**(Proposal for Development of a New College App)**

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**Tribhuvan University**

**Faculty of Humanities and Social Sciences**

**A Proposal**

**ON**

**Development of a New College App**

**Submitted in the partial fulfillment of the requirement of**

**Project-II (CAPJ356)**

**Of**

**Bachelor of Computer Application**

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# Introduction:

This proposal is prepared for the partial fulfillment of the project-II (CAPJ356) of BCA 6th semester. This proposal aims to present a project for developing a new and improvised college app to address the issues present in current app such as malfunctioning of push notification, non-functional attendance and result system and absence of search feature in notice. We aim to provide a more efficient and user-friendly platform for students, faculty and administrations. This proposal is also prepared to make a college app using cross platform app development technique to make available for android and IOS user.

# Problem Statement

The existing college app is facing several critical issues that hinder its functionality and effectiveness. These issues include malfunctioning push notification, non-functional attendance system, non-functional attendance tracking system and result viewing system and absence of search feature in notice. These problem have a significant impact on the user experience, communication and overall efficiency of the app. Also Existing college app is not cater for IOS user.

* **Malfunctioning Push Notification System:**

The current app fails to deliver push notifications reliably, resulting in students, faculty missing out on important updates, announcements, and event notifications. This lack of timely communication leads to a lack of awareness about campus activities, Exams and other crucial information.

* **Non-functional Attendance and result System**:

The existing app's attendance and result system does not work properly. It is not up-to-date and display error while checking attendance system and result.

* **Absence of searching feature in notice:**

The existing app’s doesn’t have searching feature in notice. User has to search manually if they wants to view old notices.

* **College App is not available for IOS user**

College app is developed using native app development, hence it is only available for android user. It is not available for IOS user.

# Proposed System

To address the above issues and ensure a comprehensive and accessible college app, the proposed system aims to:

* **Resolve Push Notification Issues:**

Develop a system that reliably delivers important updates, announcements, and event notifications to all users, regardless of the platform. This system will be designed to work seamlessly on both Android and iOS devices, ensuring that users receive timely notifications and are kept informed about campus activities and administrative updates.

* **Improve Result and attendance System:**

Revamp the attendance and result system to ensure its proper functionality across. Implement an attendance system that accurately records and tracks student attendance, facilitating easy access to attendance data for both faculty members and students. Also revamp result system to view a student result of internal and board exam through college app.

* **Incorporate a Comprehensive Search Feature:**

Integrate a comprehensive search feature into the new college app that works seamlessly. This search feature will enable users to quickly search and retrieve information, including old notices and other relevant content, enhancing the user experience and providing consistent functionality across all devices.

* **Cross-Platform App Development:**

To ensure cross-platform compatibility, the proposed system will adopt cross-platform app development frameworks or technologies. This approach will allow the app to be developed once and deployed on multiple platforms, including both Android and iOS. By using Flutter framework, we can develop a single codebase that can be used to create apps for both platforms, eliminating the limitation of availability for iOS users.

By implementing these improvements, the proposed college app will address the existing issues and provide an enhanced user experience, streamlined administrative processes, and improved accessibility for both Android and iOS users. The new app will bridge the gap in functionality, ensuring that all users can effectively utilize its features, receive timely notifications, track attendance, access results, and search for relevant information.

# Literature review

Ukem (2012) stated that the errors associated with the existing of students universities Nigeria, make it not only desirable but imperative that computerized approach be used in student’s progress. According to him, the manual methods being employed suffer a number of setbacks; make the process to be time consuming and prone to error. They lead to examination results being published late, sometimes with wrong grades being entered and students GPAs being wrongly computed. This could lead to wrong conclusions in the awarding of class of degree.

According to Henning Heitkotter, Sebastian Hanschke, and Tim A. Majchrzak(2013), “The fragmented smartphone market with at least five important mobile platforms makes native development of mobile applications (apps) a challenging and costly endeavour. Cross-platform development might alleviate this situation. Several cross-platform approaches have emerged, which we classify in a first step. In order to compare concrete cross-platform solutions, we compiled a set of criteria to assess cross-platform development approaches”.

According to HANNAH BAST and MARJAN CELIKIK, “many applications, it is equally desirable that the search engine is robust againstmistakes on the side of the searched documents. For example, when searching foralgorithm in a collection of computer science articles, we would also like to ﬁnd those articles where that word has been misspelled, for example, as alogorithm or alogritmor aigorithm”.

According to Hrishitva Patel and Goutham Ravichandran “When we try to search or spell a word, we may not know the exact spelling. In this case, we try to fix the mistake that we made by adding a letter, deleting a letter, or replacing a letter with a convenient one with the help of our memory and cognitive skills. However, if we have to do this operation automatically in the computer programming system in the most optimized way, we need to develop logical steps that find a reasonable solution for every specific word combination.” They also stated that The Levenshtein algorithm also called Levenshtein edit distance, which means the number of differences between two words called like distance. This variable is also used as a parameter to check how much difference can be tolerated. The Levenshtein distance between two words is the smallest number of single-character modifications (insertions, deletions, or substitutions) required to transform one word into the other. It is named after Vladimir Levenshtein, a Soviet mathematician who studied this distance in 1965. The Process of Levenshtein consists of two parts, which are forming the matrix by Cross checking the letters of words and giving the value for each cell according to the logic of the algorithm and the backtracking technique to announce which operation has to be done to fix a word at the end optimally.

According to Chetan D. Wadate , Prashant T. Suvare and Aniket S. More “Today’s a very important aspect of communications is messaging. In universities, colleges and hospitals it is efficient to display messages on notice board regarding meeting times, exam dates, special events, class cancellations or any pertinent. But sticking various notices day-to-day is a difficult process which requires a separate person to manage these notices to be displayed. To overcome the limitations of old techniques, the push notification came into existence. The purpose of this new form of cloud-based push-styled mobile notifications that uses push services as a means for sending notifications to the user and displaying notifications on users mobile device”

# Conclusion

The existing college app suffers from issues related to push notification functionality, attendance tracking system, and result management system. Through the proposed development of a new college app, we aim to address these problems by incorporating best practices and innovative solutions identified through the literature review. The new app will enhance communication, improve attendance tracking, and improve the result system. This project will provide valuable practical experience in software development and contribute to the advancement of technology in the educational domain.