

CS 147

streamlining the healthcare experience

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CheckUp Team



Susan Lee



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Problem Domain

Original



Big Idea: How do young people navigate their healthcare experience?

- ✓ How do they find in-network care?
- ✓ How do they understand their insurance?
- ✓ How do they switch insurance when becoming independent?

Previous Insights



Alia



Connie



Anastazja



Lyubo



"Bob"

- Had trouble finding and making personalized care decisions due to:
 - location changes
 - scheduling unavailabilities

Result: deciding on **home remedies** or **forgoing care**

- Expressed confusion about the health insurance decisions they had to make

Context: **Lack of education**

Problem Domain

More Focused



Most people are overwhelmed by the many decisions and information needed to navigate healthcare.

- ✓ How can we educate and assist users in making healthcare decisions that will help them make **easier and better decisions?**

Needfinding *Continued*: Decisions

Digging deeper into the rationale and education behind healthcare decisions



"John"

Director of a wide-
ranging health
services network



Brad

Software Engineer



"John"

Director of a wide-
ranging health
services network

Background:

- Age ~60
- Practicing Doctor
- Director of a wide-ranging health services network that provides various types of care to college students.

“If students end up needing care, they need to figure it out— the vast majority of students have no idea how to access their insurance until it gets bad.”

"John": Key Findings



- Students have little to no understanding of their healthcare benefits and how to access their insurance
 - Even more so for international students
- Resources are somewhat available but not really utilized
- Would love it if there was a class illuminating insurance

Need



There is a glaring need for more active education support for young people to learn about their healthcare needs and benefits





Brad

Software Engineer

Background:

- 24 years old
- Software engineer at large tech company
- Former international student
 - Unfamiliar with American healthcare system coming from Taiwan

“I always have to plan ahead because doctors are always booked... for some clinics I have to check every day for availability.”

Brad: Key Findings

- Difficulty of scheduling appointments and **long wait times** at clinics
 - Have to check constantly for availabilities, wasting time
- Utilized communities to make decisions and educate:
 - Selecting doctors based on ***qualifications and personality***
 - Figuring out best insurance for himself

Need



An **easier** and **faster** way to schedule provider appointments and learn about insurance options (community-based).



POVs



Connie

Entrepreneur
Stanford GSB '22



"John"

Director of a wide-
ranging health
services network



Alia

Biotech Founder
Georgetown

FIRST POV



Connie

Entrepreneur
Stanford GSB '22

We met Connie, an entrepreneur in her late 20s who moved to the Bay several years ago to create several startups.

We were surprised to notice she gave up searching for a doctor and didn't go for regular check-ups when she switched to Medi-cal even though she had past critical health issues.

We wonder if this means the stress of finding a doctor and scheduling check-ups is more stressful than the potential flare-ups of her past health issues.

It would be game-changing to streamline the process of searching for doctors and scheduling check-ups after switching to a new insurance.

HMW incentivize Connie to **continue searching** for doctors and get checkups instead of giving up?



SECOND POV



"John"

Director of a wide-
ranging health
services network

We met John, the director of a wide-ranging health services network that provides various types of care to college students.

We were surprised to notice that the vast majority of students have no idea how to access their healthcare until their conditions get bad or it is too late.

We wonder if this means that current educational resources regarding insurance and access to care aren't effective enough or utilized enough.

It would be game-changing if we could help students access and utilize resources to understand their insurance in an impactful way sooner rather than later.

HMW educate students about their insurance at a younger age?



THIRD POV



Alia

Biotech Founder
Georgetown

We met Alia, a female entrepreneur who recently moved to the Bay and has been suffering from a recurring back injury because of various misdiagnoses.

We were surprised to notice that YouTube is often her “at-home doctor” which she uses to create physical therapy regimens when she can’t seek healthcare.

We wonder if this means that she prefers to take her healthcare matters into her own hands rather than switch to CA health insurance because of mistrust in the healthcare system.

It would be game-changing to leverage the desire for autonomy in healthcare to empower patients to proactively seek better treatments for medical needs.

HMW provide Alia the **autonomy** she desires in her healthcare while maintaining the **integrity** of medical information?



#1



CheckUp

an app that takes your online calendar, insurance information, and preferences to automatically book you appointments (sudden and recurring) with a simple request.

Critical Assumption

People put off receiving care if they are busy because booking appointments is perceived as a long and tedious process

Experience Prototype

- ✓ Created two calendars, one of a busy student and one of a busy professional
- ✓ They were told that they got sick on Sunday with an ear infection
- ✓ Asked when they would start looking for care, how long they expect it to take, when they would schedule the appointment, and why





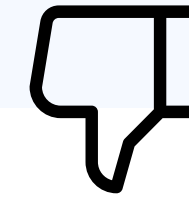
Our Participants
Various participants at the Career Fair

Results



What Worked

- People carefully think through their scheduling process and genuinely are concerned about getting healthcare
- As per our assumption, people thought booking appointments would take around 30 mins - 1 hour of their time, and described it as "tedious"



What Didn't

- Some people said they would just go to a walk-in clinic without booking
- The Calendar only showed a really busy week, might not reflect "average" behavior

Insights

Many people are willing to run the risk of their symptoms getting worse/not feeling well because they prioritize other responsibilities, especially since booking appointments can be seen as long and tedious process. Many expressed that if they could book in a minute, they would.

How can we build a solution that accommodates for different users' schedule priorities and book appointments fast so that users get the care they need without delays?

#2



CoPal

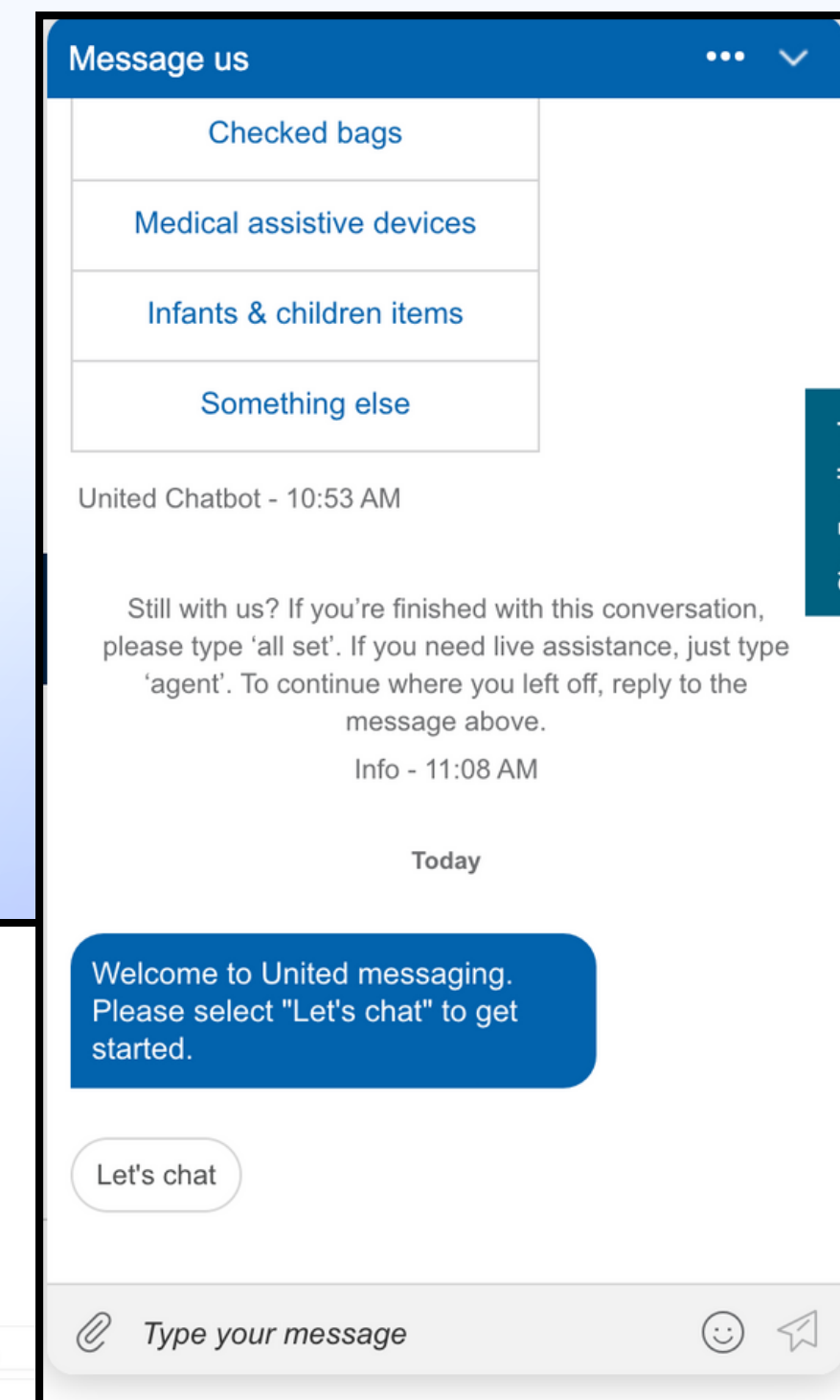
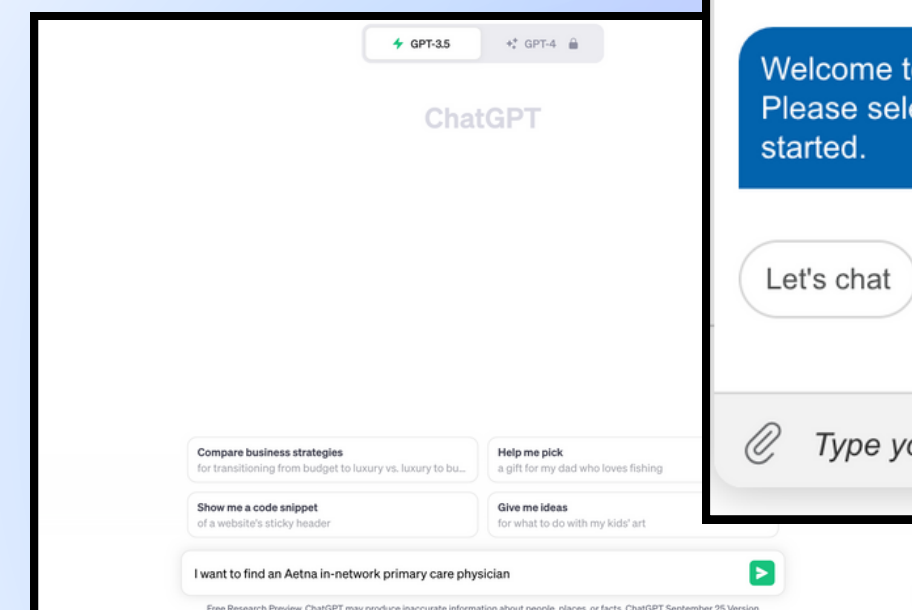
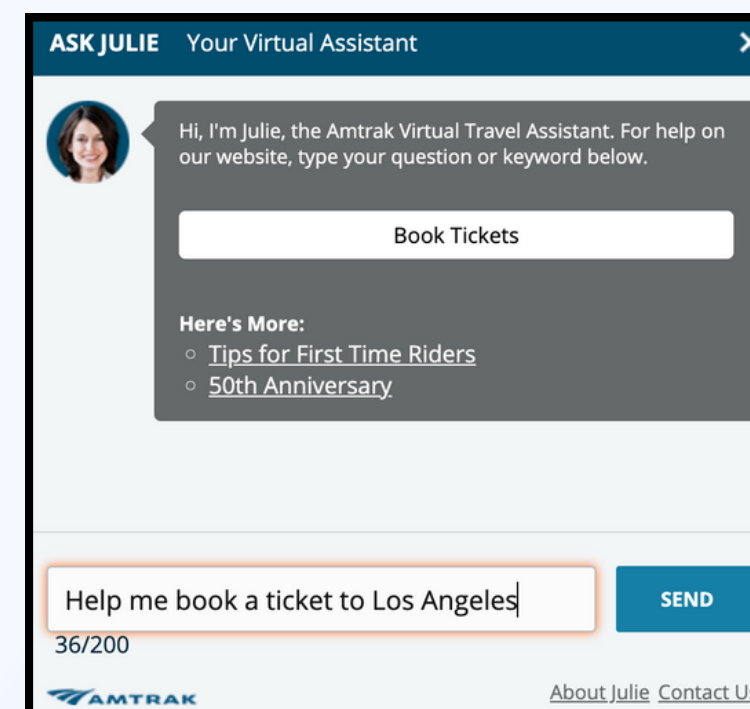
a virtual assistant that walks you through your healthcare needs & recommends relevant health options based on user's questions

Critical Assumption

A user trusts what a virtual assistant / chatbot says.
They trust it with their health questions.

Experience Prototype

- ✓ A target user was selected to interact with 3 online chatbots/virtual experiences
- ✓ They were given an objective for their interaction (i.e. find a train ticket to LA)
- ✓ Asked to gauge how much they trusted the results of the interaction





Our Participant

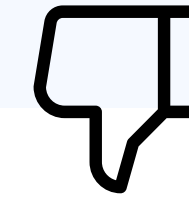
Anonymous International Stanford Student

Results



What Worked

- The interactions that involved a chatbot provided through a service were more trustworthy than a standalone chatbot like ChatGPT
- Interactions were most positive when the user was able to get the result they wanted



What Didn't

- Some chatbots were more clunking / the UI was unclear making it hard for the user to get the results that they wanted.
- Lack of specifics in the prompt made the chat's answer super generic

Trust is more likely when the chatbot is connected to / developed by a company where the service is provided rather than a stand alone chatbot that is not affiliated with the specific industry

Insights

How can we build a platform where the user can believe the results given to them even if it is not directly connected to a healthcare company?

#3



DocDIY

your virtual hub for finding the most relevant cross-media content for at-home care based on patient's current health needs

Critical Assumption

When first addressing healthcare concerns, young people value saving money and ease-of-access over quality of care.

Experience Prototype

- ✓ User was given a scenario where they were sick/injured
- ✓ User was then given 3 distinct treatment plan options created upon different metrics including cost, time, and quality of care.
- ✓ User was asked to rank each option from 1 to 3, 1 being the first line of action. This process was repeated for a second scenario.

Illness #3: Breaking Out

You wake up in the morning and look in the mirror...and you see 4 **new breakouts on your face!** Currently, you use an acne face wash and moisturizer to address your breakouts, but new pimples **continue to pop up** out of nowhere. You want to address the problem, and **need to choose a course of action.**



Option C: The hospital

Option B: Annie

Option A: Dr. Henderson

Illness #1: Mystery Flu (?!)

Rank 1-3, 1 being the course of action you are most likely to take and 3 being the course of action you are least likely to take. You can also think of it as 1 is your first course of action and 3 is your last.

• Wait 3 days to see Dr. H

• Try Annie's home solution

• Go to the local hospital immediately.



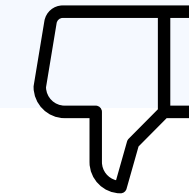
Participants

Results



What Worked

- The scenarios were believable and the users mentioned relating to some injuries/illnesses
- Users took time to engage with the paper materials and slides beyond what was verbally conveyed.



What Didn't

- Some of the treatment options were considered so drastic that they were not seriously considered
- One user was skeptic of all the treatment options as they would rather go to a professional.

Insights

Young people prefer to address their healthcare concerns themselves as a first line of treatment, rather than see a doctor if they can mitigate symptoms over the course of a few days.

How can we leverage the multitude of existing cross-platform media content to help patients better help themselves?

What's Next?

CheckUp



- Clear functionality and user end goal
- Does not currently exist
- Consists of actionable tasks
- Need to explore recurring appointments

Ethics

- Could perpetuate racial biases in doctor selection
- Data privacy concerns
- Integration with calendar services: how to guarantee privacy?

User Bias

Serves young people and working professionals who have packed day-to-day schedules

- Excludes elderly & less tech-savvy communities
- Excludes people who don't use calendar apps

Thank You!

Questions?



Appendix

- a. 10+ HMW Brainstorms
- b. 10+ Solution Brainstorms
- c. CheckUp Google Calender Prototypes

Connie HMW Brainstorm

HMW separate unavailable doctors from available doctors more clearly?

HMW make the search process for finding doctors insightful rather than annoying?

HMW make the insurance switch process like the college transfer process?

HMW leverage known failed doctor searches to update and inform the doctor search process?

HMW incentivize patients to continue searching for doctors and get checkups instead of giving up?

HMW remove the burden of finding doctors from the patients?

HMW make the search process for finding doctors something to look forward to?

HMW facilitate communication between insurance, doctors, and patients to streamline the doctor search process?

HMW entirely remove the search process for finding doctors?

HMW use previous satisfying doctor experiences to inform the doctor search process with the new insurance?

John HMW Brainstorm

HMW standardize co-pays across the US?

HMW make the process of hiring physicians less arduous / more efficient?

HMW remove the burden of co-pay for students?

HMW alleviate the feeling of lack of access to care for students?

HMW better respond to student demand for care in a timely fashion?

HMW educate students about their insurance at a young age?

HMW place health responsibilities onto young people at an earlier point in their lives?

HMW increase communication between healthcare providers and their constituents?

HMW vary the amount of staffing on a month-by-month basis?

HMW normalize conversations about insurance amongst young people?

"There needs to be wider coverage with Medicare"

HMW track co-pay metrics from state to state?

Alia HMW Brainstorm

HMW reduce the rates of misdiagnosis?

HMW better early detection of a recurrent injury?

HMW help people easily switch in-state insurance plans upon moving?

HMW automate the creation of personalized lifestyle regimens based on watched content?

HMW create better ways to continue tracking recurrent injuries?

HMW help people find affordable primary care in a new city?

HMW provide patients the autonomy they desire in their healthcare while maintaining the integrity of medical information?

HMW eliminate the need to go back home for care?

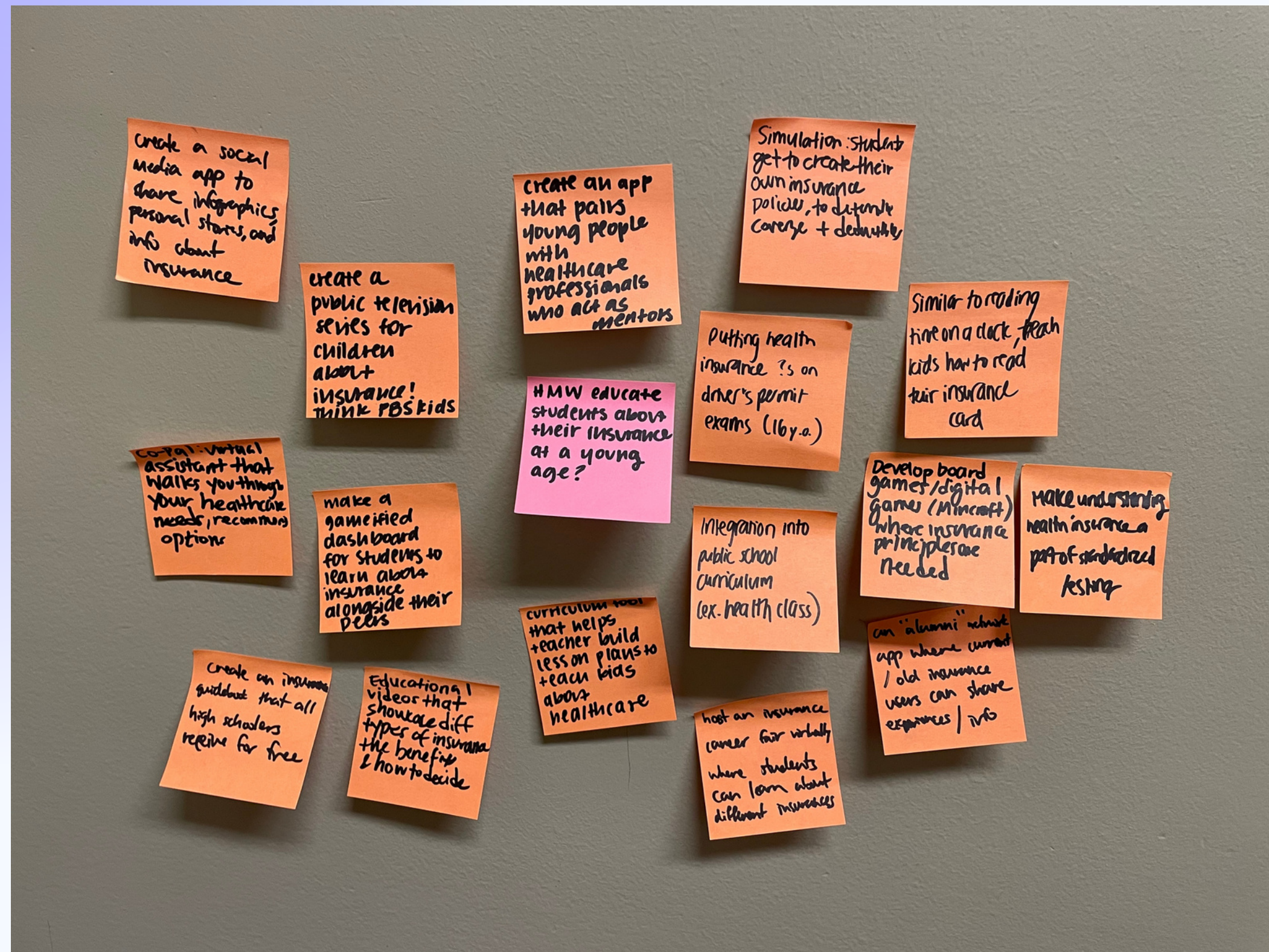
HMW distinguish between recurrent and one-off incident injuries?

HMW eliminate in-state only plans?

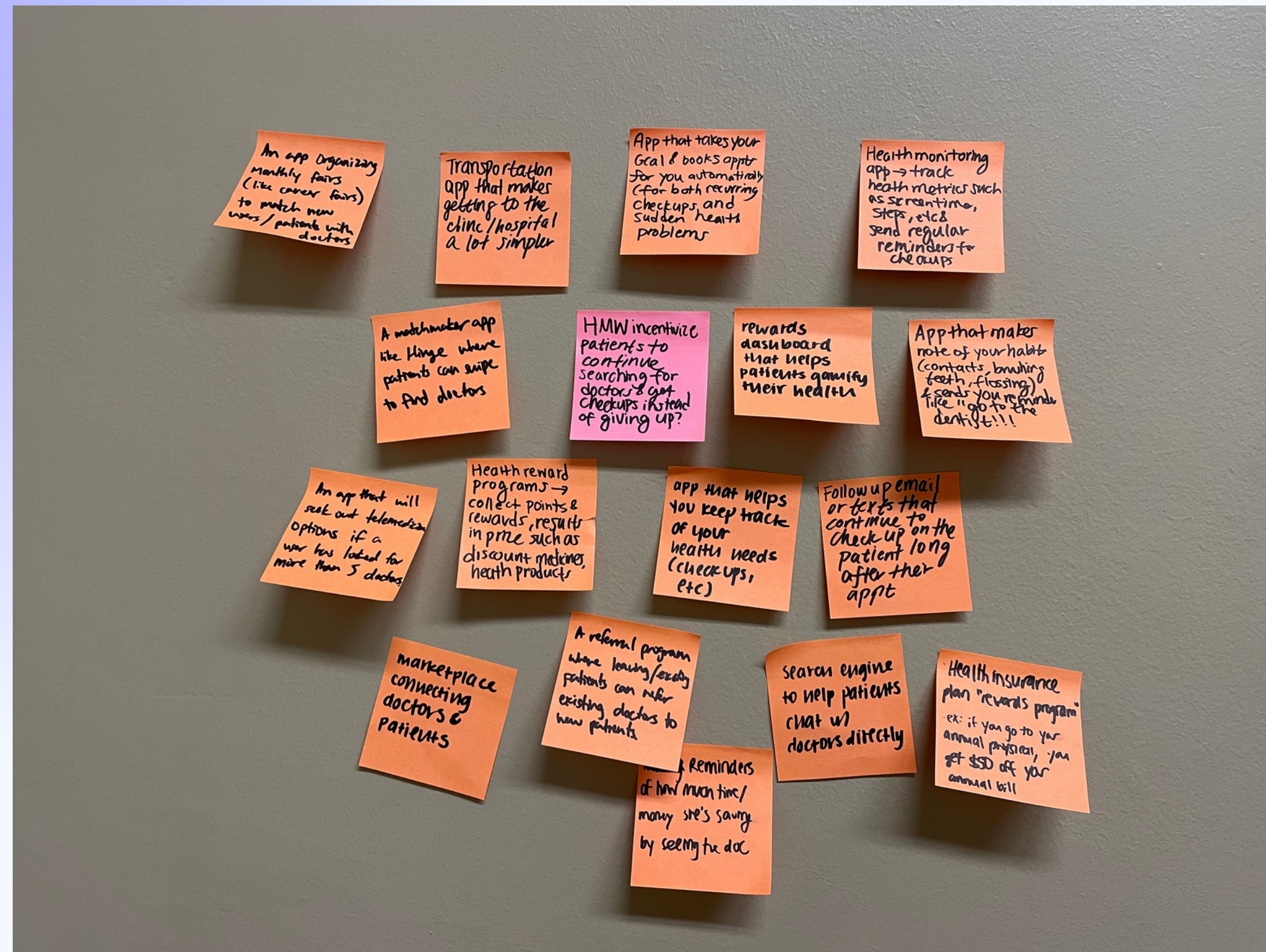
HMW foster greater long-term trust between new doctors and patients?

HMW help self-employed entrepreneurs find reliable health insurance plans?

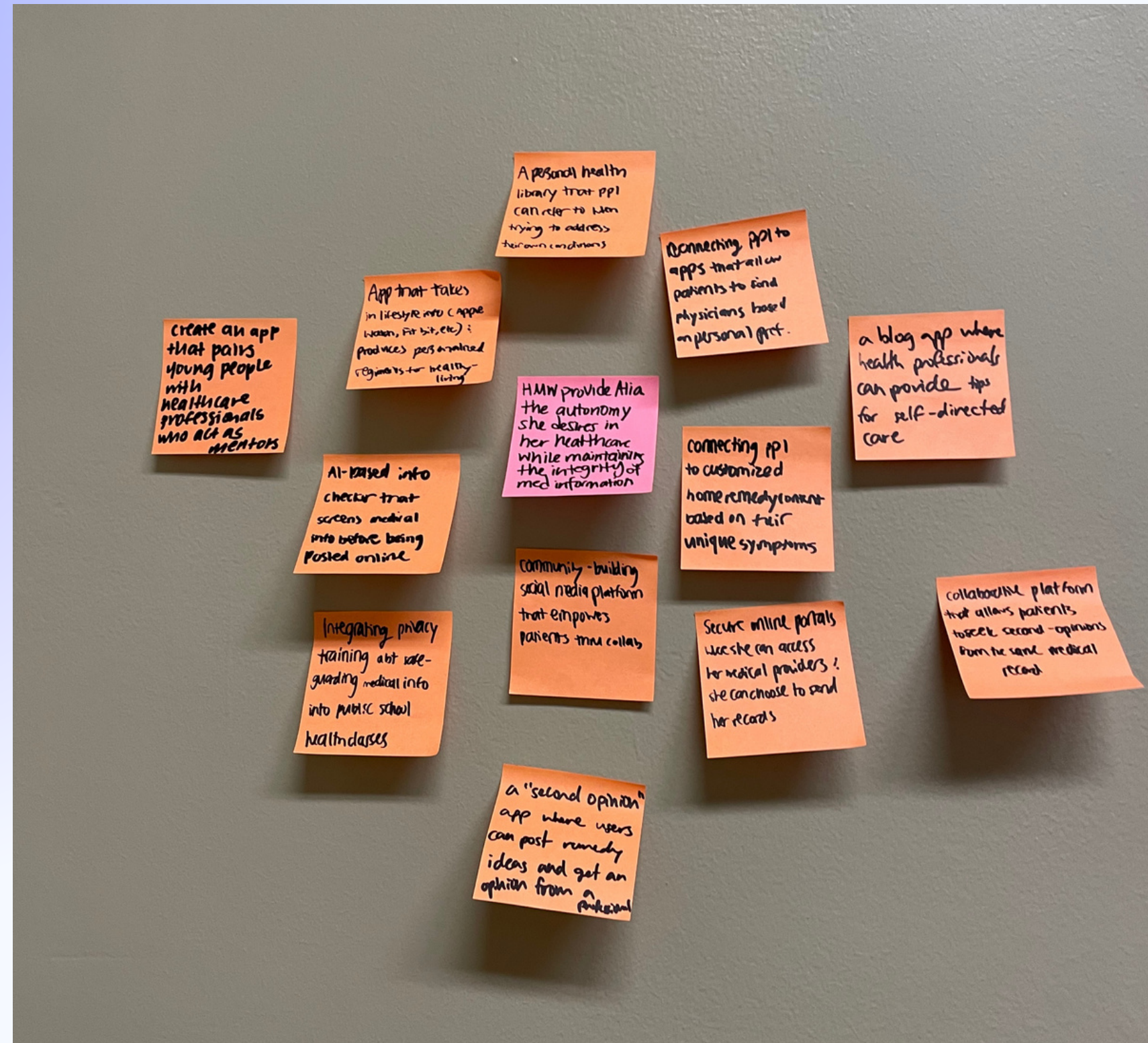
Solution Brainstorm 1



Solution Brainstorm 2



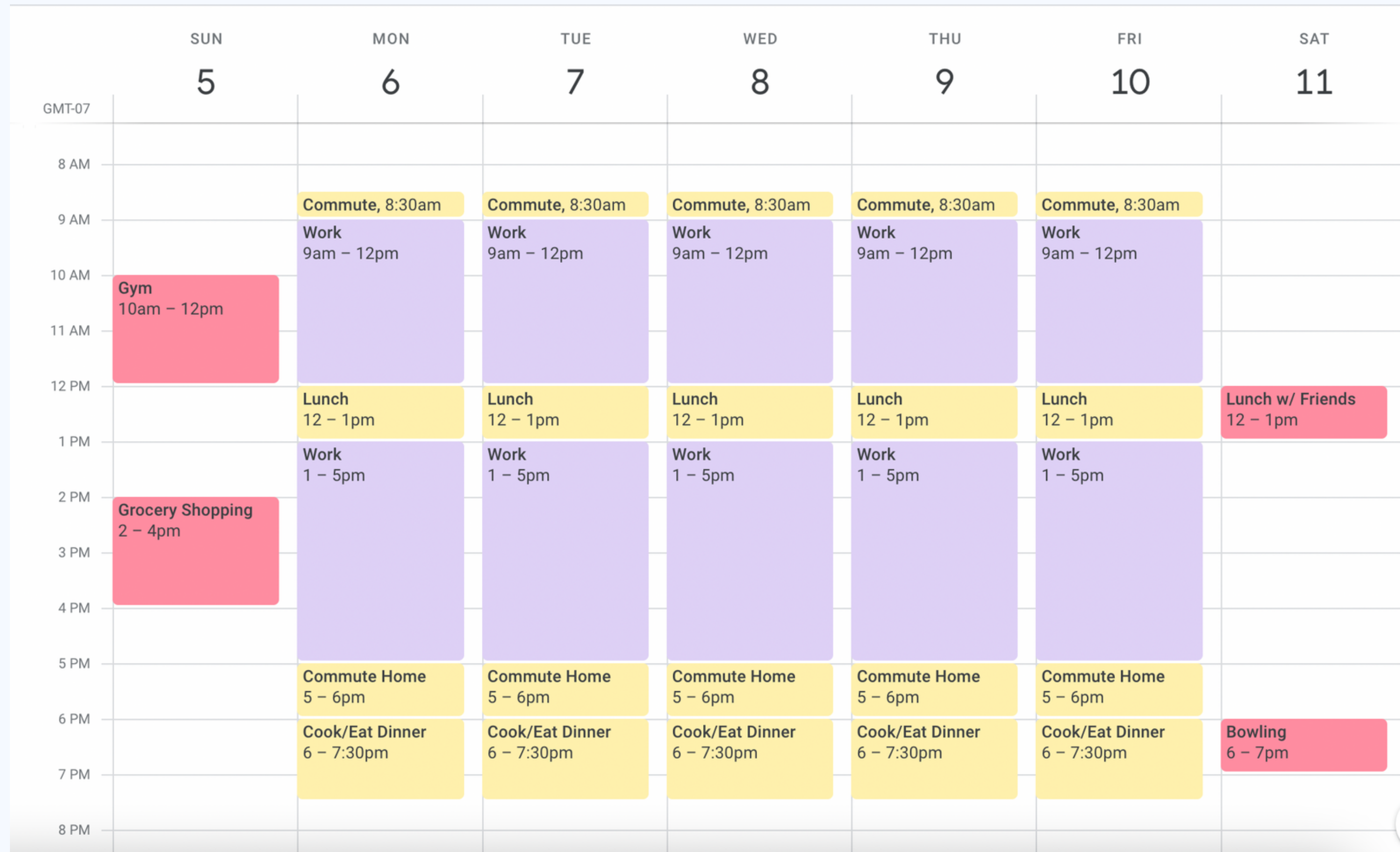
Solution Brainstorm 3



Calendar Prototype #1 (Student)



Calendar Prototype #2 (Professional)



Filled out Calendar Prototype

Amy Seo

Today: Sun afternoon
ear starts hurting...
" Ahh "

Note: easily a doctor

1. insurance
2. proximity
3. call class

Student
Google calendar

	SUN 29	MON 30	TUE 31	WED 1	THU 2	FRI 3	SAT 4
GMT-07					Application Deadline		
9 AM		Math Class 9 - 11am		Math Class 9 - 11am		Math Class 9 - 11am	Work on CS147 9am - 12pm
10 AM	Study for Midterm 10am - 1pm		English Class 10:30 - 11:30am		English Class 10:30 - 11:30am		
11 AM							
12 PM		Lunch 12 - 1pm	Lunch 12 - 1pm	Lunch 12 - 1pm	Lunch 12 - 1pm	Lunch 12 - 1pm	Lunch 12 - 1pm
1 PM	No lunch	Office Hours 1 - 2pm					
2 PM	Do Laundry/Clean Ro 1:30 - 2:30pm		History Class 2 - 3:30pm	Interview 1:30 - 2:30pm	History Class 2 - 3:30pm		
3 PM		Science Lab 3 - 5pm		Science Lab 3 - 5pm		Science Lab 3 - 5pm	
4 PM	Dance Practice 4 - 5pm				Office Hours 4 - 5pm		Best Friend's Bday 4 - 6pm
5 PM			Club Meeting 5:30 - 6:30pm	Section 5 - 6pm			
6 PM		Dinner 6:30 - 7:30pm	Dinner 6:30 - 7:30pm	Dinner 6:30 - 7:30pm	Dinner 6:30 - 7:30pm	Dinner 6:30 - 7:30pm	Dinner 6:30 - 7:30pm
7 PM							
8 PM							

no dinner

Thurs night! → Friday! → 1 hr.