

# An Adaptive Mechanism for development of Android Application for College Management

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## Abstract:

With the advancement in technology, higher expectations of productivity and quality of work there is a need for faster dissemination of information. At the college we rely on traditional means of communication heavily. This limits us in our ability to make most of the time, effort and resource. Connected, personalized, intelligent information appliances are becoming increasingly important in our personal and professional lives. Although a dedicated platform is not required, the current means of communication available to us at the college are time-consuming, inefficient, cause redundancy and require unnecessary manual labor which can be easily prevented with the application. The application is being specially developed with academia in perspective hence will prove to be of more use than just a communication channel.

**Index Terms**—Android Application, Android Operating System, Dreamnix, Google, KDKCE, Open Source Mobile Platform;

## I. INTRODUCTION

The K.D.K.C.E Android Application will be a dedicated application specialized for its use in a college environment. The KDKCE Android Application can be accessed throughout the college and especially by the students and faculty members. The application can be used by the students and the faculty on their Android smart phones. Using this application students will be able to stay updated with their assignments provided in the class, timetables for the examinations, lecture schedules, campus events, etc. An Android based application available, for specialized use, to the students and faculty, would provide notices regarding the recruiting company, campus interviews, and other placement related activities, respective to their departments. Forms such as the Examination form can also be directly filled on the application preventing the rush at the offices. Thus creating a “one-stop-shop” for all the requirements at the college.

## II. MOTIVATION

There are five means of communication that are currently available to us at the college. These means are Physical

Letters, Notice Boards, Oral Communication (Oral Announcements), What’s App and Telecommunication.

With all of these means of communication we face some problems in a form or another. The problems and limitations that these traditional means have are described are as follows:

- 1) Physical Letters:  
Physical Letters can be useful for certain purposes such as informing the parents about their ward’s performance in the college. Still there is not a single purpose for which letters can be used such that electronic communication is inferior to the use of letters in any way. Communication with physical letters requires plenty of time therefore cannot be relied upon in times of emergency.
- 2) Notice Boards:  
Since we are taking into account wireless communication as a medium of communication, the biggest problem with the Notice Board is that it requires the physical presence of the student. Notice Boards fail in effectively communicating some information urgently if there is a huge mass of people.
- 3) Oral Communication:  
Oral Communication takes place mostly in the

form of announcements. Oral Communication also requires physical presence.<sup>1</sup> Oral Communication becomes incredible difficult if there is a lot of information to communicate or if the information is difficult to be expressed verbally.

- 4) What's App:  
What's App, at the end, is just a messaging application. Since it is not specifically designed for academic uses it becomes difficult, and in some cases even impossible, to do certain tasks. Such tasks may include submission of assignments directly to the teachers for evaluation, submission of organized information in the form of forms.
- 5) Telecommunication:  
Mass communication is practically not possible with the use of Telecommunication. It can also cause redundancy.

Performance with a reasonable efficiency and productivity, with all the limitations discussed above, is still possible if a coordinated use of all these five means of communications is made. However, there is a great scope of improvement over the current design of the application. Due to this the dedicated application will have a huge impact on the way we communicate at the college. This is discussed at a greater extent in section IV.

### III. TECHNICAL ASPECTS AND IMPLEMENTATION

The technologies used for the development of the application are as follows:

**Android OS:** The Android Operating System is selected for development for a number of reasons. Android is an Open Source Operating System. There is a huge community of Android developers providing useful libraries for the development of the application and most important of all, Android is backed by Google. As of today the world of smart phones is already dominated by Google's Android so most of the students have Android smart phones.

**Picasso:** Picasso is an android library for importing and displaying images directly into the applications from web links of images. Picasso is open source library.

**Dreamnix:** For the purposes of storing information such as timetables, schedules and other data to be communicated through the use of the application we have used a free website hosting service called as Dreamnix. Links are generated when images are uploaded in Dreamnix's servers

and these links are used for displaying the images by Picasso. Whenever there is a need for changing the timetable all we have to do is to replace the image with another with the help of the C-Panel provided by the Dreamnix hosting service.

**Android Studio:** Android Studio is the IDE used for the development of the overall application. The User Interface layout of the application is designed with the help of XML and the operational functionalities such as event trapping of buttons, lists and images, etc. are incorporated to the application with the help of JAVA programming language.

### IV. FUTURE SCOPE

The possibility of added functionalities required in an academic institute settles any debate over the practical necessity of a dedicated application. The advantages of such application outweighs any disadvantage such as maintenance and cost. Few improvements and functionalities are explained below:

**Event Organization:** There are various events organized around the college throughout the year. These events include sporting events, workshops, etc. In event organization there is a requirement of information regarding the participating members for purposes like making seating arrangements, etc.

The event organizing committee or coordinators can be given an account with higher privileges than the students. With these privileges the coordinators can post information regarding the event on the application directly. The event post will then be visible to the general populace of the college in the form of a feed post. Interested students can then participate by clicking on the post and filling out necessary details such name, department, roll no, etc.

This reduces manual labor of visiting each and every classroom in the college to make the announcements regarding the newly organized event, reduces redundancy, and increases productivity of the coordinators.

**Attendance System:** The application can make it easier for the teachers to take the attendance of the students in an efficient manner. The roll numbers of the students are organized, then attendance can be taken by marking on these roll numbers as absent or present. This attendance information can then be updated to the RTMNU website directly without requiring to do it manually.

**Form Filling Functionality:** Sometimes students are required to submit some information or documents urgently. One can manage to do this with the help of Google form. This is an epitome of the requirement of a

fast, efficient way to gather information from the mass. However Google forms can do the job of gathering the information the later part of the job (to update the information onto the database) has to be done manually. The extra manual work can be prevented by adding functionality in the application which would directly upload or update the information onto the database.

## V. CONCLUSION

This application will provide a handy platform to access the notifications and announcements. It will also provide an efficient way of organizing events around the college. The application would also eliminate any kind of unnecessary manual work required for communication in the college. Physical presence would not keep us from staying updated with the activities in the college in real time.

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