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Development of GMVIT College App Using Android Studio

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Abstract: ***The area of mobile technology opens the windows to the android app. It is time to change from the standard websites to the app, which has become part of our daily routine. We are introducing GMVIT.apk the android application software which would be the miniature of our college website. The server allows the faculty to pass the data and the students can download the required documents through the android device. This project is performed for the sake of reducing efforts between both the students and the faculty.***
Keywords: College, mobile, Android, Application, Server etc.

I. INTRODUCTION

The era of mobile technology opens to the android app. The websites are vanishing and mobile phones are emerging. It's time to change from conventional websites to apps, which have become part of our daily routine. We are introducing "GMVIT.apk" the android application software which would be a miniature of our college website. It works not only as a website, but also it can work as a small college Management software.

Our multipurpose program is considering the user as either a GMVITians or Non-GMVITians, student, faculties, or office staff individually. The project gives a total solution to everyone.

The application becomes also a Mobile version of our official website. It gives us more comfort and a better user interface. It acts as an overview of the campus to non-gmvitians like the college history, departments, faculties, etc, and major events conducted. It acts as a college assistant for gmvitians.

The latest news and updates about college are got through notifications. Department organizations can invite or make publicity for their events. It is also useful for the parents to communicate with college authorities, faculties, etc. students can interact with faculties. The android application app is also a navigator. The application gathers your current location and shows the exact route to the GMVIT technical campus to access the GPS.

II. PROBLEM STATEMENT

Now we have a website for our college and it is not user-friendly. We need some browser to access it, so it is time-consuming. And also, we have some difficulties which arise while searching for specific information. In order to overcome these difficulties, so we go for a simple and user-friendly app.

GMVIT college already has a website, but many users cannot understand how to access the required information. The college information and notifications are currently viewed only official website. It is difficult to check the notifications through mobile phones and notifications through mobile phones and notifications can only get by accessing the website.

Nowadays every facility is available through its respective apps. So, for this reason, we created this application to provide basic information because users also depend upon Android applications today.

III. OBJECTIVES

1) Providing the online interface for students, faculty, etc.
2) Increasing the efficiency of college record management.
3) Decrease the time required to access and deliver student records.
4) To make the system more secure.
5) Decrease time spent on non-value added tasks.

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IV. LITERATURE SURVEY

Lalit Mohan Joshi , et.al. 2015, This paper is being developed for associate degree engineering faculty to keep up and facilitate quick access to info. For this, the users should be registered with the system when they'll access further modified information as per the permissions given to them. CMS is an associate degree computer network primarily based application that aims at providing info to any or all the degrees of management within a company. This method is often used as a knowledge/information management system for the school. A given student/staff (technical/Non-technical) will access the system to either transfer or transfer some information from the information.

Shipla Hamale , et.al. 2014, This paper assists in automating the present manual system. This can be paperless work. It is monitored and controlled remotely. It reduces the personal power needed. It provides correct info invariably. Malpractice is reduced. All years of gathered info are saved and may be accessed at any time. The info that is kept within the repository helps in taking intelligent choices from the management. Therefore it's higher to possess an internet-based mostly info Management system. All the stakeholders, schools, and management will get the desired info directly. This method is crucial within colleges/hostels and universities.

S.R. Bharamagoudar et.al. 2013, In this Paper the robot-primarily based Mobile field is developed to supply students with info concerning library due dates, any placement activities, general notices, attending and marks details. This info ought to be provided to students in an exceeding price-effective means. Therefore to realize an equivalent, we've got developed this application, whereby students will access this info victimization on their robot-enabled mobiles. The mode of communication is a robot. Students needn't line up close to the board/go surfing the varsity we website or any of the higher-than-mentioned details. Simply acquire the proximity limit of 1 of the numerous out there robot points and explore the service.

Zhi-gang YUE, et.al. 2010, This paper discusses the maneuver of management data in instruction. On the thought of a Comprehensive investigation and analysis of scholar management in instruction, we have a tendency to tend to ascertain the models of the varsity students' management data by adopting advanced data technology and constructing the scholar management data platform. Moreover, we have a tendency to tend to investigate the characteristics of information management in instruction and elaborate the ways to unravel the difficulties endeavor at intervals in the scholar's management of higher education. Finally, the key methodology and technology to carry out the information management platform unit are given.

The system offers responsibility, time savings, and straightforward management. Students and their oldsters also will read results, group actions, and information detailing the mistreatment of this application. Additionally, students will read details, and notifications anyplace and anytime. The application can greatly change and speed up the result preparation and management method. It provides high security and a system that reduces the work and resources needed in ancient methods. The projected system provides a new means of computing and displaying operations with a responsive and enticing user interface. Thus, on the idea of a literature survey and by analyzing the prevailing system, we've got come back to the conclusion that the proposed system won't solely aid the automation to the faculty, but also will facilitate to digitalize the system and successively facilitate to deploy resources of with efficiency.

V. EXISTING SYSTEM

Now we have a website for our college and it is not user-friendly. We need some browser to access it, so it is time-consuming. And also, we have some difficulties which arise while searching for specific information. In order to overcome these difficulties, so we go for a simple and user-friendly app. GMVIT college already has a website, but many users cannot understand how to access the required information. The college information and notifications are currently viewed only official website. It is difficult to check the notifications through mobile phones and notifications through mobile phones and notifications can only get by accessing the website. Nowadays every facility is available through its respective apps. So, for this reason, we created this application to provide basic information because users also depend upon Android applications today.

A. Limitation of Existing System

Now we have a website for our college and it is not user-friendly. We need some browser to access it, so it is time-consuming. And also, we have some difficulties which arise while searching for specific information. In order to overcome these difficulties, so we go for a simple and user-friendly app.

GMVIT college already has a website, but many users cannot understand how to access the required information. The college information and notifications are currently viewed only official website. It is difficult to check the notifications through mobile phones and notifications through mobile phones and notifications can only get by accessing the website.

Nowadays every facility is available through its respective apps. So, for this reason, we created this application to provide basic information because users also depend upon Android applications today.

1) The existing System is not efficient because sometimes.
2) The existing system fails in case of any emergency to contact teachers or staff.

VI. PROPOSED SYSTEM

Considering the problem statement, a new system should be developed. In the Proposed System, we proposed software that keeps all the data in an organized manner. Nowadays every activity is done through some respective apps, the main goal of us use to develop an application that includes some features available on the website and also includes unique features.

The Proposed system software would be a miniature of our college website. The information and notification can be easily accessed with one touch on the android application. The application provides a live notification for the students as well as other people who set the notification ON. This application provides a GPS-based system that helps route the college's location.

The main advantages of the proposed system:

1) Time efficient
2) Anybody can easily access
3) Contains many additional features to the existing system.

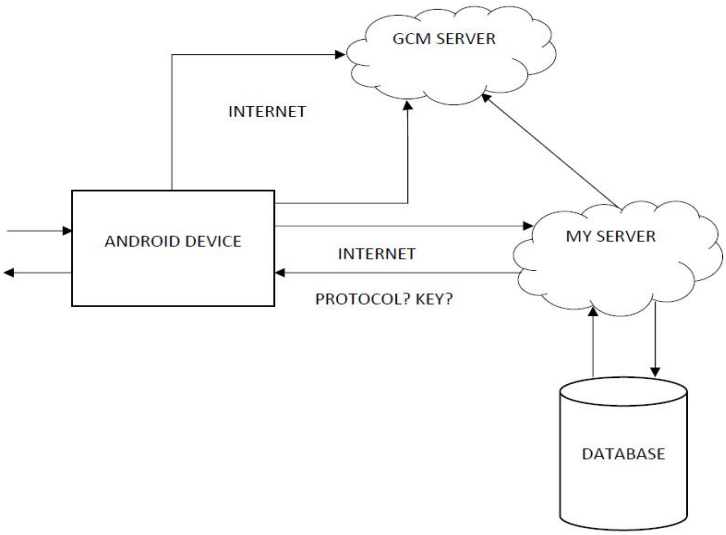


Fig.1. Block Diagram of system

The system architecture has a smartphone with android OS web services, a database server, and the user as its components. The android Smartphone or tablet must use 4G or Wi-Fi network for internet connectivity to ensure better performance. The user will log in to the application through the android smartphone. The user type is verified with the data server and access is given to the appropriate user. The Android application also can be used to log in and perform certain operations. The Android application access data from a common Database server through the internet.

VII. SYSTEM MODULE

A. User Module

In this module, we are authenticating the users by providing a username and password. If the username and password are valid then they will be taken to their screen.

B. Database Module

The proposed system used MySql as its database because of its simplicity and flexibility. This module store every single piece of information about students, and faculty and models their data on specified operations. These operations can be storing student attendance, and result from data or can be authentication credentials.

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C. Staff Module

This module is designed for staff, which use their mobile phone to take attendance, upload results and upload college notifications. The entered admin details are encrypted and sent to a server for verification. Only after successful authentication the operations are performed.

D. Communication Module

Staff can convey a message. In this, ordinary text can be sent as well as various files in the format of Word(.doc, docx), Pdf(.pdf), and text(.txt) are can be sent.

E. Image Gallery

Images related to the institute can be seen here. All the images are uploaded by the web server or admin.

F. Map Module

The Android Application App Is Also A Navigator. The Application Gathers Your Current Location And Shows The Exact Route To The Gmvit Technical Campus To Access The Gps.

G. Notification Module

Benefit of the Proposed System

This module allows the department Admin to update students about any college-related information like exam dates, events, seminars, etc through notification messages. The students can view notifications provided by the interface provided by the application. Admin can send messages to only available options like all students, all faculty, specific faculty, and to all.

1) The application will be very simple and it will also simplify and speed up the result preparation and management process.
2) An application will also do the promotion of the college.
3) As the current system is manual it does not require any sophisticated training for the User of the system and now days android is the most used OS.
4) It overcomes the limitations of the web-based system as our proposed system is developed on Android OS and it will be handier for the user. It will take less time to perform all tasks.
5) Students do not need to check the notice board every day and everyone will stay updated.
6) This project will cater facilities to all the existing versions of android devices. The mistake probability will be the lowest.

VIII. SYSTEM FLOWCHART

A. Flowchart for Admin

The application is divided into 2 sub-groups-

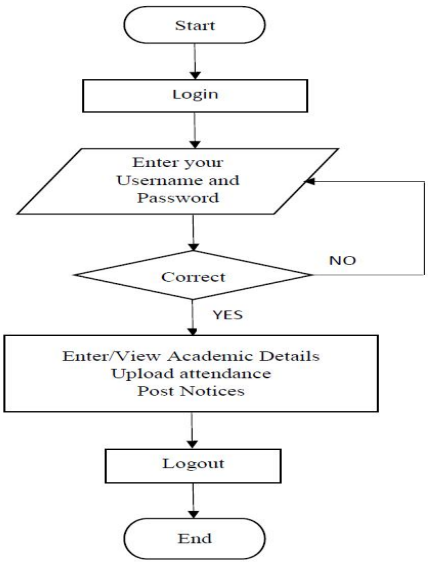


Figure 2. Flowchart for Admin

1) *Admin Registration:* The first step in this application is to get the HOD, staff members, and teaching faculty to register.
2) *Admin login:* After registering the admin is allowed to log in. He or she can now view the admin homepage where there are options to upload attendance, upload results, and send notifications to students. He can also view the attendance taken and uploaded results.
3) *Update gallery:* Admin can add pictures to the gallery this image goes to the image gallery. These images are visible to students as well as the teacher.
4) *Send notification to students/faculty:* Admin can send notifications to students or teaching faculty or some selected faculty he wants to communicate his message to. Notifications related to college meetings, important information, training, and placement-related information
5) *Upload circular:* Through this, a staff cans upload a notice to a student. it will make it easy to retrieve important notices like exams or holidays that can be delivered to the student.
6) *Upload Attendance:* Teaching faculty can show the attendance of students. So the student will know his attendance and also, whether he is passing the attendance criteria or not.
7) *Communicate:* In this, the staff can upload important notes or convey any message to students or staff can message students.

B. *Flowchart for Students*

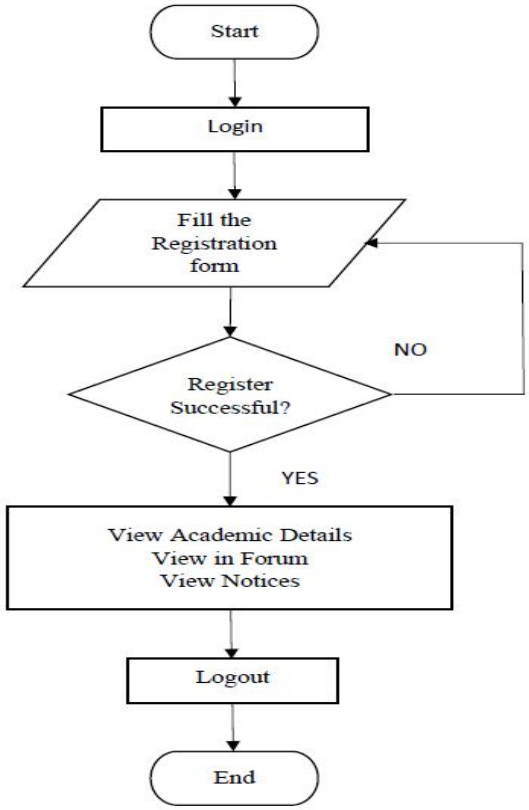


Figure 3. Flowchart for Students

1) *View Attendance:* Students can view attendance uploaded by the faculty or HOD. They receive a PDF file and can view it anytime.
2) *Communicate:* Students can also communicate with each other and send files.
3) *View Results:* Students can even view results uploaded by the admin. A PDF file is received and students must first download it and then view it.
4) *Check the Gallery:* Images can be seen by a student.
5) *View the Circular sent by the Teacher:* Notices are sent to the students by HOD or admin. Useful information, college notices, and important announcements are received on students' registered accounts. They can view it anytime.

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IX. DESIGN DETAILS

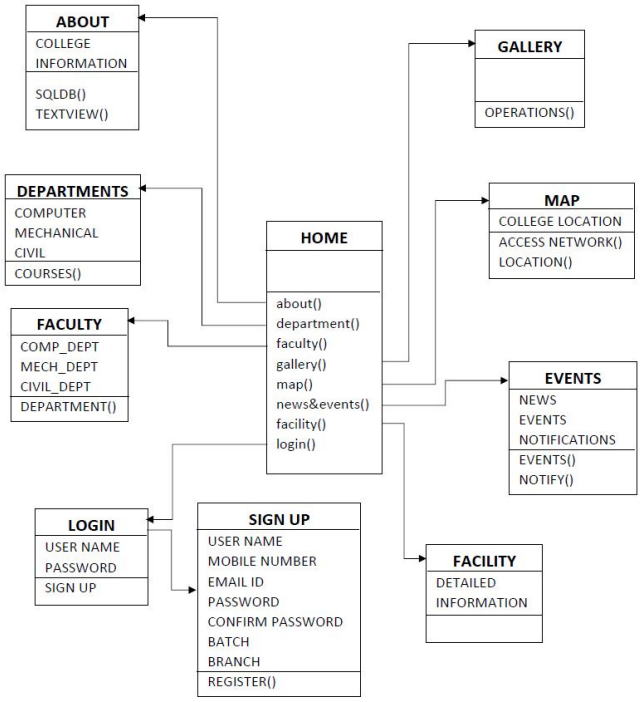


Figure.4. System Architecture of GMVIT Application

A. *Android Application*

1) Open source platform for mobile application development.
2) A complete stack – OS, Middleware, Applications.
3) Fast and easy application development.
4) A flexible Gradle - based system.
5) A unified environment where you can develop for all Android devices.

B. *Firebase Database*

1) Firebase is a backend-as-a-Service(Baas).
2) Firebase is a real-time database that allows storing the object.
3) It allows for the synchronization of data between different devices.
4) It is a NoSQL JSON database.

C. *Firebase Analytics*

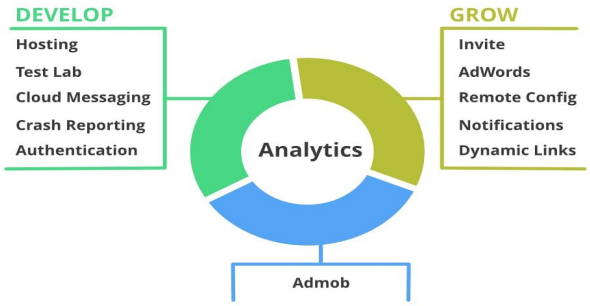


Figure 5. Firebase Analytics

X. RESULTS

A. *Application*

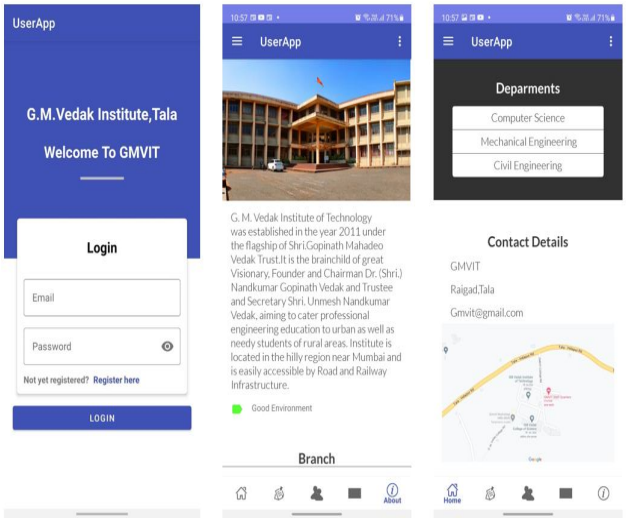


Figure 6. User application front pages about introduction of GMVIT

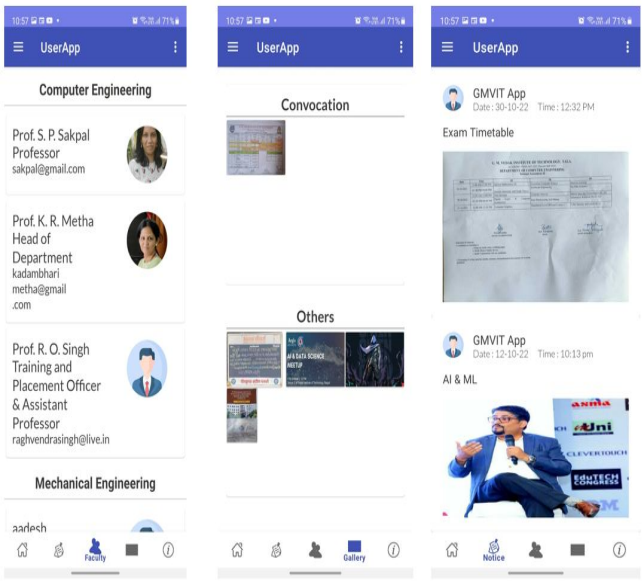


Figure 6. User application internal pages of various field

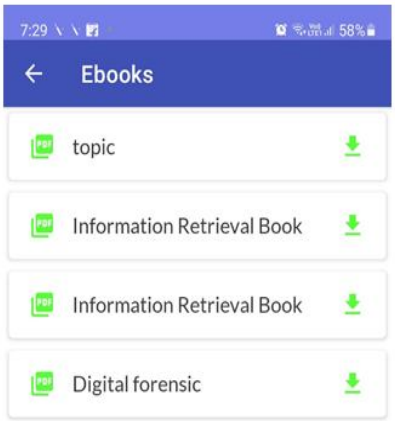


Figure 7. User application

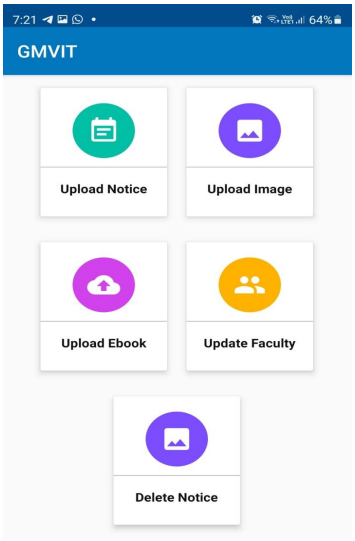
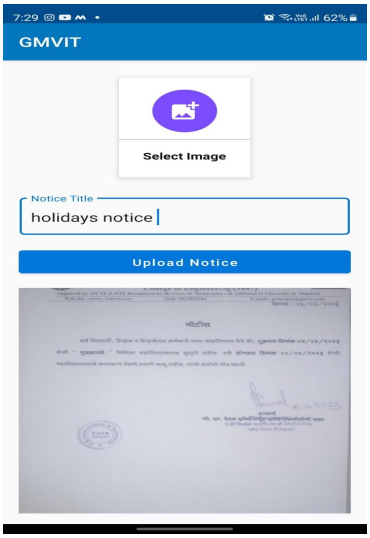
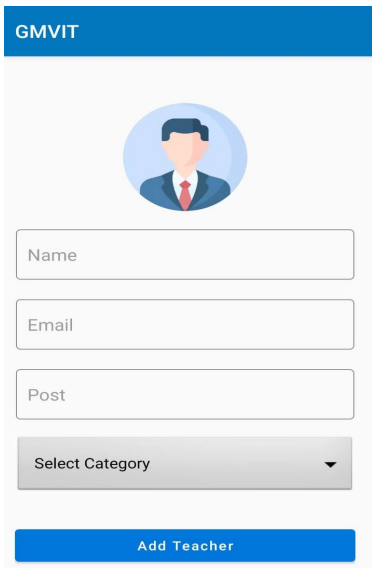
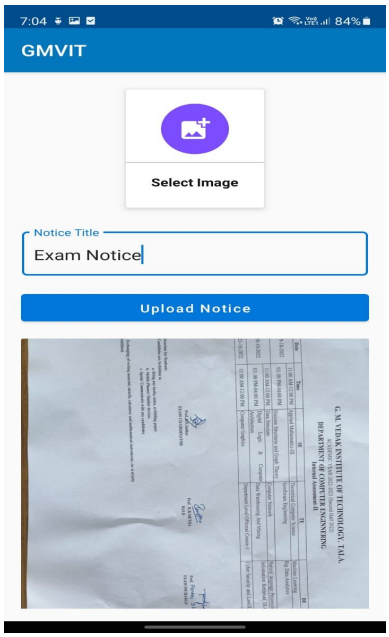
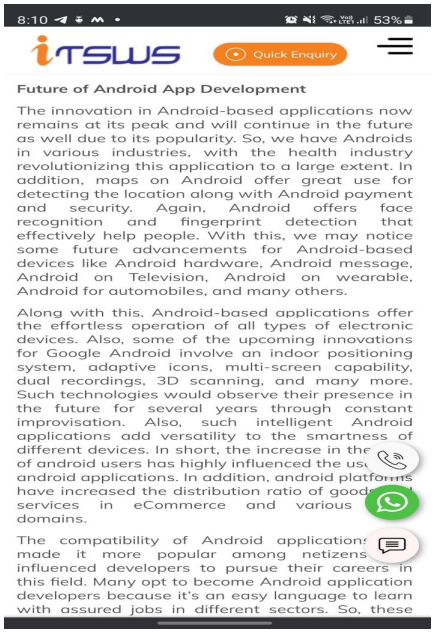


Figure 8. Admin application









1) We have developed the " GMVIT App" named app with great concern and have tried our best to implement as many as features to make it usable.
2) This System is a powerful and easy-to-use tool. Users can get information about the college based on various factors.
3) The latest news and updates about college can get through notifications.

XI. SCOPE

1) Access/ Search information.
2) Login to the system through the first page of the application.
3) View/change his/her details.
4) Can get help through the help option to view different features of the system.

An admin login should be present who can read as well as remove any uploads.

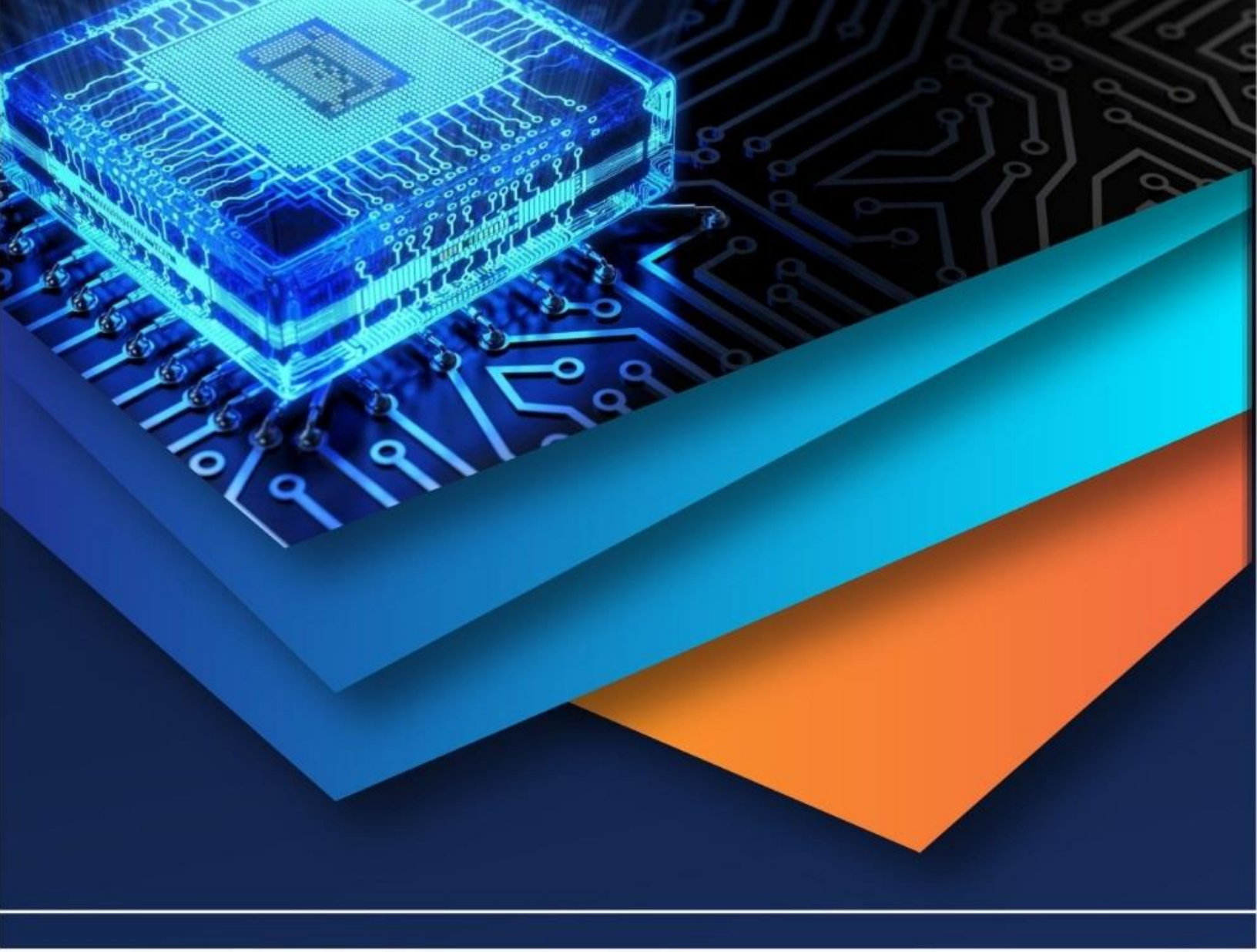
XII. CONCLUSION

This paper assists in automating the existing manual system. This is a paperless work. The application offers reliability, time savings and easy control. It can be used as a base for creating and enhancing applications for viewing the results, tracking college location or any workplace. It reduces the man power required. It provides accurate information always. Students will view results, attendance and curriculum details and notifications using this application anywhere and anytime. This application will greatly simplify and speed up the management process. It provides high security and a system that reduces the work and resources required in traditional process. The data which is stored in the repository helps in taking intelligent decisions by the management. So it is better to have an android application for student information management. This system is essential in the college.

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