



Developing a New Android App for College Management System

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ABSTRACT

Breeze is a new Android Application which provides a common, easy to use platform for college students for better interaction with fellow students, faculty and administration. This work has unique and helpful feature of queries, where students can put up their queries and anyone can answer their queries. For keeping a check over inappropriate posts a feature of report is also provided which tells admin about inappropriate posts and actions could be taken over it accordingly. It also provides user a help option which helps user with any information regarding labs, faculty and lecture halls. Breeze also provides a platform where user can view daily updates of his attendance and syllabus. Breeze app works fluently as it is based on online database system firebase. It has secure login features, and also allows login through Facebook and Google. It also provides basic features like changing password, changing profile picture, retrieving forgotten password. In all, it is an all in one application which has all the features to solve the basic problems of college students.

Key words: Android; Online System; Traditional Notice Board; Notifications; Education System; Database; Firebase.

1. INTRODUCTION

With the advance in time and technology there is a need for faster dissemination of information .The increasing advantages of automated system now are at highest position thus many manual processes are automated [1]. Since the automated system is demanded now-a-days, educational infrastructures like colleges needed their manual system to function on mobile computing systems [2-3]. Changes in Computer Technology allow institutes to utilize databases

and applications such as Student Information System thus, making the accessing of records centralized. One of the changes that came about is android applications. These applications are an improvisation to the traditional-transaction processing systems [4-6].

For example attendance management in the existing organization is done on paper sheets. The whole session attendance is stored in either register or record books and at the term end reports are generated [7-9]. We are not able to spawn report in the middle of the session or as per the requirement because it takes more time in scheming. It is a very time intensive process. In the present system the results are viewed on the notice board in the form of paper sheets which requires lot of paperwork and is time consuming [10]. Moreover, there is no system still existing through which students can take a look at their own progress and analyse themselves. Even college cannot provide vital notifications to students in case of emergency [11-12].

Breeze is developed to solve the basic problems of college students. It provides a platform for students to share their ideas with fellow students in a much interactive way which is like a social media platform. It also allows real time updates related to notices and events. This work has unique and helpful feature of queries, where students can put up their queries and anyone can answer their queries. For keeping a check over inappropriate posts a feature of report is also provided which tells admin about inappropriate posts and actions could be taken over it accordingly. It also provides user a help option which helps user with any information regarding labs, faculty and lecture halls. Breeze also provide a platform where user can view daily updates of his attendance and syllabus. Breeze app works fluently as it is based on online database system firebase. It has secure login features, and also allows login through Facebook and Google. It also provides basic features like changing password, changing profile picture, retrieving forgotten password. In all, it is an all in one application which has all the features to solve the basic problems of college students.

2. FEATURES OF THIS ANDROID APPLICATION

Our College Management System Application has the following attributes:

- Google Sign in.
- Facebook Sign in.
- Verification through OTP.
- Allows Guest Sign in.
- More Secure.
- Real time Updates.
- Keep Checks over inappropriate data.
- Help menu.
- Allows user to change password or retrieve forgotten password.
- Easy updates.
- Provides an easy platform for student interaction.
- Easy and fast updating of notices and events for better communication between students and administration.
- Updating regarding daily attendance, all schemes and syllabus.
- Updating of recent notices and upcoming events.

3. SOFTWARE REQUIREMENT

Software that is essential in our University Management System is:

- Mac OS version 10.13.6 Operating System.
- Android studio 2.1.
- Firebase.
- Facebook developers.

4. WORKFLOW OF COLLEGE MANAGEMENT SYSTEM APPLICATION

The detail workflow of College Management System Application as shown in figure 1 is described as follow:

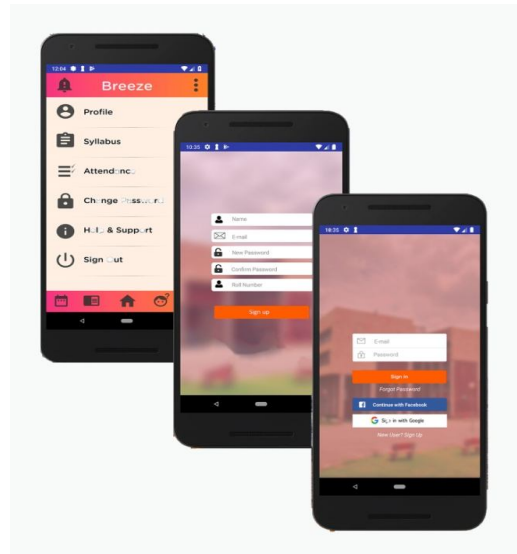


Figure 1: Breeze System Design

A. Safe and secure login for user

This app provides user a secure way to login as shown in figure 2. During registration of new user, user is asked to fill some fields which are used in firebase database and retrieved from it while user is logged in. it also provides a feature of Google or Facebook sign in for authentication of guest users. An otp is also sent to user to the provided e-mail id and only if it is authenticated user is allowed to register.

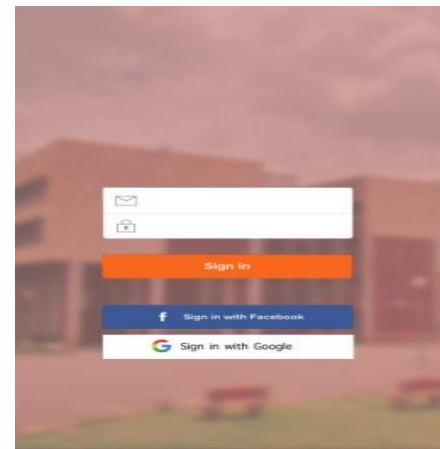


Figure 2: Login for user

B. Adding new post and displaying of posts

This apps allows users to post any image with a description which is then stored in firebase database and on the main screen all the posts by the user which are approved by the respective authority will be displayed to all the users. The image button allows users to select image from the gallery and post it.

C. Authentication of Apps

Whenever a post is uploaded, before being displayed it is sent to respective authority for authentication. Only if its authenticated it will be displayed in post section.

D. Adding and Posting of events.

A feature to add new event is also provided in the app as shown in figure 3 but it is accessible to only few people. They has to fill fields like name of event, date of event, venue of event, description and then it is uploaded to the database from where it is accessed and displayed to all logged in users.

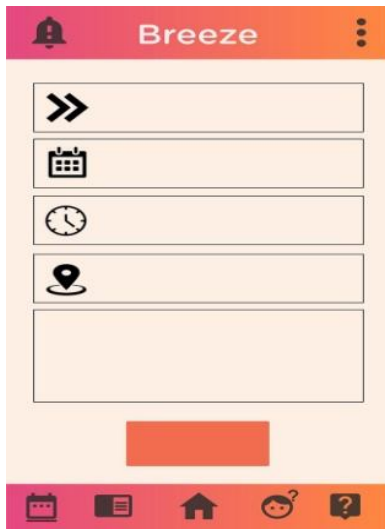


Figure 3: Add New Event

E. Adding and Posting of notices

A feature to add new notices is also provided in the app but it is accessible to only few people. They has to fill the description of the notice and then it is uploaded to the database from where it is accessed and displayed to all logged in users.

F. Help menu

Help provides access to all the contacts of the college and a brief layout of the college.

G. Menu Option

This menu option as shown in figure 4 contains user's profile, syllabus, attendance, change password, help and support and logout. Attendance, syllabus are the respective information of the user. Using an algorithm the branch and stream of student is detected and then displayed respectively. Profile contains the user information and a profile picture of user which user can upload him from the gallery. After the user is logged in he can also change his password by using change password function and the data is also updated in database when update button is pressed.

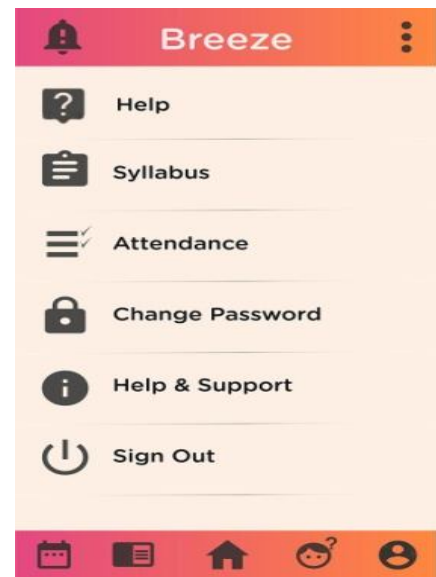


Figure 4: Menu Option of Breeze

5. CONCLUSION

This College Management System application provides an autonomous solution of the paper based work. This is controlled and monitored by admin. The manpower is reduced by using this application. It provides accurate information all the time as faculty member or student needed. The college management can make useful decision using the data that are stored in the university database server. So it is better to have a Android Based College Management System like Breeze. All the administrator, authorities, faculty, student and guardians will get the desired data directly.

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