

# ImTutor Final Report

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## ABSTRACT

The purpose of this final report is to first introduce our android application, what was our intention when we planed to make this application, what are the functionalities of our app, how is our development process while we building toward the final version of the app, and lastly, what each of us did and what we want our application to be able to do in the future.

## OBJECTIVE

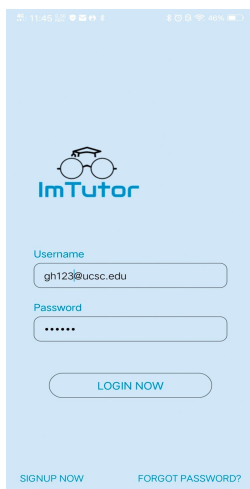
The idea that drove us to build our app, ImTutor, was that we want to provide a better learning environment for our UCSC students. We know that Piazza is been out

there for a while, but we notice that in piazza, there are lots of things that students cannot do. For example, students do not have the ability to create a class, only teacher can do so. The problem was that Piazza is a very useful piece of tool, but some teacher just decide they don't want to use Piazza for some reason, this gives many students a difficult time to seek for help online. So, we decide to create an mobile application that have the similar function as piazza, of course we add few of our own function that Piazza does not have, such as group meeting function, and reward system which will be implemented in the future. More importantly we removed the restriction of only teachers can create class, so by this

way, all the useful function will be available to everyone who wish to discuss online with people who also taking the same course.

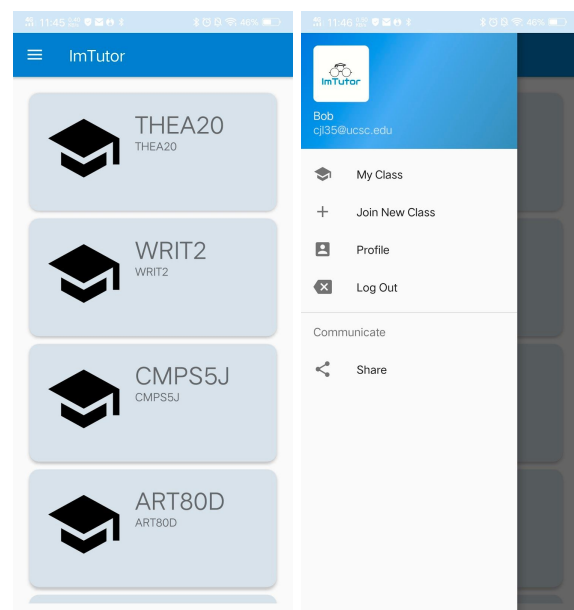
## Components

In our application we have many functions. By clicking on our app, the self-designed logo, ImTutor, will appear in the light blue background and located at the center of screen. Zoom out to show user the login page, which contain sign up, and forgot password options. Forgot password option requires user to enter their email which registered for their account, and we will sent an email to that address and take user to reset password page.



After login, we can view the classes that we have already joined which is the default of our homepage. And by tap at the navigation

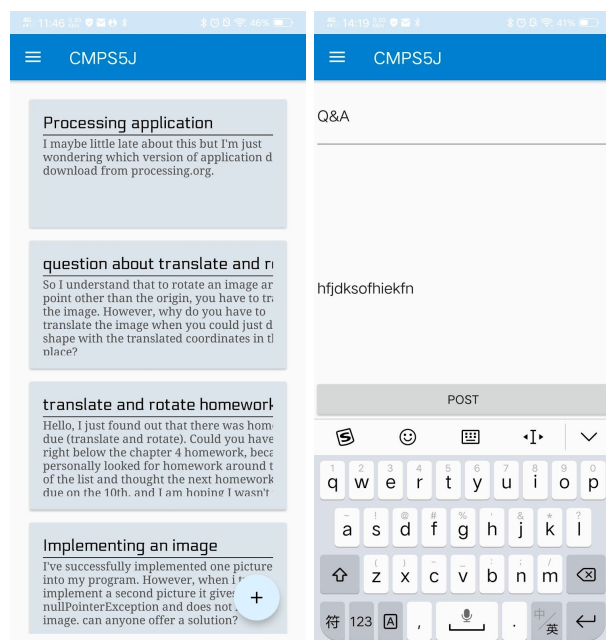
bar located at the top left corner of our homepage, we can see the functionalities built into our application. User can join classes by tap the join class button and enter the name of class to join, and view their profile which contain their email and user name, also there is a logout option to exit the app.



User can access all the useful functionalities after join the class just by tap on the class they joined which is on the view list of our default page.

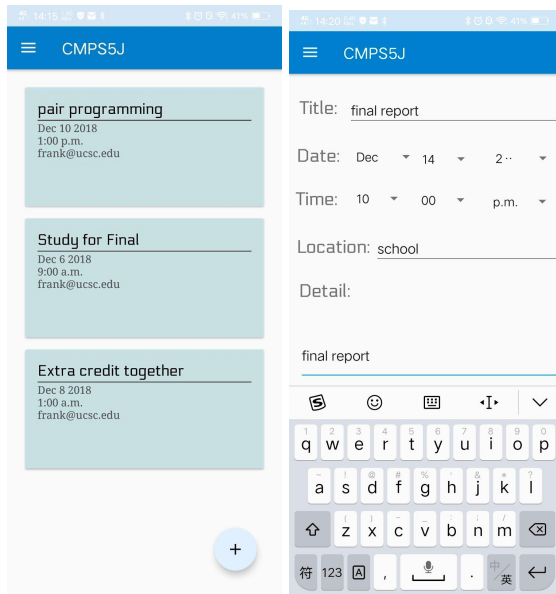
Once user get into a class the navigation bar will have completely different function. which gives user access to Q&A forum to ask question that they struggle with. By click on the Q&A button, it will takes user to another activity that shows the existing question in a

view list. Clicking on the question you are interested in takes you to the detail of question and all the answers will be posted at the bottom of the page, in a scrollable view list. There is always a time where your question was not been asked previously. In this case, you can always ask your own question by click on the floating button on the bottom right of the Q&A page. This button will take you to a page where ask you to enter a title of your question and detail description of your problems.

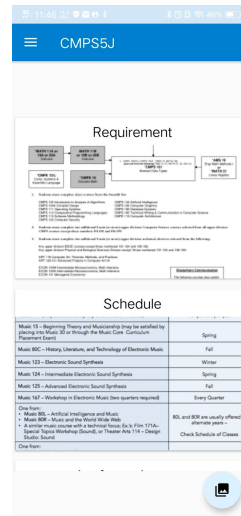


Users can also organize a group meeting with others who want to find a study partner. By clicking on the group meeting button in

the navigation bar, similar to Q&A, it shows the existing meeting that others created. You can view it just simply by clicking on it. And, at the bottom side there are two buttons, the one is to join the meeting you chose, the other one is to unjoin the meeting that you have enrolled. By clicking on join, your name will appear on the participant to inform others you have joined. The unjoin button is going to remove you from the meeting. In addition, all of these information is updated in our firebase database. Again, if none of the meeting suits your need, you can always create your own meeting by clicking on the floating button located at the bottom right of the page. This button will takes user to a page where user will be ask to fill in detailed information about the meeting that they want to hold. The first thing is the title of meeting, basically the main purpose, then is the date and time and location to meet up. And, lastly user needs to add the detail description of the meeting, for example what they want to learn, what is their progress. Then, hit the submit botton to post the meeting information for others to see and join.



Last but not the least, users can also upload the notes and other stuff they think is going to be helpful to the note function so that everyone will have the chance to take a look at it. Clicking on the note button in the navigation bar, it will take users to our note function which default page shows list view of the note already been uploaded. The floating button is for users to upload the notes for others to view. If a user wants to share his note for CMPS101 class, what he needs to do is just to click on the floating button and choose the note and type the title of that note.



## DEVELOPMENT

At the development stage we usually don't work on it the week when there is program assignment due. Other than that, we basically working on it every single weekend either saturday or sunday sometimes on friday night. When working on the project, we tend to finish what we have planned no matter how long it takes. So everytime we meet up, we finish at least one functionality, which means that it is going to be a fully function just without a good looking UI. We don't leave things half finished. We started the project by implement the login page, log in, register and all that stuff a login page should have. After that is our home page, which shows the classes that user joined.

Then we worked on Join class, creating class in firebase and put user information in the class took some time because that was the first time we used the database called Firestore. Once we have the home page done and can go to the class activity, we first tried to complete the group meeting function, but it took us longer than we expected. The reason was that the data we wanted to store was too much and different. So, we created lots of our own classes, like Class, Reply, and Post, to arrange the data, which makes our database much more manageable.

```
▼ classPosts
  ▼ 0
    postContent: "When is the deadline of our project?"
    postDate: "Thu, 6 Dec 2018"
    postOwner: "frank@ucsc.edu"
    ▼ postReplies
      ▼ 0
        replyContent: "you should check class schedule on canvas tbh"
        replyDate: "Thu, 6 Dec 2018"
        replyTime: "12:13:28 PST"
        replyUser: "cjl35@ucsc.edu"
        postTime: "12:08:33 PST"
        postTitle: "Deadline of project"
      ▶ 1 {postContent: "I'm still c..."}
```

By the time the first presentation coming, we completed the firebase part which is to put meeting info in firebase, but yet to put the information in our app. Since group meeting was completed, other function that are similar became relatively easier. We

completed the Q&A and note at the end and made a better looking UI before the final presentation. In our plan, we should have a reward system, and like button which gives students an option to vote for the most helpful answer and reward that person, but as we working on it we found that this function should not be implemented. Because students can join any class they are interested in and ask or answer the question they want, if we auto-generate the list of students who contributed most to that class, the list may be less useful since lots of students may not enrolled in that class at that time. So, professor still cannot decides the extra credit should be given to whom. Thus, considering this situation, we gave this function up currently.

## CONTRIBUTION

Jinglun mainly working on the UI development and prepared for presentation and early stage development like login in function, Zhaocheng and Howard worked together on the functions in class activity. Zhaocheng set up the Firestore database and did the basic structure of our homepage, the classes page. Howard created our own class and optimized the database which made it

more manageable. Then, in the class detail page, Howard finished Q&A completely, And, Zhaoheng did the note upload function completely. For the announcement and group meeting functions, we worked together to implement them.

## **FUTURE WORK**

In the future, we want to implement the reward system to our app. By doing so, firstly, we should distinguish whether the students is enrolled in that class currently. And according to their contribution of that class like uploading useful notes or answer the question correctly, the system will give the relative points to these accounts. And, by the end of a quarter, the app will auto-generate a list of students who contributed most to this class, and send this list to professors.

In addition, the initial goal of us to build this app is to make it useful for UCSC students rather than an assignment. So, we want to get support to begin our next possible step.