

Team name: MESA

Group Members

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Problem Domain:

Empowering individuals to access, learn, and trust reliable medical information

Initial Point of View Statements

Our initial point of view: we met a bunch of young people, it amazed us that they were not going to the doctor for medical problems, and we thought it would be game changing to help them fill the role of the doctor in their lives.

Learnings from additional interviews

Local mom:

- Had an experience with a doctor who had a “scribe” in the room to take notes and handle logistical/financial/procedural stuff -- she enjoyed this experience because she had the doctor’s full attention and someone else could record the pertinent info
- When she has a health question, she uses the internet, but it would be helpful if the doctor provided resources or told her which online resources are reputable
 - She doesn’t always know how to decide which information is reliable
- Through her health system, she has her own patient portal where she can see the x-rays, mammograms, scans, etc. and doctor notes/analysis of tests
 - she finds this very useful
- She wishes she had her own patient portal where she could have all of her medical info, no matter what health system they are associated with, in one place
 - (because she sees doctors from a variety of hospital systems)
 - Would be great if she could import it all into one place
- Sometimes going to the doctor for a serious illness is very overwhelming so she sometimes brings patient advocates (other people) to take notes
- Would be great if doctors wrote down 4 key points she could take with her after the appointment
 - “if you aren’t taking notes, you can leave and miss some of the key points”
- Likes it when doctors offer their contact info so you can email them with questions

Assistant Dean in the School of Medicine:

- What she does
 - Day to day - support the PhDs and postdocs in the biosciences
 - Oversees this, but also help faculty, eg new NIH requirements, developing policy towards a goal, write grants - MD Faculty as well as PHD Faculty
- What does health mean to you?
 - Holistic - which is why the center is run the way it is
 - Career analogy - can't select a good job without understanding facets of
 - Health is about understanding how facets of your life meld together, use positive to support the negative, about resilience, how do I survive the bad and celebrate the good
- What are some habitual or daily routines that you do to be healthy
 - Exercise every day in some way
 - "I Force myself to get at least 7 hours of sleep"
 - Morning ritual - Tea and Dao passage or (Technothuan?) - or end the day with this
 - Hans - therapy dog
 - Try to be very conscious
- When you do feel yourself getting sick, what do you do
 - Vitamin C
 - Allergic to echinacea (airborne active ingredient)
 - Quesadillas with fresh peppers
 - Stay home instead of forcing self to go to work (sleeping can be more successful)
 - More healthy than her 30 year old self
- Other
 - Read brene brown for psychological health
 - "Story I'm making up in my head..."
 - "Why am I feeling this way?"
- What frustrations do you have with Doctor/Patient interactions?
 - Really pissed off with doctor
 - Doctor didn't make a connection/made an assumption about her experience
 - "I don't think people take the next step to see what the experiences really mean
 - "I feel like doctors make a lot of assumptions - because they're trained to diagnose quickly and solve the problem quickly"
 - What I would like for her to do, is to ask, what is the best way for us to have this conversation? What does being queer mean to you?
 - I would like to have these kinds of conversation early on so that less assumptions are made - because it saves time in the longer run
 - Conversation about preference and need
- Do you feel like you ever need more information from doctors?
 - I know a lot, so not always a problem

- Sometimes a problem they
 - Doctor didn't tell her father what the primary cancer is
 - There is a lot of struggle with doctors not knowing how much to share, and patients not knowing what to ask
 - Sometimes doctors are nervous to bring up things
 - Why?^
 - Doctors are often told, not to be uncertain - give specific details
 - Doctors are nervous about saying "I don't know", Patients don't want to hear "I don't know" - because of how they are trained
- If you had a million dollars - but could do anything in healthcare what would it be?
 - I would have more communications classes for doctor
 - Work on vulnerability in medicine
 - Empowerment for patients - especially in uneducated populations
 - "When you don't feel empowered to ask for what you need, that can be very scary"
 - Help underserved patients with the psychologic aspects of health

Revised Point of View Statements

Point of View #1

We met patients, we were amazed to realize they were not seeing the doctor and self-assessing, diagnosing and caring for their medical issues, and wanted clearer information about their health, it would be game changing to empower patients to better self-doctor themselves.

From this POV, we generated the following How Might We statements

How might we encourage patients to seek diagnoses and medical care from professionals?

How might we help patients take care of themselves?

How might we increase patient's confidence in doctors and medical professionals?

How might we help pharmacists fill the role that doctors once played in people's lives?

How might we encourage patients to better educate themselves on medical issues?

How might we help patients get information from doctors?

How might we redefine doctor visits?

How might we get rid of doctors?

How might we streamline doctor-patient communication?

How might we diversify communication methods between patients and doctors?

How might we reduce the friction between patients and doctors?

How might we fix health care?

Point of View #2

We met an infectious disease doctor, we were amazed to realize accessing medical records for a patient that are directly to is extremely difficult and tedious. It would be game changing if we could make this information easily accessible.

From this POV, we generated the following How Might We statements

- How might we encourage patients to get familiar with their own medical records?
- How might we overthrow HIPAA?
- How might we get rid of medical records as they stand? Different form?
- How might we make this process more streamlined?
- How might we give patients more access to their own records?
- How might we give patients autonomy?
- How might we make medical records less confidential?
- How might we attach medical records to already existing infrastructure?
- How might we more closely tie medical records to someone's identity?
- How might we reduce the threat of insurance companies for private health information?
- How might we integrate medical records into daily life?
- How might we make doctors feel less inhibited by these logistical challenges?
- How might we create alternative pathways to accessing medical records?
- How might we put medical records in the cloud?
- How might we network medical records?

Our Favorite How Might We Statements

How might we encourage patients to better educate themselves on medical issues?

- Generated from POV #1, "We met patients, we were amazed to realize they were not seeing the doctor and self-assessing, diagnosing and caring for their medical issues, and wanted clearer information about their health, it would be game changing to empower patients to better self-doctor themselves."

How might we more closely tie medical records to someone's identity?

- Generated from POV #2, "We met an infectious disease doctor, we were amazed to realize accessing medical records for a patient that are directly to is extremely difficult and tedious. It would be game changing if we could make this information easily accessible."

How might we streamline doctor-patient communication?

- Generated from POV #1, "We met patients, we were amazed to realize they were not seeing the doctor and self-assessing, diagnosing and caring for their medical issues, and wanted clearer information about their health, it would be game changing to empower patients to better self-doctor themselves."

Our Favorite Solutions and Their Prototypes

Solution #1

An app that records doctor's appointment and provides post-appointment follow up information/reminders.

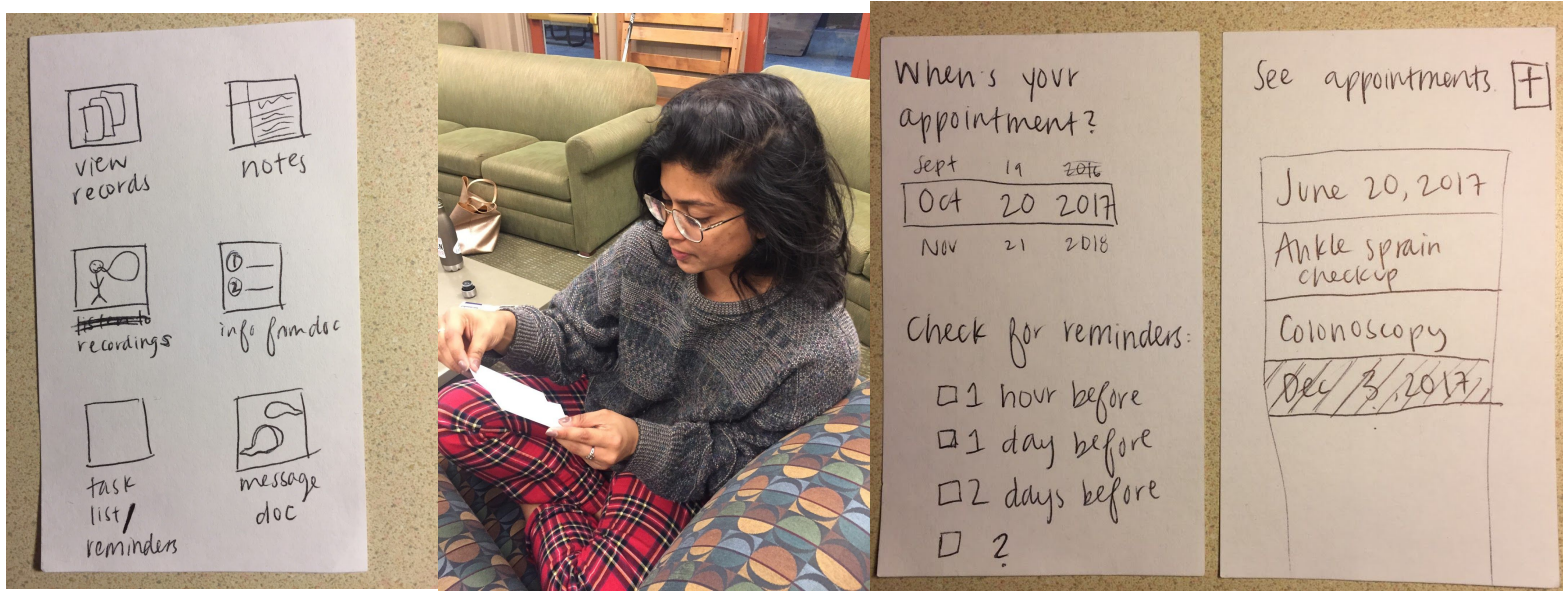
- Homepage with several options like voice recording, and important scans.

Prototyping Solution #1

We prototyped a personal health app with index cards that had different potential screens and interfaces on it. We tested it by giving the cards to users and asking them to give us a stream-of-consciousness as they interacted with it. We asked the users how they'd like the various types of content organized, etc.

The app had the following functionalities:

- Add doctor appointments that you have scheduled
 - Add reminders for these appointments
- Record doctor appointments and save the recordings
- Store medical records
- Write notes from appointments
- Keep track of task lists/reminders from the appointments
- Message the doctor



Assumption 1: For an app with a lot of different functionality, it's nice to organize options visually on a home page with several icons (see left image interface)

What we learned: having 6 different icons can appear cluttered, so we would need an onboarding

system to show users what each icon is for, or a different interface.

Assumption 2: It makes sense to organize medical information, recordings, etc. by appointment, rather than by type of content (i.e. better for all of ankle sprain appt. content to be in one place and colonoscopy appt. content to be in another *rather than* all of the recordings in one spot, all of the scans in another, etc.)

What we learned: This assumption was correct. The page with the list of appointments keeps it simple and organized. You should be able to name the appointments (ex: ankle sprain follow up), and when you tap on an appointment, the app should take you to a screen with all of its relevant content.

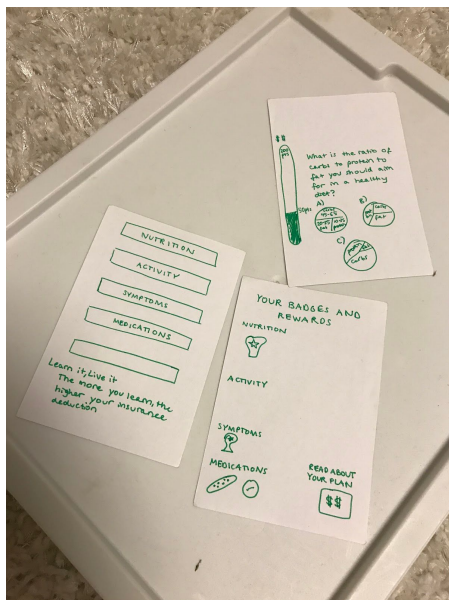
Solution #2

Gamify learning about health with an app that highlights badges etc, and rewarding insurance incentives in efforts to prepare for a nationally recognized Health Exam.

- A quiz app with different categories (nutrition, activity, sleep) that you can focus on.

Prototyping Solution #2

We prototyped a health quiz website with index cards and tested it by giving the index cards to potential users and asking them to interact with the cards and give us a kind of stream-of-consciousness as they went for where they were confused, what they wished to see, etc.



Assumption 1: That gamifying with progress bars and badges will make learning about health “fun”

What we learned

- Users like the feeling of progress and seeing the rewards

- Users feel comfortable and empowered with mobile gaming interfaces
- Users want lots of colors and an interface that looks fun--they really liked the pictures used for answers

Assumption 2: Users want assurance their health information is coming from a legitimate source.

What we learned

- Users want clear indication of the information source at for every quiz question, and for the main menu
- Users were extremely enthusiastic about the premise of an application where information can be highly trusted
- Users were immediately skeptical of the facts and wanted links to additional resources and studies that could back up the information on the quizzes.

Solution #3

A line of wearable devices that connect to an intuitive, user-friendly and efficient online interface accessible by doctors and patients through QR codes/fingerprints etc. (Sharyn)

- On an ID card like a student id, put a big QR code that doctors can easily use to access medical records

Prototyping Solution #3

We prototyped a Stanford ID to mimic an easy-to-carry card that has a QR code, a barcode, and an identification number for a database that's well-advertised. In prototyping, the subject was asked to imagine themselves at the doctors with the request to show the doctor medical records. In a series of scenarios such as being asked for MRI scans from last week, previous allergies, and any medications currently being taken, the subject was urged to present information.



Assumption 1: This expedites the communication process

- Subjects often recalled going to the emergency room and speaking to different doctors who asked questions about allergies, previous injuries, etc. but in different ways
- Subject found this method more enjoyable than nervously sitting through suggested pages of medical records
- Subject worries for the usability of this product across different medical hospitals, coasts, etc.

Assumption 2: This product makes the medical process more accessible

- Subject liked how in the case of emergency, this provides a protocol of health care.
- Subject is concerned about where and how to get the product
- Subject found it easy for him to present information, comparatively to rummaging through his phone for previous records of health care

Our Favorite Prototype

Our favorite prototype was Solution #2 because, by nature of the multi-functional app design, it provides solutions to many of the needs we encountered through our Needfinding process. Our favorite “How Might We” questions are the following:

- How might we encourage patients to better educate themselves on medical issues?
- How might we more closely tie medical records to someone’s identity?
- How might we streamline doctor-patient communication?

While we did brainstorm specialized solutions and prototypes to specifically address each of these questions individually, our Solution/Prototype #2 somewhat addresses all three of the HMWs. This solution is the health app that organizes health data (including notes, recordings, medical records, tasks lists, and a messaging platform with the doctor). It encourages patients to better educate themselves by providing a way for doctors to provide resources and information that is personalized to the patient and can be accessed easily in the app. It ties medical records to someone’s identity by allowing individuals to access their records through the application. Lastly, it streamlines doctor-patient communication by allowing a messaging system within the app (this may not be a fully fleshed out messaging app, but at the very least it would supply the doctor’s contact information and a link to his/her email address, thereby simplifying the process of contacting the doctor). While this app doesn’t thoroughly provide a solution to all 3 of the HMW’s, it does address each of them in some way. This prototype addresses a wide breadth of issues we discovered in the doctor/patient health landscape, which is why we chose it as our favorite.