INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

**ISSN: 2454-132X**
**Impact Factor: 6.078**
**(Volume 7, Issue 4 - V7I4-1469)**
Available online at: https://www.ijariit.com

# College Kendra

*Pranav Kongara*
*pranav.ssps@gmail.com*
*Andhra University College of Engineering,*
*Visakhapatnam, Andhra Pradesh*

## ABSTRACT

***The android app "College Kendra" is a package of unique features that a university/college need in their college life. There are 8 features in this android app namely Online Attendance, E-Passbook, Notice Board, Calculator, Anonymous Feedback, Automatic Silent Mode and Distress Alert. These might seem pretty common but they aren't. This paper describes why in the coming sections. The main feature in this app, the Online attendance is made to save professor's time on trivial attendance task. The amount of average time saved on daily basis will be 5 minutes. This is the time which will be wasted on taking attendance manually, which accounts over 10 hours per semester and 20 hours per year. Also, through this app we can 100% ensure that the student is really present in the class, thus eliminating proxies. What makes it completely efficient is the One-Time-Password based authentication (OTP). This particular Attendance feature totally eliminates the paper work too. With effective usage, any institute can apply this feature for conducting quick attendance and get better results in less time. The calculator feature I developed isn't any typical or regular calculator that everyone uses. It doesn't have the same usual operations. As graduation students use this, it'll have prime and big-league operations such as bit convertor. The other features help the students with college tasks and non-academic problems. The E-Passbook, Notice Board and Chat Room features included in the app will help with classroom tasks and work as communication media. The Anonymous feedback feature helps to report any issue in the classroom. The Automatic Silent Mode Turner will set the phone in the silent mode automatically when you are in the class. The Distress Alert option would help students to alert others during emergency or unusual situations with just a single click. This paper gives a complete understanding about all the features of our app, which is a complete means of help for a university/college.***

***Keywords:*** *Android Studio, Java, XML, College Kendra, Online OTP Attendance, Calculator, E-Passbook, Online Notice Board, Chat Room, Anonymous feedback, Automatic Silent Mode Turner, Distress Alert*

## 1. INTRODUCTION

In education sector, attendance plays a major role in student's academic life. Colleges and universities maintain long bound records of attendance registers to record attendance and count them at the end of the semester. But how do people/professors mark attendance? There are chances of students giving proxies to their friends when professor isn't looking at them or the class representative helping cover for their friends and many more loopholes. Now that everything is getting digitalised, I thought why not make an app with Online Attendance feature. The Calculator feature mentioned earlier is a unit convertor and bit convertor. There are multiple tasks which are required to be done by the class representative which needs funds. Collecting such funds and maintaining them isn't an easy task. The E-passbook feature helps to keep the track of the funds. Announcements given in the classroom might be missed by the ones who weren't able to attend the class. This Notice Board helps to give announcement to every student in the class. The Chat Room will enable college students to communicate with each other on a single platform. In short, this is a healthy and secure platform especially for girls who don't want their phone numbers to be known. There could be several issues in a classroom which cannot be said out aloud due to several reasons. Anomality is important in reporting such issues which bring a student forward to fight against such issues. Through Anonymous feedback feature, any complaints can be reported. When a student enters the classroom, the Automatic Silent Mode turner automatically turns on silent mode in the mobile to avoid creating any disturbance in the classroom. A Distress Alert button would be given in the app so that if any student is in emergency or in need of help, he can press the button.

## 2.OBJECTIVES OF THE SYSTEM

- Highly secure
- Attendance related works don't bother professors or non-teaching staff anymore because its digitised
- Time saving as manual work is less
- User Friendly: Online attendance feature is a very user-friendly project because the attendance record keeping is very simple, fast and data is secured. The user interface of the project is very simple.
- Reports in online attendance management system can be easily generated in real time.
- Very less paper work: Online attendance management system requires very less paper work. In this project all record is feted directly into the database and reports can be generated through just a single click.
- Zero errors. One thing that no one wants is errors when keeping track of attendance. When you leave this type of task up to humans, there is always a chance that something may go wrong. The average attendance monitoring system has an error rate of less than one percent, which is much less than expected when the task is performed manually
- Capable of storing unlimited student attendance data records
- Firebase Database used to create a very secure server and very reliable environment as it is created by Google
- To create a chat room without the need of revealing any personal details (creating a secure profile of the user)
- Helps students during socially awkward situations like distress and ragging.

## 3. PROPOSED MODEL

The app mainly aims to reduce paper and save time to generate accurate results for student's attendance. Efficient reports can be generated using this system. In the proposed system, attendance is taken using OTP based authentication.

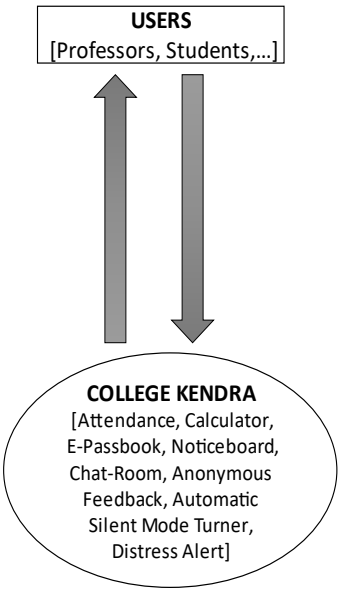



**Figure 1: Context Diagram for the proposed model**

### 3.1 Advantages of Proposed model:

- Ease up the process of attendance.
- Easy Analysis of data.
- Better user interface.
- Reduced dependency on natural resources (paper).
- Easy generation of summary of attendance.
- Cost effective compared to existing system.
- Trouble free to use and phone automatically goes off to silent mode.
- Relatively faster approach to enter attendance and highly reliable.
- You can find all good resources useful for students under one app.
- The chatroom feature is highly secure because phone numbers are not known.

## 4. EXPERIMENTAL SETUP

This section includes all the software technologies and programming languages used in the experiment in order to successfully develop the proposed model of College Kendra. These include Android Studio, Firebase, Java and XML.

### 4.1 Android Studio

Android Studio is the official integrated development environment (IDE) for Android application development. It is based on the IntelliJ IDEA, a Java integrated development environment for software, and incorporates its code editing and developer tools. To

support application development within the Android operating system, Android Studio uses a Gradle-based build system, emulator, code templates, and GitHub integration. Every project in Android Studio has one or more modalities with source code and resource files. These modalities include Android app modules, Library modules, and Google App Engine modules. I used Android Studio as IDE to develop our application.

### 4.2 Firebase: Real Time Database

The Firebase Realtime Database is a cloud-hosted database in which data is stored as JSON. The data is synchronized in real-time to every connected client. All of our clients share one Realtime Database instances and automatically receive updates with the newest data, when we build cross-platform applications with our iOS, and JavaScript SDKs. The Firebase Realtime Database is a NoSQL database from which we can store and sync the data between our users in real-time. It is a big JSON object which the developers can manage in real-time. By using a single API, the Firebase database provides the application with the current value of the data and updates to that data. Real-time syncing makes it easy for our users to access their data from any device, be it web or mobile. Firebase is used for this app for database management and to provide secure environment.

### 4.3 Java (for back-end)

Java is a programming language and a platform. Java is a high level, robust, object-oriented and secure programming language. Java was developed by Sun Microsystems (which is now the subsidiary of Oracle) in the year 1995. James Gosling is known as the father of Java. Before Java, its name was Oak. Since Oak was already a registered company, so James Gosling and his team changed the International Journal of Advance Research, Ideas and Innovations in Technology © 2021, www.IJARIIT.com All Rights Reserved Page |153 Oak name to Java. Platform: Any hardware or software environment in which a program runs, is known as a platform. Since Java has a runtime environment (JRE) and API, it is called a platform. With Java's multithreaded feature it is possible to write programs that can perform many tasks simultaneously. This design feature allows the developers to construct interactive applications that can run smoothly. Java is considered to be more dynamic than C or C++ since it is designed to adapt to an evolving environment. Java programs can carry extensive amount of run-time information that can be used to verify and resolve accesses to objects on run-time. Java is used for back-end programming of the app.

### 4.4 XML (for front-end)

XML stands for Extensible Markup Language. It is a text-based markup language derived from Standard Generalized Markup Language (SGML). XML tags identify the data and are used to store and organize the data, rather than specifying how to display it like HTML tags, which are used to display the data. XML is not going to replace HTML in the near future, but it introduces new possibilities by adopting many successful features of HTML. In our app, XML language is used in Android Studio to give front-end display features to the app.

## 5. EXPERIMENTAL MODULES

### 5.1 Online Attendance Module

This feature ensures that the student is in the class and no proxies are being given. An OTP based authentic system. An 8-digit random One-Time-Password is generated from the professor's phone and is given to the students orally. The given One-Time Password needs to be entered within 10 seconds to be marked as present. You can immediately check your attendance percentage. Also, all other functionality would be disabled in that screen and trying to minimize the screen would cause the app to close and would send an alert to the concerned authorities. Students who aren't in the class can't know it even through their friends because of the time constraint, as they'll be busy typing it in rather than helping others. So basically, this one feature in the app is a student's worst nightmare come true.

### 5.2 Calculator Module

There are several calculators available on the internet but finding the one for the engineering student isn't an easy task. Each calculator has its own features but finding all the ones required for the student at one stop is important. A calculator which converts unit measurements, solves simple expressions is common but for an engineering student that isn't sufficient. A bit converter can convert hexa-decimal, decimal, binary etc to each other. Such a calculator would save time and help students. If you give a number in binary, octal, decimal or hexadecimal format, it converts the given into the other three.

### 5.3 E-Passbook Module

Whenever funds are collected by the class representative, it would be entered and every expense used will be entered as well. Students of the class can also view the statement which gives transparency and can ensure that not a single penny is mis-used.

### 5.4 Notice Board Module

This Notice Board helps to give announcement to every student in the class. Announcements can be only given by the professor so each and every line in this will be of utmost importance, thus it wouldn't be missed by the students.

### 5.5 Chat Room Module

Students use different modes of messaging apps to discuss various things and there is high possibility of diverting from the track. It can be diverting at times too when the official announcement and deadlines are in the application where we text our friends and

family. It's very important to draw a line. This chat room helps to achieve the task. Every member of the class has the ability to send messages and view them. Having chat room in this application helps to keep things formal and linear on track.

### 5.6 Anonymous feedback Module

Through Anonymous feedback feature any complaints can be reported. When such issue is reported, the concern authorities look into it to investigate and solve them.

### 5.7 Automatic Silent Mode Turner Module

The Automatic Silent Mode turner automatically turns on silent mode in the mobile to avoid creating any disturbance in the classroom.

### 5.8 Distress Alert Module

The moment this button is pressed, an alert is sent to all the students in the class so that they'll know that their classmate is in distress, so they'll try to call him/her to get them out of that situation. This can be used during ragging.

## 6. EXPERIMENTAL RESULTS:

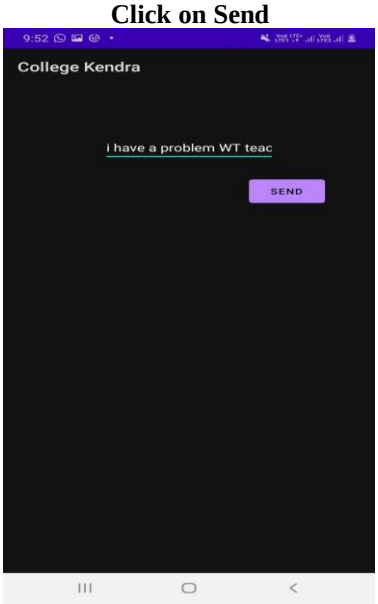
This section specifies the results obtained by conducting the experiment. We depict the testing results on various features.

### 6.1 (A) Anonymous Feedback: Student side:

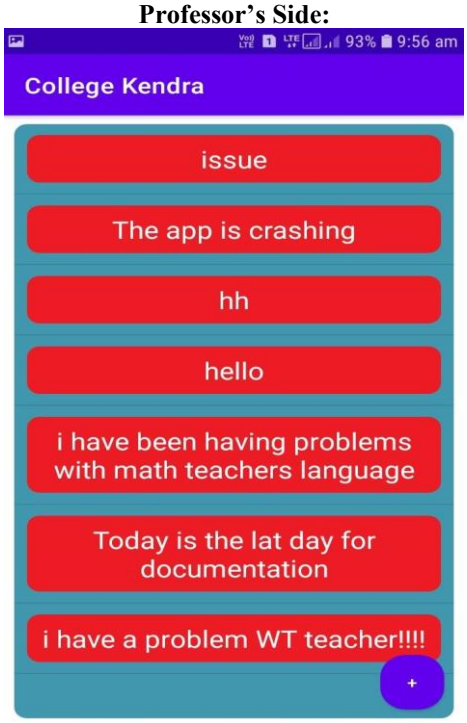
**Click on Anonymous Feedback**


**Enter your feedback**

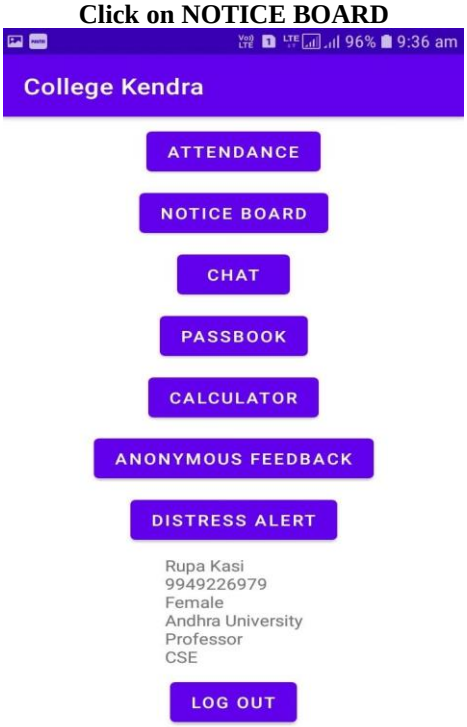

**Click on Send**




### 6.1 (B) Anonymous Feedback: Professor's Side:

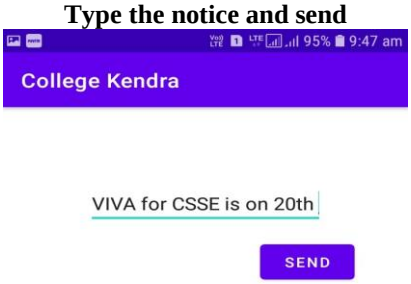



### 6.2 (A) Notice Board: Professor's Side: Click on NOTICE BOARD

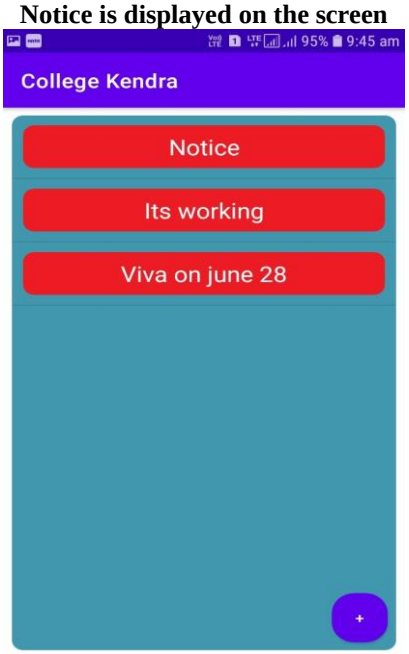


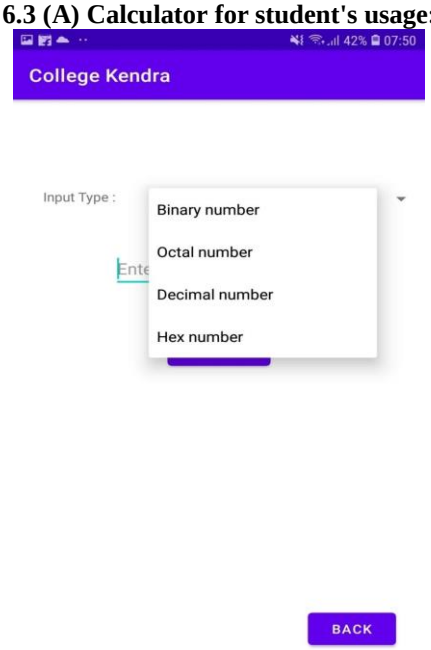
**6.2 (B) Notice Board: Professor's Side: Type the notice and send**



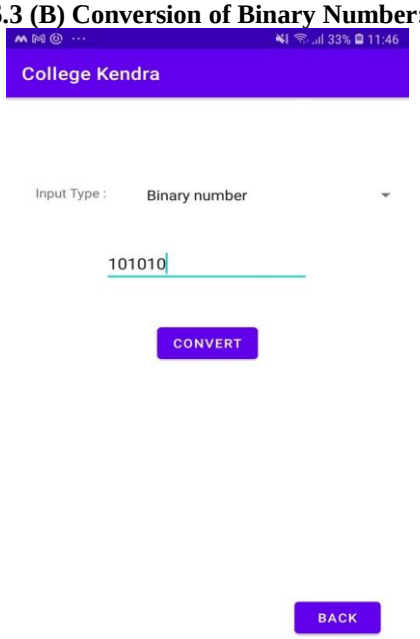

**6.2 (C) Notice Board: Students' Side: Notice is displayed on the screen**



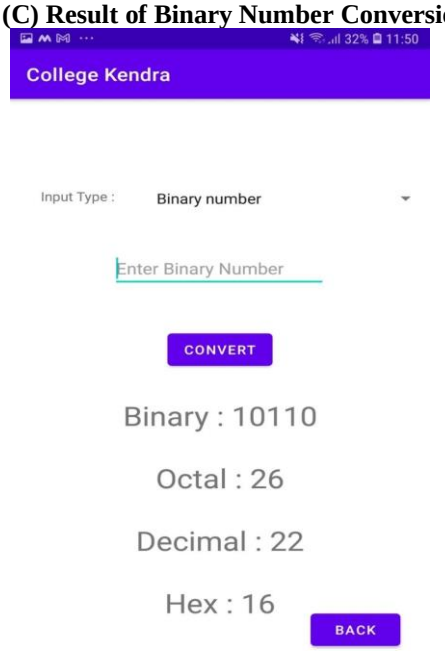

**6.3 (A) Calculator for student's usage:**



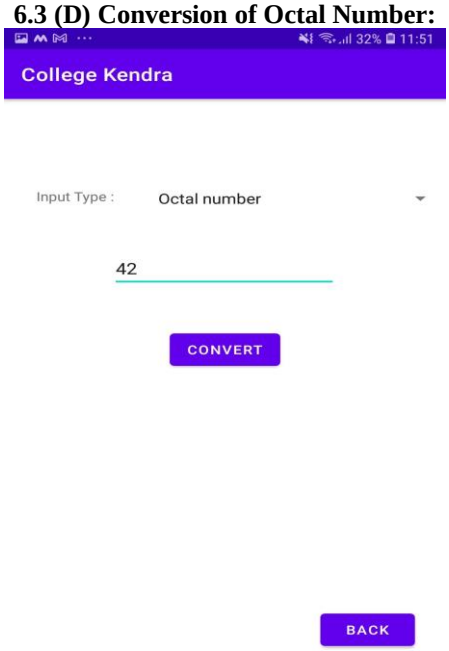

**6.3 (B) Conversion of Binary Number:**




**6.3 (C) Result of Binary Number Conversion:**

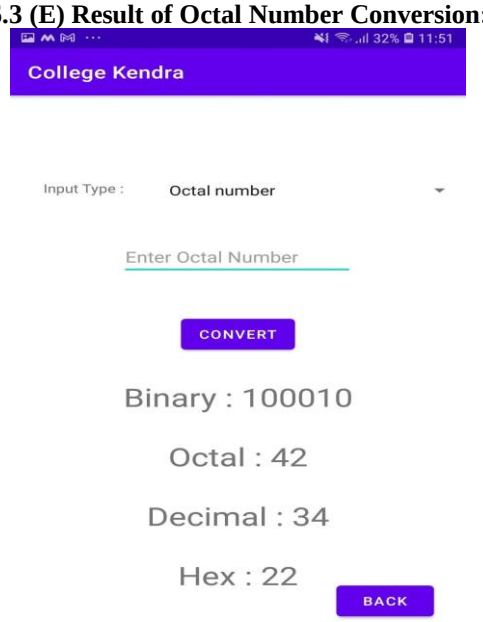



**6.3 (D) Conversion of Octal Number:**

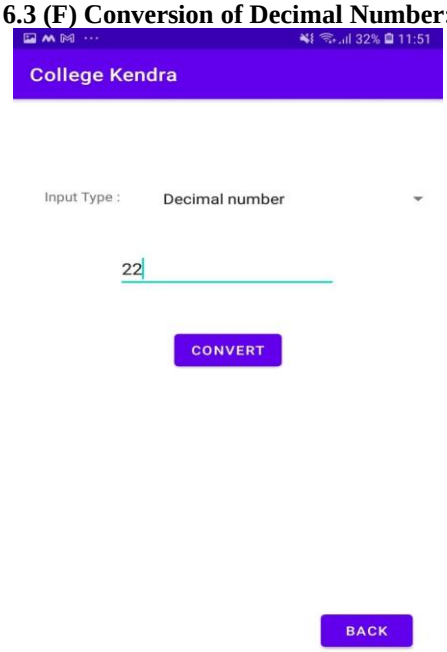


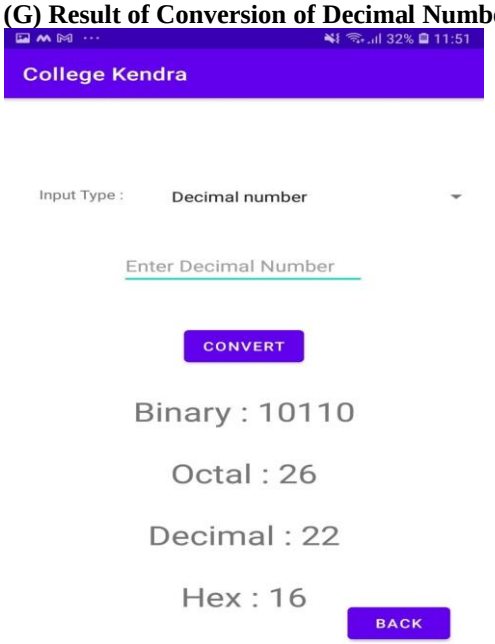
**6.3 (E) Result of Octal Number Conversion:**



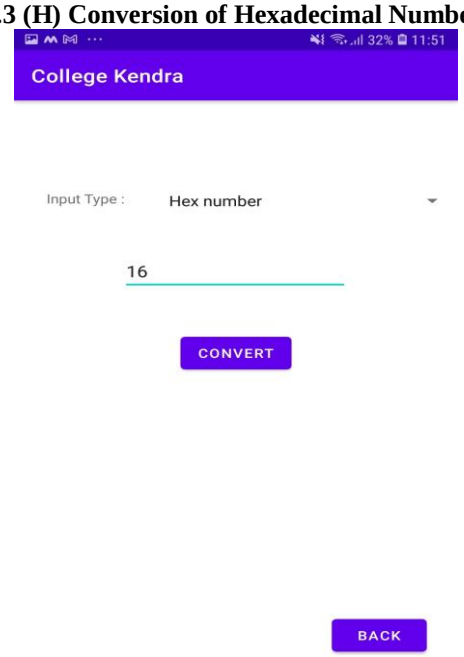

**6.3 (F) Conversion of Decimal Number:**



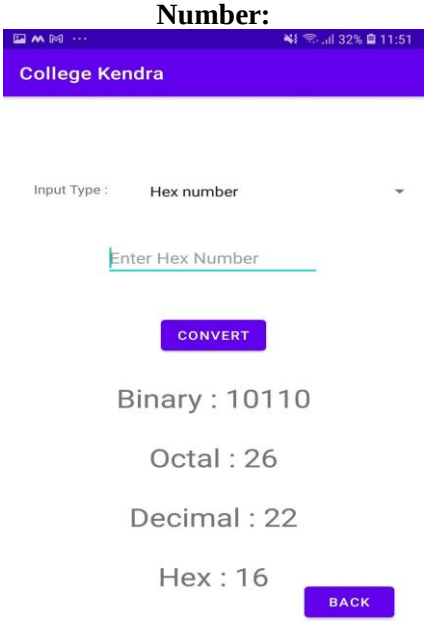

**6.3 (G) Result of Conversion of Decimal Number:**




**6.3 (H) Conversion of Hexadecimal Number:**

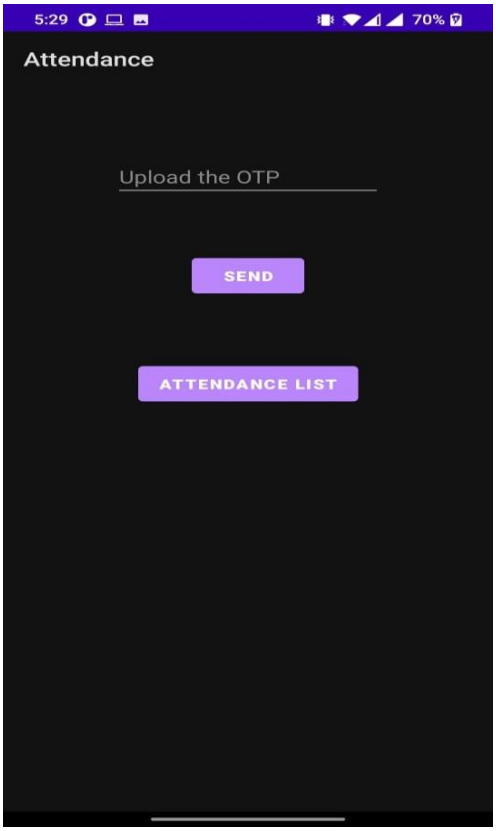



**6.3 (I) Result of Conversion of Hexadecimal Number:**

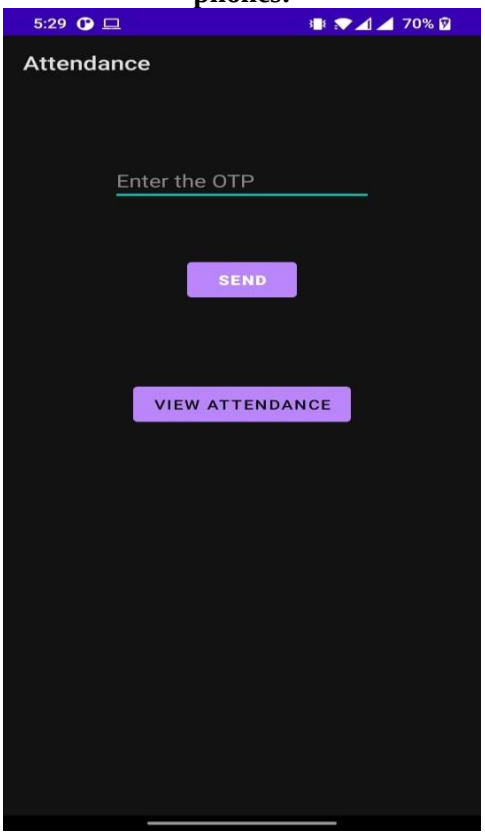


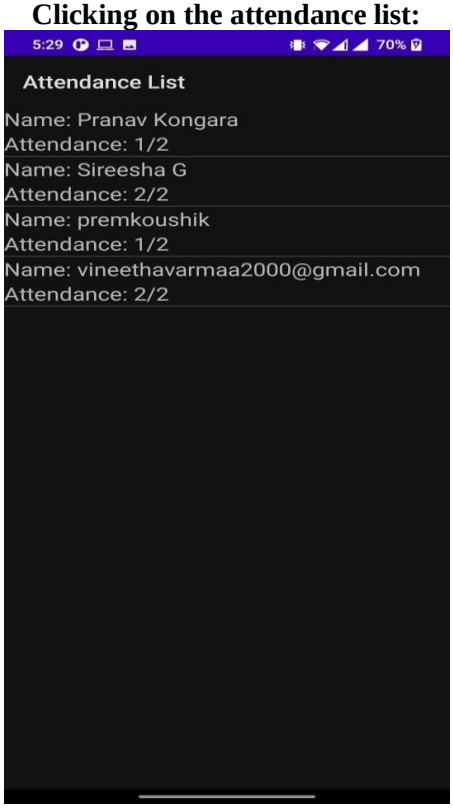
**6.4 (A) Attendance: Professor uploads OTP & announces it:**



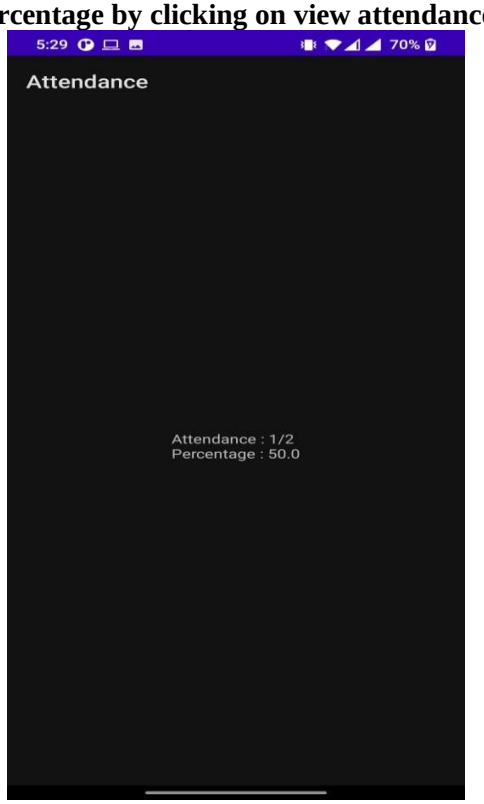

**6.4 (B) Students enter the OTP in their phones:**




**6.4 (C) Professor views attendance by Clicking on the attendance list:**




**6.4 (D) Students can view their attendance percentage by clicking on view attendance:**




## 7. CONCLUSION

Our application saves time and gives better security. It generates reports in real-time. It is extremely simple to use because of a decent interface and cuts interruptions for understudies.

### 7.1 The future scope of work

Our application currently works for entire Andhra University and its affiliated colleges. It works for all departments with any number of students. But it tends to be extended to whole instructive area without any problem. So, we can say that the scope of this application is the entire educational sector.

## 8. REFERENCES

[1] https://www.w3schools.com/
[2] https://www.javatpoint.com/
[3] https://www.geeksforgeeks.org/
[4] https://stackoverflow.com/
[5] https://www.tutorialspoint.com/index.htm