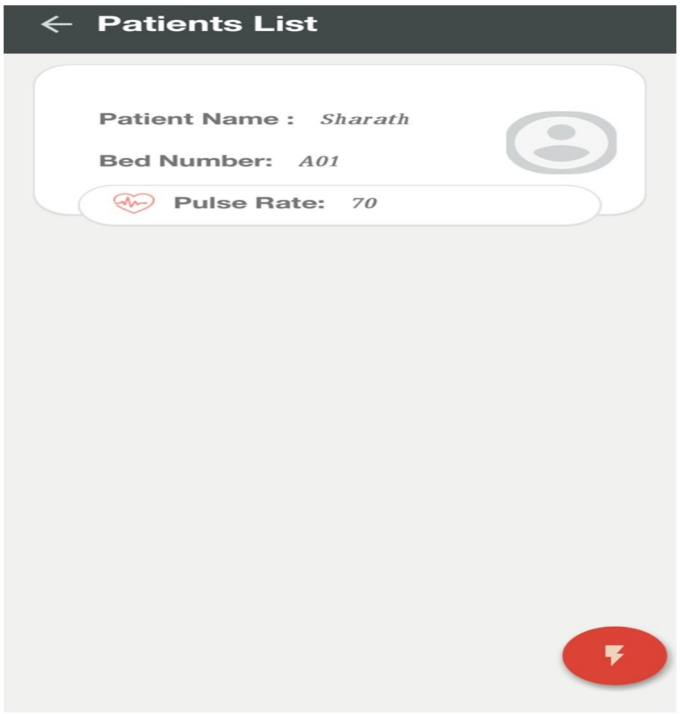
Snapshot 4: user and patient dashboard

Once user logged into the application, can view user and patient dashboard with a image scrolled dash board.



Snapshot 5: User list.

Only doctor and admin can view the user list who logged in to the application with their name, email id and phone number.



Snapshot 6: Patient list.

Care givers can view the patient list with their name, bed number and with their health monitoring values accordingly.

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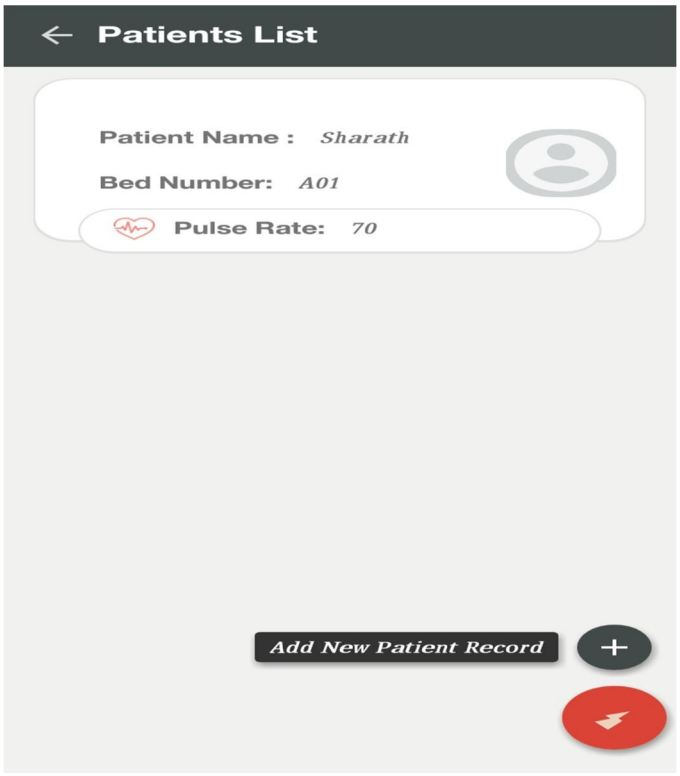
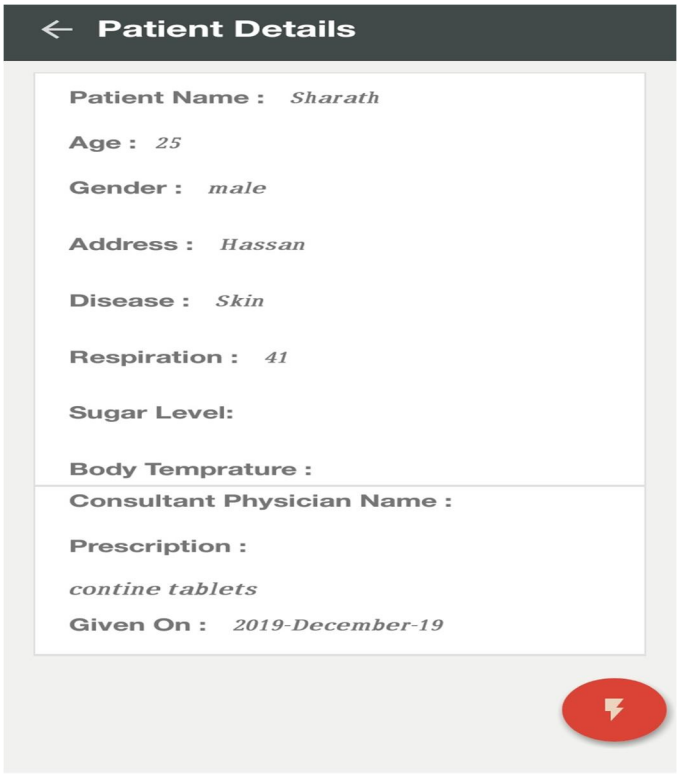


Snapshot 7: Adding patient record by admin and doctor.

Here doctor and admin have the option to add patient records individually with health monitoring values.



Snapshot 8: Individual patient details.

User can view individual patient details with different fields like disease, respiration, sugar level, body temperature, heartbeat.

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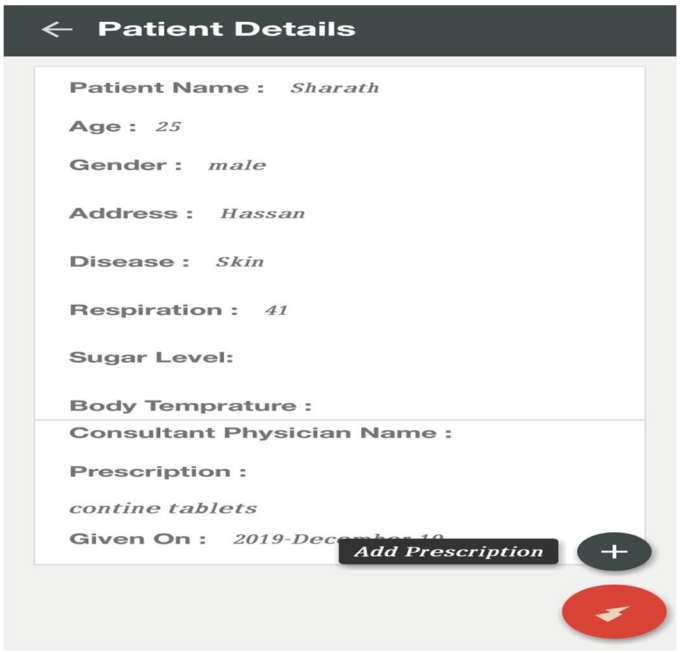
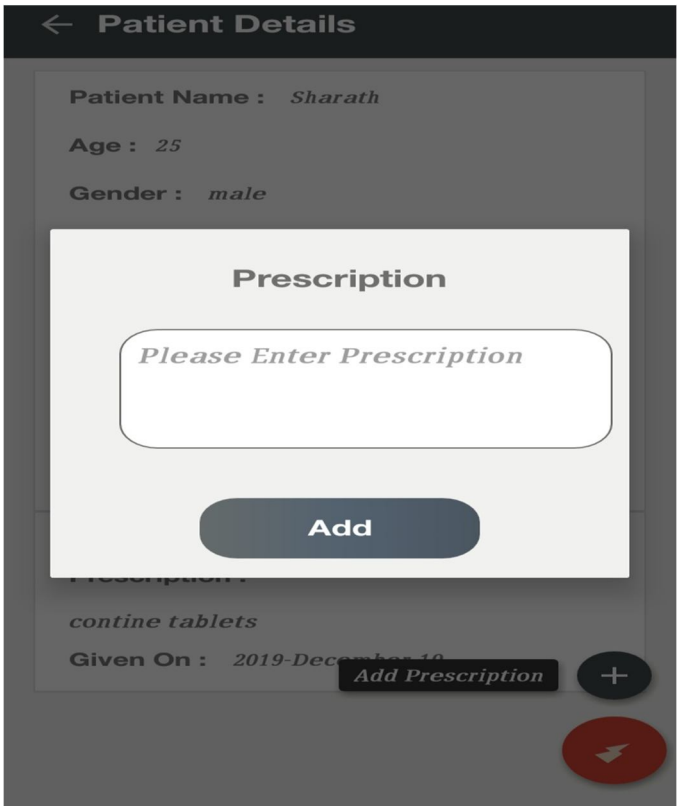


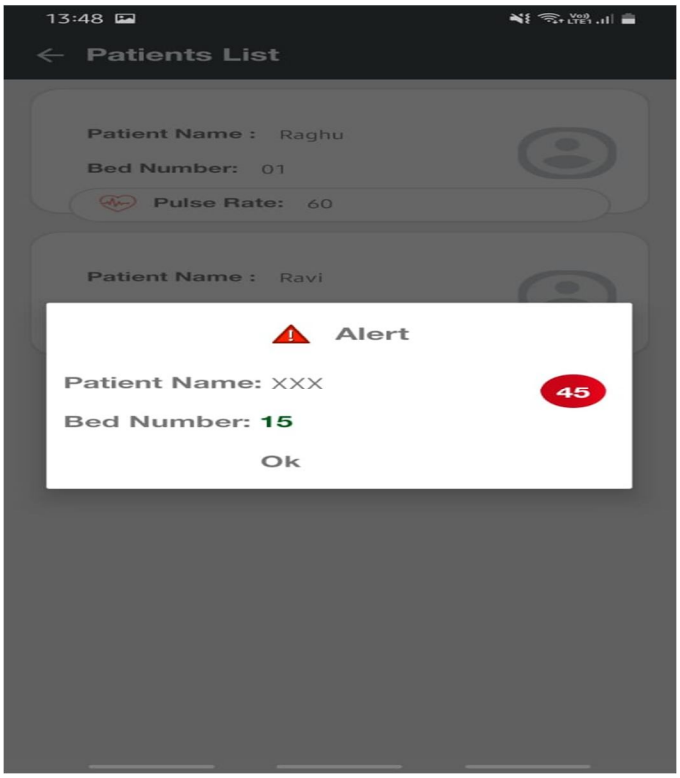
Snapshot 9: Add prescription by Doctor to caregivers.

Here admin and doctor can add the prescription when he/she not present at hospital during the time of emergency.



Snapshot 10: Prescription dashboard.

Here is the dash board for admin and doctor to add the prescription and it can viewed by care viewers who is present at ICU during the time of emergency.



Snapshot 11: Alert message during emergency.

This is how alert will sent to Admin, Doctor and Nurse when there is drastic changes occurred at threshold health monitoring values.

III. CONCLUSION

ICU monitoring system for critic patients is proposed which monitors body parameters like Heartbeat, Body Temperature, Respiration and Blood pressure. It helps caregivers to monitor, provide prescription and store patient's body parameters continuously. On any emergent condition it gives alert message to caregivers. Using Internet, data can be made available for remote use and only to authorized users like doctors for special advice, nurse for follow up doctor's advice, admin for view patient and doctor database information.. Thus, the system can find helpful for the continuous monitoring of the cardiac patients in ICU of hospitals. The use of this system can be extended to care and monitor elderly people staying all alone at their homes and also for baby care. We propose the project to give the patients knowledge and information about disease diagnosis and prevention. Secondly, a reliable and readily available patient monitoring system (PMS). It reduces doctor's presence at the patient and also reduces cost for monitoring ICU patients.

IV. ACKNOWLEDGMENT

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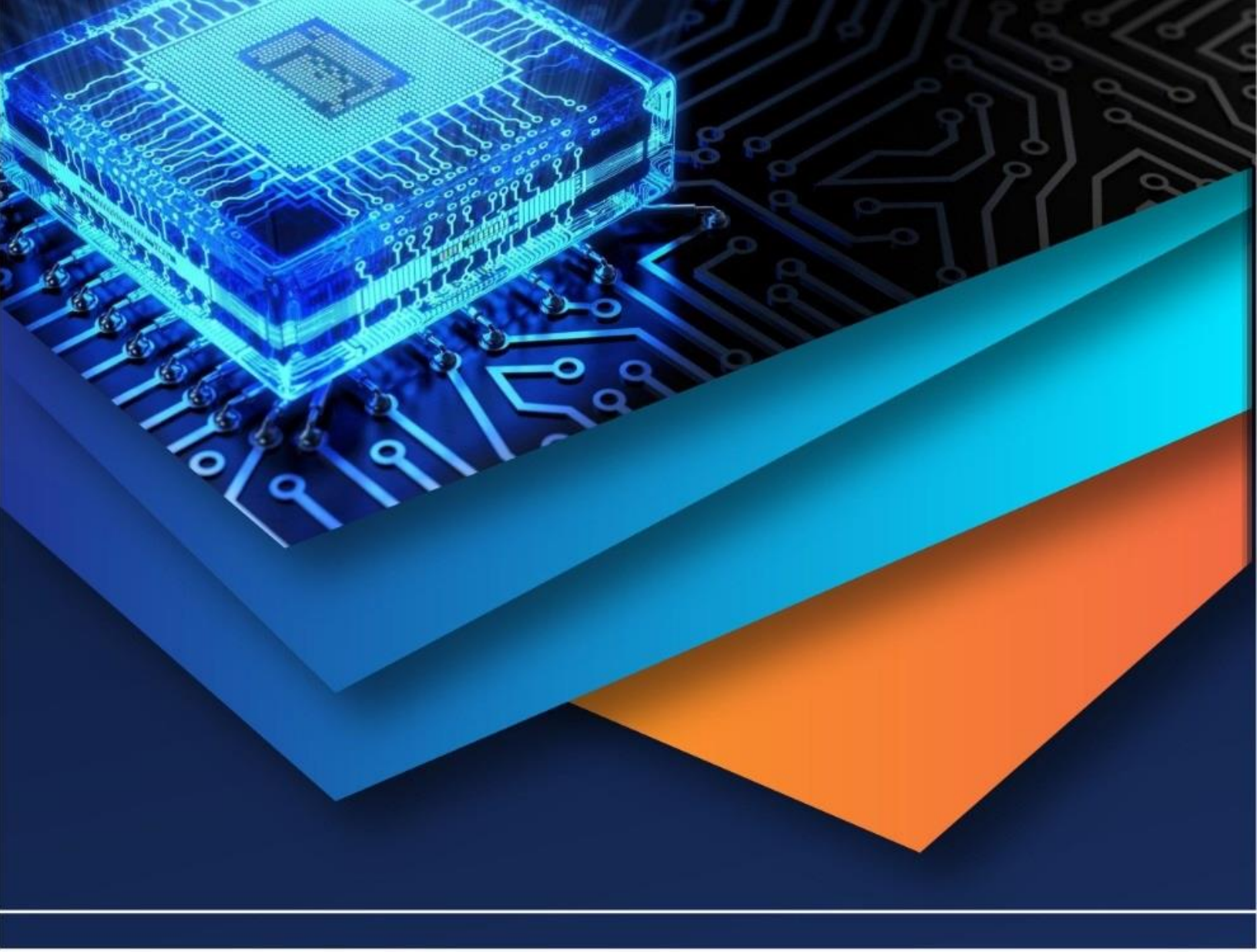

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