A Project Report

on

College Management Mobile App

Submitted in partial fulfillment of the requirements
For the award of the degree of

Bachelor of Technology
in
Computer Science & Engineering

Submitted By
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(2023-2024)

DECLARATION

We hereby declare that the work presented in this project report entitled “College Mangement Mobile App “, in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science & Engineering., submitted to Kurukshetra University, Kurukshetra, India is an authentic record of our own work carried out during the period from Aug, 2023 to Dec 2023 under the guidance of Tanu Sharma, a Assistant Professor of Panipat Institute of Engineering And Technology.

We hereby declare that this submission is our own work and that, to the best of our knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

Signature

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CERTIFICATE

This is to certify that the Project-I report (PROJ–CS-302A) entitled “College Management Mobile App “done by Bharat, Enrollment No 2820182; Anoop Tripathi Enrollment No 2820116; and Tushar Garg Enrollment No 2820211; is an authentic work carried out by her at PIET, Samalkha, Panipat under my guidance. The matter embodied in this project work has not been submitted earlier for the award of any degree or diploma to the best of my knowledge and belief.

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(Project Guide)	(Project Coordinator)

Prof. Dr. S C Gupta

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We also do not like to miss the opportunity to acknowledge the contribution of all faculty members of the department for their kind assistance and cooperation during the development of our project. Last but not the least, we acknowledge our friends for their contribution in the completion of the project.

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ABSTRACT

The era of mobile technology opens the windows to the android app. The websites are vanishing and the mobile phones are emerging. It’s the time to change from conventional websites to apps, which has become the part of our daily routine. We are introducing “**College Management Mobile App**" the android application.

College Management Mobile App is an Android project aims for the user satisfaction in handling administrative task by eliminating loads of manual work and repetitive task which help in saving time, money and resources. College Management system means it controls all the management tasks and functions. It performs all functions which is required to any Educational Institute. Admin can view and change all records of college. Student can see more information about the college on the college management system software.

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Chapter 1

INTRODUCTION

1.1 Topic of the System

Title: - “College Management Mobile App”

1.2 Project Abstract

The era of mobile technology opens the windows to the android app. The websites are vanishing and the mobile phones are emerging. It’s the time to change from conventional websites to apps, which has become the part of our daily routine. We are introducing “**College Management Mobile App**" the android application.

College Management Mobile App is an Android project aims for the user satisfaction in handling administrative task by eliminating loads of manual work and repetitive task which help in saving time, money and resources. College Management system means it controls all the management tasks and functions. It performs all functions which is required to any Educational Institute. Admin can view and change all records of college. Student can see more information about the college on the college management system software.

1.3 Purpose of the System

- Facilitates hassle-free management of the whole administrative process.
- By eliminating loads of manual work and repetitive tasks, the software helps in saving their time, money and resources.
- It aids in enhancing the standard of an educational institution by reducing the monotony and difficulty of dealing with routine task.

1.4 Target User

Whenever any product is planning to be made there is always a background study on the target users.

- **Students**

  The app is readily helpful for Students as they can get to know about the college.

- **Faculty**

  The Teachers/Faculty/Staff can View their details, Add Notes and E-books, etc.

- **Students who Willing to take Admission**

  Such Student can experience college in their mobile only.

For using this system one just need to have a smart phone with internet access and some basic knowledge of using it.

1.5 Topic Background

There is no doubt that the college administration software is a credible piece of educational technology. It not only helps in reducing the need for doing repetitive task and managing a large number of paper-based files but also allows the institution to perform well in today's competitive era.

1.6 Problem Context

Today in colleges student details are entered manually. The student details in separate records are tedious task. Referring to all these records and updating is needed. There is a chance for more manual errors.

- It was limited to a single system.
- It was less user-friendly.
- It have a lots of manual work (Manual system does not mean that we are working with pen and paper, it also include working on spread sheets and other simple software's)
- It requires more no of employees need to work.
- It was time consuming process.
- The present system was very less secure.

1.7 Rationale behind the System: Why do we need this System?

The problem is to provide the complete information about the college campus. In which the college staff members, students and parents can access the information and will be familiar with college campus. It will provide interactive environment for the staff, students and parents by getting knowledge of placement, timetables, notices etc.

1.7.1 Benefits of the System: What are the potential benefits derived?

Upon implemented, the system could bring about significant tangible and intangible benefits:

- **Tangible Benefits**

S. No.	Tangible Benefits	Description
1.	**No investment**	Users don’t have to pay anything for using this system on android mobile Everything in this system is free of cost.
2.	**Accessibility of system**	This system can be accessible anywhere if the user has got the mobile.
3.	**Convenient access to information**	This convenience saves time and effort compared to searching for information through multiple sources or guidebooks.
4.	**Accurate and up-to-date information**	College Management Mobile App is Up-to-date with in the latest information.

Table 1: Tangible Benefits

➷ **Intangible Benefits**

S. No.	Intangible Benefits	Description
1.	**Educational and informative value**	College Mangement App can provide valuable information about the College.
2.	**Time Saving**	This system ensures that user gets the value of their time and don't have to rely upon anybody else any kind of Information, Notes, Timetable, etc.
3.	**Friendly User Interface**	The application that is developed would facilitate its end users with interactive graphical interfaces that would be easily adaptable.
4.	**Customer Satisfaction**	The user interface will be user-friendly and easy to use which will result in improved satisfaction of the customers.
5.	**Time-saving and stress reduction**	By providing comprehensive information and efficient features, it help users save time and reduce stress.

Table 2: Intangible Benefits

1.8 Objectives of the System

1.8.1 Project Objectives

This is a web oriented application allows us to access the whole information about the college, staffs, students, facilities etc. This application provides a virtual tour of Campus. Here we will get the latest information about the students and staffs. This generic application designed for assisting the students of an institute regarding information on the courses, subjects, classes, assignments, grades and timetable. It also provides support that a faculty can also check about his daily schedule, can upload assignments, and notices to the students. Here administrator will manage the accounts of the student and faculties, makes the timetable, and upload the latest information about the campus.

- College information: Through this service one can access the complete information about the college campus such as courses available, placements, college events, achievements etc.
- Student attendance status: It gives the attendance status of students. Faculty will update the attendance periodically and can be seen by students and parents.
- Placement Notification: This facility notifies students and parents about Placement Schedule.
- Events: It will give information about different events that will be conducted by college time to time. Information about these events will be updated by administrator.
- Information about staff: It will help in maintaining complete information about college faculty members. Administrator will register new faculties and remove their account when they leave the college.

1.8.2 Learning Objectives

The proposed system will allow the developer to attain relevant knowledge and concepts in specializing android based software development and authoring tool. The objectives are disreputably emphasized on its concepts and ideas rather than trained expertise. The developer would have to undergo various sections of software development, project management, human computer interaction, usability factors along with the mechanisms of development principles so as to produce highly reusable quality software on time. But the prime aim to undergo mobile computing concepts is to increase preferred output with user satisfaction within less effort and time to encounter an easy solution for the College Management Mobile App and reduce all the efforts that are required in day to day life.

The following objectives listed below are of prime importance to the developer: -

- ➯ Gaining knowledge of android mobile based development, android technology and XML.
- ➯ Learning how to deal with mobile based software and development along with its database management.
- ➯ Able to perceive real time application with their integration on mobile devices.
- ➯ Implementation and integration of database services with mobile applications.
- ➯ Understanding of data gathering methods and its actual implementation.
- ➯ Learning queries for updating data from the mobile to server.
- ➯ Learning and Practices of Jason.

1.9 Scope of the System

The proposed system will be beneficial in a number of ways. The scope of "**College Management Mobile App**" refers to the boundaries and extent of its functionalities, features, and components. The scope outlines what the system will include and what it will not include.

- User Registration and Profiles
- College Information and Database
- Search and Filtering
- Library Management System
- User-Friendly Interface
- Data Accuracy and Maintenance
- Additional Features :: Notes/EBook, Placement Updates, Notices, etc

It's important to note that the specific scope of the College Management Mobile App may be adjusted based on project requirements, resource constraints, and development timelines.

1.10 Limitation of the System

Limitations are always a part of every project. The project scope is limited to a confined boundary as listed below:

- ➯ The system is being developed for only android based phone.
- ➯ The customer will need the internet connection.
- ➯ The application will be run after installation in the smart phone.
- ➯ To run app in android smart phone require at least android 7 to install app.

1.11 Assumptions Made

This system is although easy to use in terms of its functionalities but even then, there are some assumptions that need to be made before the development of the system:

- Users need to have basic knowledge of using android phones
- Good knowledge of English and basics of Internet is required, i.e. user needs to be a computer literate.

1.12 Success Criteria

Success Factors depends upon the depth of understanding and experience gained from the applications viewed for the review and how efficiently the developer cracks the problems faced in the application that lead to development of such an application.

- Application is properly working and compatible with mentioned android OS. Application will be useless if it is unable to run properly on the physical device. There should not be any anomalous or false functioning during its working on physical device.
- System meets all requirements of the proposed solution. If the application provides desired operations and produces expected output i.e. if it is meeting user requirements, passing of above test cases. Application must fulfil the core as well as enhanced system requirements mentioned above.
- Project will be treated as constructive if it is proper evaluation of Usability & HCI. The developer will be able to provide successful implementation of mobile application in terms of interactivity, effectiveness and efficiency.

1.13 Project Scheduling and distribution of Work among team member

<table>
<tr><td>TOTAL DURATION</td><td>12 weeks</td><td>START DATE</td><td>22th AUG, 2023</td><td>END DATE</td><td>12th DEC, 2023</td></tr>
<tr><td colspan="3"><b>PHASE AND DURATION</b></td><td colspan="3"><b>TASKS</b></td></tr>
<tr><td colspan="3">PROJECT DEFINITION
<i>Duration: 1 weeks</i></td><td colspan="3">Idea Generation
Project Title Selection
Abstract Draft Project Proposal
Project Proposal Form</td></tr>
<tr><td colspan="3">PROJECT PLANNING</td><td colspan="3">Work Breakdown Structure
Schedule and Time Estimation</td></tr>
</table>

Duration: 1 weeks	
REQUIREMENT ANALYSIS *Duration: 3 weeks*	➥ **Define and Finalize Requirement Specification** » Project Background » Problem Context » User Requirements » Set Objectives » Identify Scope of Project » Features and Functionalities ➥ **Organizing Project Specification Form** ➥ **Research and Analysis** » **Research** ✓ Academic Research ✓ Secondary Research ✓ Human Computer Interaction » **Analysis** ✓ Domain Analysis ✓ Existing System Analysis ✓ User Requirements ✓ User Profiling and Modeling ✓ Risk Analysis
SYSTEM DESIGN *Duration: 2 Weeks*	➥ **Navigational Design** » Storyboarding ➥ **Abstract Interface Design** » Mobile Application Architecture » Functionality Design » Interactivity Design ➥ **Design for Test Plan** » Acceptance Test » System Test » Interface Test
PROTOTYPING *Duration: 1 weeks*	➥ Creating Prototypes ➥ Evaluate Prototype feedbacks

PRODUCTION AND IMPLEMENTATION *Duration: 2 weeks*	➥ Program Code Generation ➥ Integrating Backend and Front end ➥ Module creation and Integration ➥ Implementation of working system
TESTING & EVALUATION *Duration: 1 weeks*	➥ Prototype Evaluation ➥ Test Plans ➥ Unit Testing ➥ Integration Testing ➥ System Testing ➥ Critical Evaluation
PROJECT ENDING *Duration: 1 weeks*	➥ Submission of the finished product

Table 3:: Development Plan

CHAPTER 2

PROBLEM DESCRIPTION

2.1 Description of the current issue

The problem is to provide the complete information about the college campus. In which the college staff members, students and parents can access the information and will be familiar with college campus. It will provide interactive environment for the staff, students and parents by getting knowledge of timetables, notices etc.

2.1.1 Problem Area Description

- It was limited to a single system.
- It was less user-friendly.
- It have a lots of manual work (Manual system does not mean that we are working with pen and paper, it also include working on spread sheets and other simple
- software's)
- It requires more no of employees need to work.
- It was time consuming process.
- The present system was very less secure.

2.2 Importance and cause of the problem

After analyzing the requirements of the task to be performed, the next step is to analyze the problem and understand its context. The first activity in the phase is studying the existing system and other is to understand the requirements and domain of the new system. Both the activities are equally important, but the first activity serves as a basis of giving the functional specifications and then successful design of the proposed system. Understanding the properties and requirements of a new system is more difficult and requires creative thinking and understanding of existing running system is also difficult, improper understanding of present system can lead diversion from solution.

2.3 Applications

The Application of urban data can be versatile in solving problems of the past. These features will include:

Maps and Directions: The app will provide users with maps and directions for College.

College information: Through this service one can access the complete information about the college campus such as courses available, placements, college events, achievements etc.

Student attendance status: It gives the attendance status of students. Faculty will update the attendance periodically and can be seen by students and parents.

Placement Notification: This facility notifies students and parents about Placement Schedule.

Events: It will give information about different events that will be conducted by college time to time. Information about these events will be updated by administrator.

Staff Info: It will help in maintaining complete information about college faculty members. Administrator will register new faculties and remove their account when they leave the college.

Ratings: Allows users to provide feedback, Rate their preferences, share their experiences, and contributes to app’s content. This fosters a sense of community and helps others users make informed decisions.

In general, the College Management Mobile App is an Android project aims for the user satisfaction in handling administrative task by eliminating loads of manual work and repetitive task which help in saving time, money and resources.

2.4 Nature of the Challenges:

The nature of the challenges when developing an urban education application is as follows:

2.4.1 Domain Challenges:

To develop this application, the researcher has to go through some important problems during development, for example:

a. Discussion Points: Understand the terms of interaction between humans and mobile devices, and when creationg apps, remember to follw all these principles for app success.

b. Mobile Marketing: Use Mobile Marketing to related techniques and strategies to create mobile applications.

c. User Registration Module: In registration, users will register by providing their important information such as email id, username, mobile phone, Attributes) to register.

2.4.2 Technical Challenges:

The challenges that researchers face while working in the field are:

- Android Platform: The first thing I want to talk about here is the platform knowledge. Since the system will be build on the android platform, of course I started to learn about this technology when I didn’t know any thing about it, but I still need to learn a lot of subjects on android to complete this project.

- Hardware Fragmentation: Android platform runs on many devices with different characterstics such as memory, CPU, speed and graphics resolution. Fragmentation is also present at the operating system levels. A famous example is the braek down of android devices with differnent screen and resolutions. That’s why manufacturers should do market research to find out which phones are most popular among their audience and develop them for users first.
- Software Fragmentation: Because there are many android versions running on the device. Therefore, as a developer, I cannot focus on a single version or the latest version because it is not easy for users to update their operating system, so many have never had it. That’s why its important for developers to understand which operating system are the most popular and develop them keeping in mind the lastest updates.
- Integrating various modules in one application: Database integration, user registration, modeule, search module, etc. Intergrating various modules such as somewhere it will be very difficult. Developers need to learn many APIs to use the system.

2.5 Feasibility Study:

Feasibility study all studies are carried out professionally, efficiently and economically with the aim of determining wether the project is viable in all aspects, yes or no. If the project is not viable, we try to make improvements or consider changes that will benefit, to make the project viable and usefull for all users. This study basically determines the functioning and testing of a project or software.

2.5.1 Technical Feasibility

A project or software is said to be viable if:-

✓ The equipment is easy to use.

✓ Technology can be easily adapted to new versions.

✓ Tools used in the project so that the project can do what it wants.

✓ This product can answer questions instantly.

✓ Technology provides security in every way.

2.5.2 Economic Feasibility

A project is said to be profitable if:-

✓ The project does not require additional expenditure.

✓ This can be considered as a good investment for the user or the organization.

It not only saves time and money, but also reduces paper usage. Once the system
is registered, it can be used for a long time and becomes useful.

2.5.3 Scheduling Feasibility

A project or software is considered viable if:-

✓ The project builds in real time with sufficient resources allocated to each phase of the develop ment process.

✓ Clear Requirements

✓ A dedicated team with the right expertise and skills.

✓ There are valuable resources.

Project meets everything because it meets technology, time and economy.

2.6 Conclusion

The project entitled as **College Management System** is the system that deals with the issues related to a particular institution. Awareness and right information about any college is essential for both the development of student as well as faculty. So this serves the right purpose in achieving the desired requirements of both the communities.

CHAPTER 3

LITERATURE REVIEW

3.1 Introduction to Literature Review

The era of mobile technology opens the windows to the android app. The websites are vanishing and the mobile phones are emerging. It’s the time to change from conventional websites to apps, which has become the part of our daily routine. We are introducing “**College Management Mobile App**" the android application.

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3.2 Advanced Preliminary Research

The application of urban data can be versatile in solving problems of the past. These features will include:

Maps and Directions: The app will provide users with maps and directions for College.
College information: Through this service one can access the complete information about the college campus such as courses available, placements, college events, achievements etc.
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In general, the College Management Mobile App is an Android project aims for the user

satisfaction in handling administrative task by eliminating loads of manual work and repetitive task which help in saving time, money and resources.

3.3 Domain Research

3.3.1 Android

Android is a mobile operating system developed by Google, based on a modified version of the Linux & kernel and other open source software and designed primarily for touchscreen mobile devices such as smartphones and tablets. In addition, Google has further developed Android TV for televisions, Android Auto for cars, and Wear OS for wrist watches, each with a specialized user interface. Variants of Android are also used on game consoles, digital cameras, PCs and other electronics.

Initially developed by Android Inc., which Google bought in 2005, Android was unveiled in 2007, with the first commercial Android device launched in September 2008. The operating system has since gone through multiple major releases, with the current version being 9 "Pie", released in August 2018. The core Android source code is known as Android Open Source Project (AOSP), and is primarily licensed under the Apache License.

Android is also associated with a suite of proprietary software developed by Google, called Google Mobile Services (GMS) that very frequently comes pre-installed in devices, which usually includes the Google Chrome web browser and Google Search and always includes core apps for services such as Gmail, as well as the application store and digital distribution platform Google Play, and associated development platform. These apps are licensed by manufacturers of Android devices certified under standards imposed by Google, but AOSP has been used as the basis of competing Android ecosystems, such as Amazon.com's Fire OS, which use their own equivalents to GMS.

Android has been the best-selling OS worldwide on smartphones since 2011 and on tablets since 2013. As of May 2017, it has over two billion monthly active users, the largest installed base of any operating system, and as of June 2018, the Google Play store features over 3.3 million apps.

Fig. 1:: Android Logo

3.3.2 JAVA

Java is a programming language and computing platform first released by Sun Microsystems in 1995. There are lots of applications and websites that will not work unless you have Java installed, and more are created every day. Java is fast, secure, and reliable. From laptops to datacenters, game consoles to scientific supercomputers, cell phones to the Internet, Java is everywhere!

Java is a general-purpose computer-programming language that is concurrent, classbased, object-oriented, and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere" (WORA), meaning that compiled Java code can run on all platforms that support Java without the need for recompilation. Java applications are typically compiled to bytecode that can run on any Java virtual machine (JVM) regardless of computer architecture. As of 2016, Java is one of the most popular programming languages in use, particularly for client-server web applications, with a reported 9 million developers. Java was originally developed by James

Gosling at Sun Microsystems (which has since been acquired by Oracle Corporation) and released in 1995 as a core component of Sun Microsystems' Java platform. The language derives much of its syntaxfrom C and C++, but it has fewer low-level facilities than either of them.

The original and reference implementation Java compilers, virtual machines, and class libraries were originally released by Sun under proprietary licenses. As of May 2007, in compliance with the specifications of the Java Community Process, Sun relicensed most of its Java technologies under the GNU General Public License. Others have also developed alternative implementations of these Sun technologies, such as the GNU Compiler for Java (byte code compiler), GNU Classpath (standard libraries), and Iced Tea-Web (browser plugin for applets).

The latest version is Java 11, released on September 25, 2018, which follows Java 10 after only six months in line with the new release schedule. Java 8 is still supported but there will be no more security updates for Java 9.Versions earlier than Java 8 are supported by companies on a commercial basis; e.g. by Oracle back to Java 6 as of October 2017 (while they still "highly recommend that you uninstall" pre-Java 8 from at least Windows computers).

Fig. 2:: JAVA Logo

3.3.3 Firebase

Firebase evolved from Envolve, a prior startup founded by James Tamplin and Andrew Lee in 2011. Envolve provided developers an API that enables the integration of online chat functionality into their websites. After releasing the chat service, Tamplin and Lee found that it was being used to pass application data that weren't chat messages. Developers were using Envolve to sync application data such as game state in real time across their users. Tamplin and Lee decided to separate the chat system and the real-time architecture that powered it. They founded Firebase as a separate company in April 2012.

Firebase Inc. raised seed funding in May 2012. The company further raised Series A funding in June 2013.In October 2014, Firebase was acquired by Google. In October 2015, Google acquired Divshot to merge it with the Firebase team. Since the acquisition, Firebase has grown inside Google and expanded their services to become a unified platform for mobile developers. Firebase now integrates with various other Google services to offer broader products and scale for developers. In January 2017, Google acquired Fabric and Crashlytics from Twitter to join those services to the Firebase team. Firebase launched Cloud Firestore, a Document Database, in October 2017.

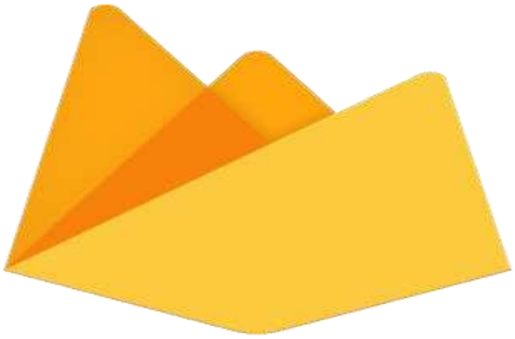


Fig. 3:: Firebase Logo

3.4 Android Structure

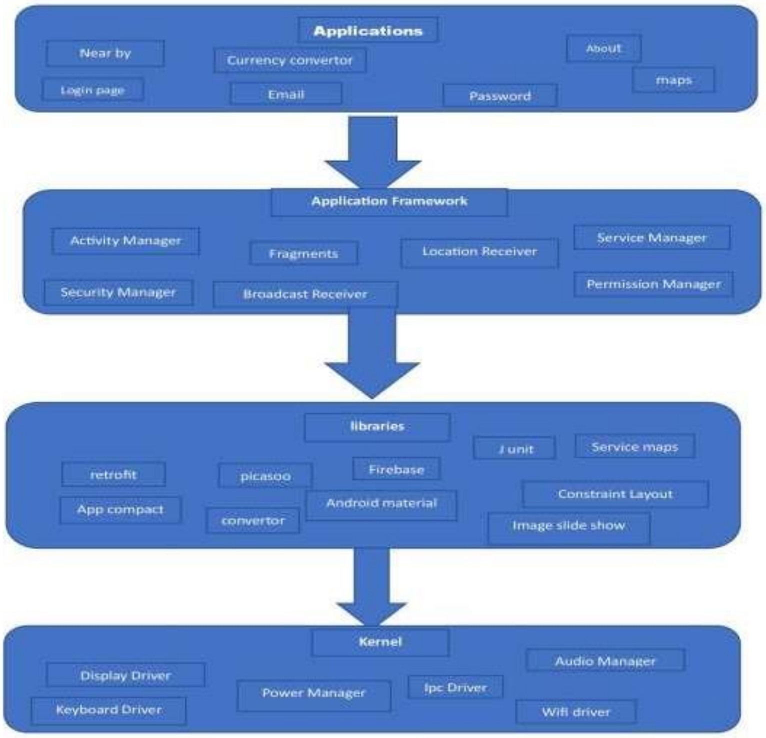


Fig. 4 :: Android Structure

3.5 Security and Permission

Identify Necessary Permissions: Determine the specific permissions required by your app based on its features and functionality. Common permissions for a city information app may include:

Location: If your app provides location-based services, such as finding nearby attractions or providing directions, you'll need to request the ACCESS_FINE_LOCATION or ACCESS_COARSE_LOCATION permission.

Internet: To retrieve data from remote servers or APIs, you'll need the INTERNET permission.

Storage: If your app needs to save data locally or access external storage, you will require the READ_EXTERNAL_STORAGE and WRITE_EXTERNAL_STORAGE permissions.

Camera: If your app allows users to take photos or upload images, you'll need the CAMERA permission.

Network State: If your app needs to check the network connectivity status, you will need the ACCESS_NETWORK_STATE permission.

Other permission: Depending on additional features or services your app offer, you may need other permission such as ACCESS_WIFI_STATE,VIBRATE,RECIVE_BOOT_COMPLETE.

Request Permissions at Runtime: Starting from Android 6.0 (Marshmallow), permissions are requested at runtime instead of during the app installation process. Implement the necessary code to request permissions from the user when they are needed. Clearly explain to users why each permission is required and how it benefits their experience.

Handle Permission Denials: Account for scenarios where users may deny certain permissions. Gracefully handle these situations by disabling or adjusting app features that depend on the denied permissions. Provide clear explanations and instructions to users on how to manually grant the required permissions through the app settings.

HTTPS, when retrieving data from external servers or APIs. Verify the authenticity of SSL/TLS certificates and consider implementing certificate pinning to prevent man-in-themiddle attacks.

User Authentication and Authorization: If your app includes user accounts or personalized features, implement secure authentication mechanisms. Utilize secure password storage practices, such as hashing and salting, and consider options like OAuth or OpenID Connect for secure sign-in with trusted providers. Implement appropriate authorization checks to control access to sensitive data or actions.

Secure Data Storage: Protect sensitive user data stored on the device by utilizing secure storage options provided by Android. Use encryption to safeguard sensitive information, including user preferences or cached data.

Input Validation and Sanitization: Implement proper input validation and sanitization techniques to prevent common security vulnerabilities such as SQL injection or cross-site scripting (XSS) attacks. Ensure that user inputs are validated on the client-side and properly sanitized before interacting with databases or remote servers.

Code Security and Testing: Follow secure coding practices to avoid common security pitfalls. Regularly perform security testing, including code reviews, vulnerability assessments, and penetration testing, to identify and address potential vulnerabilities in your app.

Privacy Policy and User Consent: Create and display a privacy policy within your app that clearly explains the data you collect, how you use it, and the measures you take to protect user privacy. Obtain appropriate user consent for data collection and sharing, especially if you integrate third-party services or collect personally identifiable information.

Stay Updated: Stay informed about the latest security threats, best practices, and updates related to Android security. Keep your app and its dependencies up to date with the latest patches and security fixes.

By implementing these security and permission management measures, you can enhance the security of your city information app, protect user data, and build trust with your users.

3.6 Software and Hardware Requirements

Software Requirements	
Operating System	Windows/Linux
Frontend	JAVA & ANDRIOD
Backend	Firebase
Development Environment	Andriod Studio

Table 4 :: Software requirements

Hardware Requirements	
Processor	Pentium
RAM	2GB (minimum)
Hard disk	20GB (minimum)
Architecture	64-bit

Table 5: Hardware requirements

3.7 Review of Literature

College Management Mobile Application	[1] Yi Zhang, “Development Strategy of College Sports Information Management System using Data Mining in Mobile Internet Environment ”,Journal of environment and public helth volume 2022,Article ID 3895555. [2]Kexu Wu and Chaolin Li, “Application of Symmetric encryption Algorithm Sensor in the Research of College Student Security Management System”, Journal of sensors volume 2022,Article ID 3323547. [3] Phani Kishore Rompicharla,P Sumanth, MdInamullah, “College Administrative System”, International research journal of engineering and technology(IRJET) volume 07,2021. [4] M.S.VinmathiM.E(Ph.D), M.Theerkasri, K.Monica, S.Kavitha, “Development of a Feature Rich Android Application For College Management”, International research journal of engineering and technology(IRJET) volume 07,2020. [5] RabimanRabiman, Muhammad Nurtanto, NurKholifah, “Design And Development E-Learning System By Learning Management system (LMS) In Vocational Education”, International journal of scientific & technology research volume 9,2020.

Table 6 ::Review of Literature

CHAPTER-4

Research Method

To conduct research for a college management mobile app, you can employ a combination of qualitative and quantitative research methods

4.1 Technical Research::

This is related to the technical part of the research means research related to selection of platform, programming language, database, technology and methodology. Conducting technical research for the proposed project is a critical factor that can affect the implementation of the project and thus is conducted before the system design and implementation phase begins. A wide-spread research is conducted that compares various platforms, programming languages, databases, technologies, methodologies and evaluates them to come to conclusion which would be chosen for the proposed project.

Justification for Choosing Android as a Platform

The decision of choosing one platform over other has always been a difficult task for the developer. Each platform has its own pros and cons so it is inadequate to say that one platform is better than other ones. Let's see why **Android** has been chosen over other OS platforms.

What is Android?

Android is a platform that provides tools and technologies which can be used to develop and build mobile applications. The android platform is an open source that includes an operating system, middleware services and also key applications for use in mobile devices. Android environment uses the Linux operating system at its core has a kernel based on Linux kernel. Its middleware, libraries and APIs are written in core C while the applications are developed for android using java with android class extension.

Why Android?

The researcher opted to work on Android technology for the development of application because of the following reasons:

- **Huge Market:** According to **IDC Research, Inc. (2015), Android** has dominated the smartphone market with a share of 82.8%.Thus, being so popular in the market, the researcher believes that the success rate would be high, if the development is based on this technology.

Period	Android	iOS	Windows Phone	BlackBerry OS	Others
2016	90%	7%	2%	0.6%	0.4
2015	82.8%	13.9%	2.6%	0.3%	0.4%
2014	84.8%	11.6%	2.5%	0.5%	0.7%
2013	79.8%	12.9%	3.4%	2.8%	1.2%
2012	69.3%	16.6%	3.1%	4.9%	6.1%

Table 7:: OS Smartphone Share

- **Android Support with Google-Map:** Android and Google Map both are initiatives of Google itself and for ease of use they have provided the packaged libraries bundled with Android platform so use of Google-Map along with GPS technology in android application is without compatibility issues, and this compatibility can be used in the proposed system to get the current location.

- **Code Reusability Using Android Reuse Models:** Even complex applications can be built easily and rapidly using Android because Android platform allows reusability of code by providing **different Android Reuse Models**. This helps to improve the overall quality of the app and saves lot of developer's time too. The following are the reuse models provided by android:
  a) The APK (Android Package Kit)
  b) The JAR (Java Archive)
  c) The Android Library Project
- **Rich Development Environment: Android** has rich application development environment that enables effortless convenience to develop most attractive applications easily and in lesser time. And since the application needs to be made in the given time constraint it's a great choice.

- **Open Source Architecture:** Since android is an **open source platform**, less investment will be required in the development portion. And any software or program that is produced needs to be tested which can be done without much investment. Only required investment would be a physical device to test the system.
- **Java in its Application Development Environment:** Since, android apps are developed using Java therefore all the features (Simplicity, Robustness, Portability, Multithreading, and Security etc.) that are associated with Java gets embed with the android development and gives android development an edge. Moreover, since the developer is well versed in Java, android becomes a great venture.

4,2 Comparison of Android with other Platforms

The following tables would more justify why android is chosen over other platforms:

Features	**Android**	**IOS**	**Windows Phone**
Company	Google	Apple Inc.	Microsoft
Programmed in	C, C++, JAVA	C, C++, Objective-C	Visual C#
Dependent on a PC or MAC	No	No	No
Source Model	Open Source	Closed, with open source components	Closed
Customizability	A lot can change almost anything.	Limited unless jailbroken	Difficult
Working state	Current	Current	Current

Table 8 ::Comparison between OS based upon features

Criteria	**Android**	**IOS**	**Windows Phone**	**Blackberry**
Level of Security	×	✓	✓	×
Support for Media Formats	✓	✓	✓	✓
Open Source	✓	×	×	×
Multitasking	✓	×	×	×

Market Demand	✓	✓	✓	✓
Support for Third Party Apps	✓	×	×	×
Adobe Flash Support	✓	×	✓	×
IDE and Tools Available	✓	×	×	×
Support for Languages	✓	✓	×	×

Table 9 ::Comparison between OS based upon criteria

Justification for programming language selection (Java)

For the development of the proposed system, the developer has decided to use **Java** as a programming language. It's an obvious thing to select so because the system is to be developed in Android platform which uses Java programming language in its development environment.

What is Firebase?

Firebase is a Backend-as-a-Service (BaaS) platform developed by Google. It provides developers with a set of tools and services to build and manage web and mobile applications more easily. Firebase offers various features that help developers with tasks such as data storage, authentication, real-time database synchronization, cloud messaging, hosting, and more.

Justification for Firebase

Firebase offers a robust and scalable platform for application development, providing developers with ready-to-use features, real-time updates, cross-platform support, authentication, security, analytics, and server less architecture. These justifications make Firebase a popular choice among developers looking for a reliable backend infrastructure to accelerate the development process and deliver high-quality applications.

CHAPTER-5

Analysis

5.1 Analysis of Questionnaire

5.1.1 Overall Conclusion of Interview

1. **Develop a comprehensive city database:** Create and maintain a robust database of attractions, restaurants, events, and transportation options within the city. Ensure accurate and up-to-date information with user reviews and ratings.
2. **Implement real-time updates and synchronization:** Incorporate real-time data updates and synchronization capabilities to provide instant updates to users across devices.
3. **Prioritize cross-platform compatibility:** Build the app for web, Android, IOS, and Unity platforms, ensuring a consistent user experience and seamless synchronization across devices.
4. **Focus on authentication and security:** Implement a secure authentication system and data encryption to protect user information and ensure data privacy.
5. **Optimize performance and scalability:** Design the app to handle high user traffic and large datasets, optimizing performance and scalability through efficient coding practices and infrastructure management.
6. **Emphasize usability and user experience:** Prioritize intuitive navigation, a visually appealing design, and a seamless user experience to enhance user engagement and satisfaction.

By implementing these recommendations, the city guide app can effectively meet user needs, offer a superior user experience, and provide a competitive advantage in the market. Regular user feedback and continuous improvement through iterative development will further enhance the app's success.

CHAPTER 6

PROPOSED SYSTEM

6.1 Traditional State

The main problem projected is that pupil's particulars are reported manually in distinct records, which is a laborious job. Handling and updating these records manually increase the chances of mistakes. It takes a lot of time and needs many employees to accomplish the task. It even lacks security and disability to produce various types of reports.

They imply a high entry barrier for educators and students who have to learn the new tools. This is a well-known problem related to the usage of IT solutions as education-supporting elements

6.2 Present State

College Management Mobile App is an Android project aims for the user satisfaction in handling administrative task by eliminating loads of manual work and repetitive task which help in saving time, money and resources. College Management system means it controls all the management tasks and functions. It performs all functions which is required to any Educational Institute. Admin can view and change all records of college. Student can see more information about the college on the college management system software.

6.3 Proposed System

- Facilitates hassle-free management of the whole administrative process.
- By eliminating loads of manual work and repetitive tasks, the software helps in saving their time, money and resources.
- It aids in enhancing the standard of an educational institution by reducing the monotony and difficulty of dealing with routine task.

1. Scope

- It support almost 90% smart phones.
- It can be use without sign-up process.
- Provide module to module interface.
- Easy to use and to find out locations.

2. Limitations

- It required a device (Smart Phone) Which should have installed android operating system

- Sometimes it requires internet connection while connecting to internet services.
- It cannot run on computer system without installing any virtual device.

3. **User Registration and Authentication:**
    - Allow users to create accounts or sign up using their email addresses.
    - Implement secure authentication mechanisms to protect user accounts and personal information.
4. **Home Screen:**
    - Provide a user-friendly and visually appealing interface with easy navigation.
    - Display essential information about the College.
5. **Notifications and Alerts:**
    - Send push notifications to users about important updates, upcoming events, or personalized recommendations.
    - Provide users with timely alerts for changes in event schedules, closures of attractions, or other relevant information.
6. **Accessibility:**
    - Ensure that the app is accessible to users with disabilities by following accessibility guidelines and implementing features like screen reader compatibility, font resizing, and color contrast options.
7. **Data Management:**
    - Establish a reliable and secure system to manage and update the app's content, ensuring that the information remains accurate, up to date, and reliable.

6.4 Data Flow Diagram (DFD)

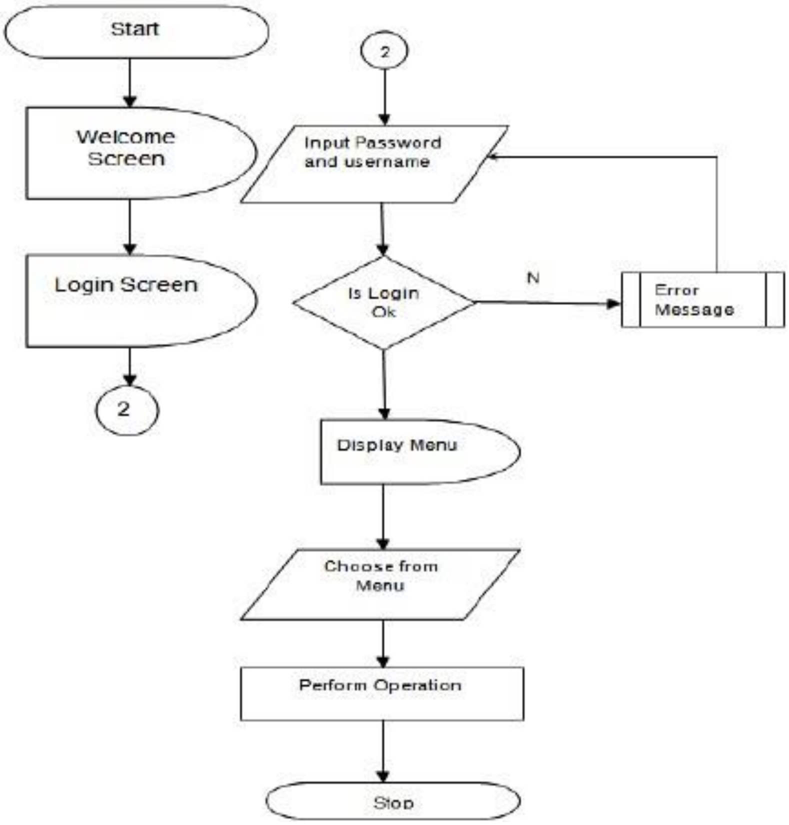


Fig. 5:: Level 1 DFD

6.5 ER Diagram

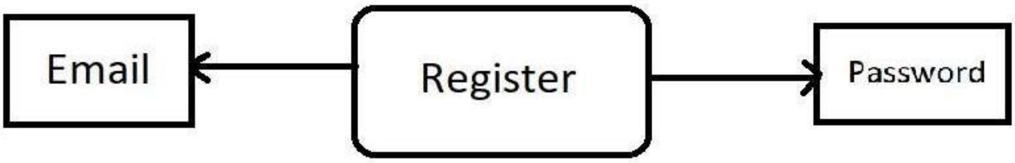


Fig. 6:: Register ER diagram

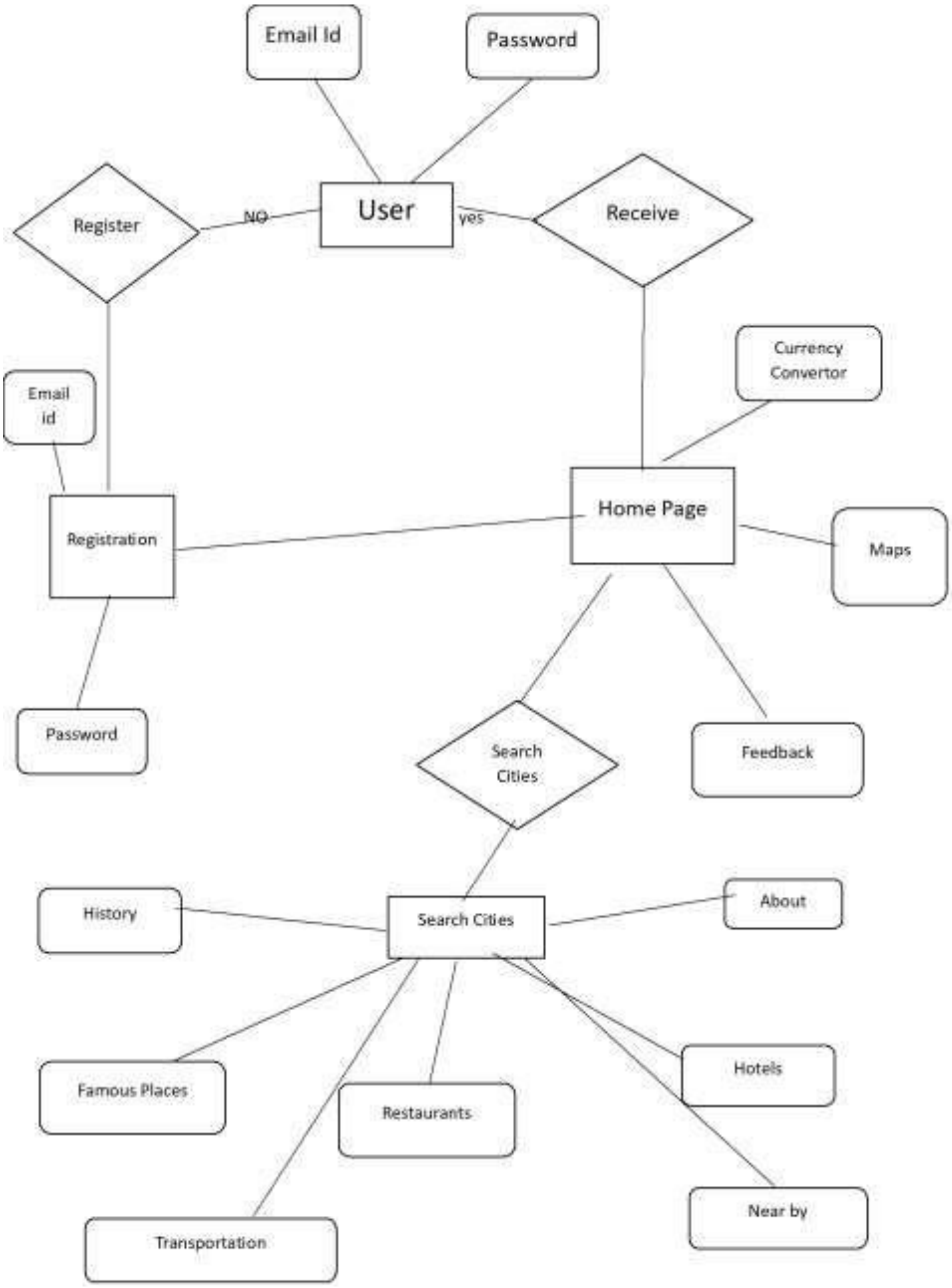


Fig. 7:: Module ER diagram

CHAPTER-7

CODING

The College Management App comprises of following components:

- Admin Dashboard
- User Dashboard
- Feedback Component
- Splash Screen
- Add Notice
- View Notice
- About
- Add Faculty

7.1 Admin Dashboard:

7.1.1 Design :

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.drawerlayout.widget.DrawerLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:id="@+id/mainDrawer"
    tools:context=".home">

    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:layout_centerInParent="true">

        <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_margin="5dp"
        android:gravity="center">
        <com.google.android.material.card.MaterialCardView
            android:layout_width="130dp"
            android:layout_height="150dp"
            android:layout_margin="10dp"
            android:elevation="5dp"
            android:id="@+id/addNotice">
            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="match_parent"
            android:orientation="vertical"
            android:gravity="center">
            <ImageView
                android:layout_width="64dp"
                android:layout_height="64dp"
                android:background="@drawable/circle_green"
                android:src="@drawable/ic_notice"
                android:padding="15dp"/>

            <View
                android:layout_width="match_parent"
                android:layout_height="1dp"
                android:background="@color/lightGray"
                android:layout_marginTop="10dp"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Upload Notice"
                android:textStyle="bold"
                android:padding="5dp"
                android:layout_marginTop="10dp"
                android:textColor="@color/textColor"/>
        </LinearLayout>
    </com.google.android.material.card.MaterialCardView>
    <com.google.android.material.card.MaterialCardView
        android:layout_width="130dp"
        android:layout_height="150dp"
        android:layout_margin="10dp"
        android:elevation="5dp"
        android:id="@+id/addGalleryImage">
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:orientation="vertical"
            android:gravity="center">
            <ImageView
                android:layout_width="64dp"
                android:layout_height="64dp"
                android:background="@drawable/circle_purple"
                android:src="@drawable/ic_gallery"
                android:padding="15dp"/>

            <View
                android:layout_width="match_parent"
                android:layout_height="1dp"
                android:background="@color/lightGray"
                android:layout_marginTop="10dp"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
            android:text="Upload Image"
            android:textStyle="bold"
            android:padding="5dp"
            android:layout_marginTop="10dp"
            android:textColor="@color/textColor"/>
        </LinearLayout>
    </com.google.android.material.card.MaterialCardView>

</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:layout_margin="5dp"
    android:gravity="center">
    <com.google.android.material.card.MaterialCardView
        android:layout_width="130dp"
        android:layout_height="150dp"
        android:layout_margin="10dp"
        android:elevation="5dp"
        android:id="@+id/addEbook">
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:orientation="vertical"
            android:gravity="center">
            <ImageView
                android:layout_width="64dp"
                android:layout_height="64dp"
                android:background="@drawable/circle_pink"
                android:src="@drawable/baseline_cloud_upload_24"
                android:padding="15dp"/>

            <View
                android:layout_width="match_parent"
                android:layout_height="1dp"
                android:background="@color/lightGray"
                android:layout_marginTop="10dp"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Upload Pdf"
                android:textStyle="bold"
                android:padding="5dp"
                android:layout_marginTop="10dp"
                android:textColor="@color/textColor"/>
        </LinearLayout>
    </com.google.android.material.card.MaterialCardView>
    <com.google.android.material.card.MaterialCardView
        android:layout_width="130dp"
        android:layout_height="150dp"
        android:layout_margin="10dp"
        android:elevation="5dp"
        android:id="@+id/addFaculty">
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:orientation="vertical"
            android:gravity="center">
            <ImageView
                android:layout_width="64dp"
                android:layout_height="64dp"
                android:background="@drawable/circle_yellow"
                android:src="@drawable/baseline_group_24"
                android:padding="15dp"/>

            <View
                android:layout_width="match_parent"
                android:layout_height="1dp"
                android:background="@color/lightGray"
                android:layout_marginTop="10dp"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Update Faculty"
                android:textStyle="bold"
                android:padding="5dp"
                android:layout_marginTop="10dp"
                android:textColor="@color/textColor"/>
        </LinearLayout>
    </com.google.android.material.card.MaterialCardView>

</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:layout_margin="5dp"
    android:gravity="center">
    <com.google.android.material.card.MaterialCardView
        android:layout_width="130dp"
        android:layout_height="150dp"
        android:layout_margin="10dp"
        android:elevation="5dp"
        android:id="@+id/deleteNotice">
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:orientation="vertical"
            android:gravity="center">
            <ImageView
                android:layout_width="64dp"
                android:layout_height="64dp"
                android:background="@drawable/circle_red"
                android:src="@drawable/baseline_delete_24"
                android:padding="15dp"/>

            <View
                android:layout_width="match_parent"
                android:layout_height="1dp"
                android:background="@color/lightGray"
                android:layout_marginTop="10dp"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Delete Notice"
                android:textStyle="bold"
                android:padding="5dp"
                android:layout_marginTop="10dp"
                android:textColor="@color/textColor"/>
        </LinearLayout>
    </com.google.android.material.card.MaterialCardView>
    <com.google.android.material.card.MaterialCardView
        android:layout_width="130dp"
        android:layout_height="150dp"
        android:layout_margin="10dp"
        android:elevation="5dp"
        android:id="@+id/update_hostel">
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:orientation="vertical"
            android:gravity="center">
            <ImageView
                android:layout_width="64dp"
                android:layout_height="64dp"
                android:background="@drawable/circle_purple"
                android:src="@drawable/ic_gallery"
                android:padding="15dp"/>

            <View
                android:layout_width="match_parent"
                android:layout_height="1dp"
                android:background="@color/lightGray"
                android:layout_marginTop="10dp"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Placement"
```

```
                android:textStyle="bold"
                android:padding="5dp"
                android:layout_marginTop="10dp"
                android:textColor="@color/textColor"/>
        </LinearLayout>
    </com.google.android.material.card.MaterialCardView>


</LinearLayout>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_margin="5dp"
        android:gravity="center">
        <com.google.android.material.card.MaterialCardView
            android:layout_width="130dp"
            android:layout_height="150dp"
            android:layout_margin="10dp"
            android:elevation="5dp"
            android:id="@+id/library">
            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="match_parent"
                android:orientation="vertical"
                android:gravity="center">
                <ImageView
                    android:layout_width="64dp"
                    android:layout_height="64dp"
                    android:background="@drawable/circle_green"
                    android:src="@drawable/baseline_local_library_24"
                    android:padding="15dp"/>

                <View
                    android:layout_width="match_parent"
                    android:layout_height="1dp"
                    android:background="@color/lightGray"
                    android:layout_marginTop="10dp"/>
                <TextView
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:text="Library"
                    android:textStyle="bold"
                    android:padding="5dp"
                    android:layout_marginTop="10dp"
                    android:textColor="@color/textColor"/>
            </LinearLayout>
        </com.google.android.material.card.MaterialCardView>

    </LinearLayout>
    </LinearLayout>

    <com.google.android.material.navigation.NavigationView
        android:id="@+id/navigation_view"
        android:layout_width="250dp"
        android:layout_height="match_parent"
        app:headerLayout="@layout/drawer_layout"
        app:menu="@menu/drawer_menu"
        app:itemTextAppearance="?android:attr/textAppearanceMedium"
        android:layout_gravity="start">

    </com.google.android.material.navigation.NavigationView>

</androidx.drawerlayout.widget.DrawerLayout>
```

7.1.2 Java Code:

```
package com.example.collegeconnectadmin;

import android.content.Intent;
import android.graphics.Bitmap;
import android.net.Uri;
import android.os.Bundle;
import android.provider.MediaStore;
import android.view.MenuItem;
import android.view.View;
import android.widget.ImageView;
import android.widget.Toast;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.cardview.widget.CardView;
import androidx.drawerlayout.widget.DrawerLayout;

import com.example.collegeconnectadmin.Developer.Developer;
import com.example.collegeconnectadmin.Event.EventActivity;
import com.example.collegeconnectadmin.Event.delete_event_activity;
import com.example.collegeconnectadmin.Faculty.UpdateFaculty;
import com.example.collegeconnectadmin.libraryapp.AdminHome;
import com.example.collegeconnectadmin.libraryapp.SignUpActivity;
import com.google.android.gms.tasks.OnFailureListener;
import com.google.android.gms.tasks.OnSuccessListener;
import com.google.android.material.navigation.NavigationView;
import com.google.firebase.auth.FirebaseAuth;
import com.google.firebase.auth.FirebaseUser;

import java.io.IOException;

public class home extends AppCompatActivity implements
```

```
NavigationView.OnNavigationItemSelectedListener {

    CardView
cardView1,cardView2,cardView3,cardView4,cardView5,cardView6,cardView7;
    FirebaseAuth auth;
    FirebaseUser user;
    private Bitmap bitmap;
    private final int REQ = 1;
    private DrawerLayout drawerLayout;
    private ActionBarDrawerToggle toggle;
    NavigationView navigationView;
    View view;
    ImageView imageView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_home);

        drawerLayout = findViewById(R.id.mainDrawer);
        navigationView = findViewById(R.id.navigation_view);
        cardView1 = findViewById(R.id.addNotice);
        cardView2 = findViewById(R.id.addGalleryImage);
        cardView3 = findViewById(R.id.addEbook);
        cardView4 = findViewById(R.id.addFaculty);
        cardView5 = findViewById(R.id.deleteNotice);
        cardView6 = findViewById(R.id.update_hostel);
        cardView7 = findViewById(R.id.library);
        auth = FirebaseAuth.getInstance();
        user = auth.getCurrentUser();
        navigationView.setNavigationItemSelectedListener(this);
        view = navigationView.getHeaderView(0);
        imageView = drawerLayout.findViewById(R.id.drawer_imgView);

        if(user == null)
        {
            Intent intent = new Intent(getApplicationContext(),Login.class);
            startActivity(intent);
            finish();
        }

        cardView1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(home.this,upload_notice.class);
                startActivity(intent);
            }
        });
        cardView2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(home.this,uploadImage.class);
                startActivity(intent);
            }
        });
        cardView3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(home.this,upload_pdf.class);
                startActivity(intent);
            }
        });
        cardView4.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(home.this, UpdateFaculty.class);
                startActivity(intent);
            }
        });

        cardView5.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(home.this,delete_notice.class);
                startActivity(intent);
            }
        });
        cardView6.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(home.this, Placement.class);
                startActivity(intent);
            }
        });
        cardView7.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(home.this, AdminHome.class);
                startActivity(intent);
            }
        });

    }

    @Override
    public boolean onNavigationItemSelected(@NonNull MenuItem item) {
        int id = item.getItemId();
        if(id == R.id.menu_addImage)
        {
           // Toast.makeText(this,"Add image Selected",Toast.LENGTH_SHORT).show();
```

```
            Intent intent = new Intent(getApplicationContext(), EventActivity.class);
            startActivity(intent);
        }
        else if (id == R.id.menu_addStudent) {
            Toast.makeText(this,"Add Student Selected",Toast.LENGTH_SHORT).show();
            Intent intent = new Intent(getApplicationContext(), SignUpActivity.class);
            startActivity(intent);
        }
        else if (id == R.id.menu_Share) {
            try {
                Intent shareIntent = new Intent(Intent.ACTION_SEND);
                shareIntent.setType("text/plain");
                shareIntent.putExtra(Intent.EXTRA_SUBJECT, "P.I.E.T");
                shareIntent.putExtra(Intent.EXTRA_TEXT,  "https://play.google.com/store/apps");
                startActivity(Intent.createChooser(shareIntent, "Share via :"));
            } catch (Exception e) {
                Toast.makeText(this, "Unable to share the application",
Toast.LENGTH_SHORT).show();
            }
        }
        else if (id == R.id.deleteEvent) {
           Intent intent = new Intent(home.this, delete_event_activity.class);
           startActivity(intent);
        }
        else if (id == R.id.menu_About) {

            Intent intent = new Intent(home.this, Developer.class);
            startActivity(intent);
        }
        else if (id == R.id.aboutPiet) {

            Intent intent = new Intent(home.this, AboutPiet.class);
            startActivity(intent);
        }
        else if (id == R.id.ChangePassword) {
            auth.sendPasswordResetEmail(auth.getCurrentUser().getEmail())
                    .addOnSuccessListener(new OnSuccessListener<Void>() {
                        @Override
                        public void onSuccess(Void unused) {
                            Toast.makeText(home.this, "Email Sent", Toast.LENGTH_SHORT).show();
                        }
                    })
                    .addOnFailureListener(new OnFailureListener() {
                        @Override
                        public void onFailure(@NonNull Exception e) {
                            Toast.makeText(home.this, e.getMessage(),
Toast.LENGTH_SHORT).show();
                        }
                    });
        }
        else if (id == R.id.logout) {
            Toast.makeText(this,"Logout Selected",Toast.LENGTH_SHORT).show();
            FirebaseAuth.getInstance().signOut();
            Intent intent = new Intent(getApplicationContext(),Login.class);
            startActivity(intent);
            finish();
        }
        return true;
    }
    private  void openGallery(){
        Intent intent = new Intent(Intent.ACTION_PICK,
MediaStore.Images.Media.EXTERNAL_CONTENT_URI);
        startActivityForResult(intent,REQ);
    }
    @Override
    protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        if(requestCode == REQ && resultCode== RESULT_OK){
            Uri uri = data.getData();
            try {
                bitmap = MediaStore.Images.Media.getBitmap(getContentResolver(),uri);
            } catch (IOException e) {
                e.printStackTrace();
            }
            imageView.setImageBitmap(bitmap);
        }
    }
}
```

7.2 User Dashboard :

7.2.1 Design :

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.drawerlayout.widget.DrawerLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:id="@+id/drawerLayout"
    android:background="@color/backgroundCol"
    tools:openDrawer="start"
    xmlns:app="http://schemas.android.com/apk/res-auto">

    <androidx.constraintlayout.widget.ConstraintLayout
        android:id="@+id/contentView"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:context="CollegeConnectUser.Bharat.PIET.MainActivity">
    <androidx.fragment.app.FragmentContainerView
        android:id="@+id/frame_layout"
        android:name="androidx.navigation.fragment.NavHostFragment"
        android:layout_width="match_parent"
        android:layout_height="0dp"
        app:defaultNavHost="true"
        android:layout_marginTop="60dp"
        app:layout_constraintBottom_toTopOf="@+id/bottomNavigationView"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
    <com.etebarian.meowbottomnavigation.MeowBottomNavigation
        android:id="@+id/bottomNavigationView"
        android:layout_width="match_parent"
        android:layout_height="70dp"
        app:labelVisibilityMode="selected"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:mbn_backgroundBottomColor="@color/colorPrimary"
        app:mbn_circleColor="@color/white"
        app:mbn_countBackgroundColor="#ff6f00"
        app:mbn_countTextColor="#ffffff"
        app:mbn_defaultIconColor="@color/white"
        app:mbn_rippleColor="#2f424242"
        app:mbn_selectedIconColor="@color/primaryGrey"
        app:mbn_shadowColor="#1f212121" />

    <com.google.android.material.appbar.AppBarLayout
        android:id="@+id/appBarLayout"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <androidx.appcompat.widget.Toolbar
            android:id="@+id/appbar"
            android:layout_width="match_parent"
            android:layout_height="?attr/actionBarSize"
            android:background="@color/backgroundCol"
            app:titleTextColor="@color/titleColor"
            app:navigationIcon="@drawable/outline_menu_24"
            style="@style/ThemeOverlay.MaterialComponents.Toolbar.Primary"/>

    </com.google.android.material.appbar.AppBarLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

```
    <com.google.android.material.navigation.NavigationView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/navigation_view"
        app:menu="@menu/navigation_drawer"
        android:background="@color/backgroundCol"
        app:headerLayout="@layout/drawer_header"
        app:itemIconTint="@color/appIconTint"
        app:itemTextAppearance="@style/poppins_semibold"
        app:itemTextColor="@color/textColor"
        android:layout_gravity="start"/>
</androidx.drawerlayout.widget.DrawerLayout>
```

7.2.2 Java code

```
package CollegeConnectUser.Bharat.PIET;

import android.annotation.SuppressLint;
import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.content.SharedPreferences;
import android.net.Uri;
import android.os.Bundle;
import android.view.MenuItem;
import android.view.View;
import android.widget.Toast;

import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.app.AppCompatDelegate;
import androidx.appcompat.widget.Toolbar;
import androidx.constraintlayout.widget.ConstraintLayout;
import androidx.core.view.GravityCompat;
import androidx.drawerlayout.widget.DrawerLayout;
import androidx.fragment.app.Fragment;
import androidx.fragment.app.FragmentTransaction;

import com.etebarian.meowbottomnavigation.MeowBottomNavigation;
import com.google.android.material.dialog.MaterialAlertDialogBuilder;
import com.google.android.material.navigation.NavigationView;
import com.google.firebase.messaging.FirebaseMessaging;

import CollegeConnectUser.Bharat.PIET.AcademicCalender.AcademicCalendar;
import CollegeConnectUser.Bharat.PIET.Timetable.TimeTable;
import CollegeConnectUser.Bharat.PIET.ebook.EbookActivity;
import CollegeConnectUser.Bharat.PIET.libraryapp.SignInActivity;
import CollegeConnectUser.Bharat.PIET.ui.AboutPiet.AboutPiet;
import CollegeConnectUser.Bharat.PIET.ui.developers.Developers;
import CollegeConnectUser.Bharat.PIET.ui.faculty.FacultyFragment;
import CollegeConnectUser.Bharat.PIET.ui.gallery.GalleryFragment;
import CollegeConnectUser.Bharat.PIET.ui.placement.placement;
import CollegeConnectUser.Bharat.PIET.ui.home.HomeFragment;
import CollegeConnectUser.Bharat.PIET.ui.notice.NoticeData;
import CollegeConnectUser.Bharat.PIET.ui.notice.NoticeFragment;

import java.util.Objects;

import kotlin.Unit;
import kotlin.jvm.functions.Function1;

public class MainActivity extends AppCompatActivity implements
NavigationView.OnNavigationItemSelectedListener {

    public MeowBottomNavigation bottomNavigationView;
    public DrawerLayout drawerLayout;
    public ActionBarDrawerToggle toggle;
    public NavigationView navigationView;
    public Uri uri;
    ConstraintLayout contentView;
    static final float END_SCALE = 0.7f;
    public Toolbar toolbar;

    public SharedPreferences sharedPreferences;
    public SharedPreferences.Editor editor;
    public int checkedItem;
    public String selected;
    public final String CHECKEDITEM  = "checked_item";


    @SuppressLint({"ResourceAsColor", "MissingInflatedId"})
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        FirebaseMessaging.getInstance().subscribeToTopic("notification");
        FirebaseMessaging.getInstance().subscribeToTopic("notice");

        bottomNavigationView = findViewById(R.id.bottomNavigationView);
        drawerLayout = findViewById(R.id.drawerLayout);
        navigationView = findViewById(R.id.navigation_view);
        contentView = findViewById(R.id.contentView);
        toolbar = findViewById(R.id.appbar);

        NoticeData noticeData = new NoticeData();

        sharedPreferences = this.getSharedPreferences("themes", Context.MODE_PRIVATE);
    editor = sharedPreferences.edit();

    switch (getCheckedItem()){
      case 0:

AppCompatDelegate.setDefaultNightMode(AppCompatDelegate.MODE_NIGHT_FOLLOW
_SYSTEM);
        break;
      case 1:

AppCompatDelegate.setDefaultNightMode(AppCompatDelegate.MODE_NIGHT_YES);
        break;
      case 2:

AppCompatDelegate.setDefaultNightMode(AppCompatDelegate.MODE_NIGHT_NO);
        break;
    }


    toggle = new ActionBarDrawerToggle(this, drawerLayout, R.string.start,
R.string.close);
    drawerLayout.addDrawerListener(toggle);
    toggle.syncState();


    setSupportActionBar(toolbar);
    Objects.requireNonNull(getSupportActionBar()).setDisplayHomeAsUpEnabled(true);
      toolbar.setTitle("Dashboard");
      toolbar.setTitleTextAppearance(this, R.style.poppins_bold);


    navigation();
    bottomNavigation();



    //bottom nav code for onClickListener
    bottomNavigationView.setOnClickMenuListener(new
Function1<MeowBottomNavigation.Model, Unit>() {
      @Override
      public Unit invoke(MeowBottomNavigation.Model model) {
        switch (model.getId()) {
          case 1:
            replace(new HomeFragment());
            break;
          case 2:
            replace(new NoticeFragment());
            break;
          case 3:
            replace(new FacultyFragment());
```

```
                        break;
                    case 4:
                        replace(new GalleryFragment());
                        break;

                }
                return null;
            }
        });

        //if user repeats to click on a certain fragment icon
        bottomNavigationView.setOnReselectListener(new
Function1<MeowBottomNavigation.Model, Unit>() {
            @Override
            public Unit invoke(MeowBottomNavigation.Model model) {
                Toast.makeText(MainActivity.this, "Uh Oh! You're already here.",
Toast.LENGTH_SHORT).show();
                return null;
            }
        });

    }

    private void bottomNavigation() {
        //bottom nav code for setting id and icons
        bottomNavigationView.add(new MeowBottomNavigation.Model(1,
R.drawable.ic_baseline_home_24));
        bottomNavigationView.add(new MeowBottomNavigation.Model(2,
R.drawable.ic_baseline_notifications_active_24));
        bottomNavigationView.add(new MeowBottomNavigation.Model(3,
R.drawable.ic_baseline_people_24));
        bottomNavigationView.add(new MeowBottomNavigation.Model(4,
R.drawable.ic_baseline_photo_library_24));

        // after starting app, show first fragment
        replace(new HomeFragment());
        bottomNavigationView.show(1, true);
    }

    private void navigation() {
        navigationView.bringToFront();
        navigationView.setNavigationItemSelectedListener(this);

        animateNavigationView();
    }

    @SuppressLint("ResourceAsColor")
    private void animateNavigationView() {
        //Add any color or remove it to use the default one!
        //To make it transparent use Color.Transparent in side setScrimColor();
        drawerLayout.addDrawerListener(new DrawerLayout.SimpleDrawerListener() {
            @Override
            public void onDrawerSlide(View drawerView, float slideOffset) {
                // Scale the View based on current slide offset
                final float diffScaledOffset = slideOffset * (1 - END_SCALE);
                final float offsetScale = 1 - diffScaledOffset;
                contentView.setScaleX(offsetScale);
                contentView.setScaleY(offsetScale);
                // Translate the View, accounting for the scaled width
                final float xOffset = drawerView.getWidth() * slideOffset;
                final float xOffsetDiff = contentView.getWidth() * diffScaledOffset / 2;
                final float xTranslation = xOffset - xOffsetDiff;
                contentView.setTranslationX(xTranslation);
            }
        });
    }



    @Override
    public void onBackPressed() {
        if (drawerLayout.isDrawerVisible(GravityCompat.START)) {
            drawerLayout.closeDrawer(GravityCompat.START);
        } else {
            super.onBackPressed();
        }
    }

    private void replace(Fragment fragment) {
        FragmentTransaction fragmentTransaction =
getSupportFragmentManager().beginTransaction();
        fragmentTransaction.replace(R.id.frame_layout, fragment);
        fragmentTransaction.commit();

    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        if (toggle.onOptionsItemSelected(item)) {
            return true;
        }
        return true;
    }

    @Override
    public boolean onNavigationItemSelected(@NonNull MenuItem item) {
        Intent intent;
        switch (item.getItemId()) {
            case R.id.navigation_developer:
                startActivity(new Intent(this, Developers.class));
                break;
            case R.id.navigation_video:
                startActivity(new Intent(this, SignInActivity.class));
                break;
            case R.id.navigation_ebookpdf:
                startActivity(new Intent(this, EbookActivity.class));
                break;
            case R.id.navigation_academicCalender:
                startActivity(new Intent(this, AcademicCalendar.class));
                break;
            case R.id.navigation_theme:
                showdialog();
                break;
            case R.id.navigation_cgpa:
                startActivity(new Intent(this, placement.class));
                break;
            case R.id.navigation_timetable:
                startActivity(new Intent(this, TimeTable.class));
                break;
            case R.id.aboutPiet:
                startActivity(new Intent(this, AboutPiet.class));
                break;
            case R.id.navigation_websites:
                uri = Uri.parse("https://www.piet.co.in/");
                intent = new Intent(Intent.ACTION_VIEW, uri);
                startActivity(intent);
                break;
            case R.id.navigation_shareus:
                try {
                    Intent shareIntent = new Intent(Intent.ACTION_SEND);
                    shareIntent.setType("text/plain");
                    shareIntent.putExtra(Intent.EXTRA_SUBJECT, "P.I.E.T");
                    shareIntent.putExtra(Intent.EXTRA_TEXT,
"https://play.google.com/store/apps");
                    startActivity(Intent.createChooser(shareIntent, "Share via :"));
                } catch (Exception e) {
                    Toast.makeText(this, "Unable to share the application",
Toast.LENGTH_SHORT).show();
                }

                break;
            case R.id.navigation_rate:
                Uri rate_uri = Uri.parse("https://play.google.com/store/apps");
                Intent rate_intent = new Intent(Intent.ACTION_VIEW, rate_uri);
                try {
                    startActivity(rate_intent);
                } catch (Exception e) {
                    Toast.makeText(this, "Unable to rate the application",
Toast.LENGTH_SHORT).show();
                }
                break;
        }
        return true;
    }

    private void showdialog() {

        String[] themes = this.getResources().getStringArray(R.array.theme);
        MaterialAlertDialogBuilder builder = new MaterialAlertDialogBuilder(this,
R.style.AlertDialog);
        builder.setTitle("Select theme");
        builder.setSingleChoiceItems(R.array.theme, getCheckedItem(), new
DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int which) {
                selected = themes[which];
                checkedItem = which;

            }
        });
        builder.setPositiveButton("Okay", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int which) {
                if (selected == null){
                    selected = themes[which];
                    checkedItem = which;
                }
                switch (selected){
                    case "Default":

AppCompatDelegate.setDefaultNightMode(AppCompatDelegate.MODE_NIGHT_FOLLOW
_SYSTEM);
                        break;
                    case "Dark":

AppCompatDelegate.setDefaultNightMode(AppCompatDelegate.MODE_NIGHT_YES);
                        break;
                    case "Light":

AppCompatDelegate.setDefaultNightMode(AppCompatDelegate.MODE_NIGHT_NO);
                        break;
                }
                setCheckedItem(checkedItem);
            }
        });
        builder.setNegativeButton("Cancel", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int which) {
                dialog.dismiss();
            }
        });
        AlertDialog alertDialog = builder.create();
        alertDialog.show();
    }

    private int getCheckedItem(){
        return sharedPreferences.getInt(CHECKEDITEM,0);

    }
    private void setCheckedItem(int i){
        editor.putInt(CHECKEDITEM,i);
        editor.apply();
    }

    public void setActionBarTitle(String title) {
        getSupportActionBar().setTitle(title);
    }


}
```

7.3 Feedback Component

7.3.1 Design :

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context="CollegeConnectUser.Bharat.PIET.ui.feedbacks.FeedbackActivity">

    <androidx.constraintlayout.widget.ConstraintLayout
        android:id="@+id/feedtoolbarCL"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
        <com.google.android.material.appbar.AppBarLayout
            android:id="@+id/appBarLayout"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent">

            <androidx.appcompat.widget.Toolbar
                android:id="@+id/appbarFeed"
                android:layout_width="match_parent"
                android:layout_height="?attr/actionBarSize"
                android:background="@color/backgroundCol"
                app:title="Feedback"
                app:titleTextColor="@color/titleColor"
                style="@style/ToolbarColoredBackArrow"/>

        </com.google.android.material.appbar.AppBarLayout>
    </androidx.constraintlayout.widget.ConstraintLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/feedtoolbarCL"
        android:layout_margin="10dp"
        android:orientation="vertical">

        <com.google.android.material.textfield.TextInputLayout
            style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
            android:layout_width="match_parent"
            android:layout_height="match_parent">

            <EditText
                android:id="@+id/feedname"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_centerHorizontal="true"
                android:gravity="start|top"
                android:hint="Name"
                android:imeOptions="actionDone"
                android:inputType="textMultiLine|textCapSentences"
                android:textAlignment="viewStart"
                android:textColor="@color/textColor"
                android:textColorHint="@color/textColor" />
        </com.google.android.material.textfield.TextInputLayout>

        <com.google.android.material.textfield.TextInputLayout
            style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:layout_marginTop="16dp">

            <EditText
                android:id="@+id/feednumber"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_centerHorizontal="true"
                android:gravity="start|top"
                android:hint="Roll No."
                android:imeOptions="actionDone"
                android:inputType="textMultiLine|textCapSentences"
                android:textAlignment="viewStart"
                android:textColor="@color/textColor"
                android:textColorHint="@color/textColor" />
        </com.google.android.material.textfield.TextInputLayout>

        <com.google.android.material.textfield.TextInputLayout
            style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:layout_marginTop="16dp">

            <EditText
                android:id="@+id/feedemail"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_centerHorizontal="true"
                android:gravity="start|top"
                android:hint="E-mail"
                android:imeOptions="actionDone"
                android:inputType="textMultiLine|textCapSentences"
                android:textAlignment="viewStart"
                android:textColor="@color/textColor"
                android:textColorHint="@color/textColor" />
        </com.google.android.material.textfield.TextInputLayout>


        <com.google.android.material.textfield.TextInputLayout
            style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="16dp">

            <EditText
                android:id="@+id/feedmessage"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_centerHorizontal="true"
                android:gravity="start|top"
                android:hint="Message"
                android:imeOptions="actionDone"
                android:inputType="textMultiLine|textCapSentences"
                android:minHeight="250dp"
                android:textAlignment="viewStart"
                android:textColor="@color/textColor"
                android:textColorHint="@color/textColor" />
        </com.google.android.material.textfield.TextInputLayout>

        <Spinner
            android:id="@+id/feedspinner"
            android:layout_width="300dp"
```

```
            android:layout_height="wrap_content"
            android:layout_gravity="center"
            android:layout_marginVertical="16dp"
            android:background="@android:drawable/btn_dropdown"
            android:entries="@array/Batch"
            android:gravity="center"
            android:spinnerMode="dropdown" />

        <com.google.android.material.button.MaterialButton
            android:id="@+id/feedbtnsend"
            android:layout_width="250dp"
            android:layout_height="60dp"
            android:layout_gravity="center"
            android:layout_marginTop="1dp"
            android:backgroundTint="@color/dark_blue"
            android:gravity="center"
            android:text="Send message"
            android:textAllCaps="false"
            android:textColor="@color/white"
            app:cornerRadius="25dp" />

    </LinearLayout>


</RelativeLayout>
```

7.3.2 Java Code

```
 package CollegeConnectUser.Bharat.PIET.ui.feedbacks;

import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.Toolbar;

import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Spinner;
import android.widget.Toast;

import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.OnFailureListener;
import com.google.android.gms.tasks.OnSuccessListener;
import com.google.android.gms.tasks.Task;
import com.google.android.material.button.MaterialButton;
import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;
import com.google.firebase.storage.FirebaseStorage;
import com.google.firebase.storage.StorageReference;
import com.google.firebase.storage.UploadTask;
import CollegeConnectUser.Bharat.PIET.R;
import java.util.Objects;

public class FeedbackActivity extends AppCompatActivity {

    EditText edtname,edtnumber, edtemail,edtmessage;
    MaterialButton btnsend;
    Spinner spinner;
    DatabaseReference databaseReference;
    private Toolbar toolbar;


    @SuppressLint("MissingInflatedId")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_feedback);

        toolbar = findViewById(R.id.appbarFeed);

        setSupportActionBar(toolbar);
        Objects.requireNonNull(getSupportActionBar()).setDisplayHomeAsUpEnabled(true);
        toolbar.setTitle("Feedback");
        toolbar.setTitleTextAppearance(this, R.style.poppins_bold);


        edtname=findViewById(R.id.feedname);
        edtnumber =findViewById(R.id.feednumber);
        edtemail=findViewById(R.id.feedemail);
        edtmessage=findViewById(R.id.feedmessage);
        btnsend=findViewById(R.id.feedbtnsend);
        spinner=findViewById(R.id.feedspinner);

        databaseReference= FirebaseDatabase.getInstance().getReference("Feedback");

        btnsend.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                checkValidation();
            }
        });



    }

    private void checkValidation() {
        String name=edtname.getText().toString();
        String number=edtnumber.getText().toString();
        String email=edtemail.getText().toString();
        String message=edtmessage.getText().toString();
        String batch=spinner.getSelectedItem().toString();

        if (name.isEmpty()){
            edtname.setError("Empty");
            edtname.requestFocus();
        }else if(email.isEmpty()){
            edtemail.setError("Empty");
            edtemail.requestFocus();
        }else if(number.isEmpty()){
            edtnumber.setError("Empty");
            edtnumber.requestFocus();
        }else if(message.isEmpty()){
            edtmessage.setError("Empty");
            edtmessage.requestFocus();
        }else if (batch.equals("Select Department")){
            Toast.makeText(this, "Please select a department", Toast.LENGTH_SHORT).show();
        }else{
            getFeedback();
        }

    }

    private void getFeedback() {

        String name=edtname.getText().toString();
        String number=edtnumber.getText().toString();
        String email=edtemail.getText().toString();
        String message=edtmessage.getText().toString();
        String batch=spinner.getSelectedItem().toString();

        FeedbackData feedbackData=new FeedbackData(name,number,email,message,batch);

        databaseReference.push().setValue(feedbackData);
        Toast.makeText(this, "Your FeedBack is sent! ", Toast.LENGTH_SHORT).show();
    }
}
```

7.4 Splash Screen

7.4.1 Design :

```
<?xml version="1.0" encoding="utf-8"?>
    <androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
        xmlns:app="http://schemas.android.com/apk/res-auto"
        xmlns:tools="http://schemas.android.com/tools"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:background="#FBFBFB"
        tools:context=".SplashScreen">


    <com.airbnb.lottie.LottieAnimationView
        android:id="@+id/animationView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.187"
        app:lottie_autoPlay="true"
        app:lottie_rawRes="@raw/edu"
        app:lottie_loop="true" />

    <ImageView
        android:id="@+id/pietlogo"
        android:layout_width="300dp"
        android:layout_height="100dp"
        android:layout_below="@id/animationView"
        android:layout_gravity="center"
        android:layout_marginBottom="25dp"
        android:foregroundGravity="center"
        android:src="@drawable/pietlogo"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.495"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/animationView"
        app:layout_constraintVertical_bias="0.852" />

    <TextView
        android:id="@+id/bat"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"

        android:text="Developed by BAT"
        android:textColor="#232426"
        android:textSize="16sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        android:layout_marginBottom="25dp"
        app:layout_constraintTop_toBottomOf="@+id/pietlogo" />


</androidx.constraintlayout.widget.ConstraintLayout>
```

7.4.2 Java Code :

```
package com.example.collegeconnectadmin;


import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.os.Handler;
import android.view.WindowManager;
import android.view.animation.Animation;
import android.view.animation.AnimationUtils;
import android.widget.ImageView;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

import com.airbnb.lottie.LottieAnimationView;

public class SplashScreen extends AppCompatActivity {


    private static int splash_timer = 3000;

    ImageView pietlogo;
    TextView bat;
    Animation sideAnim, bottomAnim;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        getWindow().setFlags(WindowManager.LayoutParams.FLAG_FULLSCREEN,
WindowManager.LayoutParams.FLAG_FULLSCREEN);
        setContentView(R.layout.activity_main);

        pietlogo = findViewById(R.id.pietlogo);
        bat = findViewById(R.id.bat);

        sideAnim = AnimationUtils.loadAnimation(this, R.anim.side_anim);
        bottomAnim = AnimationUtils.loadAnimation(this, R.anim.bottom_anim);

        pietlogo.setAnimation(bottomAnim);
        bat.setAnimation(bottomAnim);


        new Handler().postDelayed(new Runnable() {
            @Override
            public void run() {
                // initialising shared preference variable
                Intent i = new Intent(SplashScreen.this, Login.class);
                startActivity(i);
                finish();
            }
        }, splash_timer);
    }
    }
```

7.5 Add Notice

7.5.1 Design :

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".upload_notice">

        <com.google.android.material.appbar.AppBarLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent">

            <androidx.appcompat.widget.Toolbar
                android:layout_width="match_parent"
                android:layout_height="60dp"
                android:background="@color/colorPrimary"
                app:title="Upload Notice"
                app:titleTextColor="@color/white" />
        </com.google.android.material.appbar.AppBarLayout>

    <ScrollView
        android:layout_width="match_parent"
        android:layout_height="match_parent">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">
        <com.google.android.material.card.MaterialCardView
            android:layout_width="130dp"
            android:layout_height="150dp"
            android:layout_margin="10dp"
            android:elevation="5dp"
            android:layout_gravity="center"
```

```
          android:id="@+id/addImage">
          <LinearLayout
              android:layout_width="match_parent"
              android:layout_height="match_parent"
              android:orientation="vertical"
              android:gravity="center">
              <ImageView
                  android:layout_width="64dp"
                  android:layout_height="64dp"
                  android:background="@drawable/circle_pink"
                  android:src="@drawable/baseline_library_books_24"
                  android:padding="15dp"/>

              <View
                  android:layout_width="match_parent"
                  android:layout_height="1dp"
                  android:background="@color/lightGray"
                  android:layout_marginTop="10dp"/>
              <TextView
                  android:layout_width="wrap_content"
                  android:layout_height="wrap_content"
                  android:text="Select Image"
                  android:textStyle="bold"
                  android:padding="5dp"
                  android:layout_marginTop="10dp"
                  android:textColor="@color/textColor"/>
          </LinearLayout>

      </com.google.android.material.card.MaterialCardView>
      <com.google.android.material.textfield.TextInputLayout
          style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
          android:layout_width="match_parent"
          android:layout_height="match_parent"
          android:layout_marginTop="16dp">
          <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/noticeTitle"
              android:layout_width="match_parent"
              android:layout_height="wrap_content"
              android:hint="Notice Title"/>
      </com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.button.MaterialButton
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Upload Notice"
    android:layout_marginTop="16dp"
    android:id="@+id/uploadNoticeButton"
    android:textColor="@color/white"
    android:textAllCaps="false"
    />
      <com.google.android.material.card.MaterialCardView
```

```
        android:layout_width="match_parent"
        android:layout_marginTop="16dp"
        android:layout_height="400dp">
        <ImageView
          android:layout_width="match_parent"
          android:layout_height="match_parent"
          android:scaleType="centerCrop"
          android:id="@+id/noticeImageView"/>
      </com.google.android.material.card.MaterialCardView>
   </LinearLayout>
   </ScrollView>
</LinearLayout>
```

7.5.2 Java Code :

```
package com.example.collegeconnectadmin;

import android.app.ProgressDialog;
import android.content.Intent;
import android.graphics.Bitmap;
import android.net.Uri;
import android.os.Bundle;
import android.provider.MediaStore;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.Toast;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;
import androidx.cardview.widget.CardView;

import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.OnFailureListener;
import com.google.android.gms.tasks.OnSuccessListener;
import com.google.android.gms.tasks.Task;
import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;
import com.google.firebase.storage.FirebaseStorage;
import com.google.firebase.storage.StorageReference;
import com.google.firebase.storage.UploadTask;

import java.io.ByteArrayOutputStream;
import java.io.IOException;
import java.text.SimpleDateFormat;
import java.util.Calendar;

public class upload_notice extends AppCompatActivity {
```

```
private CardView selectImage;
private ImageView noticeimageview;
private Bitmap bitmap;
private EditText noticeTitle;
private  Button uploadNoticeButton;
private DatabaseReference reference,dbref;
String DownloadUrl = "";
private ProgressDialog pd;
private StorageReference storageReference;
private final int REQ = 1; // here we can assign any value to the req variable
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_upload_notice);
    selectImage = findViewById(R.id.addImage);
    noticeimageview = findViewById(R.id.noticeImageView);
    noticeTitle = findViewById(R.id.noticeTitle);
    uploadNoticeButton = findViewById(R.id.uploadNoticeButton);
    reference = FirebaseDatabase.getInstance().getReference();
    storageReference = FirebaseStorage.getInstance().getReference();

    pd = new ProgressDialog(this);
    selectImage.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            openGallery();
        }
    });
    uploadNoticeButton.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            if(noticeTitle.getText().toString().isEmpty()){
                noticeTitle.setError("Empty");
                noticeTitle.requestFocus();
            }else if(bitmap == null){
                uploadData();
            }else{
                UploadImage();
            }
        }
    });

}

private void uploadData() {
    dbref = reference.child("Notice");
    final String uniqueKey = dbref.push().getKey();

    String title = noticeTitle.getText().toString();
    Calendar cal = Calendar.getInstance();
```

```
        SimpleDateFormat currentdate = new SimpleDateFormat("dd-MM-yy");
        String date = currentdate.format(cal.getTime());

        Calendar calforTime = Calendar.getInstance();
        SimpleDateFormat currentTime = new SimpleDateFormat("hh:mm a");
        String time = currentTime.format(calforTime.getTime());

        NoticeData noticeData = new NoticeData(title,DownloadUrl,date,time,uniqueKey);
        dbref.child(uniqueKey).setValue(noticeData).addOnSuccessListener(new
OnSuccessListener<Void>() {
            @Override
            public void onSuccess(Void unused) {
                pd.dismiss();
                Toast.makeText(upload_notice.this,"Notice
uploaded",Toast.LENGTH_SHORT).show();

            }
        }).addOnFailureListener(new OnFailureListener() {
            @Override
            public void onFailure(@NonNull Exception e) {
                pd.dismiss();
                Toast.makeText(upload_notice.this,"Something went
Wrong",Toast.LENGTH_SHORT).show();

            }
        });
    }

    private void UploadImage() {
        pd.setMessage("Uploading...");
        pd.show();
        ByteArrayOutputStream baos = new ByteArrayOutputStream();
        bitmap.compress(Bitmap.CompressFormat.JPEG,50,baos);
        byte[] finalimg = baos.toByteArray();
        final StorageReference filePath;
        filePath = storageReference.child("Notice").child(finalimg + "jpg");
        final UploadTask uploadTask = filePath.putBytes(finalimg);
        uploadTask.addOnCompleteListener(upload_notice.this, new
OnCompleteListener<UploadTask.TaskSnapshot>() {
            @Override
            public void onComplete(@NonNull Task<UploadTask.TaskSnapshot> task) {
                if(task.isSuccessful()){
                    uploadTask.addOnSuccessListener(new
OnSuccessListener<UploadTask.TaskSnapshot>() {
                        @Override
                        public void onSuccess(UploadTask.TaskSnapshot taskSnapshot) {
                            filePath.getDownloadUrl().addOnSuccessListener(new
OnSuccessListener<Uri>() {
                                @Override
                                public void onSuccess(Uri uri) {
```

```
                                DownloadUrl = String.valueOf(uri);
                                uploadData();
                            }
                        });
                    }
                });
            }else{
                pd.dismiss();
                Toast.makeText(upload_notice.this,"Something Went
Wrong",Toast.LENGTH_SHORT).show();
            }
        }
    });
  }

  private  void openGallery(){
      Intent intent = new Intent(Intent.ACTION_PICK,
MediaStore.Images.Media.EXTERNAL_CONTENT_URI);
      startActivityForResult(intent,REQ);
  }

  @Override
  protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
      super.onActivityResult(requestCode, resultCode, data);
      if(requestCode == REQ && resultCode== RESULT_OK){
          Uri uri = data.getData();
          try {
              bitmap = MediaStore.Images.Media.getBitmap(getContentResolver(),uri);
          } catch (IOException e) {
              e.printStackTrace();
          }
          noticeimageview.setImageBitmap(bitmap);
      }
  }
}
```

7.6 View Notice

7.6.1 Design :

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="match_parent"
  android:background="@color/backgroundCol"
  android:layout_height="match_parent"
  xmlns:app="http://schemas.android.com/apk/res-auto"
  tools:context="CollegeConnectUser.Bharat.PIET.ui.notice.NoticeFragment">

  <androidx.recyclerview.widget.RecyclerView
      android:id="@+id/noticeRV"
```

```
        android:layout_width="match_parent"
        android:layout_height="match_parent"/>

    <com.airbnb.lottie.LottieAnimationView
        android:id="@+id/progress_anim"
        android:layout_width="400dp"
        android:layout_height="150dp"
        android:layout_centerInParent="true"
        app:layout_constraintVertical_bias="0.224"
        app:lottie_autoPlay="true"
        app:lottie_fileName="pr1.json"
        app:lottie_loop="true" />

</RelativeLayout>
```

7.6.2 Java Code :

```
package CollegeConnectUser.Bharat.PIET.ui.notice;


import android.Manifest;
import android.annotation.SuppressLint;
import android.app.NotificationChannel;
import android.app.NotificationManager;
import android.content.pm.PackageManager;
import android.os.Build;
import android.os.Bundle;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.core.app.ActivityCompat;
import androidx.core.app.NotificationCompat;
import androidx.core.app.NotificationManagerCompat;
import androidx.fragment.app.Fragment;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;

import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.TextView;
import android.widget.Toast;

import com.airbnb.lottie.LottieAnimationView;
import com.google.firebase.database.ChildEventListener;
import com.google.firebase.database.DataSnapshot;
import com.google.firebase.database.DatabaseError;
import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;
import com.google.firebase.database.ValueEventListener;
import CollegeConnectUser.Bharat.PIET.MainActivity;
import CollegeConnectUser.Bharat.PIET.R;
import CollegeConnectUser.Bharat.PIET.ui.events.EventData;

import java.util.ArrayList;

public class NoticeFragment extends Fragment {
   private RecyclerView noticeRV;
   private ArrayList<NoticeData> list;
   private NoticeAdapter adapter;
   private DatabaseReference reference;
   private LottieAnimationView progress_anim;
   private TextView noticeTitle;

   @SuppressLint("MissingInflatedId")
   @Override
   public View onCreateView(LayoutInflater inflater, ViewGroup container,
                        Bundle savedInstanceState) {

       // Inflate the layout for this fragment
       View view = inflater.inflate(R.layout.fragment_notice, container, false);

       noticeRV = view.findViewById(R.id.noticeRV);
       reference = FirebaseDatabase.getInstance().getReference().child("Notice");
       reference.keepSynced(true);

       progress_anim = view.findViewById(R.id.progress_anim);

       noticeRV.setLayoutManager(new LinearLayoutManager(getContext()));
       noticeRV.setHasFixedSize(true);

       getNotice();

       reference.addChildEventListener(new ChildEventListener() {
           @Override
           public void onChildAdded(@NonNull DataSnapshot snapshot, @Nullable String
previousChildName) {
               notification();
           }

           @Override
           public void onChildChanged(@NonNull DataSnapshot snapshot, @Nullable String
previousChildName) {

           }

           @Override
           public void onChildRemoved(@NonNull DataSnapshot snapshot) {

           }
```

```
            @Override
            public void onChildMoved(@NonNull DataSnapshot snapshot, @Nullable String
previousChildName) {

            }

            @Override
            public void onCancelled(@NonNull DatabaseError error) {

            }
        });

        return view;
    }


    private void notification() {
        if (Build.VERSION.SDK_INT >= Build.VERSION_CODES.O) {
            NotificationChannel ch = new NotificationChannel("1", "My Notice",
NotificationManager.IMPORTANCE_DEFAULT);
            NotificationManager nm =
getContext().getSystemService(NotificationManager.class);
            nm.createNotificationChannel(ch);
        }
        //EventData d = new EventData();
       // String c = d.getTitle();
        NotificationCompat.Builder builder = new NotificationCompat.Builder(getContext(),
"1");
        builder.setContentTitle("Event");
        builder.setContentText("New Notice");
        builder.setSmallIcon(R.drawable.piet);
        builder.setAutoCancel(true);
        NotificationManagerCompat mc = NotificationManagerCompat.from(getContext());
        if (ActivityCompat.checkSelfPermission(getContext(),
Manifest.permission.POST_NOTIFICATIONS) !=
PackageManager.PERMISSION_GRANTED) {
            // TODO: Consider calling
            //    ActivityCompat#requestPermissions
            // here to request the missing permissions, and then overriding
            //   public void onRequestPermissionsResult(int requestCode, String[] permissions,
            //                                          int[] grantResults)
            // to handle the case where the user grants the permission. See the documentation
            // for ActivityCompat#requestPermissions for more details.
            return;
        }
        mc.notify(999, builder.build());
    }
    private void getNotice() {
        reference.addValueEventListener(new ValueEventListener() {
            @Override
            public void onDataChange(@NonNull DataSnapshot dataSnapshot) {
                //initialising list
                list = new ArrayList<>();
                for (DataSnapshot snapshot : dataSnapshot.getChildren()) {
                    // getting data from NoticeData class
                    NoticeData data = snapshot.getValue(NoticeData.class);
                    // adding in the list
                    list.add(0,data);
                }
                adapter = new NoticeAdapter(getContext(), list);
                adapter.notifyDataSetChanged();
                progress_anim.setVisibility(View.GONE);
                noticeRV.setAdapter(adapter);
            }

            @Override
            public void onCancelled(@NonNull DatabaseError databaseError) {
                progress_anim.setVisibility(View.GONE);
                Toast.makeText(getContext(), databaseError.getMessage(),
Toast.LENGTH_SHORT).show();
            }
        });
    }

    @Override
    public void onResume(){
        super.onResume();
        ((MainActivity) getActivity()).setActionBarTitle("Notices");
    }
}
```

7.7 About

7.7.1 Design :

```
<?xml version="1.0" encoding="utf-8"?>
    <RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
        xmlns:app="http://schemas.android.com/apk/res-auto"
        xmlns:tools="http://schemas.android.com/tools"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        android:background="@color/backgroundCol"
         tools:context=".AboutPiet">
```

```
<androidx.constraintlayout.widget.ConstraintLayout
    android:id="@+id/toolbarCL"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
    <com.google.android.material.appbar.AppBarLayout
        android:id="@+id/appBarLayout"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <androidx.appcompat.widget.Toolbar
            android:id="@+id/about_piet"
            android:layout_width="match_parent"
            android:layout_height="?attr/actionBarSize"
            android:background="@color/backgroundCol"
            app:title="About Piet"
            app:titleTextColor="@color/titleColor" />

    </com.google.android.material.appbar.AppBarLayout>
</androidx.constraintlayout.widget.ConstraintLayout>

<com.google.android.material.card.MaterialCardView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="15dp"
    android:backgroundTint="@color/colorPrimary"
    android:layout_below="@id/toolbarCL"
    android:padding="15dp"
    app:cardCornerRadius="15dp"
    app:cardElevation="15dp">

    <LinearLayout
        android:paddingLeft="16dp"
        android:paddingTop="16dp"
        android:paddingRight="16dp"
        android:paddingBottom="16dp"
        android:orientation="vertical"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <ImageView
            android:layout_width="wrap_content"
            android:layout_height="200dp"
            android:src="@drawable/adminblock"
            android:scaleType="fitXY"
            android:id="@+id/placeImage1"/>
        <LinearLayout
            android:orientation="vertical"
```

```
                android:layout_width="match_parent"
                android:layout_height="wrap_content">
                <ScrollView
                    android:layout_width="match_parent"
                    android:layout_height="wrap_content">
                    <TextView
                        android:id="@+id/txt2"
                        android:layout_marginTop="10dp"
                        android:layout_width="match_parent"
                        android:layout_height="wrap_content"
                        android:text="@string/about_Piet"
                        android:textColor="@color/white"
                        android:justificationMode="inter_word">
                    </TextView>
                </ScrollView>
            </LinearLayout>

        </LinearLayout>

    </com.google.android.material.card.MaterialCardView>

</RelativeLayout>
```

7.7.2 Java Code :

```
package com.example.collegeconnectadmin;

import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.Toolbar;

import android.os.Bundle;

import java.util.Objects;

public class AboutPiet extends AppCompatActivity {

    private Toolbar toolbar;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_about_piet);
        toolbar = findViewById(R.id.about_piet);

        setSupportActionBar(toolbar);
        Objects.requireNonNull(getSupportActionBar()).setDisplayHomeAsUpEnabled(true);
    }
}
```

7.8 Add Faculty

7.8.1 Design :

```
<?xml version="1.0" encoding="utf-8"?>
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".Faculty.AddTeacher">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:padding="16dp"
        android:orientation="vertical">
        <de.hdodenhof.circleimageview.CircleImageView
            android:layout_width="120dp"
            android:layout_height="120dp"
            android:layout_gravity="center"
            android:src="@drawable/youngman"
            android:layout_marginTop="30dp"
            android:id="@+id/addTeacherImage"/>
        <com.google.android.material.textfield.TextInputLayout
            style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:layout_marginTop="16dp">
            <com.google.android.material.textfield.TextInputEditText
                android:id="@+id/TeacherName"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:inputType="text"
                android:hint="Name"/>
        </com.google.android.material.textfield.TextInputLayout>
        <com.google.android.material.textfield.TextInputLayout
            style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:layout_marginTop="16dp">
            <com.google.android.material.textfield.TextInputEditText
                android:id="@+id/TeacherEmail"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:inputType="text"
                android:hint="Email"/>
        </com.google.android.material.textfield.TextInputLayout>
        <com.google.android.material.textfield.TextInputLayout
            style="@style/Widget.MaterialComponents.TextInputLayout.OutlinedBox"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            android:layout_marginTop="16dp">
            <com.google.android.material.textfield.TextInputEditText
                android:id="@+id/TeacherPost"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:inputType="text"
                android:hint="Post"/>
        </com.google.android.material.textfield.TextInputLayout>

        <Spinner
            android:layout_width="match_parent"
            android:layout_height="48dp"
            android:id="@+id/addTeacherCategory"
            android:spinnerMode="dropdown"
            android:gravity="center"
            android:background="@color/lightGray"
            android:layout_marginVertical="16dp"/>

        <com.google.android.material.button.MaterialButton
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Add Teacher"
            android:layout_marginTop="16dp"
            android:id="@+id/AddTeacherButton"
            android:textColor="@color/white"
            android:textAllCaps="false"
            />
    </LinearLayout>

</ScrollView>
```

7.8.2 Java Code :

```
package com.example.collegeconnectadmin.Faculty;

import android.app.ProgressDialog;
import android.content.Intent;
import android.graphics.Bitmap;
import android.net.Uri;
import android.os.Bundle;
import android.provider.MediaStore;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.Spinner;
import android.widget.Toast;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;

import com.example.collegeconnectadmin.R;
import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.OnFailureListener;
import com.google.android.gms.tasks.OnSuccessListener;
import com.google.android.gms.tasks.Task;
import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;
import com.google.firebase.storage.FirebaseStorage;
import com.google.firebase.storage.StorageReference;
import com.google.firebase.storage.UploadTask;

import java.io.ByteArrayOutputStream;
import java.io.IOException;

public class AddTeacher extends AppCompatActivity {

    private ImageView addTeacherImage;
    private EditText addTeacherName,addTeacherEmail,addTeacherPost;
    private Spinner addTeacherCategory;
    private Button addTeacherBtn;
    private final int REQ =1;
    private Bitmap bitmap = null;
    private String category;
    private String name,email,post,downloadUrl = "";
    private ProgressDialog pd;
    private StorageReference storageReference;
    private DatabaseReference reference, dbRef;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_add_teacher);
        addTeacherImage = findViewById(R.id.addTeacherImage);
        addTeacherName = findViewById(R.id.TeacherName);
        addTeacherPost = findViewById(R.id.TeacherPost);
        addTeacherEmail = findViewById(R.id.TeacherEmail);
        addTeacherCategory = findViewById(R.id.addTeacherCategory);
        addTeacherBtn = findViewById(R.id.AddTeacherButton);
        reference = FirebaseDatabase.getInstance().getReference().child("Teacher");
        storageReference = FirebaseStorage.getInstance().getReference();

        pd = new ProgressDialog(this);

        String[] items = new String[]{"select Category","Computer
Science","Mechanical","Physic","Chemistry"};
        addTeacherCategory.setAdapter(new ArrayAdapter<String>(this,
android.R.layout.simple_spinner_dropdown_item,items));
        addTeacherCategory.setOnItemSelectedListener(new
AdapterView.OnItemSelectedListener() {
            @Override
            public void onItemSelected(AdapterView<?> adapterView, View view, int i, long l) {
                category = addTeacherCategory.getSelectedItem().toString();
            }

            @Override
            public void onNothingSelected(AdapterView<?> adapterView) {

            }
        });

        addTeacherImage.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                openGallery();
            }
        });

        addTeacherBtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                checkValidation();
            }
        });

    }

    private void checkValidation() {
        name = addTeacherName.getText().toString();
        email = addTeacherEmail.getText().toString();
        post = addTeacherPost.getText().toString();

        if(name.isEmpty()){
            addTeacherName.setError("Empty");
            addTeacherName.requestFocus();
        }
        else if(post.isEmpty()){
            addTeacherPost.setError("Empty");
            addTeacherPost.requestFocus();
        }
        else if(email.isEmpty()){
            addTeacherEmail.setError("Empty");
            addTeacherEmail.requestFocus();
        }else if(category.equals("Select Category")){
            Toast.makeText(this, "Please provide teacher category",
Toast.LENGTH_SHORT).show();
        }
        else if(bitmap == null){
            insertData();
        }else{
            uploadImage();
        }
    }
    private void uploadImage() {
        pd.setMessage("Uploading...");
        pd.show();
        ByteArrayOutputStream baos = new ByteArrayOutputStream();
        bitmap.compress(Bitmap.CompressFormat.JPEG,50,baos);
        byte[] finalimg = baos.toByteArray();
        final StorageReference filePath;
        filePath = storageReference.child("Teacher").child(finalimg + "jpg");
        final UploadTask uploadTask = filePath.putBytes(finalimg);
        uploadTask.addOnCompleteListener(AddTeacher.this, new
OnCompleteListener<UploadTask.TaskSnapshot>() {
            @Override
            public void onComplete(@NonNull Task<UploadTask.TaskSnapshot> task) {
                if(task.isSuccessful()){
                    uploadTask.addOnSuccessListener(new
OnSuccessListener<UploadTask.TaskSnapshot>() {
                        @Override
                        public void onSuccess(UploadTask.TaskSnapshot taskSnapshot) {
                            filePath.getDownloadUrl().addOnSuccessListener(new
OnSuccessListener<Uri>() {
                                @Override
                                public void onSuccess(Uri uri) {
                                    downloadUrl = String.valueOf(uri);
                                    insertData();
                                }
                            });
                        }
                    });
                }else{
                    pd.dismiss();
                    Toast.makeText(AddTeacher.this,"Something Went
Wrong",Toast.LENGTH_SHORT).show();
                }
            }
        });
    }

    private void insertData() {
        dbRef = reference.child("Teachers");
        final String uniqueKey = dbRef.push().getKey();

        TeacherData data = new TeacherData(name,email,post,downloadUrl,uniqueKey);
        dbRef.child(uniqueKey).setValue(data).addOnSuccessListener(new
OnSuccessListener<Void>() {
            @Override
            public void onSuccess(Void unused) {
                pd.dismiss();
                Toast.makeText(AddTeacher.this,"Teacher
Added",Toast.LENGTH_SHORT).show();
            }
        }).addOnFailureListener(new OnFailureListener() {
            @Override
            public void onFailure(@NonNull Exception e) {
                pd.dismiss();
                Toast.makeText(AddTeacher.this,"Something went
Wrong",Toast.LENGTH_SHORT).show();

            }
        });
    }

    private void openGallery() {
            Intent intent = new Intent(Intent.ACTION_PICK,
MediaStore.Images.Media.EXTERNAL_CONTENT_URI);
            startActivityForResult(intent,REQ);
    }
    @Override
    protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        if(requestCode == REQ && resultCode== RESULT_OK){
            Uri uri = data.getData();
            try {
                bitmap = MediaStore.Images.Media.getBitmap(getContentResolver(),uri);
            } catch (IOException e) {
                e.printStackTrace();
            }
            addTeacherImage.setImageBitmap(bitmap);
        }
    }

}
```

CHAPTER-8

TESTING

Testing is the major quality control measure employed during software development. Testing is the process of executing a program with the intent of finding an error. No piece of code is completely ready unless it has been fully tested. This stage is very important, it is verified whether the code developed meet the requirement specifications or not. Moreover all validations are also checked in the testing stage.

8.1 Need for Testing

Testing is vital to the success of the system. Testing makes a logical assumption that if all parts of the system are correct, the goal will be successfully achieved. Inadequate testing or non-testing leads to errors that may not appear until a month later. A small system error can conceivably explode into a much larger problem effective testing early in the process translates directly into long term cost saving form a reduced number of errors. Second reason for testing is its utility as a user oriented vehicle before implementation. Finally, testing leads to software reliability. Identifying and removing faults, during testing can make the software more reliable. This increases user‘s confidence in the system.

8.2 Testing Methods

The two popular testing methods are :

- Black Box Testing
- White Box Testing

8.2.1 Black box testing

Black box testing is a testing technique that ignores the internal mechanism of the system and focuses on the output generated against any input and execution of the system. It is also called functional testing.

This testing can be done by the user who does not have the complete knowledge about the project. Here are the generic steps followed to carry out any type of Black Box Testing.

- Initially requirements and specifications of the system are examined.

- Tester chooses valid inputs and some invalid inputs to verify that the system is able to detect them.
- Tester determines expected outputs for all those inputs.
- Software tester constructs test cases with the selected inputs.
- The test cases are executed.
- Software tester compares the actual outputs with the expected outputs.
- Defects if any are fixed and re-tested.

Tests Performed	**Pass**	**Fail**
When user tried to login with wrong ID.		✓
When user tries to login without registration.		✓
When user enters wrong email ID.		✓
When user enters mobile number of less than 10 digits.		✓
When user tries to enter number as his/her name.		✓

Table 10:: Black-Box Test Cases

8.2.2 White box testing

White box testing is a testing technique that takes into account the internal mechanism of a system. It is also called structural testing and glass box testing.

Black box testing is often used for validation and white box testing is often used for verification. To apply this testing, tester should have complete knowledge about the coding in which project is created.

White box testing involves the testing of the software code for the following:

- Internal security holes
- Broken or poorly structured paths in the coding processes
- The flow of specific inputs through the code
- Expected output

- The functionality of conditional loops
- Testing of each statement and function on an individual basis.

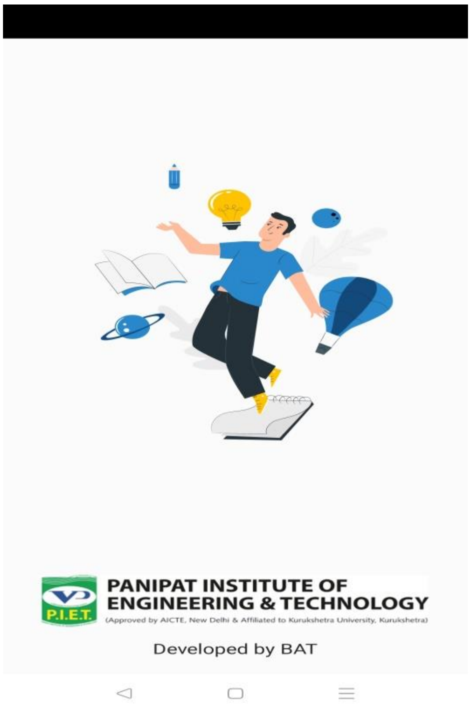
Tests performed	Pass	Fail
On clicking a particular button appropriate page opens.	✓	
Validation is implemented correctly in forms.	✓	
Login is performed using correct username and password.	✓	
Redirecting to other pages automatically.	✓	

Table 11:: White box testing

CHAPTER-9

RESULTS

9.1 Admin App: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(Approved by AICTE, New Delhi & Affiliated to Kurukshetra University, Kurukshetra)
Developed by BAT

Fig. 8:: Splash Screen

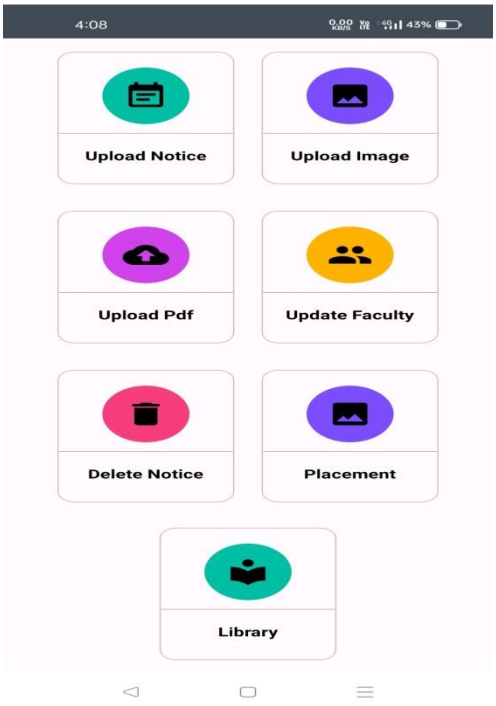
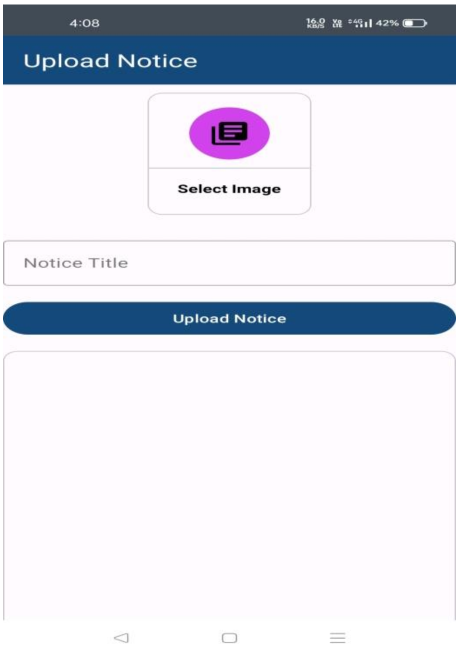


Fig. 9:: Admin Dashboard



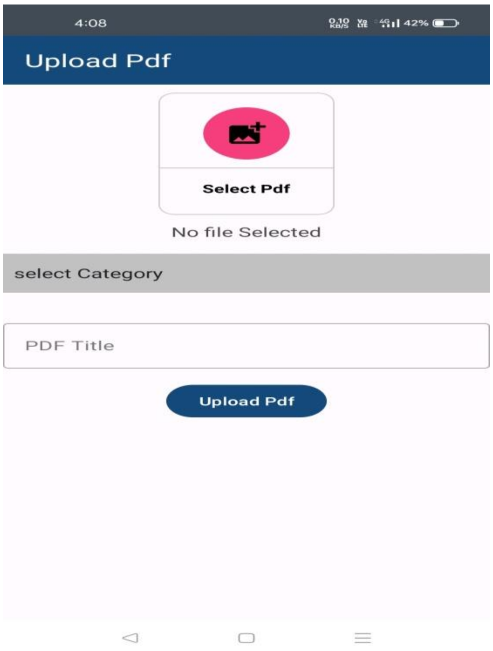


Fig. 10:: Uplaod Notice Activity

Fig. 11:: Uplaod Pdf Activity

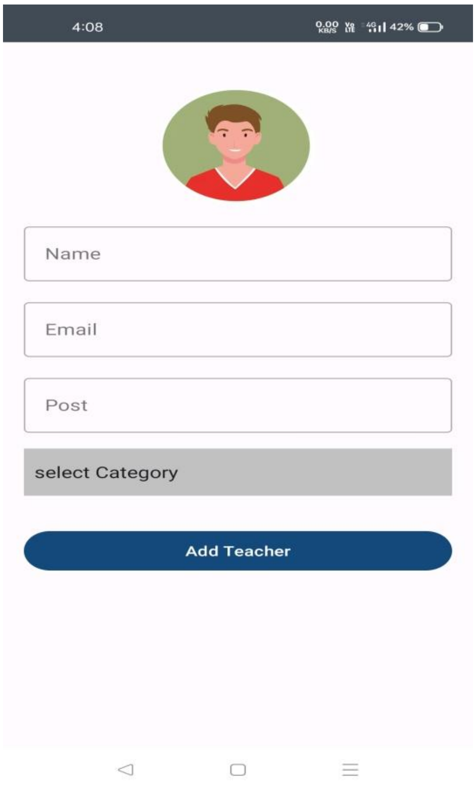


Fig. 12:: Add Teacher Activity

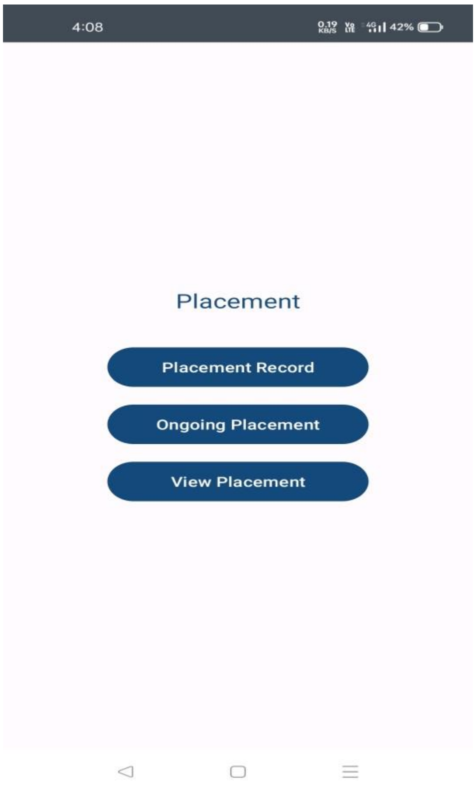
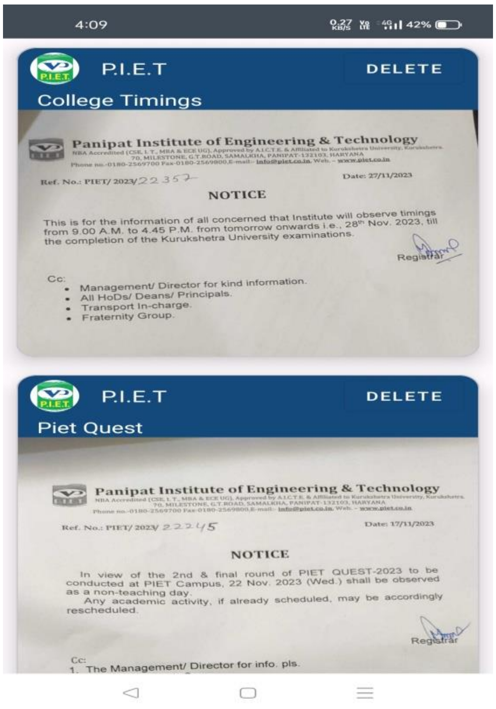


Fig. 13:: Placement Activity



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Ref. No.: PIET/ 2023/22357 Date: 27/11/2023

NOTICE

This is for the information of all concerned that Institute will observe timings from 9.00 A.M. to 4.45 P.M. from tomorrow onwards i.e., 28th Nov. 2023, till the completion of the Kurukshetra University examinations.

Registrar

Cc:
- Management/ Director for kind information.
- All HoDs/ Deans/ Principals.
- Transport In-charge.
- Fraternity Group.

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Ref. No.: PIET/ 2023/ 22245 Date: 17/11/2023

NOTICE

In view of the 2nd & final round of PIET QUEST-2023 to be conducted at PIET Campus, 22 Nov. 2023 (Wed.) shall be observed as a non-teaching day.

Any academic activity, if already scheduled, may be accordingly rescheduled.

Registrar

Cc:
1. The Management/ Director for info. pls.

Fig. 14:: Delete Notice Activity

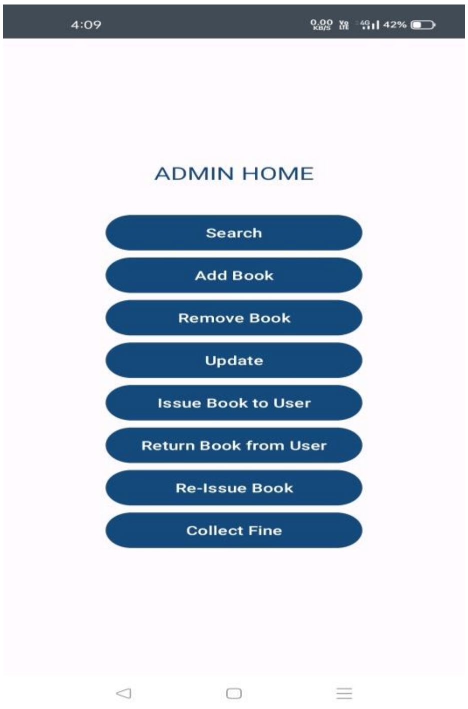
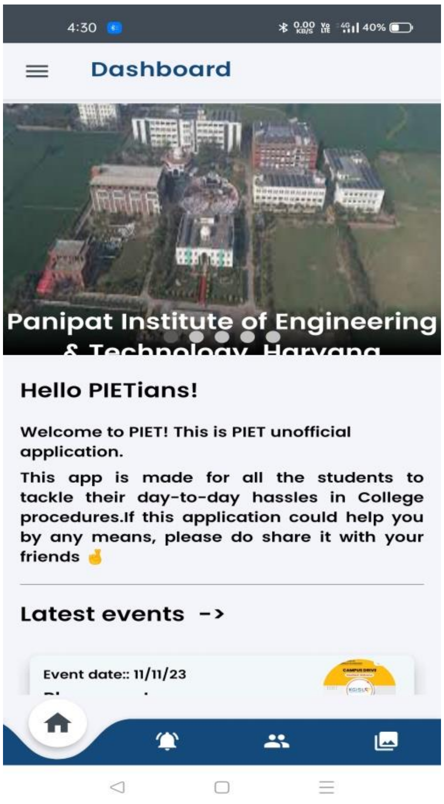


Fig. 15:: Library Activity

9.2 User App:


4:30

Dashboard

Panipat Institute of Engineering & Technology, Haryana

Hello PIETians!

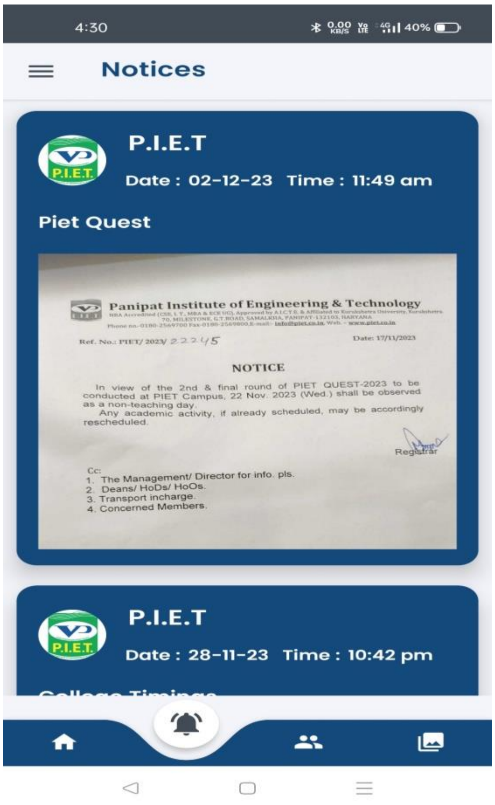
Welcome to PIET! This is PIET unofficial application.

This app is made for all the students to tackle their day-to-day hassles in College procedures.If this application could help you by any means, please do share it with your friends 🤞

Latest events ->

Event date:: 11/11/23

Fig. 16:: User Dashboard


4:30

Notices

P.I.E.T

Date : 02-12-23 Time : 11:49 am

Piet Quest

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Any academic activity, if already scheduled, may be accordingly rescheduled.

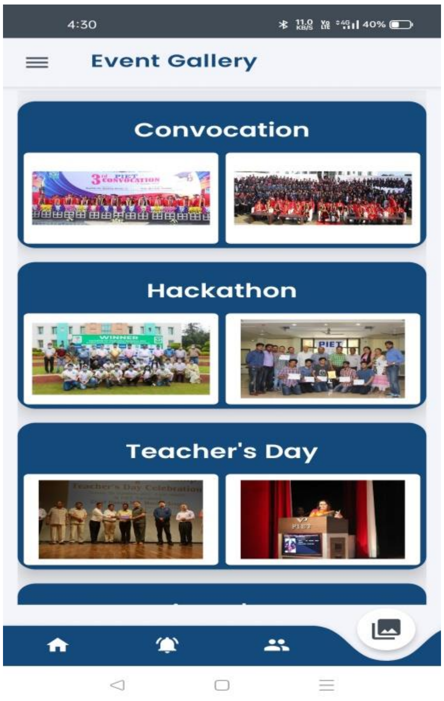
Registrar

Cc:
1. The Management/ Director for info. pls.
2. Deans/ HoDs/ HoOs.
3. Transport incharge.
4. Concerned Members.

P.I.E.T

Date : 28-11-23 Time : 10:42 pm

Fig. 17:: View Notice Activity


4:30

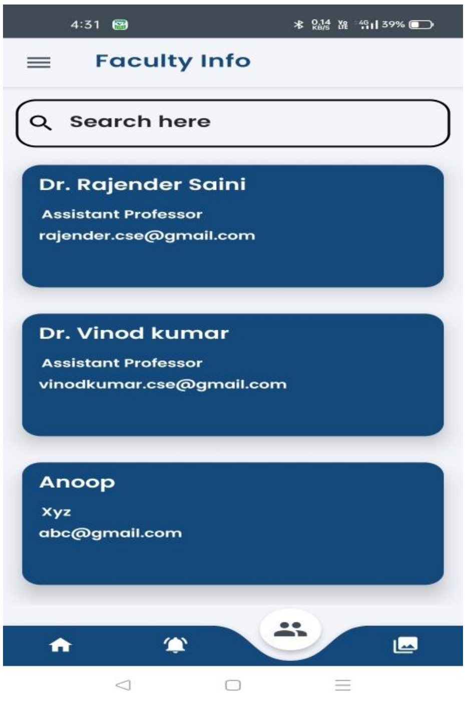
Event Gallery

Convocation

Hackathon

Teacher's Day

Fig. 18:: Event Gallery Activity


4:31

Faculty Info

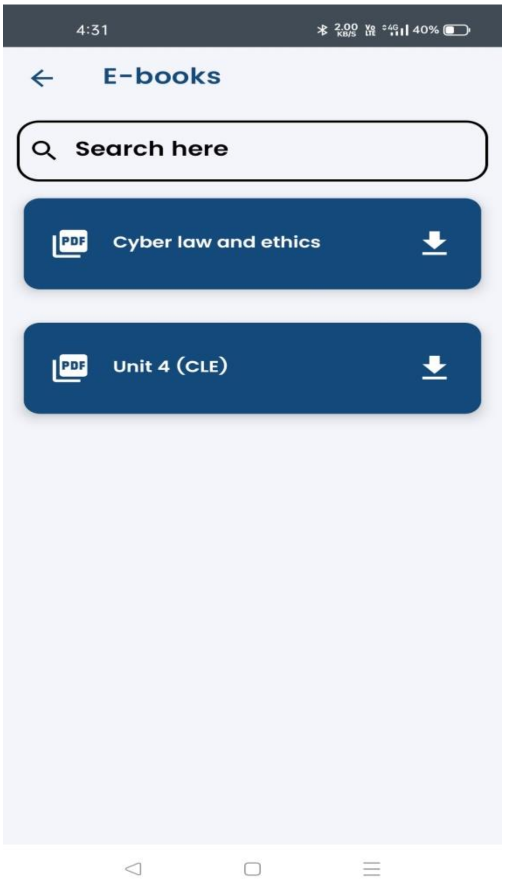
Search here

Dr. Rajender Saini
Assistant Professor
rajender.cse@gmail.com

Dr. Vinod kumar
Assistant Professor
vinodkumar.cse@gmail.com

Anoop
Xyz
abc@gmail.com

Fig. 19:: Faculty Info Activity



4:31

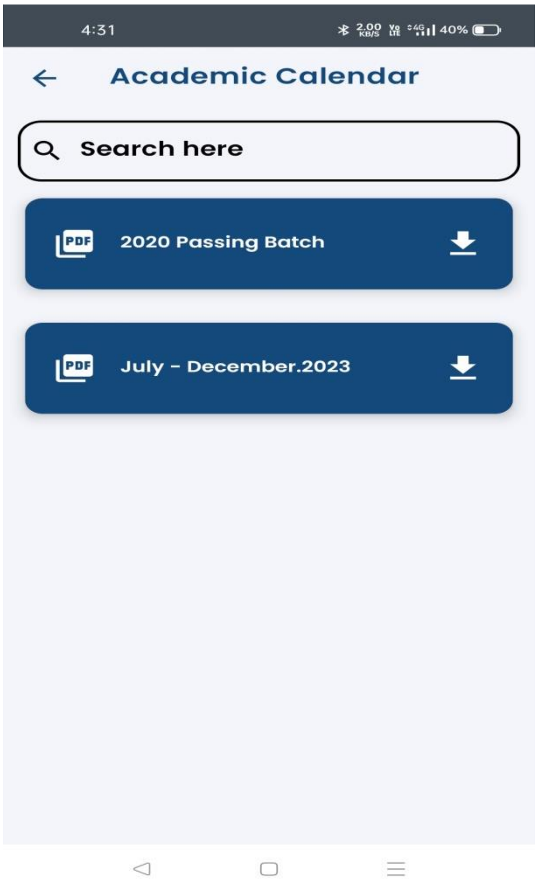
E-books

Search here

Cyber law and ethics

Unit 4 (CLE)

Fig. 20:: E-book Activity



4:31

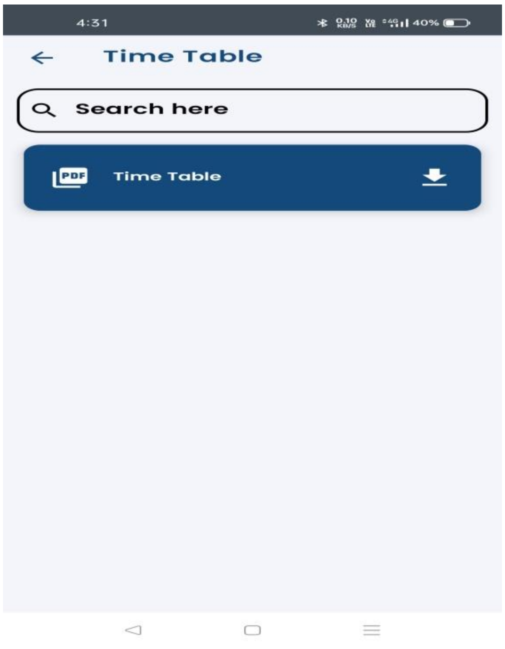
Academic Calendar

Search here

2020 Passing Batch

July - December.2023

Fig. 21:: Academic Calendar Activity



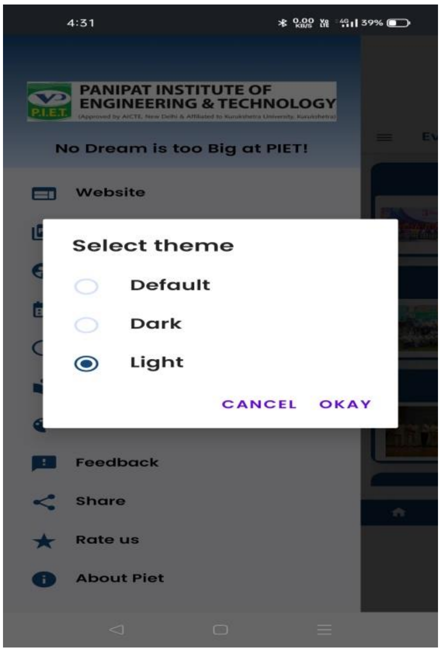
4:31

Time Table

Search here

Time Table

Fig. 22:: Time Table Activity



4:31

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No Dream is too Big at PIET!

Website

Select theme

○ Default

○ Dark

● Light

CANCEL OKAY

Feedback

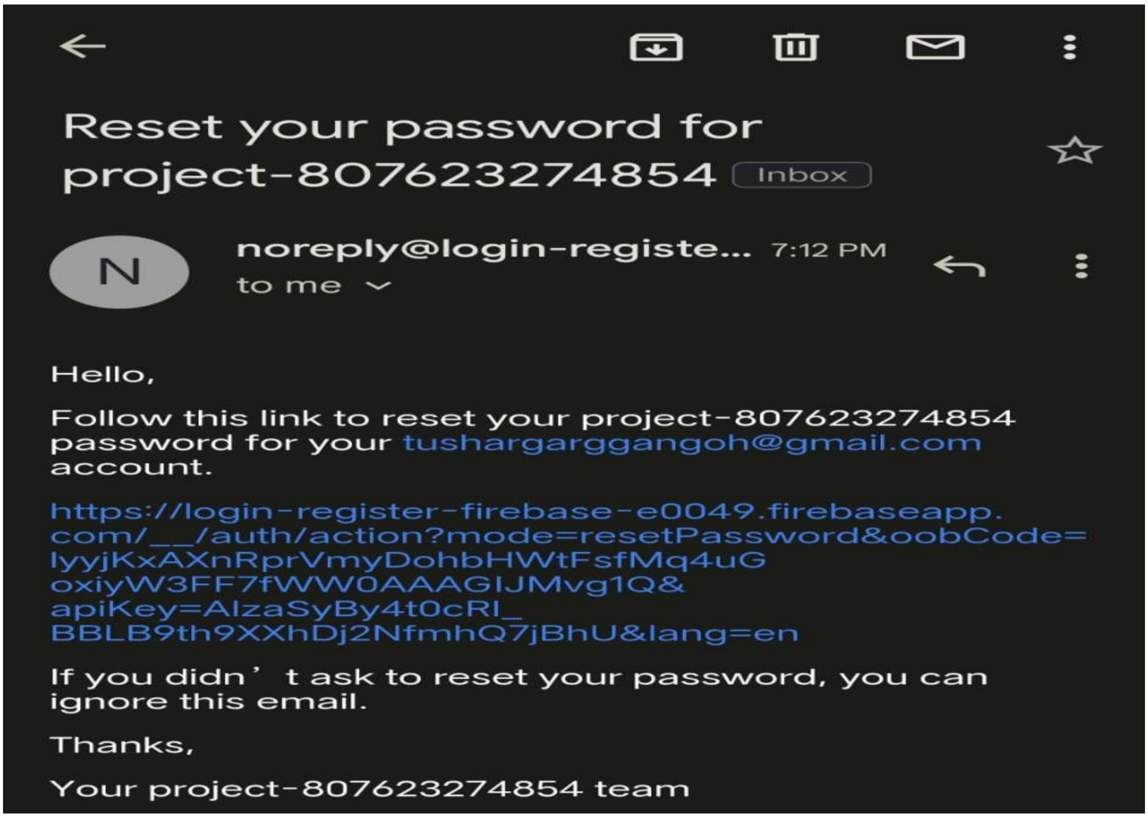
Share

Rate us

About Piet

Fig. 23:: Change Theme Activity

9.3 Other Activities:



Reset your password for project-807623274854

noreply@login-registe... 7:12 PM
to me

Hello,

Follow this link to reset your project-807623274854 password for your tushargarggangoh@gmail.com account.

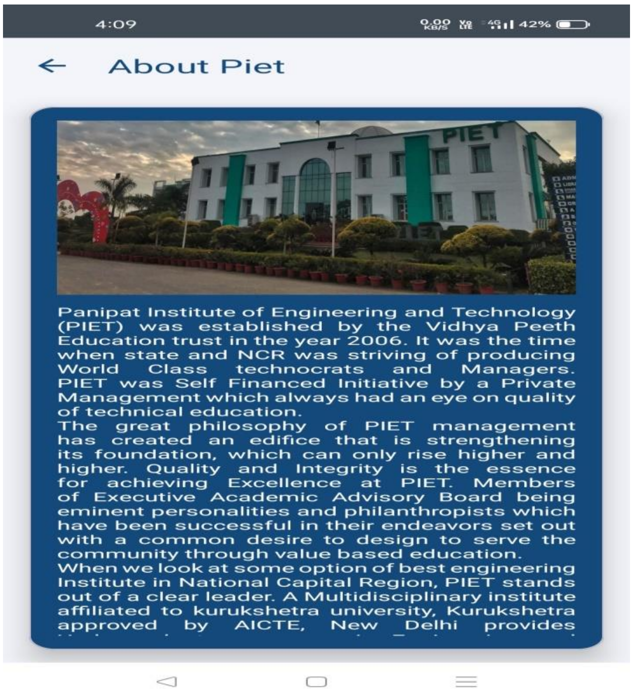
https://login-register-firebase-e0049.firebaseapp.com/__/auth/action?mode=resetPassword&oobCode=lyyjKxAXnRprVmyDohbHWtFsfMq4uGoxiyW3FF7fWW0AAAGIJMvg1Q&apiKey=AIzaSyBy4t0cRI_BBLB9th9XXhDj2NfmhQ7jBhU&lang=en

If you didn’ t ask to reset your password, you can ignore this email.

Thanks,

Your project-807623274854 team

Fig. 24:: Forgot Password



Panipat Institute of Engineering and Technology (PIET) was established by the Vidhya Peeth Education trust in the year 2006. It was the time when state and NCR was striving of producing World Class technocrats and Managers. PIET was Self Financed Initiative by a Private Management which always had an eye on quality of technical education.

The great philosophy of PIET management has created an edifice that is strengthening its foundation, which can only rise higher and higher. Quality and Integrity is the essence for achieving Excellence at PIET. Members of Executive Academic Advisory Board being eminent personalities and philanthropists which have been successful in their endeavors set out with a common desire to design to serve the community through value based education.

When we look at some option of best engineering Institute in National Capital Region, PIET stands out of a clear leader. A Multidisciplinary institute affiliated to kurukshetra university, Kurukshetra approved by AICTE, New Delhi provides

Fig. 25:: About College

CHAPTER 10

CONCLUSION AND FUTURE SCOPE

10.1 Conclusion

The project entitled as **College Management System** is the system that deals with the issues related to a particular institution.

- This project is successfully implemented with all the features mentioned in system requirements specification.
- The application provides appropriate information to users according to the chosen service.
- The project is designed keeping in view the day to day problems faced by a college.
- Deployment of our application will certainly help the college to reduce unnecessary wastage of time in personally going to each department for some information.

Awareness and right information about any college is essential for both the development of student as well as faculty. So this serves the right purpose in achieving the desired requirements of both the communities.

There is no doubt that the college administration software is a credible piece of educational technology. It not only helps in reducing the need for doing repetitive task and managing a large number of paper-based files but also allows the institution to perform well in today's competitive era.

10.2 Future Scope

- Online examination module would be introduced to conduct online examination.
- Scheduling of the staff. i.e. , time table setting of the staff
- Further, the faculty can upload the videos of their lectures on to this site and students who had missed those classes can view those videos.
- Also, we can Include Hostel Management System.

CHAPTER 11
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College Management App

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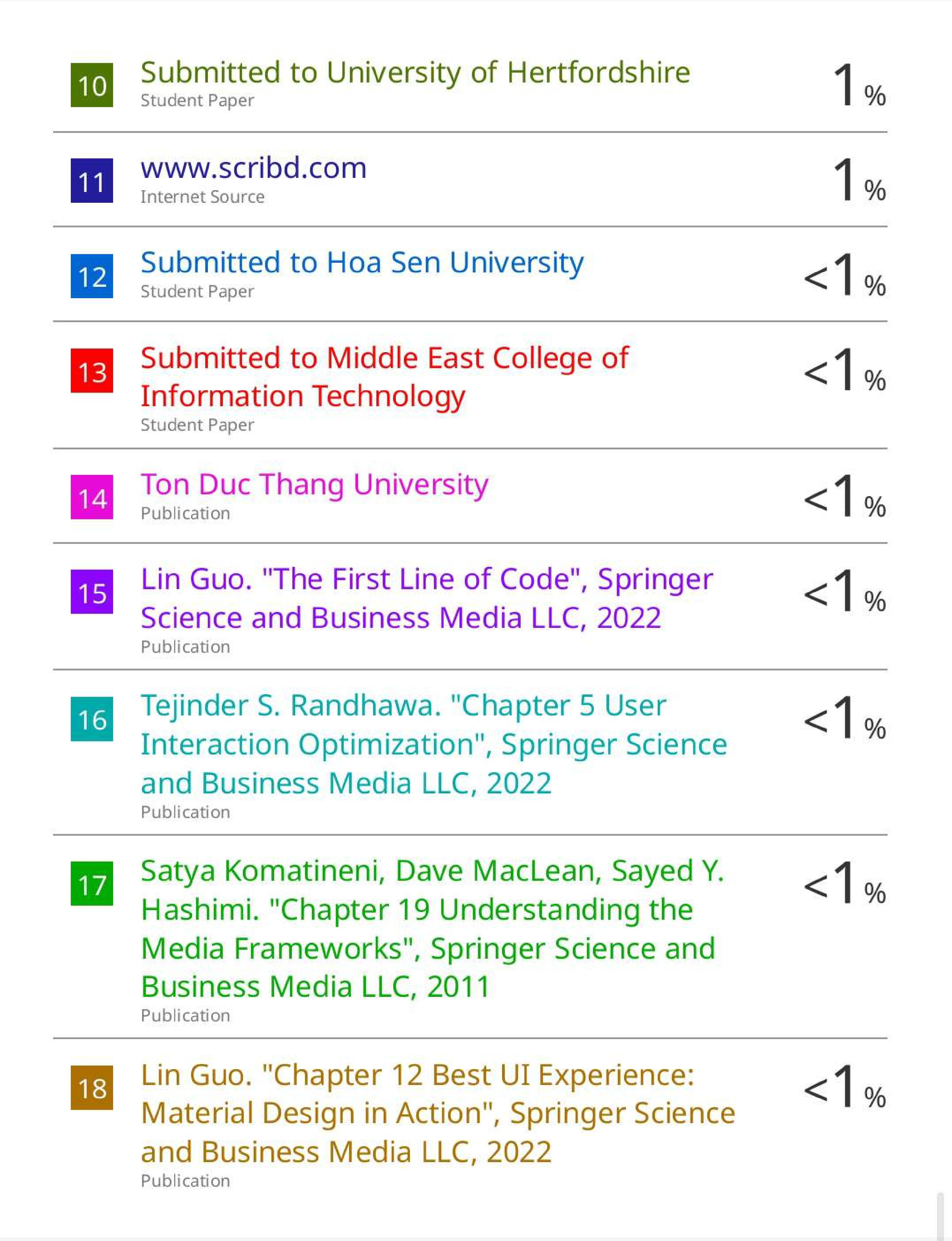

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