International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 10 Issue: 03 | Mar 2023 www.irjet.net p-ISSN: 2395-0072

# PCE Connect

**Prof. Virendra Yadav**

*Department. of computer science and Engineering*
*Priyadarshini College of Engineering*
*Nagpur, India*

**Rohit Ghate**

*Department. of computer science and Engineering*
*Priyadarshini College of Engineering*
*Nagpur, India*

**Sandana Sunatkari**

*Department. of computer science and Engineering*
*Priyadarshini College of Engineering*
*Nagpur, India*

**Sameer Lonare**

*Department. of computer science and Engineering*
*Priyadarshini College of Engineering*
*Nagpur, India*

**Tanushree Jatav**

*Department. of computer science and Engineering*
*Priyadarshini College of Engineering*
*Nagpur, India*

**Aman Kulkarni**

*Department. of computer science and Engineering*
*Priyadarshini College of Engineering*
*Nagpur, India*

---

***Abstract*— PCE Connect is a mobile application that serves as a valuable companion for students enrolled at PCE. It includes several useful modules that cater to the needs of students, making their lives easier and more organized. However, PCE Connect is more than just an app. It is a project that aims to support emerging developers at PCE by providing them with a user-friendly interface and comfortable environment. The app features an attractive interface based on Material UI, which is not only visually appealing but also encourages users to engage with the app for longer periods. Developing an application can be time-consuming and requires expertise in software development, which is why PCE Connect has been carefully crafted to offer a seamless and intuitive experience for all users.**

## I. INTRODUCTION

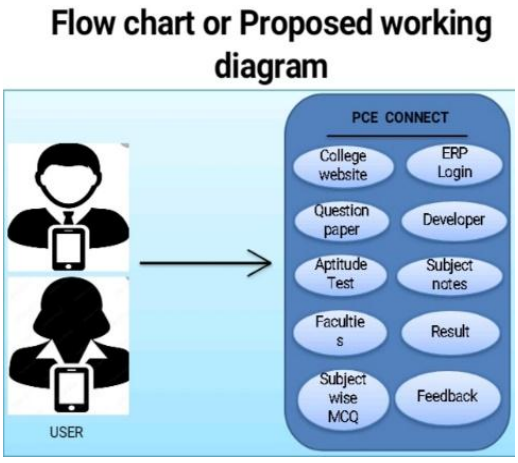
As mobile automation becomes more prevalent, Android apps are replacing traditional websites. It is time to shift from accustomed websites to applications that have become a part of our daily routine. We are proud to introduce "PCE Connect," an Android application that serves as a miniature version of our college website. It is a multiuse scheme designed for the use of all PCE students and faculty. This app is a mobile app that provides a more comfortable user interface, allowing you to access location information, notes, faculty information, and a calculator all in one place. Additionally, the Android application serves as a navigator by collecting the user's current location and providing the shortest route to PCE campus through GPS.

PCE Connect is an application that aims to provide students at PCE with a companion app that contains several useful modules. However, this project goes beyond just being an app. It's an initiative that targets all emerging developers at PCE, providing them with a better user interface and more comfortable environment. The app uses Material UI, which attracts users to engage with it for a longer time. Developing an application is a time-consuming task that requires professional software knowledge, and as a result, people often wait for someone to develop an app or go to forums and request that developers implement their ideas. On the other hand, many enthusiastic developers are looking for ideas to implement, and this app aims to connect them. It will contain functional modules such as Aptitude Test, Technical Test, Code Radar, College Alumni, Notes, and Feedback. Additionally, the app already includes several modules such as College Website, University Question Paper, Location, University Result, and Faculty Detail.

## II. METHODOLOGY

### *A. Application workflow*

The below flow chart shows the flow of the planned program operation. It shows how well the system works. Shown in Fig.1.1



- The home screen of app will contain buttons such as College Website, College ID, Aptitude Test Paper of various company, Location, Faculties and Developers.
- It will also consist some new features such as subject wise MCQ's, subject notes, Feedback section for all candidates.
- Later we will make it live on play store after its completion.

**1. User Registration:**

If the user wants to use the PCE Connect, they need register it by providing login information. Once, they register the registered information is stored on the server and can be validated, checking the valid credentials for the next time he logins with the application.

**2. Website and ERP Login:**

If the user wants to go to official website of our college, they can easily go by one tap. From their they can get every information such as admission, departments, examination etc. In ERP Login, user can get their academic details such as academic session, year, admission status, ID number, Course, Semester etc.

**3. Question Paper:**

In this block, user can find previous year question paper of RTMNU. This involves all question paper of CSE Department as well as First Year
Notes In this section user will get notes related to subject of CSE Department.

**4. Aptitude Test:**

In this section, we are giving information related to those companies who visited our campus over the years. (TCS, Cognizant, Infosys, Wipro, Amazon, Hexaware, HCL We are also giving Aptitude as well as Technical question paper with answer in form of pdf of these shown companies. Based on given Aptitude and Technical question paper, we are providing test combinedly, after giving correct answer, user get 1 point. As result, total score will be shown after test.

Thus, this are some featuring modules of this app.

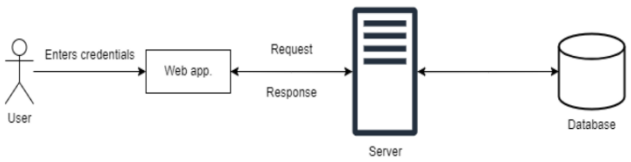
**ADVANTAGES OF APPLICATION**

- PCE Connect" the android application software which would be a miniature of our college website.
- The whole project provides a base for students to get everything in one place like Login website, Aptitude & technical question with answer, Previous Year question paper of RTMNU, Notes, Scientific Calculator, Location of our college, Result website, Faculties and Developers.
- We will include features and operations in detail, including screen layouts.
- The automated system helps students to save time and makes the process faster because simultaneously users can get everything in one place.

This application is a mobile app. It gives us a more comfort and better user interface PCE Connect is an app that aims to act as a companion app for the students of PCE (Priyadarshini College of Engineering, Nagpur).

**LOG IN/SIGN UP FLOW**

Design Approach This project is based on the functional design approach, which helps in understanding the design of the project in a simpler way by explaining its flow, use cases, and implementation more like a modular approach. For example, there are different modules in this project which have separate functionality and, other sub functionalities/modules. All the modules are designed, implemented, and integrated together to make a flawless working application.




**Ⅲ. SIGN UP PAGE**

Student register form; From sign up form students can register themselves in our system.

The must provide information such as:

• Full Name • Email • Password • Phone no

## IV. WORKING MODULE HOMESCREEN



- The whole project provides a base for students to get everything in one place like Login website, Aptitude & technical question with answer, Previous Year question paper of RTMNU, Notes, Scientific Calculator, Location of our college, Result website, Faculties and Developers.
- We will include features and operations in detail, including screen layouts.
- The automated system helps students to save time and makes the process faster because simultaneously users can get everything in one place.

## V. Functional Requirements:

In software engineering, functional requirements define the features and capabilities that a software system must possess to satisfy its users' needs. These requirements describe the system's behavior when presented with inputs or conditions, including calculations, data manipulation, and processing. The system's functionality may also encompass other specific actions that it must perform. The behavior of the system is evaluated by testing it under various scenarios and inputs to ensure that it meets its functional requirements. In this way, software developers can create a system that meets the users' requirements and delivers the desired functionality.

**Technology and Software Details:**

**Front end technologies are as follows:**

Android applications utilize XML layout to display their content. The XML document comprises multiple tags with specified attributes. The parent tag designates the type of view and serves as the main element of the document. It is also possible to incorporate multiple views within a single main view. Like other XML tags, this tag is furnished with several attributes that determine its identification, style, onclick action, etc. Identification is a crucial attribute of the tag as it enables the programmer to reference it in the Java code. Styles can either be hardcoded in the statement or linked to a separate file that specifies the style for this element. Action attributes can invoke event actions that are defined in the code section of the project.

**Back-end technologies are as follows:**

**JAVA:**

Java is a powerful programming language that is widely used due to its versatility and platform-independence, meaning that it can run on any platform with the help of the Java Virtual Machine (JVM). It can be used to develop a wide range of applications, including web and desktop applications.

Java is an object-oriented programming language, which means it is based on the concept of objects that contain data and methods to manipulate that data. Additionally, Java is known for its strong security features, making it one of the most secure programming languages.

Java also provides support for connecting to various databases such as Oracle and MySQL, making it a popular choice for developing database-driven applications.

Console applications can be developed using core Java, while Java Swing can be used to develop graphical user interface (GUI) applications. Overall, Java is a versatile and widely used programming language with many applications in various domains.

**Database are as follows:**

**Fire Base:**

In real-time, as well as store data offline and synchronize it when connectivity is restored. Firebase also includes features like user authentication, file storage, cloud messaging, hosting, and more. With Firebase,

developers can focus on creating and improving the front-end of their applications without worrying too much about the back-end. This means that ideas that may have seemed too difficult or time-consuming to implement can now become a reality. Firebase's ease of use and flexibility make it a popular choice among developers, especially those working on mobile and web applications.

**Hardware Requirement:**

**RAM :**4GB (recommended 8GB)

Graphics: 2GB (recommended)

## V. Future Scope

The college application process is constantly evolving with advancements in technology and changes in the educational landscape. As students seek to further their education and pursue their career goals, the importance of college applications cannot be overstated. In this research paper, we will explore the future trends and advancements in the college application process and their implications for both students and colleges.

One of the major trends in the college application process is the increasing use of technology. Online applications have become the norm, making the application process more streamlined and convenient for students. With the use of online applications, students can easily access and submit their applications from anywhere at any time. Additionally, many colleges are now using online portals to provide students with real-time updates on the status of their applications.

Another trend in the college application process is the emphasis on holistic admissions. Instead of solely focusing on academic achievement, colleges are now considering a wider range of factors, including extracurricular activities, volunteer work, and personal essays. This trend reflects a growing recognition that academic performance alone does not necessarily predict success in college.

In addition, there is an increasing focus on diversity and inclusivity in college admissions. Colleges are actively seeking to increase the representation of underrepresented groups, including students of color, first-generation college students, and students from low-income backgrounds. This trend reflects a growing recognition of the importance of diversity and inclusion in higher education.

Finally, advancements in artificial intelligence and machine learning are also beginning to impact the college application process. Some colleges are using AI to review applications and identify students who are likely to succeed based on a range of factors. While this trend is still in its early stages, it has the potential to significantly impact the college application process in the years to come.

1. **Mobile and Online Applications:**

As mobile devices and the internet become more accessible, the use of mobile and online applications is becoming increasingly popular for college applications. There are potential benefits and drawbacks to this trend that are worth exploring.

One potential benefit of mobile and online college applications is convenience. Students can easily complete applications on-the-go, without needing to be at a computer or a physical location. Additionally, mobile, and online applications can save time and resources for both students and colleges, as there is no need for physical paperwork or postage.

However, there are also potential drawbacks to mobile and online applications. For example, some students may not have access to reliable internet or mobile devices, which could hinder their ability to complete applications. Additionally, there may be concerns about the security and privacy of personal information when submitting applications online.

Despite these drawbacks, the trend towards mobile and online college applications is likely to continue, and could have a significant impact on the application process. As more students opt for digital applications, colleges may need to adapt their processes and infrastructure to accommodate this shift.

2. **Gamification of College Applications:**

Gamification is a new approach that has been proposed to make college applications more interesting, engaging, and accessible for students. This involves applying game design principles such as points, levels, and rewards to the college application process. The idea is to create a more interactive and entertaining experience that encourages students to stay engaged and complete the application process.

One potential benefit of gamification is that it could increase student motivation and engagement, particularly for students who may be intimidated or overwhelmed by the college application process. By incorporating game elements, students may feel more motivated to complete tasks and progress through the application process. Additionally, gamification may provide students with a sense of accomplishment and satisfaction as they complete various stages of the application process.

However, there are also potential challenges and drawbacks to consider. Gamification may not be suitable for all students or may be seen as trivializing the application process. Additionally, some students may not have access to the technology required for gamified applications, which could create an uneven playing field for applicants. There is also the risk that the gamification of college applications could detract from the seriousness of the process, leading to a focus on fun and entertainment rather than the educational and career goals that the application process is intended to support.

Overall, the potential benefits and drawbacks of gamification should be carefully considered before implementing this approach in college applications. It may be useful to conduct further research and pilot studies to determine whether gamification is a viable and effective approach for improving the college application process.

**3. Personalized College Applications:**

Personalized college applications have the potential to revolutionize the college application process by tailoring it to the needs and interests of individual students. This can be achieved by using student data to provide targeted recommendations and suggestions for colleges, courses, and extracurricular activities that align with the student's interests and strengths.

One potential benefit of personalized college applications is that they could lead to more successful college placements and better outcomes for students. By providing personalized guidance, students are more likely to apply to colleges and programs that align with their interests and goals, increasing their chances of success.

However, there are also potential challenges to implementing personalized college applications. One major concern is the accuracy and bias of student data. If data is incomplete or inaccurate, it could lead to incorrect recommendations or disadvantage certain students. Additionally, the use of student data raises ethical concerns about privacy and consent.

Another challenge is the potential cost and technical expertise required to implement personalized college applications. Developing and maintaining the necessary infrastructure and algorithms to analyze and interpret student data requires significant resources and expertise, which may not be available to all colleges and universities.

**4. Predictive Analytics in College Applications:**

This is a great summary of the potential impacts of predictive analytics in college applications. In addition to exploring the benefits and drawbacks, this section could also discuss potential concerns around bias in the algorithms used for predictive analytics, and consider how to ensure that these tools are used in an ethical and equitable way. It's important to consider the potential unintended consequences of these technologies and ensure that they are being used to support students and not perpetuate existing inequities.

## VI. CONCLUSION

With the completion of this project, we conclude that it has achieved its purpose. The whole project provides a base for students to get everything at one place like Login website, Aptitude & technical question with answer, Previous Year question paper of RTMNU, Notes, Scientific Calculator, Location of our college, Result website, Faculties and Developers .The system is developed using Java as a back end programming language, XML as a front end programming language and data are saved in the database called Firebase. Android application is widely used as compared to websites. The automated system helps students to save time and makes the process faster because simultaneously user can get everything at one place. At the end it is concluded that we have made effort on following points...

- A description of the background and context of the project and its relation to work already done in the area.
- Made statement of the aims and objectives of the project.
- The description of Purpose, Scope, and applicability.
- We define the advantages to user of this application.
- We describe the requirement Specifications of the system and the actions that can be done on these things.
- We understand the problem domain and produce a model of the system, which describes operations that can be performed on the system.
- We included features and operations in detail, including screen layouts
- We designed user interface related to system.

## VII. REFERENCES

[1] Development and evaluation of educational android application (June 2017) Author: Senay Kocakoyun (Istanbul Gedik University), Huseyin Bicen (Near East University)

[2] Bhattacharya, Sagnik, and M. B. Panbu. (2013) "Design and development of mobile campus, an Android based mobile application for university campus tour guide". International Journal of Innovative Technology and Exploring Engineering

[3] Little, Geoffrey. (2011) "Keeping moving: Smartphone and mobile technologies in the academic library." The Journal of Academic Librarianship

[4] Harnale , S., Thakur G., and Syed Hussain A. (2014), "Android College Campus." International Journal of Ethics in Engineering & Management Education.

[5] An Android Application for Campus Information System (2020) Author: Reetu Malhotra, Deepak Kumar, D.P. Gupta (Chitkara University Institute of Engineering and Technology, Chitkara University, Punjab, India)