

MentorMatcher

Project Members

[L] Ivan Kipling Tung (2A330)

Lie Huan Yew (2A316)

Ervin Sim Yue Xun (2A323)

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1. Introduction

Description of idea

MentorMatcher is an app that facilitates ease of communication for Project Work groups in Hwa Chong Institution (HCI). Many HCI students have difficulty in communicating with and providing updates to mentors, along with the many mentors who lack the time to regularly check their emails after school to assist their mentees. With MentorMatcher, mentors and mentees will be able to effectively communicate with each other without mentees requiring their mentor's phone number. Proposals can also be shared with mentors. A mentor will be able to accept or decline proposals after viewing them. As such, MentorMatcher can be used by students to find mentors in the first phase of their project work. Meetups can also be arranged among groups. This allows meeting up without needing to worry about the other party forgetting as notifications are pushed out when it is time to meet.

Rationale of project

A significant number of students are unable to meetup regularly and communicate easily with their respective mentors due to the passive nature of email, sudden events cropping up, and other unforeseen circumstances. As such, students have to rush to meet their mentors on dates nearer to deadlines as the challenging communication proves a hassle for arranging meetups. Thus, despite the students' ability to email mentors, we found that MentorMatcher is still capable of improving the efficiency of mentor-mentee communication.

Focus and significance of project

MentorMatcher aims to pair mentors and mentees, effectuate meetups, and improve communications between mentors and mentees. It includes the ability to create a group with members and match it to a mentor if he/she accepts the proposal, allowing the aforementioned ease of communication to take place.

Scope of the project

MentorMatcher is capable of benefiting all of the students and teachers in HCI's High School section as they are involved in the project work system which the app is catered for. It benefits them by effectuating ease of communication between them. Flutter, a toolkit for making native apps, and Firebase, as a powerful backend, are used hand-in-hand to code the app.

2. Literature Review

The definition of communication, according to the Cambridge English dictionary, is to **pass information or to share thoughts** via speaking, writing or other forms of body language. Thus, our app matches the communication aspect of project work groups, and allows students to pass information to their mentors efficiently and efficaciously.

Positioning of current study in the wider literature (case studies)

MentorMatcher contains the main ideas of WhatsApp and the project work functions in the Intelligent School Portal (High School). Additionally, we included the ability to schedule meetups and summaries of respective project categories for students' convenience to make an informed decision on their preferred category. It is also meant to be separate from ISP(HS), with the project work groups still needing to register on the platform after finding their mentors on the app.

3. The Study & Methodology

Idea and description of study

To create an app with the purpose of assisting communication and effectuating meetups regularly between students and mentors.

Needs analysis

In January, we conducted a survey on 169 HCI high school students showed that over 50% of students find it difficult to meet up with their mentors, with 70% wanting a solution and 75% specifically wanting it to be an app. Only 36% of responders described finding a mentor as their main concern, hence we focused on the communication issue. Refer to **Annex B** for the charts of our survey.

Development tools

<i>Tools</i>	<i>Descriptions</i>	<i>Rationale</i>
Flutter	UI Toolkit	<ul style="list-style-type: none">• Cross-platform (saves time)
Cloud Firestore	Database	<ul style="list-style-type: none">• Realtime (notifies listeners on update immediately)
Cloud Messaging	Notifications service	<ul style="list-style-type: none">• Cross-platform• On the cloud (can react to database updates)
Cloud Functions	Serverless backend	<ul style="list-style-type: none">• Reactive (only runs when called)• Cost-efficient (since it runs only when needed)

Job distributions

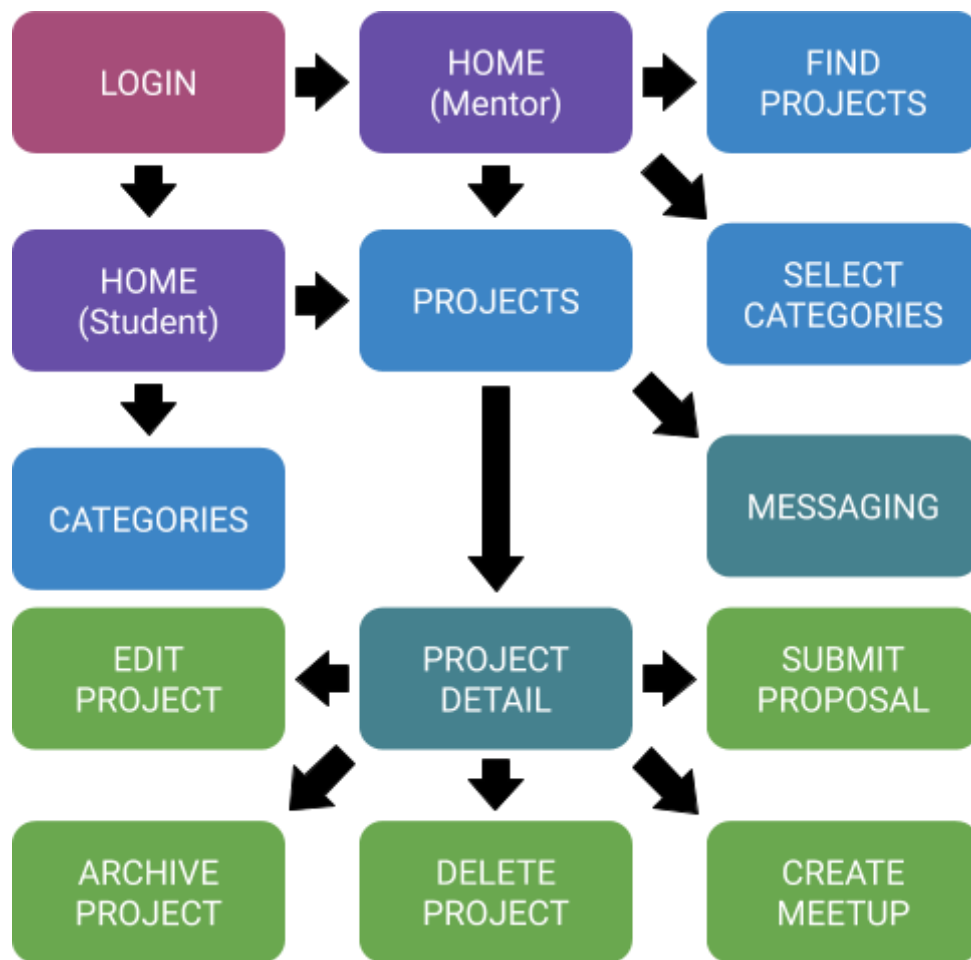
<i>Member</i>	<i>Job description</i>
Ivan	Coding and design
Huan Yew	Written report, slides, research & app testing
Ervin	Written report, slides, survey & app testing

Project timeline

We have already set up authentication and the back-end. We have also implemented the proposal feature, meetup function and the messaging function. Miscellaneous completions include the supplementation of push notifications where necessary and the testing of the functionality of the app. Finally, we have also fixed all identified bugs.

We still can (extra aspects we think can be improved) add photos / document sending capabilities to the messaging feature and possibly create theming settings.

4. Outcomes, Analysis & Discussions



<i>Feature</i>	<i>Description</i>
Login	Uses school google account
Categories	Summary of objectives and requirements of each category
Projects	List of current projects List of archived projects List of invited projects (only for students)
Project Detail	List of members (if not all have joined) Proposal List of meetups (with availability response)
Select Categories	For mentors to choose the categories they are mentoring
Find Projects	List of proposals received by mentor

Summary

The app has been programmed such that students can do the following:

1. View the description of categories including their objectives and requirements to make an informed decision when coming up with their project idea, as well as finding a suitable mentor.
2. Contact mentors easily through an instant messaging platform. (Some may use varying social media apps which may complicate communication efforts, whilst other teachers are unwilling to share their mobile numbers)
3. Create proposals to request for mentorship by teachers.
4. Schedule meetups appropriately such that all members and the mentor can make it.

Features

There are viewable categories with respective descriptions in a separate section of the app for students to make their decisions. Students can submit their proposals to mentors without meeting up first to save the mentor time – should the mentor like the idea, they can schedule a meetup to discuss further. After the mentor accepts the proposal, the group members and mentor may communicate through a messaging system. Refer to **Annex A** for the screenshots of the aforementioned features.

5. Implications and Recommendations

Area for improvements and possible further extensions

We think that it is possible to include a list of mentors with their preferred categories and colour codes to represent availability of space for other groups. This would benefit members and save time as they would not waste time looking for a mentor who has accepted the maximum amount of groups.

6. Conclusion

Reflections

1. A simple project may be complicated in the process of creating it.
2. Teamwork maximises our time. Splitting the job between ourselves allows for the most efficiency in our work.
3. Although a project may seem simple to make initially, it may take months to complete. Never judge a book by its cover.
4. Presentations are vital. Effective, concise and beautiful slides are key to grabbing the audience's attention.
5. Minor mistakes may snowball into large ones. It is better to stay safe by correcting them as soon as possible.

7. Bibliography

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The Institute for Clinical Research Education. (n.d.). *Communication*. Retrieved from <https://www.icre.pitt.edu/mentoring/communication.html>

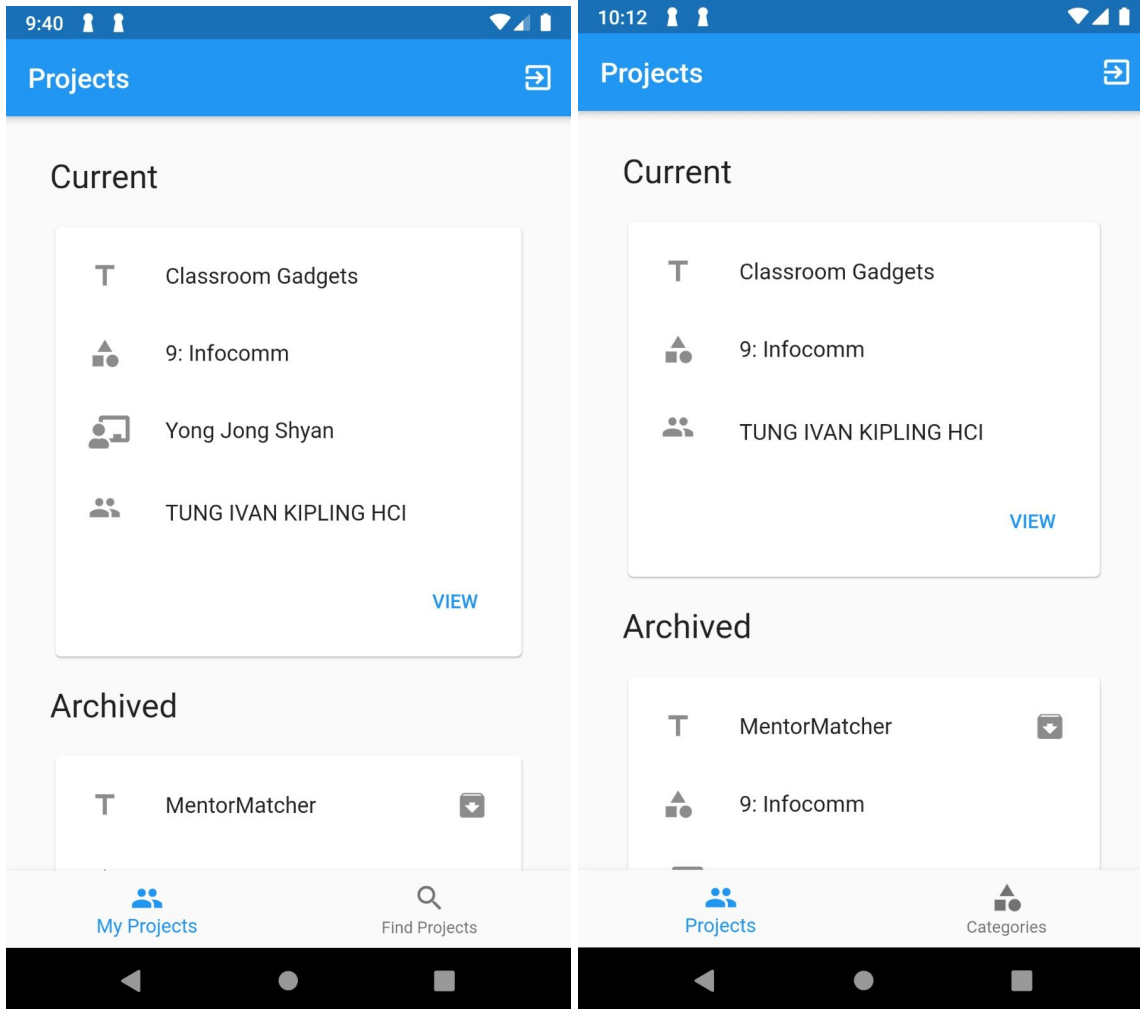
Reference to support ideas

The Institute for Clinical Research Education. (n.d.). *Effective communication*. Retrieved from <https://www.icre.pitt.edu/mentoring/effective.html>

The idea of communication between mentors and mentees is inferred.

Annex A

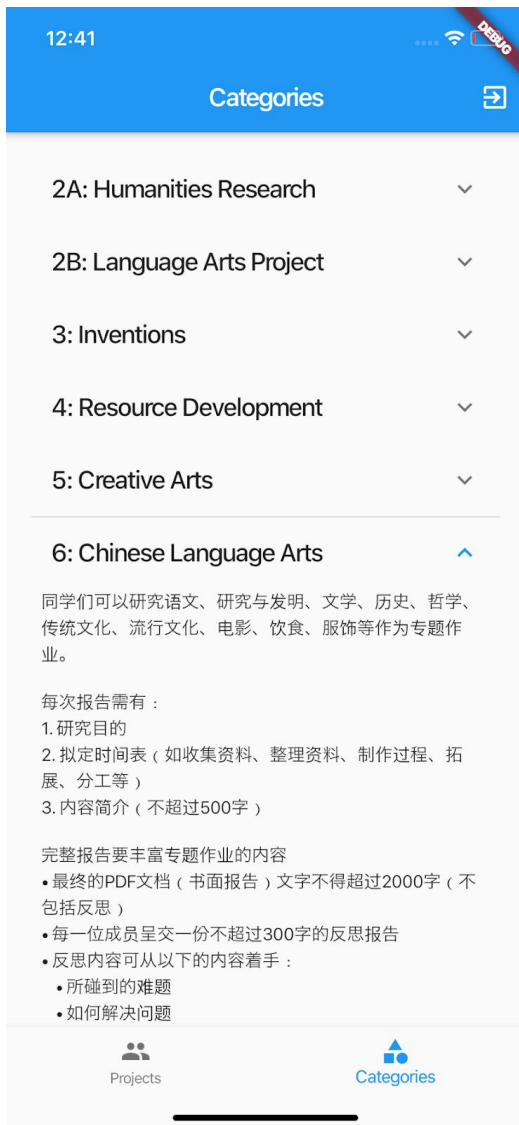
Homepage



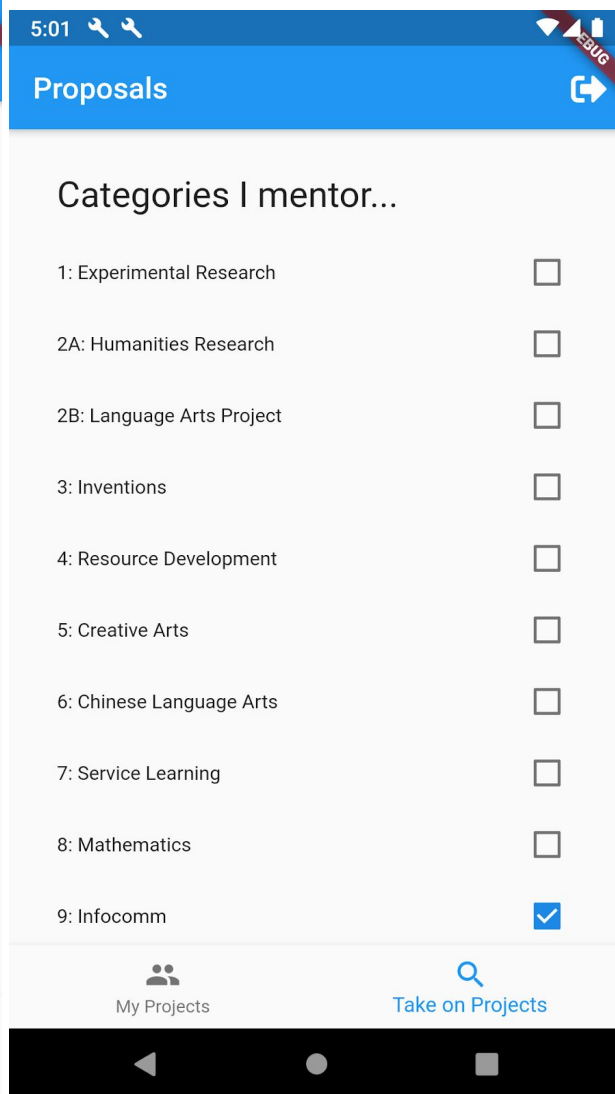
^ Mentor's perspective after logging on

^ Students perspective after logging on

Viewable categories

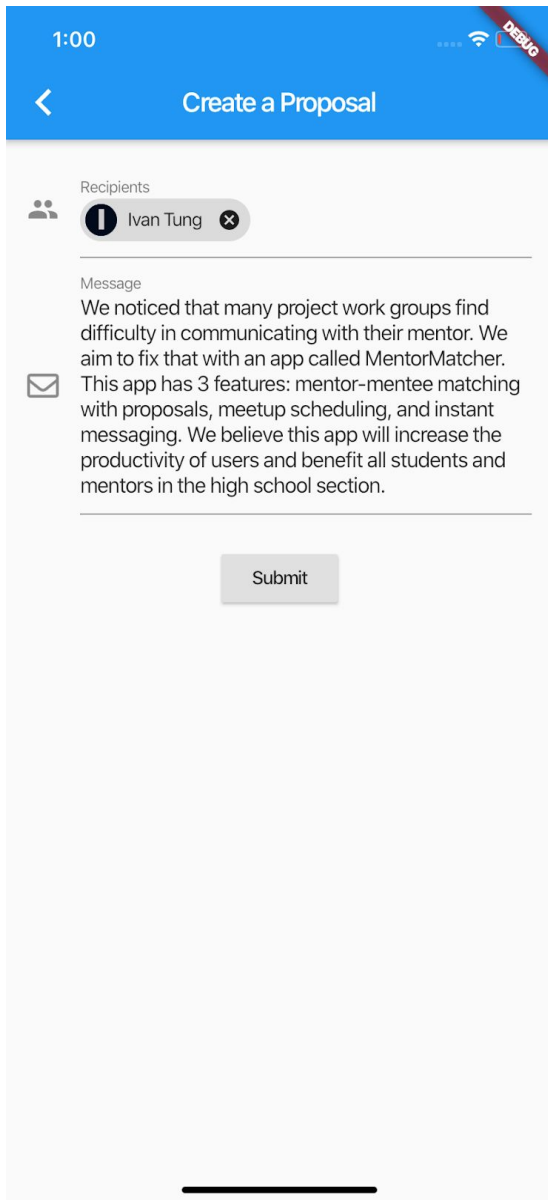


^ Students' perspective of category summaries

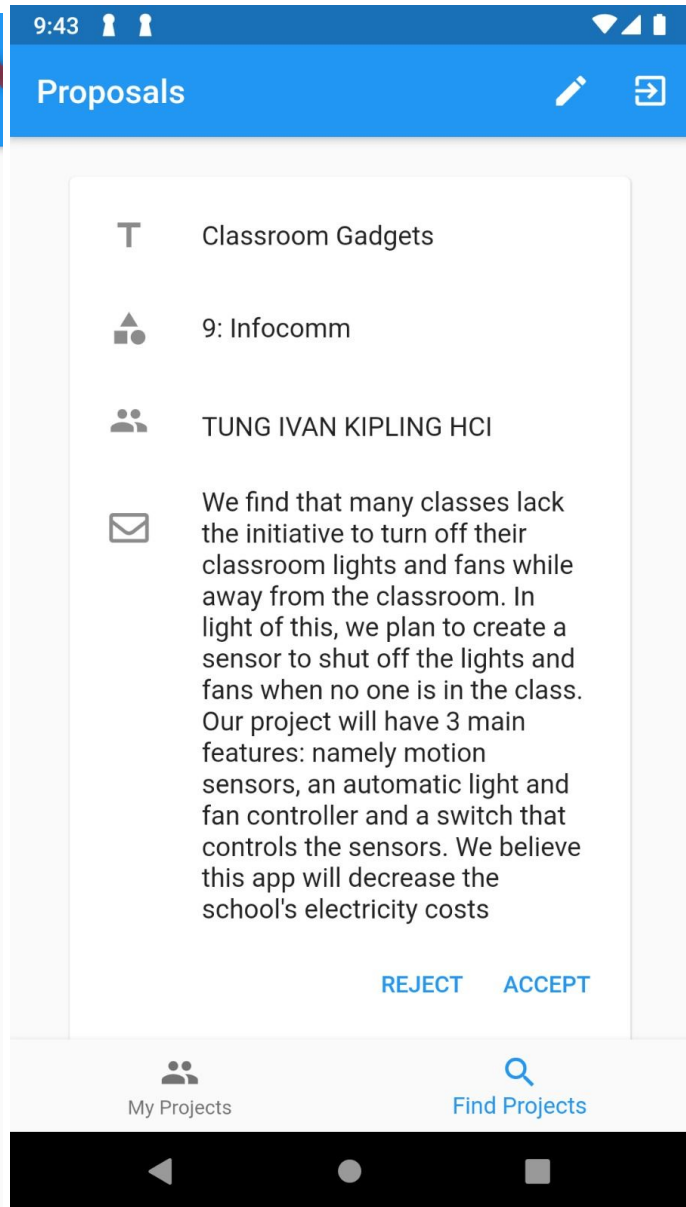


^ Category selection screen for mentor

Proposal submission screen



^ An example of a proposal creation



^ Mentor can accept or decline proposals

Meetup scheduling screen

12:51

Create a Meetup

On
Aug 5, 2019 2:00 PM

At
Fish Tank

With Mentor?

Purpose
Review final evaluation slides

Submit

^ Creation of a meetup

5:14

MentorMatcher

Proposal

Ivan Tung

Our project is ...

DELETE

Meetups

Jul 4, 2019 1:40 PM

Fish Tank

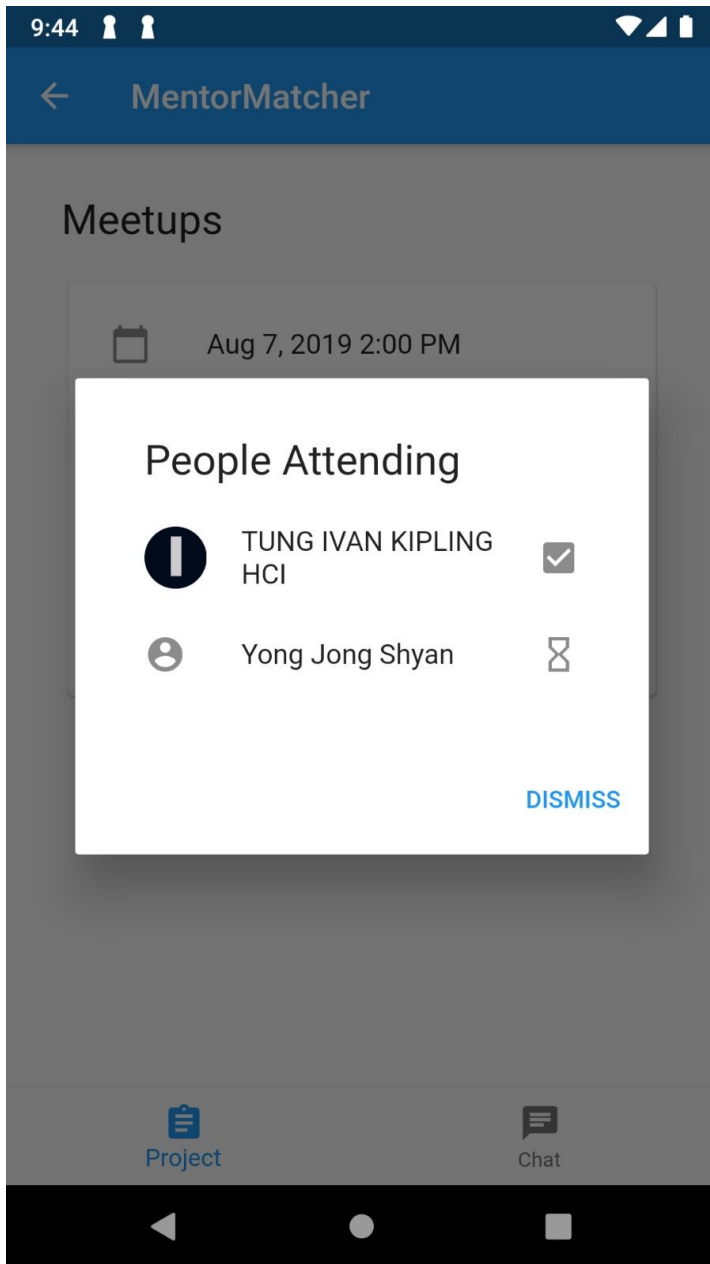
Discuss mid-term evaluation slides

With mentor?

1 person can make it

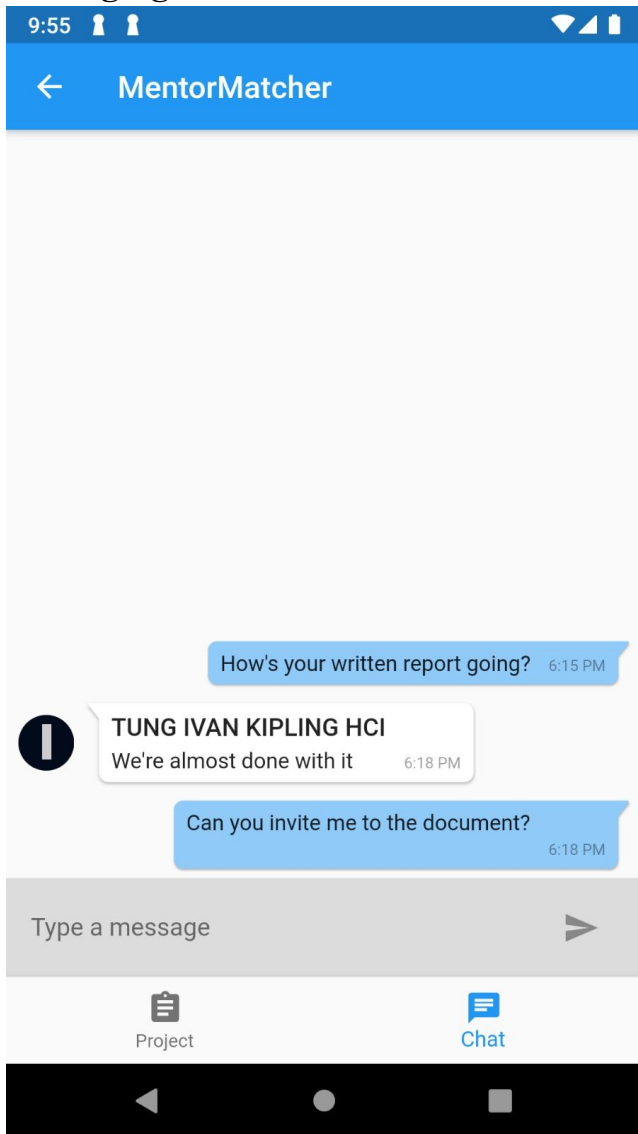
My Project Categories

^ Details of meetup are viewable



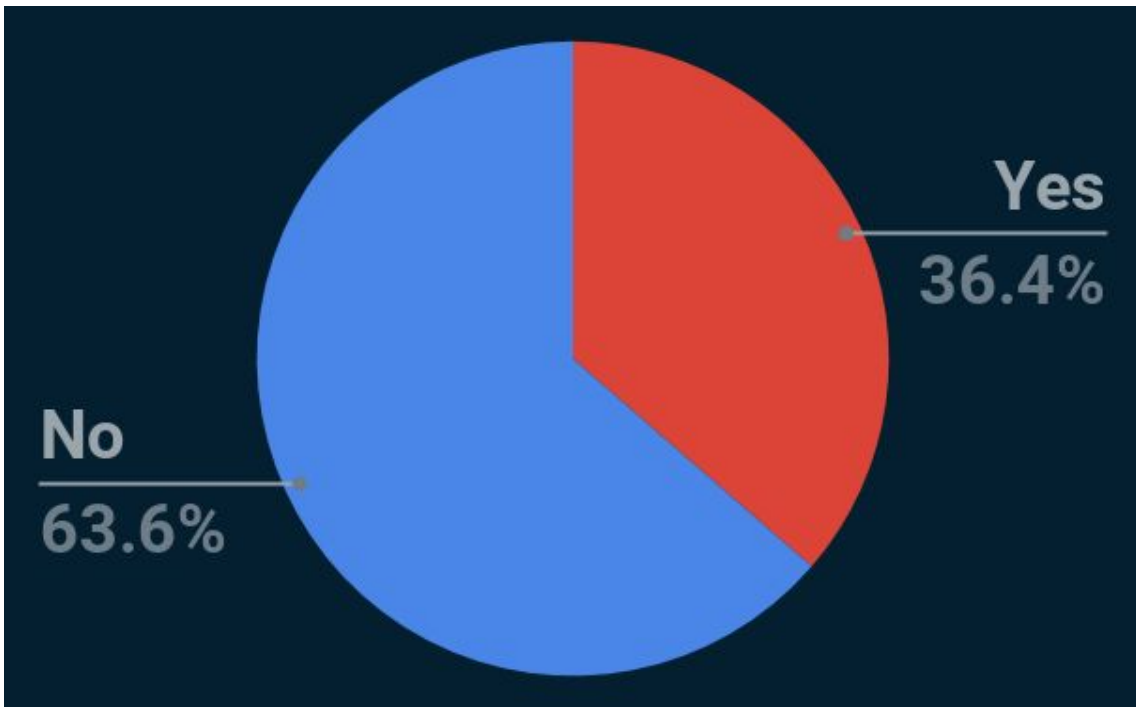
^ Attendance for meetups

Messaging feature

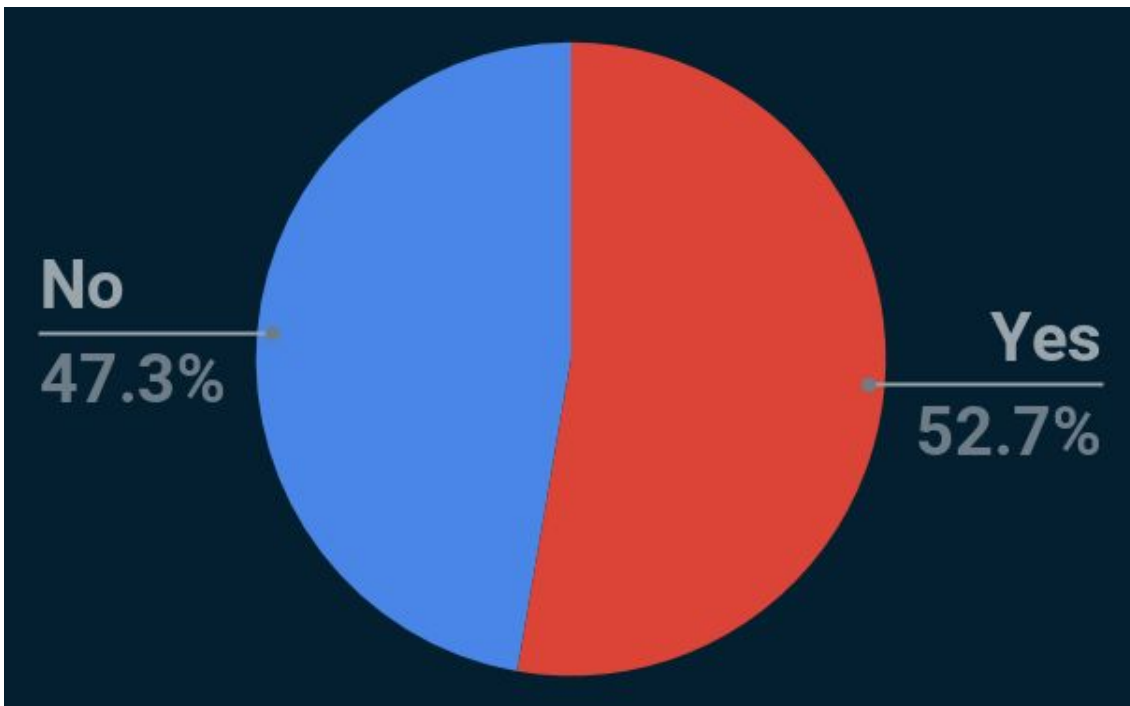


^ Mentor's perspective messaging student

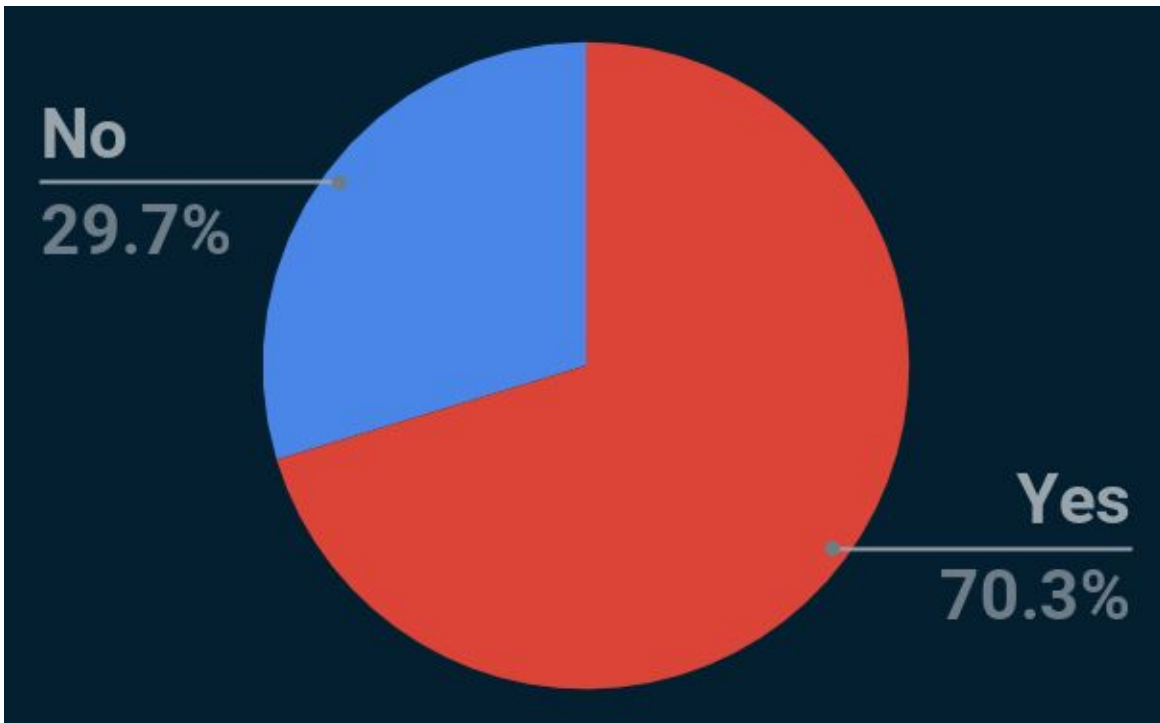
Annex B



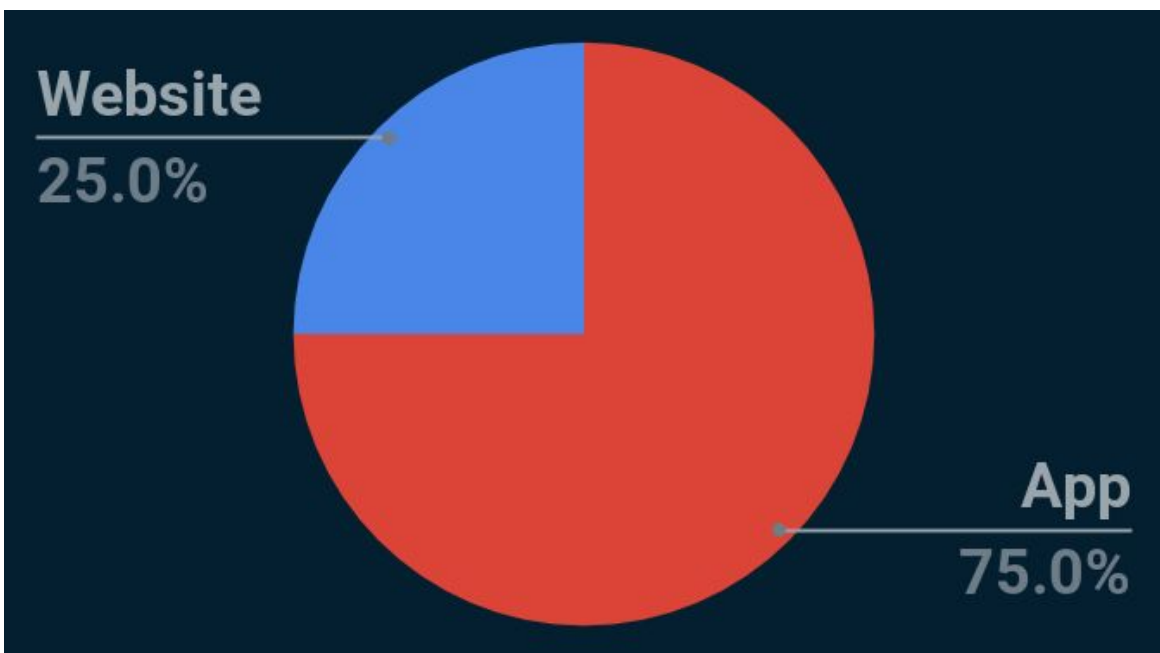
^ Unsatisfied with time taken to meet mentor



^ Inconvenient to meet mentor



^ Percentage of students wanting a solution



^ Preference of app or website