

# A2 - Needfinding

## Team 2: JADED

- Ecem “AJ” Yilmazhaliloglu
- Alexander Yue
- Diego Valdez Duran
- Evan Hsu



# Our Study Group

'25



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Yilmazhaliloglu**

BS CS  
Istanbul, Turkey

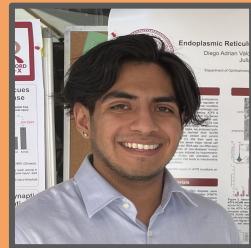
**Alexander Yue**

BS Physics  
Sacramento, CA



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**Diego Valdez  
Duran**

Coterm CS  
Aspen, CO

**Evan Hsu**

Coterm  
Rancho Cucamonga, CA



'25

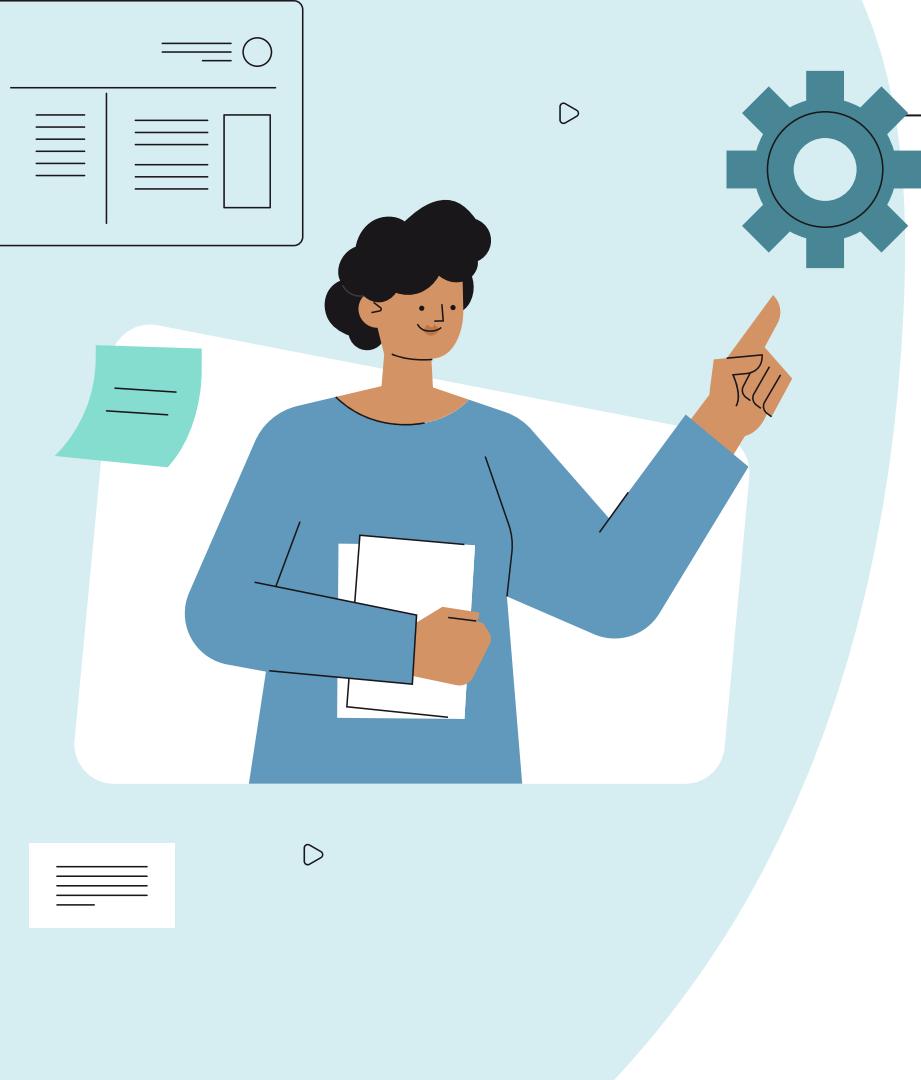
# Refined Problem Domain

People who use the US undergraduate education system



Group collaboration among US undergraduate students

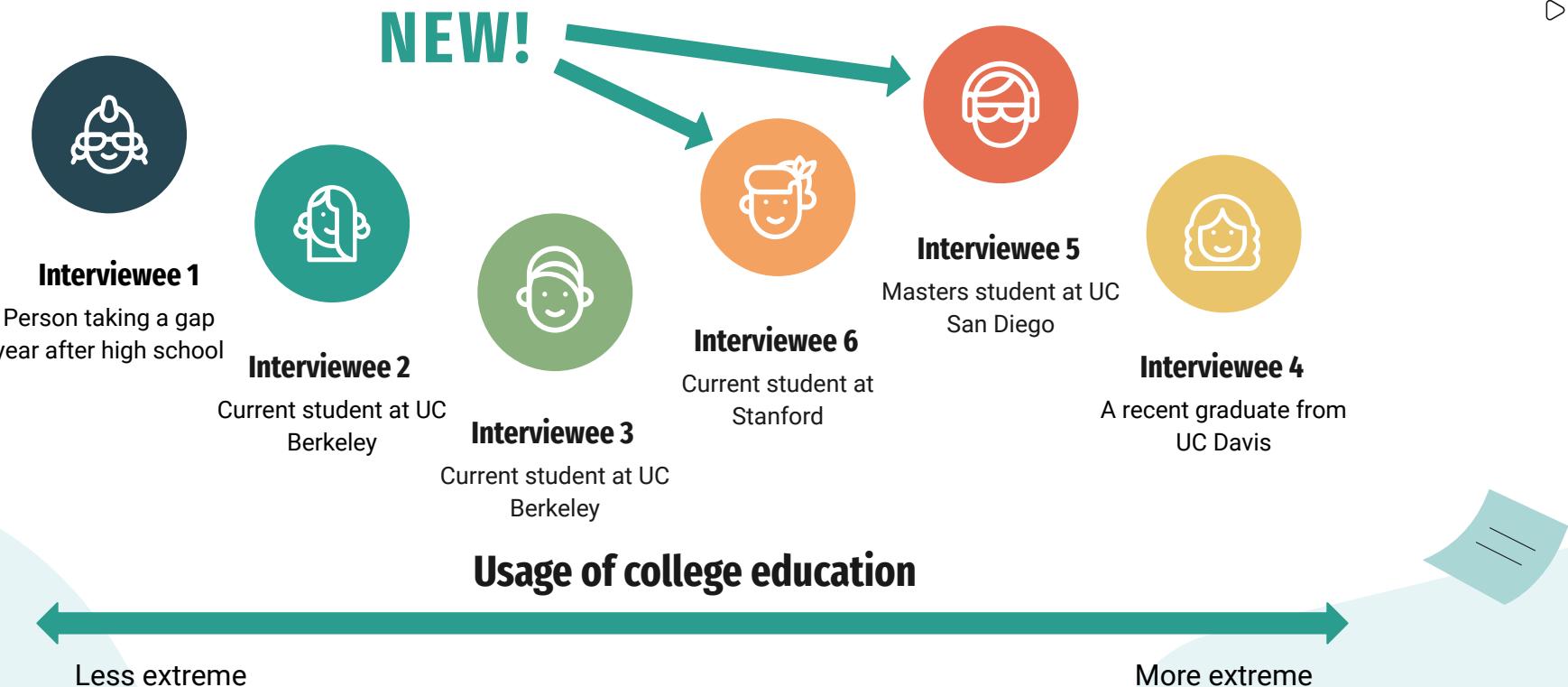




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# Additional Needfinding

# Participants



# Interviewee 5 - Masters Student @ UCSD



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## Context

- Hometown is Sunnyvale
- Electrical Engineering Major
- Lives-off campus

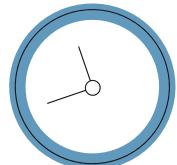
## Key Quotes

- "One of my **motivations** was this **legend** on Reddit, like, was his name is Shivam. He did **three majors** in three years, and he did pure math, pure physics, and CS"
- "Fun class, though, even though I got like a **b minus** in that class, I looked back and that was probably **the class I learned the most**, not just about content wise, but more about how flawed some of my study philosophies are. But I like that."
- "So I basically joined his friend group, and ... **I became 10 times more social** my second year than my first year. Because of that, I'm very thankful that I went **off campus**, because being off campus really forces you to stay at school."



# Key learnings

- Taking on difficult challenges is highly motivating to some students
- Students are brought together most under hard circumstances



# POV #5



## *WE MET...*

“Mike,” a Master's student at UCSC who achieved extreme academic success through advanced classwork and skipping prerequisites



## *WE WONDER IF THIS MEANS*

The growth from challenging classes outweighs the difficulty of taking them and loss of GPA.



## *WE WERE SURPRISED TO NOTICE...*

Although he attributes **great value to GPA**, his favorite class was one where he received a low grade in, but **made friends through the shared challenge**.



## *IT WOULD BE GAME CHANGING IF...*

Students could find engaging challenge in their classes in a way that does not hurt their GPA.

# Interviewee 6 - Coterm Student @ Stanford



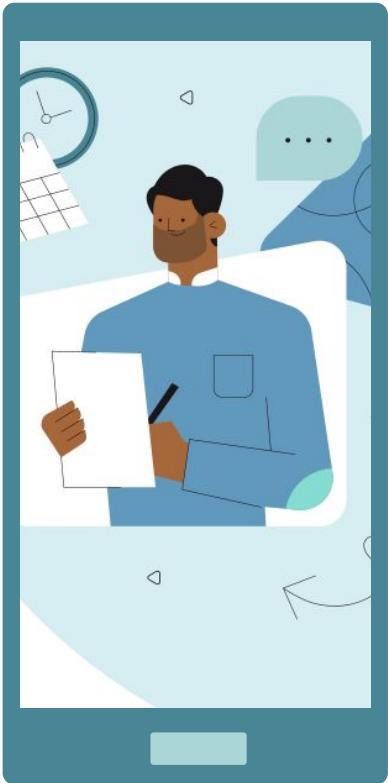
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## Context

- Hometown is San Francisco
- Master's candidate in Community Health and Prevention Research (CHPR)
- Pre-med

## Key Quotes

- "[for my healthcare leadership class] ... I really liked the diverse set of guest speakers. It showed a **humanistic side** of medicine"
- "**Without smaller groups** in some of my classes, it's **harder to stay motivated**. It feels like more of a drag when you can't engage with the material on a deeper level"
- "I prefer working alone when studying for tests, but I **really enjoy collaboration** in my **project-based classes**"
- "Sometimes I **struggle to reach out** to other students because of **imposter syndrome**, or duck syndrome. I feel like 'I should be able to figure this out on my own!'"



# Key learnings

Engagement is key to learning

There are personal barriers to peer collaboration

# POV #6



## WE MET...

"Tim," a pre-med coterminous student at Stanford who is working very hard to finish a 4-quarter long masters program in 3.



## WE WONDER IF THIS MEANS

Since he thinks, "**I should** be able to figure this out on my own", he will **refrain** from reaching out to peers even if it benefits him and increases his motivation



## WE WERE SURPRISED TO NOTICE...

Although he **prefers to work with peers** on problem sets and group projects, he is sometimes **afraid to reach out** due to the feelings of "**impostor syndrome**".

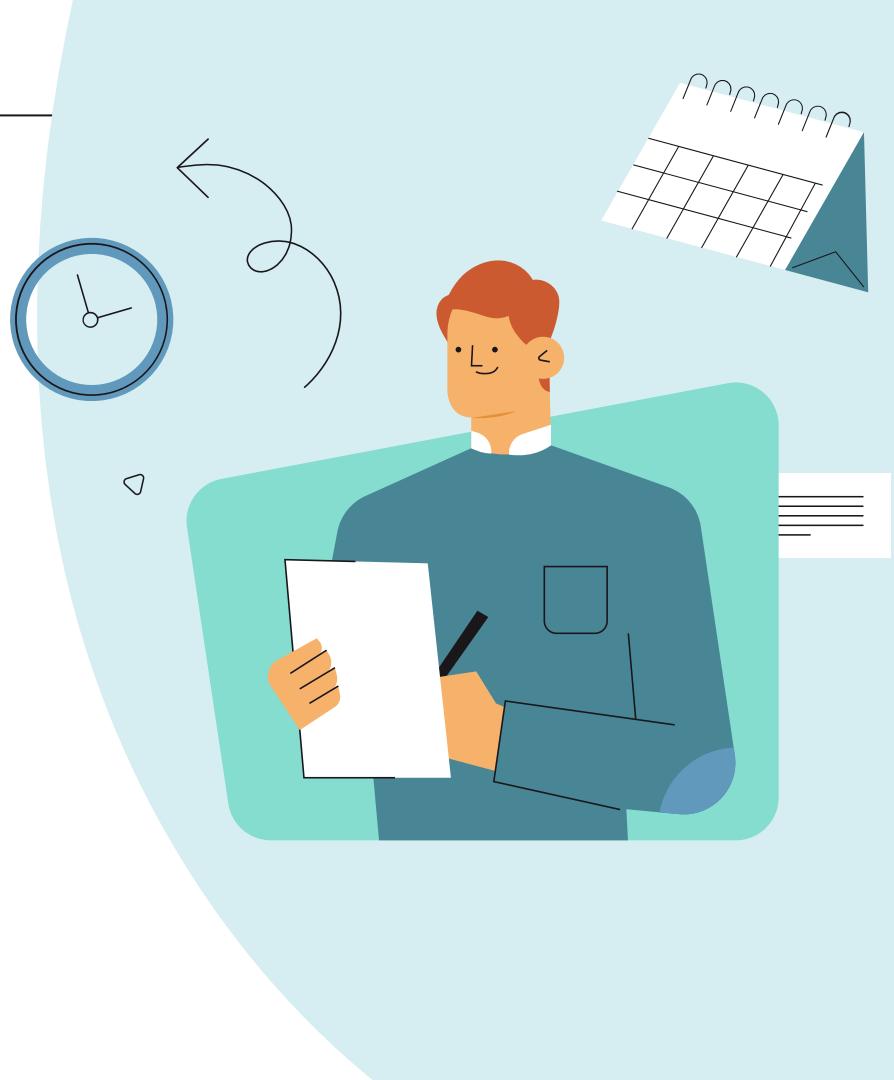


## IT WOULD BE GAME CHANGING IF...

Students could find study partners in their classes **without the burden** of impostor syndrome or social anxiety.

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02 & 03  
POV & HMW'S



# Refined POV: Interviewee #1



## *WE MET...*

“Jane,” a highschool graduate taking a **gap year** to reapply to college, who feels she hasn’t been supported enough during the college applications process.



## *WE WERE SURPRISED TO NOTICE...*

She believes guidance from others would have helped her with college applications, but **doesn’t know how to reach out to** others for feedback.



## *WE WONDER IF THIS MEANS*

The **anxiety** of opening up to other students about her application is causing her to fall behind



## *IT WOULD BE GAME CHANGING IF...*

Students had **assistance** in sharing their application experiences and tips.



# HOW MIGHT WE...



**Interviewee 1**  
Student taking a gap year after high school

eliminate the fear of reaching out to other students and sharing resources?

# Refined POV: Interviewee #3



## *WE MET...*

“Gavin,” a hardworking pre-med student at UC Berkeley who feels he has **less prior academic experience** than many others.



## *WE WERE SURPRISED TO NOTICE...*

He believes **collaboration** is key to good grades, but **works alone** in classes where he does not know anyone.



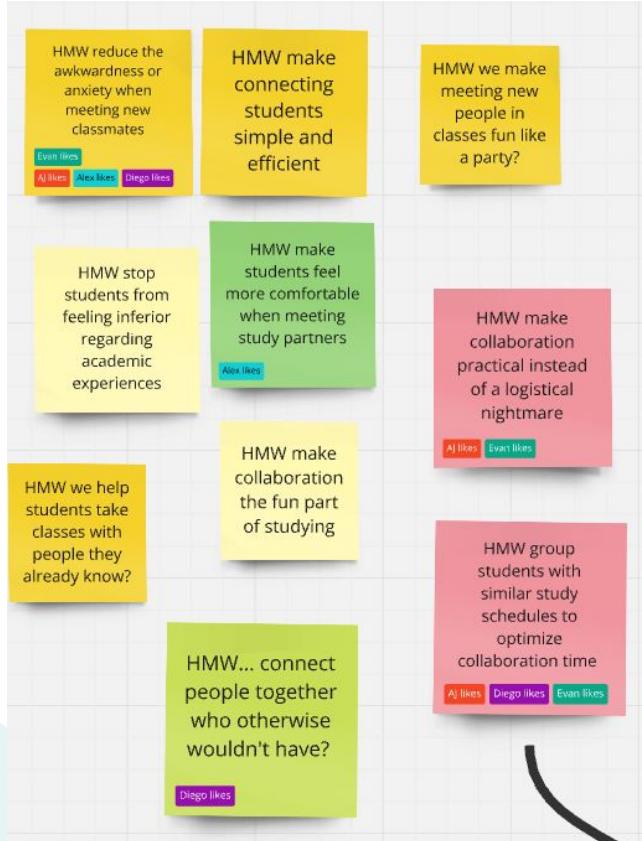
## *WE WONDER IF THIS MEANS*

The **awkwardness** of meeting new people is preventing him from reaching his **academic goals**.



## *IT WOULD BE GAME CHANGING IF...*

Students felt **comfortable** working with each other in every class.



# HOW MIGHT WE...



## Interviewee 3

Current student at UC Berkeley

group students with similar study schedules to optimize collaboration time?

# Refined POV: Interviewee #4



## *WE MET...*

"Sofia," a recent Environmental Science **graduate** from UC Davis, who often felt **overwhelmed** by the pressures of navigating both her academic and career journey.



## *WE WERE SURPRISED TO NOTICE...*

Despite expressing difficulty in **finding resources** for classes and internships, Sofia was able to name a few that she successfully utilized.



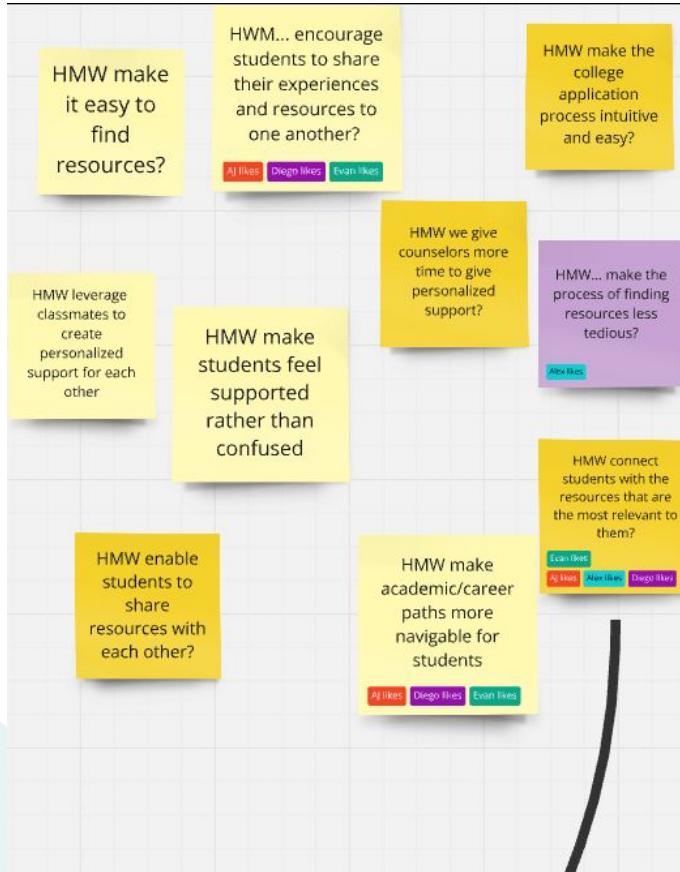
## *WE WONDER IF THIS MEANS*

The issue may not be an overall lack of resources, but that the resources don't translate into **clear, personalized support** for students.



## *IT WOULD BE GAME CHANGING IF...*

Students could **confidently** navigate their academic & career paths utilizing personalized available resources.



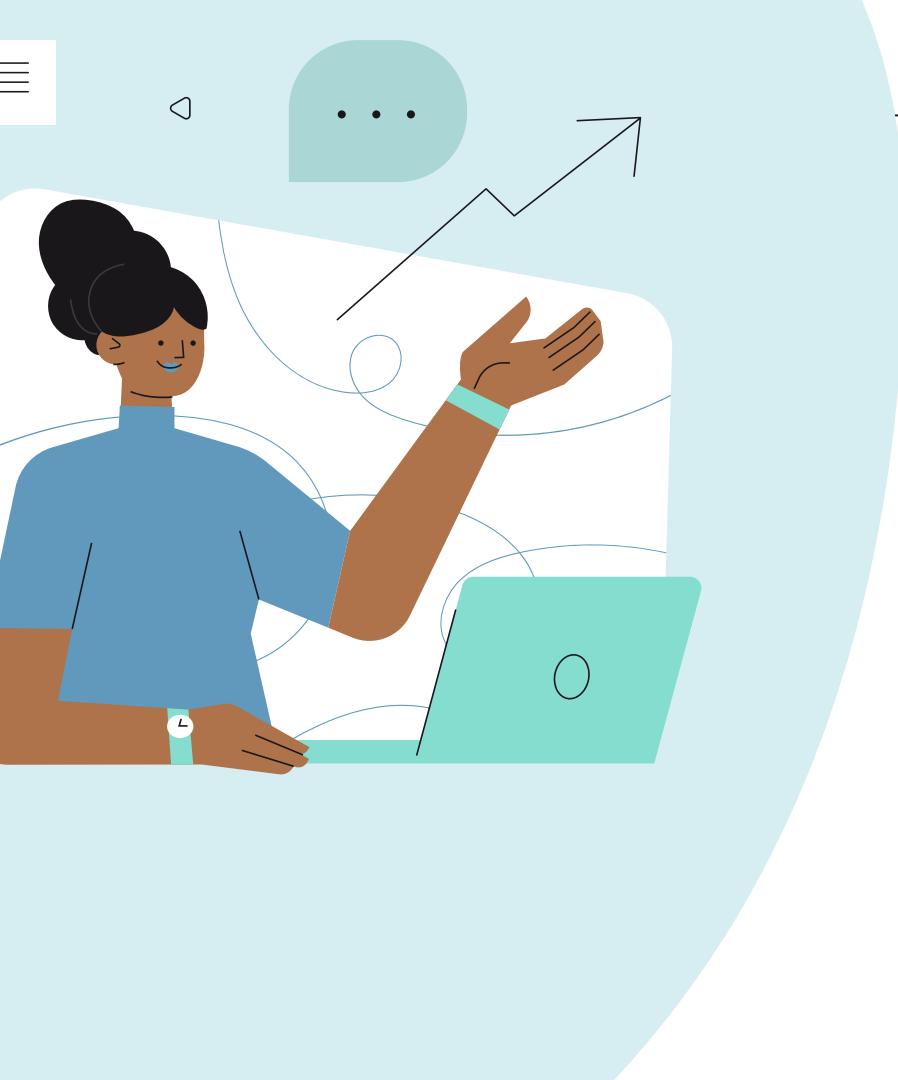
# HOW MIGHT WE...



## Interviewee 4

A recent graduate  
from UC Davis

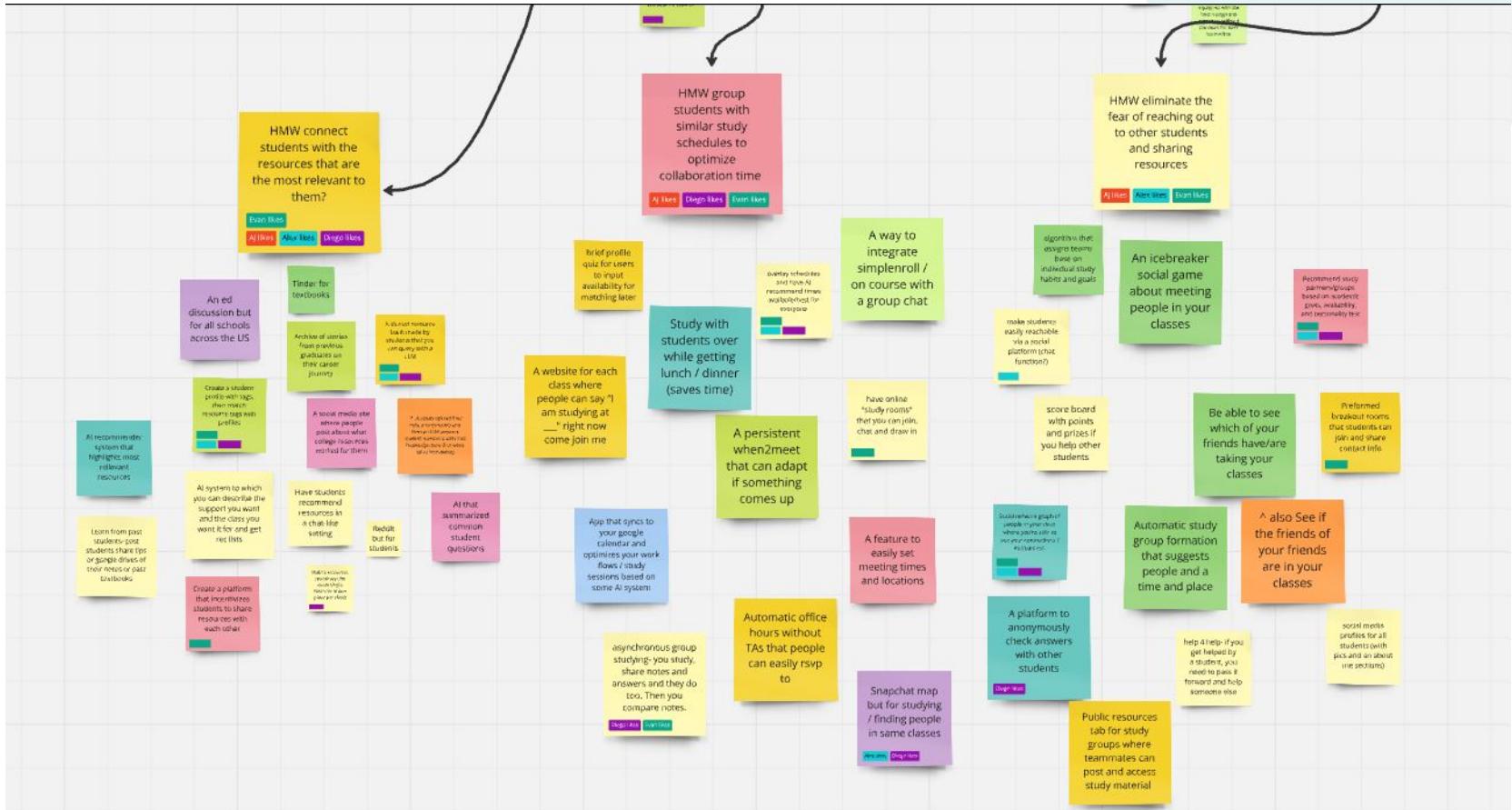
connect students with the resources  
that are the most relevant to them?



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# 04

# Solutions



# Solution Selection

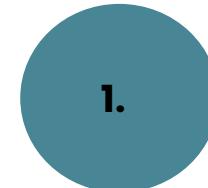


*HMW...?*

- Eliminate the fear of reaching out to other students and sharing resources?
- Group students with similar study schedules to optimize collaboration time?
- Connect students with the resources that are the most relevant to them?

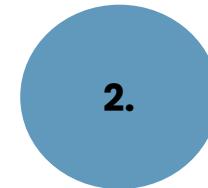


*Solution*



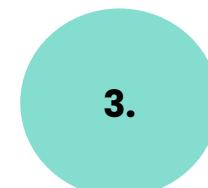
1.

Recommend study partners/groups based on academic goals, availability, and personality test



2.

Overlay schedules and have AI recommend times available/best for everyone



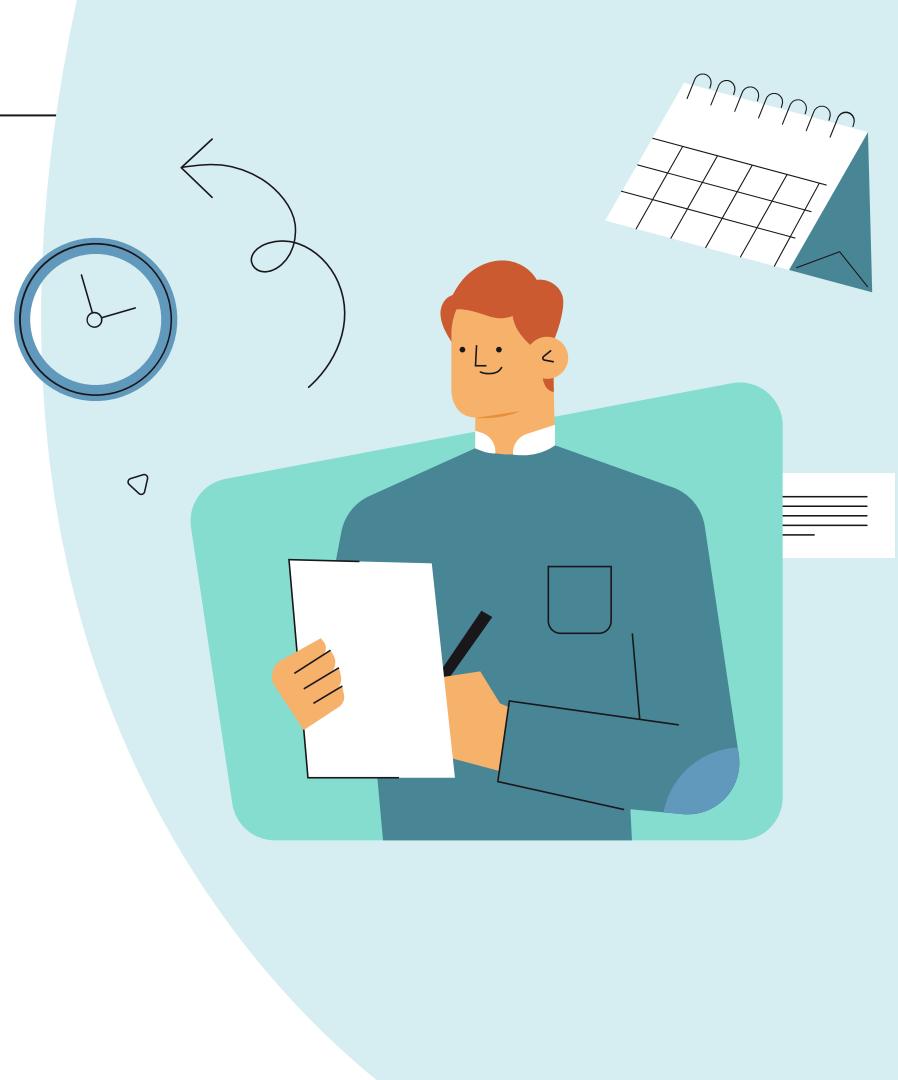
3.

A shared resource bank made by students that you can query with a LLM

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05

# EXPERIENCE PROTOTYPES



# Key Assumption #1



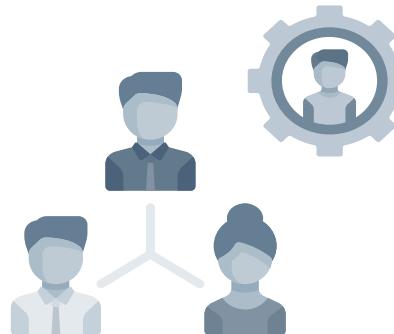
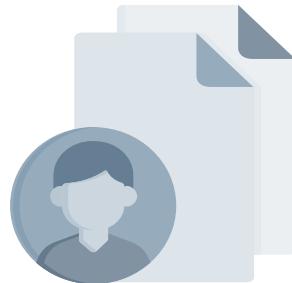
## *Solution*

Recommend study partners/groups based on academic goals, availability, and personality test

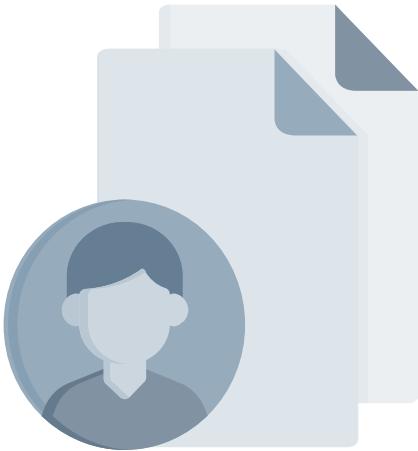


## *Assumption*

**People are open to making a school profile and be matched to other students**



# Prototype Context #1



## Assumption

People are open to making a school profile and be matched to other students

## Experience Prototype

- **Props:** Physical “profile worksheet” containing questions relevant to studying habits and characteristics. Discussions after completion.
- **Participants & Relevance:** Participants were all Stanford students, mostly undergraduates under the engineering school. They were recruited through warm contacts.
- **Method:** Person was asked to thoughtfully fill out the profile worksheet, and asked if they would be willing to form a study group with other participants, judging by their previously filled profiles.



## Survey Questions

Do you focus more on immediate tasks or long-term goals?

Agree       Disagree

I am highly motivated to achieve top grades and set ambitious goals for myself.

Agree       Disagree

I prefer working collaboratively in a team rather than working independently.

Agree       Disagree

I enjoy exploring new ideas and thinking outside the box in my academic work.

Agree       Disagree

I work best when tasks are clearly structured with detailed guidelines.

Agree       Disagree

I prefer to take on leadership roles rather than following a structured plan.

Agree       Disagree

I value direct and straightforward communication when working with others.

Agree       Disagree

I learn best through hands-on activities and group discussions rather than lectures.

Agree       Disagree

Maintaining a balance between my academic responsibilities and personal life is very important to me.

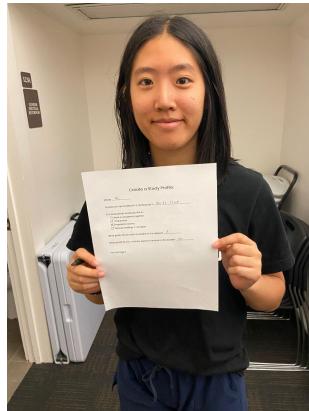
## Description

We created a questionnaire that asks about study habits, personality and class expectations to determine the “fit” between potential study partners

## Experience Prototype

- **What worked:** Participants said it was both easy to use and informative on a personal level. Participants appeared to enjoy answering the survey questions and expressed interest in finding study partners in multiple classes.
- **What didn't:** Participants noted that the lack of definitive scheduling questions may lead to scheduling conflicts in the future
- **Assumption: Assumption validated.** Students open to, and more than happy to, create profiles for themselves and match with those whose studying habits/personalities matched theirs

# Photos!



Survey Questions

Do you focus more on immediate tasks or long-term goals?

Agree       Disagree

I am highly motivated to achieve top grades and set ambitious goals for myself.

Agree       Disagree

I prefer working collaboratively in a team rather than working independently.

Agree       Disagree

I enjoy exploring new ideas and thinking outside the box in my academic work.

Agree       Disagree

I work best when tasks are clearly structured with detailed guidelines.

Agree       Disagree

I prefer to take on leadership roles rather than following a structured plan.

Agree       Disagree

I value direct and straightforward communication when working with others.

Agree       Disagree

I learn best through hands-on activities and group discussions rather than lectures.

Agree       Disagree

Maintaining a balance between my academic responsibilities and personal life is very important to me.

Agree       Disagree

Complete!



# Key Assumption #2



## *Solution*

Overlay schedules and have AI recommend times available/best for everyone

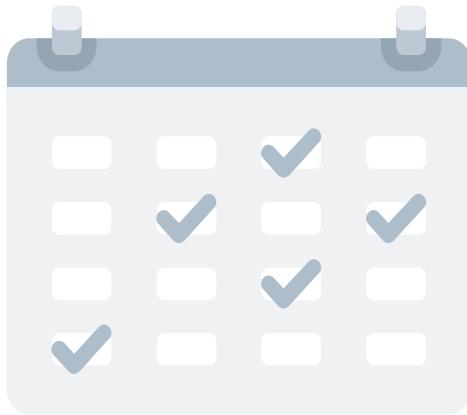


## *Assumption*

**People know and can share their study availability in advance**



# Prototype Context #2



## Assumption

People know and can share their study availability in advance

## Experience Prototype

- **Props:** Physical “schedule worksheet” containing questions relevant to scheduling availability. Discussions after completion
- **Participants & Relevance:** Participants were all Stanford students, mostly undergraduates under the engineering school. They were recruited through warm contacts
- **Method:** Person was asked to thoughtfully fill out the scheduling worksheet, and asked if they would be willing to form a study group with other participants, judging by their previously filled schedules

Select times you would like to study

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
6.00-7.00							
7.00-8.00							
8.00-9.00							
9.00-10.00							
10.00-11.00							
11.00-12.00							
12.00-1.00							
1.00-2.00							
2.00-3.00							
3.00-4.00							
4.00-5.00							
5.00-6.00							
6.00-7.00							
7.00-8.00							
8.00-9.00							
9.00-10.00							

## Description

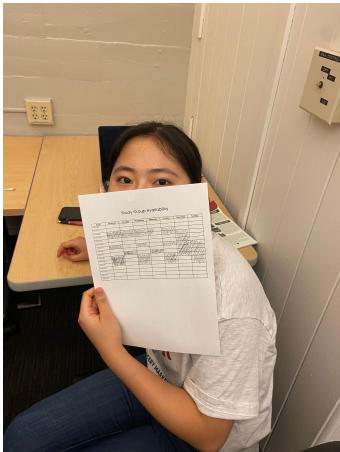
We created a schedule where users can fill in the times that they *would* like to study

## Experience Prototype

- **What worked:** Participants said it was easy to fill and compare, yet insufficient in giving enough information about the potential study partner to be convincing
- **What didn't:** Participants noted that schedules vary a lot throughout the quarter and their availabilities could change unpredictably. In addition, participants expressed unpleasant feelings about planning logistics
- **Assumption: Assumption somewhat validated.**  
Stanford students can plan their schedules beforehand, but are hesitant to make long-term commitments, and find the process unappealing.



# Photos



# Key Assumption #3



## *Solution*

A shared resource bank made by students that you can query with a LLM



## *Assumption*

**People want to ask study app or resource questions to a LLM**



# Prototype Context #3



## *Assumption*

People want to ask study app or resource questions to a LLM

## *Experience Prototype*

- **Props:** Text message thread that acts as an “LLM” with people ready to respond after user sends questions.  
Discussion after exercise
- **Participants & Relevance:** Participant was a Stanford student interested in EE, with industry background.  
Recruited as a friend and particularly relevant because they are back after a leave and are trying to figure out study/resource help
- **Method:** Participant was asked to text the LLM whenever they had questions on classes, studying, or resources over a 3-hour period. Person was on standby to reply as an LLM, using knowledge of Stanford & EE



## Description

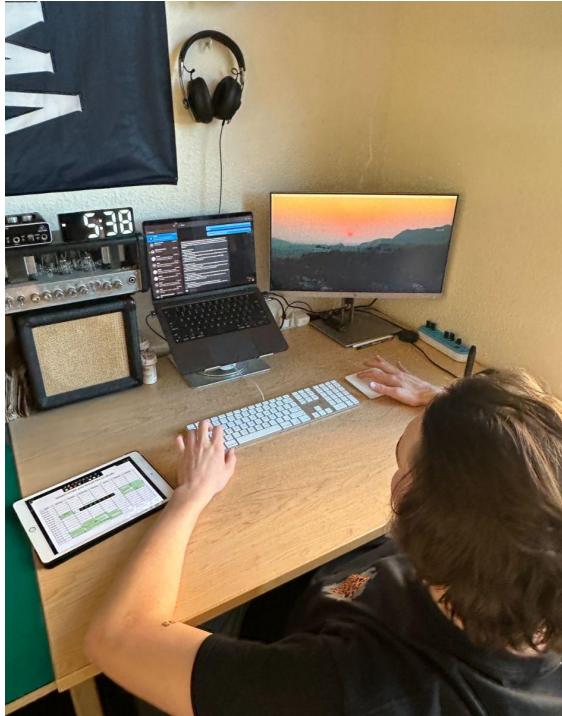
We created an “LLM” that **takes in** user questions related to school/career and returns outlined steps reaching said goals or relevant resources

## Experience Prototype

- **What worked:** Participants appreciated how easy it was to use and the range of functionality (how to access X resource? How to best study for [class]? What classes / actions can I take to break into Y career?)
- **What didn't:** 1) Scraping for very niche or protected information is difficult, could lead to generic or unhelpful answers. 2) Training on school-specific information has many barriers
- **Assumption: Validated,** users find LLMs useful for asking a variety of questions and tend to do so without hesitation (less confrontational than asking others)

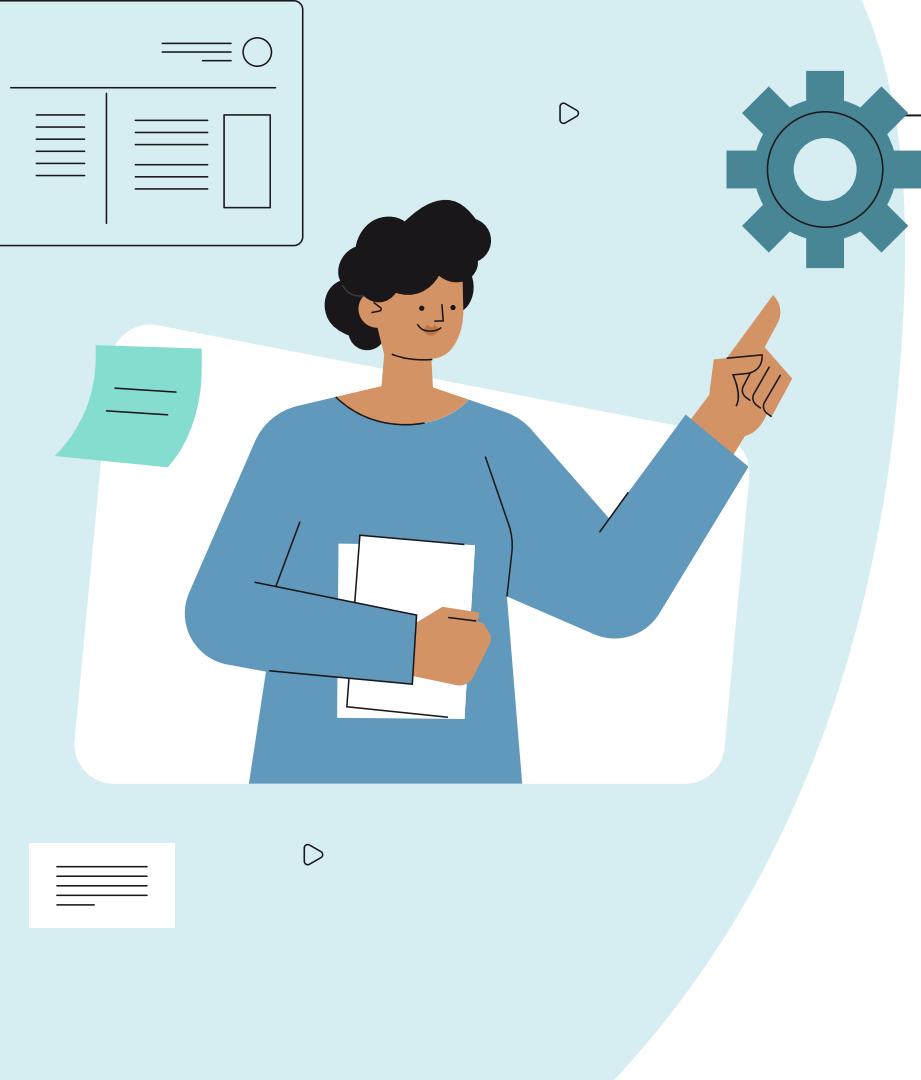


# Photos!



## *Types of Questions asked*

- Interview question examples
- Resources to prepare for interview, and the job itself
- Classes to take in order to prepare for specific jobs/careers
- Subject matter to study outside of class in order to prepare for a job
- Study materials and alternative textbooks to use for studying specific subject matter

A light blue circular graphic contains a cartoon illustration of a person with dark hair, wearing a blue long-sleeved shirt. They are holding a white folder in their left hand and pointing upwards with their right index finger. To the right of the person is a large teal gear icon. The background behind the circle is a light blue gradient.

06

# WHATS NEXT?

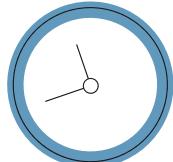
# Moving Forward...

**Going forward:** we will work on an app that matches study partners/groups based on academic goals, availability, and personality test. Received really **positive** and is something students we're **excited** in using.

**Ethical implications:** user privacy and data, transparent matching algorithm, how to mitigate bias in matching, creating diversity in matches

**Who does it serve:** students with similar academic goals/interests who are interested in forming study groups/partners in classes!

**Who might it leave out:** students that don't have the resources to use an app, with disabilities, who would not like being matched by an algorithm

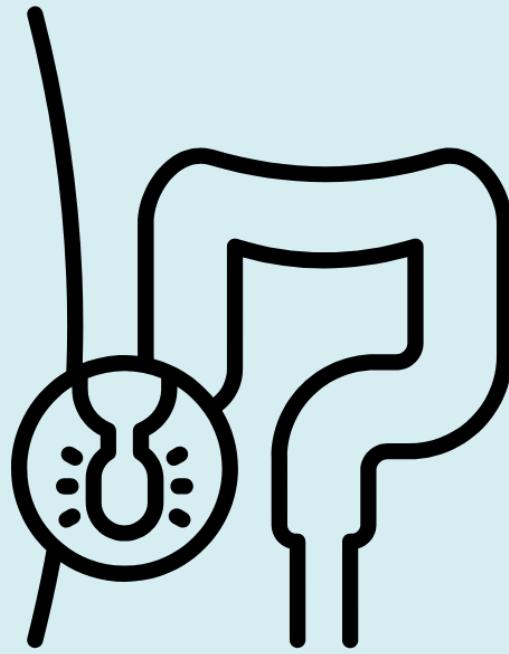




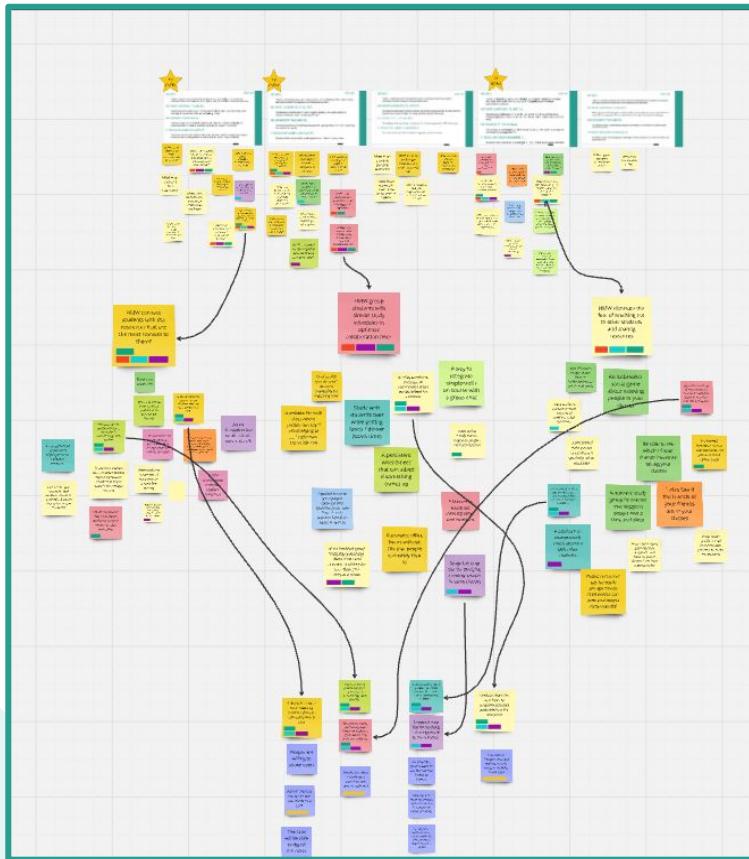
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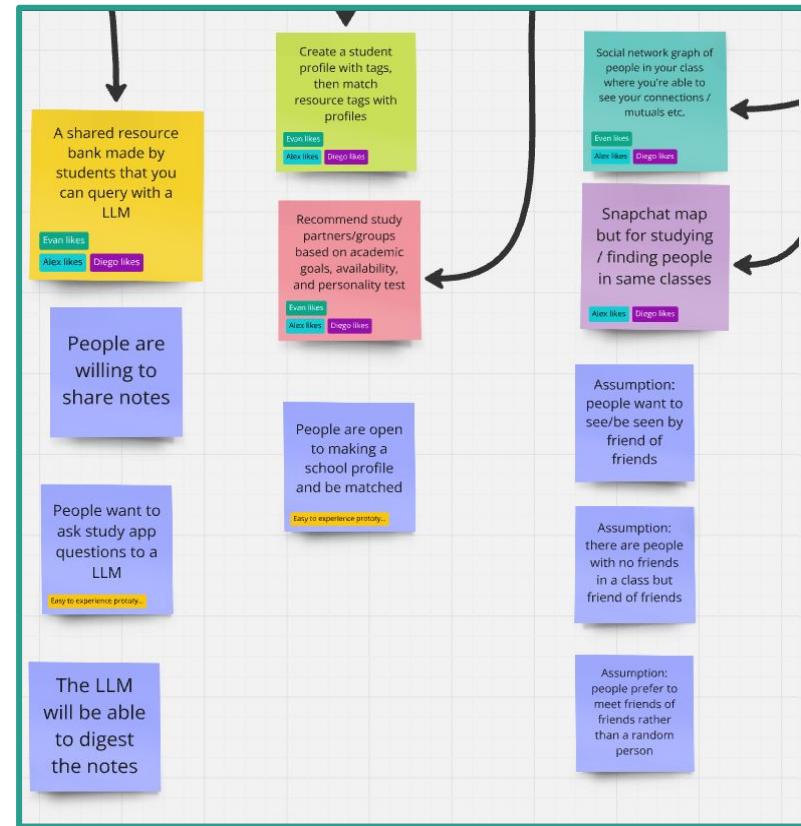
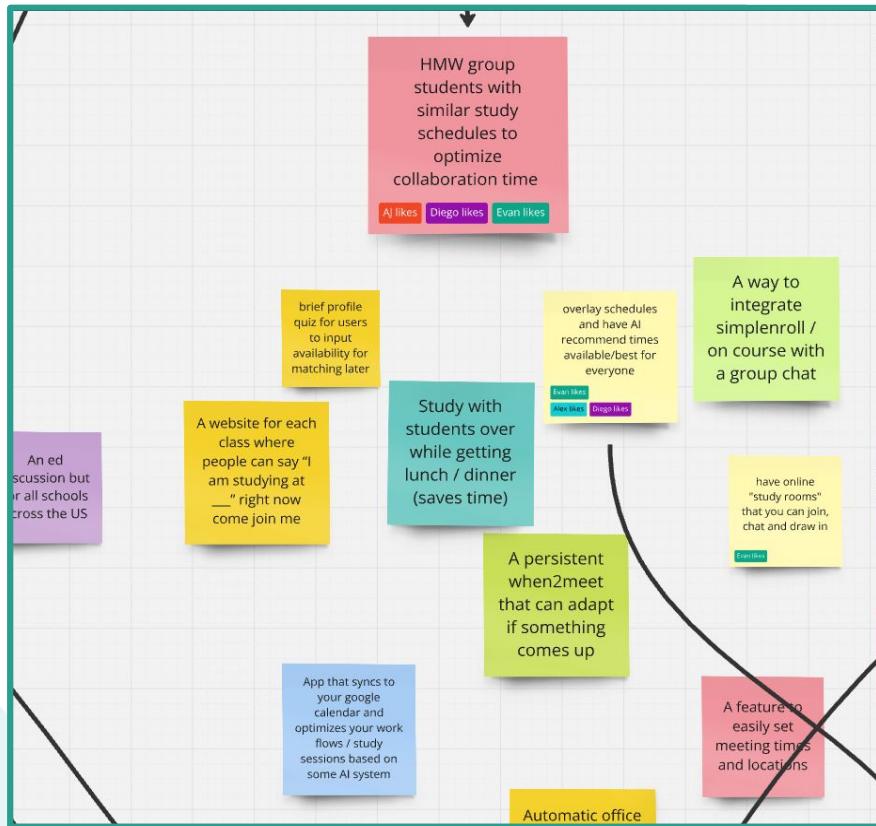
# APPENDIX



# Brainstorming Board Photos



# Brainstorming Board Photos



# Assumptions

