



CS 5551 – Advance Software Engineering Project

Application Name: “COURSE BUDDY “

PROJECT INCREMENT -3 REPORT

TEAM NUMBER: 9

TEAM MEMBERS:

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1. INTRODUCTION:

COURSE BUDDY

Course buddy is an interactive application which acts as lifeline between students and the teaching fraternity. Student fraternity has a tendency to work along deadlines and many of the times, they tend to forget the deadlines and lose marks even having competency to complete on time. Not only deadlines, many of the student fraternity has a feeling of introvert of not being able to directly interact with the teaching fraternity.

Our COURSE BUDDY application tries to lessen the gap between teaching and student streams and also provide an interface for free flow of communication. Giving it a social media touch, would easily attract the students to make use of it.

Many times we face difficulty in finding out means to talk to our teaching faculty because of lack of availability of information. Myself, I am example how a student face difficulty in reaching faculty to break many barriers regarding the subject. As an international student, I was very much astonished at the etiquette of the college and I pulled myself backward from making a step ahead to clear my doubts regarding subjects. In the initial days, I was not able to find means of communication to reach out the faculty to be able to clarify my doubts regarding the subject and course curriculum.

So goes a saying, “Failure is the stepping stone of success.” As a blind follower of that, we tried to utilize this project opportunity to build an interface that would address the problems faced by us.

2. Project Goal and Objectives:

2.1. Overall goal:

Our primary goal is to develop a hybrid application “COURSE BUDDY” which is an interface between students and faculty. This interface is made using android software development kit and various other services which are needed for smooth running of applications.

2.2. Specific objectives:

Course buddy is used purely for educational purpose. Students login into the application to be able to talk with tutors, teaching assistants and also their course buddies without compromising their privacy

2.3. Specific Features:

a.) Not compromising student’s privacy:

Many doubts of students can actually be solved by talking with their friends. But in an international institution we may not be able to easily mingle with students. Our course buddy would create a discussion forum without disclosing student’s identity and it would facilitate the student to clarify their doubts easily.

b.) Talk with tutors and teaching assistants on a single platform:

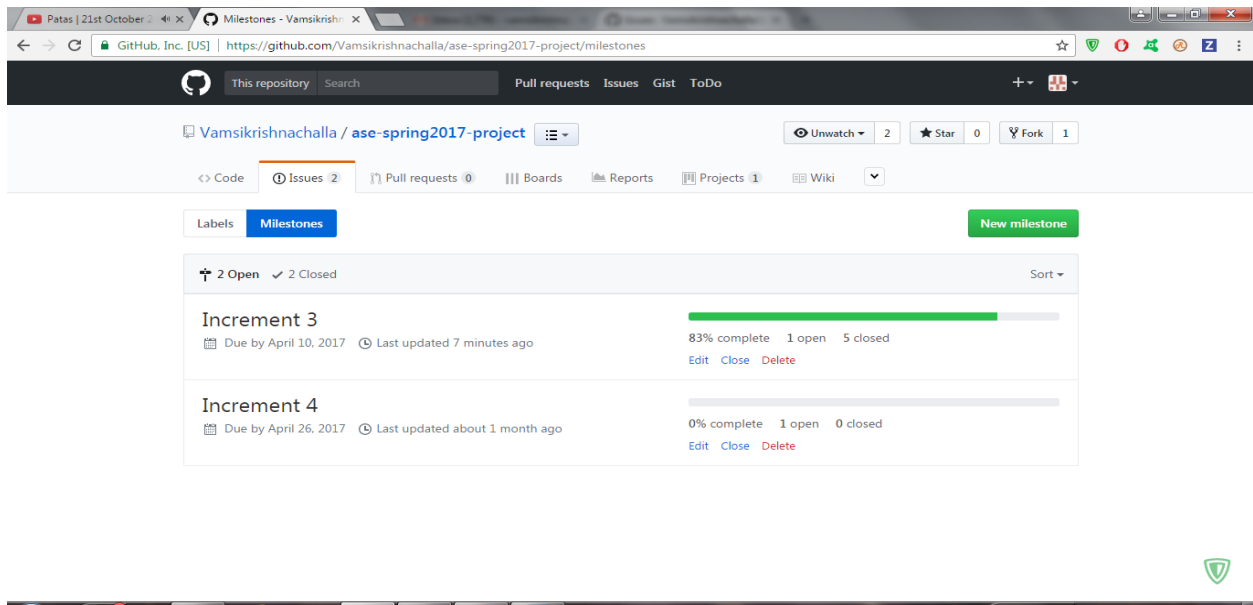
Instead of using mail based communication to reach out to professors and using mail based or spreadsheet based communication to reach out to teaching assistants, this interface provides a unique platform to reach out both at a single click.

2.4. Significance:

This application in creating a healthy environment where learning evolves from different aspiring minds and would help each other to excel themselves by taking help of their professors, teaching assistants and their friends.

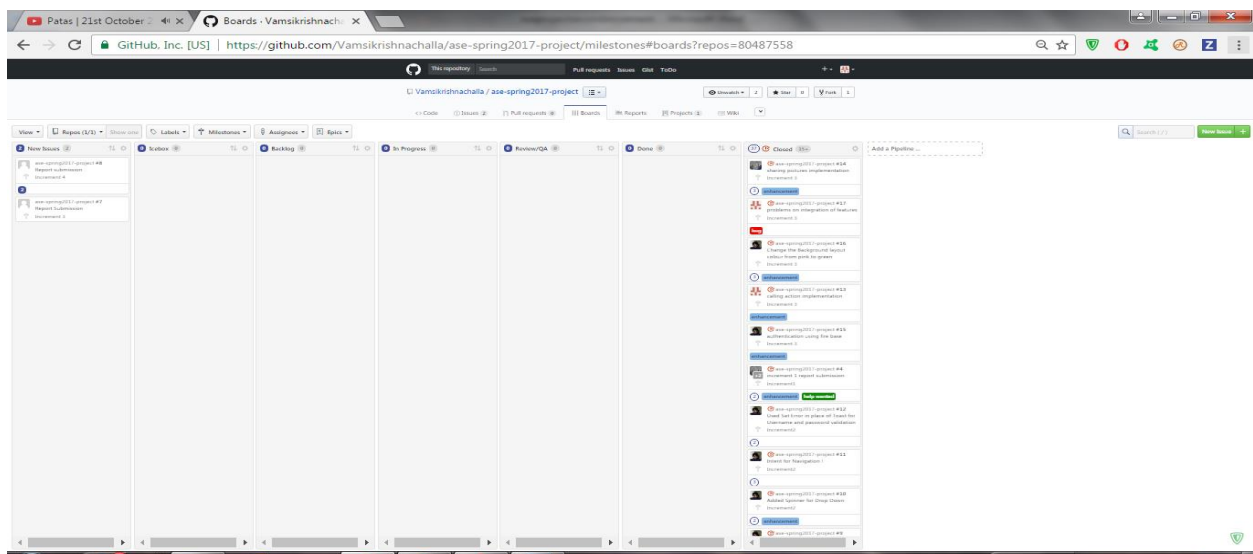
3. Project Plan:

3.1. Schedule for different Increments:



3.2. Project timelines, Members and responsibilities:

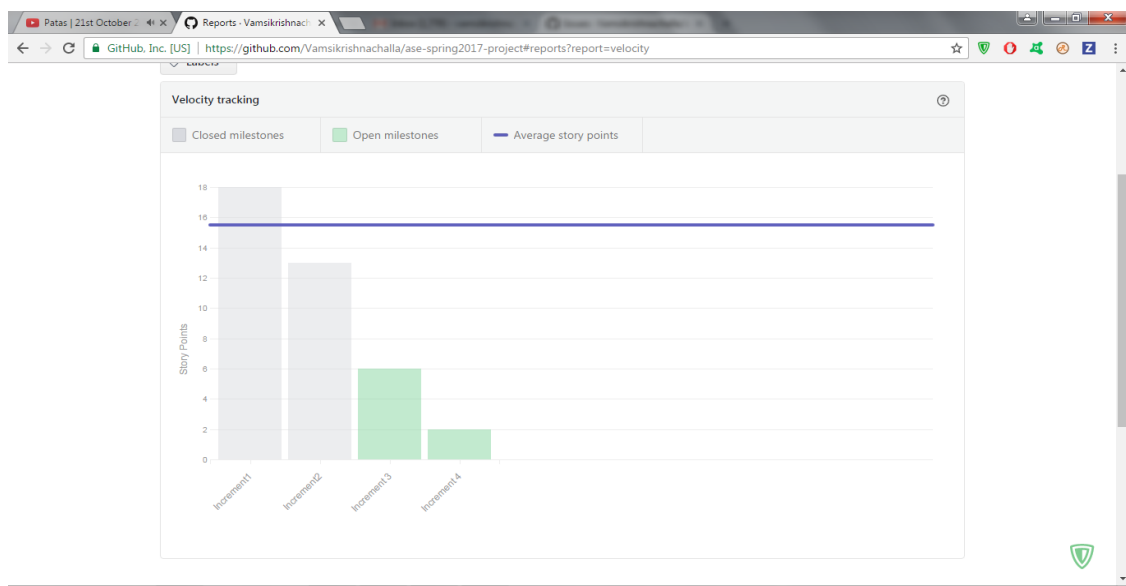
- Below are the issues that were created under each increment.
- These tasks are assigned to team members.
- Once the respective task is accomplished, the issue is moved to closed state.



3.3. Burndown chart:



3.4 Velocity Tracking:



4. Third Increment Report:

In this increment we have designed UI mockups by designing wireframes and by keeping them in mind, we have designed login pages, course selection page and choosing the option to talk with anyone of the professors or teaching assistants or course buddies.

4.1. Existing services / REST API:

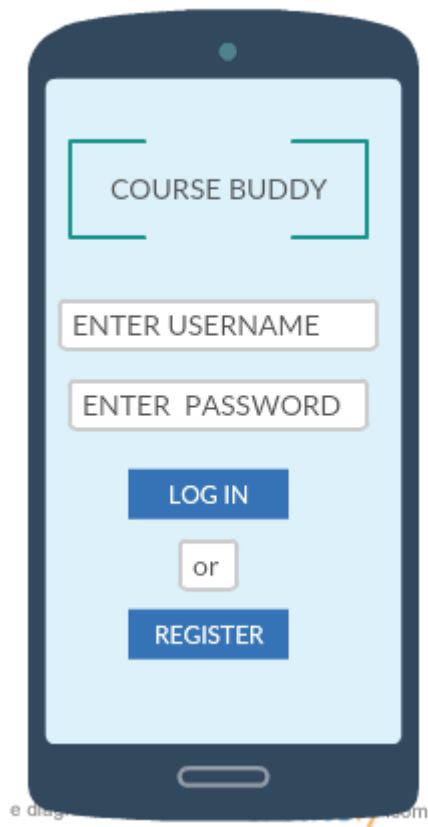
In this current increment, we have used Firebase services. In the future increments, we may stick with firebase or use other services.

4.2. Detail design of features:

4.2.1 Wireframes:

The wireframes for second phase of project are shown below:

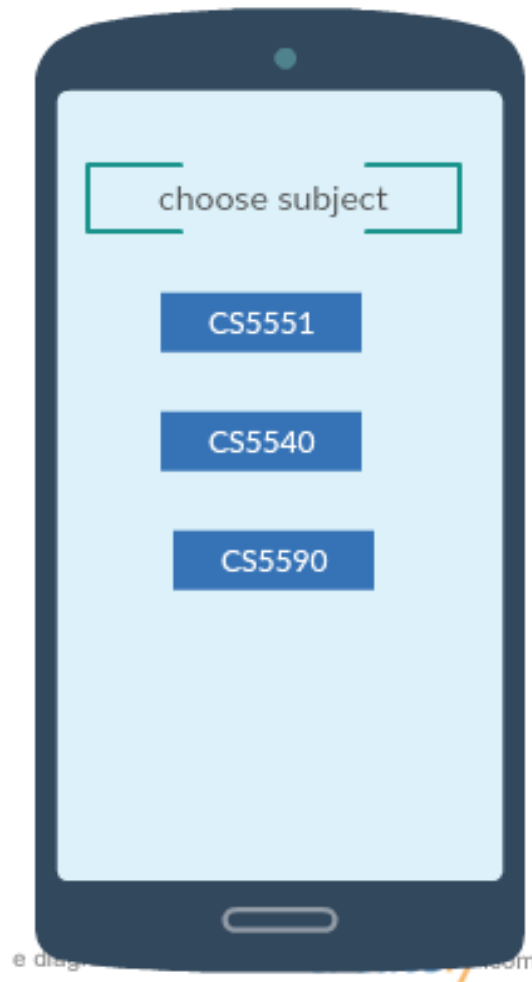
Login page: after user opens the application, one would be asked to enter the credentials to enter into the application.



The user should have already be registered i.e., the details of the user must be already available with us as it is related to university and the details of student would be uploaded on a pre hand for authentication.

This wireframe comes once the login is successful.

In this wireframe we will be able to see the options to choose the courses In which we have enrolled.



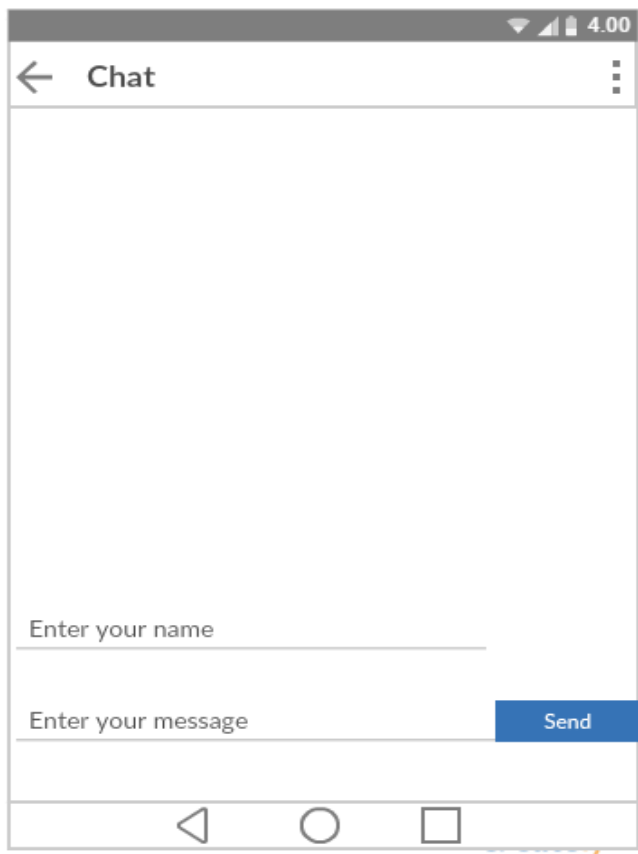
Upon selecting the subject, we would get the option to talk with one of the required persons which we are needed to talk to like:

1. Professor
2. Teaching assistants
3. Course buddies.

This is the wireframe for choosing the option to talk or else log off from the application.

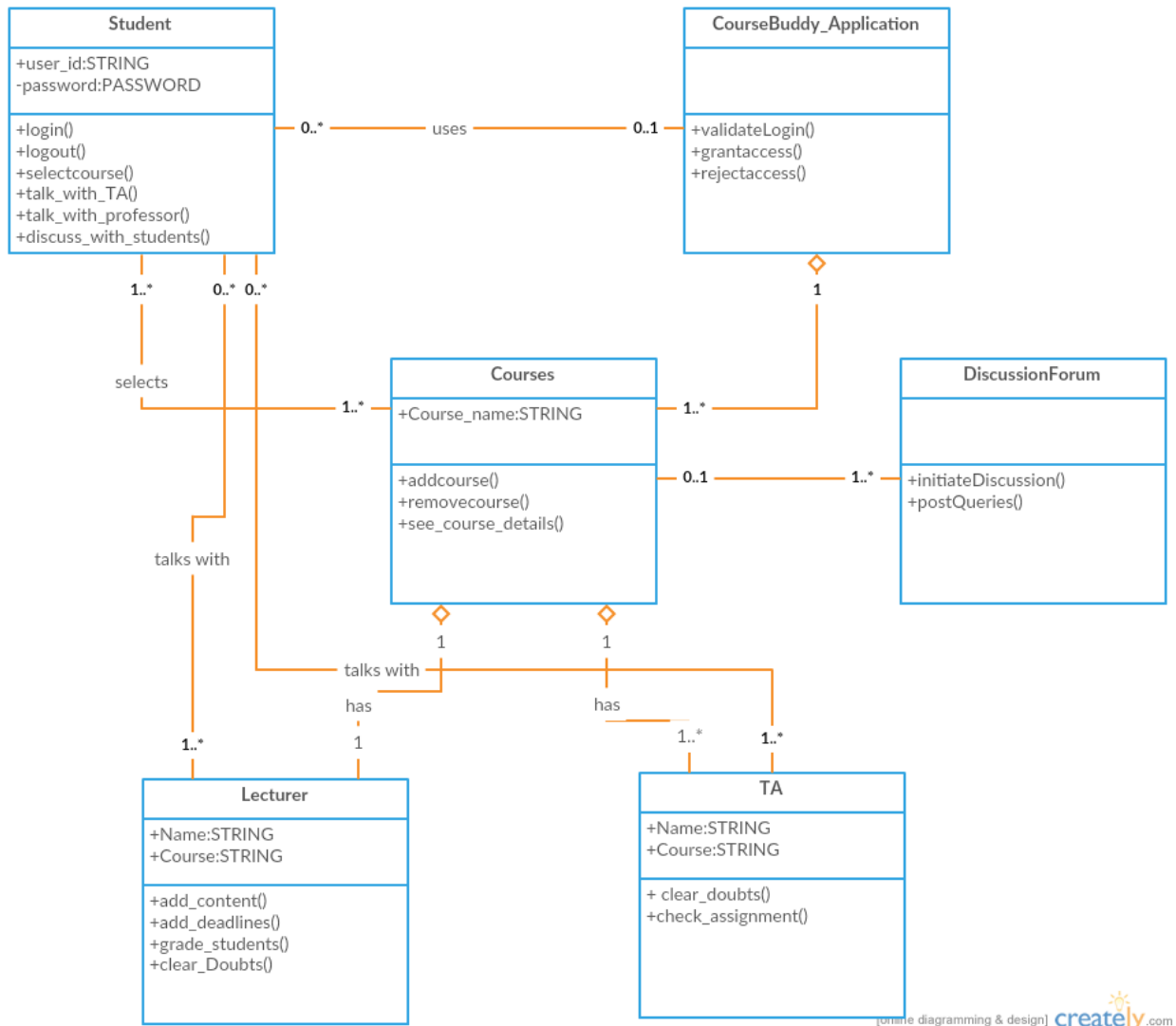


Upon Selecting an option, you will be redirected to chat screen,

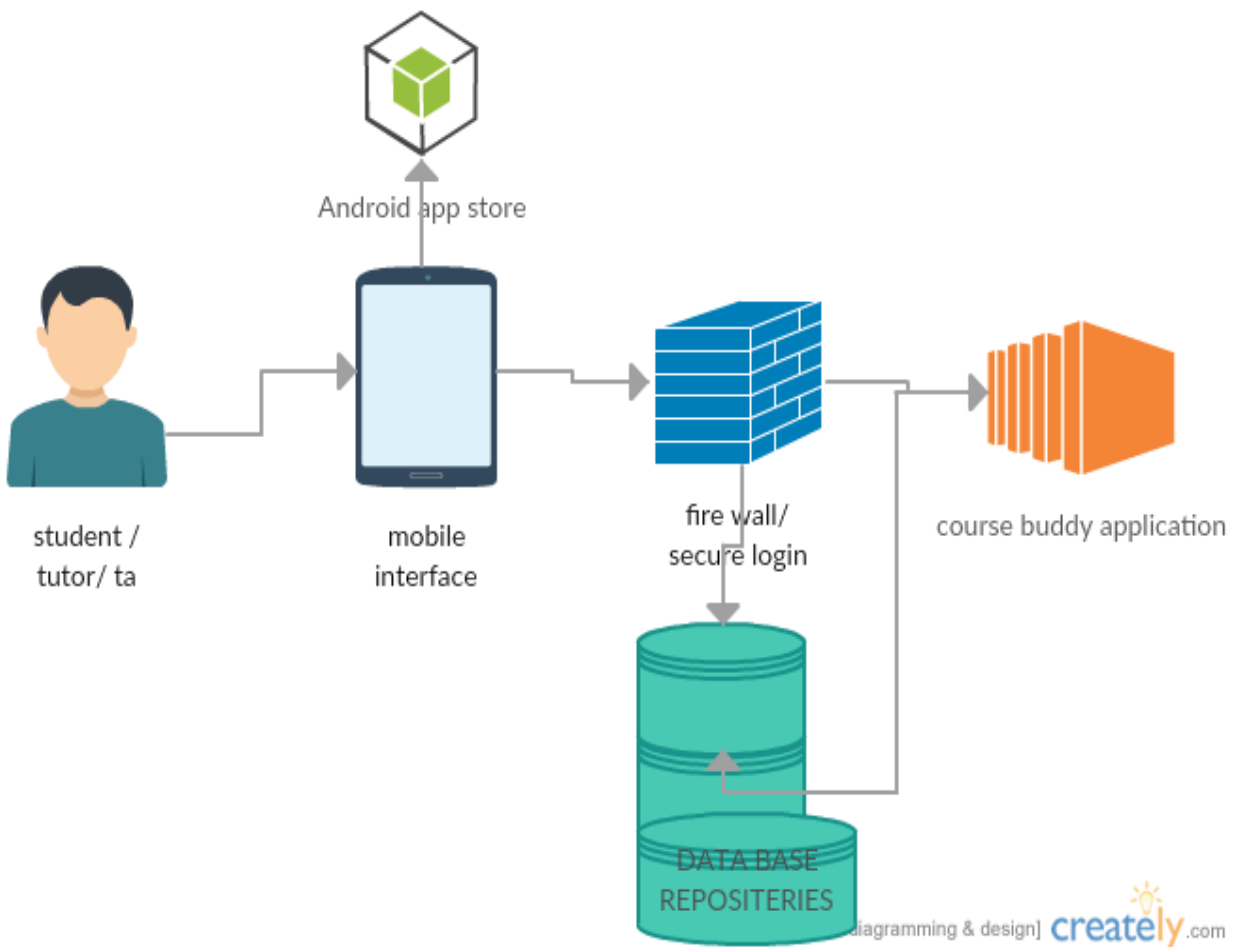


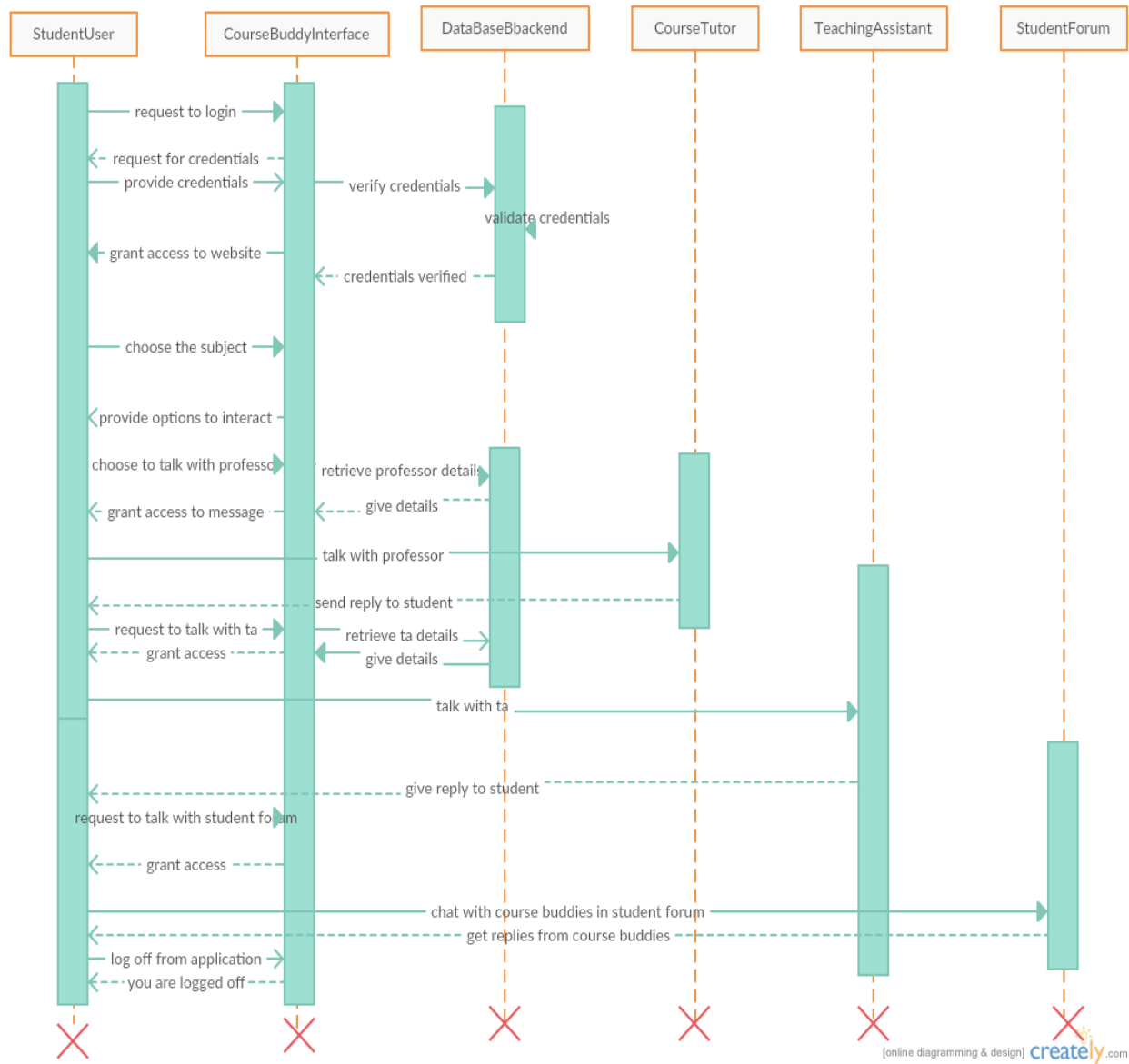
4.2.2 User Stories:

Class diagram:



Software architecture diagram:

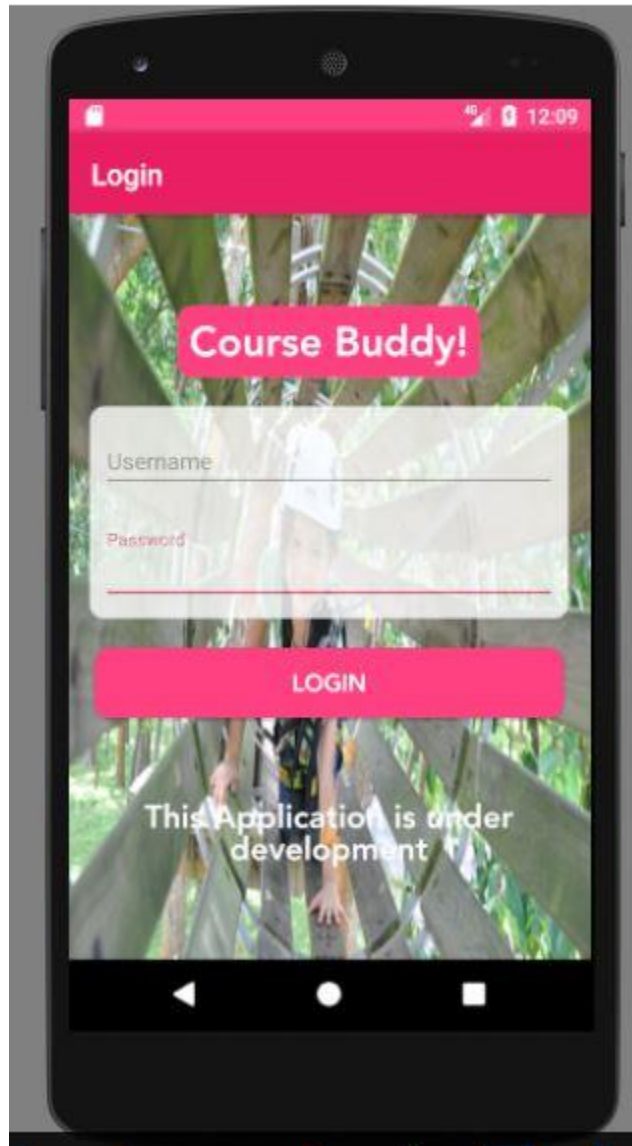


Sequence diagram:

4.3. Implementation:

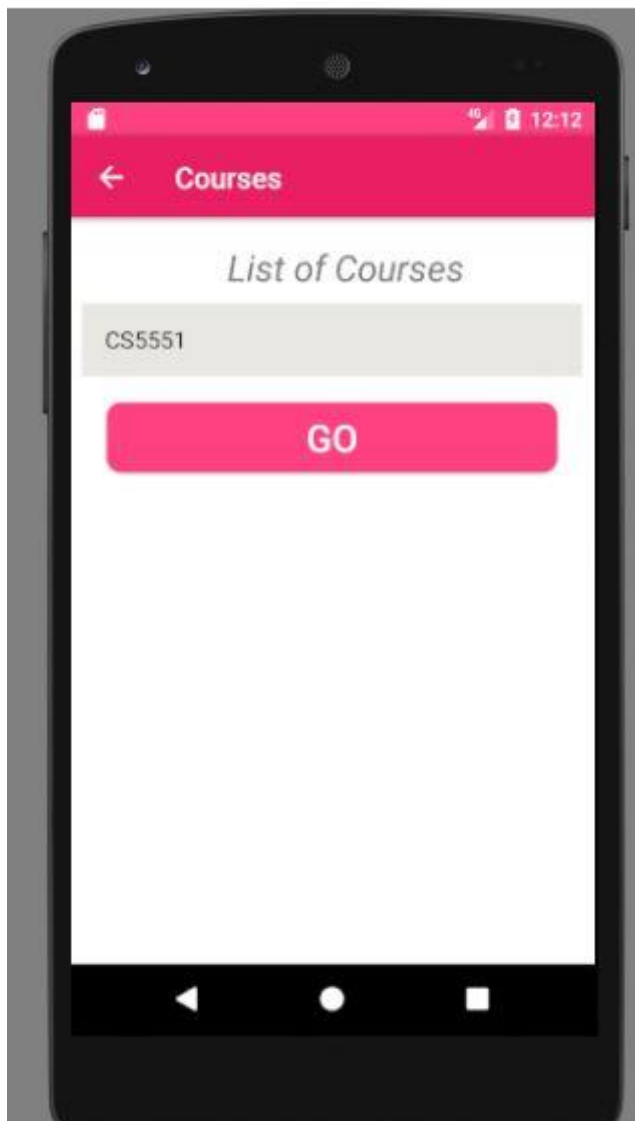
Home page for application:

Android Emulator - Nexus_5_API_25_2:5556

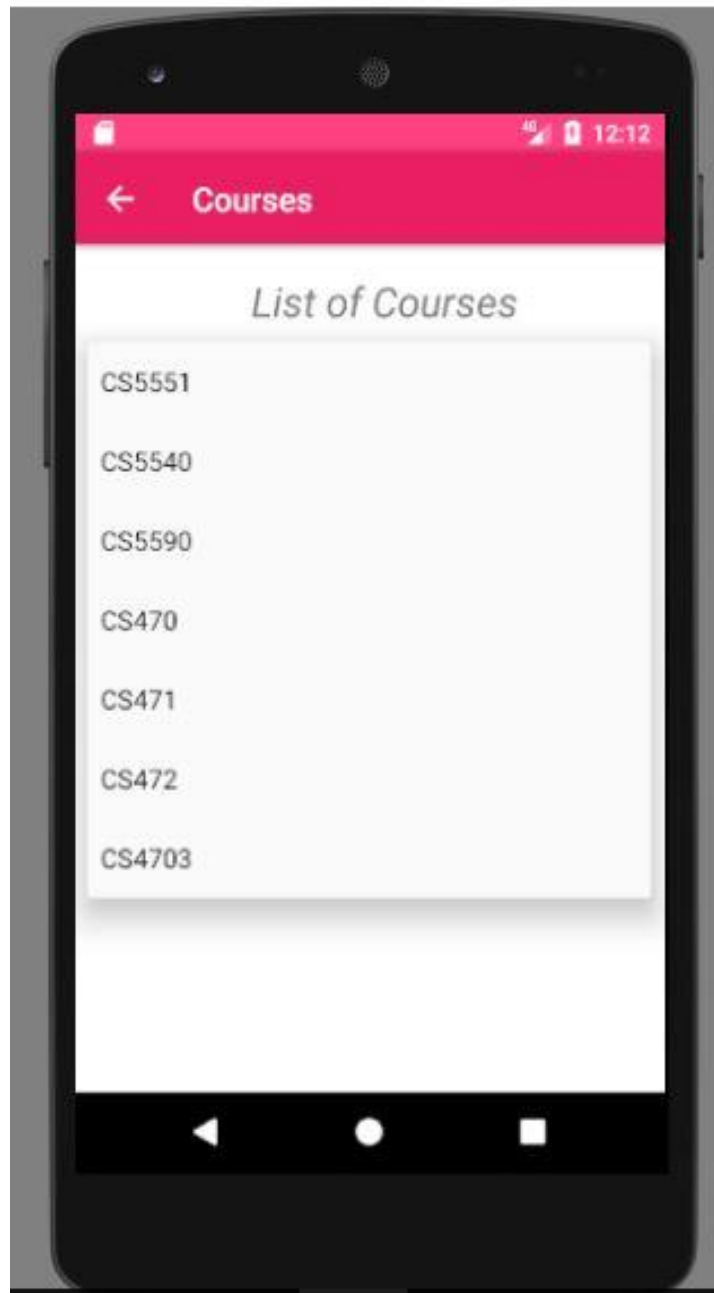


On successful login, we would get the option to choose the course:

Android Emulator - Nexus_5_API_25_2:5556

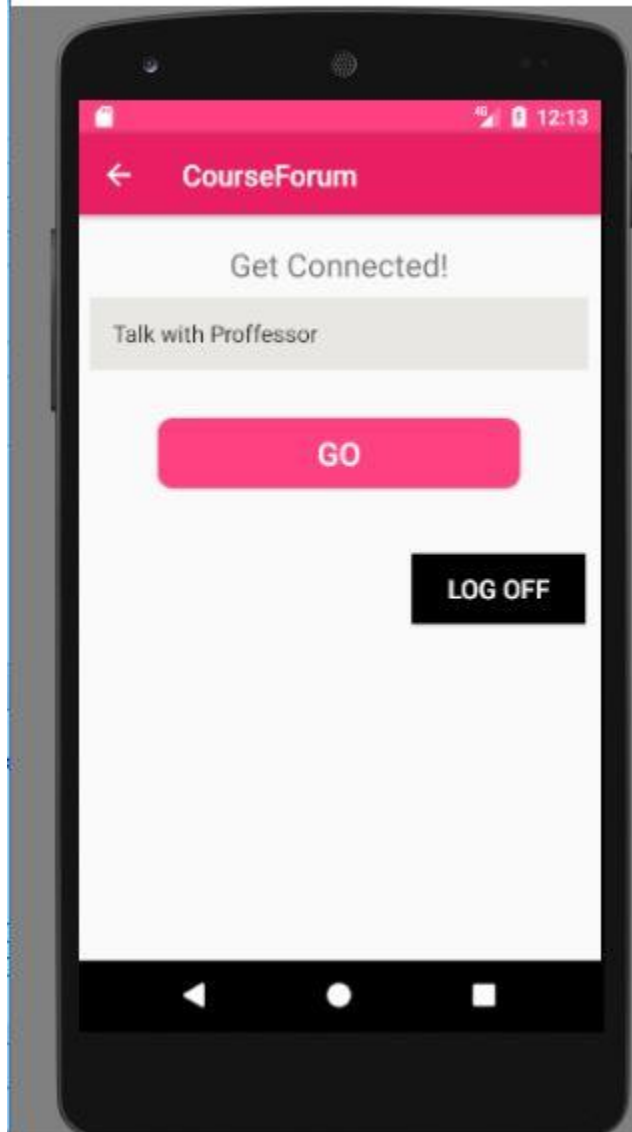


Android Emulator - Nexus_5_API_25_2:5556

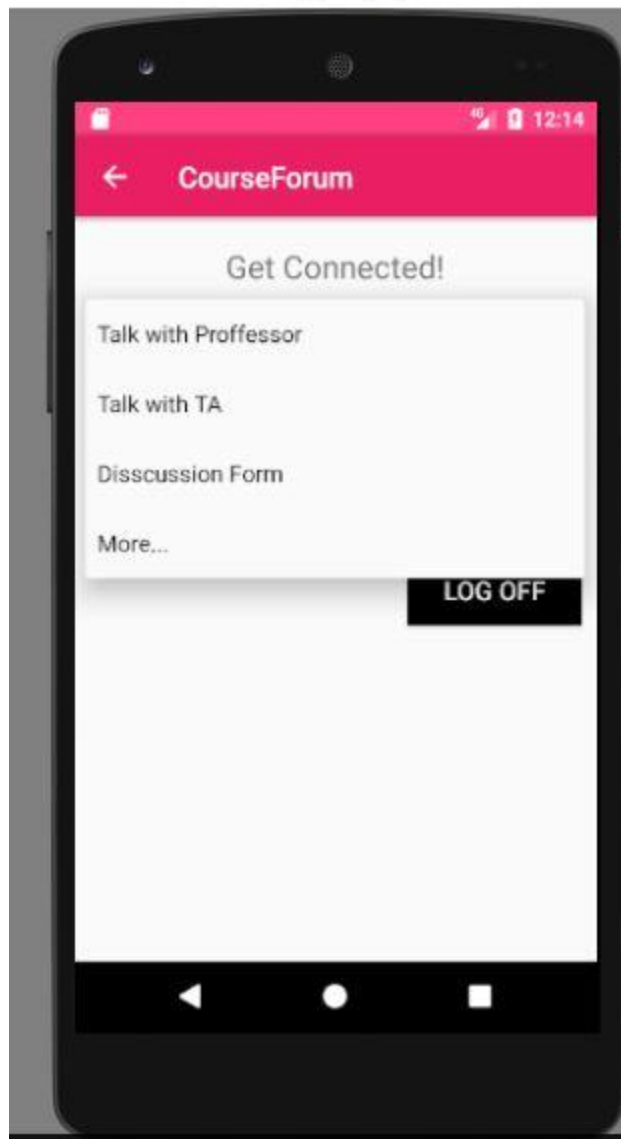


On selecting the course, we would get an option to talk with anyone:

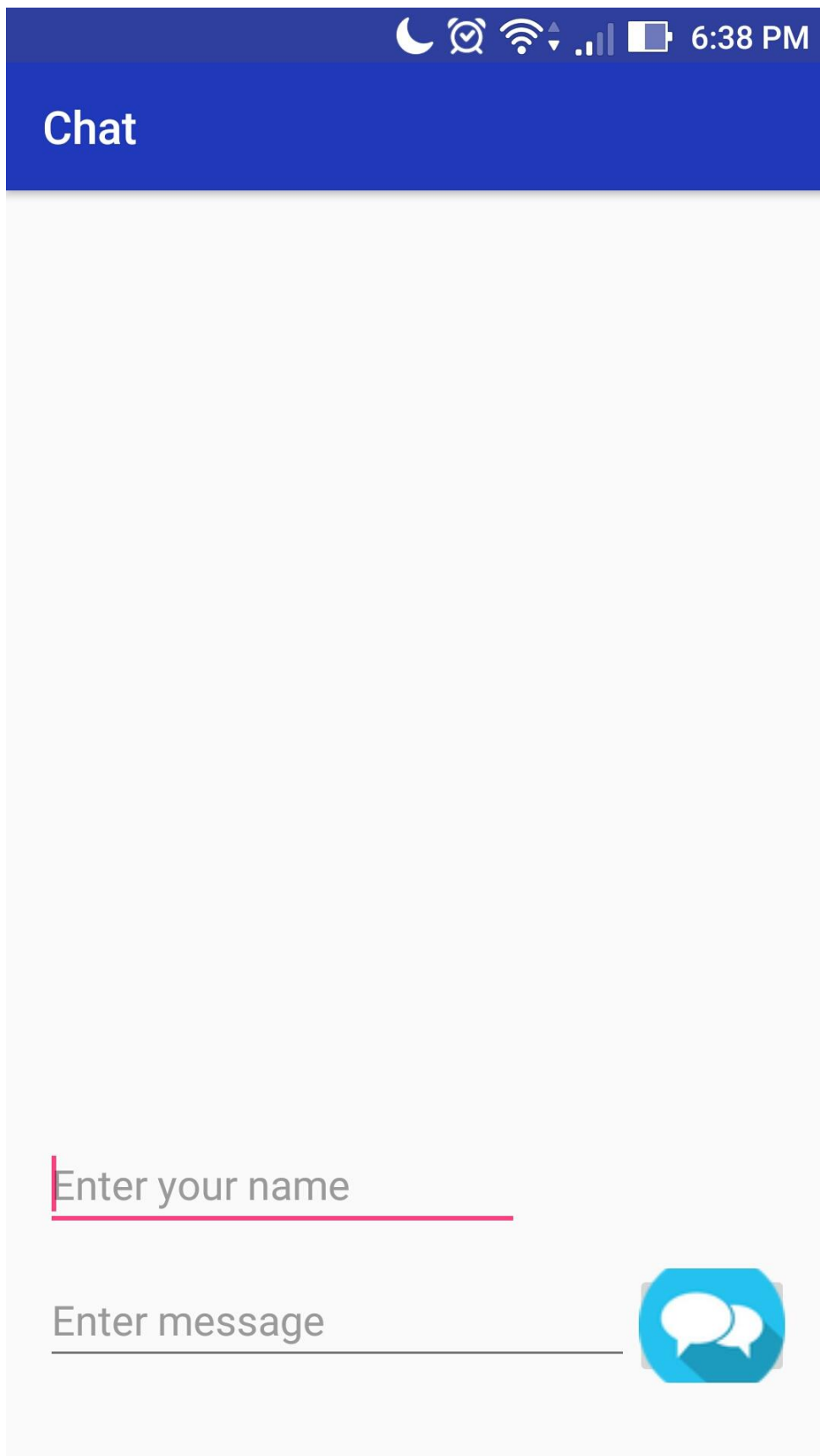
Android Emulator - Nexus_5_API_25_2:5556



Android Emulator - Nexus_5_API_25_2:5556



On selecting the option, A chat Screen opens up.





6:39 PM

Chat

Team 9

Welcome to Course buddy





Chat

Team 9 : Welcome to Course buddy

Enter message





6:39 PM

Chat

Team 9 : Welcome to Course buddy

Team 9 : This application is under development

Enter message

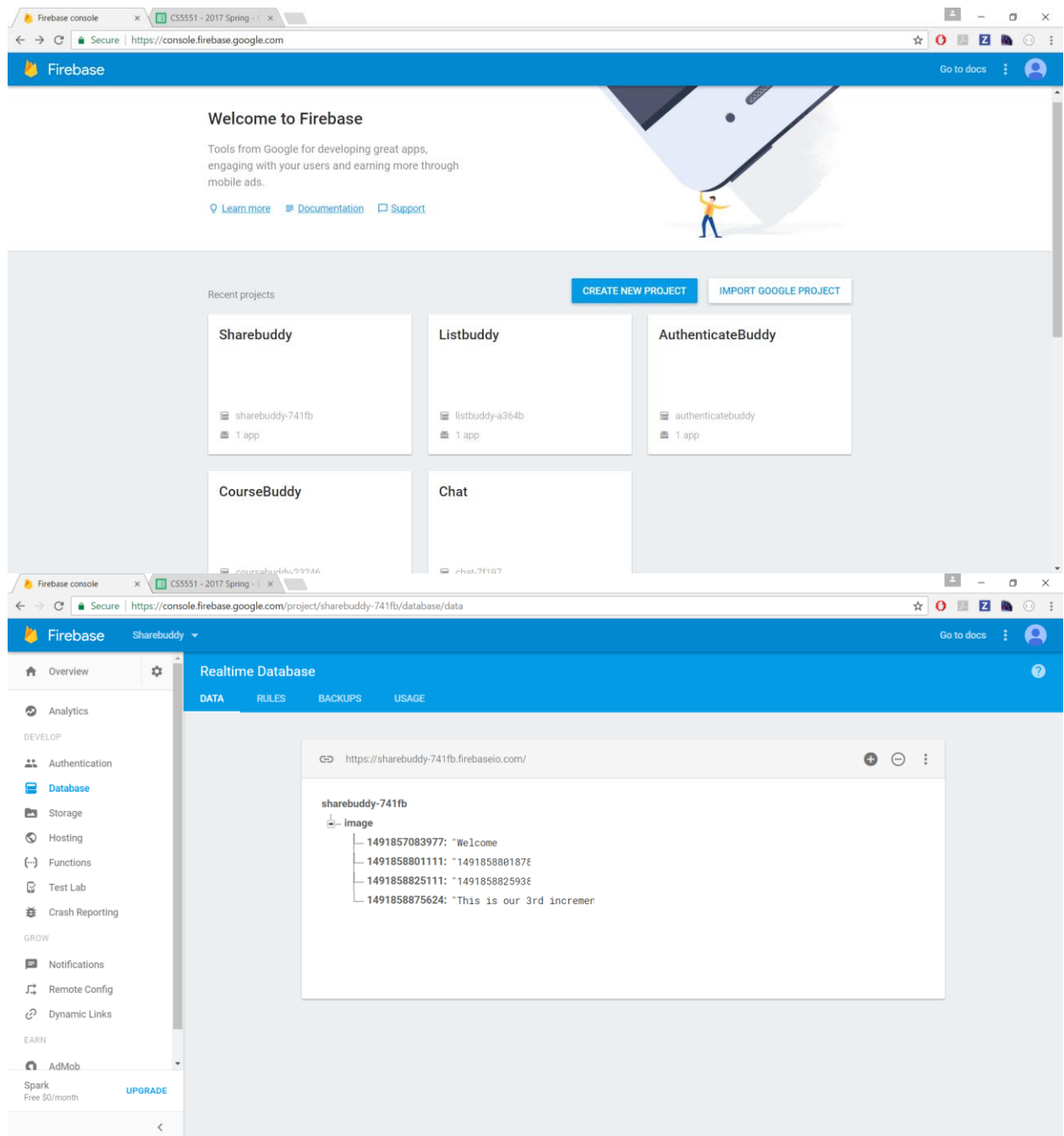


Enhancements made to the previous versions:

In this increment we have implemented

1. Firebase implementation for Chat and share activities.

Below are the screenshots of fire base



The image displays two screenshots of the Firebase Storage console interface. The top screenshot shows the 'Storage' overview page with a table of files. The bottom screenshot shows the same page with a file details modal open for the file '1491858825938'.

Top Screenshot: Storage Overview

URL: <https://console.firebase.google.com/project/sharebuddy-741fb/storage/files>

Storage path: `gs://sharebuddy-741fb.appspot.com`

Buttons: **UPLOAD FILE**

Name	Size	Type	Last modified
1491858801878	12.02 KB	image/jpeg	10 Apr 2017
1491858825938	11.92 KB	image/jpeg	10 Apr 2017

Bottom Screenshot: File Details Modal

Storage path: `gs://sharebuddy-741fb.appspot.com`

Buttons: **UPLOAD FILE**

Name	Size	Type	Last modified
1491858801878	12.0...	image/jpeg	10 Apr 20...
1491858825938	11.9...	image/jpeg	10 Apr 20...

File Details for 1491858825938:

- Name: 1491858825938
- Size: 11.92 KB
- Type: image/jpeg
- Created: 10 Apr 2017, 14:13:58
- Updated: 10 Apr 2017, 14:13:58
- File location: [Dropdown]


The screenshot displays the Firebase Storage console for a project named 'Sharebuddy'. The left sidebar contains navigation links for Overview, Analytics, Authentication, Database, Storage (selected), Hosting, Functions, Test Lab, Crash Reporting, Notifications, Remote Config, Dynamic Links, AdMob, and Spark. The main content area is titled 'Storage' and shows a list of files under the 'FILES' tab. The URL bar indicates the path 'https://console.firebase.google.com/project/sharebuddy-741fb/storage/files'. A detailed view of a selected file, '1491858801878', is shown on the right, including its name, size (12.02 KB), type (image/jpeg), creation and update timestamps, and a file location dropdown.

gs://sharebuddy-741fb.appspot.com

UPLOAD FILE

Name	Size	Type	Last modified
1491858801878	12.0...	image/jpeg	10 Apr 20...
1491858825938	11.9...	image/jpeg	10 Apr 20...

1491858801878



Name
1491858801878

Size
12.02 KB

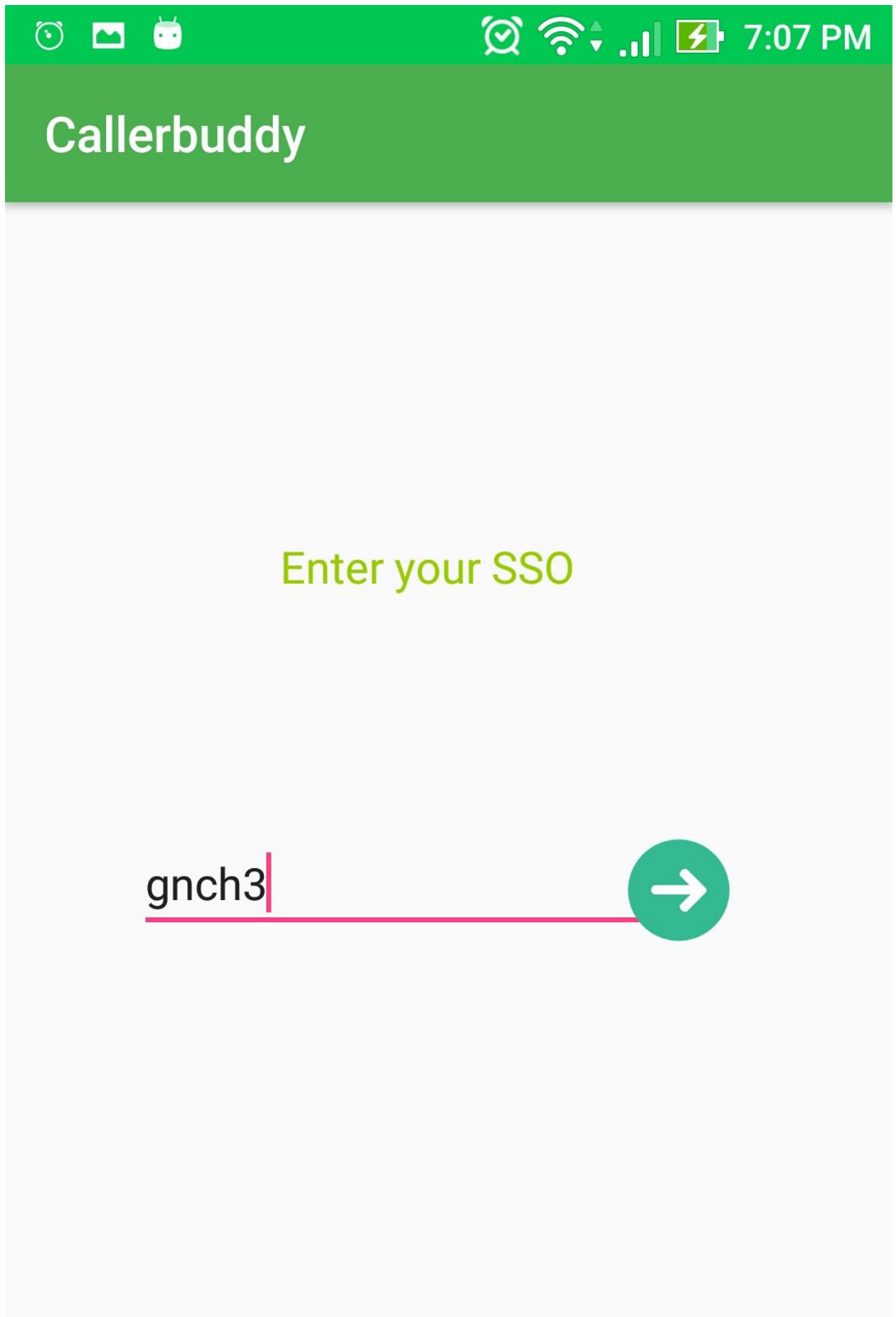
Type
image/jpeg

Created
10 Apr 2017, 14:13:33

Updated
10 Apr 2017, 14:13:33

File location


2. We have also implemented in-app calling feature to be able to call to the other user:
 - a. In this step user will be prompted to enter his sso
 - b. Now user will be prompted to enter his friend's sso, sso of his friend with whom he is interested to talk.
 - c. Now upon entering friend's id user will be able to redirect to call screen where he will be allowed to make a call and talk to him.
 - d. Upon clicking on call barring button, the call would come to an end.

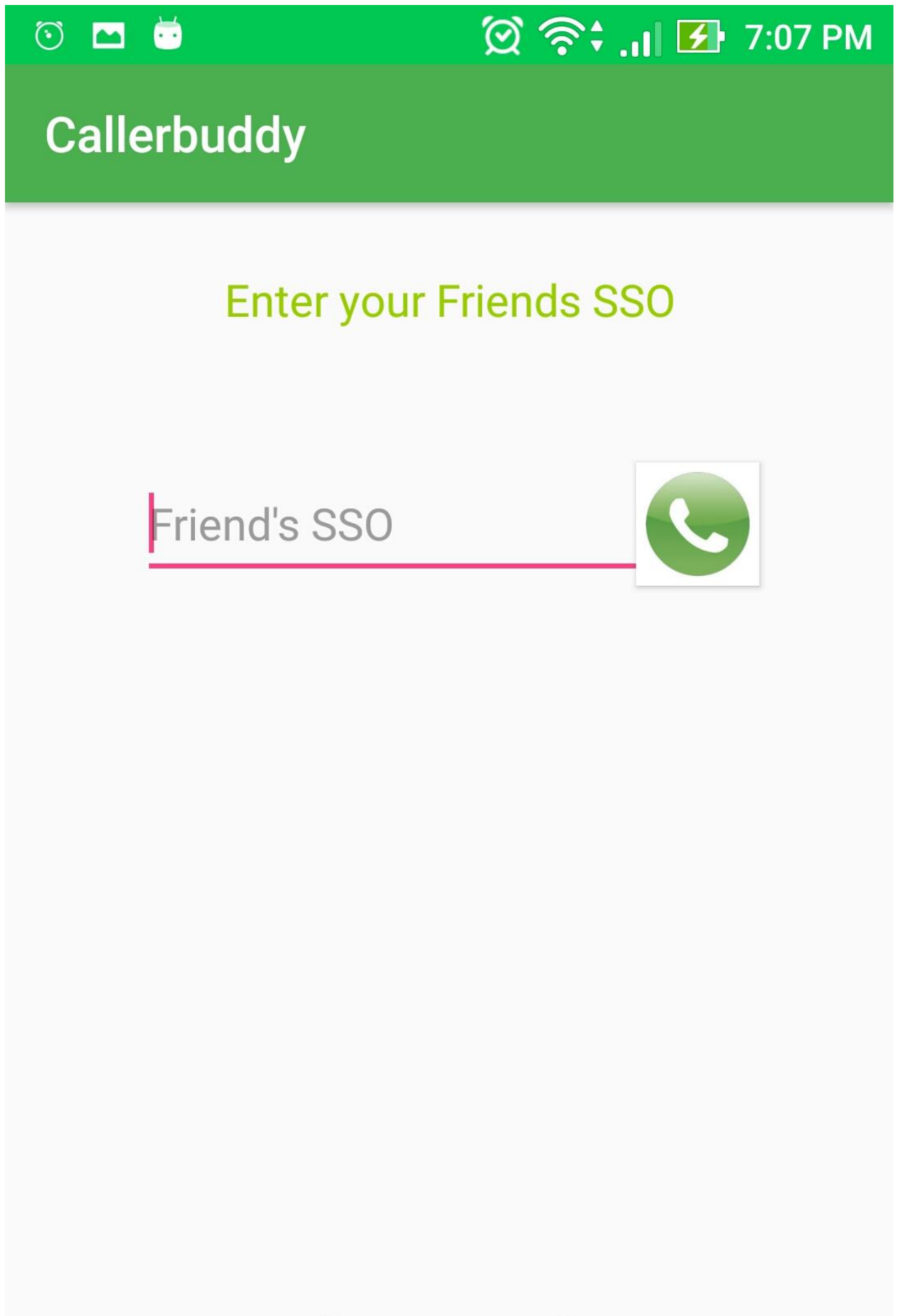


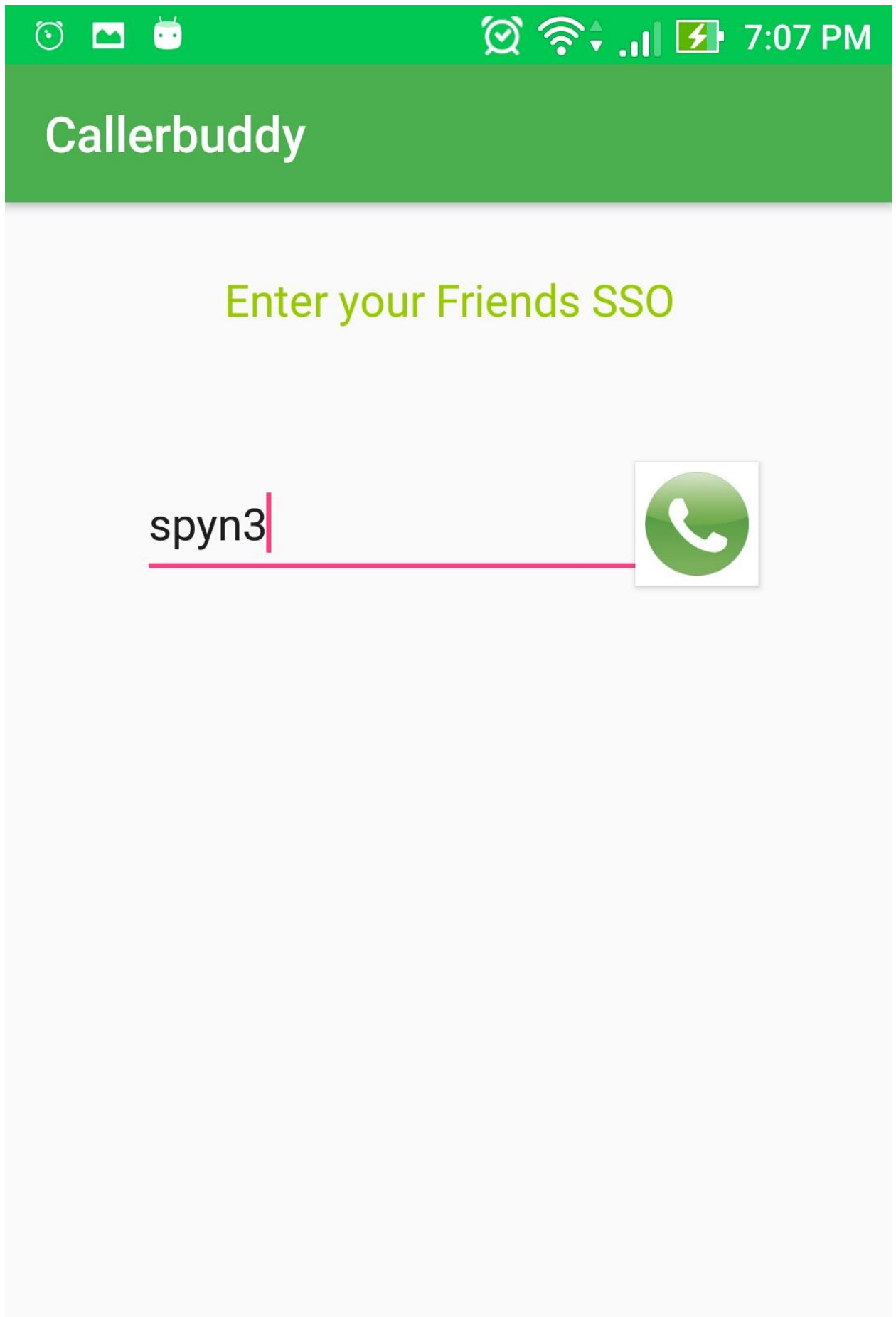
Callerbuddy

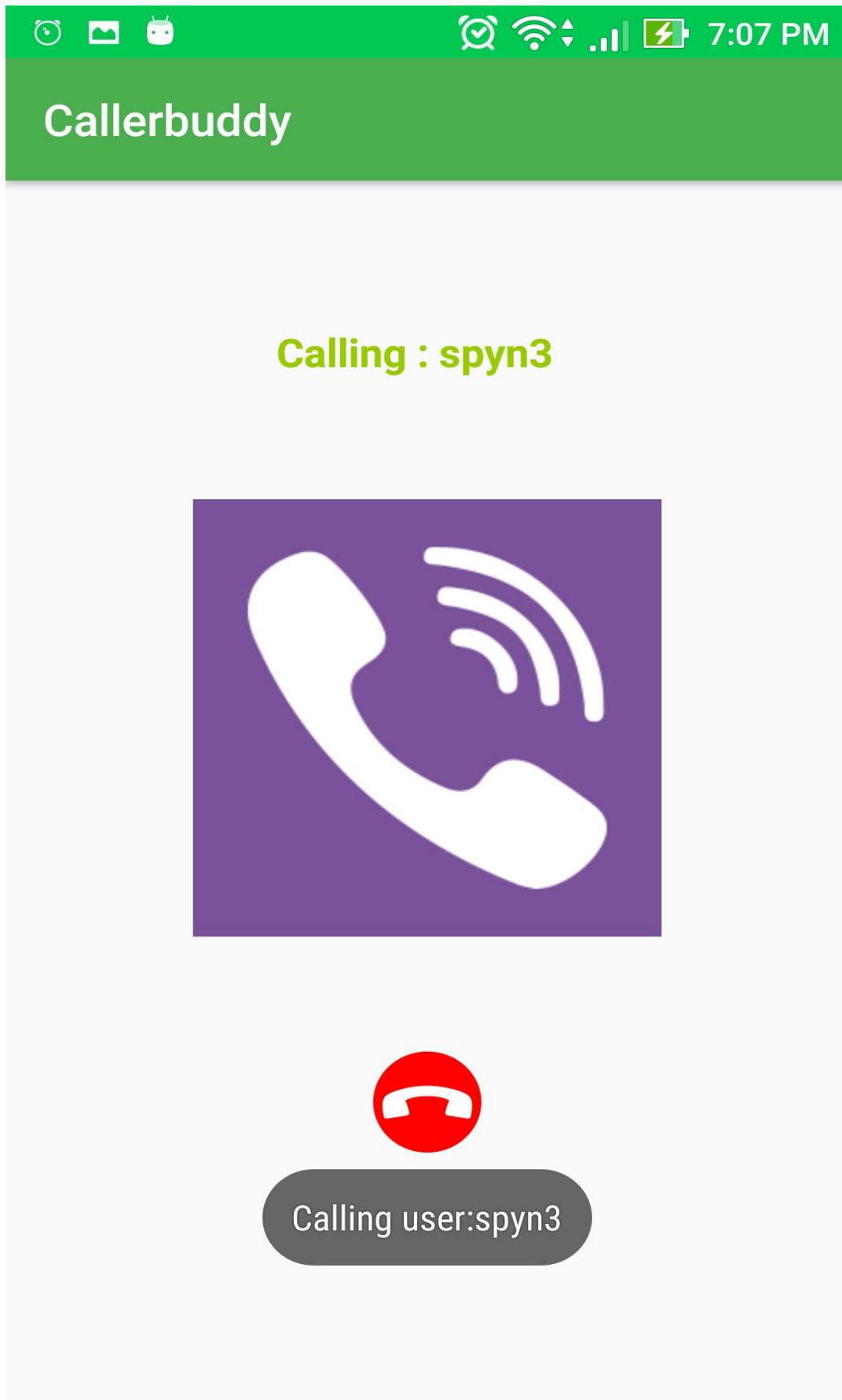
Enter your SSO

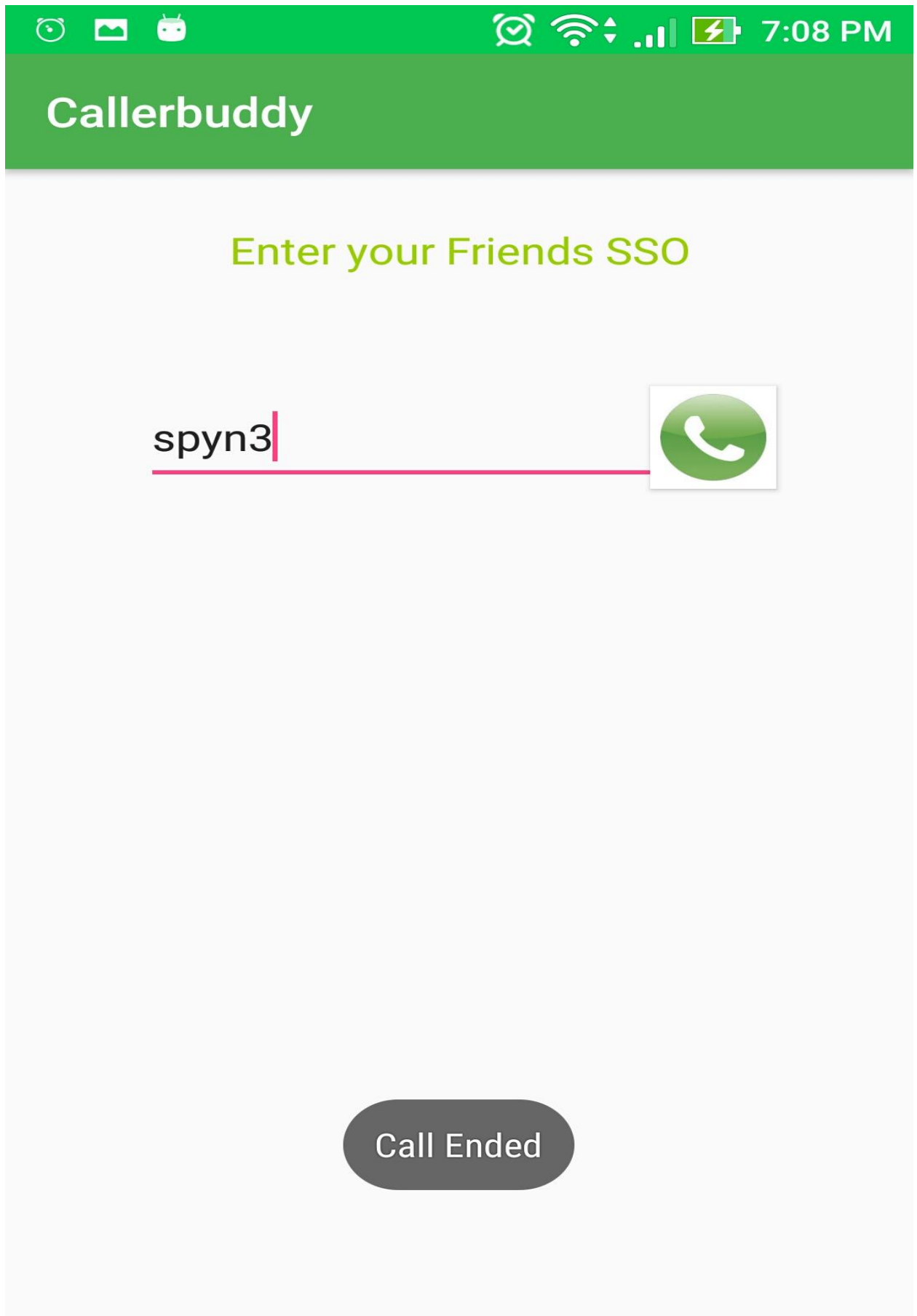
gnch3



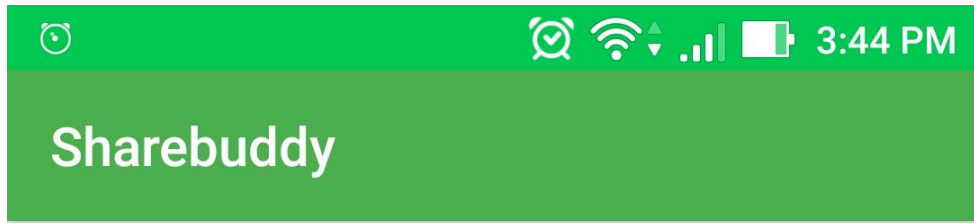








3. We have also implemented file sharing functionality which allows users to pick an image from gallery and send it to other user:
 - a) Upon opening the app, User gets the messages and images from his previous chat.
 - b) User can type in his message and tap the message icon to send message to other users.
 - c) User can tap on Gallery icon to pick the image he wants to send.
 - d) Upon picking the message, User taps on send image to send image to other users.

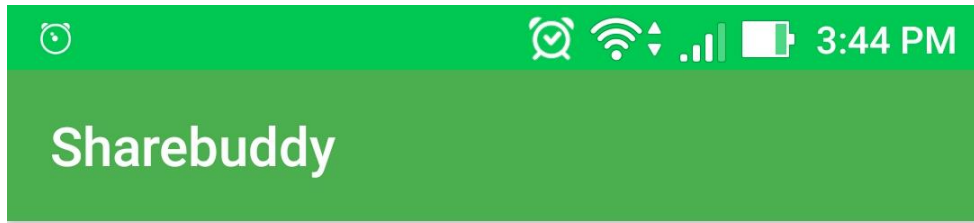


enter your msg



SEND IMAGE

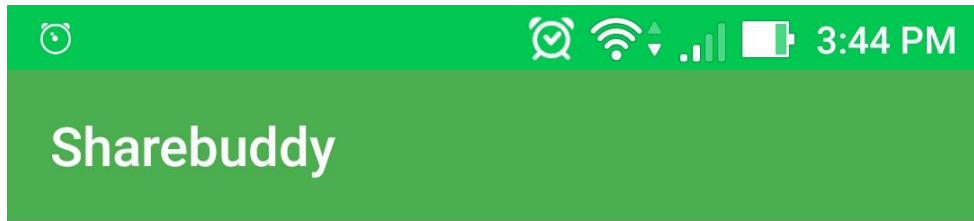




Welcome

SEND IMAGE





Team9 : Welcome

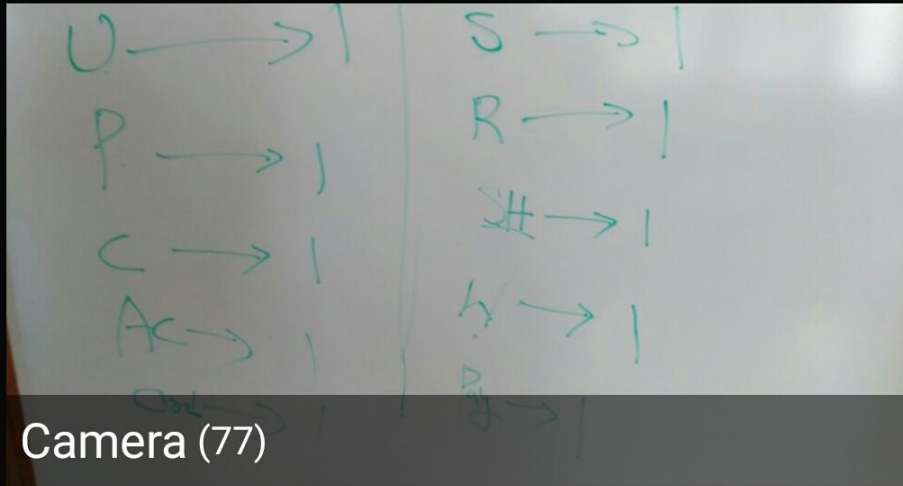
enter msg

SEND IMAGE

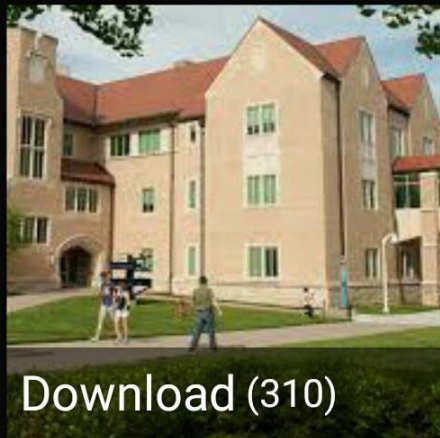


Select photo

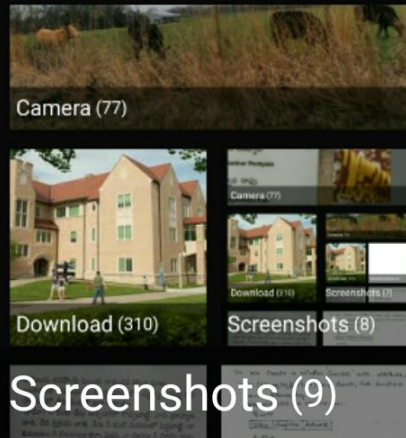
Cancel



Camera (77)



Download (310)



Screenshots (9)

రావణుడు చనిపోయే ముందు రాముడికి చెప్పిన మాట..
 లంకాదీపతి రావణబ్రహ్మ యుద్ధ భూమిలో.. మృత్యు శయ్యపై అవ
 సాన దశలో శ్రీరాముడితో ఇలా అన్నాడు.
 'రామా! నీ కంటే నేను అన్నింటిలో గొప్పవాణ్ణి. నాది బ్రాహ్మణ
 జాతి, నీది క్షత్రియ జాతి. నేను నీ కంటే చయసులో పెద్దవాణ్ణి. నా
 కుటుంబం నీ కుటుంబం కన్నా పెద్దది. నా వైభవం నీ వైభవం కన్నా
 అధికం. మీ అంతుపురమే స్వర్గం.. నా లంకానగరమే స్వర్గమయ్యం.
 నేను బలవరాశ్రమాలలో.. నీకంటే శ్రేష్ఠుడిని. నా రాజ్యం
 కంటే పెద్దది. ఇన్ని శ్రేష్ఠమైన విజయాలు కలిగి ఉన్నా.. యుద్ధంలో
 నీ ముందు ఓడిపోయాను. దీనికి కారణం ఒక్కటే.. నీ తమ్ముడు నీ
 దగ్గర ఉన్నాడు. నా తమ్ముడు చచ్చు వదిలి వెళ్ళిపోయాడు'.
 కుటుంబ పరివారం వెంట ఉంటే ఎంతటి కష్టమైన యుద్ధమైనా
 విజయం సాధిస్తుంది. పరివారమే కుటుంబం అంటే అనందం మన
 వెంటే ఉంటుంది. కుటుంబం చూడమితే బతుకే అరచుతుంది.
 రావణుని లాంటి వాడి ఓటుమీ పొలుకుతుంది.
 అందుకే అందరం కలిసి ఉండాలి. విజయాలు సాధిద్దాం!

WhatsApp I... (382)

So, We create a relation 'Genres' with attributes as
 title (primary key) and Genre, both combined to
 form a Primary key.
 After this step, the relation will be:

Book

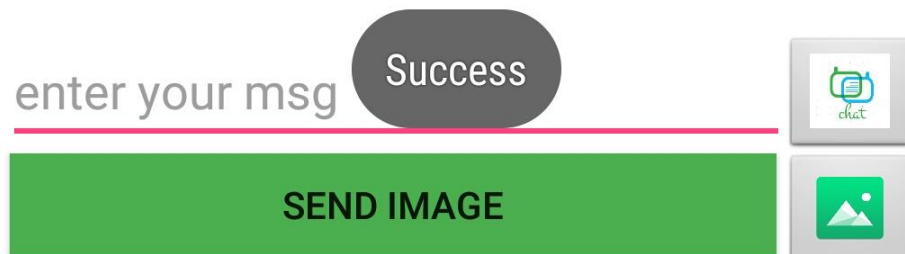
Title	chapter	AuthorID	
Author			
AuthorID	First	Last	
Reviewer			
Name			
Reviewing			
Title	Name	Date	Rating
Genres			
Title	Genre		

So, we create a relation 'Genres' with attributes as title (primary key) and Genre, both combined to form a Primary key. After this step, the relation will be:

Pictures (9)



Team9 : Welcome





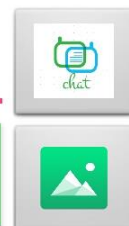
Team9 : Welcome

Team9:



enter your msg

SEND IMAGE





Team9 : Welcome

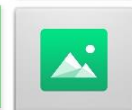
Team9:



enter your msg

Success

SEND IMAGE





Team9 : Welcome

Team9:



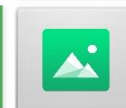
Team9:



enter your msg



SEND IMAGE





Team9:



enter your msg

SEND IMAGE





Team9:



This is our 3rd increment

SEND IMAGE





Team9:



Team9 : This is our 3rd increment

enter msg



SEND IMAGE



4.4. Unit Testing:

The below are the unit cases for second phase of the project:

s.no	Test case title	Description	Expected outcome	Result
1	User login verification	The user should provide valid email id and password to login.	Upon successful login, user needs to be moved to home page	Pass
2	User login validation with invalid credentials	User will enter wrong credentials	As the user have entered wrong credentials, access should be declined.	Pass
3	User login verification without details	User will not enter any credentials.	User should not be granted access as he had not entered any credentials.	Pass
4.	Correct navigation to choosen page	User will give login credentials	Upon successful login, the page should navigate to course selection page	Pass
5	Navigation after choosing the course	User will select the course he is enrolled in	Upon choosing the course, user needs to be navigated to talk with tutor, ta and discussion forum page	Pass
6	Navigation to Chat Screen page	User will select the option to either talk with tutor or TA or to engage in discussion forum.	Upon Choosing the Option, User needs to be navigated to Chat Screen page.	Pass
7	Cloud database based authentication	User will be allowed only upon successful authentication match on his credentials	User will provide his sso id and password and gets logged in on successful check	pass
8	Image sharing functionality	One user will send images to other person within the app	Upon clicking gallery icon user will be redirected to gallery and choose the image he wanted to send.	Pass
9	Call function implementation	User will be able to call to the other user by using in-app calling functionality	User needs to provide friends sso and click on call icon so as to be able to call his friend	pass

4.5. Deployment:

- We have deployed our application on an emulator as well as on Device and have taken screenshots.
- We have explained about implementation in detailed in the above sections.

4.6. Project Management:

Technologies used: Android SDK, JAVA SDK,.

Software used: Android studio.

APIs used: Firebase, Sinch.

In this increment we have completed the following work:

1. UML DIAGRAMS
2. Created increments in Zen Hub
3. Created wireframes using creately.
4. Login form modified with material design
5. Used spinners for drop down of courses and chat options.
6. Added linear layout with the material design of the screens login, courses, connect activities.
7. Added navigation.
8. Courses and Options page.
9. Implemented Chat Screen.
10. Implemented app-to-app calling functionality
11. Implemented app-to-app image sharing
12. Implemented authentication using fire base.

Contributions:

Vamsi Krishna Challa: 33.33% (calling function implementation)

Shankar Pentyala: 33.3% (cloud based user authentication)

Girish Kumar Reddy Nagella: 33.3% (sharing pictures implementation)

