Development of an University Dormitory Management System

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Abstract. This paper explores a mobile and web application for university dormitory management office and students. UniDorm - an application that uses a database and helps students and people in charge of dormitory management to keep in touch. Current research shows that, foreign students who live in dormitory have some difficulties to contact the university, they have to go to the International exchange office or Student Support Center just to talk about their problems. On the other hand, if the management office wants to say something to students, people in charge need to contact via email and it is the only connection way. Many Universities do not have any special programs for this condition, there are special software programs for E-class(a special app which helps students to check their classes online) and university web-site but there is no special program to communicate with students. In this paper, we develop an application which would be the bridge between students who live in dormitory and dormitory management office.

• Key Words : Database, Management System, Mobile Application, Web Application, Mobile App Development.

I. Introduction

The main aim of this paper is making a strong bridge between students and the university. If university staff want to say something to students they need to contact him via email (time to time it might be a problem because of some specific reasons). But if they would have a special application, communicating would not be a problem. A student will be able to speak to the dormitory office directly if they need something. If there any problems related to dormitory rooms they don't have to come to the office, they just need to send a message by using this program.

There will be 3 mobile applications and 1 web-site :

1. The first application will be for dormitory management office. People in charge will be able to post announcements and make contact students via this app.
2. Every student will get id and password for logging in. They will be able to check news from the management office and contact them whenever they want.
3. Public Chat room application which allows student and people in charge of dormitory management to communicate. This is simple group chat which uses firebase database to store data and information about users.
4. Website. In order to control data and user information, the management office needs to use special web-sites which provides control over chat, announcement and user data.

As an example of similar works can be social web-sites like Facebook, Twitter or even Instagram. As mentioned above, it is going to be chatting app but more specific because, only students of the university will be able to use it. The main difference of this application from others apps, this application does not give permission students to post something(because it can cause to irrelevant data providing),only management office will be able to leave public posts which will be visible to all students.

II. Unidorm Application

The main goal for making this Mobile application is giving a chance students to learn about the university and helping them to be in touch with school life by using only this app, which means, we have aimed to supply users and admin with a valid and worthy comfort.

There will be 3 applications (1st one is for management office, 2nd one is for students and 3rd for chat room). Every student will get id and password for accessing the application. If a student faces some kinds of problems related to academic life or dormitory, he or she can easily contact the management office. Management office will have wider access than students. They can add, edit or delete users (students). Management office will able to leave public posts and contact to students individually as they will have their email addresses and contact information on database. In order to develop this app, computer developing tools like Android Studio, Firebase and Visual Studio should be used and connected to Firebase database system to store/edit data(posts and announcements) and personal information about users.
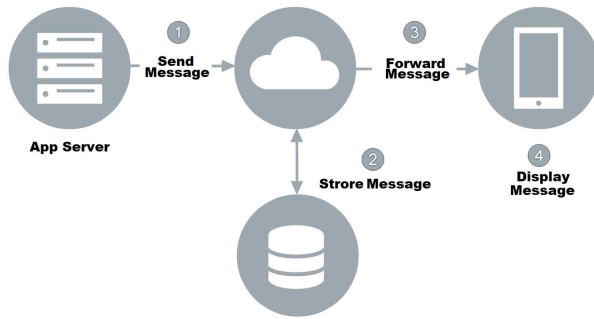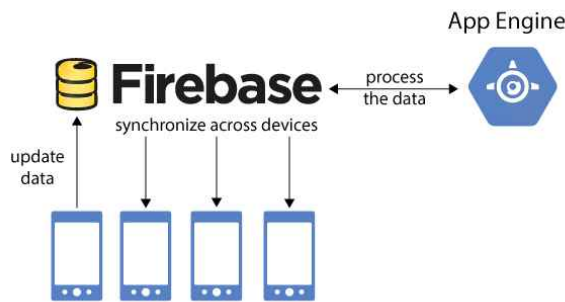
Fig. 1 Firebase Cloud Messaging

Fig. 2. Firebase Synchronize across devices

When people install and open the app they will see menu bar and logo. This is main activity which helps users to go to other pages like university web-site, student support web-site, blog section, group chat page, contact and information page.
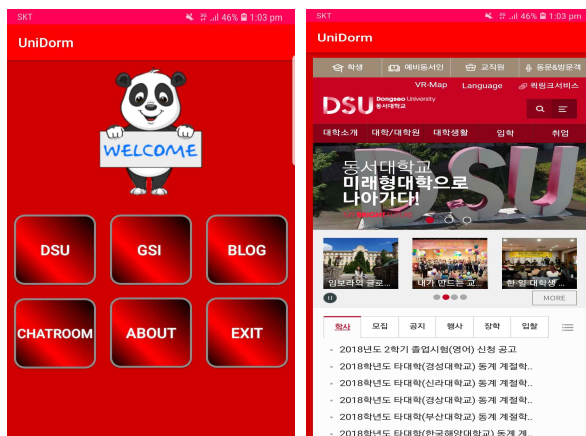

Fig. 3. Main Screen and University Web-site

First two buttons labeled like "DSU" and "GSI" are very important as it helps users to visit university and student support web-sites. When they press the "DSU" button it will go to university home page and they can check university news in there. When they press "GSI" button users will move to GSI web-site where they can learn everything that they need to know about school life and policy.
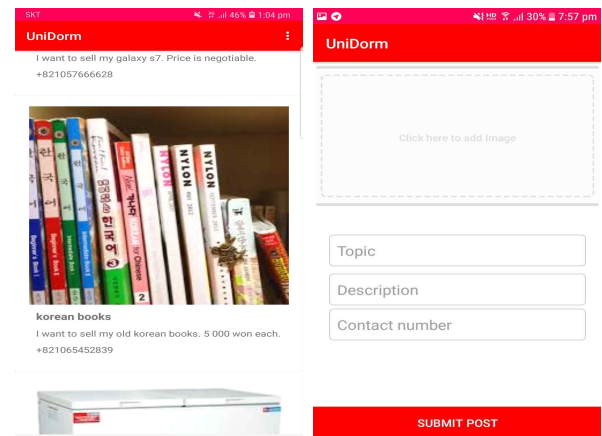

Fig. 4. Post view and edit pages

The third section named "BLOG" is one of the most complicated one as it uses Firebase database. When users press 3rd button they will be able to go to blog section. Where they can view, edit and create posts with images. The main aim of making this blog section was making announcements which will be helpful for user to be informed about school news. Dormitory management can post different kinds of announcements with pictures. On the other hand student can only view posts but if they want to post something they can send a request to make public announcement.
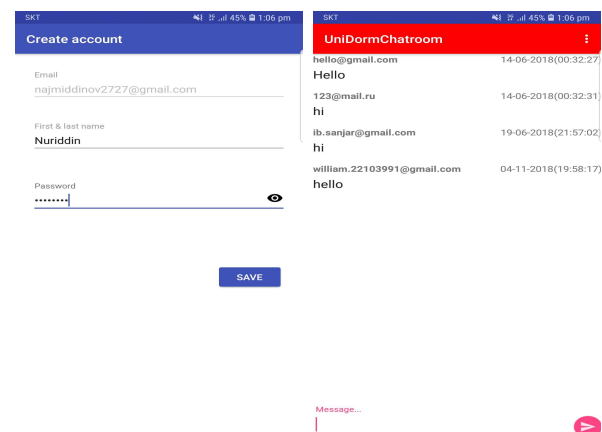

Fig. 5. Chat application

The next button is called "CHATROOM", when user press the button will move user to another application. As mentioned above there will be 3 different applications for both user and admin. When user press the button:

1. If the application is installed it will move user to another application where he or she can register and join to group chat.
2. If application is not installed it will ask user to install the

application and explains how can user get the app.

When user press button called "ABOUT", he will go to contact us section where users can contact to management office. There will be 3 activities in this page, which can be changed by horizontal scrolling. In the first activity they get brief information about application. In the second activity they will able to contact to management office with issues which are related to academic life. In last activity of the page user can send feedback to app developers.
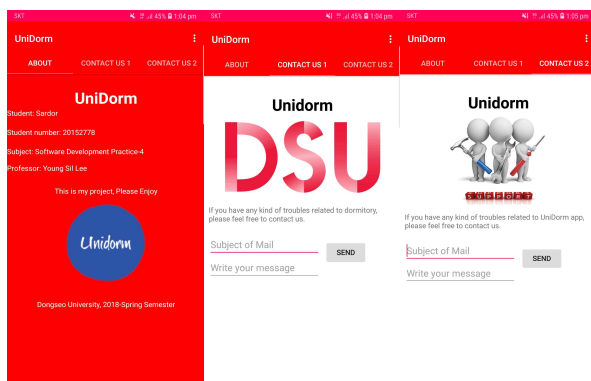

Fig. 6. Contact Us

Firebase is a mobile and web application development platform. By the help of Firebase and Android Studio, application can be connected to database. Admin could get access to edit, delete, add and view data. In firebase web-site admin can see registered users and posted announcement and it is easy to change or delete the data. The app allows people in charge of university dormitory management office to access firebase database and edit data which is there.
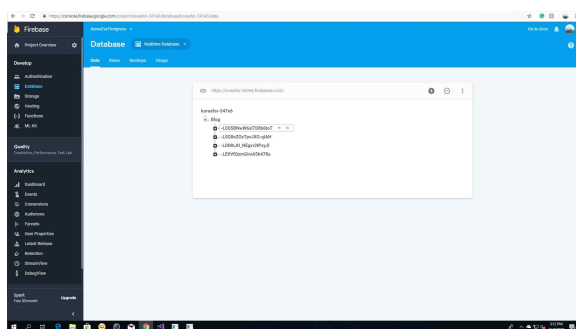

Fig. 7. Firebase Database

III. Conclusion

Overall, our results demonstrate a strong effect of the application to student's academic and non academic life. The application can make university life easier. University can contact to students by making public post or use this app as

connection tool. If student faces some problems they would contact office just by clicking a button and typing a message. Making a strong bridge between university and students is really important as it can improve student's life. In our technological development era it is important to solve all your problems online. This application can effect to our life positively as it can save our time and students don't have to go anywhere to talk about their problems, they can do it by clicking buttons of their mobile phone.

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