Connectuniv: An Application Bridging the Gap between the Students and the University

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Abstract- *ConnectUniv is basically a medium to connect the students studying under a particular University and also providing a mechanism to interconnect the different colleges under it. It is an advancement over the applications developed till now in the field of education. The main motive to develop such a fascinating creation is not only to promote the academics but it would also focus on the increased number of opportunities for the career, entertainment sources, sports paradigms etc. This app is bridging the gap between the students and the University as its connecting the students of different colleges under a single platform. The features of the application include Newsfeed, Campus2Campus, Academics, Entertainment & Calendar. The justification that it's connecting every college under the University is that the stuff which is going to be posted on the app will be sent by the administrators assigned to each college. Furthermore, it is going to provide the fresher to explore more whereas the others can be benefitted with its enormous key features that include career opportunities like internships, workshops, seminars which will be regularly updated on the app. Thus, making the life of a student better responsive, and updated.*

Keywords *- student, university, connect, administrators, updates, education*

I. INTRODUCTION

ConnectUniv is originated from the concept of learning anywhere in the world without the traditional methods of carrying the books and different gadgets to fulfill different purposes related to learning and gaining knowledge. It also relates to the concept of connecting with the people around you having the same objectives as yours. There has been much advancement in the field of E-learning and Mobile learning (M-Learning) where the latter is the advancement of the first one which simply expands the concept of anywhere and anytime dimension of learning. The simple definition of mobile learning is supporting learning with the help of technologies that defines mobility which are hardware components like Personal Digital Assistant (PDA), Smart Phones, Wireless Laptop Personal Computers.

With the emergence of mobile element in education, the definition of learning has enhanced. It has shifted from technology to smart learning. Instead of learning from different hardware devices mentioned above, M-learning focuses on learning from mobile device such as Smart Phone. Its advantage is that Smart Phone is a small device which fulfills the purpose of all mobile devices that are mentioned earlier. So, this way we can use the concept of M-learning in a better way. The development of mobile learning is therefore a boon to educational institutes to provide education and communication to the students in a more interactive way.

Frankly speaking, the technologies that are being used nowadays in education are really impressive. With the invention of technologies such as projectors in classrooms, notebook computers and online teaching has made the learning easier and interactive without any doubt.
But apart from these technologies, there is a serious need of implementing mobile applications in education for better communication between the students and making learning easier. By the use of mobile applications in education, students can get better updates regarding every aspect of their student life which not only includes the academic part but also co-curricular activities which is an integral part of building a strong character.

Many applications have been launched by various universities for their students in order to ease the process of learning and managing their campus events. This paper is a reference for the mobile application that is going to be built with some advancement in features.

II. DESIGN OF THE MOBILE APPLICATION

A. Overall System Architecture

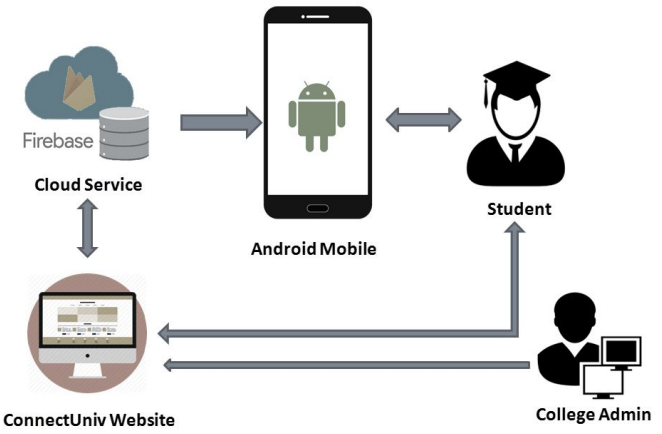

Fig. 1. Overall System Architecture

Above is the overall system architecture of the project. As we refer the architecture, the main components are: Android Mobile having the Android App, Student, College Admin, ConnectUniv Website and the Cloud Service.

The student accesses the mobile app and the website on which the data is posted by the college admin. The data posted on the website by the admin is sent to the cloud database. Then the mobile app and the website display the contents by extracting data from the cloud database.

B. Mobile App Architecture

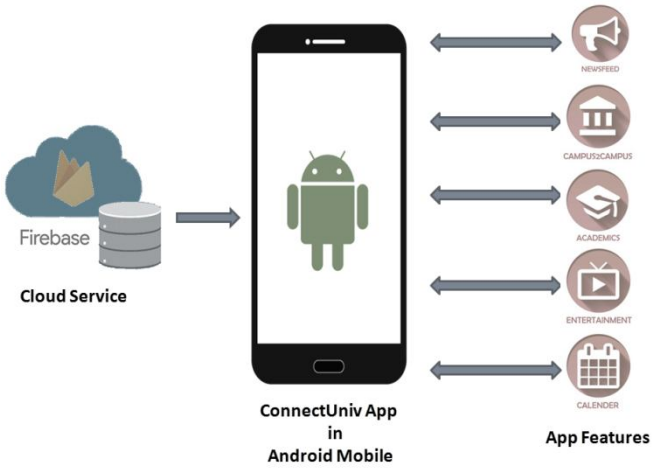

Fig. 2. Mobile App Architecture

The architecture shows the flow of mobile app. It shows the features of the application. The app extracts the data from the cloud database which is Google's Firebase. The features of the app includes Newsfeed, Campus2Campus, Academics, Entertainment and Calendar.

C. Website flow Architecture

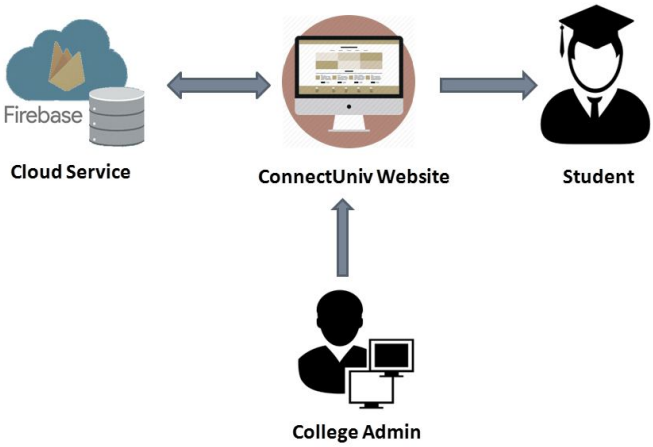

Fig. 3. Website flow Architecture

Above is the architecture flow of the website. As already mentioned earlier, the website extracts the data from the cloud database on which the data is stored using the website by the College Admin.

III. IMPLEMENTATION OF THE MOBILE APPLICATION

A. Main Page of the Application

Fig. 4. App Main Screen

Above is the main page of the application. The features as already mentioned are Newsfeed, Campus2Campus, Academics, Entertainment and Calendar. The user reaches this page as soon as he/she is successfully logged in. There is a navigation drawer icon, clicking on which displays the drawer with the basic functions like accessing your profile information, your to-do list and contact information. Below is the screenshot of the navigation drawer.

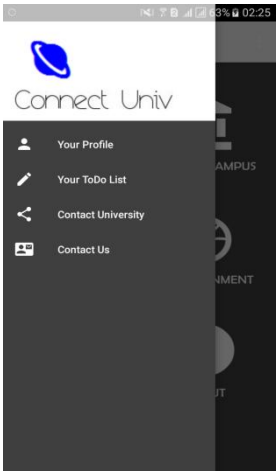

Fig. 5. Navigation Drawer

The navigation drawer has the logo and the name of the App with the functionalities mentioned above.

B. Newsfeed

Fig. 6. Newsfeed Module

The Newsfeed module (Fig 6) is one of the most important module of the application. This module displays all the latest and important updates from the university as well as the different colleges which will be posted by the college admin of the respective colleges. These updates are posted by the admin on the website and then that data is sent to the database. The app extracts those updates from the database in the form of formatted data. These updates are related to each and every field that the students have in their college life. The updates posted here are related to college events like technical events, sports, events, workshops, seminars, internships, concerts etc. Students can be benefitted by getting all the latest updates going on in each college under the university.

C. Campus2Campus

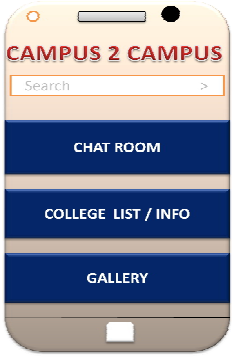

Fig. 7. Campus2Campus Module

The Campus2Campus module, as shown above serves the purpose of connecting the students among each other through the chat room. The students can share their views and important information among themselves. The students connected here are from the single university but from different colleges (the universities having a number of colleges under them). Apart from the chat room there are feature like college list/information and gallery. College list has the list of every college which is under that particular university along with the information of the colleges. Gallery has the photos which are posted by the admin related to the events that took place in their respective colleges.

D. Academics

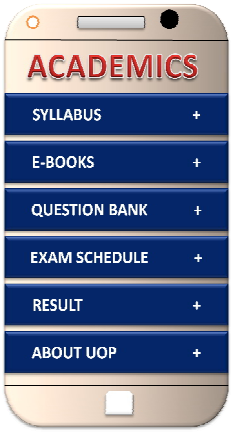

Fig. 8. Academics Module

The Academic module (Fig 8), is the module which helps the students with their academics. It helps the students getting all the important academic resources like syllabus, e-books, previous question papers, exam time-table etc. This module extracts the information from the university website which has all these resources related to the topics mentioned in the module. It displays all that information in a well structured and easy format so that the students doesn't have to browse through the complex website to get the required resources.

E. Entertainment

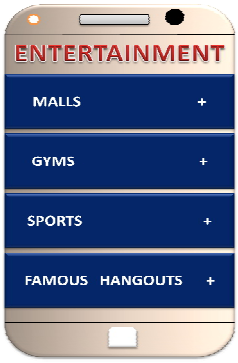

Fig. 9. Entertainment Module

Entertainment is an integral part of student's life. So this app has the module that provides some entertainment features to the students. This module (Fig 9) basically serves the purpose of locating all the places that the student can explore to refresh themselves and also to gain extra skills in outdoor events. This module will help students locate the places to hangout near their college or their surroundings. Places like gyms, sports complexes, malls can be located and the students can get the directions.

This module will use the Google maps for this purpose. So, Google maps API will be in use while developing this module.

F. Calendar

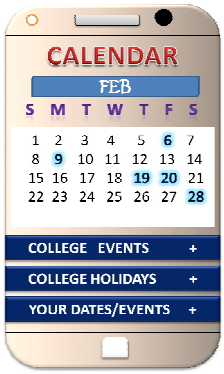

Fig. 10. Calendar Module

The last module of this app is the Calendar (Fig 10). This is also an important feature as it displays all the important dates of the various events that are going to take place in the near future. This displays them in the form of a calendar in which a monthly calendar will be displayed along with all the important dates marked on it. This will help students keeping track of the events in which they want to participate. These are the college events which are mentioned earlier in the newsfeed module along with the college holidays including the festivals and university holidays. This module will help tracking those events better. Along with these events, one can also mark their own important dates and this app will notify them at the time of occurrence of those events. for example, to observing of marine life, poison content, geographical procedures on the sea floor, oilfields, atmosphere, and tidal waves and seaquakes; to gather oceanographic information, sea route help, notwithstanding being used for strategy reconnaissance applications.

IV. ALGORITHM USED

A. ConnectUniv outline algorithm

```
Algorithm ConnectUniv ()
//Input: User's choice by touching on the screen.
//Output: Appropriate actions performed according to the
input.
Int ch;
Print "login (0) or signup (1)"
If ch <- 0 then
        CUniLogin ();
else
        CUniSignUp ();
Print" Display Menu (Newsfeed, Entertainment,
Campus2campus, Academics, Calendar) "
If Choice <- "Newsfeed" then
        Newsfeed ()
If Choice <- "Campus2Campus" then
        Camups2Campus ()
If Choice <- "Academics" then
        Academics ()
If Choice <- "Entertainment" then
        Entertainment ()
If Choice <- "Calendar" then
        Calendar ()
else
        Wait for user's response
end
```

B. ConnectUniv login algorithm

```
Algorithm CUniLogin ()
Int i
Print"Enter User Id and Password "
for i <- 1 to 3
correct <- Check with the database
If correct then
                return ()
else
        Print" invalid UserId and Password"
                Print " Renter your login details"
                i++
end
end
```

C. ConnectUniv SignUp algorithm

```
Algorithm CUniSignUp ()
```

```
Print "Enter your details including UserId and Password"
Load this data into the Database
CUniLogin ()
end
```

D. ConnectUniv- Newsfeed Module algorithm

```
Algorithm Newsfeed ()
Display the menu for the NewsFeed (Events, Academics
updates, Sports updates)
If Choice <- "Events" then
Display the news regarding events
If Choice <- "Academics Updates" then
        Display the news regarding Academics
If Choice <- "Sports updates" then
        Display the news regarding Sports
end
```

E. ConnectUniv- Academics Module algorithm

```
Algorithm Academics ()
Display the menu for the Academics (Syllabus, Ebooks,
Question Bank, Exam Schedule, Result and About University)
If Choice <- "Syllabus" then
        Display Syllabus details from the Database
If Choice <- "EBooks" then
        Display EBooks' details from the database
If Choice <- "Question Bank" then
        Display the Question Banks
If Choice <- "Exam Schedule" then
        Display Exam Schedules
If Choice <- "Result" then
        Display results
If Choice <- "About University" then
        Display about the university
end
```

F. ConnectUniv- Campus2Campus Module algorithm

```
Algorithm Campus2Campus ()
Display the menu for the Campus2Campus
If Choice <- "Chat room" then
        Display Chatroom details from the Database
If Choice <- "College Info." then
        Display College information from the Database
If Choice <- "Gallery" then
        Display Gallery details from the Database
end
```

G. ConnectUniv Entertainement Module algorithm

```
Algorithm Entertainment ()
Display the menu for the Entertainment
(Malls,Gyms,Sports,Famous hangouts)
If Choice <- "Malls" then
        Display Malls details from the Google maps
If Choice <- "Gyms." then
        Display Gyms information from the Google database
If Choice <- "Sports" then
        Display Sports details from the Google Database
If Choice <- "Famous Hangouts" then
        Display Famous Hangouts details from the Google
Database
end
```

H. ConnectUniv Calendar Module algorithm

```
Algorithm Calendar ()
Display the menu for the Entertainment (College Events,
College Holidays and Your Dates/Events)
If Choice <- "College Events" then
        Display Malls details from the Database
If Choice <- "College Holidays" then
        Display College Holidays information from the
Database
If Choice <- "Your Dates/Events" then
        Display details from the Database
end
```

VI. CONCLUSION

ConnectUniv is a boon to the students of every college under a University. It is a better alternative than the existing solutions available. Also it is a faster and a cost efficient method to get updated with the latest events going on in the University. It also helps students connect with each other irrespective of the college they are studying in. In this paper we investigated about the students preferences of a mobile application for their university so that their daily life complexity could be reduced. The features that are mentioned in this paper are decided after taking suggestions from the students. Each and every module of this application serves a purpose which helps students in different aspects of their college life. The limitation of this solution is that the full implementation is yet to be done as it is in the development stage. Nevertheless, the app will be really helpful for the students as soon as it launched and hopefully it makes the life of the students better and shows the results as desired.

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