

Hi, my name is...

REBECCA RAHA
RADPARVAR



Hello! I'm Rebecca,

a Human-Centered Design Researcher and Strategist!

I explore, analyze and understand how people experience products, services, and environments to develop insights on how to better design these experiences for real people.

I thrive in environments where I am able to be agile and have room to explore. I always aim to constantly learn from experiences, literature, and peers; while sharing my experience and expertise as well.

I develop solutions that keep users at the heart of the process, regardless of the medium the solution takes form in. I believe in championing good ideas regardless of their origin, advocating when passionate about a feature or insight, being flexible, and being open to pivoting.

Here is a taste of my work...



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nutrition kitchen

Nutrition Kitchen was made in response to a prompt to develop a product or system solution to fill the educational gaps in Troy's Ark Community Charter School's 6th Grade Students' curriculum and learned knowledge.

user research

Preliminary user research was conducted through two main methods:

- Interviews with faculty, staff, and students at Ark Community Charter School
- In-class observation of class periods



Interviews

The most important finding was that not many student had proper educational support at home to aid them in learning the core curriculum. For this reason, most time in class was spent on teaching the core curriculum in the depth necessary for students to understand the material. This left little time to teach other subjects or core competencies to the curriculum.

It meant that many life learnings that are considered 'common-knowledge' are not common as many of us assumed. This led to many gaps in students' personal growth in areas such as fitness, nutrition, creativity, esteem, and more.

In-Class Observation

In-class observation was conducted to understand how the current classes at the Ark Charter School organized and what teaching methods were employed.

From in class observation it was seen that many students were furnished with a computer during the school day and encouraged to use it at certain points in the class in order to grow their digital literacy. It was also seen that it was difficult to keep students attention for long periods of time if they were not all actively engaged.

co-design activity

It was very important to us to develop meals that were familiar to Ark Community Charter's 6th grade students in order to provide them with a platform which resonated with their daily lives. By enabling students to contextualize the information gained from Nutrition Kitchen into real knowledge, students were able to apply the knowledge learned in their own decision making.

A Co-Design Activity was used to uncover this data. Students were given ingredients and asked to make different meals. Students were able to use a card as many times as desired and even make their own when they felt an important ingredient was missing. These meals, along with other healthy counterparts, were imported to add to Nutrition Kitchen's library of recipes to teach students about their current meal choices and healthy alternatives.





design & development

Based on initial interviews, observation, and co-design activities, a preliminary software was developed to user test for further insights. In order to best understand if we were meeting our user needs, software was tested with students early and often.

The initial software iteration of Nutrition Kitchen was developed with MIT's Scratch software, for ease of development, with the visual assets being developed through Adobe Illustrator.

The software prompted students to make meals and outputted the nutritional facts for each meal after it was completed.



usability testing

From the first iteration of Nutrition Kitchen, it was found that students loved making meals but had difficulty developing meals on their own. Additionally, it was found that students needed more informational about nutritional facts about their food options - both before and after making decisions on what to digitally consume.

In order to add complexity to the game, a full day model was developed in order to allow students to make three meals and two snacks - enabling students to balance their nutritional choices throughout the day and on more facets than just calorie count.

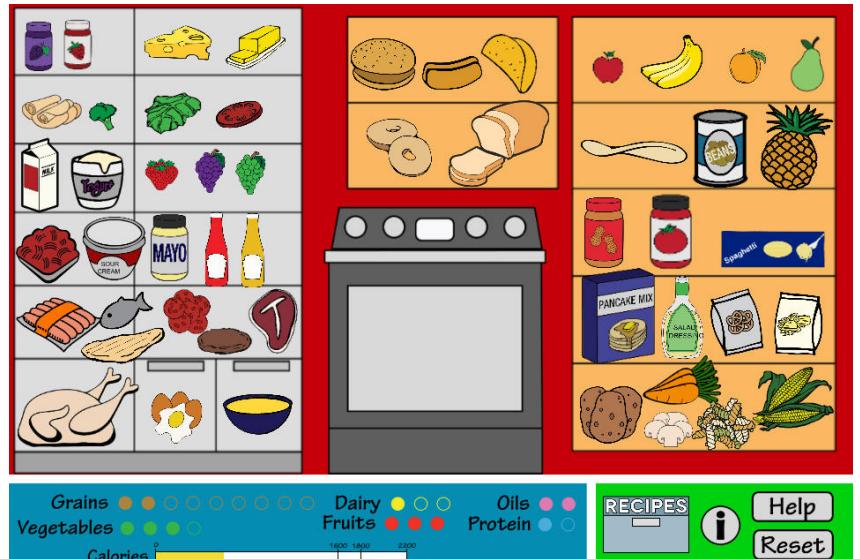
Once again, paper prototyping was utilized again in order to understand user needs that weren't enabled in the software and in order to engage all students during each session.

final design

After the initial round of user testing, the software was moved into Adobe Flash for development. From here an informational screen, educational materials, and further complexity were added to the game.

The information screen taught students how to use the software and pointed them to educational materials before and during use throughout the game. Educational materials included information about both meals and ingredients. Finally, further complexity was added through the all day meal planning (3 meals, 2 snacks) features and by adding additional meal options and more descriptive images as necessary.

In order to gauge the impact of software on student's understanding of nutrition, a pre- and post-software-use quiz was implemented. Students were prompted to take the quiz a day before using the software and then an hour after completing a session with the software. While it would have been optimal to have had a longer period of time between software use and testing - due do time and access constraints this was the only possibility. Despite this, there was an overall improvement in test scores between the pre- and post-quizzes indicating some gained value.



Sandwich

Wheat Bread (2 slices)
Turkey (2 slices)
Lettuce (1 cup)
Tomato (1/2 cup)
Mayo (13 g) or Mustard (1 tbsp)

Nutrition Pre-Quiz

Part 1: Fill in this Food Pyramid using the word bank.
(Hint: The food group with the most servings per day is found at the bottom of the pyramid)

Dairy
Fruits
Grains
Proteins
Oils
Vegetables

Part 2: Match the definitions

1. Calorie	A. Nutrients that help supply people with energy
2. Carbohydrate	B. Helps to build up muscle and organs within your body
3. Fat	C. A mineral that your body uses for hydration, muscle movements
4. Protein	D. Units of energy
5. Sodium	E. Makes fuel that your body uses for energy

Part 3: Using the word bank above, fill in the blanks.

What is a Carbohydrate?

- Carbohydrates are used to make fuel that gives you energy
- They are found in breads and grains, as well as fruits and vegetables
- Two types of Carbs:
 - Simple Carbs: Sugars found in processed foods and fruits
 - Complex Carbs: Found in vegetables and whole grains

- | | |
|---|--|
| 1. Cheese is in the _____ food group. | 7. Milk is in the _____ food group. |
| 2. Bread is in the _____ food group. | 8. Rice is in the _____ food group. |
| 3. An apple is in the _____ food group. | 9. Chicken is in the _____ food group. |
| 4. An egg is in the _____ food group. | 10. Cucumbers are in the _____ food group. |
| 5. Peanuts are in the _____ food group. | |
| 6. Carrots are in the _____ food group. | |

recommendations

While Nutrition Kitchen provided value for the Ark Community Charter School, much more value could have been provided through more robust software capabilities. Had the project been able to continue, a more dedicated software lead would have been necessary.

Additionally, more user research and testing would be integral in understanding what features students found most beneficial and what features should be added or removed.



(wi-)fido

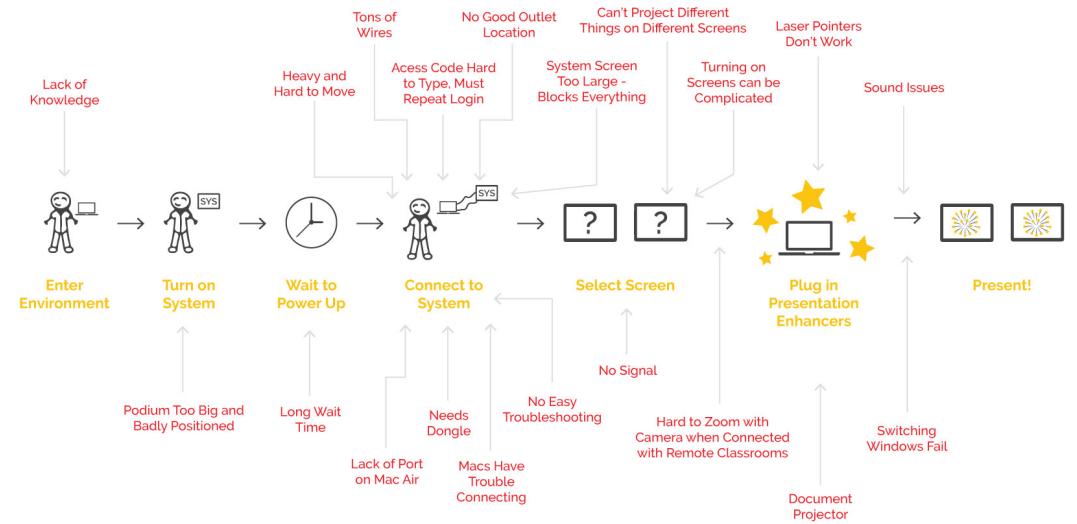
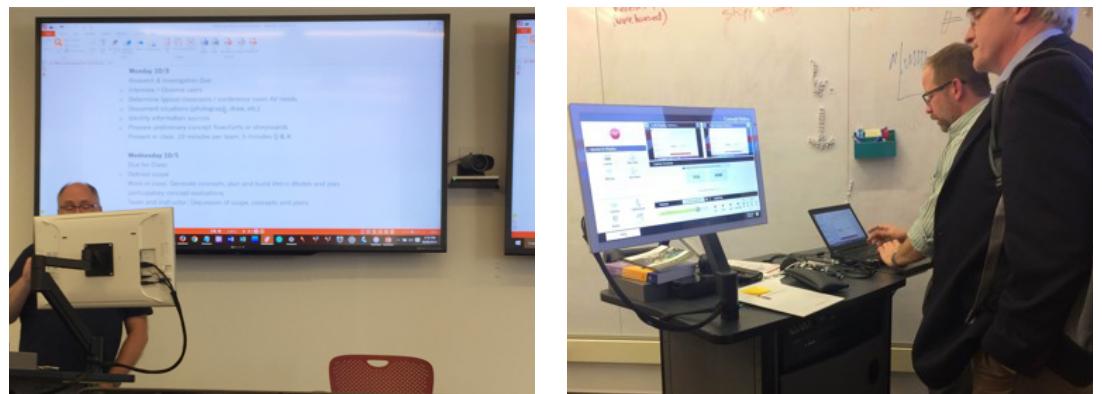
(Wi)-Fido was a two week sprint project focused on improving the current presentation experience with 4612 Forbes Ave as a primary case study.

user research & scoping

Initial research was conducted through observation and think-aloud usability tests. Both novice and advanced users were observed to understand initial pain points as well as learned idiosyncrasies.

A simple storyboard was developed to understand and visualize pain points. From this activity, four main pain points emerged:

- Too many wires
- Screen blocking audience view
- Podium clutter
- Lack of support



ideation

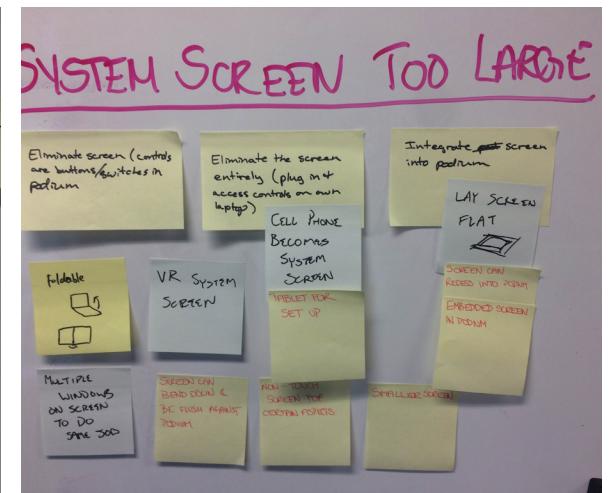
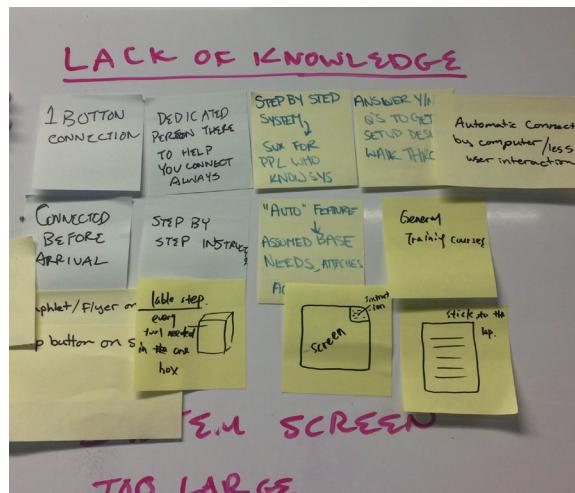
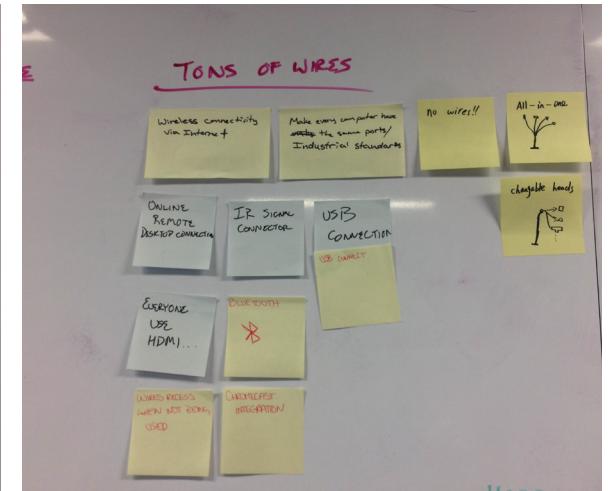
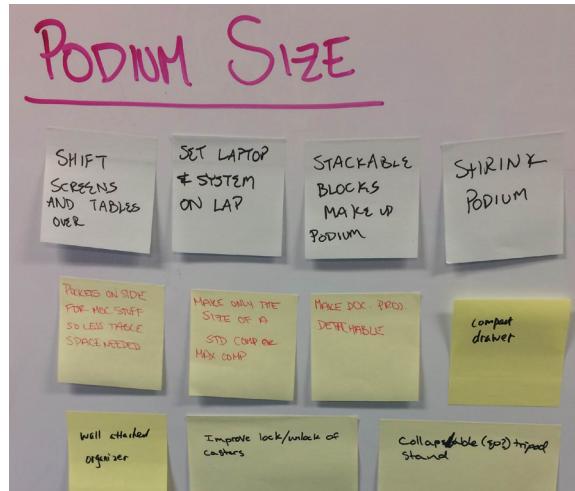
After refining to four areas of importance for pain point remediation. We began brainstorming around those areas as a team. A visual of these brainstorms can be seen on the right. The brainstormed ideas were then paired down, and the following solutions were chosen for each pain point.

Too Many Wires: Wireless Connect

Screen: Embed with Pull Out Option

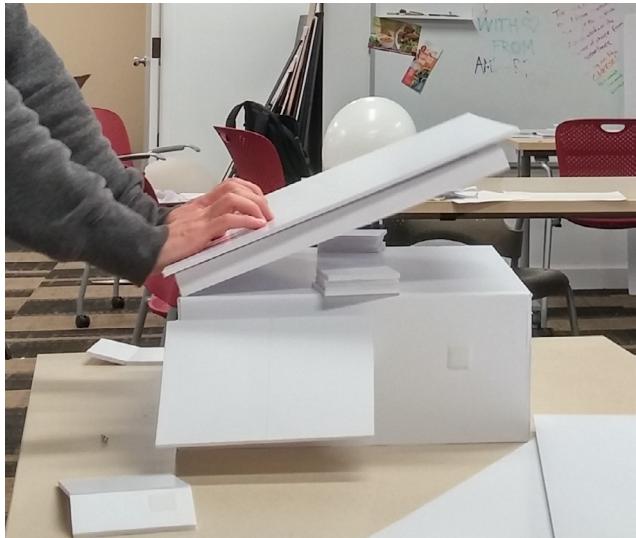
Podium Size: Largest Laptop Size

Lack of Support: More Intuitive UI



prototype & user testing

First Iteration Prototypes were made in order to test important facets of both the physical and digital systems.

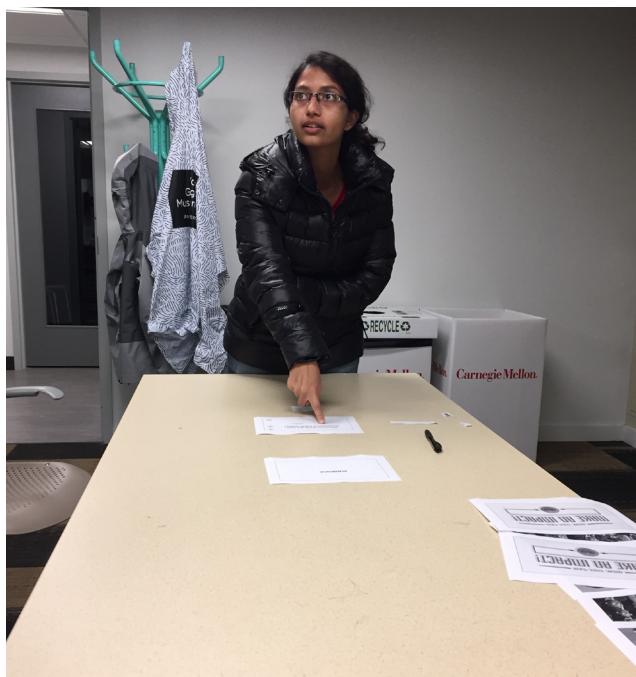


Podium

A modular prototype was made to test three main characteristics of the podium:

- Screen Location
- Podium Dimension
- Angle

Users were prompted to adjust the podium as much as possible to find their ideal configuration while conducting a think aloud in order to enable us to better understand how they felt about each feature.



UI

Paper prototypes were made to test key needs and key functionalities' locations.

Usability Testing was conducted to understand how easy to navigate the system was.

A/B testing was conducted to understand which layouts were more intuitive and preferred.

Users were prompted to complete series tasks or asked to use different screens types to complete the same task. Once again, they were asked to conduct a think aloud so we could understand areas of ambiguity and their pain points.

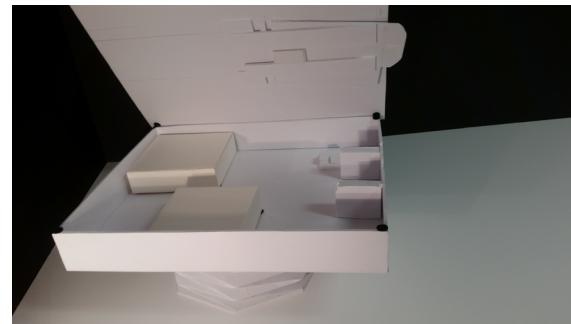
final podium and user interface design

Lectern (previously a Podium)

Through user testing, it was determined that a 3 inch range of movement, an embedded screen, and a laptop size podium were required features. Angles were determined to be not to be necessary - as laptops provide the necessary articulation with their screens - and was therefore removed; turning the podium into a lectern.

The final lectern model was developed to be a looks-like foam-core model. The details below outline the final desired design. As a team, it was decided that a visually stunning base was desired to allow the lectern to be a show piece and not allow the presenter to hide behind a large piece of furniture. Different visually appealing mechanisms that could lift and lower the 3" were brainstormed, researched, and debated, with an origami collapsible octagon being chosen. This base would contain a hydraulic actuation system which would allow the base to lock at 4 different heights (40", 41", 42", 43") and release when pressed down from the lowest height. The base is comprised of a metal frame with a fabric overlay.

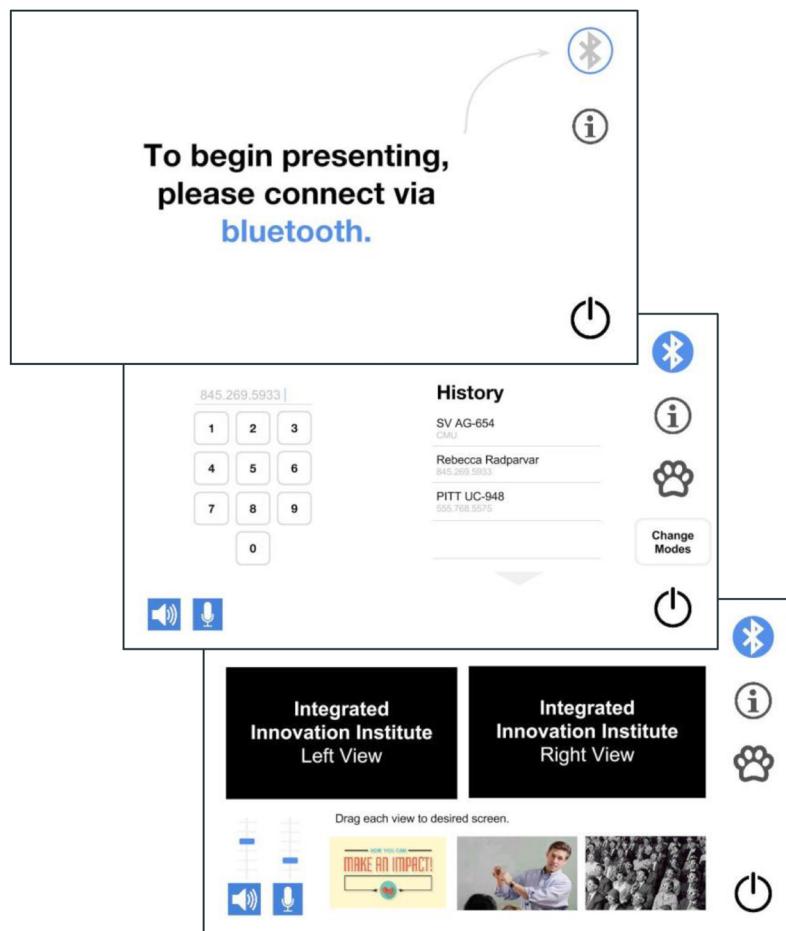
The top of the lectern, which measures 21.5" by 17.5" with a 3", allows the lid to be open in closed - where one can find all of the internal electronics. This enables users to open the lid to plug the battery for charging or fix any system errors. The top of the lectern is a opaque black glass cover with a plastic base. Lastly, a system screen is embedded in the system and can be accessed through a sliding mechanism. Once removed, the screen can pivot with two axes of motion. The screen measures 6" by 8".



UI

The final UI was developed to be as simple and straightforward as possible. User feedback guided the screen selection feature, as well as the nomenclature for certain functionalities. User feedback also guided positioning of certain buttons and features.

Overall, the UI enables users to choose their views by dragging, change the volume and mic volumes, change the mode, and turn the system off and on. The final prototype does not include the volume change functionality as it was difficult to create a slider in Microsoft PowerPoint. Additionally, as it is impossible to create a dragging function in PowerPoint, the screen selection is only a click. The system assumes which screen the user would like.



community compost

To improve Millennials' current experiences with their kitchens and food consumption.

understanding the opportunity space

In order to properly understand the problem space, initial research was conducted and findings were assessed. From there, the team chose to use the SET (Social, Economic, and Technology) Factors method of organizing everyone's findings. By categorizing research findings in three categories, the team was able to find trends and areas of opportunity.

product opportunity gaps

After initial analysis of findings, the team brainstormed Product Opportunity Gaps (POGs) in order to understand potential focus areas and organized these by affinity mapping.

After brainstorming, the POGs were narrowed and 'Kitchen Waste User and Management' was chosen as the team's focus area.



stakeholder map

A stakeholder map was developed to understand central users and auxiliary stakeholders in Millennials' waste management routines.

user interviews & insights

25 user interviews were conducted with Millennials from a range of lifestyles and 3 interviews were conducted with waste disposal experts. This research was synthesized and analyzed using affinity mapping in order to guide the Brainstorming and Concept Development process.

It was found that Millennials were interested in sustainable and eco-friendly measures but felt that it didn't properly integrate in their lives or were highly misinformed on how these systems worked. They also felt that no incentives were in place to encourage usage.

"No knowledge about composting."

"I don't have enough space to properly throw away all of my garbage."

"I want to be eco friendly."

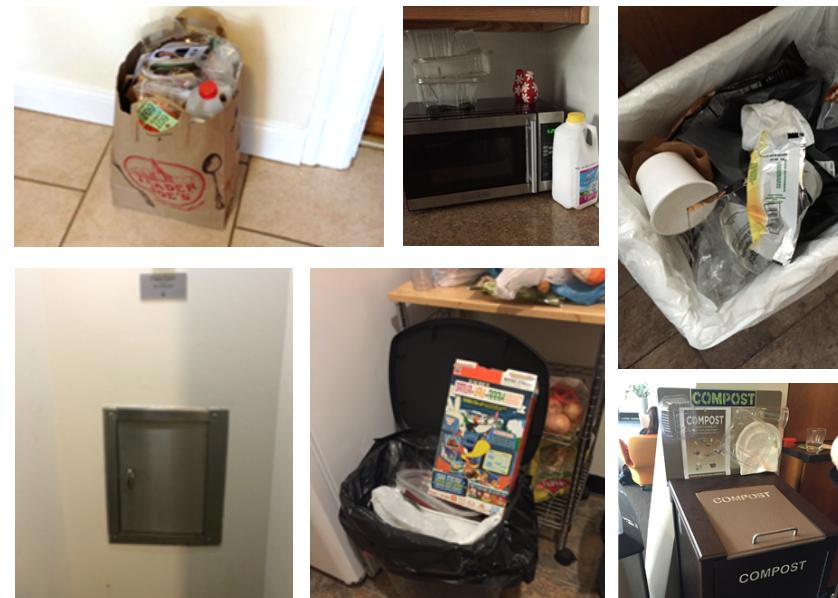
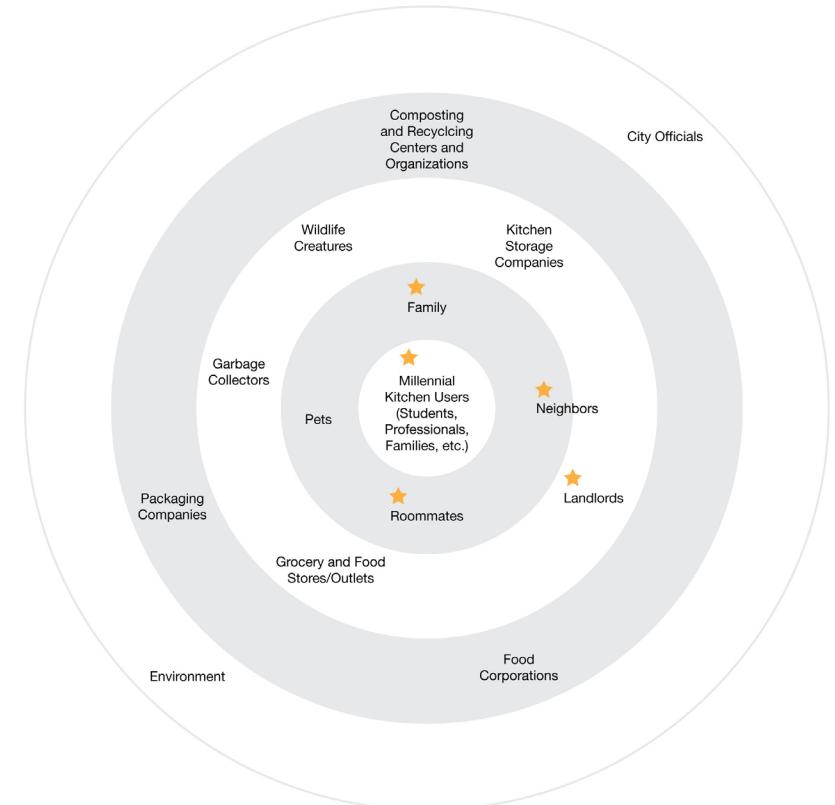
"Too much smell?"

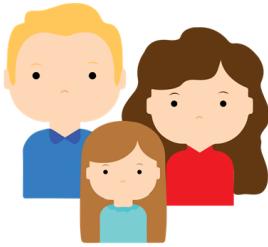
"Compost attracts rodents."

"I used to compost and recycle but it's not as easy here in Pittsburgh."

"Is it expensive?"

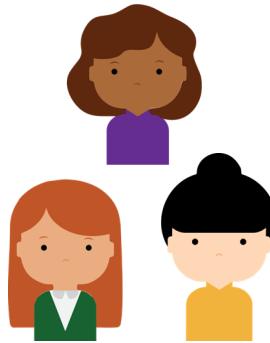
"I'm interested in composting, how does it work? Can you tell me more about it?"





Joe, 30
Accountant

- Lives with family in a house with a backyard
- Limited kitchen space of old building
- Interested in composting
- No idea where to start
- Owns a car
- Multiple shopping trip per week



Mary, 23
Graduate Student

- Rents an apartment with two roommates
- None of them owns car
- Inconvenient to go grocery shopping
- Buy large amount of food to last a week
- Throw away expired food
- Does not compost due to limited space

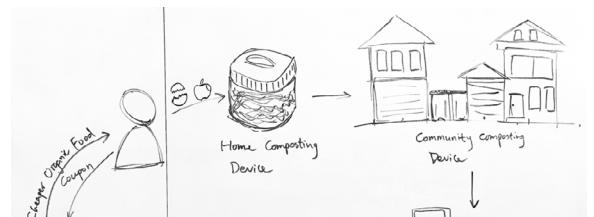
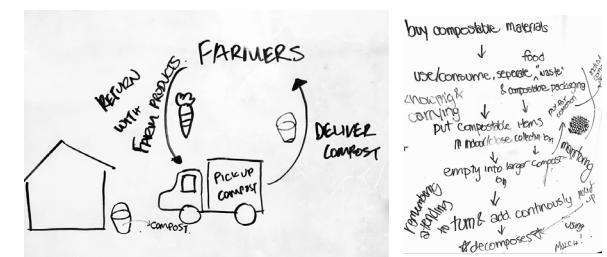
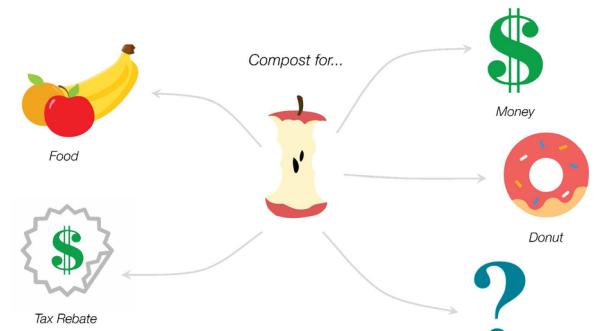
persona development

From here, personas were developed to better understand central users and stakeholders.

brainstorming & concept development

Based on our initial research, user interviews, and personas, concepts were brainstormed, developed, and debated. The team landed on a service model - where you could trade compost for farm goods more compelling and chose to move forward with that idea.

Different models of compost trading, for both reward structure and location, were explored. After speaking with more Millennials about their weekly shopping and social habits, it was decided that the model should fit into Millennials' lives either effortlessly or as an excursion - to at least garner excitement - for this reason a Farmer's Market was chosen as the trading location. Once the location was decided, further thought went into the item traded. Finally, a donut was chosen for two reasons: first, to garner excitement for Millennials, and second, because it was a low cost expense for farmer's and after all... donuts are *always* in season.



roadblocks

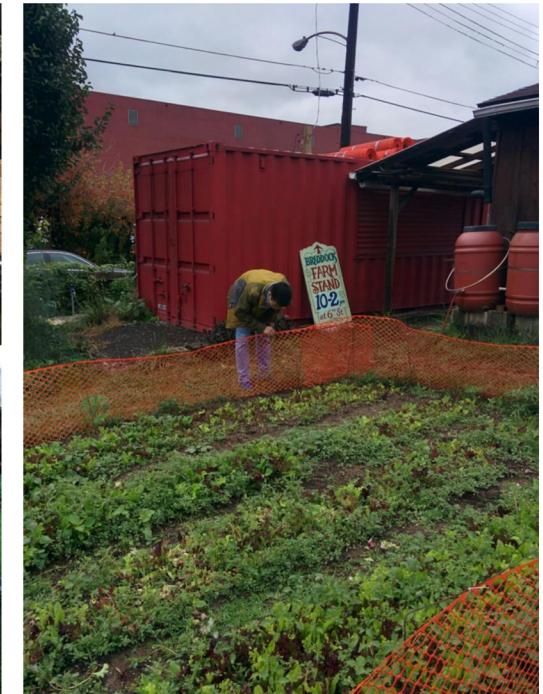
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stakeholder interviews

A general model of the interaction was developed by the team and then stakeholder interviews were conducted at a farm, a farmer's market, and the Phipp's Botanical Garden - which also holds a weekly farmer's market - to understand the viability of a service and the interest level of farmers for trading compost for a donut.

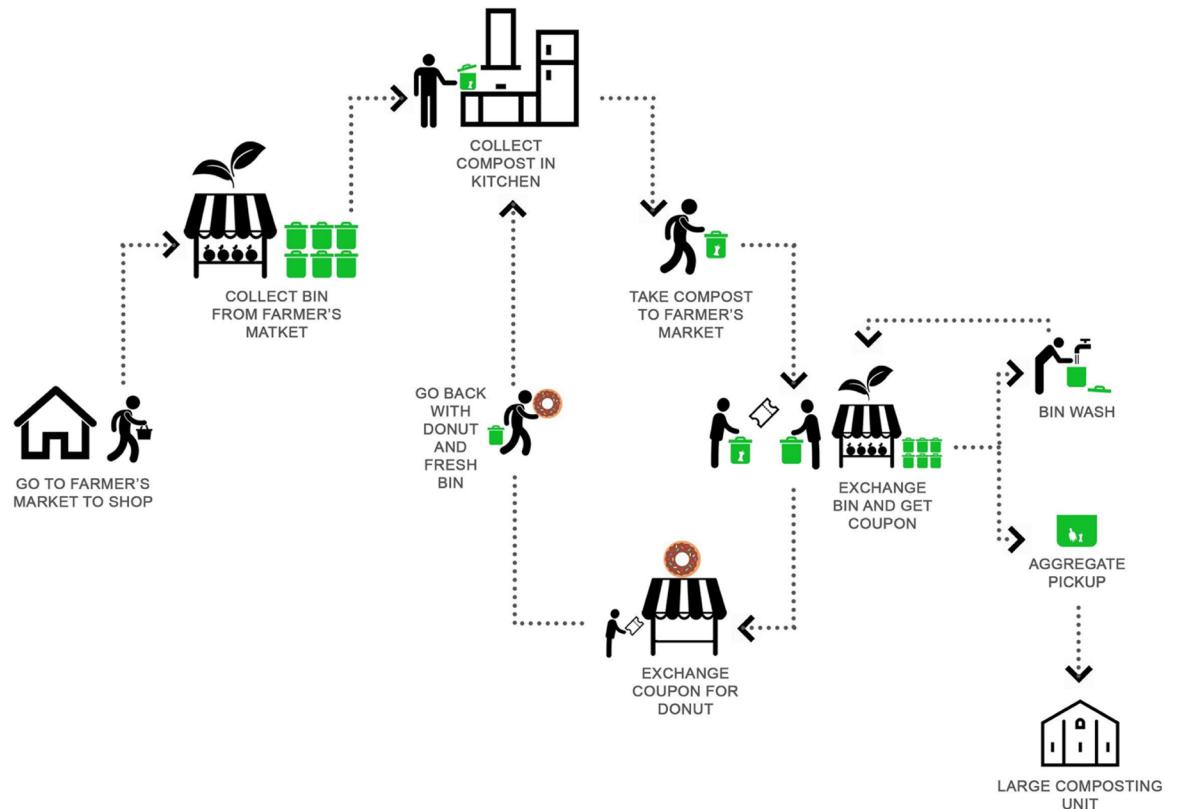
These interviews uncovered farmers' concerns while providing important information about whether or not farmers would participate in a program which traded raw waste for small incentives.





final concept

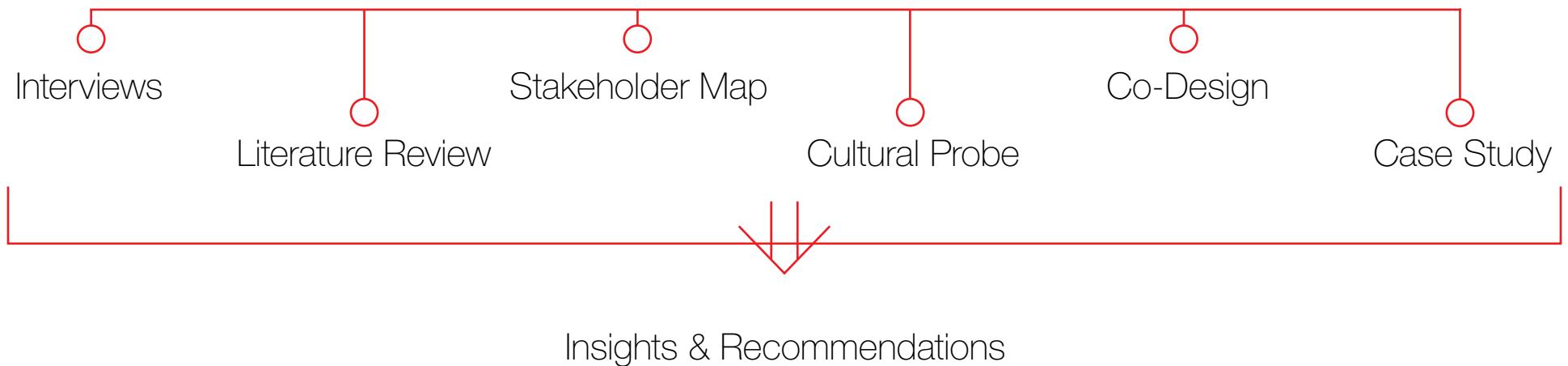
Stakeholder interviews validated our concept, while providing us with important areas to further explore. It was decided that raw waste would be traded - as opposed to compost - to enable Millennials to trade on a weekly basis and avoid any negative connotations about composting. From here, a final service model, seen on the left, and literature, seen below, were developed to educate and enable Millennials to easily trade raw waste for compost.



nav. health services

The Navigating Health Services study was a Design Research study focused on understanding why insured young adults who are newly independent (either graduate students or young professionals) and have insurance and access to health services choose not to go to the doctor as often as recommended and necessary.

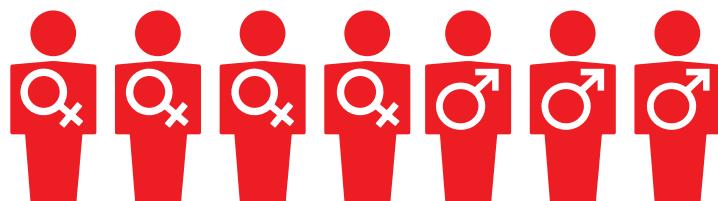
research timeline



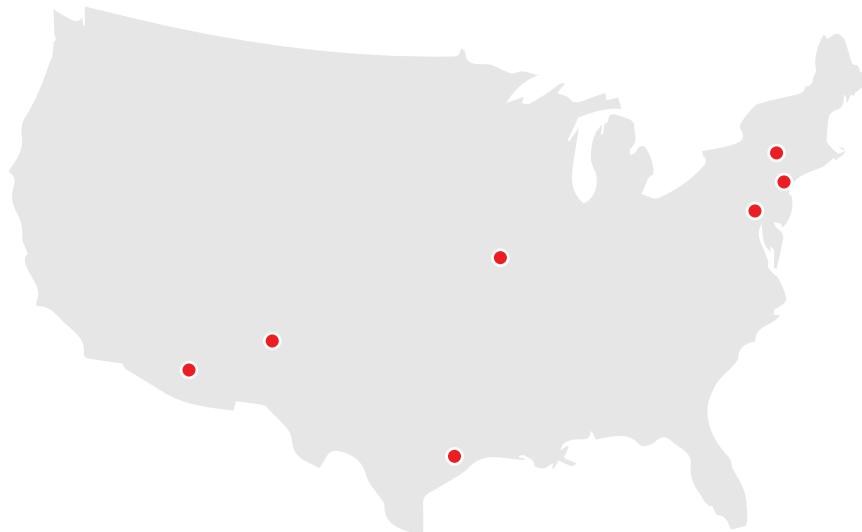
interviews

Seven interviews were conducted with young adults in varying locations around the country and genders to provide a diverse set of viewpoints about health care services. These interviews were used a starting point in order to decide what human-centered research tools should be employed next.

Interviewees



Interviewee Locations



Key Findings

- Routine and reminders are important when it comes to regular healthcare.
- Males decreased perceived need to see a multitude of health professionals (no OB/GYN or birth control prescriptions necessary, less social pressure to see a dermatologist) leads them to receive less healthcare overall as they are not used to regularly seeing any health practitioner.
- Users with doctors within their families receive more regular but fragmented care.
- Users are more often deterred by using health services when receiving good news than bad news.
- Users feel that a lot of time is wasted going to see health professionals because they're not going to uncover any new data.
- Users relate "feeling healthy" to being healthy.

literature review

A literature review was chosen a supplemental method for understanding why people do not receive proper medical care when they have access to it. This method was chosen as to illuminate additional areas to focus human-centered activities and research on.

Taber, Leyva, and Persokie's publication "Why Do People Avoid Medical Care? A Qualitative Study Using National Data" was reviewed.

Key Findings

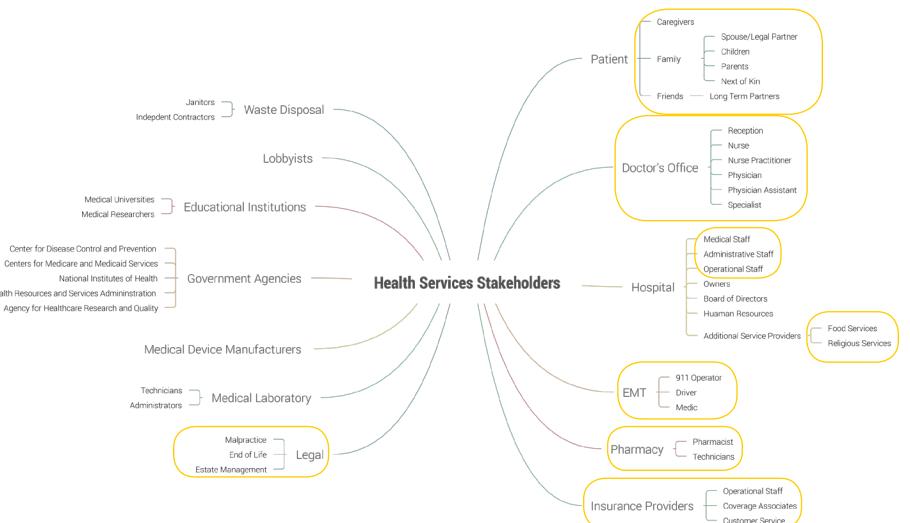
- Most insights from Taber, Leyva, and Persokie's study were consistent with the qualitative research conducted thus far.
- One outlier, that contradicted all information however, was that people avoid medical care due to unfavorable Physician experiences - when asked about this, most users noted they would just change health care providers.

stakeholder map

A stakeholder map was developed to understand the major players in Health Services. Stakeholders which users commonly interface with have been circled to understand which stakeholders effect user's experiences and therefore what interactions in their journey they are likely to change or color their perception of Health Services and long term decision making.

Key Findings

- Better understanding of areas where the largest, noticeable improvement can be made in terms of patient experience. (Not to discredit systematic change at a higher level.)



cultural probe

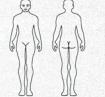
A cultural probe was conducted on users to understand their perception and experiences while navigating throughout the Health Services system. Users were given a set of photos and asked to go through each and describe how each piece of the process makes them feel. This activity was conducted to get more in-depth information about pain points as opposed to just describing the entire experience as "annoying", "a waste of time", etc.

Participants



Key Findings

- Users feel a lot of time is wasted and work is duplicated throughout the medical process.
- Users use online resources - such as WebMD - to look up ailments even though they know they're unreliable and they shouldn't.

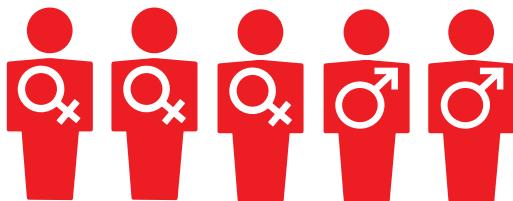
PATIENT INFORMATION Date SSN/Patient ID # Patient Name _____ Last Name _____ First Name _____ Middle Initial _____ Address _____ City _____ State _____ Zip _____ Sex <input type="checkbox"/> M <input checked="" type="checkbox"/> F Age _____ Birthdate _____ <input type="checkbox"/> Married <input type="checkbox"/> Widowed <input type="checkbox"/> Single <input type="checkbox"/> Minor <input type="checkbox"/> Separated <input type="checkbox"/> Divorced <input type="checkbox"/> Partnered for _____ years Patient Employment/School _____ Occupation _____ Employer/School Address _____ Employer/School Phone _____ Spouse's Name _____ Birthdate _____ SSA _____ Spouse's Employer _____ When may we thank for referring you? _____ ASSIGNMENT AND RELEASE I certify that I, and/or my dependents(s), have insurance coverage with _____ and assign directly to _____ Name of Insurance Company(ies) _____ Do you often see people in me for services rendered? _____ If yes, _____ am financially responsible for all charges whether or not paid by insurance. I authorize this office to bill _____ for services rendered. The above-named doctor may use my health care information and may discuss it with _____ for the purpose of obtaining payment for services and determining insurance benefits. I understand that I am responsible for payment of all bills even if my current treatment plan is completed or one year from the date signed below. Signature of Patient, Parent, Guardian or Personal Representative _____ Please print name of Patient, Parent, Guardian or Personal Representative _____ Date _____ Relationship to Patient _____ INSURANCE INFORMATION Who is responsible for this account? _____ Relationship to Patient _____ Insurance Co. _____ Group # _____ Is patient covered by additional insurance? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Subscriber's Name _____ Birthdate _____ SSI _____ Relationship to Patient _____ Insurance Co. _____ Group # _____ ASSIGNMENT AND RELEASE I certify that I, and/or my dependents(s), have insurance coverage with _____ and assign directly to _____ Name of Insurance Company(ies) _____ Do you often see people in me for services rendered? _____ If yes, _____ am financially responsible for all charges whether or not paid by insurance. I authorize this office to bill _____ for services rendered. The above-named doctor may use my health care information and may discuss it with _____ for the purpose of obtaining payment for services and determining insurance benefits. I understand that I am responsible for payment of all bills even if my current treatment plan is completed or one year from the date signed below. Signature of Patient, Parent, Guardian or Personal Representative _____ Please print name of Patient, Parent, Guardian or Personal Representative _____ Date _____ Relationship to Patient _____	PHONE NUMBERS Cell Phone _____ Home Phone _____ Best time and place to reach you _____ CAUSE OF EMERGENCY Name _____ Relationship _____ Home Phone _____ Work Phone _____ PATIENT CONDITION Reason for Visit _____ When did your symptoms appear? _____ When did you first seek treatment? _____ Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown _____ Mark an X on the picture where you continue to have pain, numbness, or tingling. Rate the severity of your pain on a scale from 1 (least pain) to 10 (severe pain). Type of pain: <input type="checkbox"/> Sharp <input type="checkbox"/> Dull <input type="checkbox"/> Burning <input type="checkbox"/> Numbness <input type="checkbox"/> Aching <input type="checkbox"/> Stabbing <input type="checkbox"/> Shooing How often do you have this pain? Is it constant or does it come and go? Does it interfere with you? <input type="checkbox"/> Work <input type="checkbox"/> Sleep <input type="checkbox"/> Daily Routine <input type="checkbox"/> Recreation Activities or movements that are painful to perform: <input type="checkbox"/> Sitting <input type="checkbox"/> Standing <input type="checkbox"/> Walking <input type="checkbox"/> Bending <input type="checkbox"/> Lying Down O.V.T.R. _____ 
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co-design

Two Co-Design activities were conducted to understand users current and desired General Physician experiences. These activities enabled users to speak of their last (typical) General Physician's visit and discuss pain points, as well as create their ideal doctor's office.

Participants



Key Findings

- Users waiting room experiences last longer than most General Physician visits and the waiting room experience is a major pain point.
- Users prefer offices that are more personable and have doctor's own person artifacts within them.
- Users prefer phone interactions with Physician staff - as opposed to digital communication - due to the current state of health communication software.

My Typical General Physician Visit

How do you make an appointment?
Circle the tools you use to find and schedule appointments. Estimate the time spent on each, total.
Use other tools? Add them!

How do you get to the doctor's office?
Circle the method(s) you use and the time it takes. If a buddy goes with you, note who!
Use other methods of transport? Add them!

Who do you interact with?
Make a list of all of the people you interact with throughout your health care experience. Feel free to fill out this section some more after we move on to the next activity.

Icon: Laptop Icon: Phone Icon: Group

Icon: Train Icon: Bus Icon: Car Icon: Pedestrian

Icon: Waiting Room Layout

Icon: Doctor's Office Layout

Does your doctor follow up with you?
If doctors follow up with you, circle the method they do so in.

Did we miss any important parts or pieces about your doctor's appointments? If so, note them here!
Otherwise feel free to doodle, write a love note to protest your love to an unknown lover, or just stare at this blank page and think about your life decisions while you wait for everyone else to finish.

Icon: Laptop Icon: Phone Icon: Group

Icon: Doctor's Office Layout

Design Your Ideal Doctor's Office

case study

During the period of this project, the opportunity to do a case study was presented.



Demographic Information

- Female
- Mid-20s
- Recently Relocated to Pittsburgh, Pennsylvania

Key Findings

- Insurance companies do not have enough information easily accessible to their customers - leading to wasted time for both customers and corporations.
- Procrastination can lead to not being able to see a Physician when necessary due to other roadblocks.

Timeline

- *Early October*
Skin ailment appears.
- *Mid-October*
Considers going to the doctor.
- *Early November*
Attempts to make a doctor's appointment after prompted by recommendation, insurance is not accepted.
- *Late November*
Ailment has grown tremendously and is considered "too large" to bear.
Attempts to make doctor's appointments, spends multiple hours multiple days but cannot find a location that accepts her insurance.
- *Early December*
After approximately 5-6 hours of time spent calling insurance and Physician offices, finds one of two options within a mile or so which accept her insurance and is able to make an appointment for the following day. Loved the doctor and would definitely return.

insights and recommendations

Final Insights

- Males and Females must be treated differently throughout the health care services process on the administrative end to ensure they are properly capitalizing on the necessary services available to them.
- The time users spend waiting could be better capitalized on to enable them to feel that their time is being properly utilized and their efforts are worthwhile when navigating health services.
- Most users do not go to the doctor until something is unbearably painful or physically obvious/bothersome.
- Users' procrastination and administrative health service barriers make it unduly difficult to see Physicians in a timely manner. Health services are not timely, yet users procrastinate.

Product Opportunities

- Improved Data Information Systems to avoid duplication of information and access to medical records.
- Better waiting time usage - such as provided space to work, more social seating areas, etc.
- Embedding the doctor into other necessary experiences. (For instance, having doctor's on staff for large corporate campuses enabling users to leave work for minimal time to see a doctor and incentivizing other patients to be on time and leave on time to make their work-day appointments. - Similar to how Etsy has yoga in their office building.)

Guiding Design Principles

- Male and Female medical services should not and cannot be managed the same way due to different biological and habitual needs.

design thinking edu.

During my time in Providence, I had the awesome experience of working with Brown's Design for America Chapter. In a group of four, we worked to research Design Thinking methods and educational models in order to create and execute a Design Thinking Workshop. We had the opportunity to carry our project through DFA's Human Centered Design Process (Identify, Immerse, Reframe, Ideate, Build, & Test).

scope

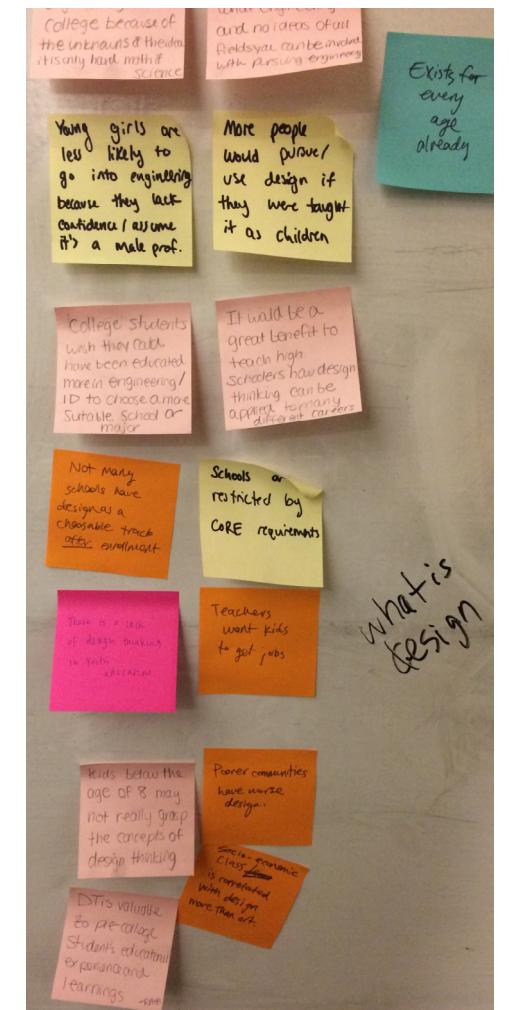
As we were all designers and engineers, Design Thinking education was something that all effected us personally. We all spoke about our own educational experiences and converged at one question, "Why didn't I know about Design Thinking sooner?" This question became exactly what we wanted to combat and the fueled our ambition for the project.

To begin our understanding of Design Thinking, Design Thinking Education, and its importance, we began to list our assumptions. We questioned where design thinking could be important, why it was important, and even if it was important. These questions aided us in understanding not only why Design Thinking curriculum isn't in place at a K-12 level, but how it could best be integrated.

From there, brainstormed 'How Can We' statements to better scope the project. Three priorities emerged for the semester-long project:

How Can We...

- empower kids who lack creative confidence and access to tools and support?
- equip kids with the proper design thinking tools to help them gauge personal interest in design?
- prevent the split between "creative" and "non-creative" self-labeling?

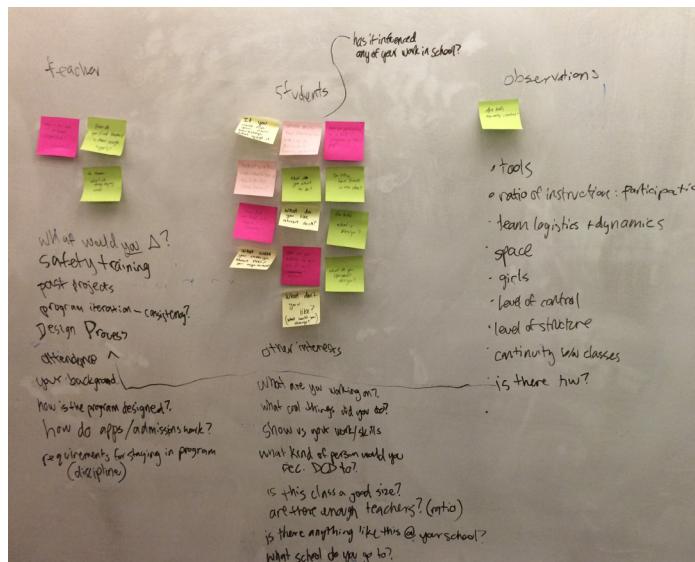


research

Once we had assessed our assumptions and understood our initial scope, we moved forward to the research phase in order to better understand Design Thinking and K-12 educational models. These models include the current Rhode Island educational model, Common Core, Montessori Education, and a number of private school curricula. After understanding the primary methods of K-12 education, we took a deeper look into supplementary educational models and extra-curricular offerings.

This research led us to speak with Jessica Artiles, a Masters student at Massachusetts Institute of Technology researching Design Thinking Education, and to touring DownCity Design in Providence, Rhode Island, a non-profit that utilizes the design process to teach students how to design and create their own products through the use of new tools and processes. Artiles spoke with us about her research and the importance of prototyping during the design process, while DownCity design showed us their space and spoke about many of the logistical considerations of facilitating these programs in the Providence area.

After understanding Design Thinking and Design Thinking Education from the point-of-view of instructors, we worked to interview students from our own lives on their familiarity with, understanding of, and interest in these concepts to best understand where to go. At the same time, we began reaching out to additional Providence educational and design-centered initiatives to find the proper setting to test the findings from our research.



implementation

After synthesizing our research, we found it most beneficial and impactful to work with students at the 9th grade level. Students at the 9th grade level are just beginning to think about what they want to do for a profession. We wanted to work with these students to open their eyes to alternate ways of learning and understanding, as well as alternate career options that are rarely spoken of at a high school level. Our initial implementation focused on the educating students on how a product is made, a system is conducted, etc. and then enabling them to take part in these processes on a smaller scale. This implementation was chosen in order to display to students the number of professional opportunities available as well as the benefit of utilizing alternate processes for research, synthesizing, and testing. However, despite our extreme interest in working with this age group, we were unable to connect with an initiative able to give us some time to test our final implementation with this age group. For this reason, we had to rescope our implementation and testing.

As we were most readily able to work with students from the 5th grade level, we created a plan around where they were in their educational journey. The typical public school educational models tends to teach students that there is only one correct answer or method to tackle a problem, stunting creativity, innovation, and individuality. As a group we decided it was most important to combat this methodology as we wanted students to learn that there are a wealth of ways to tackle a problem. Additionally, we wanted to teach students about empathy on a base level and how to navigate constraints. We found the best method to teach these principals was the 5 Chairs activity.

Overall, our workshop had mixed reactions. While some students were eager to take part in the activity, other students were disgruntled and vocalized their disinterest in participating throughout the project. For the most part, students disinterest waned when the activity progressed from paper and pen to physical building - strengthening the argument that education needs to be more hands on. During the debrief, students expressed that they enjoyed being able to not only create and build, but create something that didn't have a right or wrong answer. Students felt empowered by their design process and wanted to share it with not only us but their parents - with many students taking their projects home with them at the end of the day.





February

March

April

key insights & takeaways

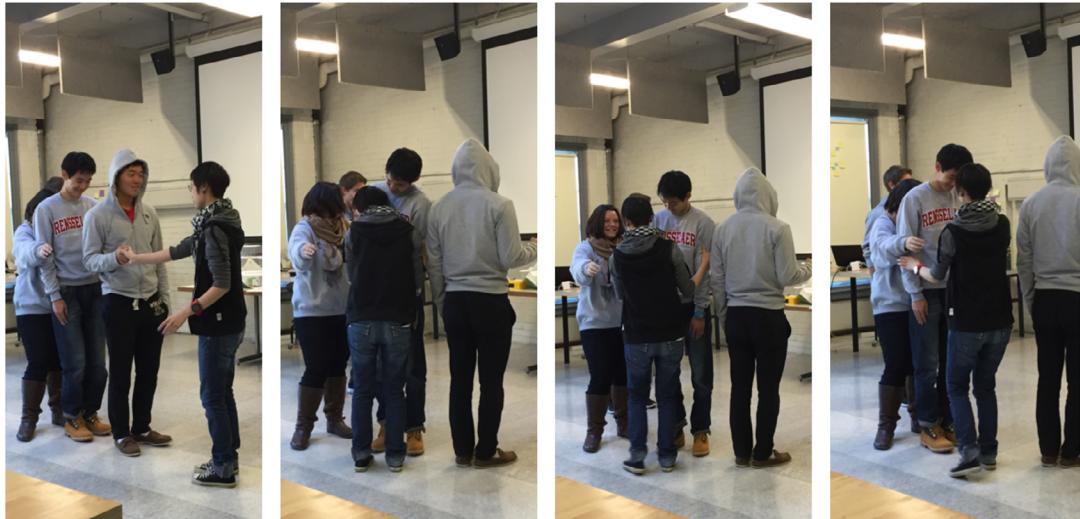
While our work is presented here in a very clearly and concisely, this is not how the design process always goes, or how our design process progressed throughout the three month duration of our project. As we were in the beginning stages of the project, research was constantly conducted to ensure we were moving in the proper direction. Furthermore, we chose to test early and test often - as we found this feedback integral to our design and understanding. Therefore these and other steps were not conducted in a linear progression, but as needed and found to be illuminating to the project.

Additionally, while I am no longer in Providence and cannot participate in the project, it has been picked up by the Design for America (DFA) Chapter at Brown University once again. Our research, testing, and contacts have created a foundation for this group and DFA intends on running the project for following semester.



dt workshops

Just a taste of some of the Design Thinking Practices & Activities I've led and participated in the last five years!



bodystorming

Bodystorming is an interactive design thinking method that falls into the Experience Prototyping category. The activity calls for participants to physically act out a product, system, or experience - embodying the human and non-human pieces to replicate the respective product, system, or experience.



I teach this method as one of my Design Thinking Modules for Product Design Innovation Studio I. In addition to getting students physically moving - and therefore, typically more engaged - it also forces students to think of products, systems, and experiences in a way they wouldn't before. Students are forced to confront components or interactions they would usually neglect or take for granted - illuminating important aspects of these products, systems, and experiences.

honey badgers, flash floods and mustard gas

Better World by Design (BWxD) | 2013

At the 2013 Better World by Design, I had the opportunity to participate in a workshop unlike any other design thinking activity I had done before.

The Honey Badgers, Flash Floods, and Mustard Gas, led by Ryan Clifford an Associate Director of Center for Design Practice at Maryland Institute College of Art, essentially forced participants to think incorrectly. Clifford asserted, "Humans have the capacity for developing ingenious solutions to these challenges. How do you unlock the ingenuity that exists within people and organizations by thinking wrong?"

He channeled this mission to misleading a room of fifty design thinkers into creating the worst ideas possible. He then forced these teams to turn these seemingly terrible ideas into advertising methods for a brand of his choice.

While I don't remember the exact details of this activity, what it did teach me was to embrace ideas that make you think - whether they are good, bad, or somewhere in between. We often dismiss ideas because we don't *think* they're a good idea, but when we are able to find value in these ideas as stepping stones - as opposed to final solutions - they will enable us to develop solutions that are truly groundbreaking.

mockuptionary

Mockuptionary is a rapid design and prototyping activity which asks participants to develop inventions to fix nonsensical problems. These problems are defined by randomly picking two cards - one indicating a user and the other indicating a problem. To make the activity more difficult, sometimes a third pile of cards containing an additional constraint is included.

This forces participants to develop ridiculous solutions to combat ridiculous problems, with the ultimate goal of enabling participants to entertain these ridiculous ideas when brainstorming for long-term projects.

Some examples of pairs that have been randomly chosen are below:

- » A scuba diver can't stop crying.
- » My chemistry book is on fire.
- » My TA's can't stop, won't stop dancing.
- » My cat keeps prank calling the president.
- » My piano ran away from home.

card sorting

When starting a project, card sorting can help define areas for opportunity by allowing group members the opportunity to list and combine facets of a problem, product, or system.

Card sorting begins with group members listing as many facets as possible onto different index cards or post-its. Group members then converse and combine cards which have the same statements on them. They are then asked to categorize these cards however they see fit. This enables groups to create clusters of similarity and find the biggest areas for improvement.

I often use card sorting at the beginning of a project to enable team members to find areas of cognitive convergence and divergence in order to allow them to better understand each other assumptions and understanding of the problem statement.

mind-mapping

While simple, Mind-Mapping is a very important design thinking tool. Mind-Mapping is a exploitative technique for visually connecting ideas and information. They are commonly used in Design Thinking to better explore a central question, topic, or problem area, and further understanding the connections of other aspects pertaining to this problem.

I commonly begin all of my projects with a mind map, as it allows me to see a problem statement and its connections more holistically.

100 questions

100 Questions is a research and scoping activity used as a diagnostic tool to find gaps in knowledge and to assess areas of exploration necessary for improvement. The 100 questions are meant to be exhaustive and in turn, pressure the user to think outside of the current features and characteristics being developed.

Want to see more?

rebeccaraha.com

Thank you for your consideration!