# Table of Content

[Table of Content](#_1he0qbx1ebhd)

[About](#_fnu6ceq3tinz)

[Contact](#_qeeu3lny2c5v)

[Work](#_54hg2wo36270)

[Cancer Survivors Network](#_wpuunedcxl7r)

[Role](#_fpiygbw5j3r)

[Duration](#_p683q53ju5pt)

[Client](#_b3u2ei3pbl8w)

[Teammates](#_qt3t1n9p09ei)

[Keywords](#_z0tcpl91ca9w)

[Cancer Survivors Network](#_xjuy5mx71h6b)

[Project Overview](#_n8fy52e7j35c)

[Ease of entry from home](#_quhsxtinpbg7)

[Explore more with search](#_h33g52oa4zgm)

[Converse in specific topics with discussion](#_n0ai996ahk5r)

[Express creatively in blog](#_dymwrjz1032v)

[Engage regularly with chat](#_no8q50891y29)

[Breezely, Project Breathe](#_6ibtdr7dujt9)

[Role](#_6p172daftja4)

[Duration](#_1h115ob41r7f)

[Client](#_3dgzd6clc16f)

[Teammates](#_aef9nj6903ao)

[Keywords](#_up7nslkruh38)

[Project Overview](#_w37r34878s1r)

[Breezely](#_f2sff52aya7x)

[Problem Definition](#_e9rfv7meb7sy)

[Design Process](#_uk59qcebe873)

[Project Reflection](#_gwnycr5142cv)

[Pittsburgh Symphony Orchestra](#_rud05q4tpgtg)

[Project Overview](#_ljw0r5jscoia)

[Market Problem](#_ez7em3jw04vm)

[Audience](#_k07nf4547xh0)

[Our Team](#_udhm2t334az)

[Research Process](#_87gf9yzjte9)

[Our Solution](#_yzaohcgjhnm9)

[Project Reflection](#_p3pxn09t20se)

[uReveal](#_cclwjkglqf2a)

[MoJo](#_53rqgs02fqp)

[Duration](#_yqhm4zm9ojvm)

[Teammates](#_l72qnztyymdw)

[Project Background](#_u5qaltgvxyau)

[Project Motivation](#_royrmgq61pj7)

[Research Plan](#_7ujytypip6ht)

[Research Findings](#_n1x0l164rc2j)

[Current CUI Landscape](#_vjh9hwo9ijkk)

[Customer Values](#_my1sv76ljxz7)

[Restaurant Values](#_xeyti9ixdvo9)

[Design Consideration](#_72gs8boz6ywb)

[Narrowing the Design Scope](#_31yyfogmqdoo)

[Scenario Generation and Analysis](#_9p9dz41vy4pu)

[Visioning Sessions](#_pl55vpxpb59f)

[Creating a Persona](#_u15xrx4i1lbi)

[Experience Prototyping](#_msr8kpdgdar5)

[Developing Use Cases](#_2qud2z58nils)

[Designing the Physical Form](#_qml9uepigo2z)

[CUI Design Rationale](#_wy6r0nvv3y86)

[Final Design](#_8vivp2s0gzth)

[Customer Description and Goals](#_mp47k8xo11wa)

[CUI Description](#_cyyg94ascybt)

[Conversation Mapping](#_8pnazoy7bxsn)

[MoJo Physical Prototype](#_iyrs03ctcaf7)

[Personal Website](#_e4lvlpj07eeh)

[Duration](#_hj4w3vweknem)

[Project Description](#_yupo4pbrkwei)

[Process](#_e6t9na1zk5lu)

[Music of the Age](#_dvywub6j1bx9)

[Duration](#_s21ueayelbr5)

[Project Description](#_o447kb42pvz4)

# 

# 

# 

# About

Aside from your goal statement, share a bit about yourself. Put your passion for design into words. Talk about your background, and how you’ve ended up where you are today. Talk about your hobbies. Talk about your dreams. Talk about your loves and hates. Share the things that make you uniquely you. It doesn’t have to be lengthy either: a quick 2–3 sentences is plenty to get a conversation started.

Hello, I am Michelle Tai. I'm a user experience designer keen on making interactions frictionless.

Hello, my name is Michelle Tai. I'm a user experience designer keen on making interactions frictionless. My background is in Human-Computer Interaction with a double major in Business Administration (marketing) at Carnegie Mellon University in Pittsburgh, Pennsylvania.

When I'm not designing, I'm drawing, playing with my <a href="https://www.instagram.com/michellextai/" alt="michelle tai's instagram" target="\_blank">camera</a>, and trying new <a href="https://michellextai.yelp.com" alt="yelp elite michelle tai" target="\_blank">food places</a>. Feel free to view my <a href="https://drive.google.com/open?id=0B9NFTJPjp\_gxd3hMRERMeThWcE0" target="\_blank" alt="michelle tai's resume">resume</a>.

---

Hello, my name is Michelle Tai. I'm a 4th year business (marketing) and Human Computer Interaction double major at Carnegie Mellon University, passionate about empowering others through seamless interfaces and experiences. I'm currently working with American Cancer Society's Cancer Survivors Network to redesign the user experience on their site. When I'm not designing, I'm drawing, playing with my camera, and trying new food places. Feel free to view my resume. Think we can create something together? Drop me a line at: [michellextai@gmail.com](mailto:michellextai@gmail.com)

---

I’m currently a fourth-year undergraduate marketing and Human Computer Interaction double major at Carnegie Mellon University. During my time at CMU, I have been honored to have been mentored by those in the fields of marketing and design, including Professor Michael Smith in Digital Marketing and Professor Steven Dow / Post Doctoral candidate Joel Chan in social computing research.

I fight for the user, striving to inspire empowerment through the creation of seamless interactions and experiences. Most recently, I am redesigning the user interface and experience for American Cancer Society’s Cancer Survivors Network site with a team of five.

When I am not designing, I’m drawing and playing with my camera. My stray thoughts turn to food–particularly new restaurants to inspire my next home-cooked meal and different recipes to try with my weekly groceries.

# 

# 

# Contact

Think we can create something together? Drop me a line.

Email: [michellextai@gmail.com](mailto:michellextai@gmail.com) (link to [michellextai+uiux@gmail.com](mailto:michellextai+uiux@gmail.com))

LinkedIn: <https://www.linkedin.com/in/michellextai/>

Instagram: <https://www.instagram.com/michellextai/>

# 

# 

# Work

Seven steps to a case study

1. **Overview**: what’s the elevator pitch?
   1. As a \_\_\_\_ (who), I want \_\_\_\_ (what), so that \_\_\_\_ (why)
   2. As an [eager college bound student], I want [to understand which loan is best for me], so that [I know how much debt I am signing up for once I graduate.]
   3. “Helping students make smarter financial decisions about college so they don’t take on more debt than they can handle.”
2. **Problem Definition**: what problems were you working through? How did you define success?
   1. Think of this section as setting the scene for your project. Give your readers background about the inception of the project:
      1. What was the initial problem?
      2. Who identified the initial problem?
      3. How did the problem shift as you worked through the project?
   2. You should have defined goals or objectives for the work you did. It could have been as simple as:
      1. “Get more people to this live show” (for setting up a local band’s Tumblr)
      2. “Improve our conversion” (for a small business that wants a marketing brochure site)
   3. Or for more sophisticated projects, you should start talking about your assumptions, hypothesis, and success criteria:
      1. To test behavioral economic consequences of offering a paid delivery option next to the free pickup option, hypothesizing that just by offering a paid option, the free pickup option conversion will increase.
3. **Audience**: who were the target users for the project? Why them? How did you decide they were the users? Any personas created?
   1. Put a face on the project: single mothers that don’t have time to shop for food, recent graduates who don’t understand their student loans, or tourists that have trouble finding a good cup of coffee.
   2. If you developed personas, talk about them. Bringing your users to life this way connects your readers with the people you were trying to help. You should try to identify things like:
      1. Why these people?
      2. What problems did you think you were solving for them?
      3. Is this a small niche of people, or half the world?
      4. How does the tech you work with influence their lives?
      5. Tell a “day in the life of” short story: what routines or behaviors does your audience have that you hoped to change?
4. **Team / Role**: who worked with you on the project? What was your team structure?
   1. It’s important to identify who you worked on the project with. Was there a product manager, a front-end developer, a backend developer, stakeholders, or other designers you worked with?
   2. Team dynamics are important to highlight. It speaks to your ability to bring others into your design process. Even if you were the sole designer (and developer and writer and manager and trash taker-outer, etc.), talk about the client you were working with, or the individuals that helped you review your work.
   3. You’ll find that when describing projects in larger companies, you can get incredibly specific about roles, so you’ll find yourself talking about minute details.
   4. In projects with smaller companies, you’re usually wearing 10 different hats, so you’ll find yourself speaking more generally of the entire process.
   5. Use these questions as a guide to get your brain (and writing) started:
      1. Did you do the research, talking with customers, learning their frustrations, gathering what you learned, and distilling them into actionable recommendations? Or was that someone else?
      2. Did you sketch up wireframes and flows, thinking about which interface design patterns are appropriate?
      3. Did you prototype and test the ideas before committing to full-on development?
      4. Did you do the visual design, intentionally choosing typography, colors, and photography to project a certain feeling or build a specific brand?
      5. Did you orchestrate all of the above, thinking of priorities and constraints, making sure all teammates and stakeholders were all on the same page, managing expectations as the project moved forward?
   6. If you weren’t the one responsible for these things, identify the teammates that took on those responsibilities.
5. **Constraints**: did you have any constraints? Time, access to users, undefined problem, not enough people, too large of a scope, etc.
   1. When writing your case studies, talking about constraints helps your reader understand the pressures you had to work through. Design doesn’t exist without constraints. They’re part of the problem definition.
   2. As you work through a project, you’ll uncover more and more constraints. You’ll also find that things you thought were constraints at the start don’t really matter as you move forward. You’ll want to talk about how constraints evolved throughout the process.
   3. We’ve seen all sorts of constraints, and there’s plenty of ways to slice them up, but we like thinking about two common types when working with software: business and technical.
      1. Business constraints are things like timeframe to meet a promised deadline (last week?), budget or resources allocated for the project, and the size of the team (uh, did you even have a team?) dedicated to the project. Every company has plenty of these.
      2. Technical constraints are things like having to use pre-existing codebase/ style guides, being confined to a specific device like iPhone application, or even “we have to support IE7”. When designing for an interactive medium, the technical constraints play a hefty role in how we approach the design.
6. **Design Process**: What was your design process? Did you facilitate any design exercises? What deliverables were you responsible for? Speak to messiness.
   1. Start with an outline of your project (whether it’s an entire project, or just a small piece of a much larger endeavor.) Projects come in all shapes and sizes, from a 1-week sprint to a 3-year product, so the following questions aren’t one-size-fit-all. Instead, use these questions as a guide to get you started:
      1. What were the problems you were hoping to solve? How did you learn about the problems? Were they hunches, or already validated through testing?
      2. Who did you speak to about the problems? Who did they impact? Did you define use-cases? Did you find patterns of users (e.g. personas) after talking to them? Were you not able to talk to any users?
      3. For your initial solution exploration, what did you come up with? Did you define success goals with your potential solution? How’d you decide to explore these paths?
      4. What did you sketch? How did you sketch? Mockups? Did you need to devise any sort of patterns, e.g. style guide, UI pattens, or brand guidelines? Show examples.
      5. What did you test? How did you test it? Any prototyping? More interviews with users?
      6. What did you learn from the tests? What surprised you about the results?
      7. How did the problem change as you learned more? How did you adapt (iterate, refine, pivot) the solution as you learned? Which of your most precious ideas did you kill off in the process?
      8. How did you decide you were finished? Was it a clear marker, or did you have to make a tough call?
      9. What was the final result? How did it get made? How did you measure its efficacy? Did you measure success?
      10. How did you feel at different parts of the project? When were you most excited? When were you most frustrated?
      11. Lastly (and one of the most important)… what did you learn throughout the process?
   2. If you try to answer these questions in order, with just one or two sentences per question, you’ll find that you have a nice outline of the process from start to finish, and it might have taken you about 10 minutes.
   3. You’ll find that your design process story will incorporate the other parts of your case study. You’ll talk about the problem statement, the users/audience, the team, your role, constraints, and lessons learned. That’s good. Although we highlight these pieces separately in the case studies, don’t worry about repeating these things when sharing your story.
7. **Retrospective**: lessons learned — did you reach success metrics? Work through the right problem? What would you do better if you could do it again?
   1. Here are a few questions to get you started:
      1. What could you have done better if you had the chance to re-do the project?
      2. Should you have spent more time identifying and refining the problems?
      3. Should you have spent more time talking to users?
      4. Should you have spent more time exploring concepts?
      5. Did you stumble in setting expectations or communicating with your team?
      6. Throughout a successful project, you’re going to have to prioritize. This means saying “no” many more times than you say “yes”. Recall those decisions, and pinpoint where you would have gone next if you had more time or resources.
      7. Not all projects are successful; this is ok. The team can fall apart, the project can fail to get traction, the client can run out of time or cash, you may solve the wrong problems or spend too much time going down the wrong path, etc. Talk about one of these problems.

# 

# 

# 

# 

# Cancer Survivors Network

## Role

UX/UI Designer, researcher

## Duration

3 months

## Client

American Cancer Society

## Teammates

Jason Chen (jason-chen.net)

Anne-Sophie Kim

Daya Lee (<https://www.dayalee.com/>)

Elise Qian

## Keywords

Responsive site design

User interface design

Prototyping

Usability studies

HCI research methods

Documentation

## Cancer Survivors Network

The American Cancer Society’s (ACS) Cancer Survivors Network is a dynamic, online community for its users to interact and share their experiences with cancer. The website was launched in July 2000, but has not been changed since and is now outdated. I worked with Jason Chen, Anne-Sophie Kim, Daya Lee, and Elise Qian to help American Cancer Society increase Cancer Survivors Network’s functionality and usability in preparation for CSN’s refresh in 2018.

## Project Overview

Cancer Survivors Network users tend to be older in generation and have been touched by cancer. Since the inception of the site, mobile users have grown to nearly 50 percent. The mobile-first redesign of the Cancer Survivors Network platform gives cancer patients, caregivers, and loved ones the power to personalize their network to share sentiments and stories with those with similar interests and experiences.

## Ease of entry from home

The home page relays to new users and remind old users what CSN is about, what features are offered and most widely used, and highlights respected users.

## Explore more with search

Oftentimes, Cancer Survivors Network users are first introduced to the site through a search query. Search tips help guide new users to further their cancer search process, whether for emotional support or informational resources, directly in the Cancer Survivors Network platform. At the same time, it simplify the search tools so users are able to complete their search at a quicker pace.

## Converse in specific topics with discussion

The discussion page starts with a question of the week, followed by recommended posts and discussion topics. Question of the week encourages user engagement and contribution to the network. The recommendations section helps users find more relatable posts to help users explore subjects and topics that may not have been read previously. Discussion categorized by topics keeps content directly relevant to the user.

## Express creatively in blog

Users can follow a particular person’s entire journey with cancer, whether it is someone who shares the same cancer type, or a person the user cares about. Sharing pieces give users a chance to display they share similar sentiments, and give the user the chance to add on the piece.

## Engage regularly with chat

Each chat room holds a description of what can be expected to help users decide which chat rooms to join. The open rooms gives users the choice to make or join chat rooms depending on their interests or conditions. This helps users who may have rare conditions or diseases to come together to create a space to talk and chat.

<https://github.com/jlmakes/scrollreveal>

<https://tympanus.net/codrops/2016/09/29/transition-effect-with-css-masks/>

<https://tympanus.net/codrops/2015/09/15/styling-customizing-file-inputs-smart-way/>

identify requirements / research - > use cases - > task flows - > wireframing / lo-fi prototype - > feedback from users - > usability studies ;; i was interested in directing the behavior of the customer, understanding where they looked on the screen and why, how to get them to click on this and that button

Collaborating with Wyatt Gallagher, we were commissioned by the local Pittsburgh alternative-jazz band Eastend Mile to create a personal, lively, yet professional brand identity and website for their sophomore album release. In creating their brand, I wanted to capture the juxtaposition of their personalities and styles, all of which serve to create their hybrid genre of sound.

As a designer at CMU's newly opened Office of Title IX Initiatives, I was tasked with the branding and creation of materials that would promote its presence on campus, helping members of the CMU community to make sense of the complex processes surrounding reports of sexual misconduct and harrassment.

Collaborating with Nancy Duan and Helen Li, we decided to explore the challenge of helping low health-literate adults better communicate with their health care providers. Using participatory design and research techniques, we created a low-tech workshop toolkit to help the students of the GPLC foster confidence in themselves and camaraderie with one another as they navigate the complex world of the health care industry.

# Breezely, Project Breathe

Managing asthma through stories

## Role

Designer, researcher

## Duration

2 months

## Client

Philips

## Teammates

Lauren Miller (lomiller.com)

Chengcheng Zhao (chengchengzhao.com)

Nurie Jeong

## Keywords

Service design

Service experience

App design

Interaction design

UI elements

Service blueprint

Customer journey map

Documentation

## Project Overview

Collaborating with Lauren Miller, Chengcheng Zhao, and Nurie Jeong, we were tasked by Philips to create a service surrounding the transition of children (4-10 years) from parental management to self-management in their asthma care. Breezely is a service that helps doctors, parents, and young asthma patients better communicate and exchange information during an asthma diagnosis and initial trial treatment period in order to improve a physician’s diagnostic confidence and make the experience more engaging and educational for patients and parents.

## Breezely

Breezely first **introduces** asthma diagnosis to kids and families in the doctor’s office using a storybook. The story includes educational elements, such as how to properly take an inhaler, which is useful for parents and children alike.

It uses the character from that story to help **track** symptoms and medication compliance in a nightly interactive journal app.

This is complimented by a Breathing Buddy, an app that **supports** kids during an asthma attack through a visualization of a the bear taking calming breathes and using his inhaler.

The data collected through the nightly journal and Breathing buddy is then aggregated and visualized within the app to help **inform** physicians treatment plans, whether they are in a primary care setting, the ER, or a specialist's office.

## Problem Definition

Every 1 in 10 children in the United States has asthma, yet the diagnosis and treatment process presents difficulty across the board. Philips challenged us to create a service surrounding the transition of children (4–10 years) from parental management to self-management in their asthma care.

Our team scoped down the project to bridge the communication gap between doctors, parents, and children of 4-6 year olds with asthma. Communication between doctors and patients under 5 years of age is difficult because doctors have to use a secondary method of communication where parents relay information of their child to doctors and doctors have to go through parents to reach a child.

## Design Process

We started our process by brainstorming widely on all of the possible opportunities we could image within the asthma space. Our secondary research led us fairly early on to explore the asthma diagnosis and management plan development process. On this hunch, we mapped out a customer journey map through the diagnosis process and created a related value flow diagram between stakeholders. These exercises highlighted that there were some really interesting information exchanges taking place during the diagnosis process, with doctors, parents and children at the core, and so we decided to dig in further.

We then reached out to physicians to better understand the diagnosis process, what challenges they experienced, and the types of information they were most interested in. We got access to 3 different perspectives: a primary care doctor, a specialist pulmonologist, and an ER doctor. From these conversations we learned:

* How hard it was for physicians to get an accurate report of symptoms over time. This made it hard to establish the real level of severity of a case and created an effective management plan.
* Asthma can be managed, but all of the doctors reported that non-compliance with medication regimens was their biggest challenge in managing asthma.
* Even when patients do take their meds, it is impossible to know if they are doing it properly. Inhalers can be tricky to take, and if you don’t take it properly, the medicine will not do any good. This all makes it hard for a doctor to know if an asthma case just not being managed properly, or if it is truly out of control within the current management plan.
* There is virtually no communication between doctors. If you have a chance visit to the ER, those doctors most likely do not have access to any of your patient history. So each time they have to start from square one.

We also spoke with parents of 4-6 year olds to better understand what a day in the life of these kids is like. Not surprisingly, we heard that life is pretty hectic and kids are unpredictable. One day a child may love taking their nebulizer and the next they throw a tantrum. However, 4-6 years can understand more than you think. Explaining to them what to expect from a new situation or the sequence of upcoming events can help quell anxiety in situations like the doctor’s office or taking a bath. Additionally, kids are really excited about tracking their progress over time, whether it is a homework chart about practicing the piano or a board at school that color codes their behavior in green, yellow, or red throughout the day.

With this information, we began exploring concepts. We mapped out scenarios and brainstormed contexts in which our service could exist. We were fairly set using a storybook as part of the service, but spent a lot of time exploring when the story should be introduced and used. How could the story be interactive and collect data over time? We thought about things like an asthma box, with an asthma report card, that children could take to school. We eventually settled on using a nightly journal, tied to the asthma storybook, to collect information about symptoms.

However, we had questions about how well 4-6 year olds would be about accurately reporting information from their day. What is their sense of time like? How wild is that imagination? We could not get access to kids with asthma, but realized that tooth brushing could be analogous to taking daily medications and used to check recall of events. So, we designed a sticker and coloring activity to ask kids about their day and brushing their teeth as a service experiment, which we conducted on a sunny afternoon on the playground at Frick Park, Pittsburgh.

We were pleasantly surprised by how excited kids were to complete this activity. We learned some interesting things about kids:

* They really love telling you about their day.
* Their sense of time can be really warped, but, when prompted, they can effectively recall a sequence of activity.
* Lastly, the activity was most effective when done in collaboration with a parent.

Given this feedback, we went back to the drawing board to refine our approach. We decided educating, tracking, and calming were the actions we wanted our service to achieve, and the storybook and app rose up as the most natural touch points to develop. From there, we made paper prototypes of our touch points and then body stormed with each other the possible interactions with those touch points, ultimately arriving with the service, Breezely.

## Project Reflection

Through this project, one of the biggest challenges I faced was shifting mindsets from thinking about product ecosystems to service concepts. With so many directions we could have taken, it was difficult to further scope down the project and follow through a direction quickly. Constant conversations to align our focus on priority communication problems among doctors, parents, and patients proved to help us balance the needs and constraints of numerous stakeholders.

While intimidating at first, it was fun to work with kids. They are open to share experiences and present a completely different perspective. We discovered the value and the incredible insights “backdoor” research methods may offer. To compensate for not having access to parents of children with asthma, we read reviews left by parents on asthma storybooks on Amazon. Finally, I find that the healthcare space has many opportunities for improvement and is a perfect context for service design.

1. **Retrospective**: lessons learned — did you reach success metrics? Work through the right problem? What would you do better if you could do it again?
   1. Here are a few questions to get you started:
      1. What could you have done better if you had the chance to re-do the project?
      2. Should you have spent more time identifying and refining the problems?
      3. Should you have spent more time talking to users?
      4. Should you have spent more time exploring concepts?
      5. Did you stumble in setting expectations or communicating with your team?
      6. Throughout a successful project, you’re going to have to prioritize. This means saying “no” many more times than you say “yes”. Recall those decisions, and pinpoint where you would have gone next if you had more time or resources.

Not all projects are successful; this is ok. The team can fall apart, the project can fail to get traction, the client can run out of time or cash, you may solve the wrong problems or spend too much time going down the wrong path, etc. Talk about one of these problems.

# Pittsburgh Symphony Orchestra

## Project Overview

**Overview**: what’s the elevator pitch?

Working with Wendy Chou and Benjamin Winebrake, we collaborated with Pittsburgh Symphony Orchestra to explore the challenge of attracting new audience members and retaining existing patrons for traditional orchestras. Using market research techniques, we strategized a marketing plan aimed towards millennials to increase Pittsburgh Symphony Orchestra concert-goers and revenue.

## Market Problem

**Problem Definition**: what problems were you working through? How did you define success?

As classical music becomes more and more niche to younger generations, Pittsburgh Symphony Orchestra found a growing difficulty attracting new audience members and retaining existing users. The challenge was evident in Pittsburgh Symphony Orchestra’s 2014-2015 season, where its difficulty to fill 2,662 seats met with a drop in overall ticket revenues of 4 percent. Sales for the flagship subscription series Mellon Grand Classics dropped 11 percent, and Pops concert series dropped 6 percent. I saw the potential to increase Pittsburgh Symphony Orchestra concert-goers and revenue through design and market research, so I created a team of three to approach Pittsburgh Symphony Orchestra with our project plan.

## Audience

**Audience**: who were the target users for the project? Why them? How did you decide they were the users? Any personas created?

Since PSO’s current subscription model has a number of selections (Pops and Fuse) that are designed to compel younger generation, we identified two major target users for the project: millennials who enjoy classical concerts but do not have friends who have the same shared interests and students who are not particularly keen on going to classical music concerts but are willing to try something new.

Melissa is a 20 year old student studying biology at Carnegie Mellon University. Her hobbies include playing the violin and cooking. She used to frequent her local orchestra before she went to college, but has not had the chance to listen to a live orchestra since. She is a busy person who would love to make time to listen to an orchestra play, but planning with a friend to go with her last minute proves difficult because she does not know how much time to allocate for the concert specifically. Additionally, the transportation to and from downtown is long and infrequent.

Brandon is a 19 year old student studying computer science at Carnegie Mellon University. He does not have a particular interest in classical music, but enjoys movie and game scores. While he is willing to go out with friends and explore new things with them, he does not want to spend a lot of money going out.

These are the groups who are in their late teens to 20s, are in university for at least four years, have the purchasing power to decide where the budget for entertainment goes, and have a potential of introducing a large number of new patrons to Pittsburgh Symphony Orchestra. We wish to improve participation of these two major groups as they are the ever-changing group that may generate more publicity beyond four years of their time in university. At the same time, we wish to address the pain points this group faces of interests, price, time, and transportation.

## Our Team

**Team / Role**: who worked with you on the project? What was your team structure?

I was fortunate to work in a team with varying backgrounds. I come to the team with traditional classic music training. Wendy prefers music that are trending, and Ben mostly listens to music while he trains as an athlete. The diverse take on music allowed us to carry the project with an open lens as we completed our competitive analysis, created the online survey, and brainstormed solution paths.

Client

Pittsburgh Symphony Orchestra

* 1. It’s important to identify who you worked on the project with. Was there a product manager, a front-end developer, a backend developer, stakeholders, or other designers you worked with?
  2. Team dynamics are important to highlight. It speaks to your ability to bring others into your design process. Even if you were the sole designer (and developer and writer and manager and trash taker-outer, etc.), talk about the client you were working with, or the individuals that helped you review your work.
  3. You’ll find that when describing projects in larger companies, you can get incredibly specific about roles, so you’ll find yourself talking about minute details.
  4. In projects with smaller companies, you’re usually wearing 10 different hats, so you’ll find yourself speaking more generally of the entire process.
  5. Use these questions as a guide to get your brain (and writing) started:
     1. Did you do the research, talking with customers, learning their frustrations, gathering what you learned, and distilling them into actionable recommendations? Or was that someone else?
     2. Did you sketch up wireframes and flows, thinking about which interface design patterns are appropriate?
     3. Did you prototype and test the ideas before committing to full-on development?
     4. Did you do the visual design, intentionally choosing typography, colors, and photography to project a certain feeling or build a specific brand?
     5. Did you orchestrate all of the above, thinking of priorities and constraints, making sure all teammates and stakeholders were all on the same page, managing expectations as the project moved forward?
  6. If you weren’t the one responsible for these things, identify the teammates that took on those responsibilities.

**Constraints**: did you have any constraints? Time, access to users, undefined problem, not enough people, too large of a scope, etc.

* 1. When writing your case studies, talking about constraints helps your reader understand the pressures you had to work through. Design doesn’t exist without constraints. They’re part of the problem definition.
  2. As you work through a project, you’ll uncover more and more constraints. You’ll also find that things you thought were constraints at the start don’t really matter as you move forward. You’ll want to talk about how constraints evolved throughout the process.
  3. We’ve seen all sorts of constraints, and there’s plenty of ways to slice them up, but we like thinking about two common types when working with software: business and technical.
     1. Business constraints are things like timeframe to meet a promised deadline (last week?), budget or resources allocated for the project, and the size of the team (uh, did you even have a team?) dedicated to the project. Every company has plenty of these.
     2. Technical constraints are things like having to use pre-existing codebase/ style guides, being confined to a specific device like iPhone application, or even “we have to support IE7”. When designing for an interactive medium, the technical constraints play a hefty role in how we approach the design.

## Research Process

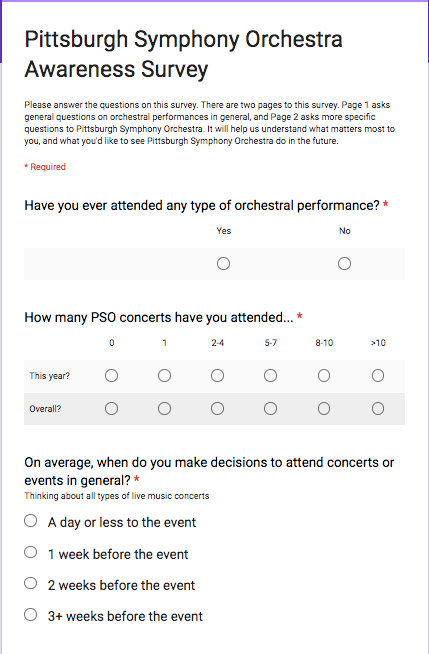
**Design Process**: What was your design process? Did you facilitate any design exercises? What deliverables were you responsible for? Speak to messiness.

We started this project wanting to understand the landscape Pittsburgh Symphony Orchestra competed in. As a broad understanding that Pittsburgh Symphony Orchestra is in the entertainment business, we noted all those PSO had to compete with for the attention of millennials. Primary competitors included those directly entertaining with the arts, such as Pittsburgh Cultural Trust and movie theaters. Secondary competitors included other forms of entertainment, such as sports games.

From the secondary research, we jotted down gaps in our knowledge that we wanted to address and clarify in our initial client meeting. Two major insights evolved:

1. While Pittsburgh Symphony Orchestra shares the entertainment stage with multiple drivers, PSO brands itself as providing high artistic excellence and quality to the community.
2. Pittsburgh Symphony Orchestra’s marketing strategy is driven by targeted marketing through mail. This conscious decision is because its major audience, the Grand Classics series, is geared towards older demographic.

For our next step, we used our problem scope and specific insights to define our survey and interview experience. We asked questions to measure if the user’s understanding of Pittsburgh Symphony Orchestra matched with the one which PSO branded itself. We also asked questions to understand the process a user goes through to plan for different entertainment events. Each team member found two user participants to interview with. Using Google Forms, we created an online survey to collect 49 distinct results over the course of one night.



## Our Solution

Analyzing all the qualitative and quantitative data we collected together, we drew specific marketing recommendations for our client to address three major problem components. In conjunction to the explanation of our solution, our original presentation is attached below.

1. To retain existing and attract new millennial subscribers, Pittsburgh Symphony Orchestra should make the program times transparent so that groups may create concrete plans. Additionally, Pops and FUSE concerts, which are most popular with millennials, should be promoted at least 3+ weeks prior to event through social media. Three weeks was the average time when people plan and take action to attend upcoming concerts.
2. To attract younger audience through different channels, PSO should enhance its social media presence using their pamphlet promotional images. To unite and convey the branding as delivering high quality to its younger community, Pittsburgh Symphony Orchestra should opt to share the beautiful print promotional images on pamphlet online rather than use lackluster phone photos taken live.
3. To build a tighter community, PSO should listen to its constituents. The younger generation is most concerned with music interests, so developing the Fuse concerts in addition to the Pops concert is a method to combine the classics and the modern pop. Many times, people plan to eat before the concert but find themselves having to rush dinner plans because of an awkward start time to the concert, so creating a package that includes pre-concert dinner will answer groups’ questions “What should we do for dinner?”. Personal contact with the musicians will also incentivize millennials to listen to PSO concerts, so we recommend PSO to create partnership events, such as meet-and-greet events with a musician or battle of the musicians, with CMU. PSO may take advantage beyond exposure and to sell tickets at these events.

## Project Reflection

**Retrospective**: lessons learned — did you reach success metrics? Work through the right problem? What would you do better if you could do it again?

While the time constraint made it so I was unable to personally implement the recommendations for Pittsburgh Symphony Orchestra to ideation, as of the 2016-2017 concert season, I was pleased to see that Pittsburgh Symphony Orchestra has since used parts of our recommendations.

I am thankful that this opportunity taught me the importance of verifying information with the firsthand user. Because messages may be lost in translation part way, miscommunication triggers become an opportunity for me to provide a marketing or design solution. Moving forward to future projects, I will learn to interact with each stakeholder to verify beliefs and understanding.

# 

# uReveal

**Overview**: what’s the elevator pitch?

Helping police force share information source in real time so correspondence between internal and external units are efficient and complete.

**Problem Definition**: what problems were you working through? How did you define success?

Our client approached us with the primary objective of enhancing the application’s usability to a potential market, the police task force. One major problem the police force faces is not being able to share information in real-time as it is gathered. Though information sources in the police force are usually more than willing to share data, they have difficulty doing so.

We found that communication between the police force and external units is often delayed because it is difficult to reach the individual(s) needed to move the case forward. Similarly, communication between investigators of different departments is slowed because the process for document gathering and transferring is inherently complicated. We found the time taken for processing tasks and facilitating communication between the many actors involved in a single case to be exceedingly inefficient. When multiple offices are updating details in the same case, detectives are often looking at an incomplete case file or swamped with correspondence between different offices. Because detectives often juggle multiple cases at once, this inefficiency is magnified across each stakeholder in the crime-solving process.

We scoped the problem to the transfer of information from interviewing with policemen and aimed to streamline the investigative process to enable the police force to solve cases in a more efficient manner.

**Team / Role**: who worked with you on the project? What was your team structure?

Working in a team of 6 designers, we

* It’s important to identify who you worked on the project with. Was there a product manager, a front-end developer, a backend developer, stakeholders, or other designers you worked with?
* Team dynamics are important to highlight. It speaks to your ability to bring others into your design process. Even if you were the sole designer (and developer and writer and manager and trash taker-outer, etc.), talk about the client you were working with, or the individuals that helped you review your work.
* You’ll find that when describing projects in larger companies, you can get incredibly specific about roles, so you’ll find yourself talking about minute details.
* In projects with smaller companies, you’re usually wearing 10 different hats, so you’ll find yourself speaking more generally of the entire process.
* Use these questions as a guide to get your brain (and writing) started:
  + Did you do the research, talking with customers, learning their frustrations, gathering what you learned, and distilling them into actionable recommendations? Or was that someone else?
  + Did you sketch up wireframes and flows, thinking about which interface design patterns are appropriate?
  + Did you prototype and test the ideas before committing to full-on development?
  + Did you do the visual design, intentionally choosing typography, colors, and photography to project a certain feeling or build a specific brand?
  + Did you orchestrate all of the above, thinking of priorities and constraints, making sure all teammates and stakeholders were all on the same page, managing expectations as the project moved forward?
* If you weren’t the one responsible for these things, identify the teammates that took on those responsibilities.

**Constraints**: did you have any constraints? Time, access to users, undefined problem, not enough people, too large of a scope, etc.

* When writing your case studies, talking about constraints helps your reader understand the pressures you had to work through. Design doesn’t exist without constraints. They’re part of the problem definition.
* As you work through a project, you’ll uncover more and more constraints. You’ll also find that things you thought were constraints at the start don’t really matter as you move forward. You’ll want to talk about how constraints evolved throughout the process.
* We’ve seen all sorts of constraints, and there’s plenty of ways to slice them up, but we like thinking about two common types when working with software: business and technical.
  + Business constraints are things like timeframe to meet a promised deadline (last week?), budget or resources allocated for the project, and the size of the team (uh, did you even have a team?) dedicated to the project. Every company has plenty of these.
  + Technical constraints are things like having to use pre-existing codebase/ style guides, being confined to a specific device like iPhone application, or even “we have to support IE7”. When designing for an interactive medium, the technical constraints play a hefty role in how we approach the design.

**Design Process**: What was your design process? Did you facilitate any design exercises? What deliverables were you responsible for? Speak to messiness.

* Start with an outline of your project (whether it’s an entire project, or just a small piece of a much larger endeavor.) Projects come in all shapes and sizes, from a 1-week sprint to a 3-year product, so the following questions aren’t one-size-fit-all. Instead, use these questions as a guide to get you started:
  + What were the problems you were hoping to solve? How did you learn about the problems? Were they hunches, or already validated through testing?
  + Who did you speak to about the problems? Who did they impact? Did you define use-cases? Did you find patterns of users (e.g. personas) after talking to them? Were you not able to talk to any users?
  + For your initial solution exploration, what did you come up with? Did you define success goals with your potential solution? How’d you decide to explore these paths?
  + What did you sketch? How did you sketch? Mockups? Did you need to devise any sort of patterns, e.g. style guide, UI pattens, or brand guidelines? Show examples.
  + What did you test? How did you test it? Any prototyping? More interviews with users?
  + What did you learn from the tests? What surprised you about the results?
  + How did the problem change as you learned more? How did you adapt (iterate, refine, pivot) the solution as you learned? Which of your most precious ideas did you kill off in the process?
  + How did you decide you were finished? Was it a clear marker, or did you have to make a tough call?
  + What was the final result? How did it get made? How did you measure its efficacy? Did you measure success?
  + How did you feel at different parts of the project? When were you most excited? When were you most frustrated?
  + Lastly (and one of the most important)… what did you learn throughout the process?
* If you try to answer these questions in order, with just one or two sentences per question, you’ll find that you have a nice outline of the process from start to finish, and it might have taken you about 10 minutes.
* You’ll find that your design process story will incorporate the other parts of your case study. You’ll talk about the problem statement, the users/audience, the team, your role, constraints, and lessons learned. That’s good. Although we highlight these pieces separately in the case studies, don’t worry about repeating these things when sharing your story.

**Retrospective**: lessons learned — did you reach success metrics? Work through the right problem? What would you do better if you could do it again?

* Here are a few questions to get you started:
  + What could you have done better if you had the chance to re-do the project?
  + Should you have spent more time identifying and refining the problems?
  + Should you have spent more time talking to users?
  + Should you have spent more time exploring concepts?
  + Did you stumble in setting expectations or communicating with your team?
  + Throughout a successful project, you’re going to have to prioritize. This means saying “no” many more times than you say “yes”. Recall those decisions, and pinpoint where you would have gone next if you had more time or resources.
  + Not all projects are successful; this is ok. The team can fall apart, the project can fail to get traction, the client can run out of time or cash, you may solve the wrong problems or spend too much time going down the wrong path, etc. Talk about one of these problems.

# 

# 

# MoJo

conversational user interface, visioning, storyboarding, experience prototyping

## Duration

2 weeks

## Teammates

Peggy Chau

Neeraj Talukdar

## Project Background

MoJo is a conversational user interface that acts as a personal dietary coach to help busy young professionals pre-plan their daily meal options. MoJo is meant to help individuals maintain their health goals while lessening their cognitive load regarding food options.

## Project Motivation

We chose the domain of meal planning on three prongs. CUIs have not been widely explored in this domain, so any research will be reasonably novel and innovative. From informal observation, we realized a wide audience can be addressed. Finally, there are many indirect competitors (e.g., Grubhub, Eat24) in this field that would be interesting to examine.

## Research Plan

To inform our meal ordering CUI design, we wanted to gain an understanding of the following: customer behavior and preferences, various forms of meal ordering (e.g., delivery vs. takeout), current options for meal ordering, and CUI design considerations. We took three days in our research phase, consolidating our individual research insights on day three.

## Research Findings

Our research insights broadly covered the following areas: current CUI landscape, customer values, restaurant values, and CUI design recommendations.

### Current CUI Landscape

The two primary selling points of existing food delivery CUIs (e.g., Zingle, Domino’s, Assist) were the elimination of app fatigue and the accessibility factor (“everyone texts”), providing customers with greater convenience, and in turn, restaurants with more customers. Conversely, the lack of a GUI means that fewer options are shown, limiting restaurant and menu item discovery. This results in fewer customization options for customers, fewer items ordered by customers, and less profit for restaurants.

### Customer Values

Currently, customers can choose from third party routing services (e.g., Grubhub), third party delivery services (e.g., Postmates, UberEats), and meal prep services (e.g., Blue Apron). Increasingly, customers are valuing convenience over price so that they are paying for delivery. However, their choice of service results in tradeoffs in other value areas: price, convenience, time, quality, variety, preparation, and impersonality. Impersonality was an interesting factor in which customers order more using online services as opposed to in-person or over the phone because of the reduced perceived social judgment present.

### Restaurant Values

From a restaurant’s perspective, selection of services to host them is methodological. Restaurants tend to choose services based on restaurant and menu discovery, customizability of the website, setup and monthly fees, social media integration, advertisement, and ultimately which service is most popular with customers.

### Design Consideration

Primary CUI challenges included: feature discovery, providing useful feedback, appropriate level of emotion and using natural language programming algorithms to allow the user to speak naturally. Design recommendations were the following:

* To take into account accent variability, volume, pace, tone and timbre in designing voice interfaces,
* Validating input to prevent errors,
* Paying attention to differences between written and spoken languages,
* Allowing flexibility in moving forwards and backwards in the CUI, and
* Anticipating needs and providing helpful suggestions to the user.

## Narrowing the Design Scope

As the next step, we wanted to explore potential design directions. We wanted to make sure our CUI would fit user’s context and would provide the functionality a GUI would not rather than wedging in a solution that did not make sense. This process took a total of three days.

### Scenario Generation and Analysis

From our research insights, we each brainstormed four scenario cases. Several interesting research insights we especially wanted to draw from for our brainstorming session were that people ordered less food via an impersonal GUI due to lack of social judgment and the greater accessibility of CUIs to new users and those suffering from app fatigue.

From our generated scenarios, we made a list of underlying value propositions to help identify the main situations where a CUI would be more useful than a GUI. They are as listed:

* Consolidating food ordering on different platforms,
* Finding a new restaurant that matches personal preferences,
* Optimizing group preferences,
* Automated meal delivery,
* Recommendations and specifications,
* Notification trackers, Cost splitting,
* Connecting with friends,
* Reducing cognitive load by finding restaurants for you given your personal food choice,
* Food habit trackers (what, when, where), and
* Helping to maintain healthy choices.

Matching our research insights, value propositions in our scenarios and list of appropriate contexts, we focused on reducing cognitive load for individuals trying to make healthy food choices. This choice allows us to design for a broader population and go in a more unique direction that others may not think of. It also best allows us to use our research insights to reframe the problem of people having less menu and restaurant discoverability when using CUIs: what if less menu and restaurant discoverability could be seen as an asset to customers? And what if ordering less food due to an added factor of perceived social judgment could be used to help users achieve their weight loss / health conscious goals?

### Visioning Sessions

We brainstormed a list of goals and considerations an individual using a CUI for healthy food choices would have, and then used the list as a basis for three visioning sessions:

* Weight loss,
* Portion control,
* Athletic performance,
* Progress tracking,
* Comparison metrics,
* Specific dietary needs (vegan, gluten-free, allergies),
* Motivation (developing intrinsic motivation for long-term practices),
* Timing (with workouts, avoid hunger and overeating at work), and
* Nutritional daily requirements.

In our visioning session, one team member acted as the pen and the other two team members created a story with a person on the fly, incorporating the “Yes, and...” technique. We then discussed the pros and cons for each visioning session to then generate a list of CUI design considerations: flexibility, degree of customization, compliance, change over time (e.g., learning preferences, the day of when a goal should be met), behavioral recognition with voice tonalities, and stress as a factor in unhealthy eating.

### Creating a Persona

Exploring further the direction of reducing cognitive load for individuals trying to make healthy food choices, we generated two likely personas: a professional athlete or an average individual trying to lose weight / make healthier choices. These two persona options result in different stakes, degrees of CUI flexibility, CUI personality, levels of internal motivation and potential outside sources of support (e.g., a coach). Looking at the measurable advantage each persona may gain from a meal plan CUI, we decided to focus on a busy, everyday working individual with weight loss / healthy lifestyle goals. We recognized that an athlete would have more time to dedicate to fitness, an already high level of internal motivation, and dedicated resources they turn to (e.g., trainer, coach).

## Experience Prototyping

We then took the next week to develop and iterate upon a minimal viable prototype so that stakeholders would understand how our design works and to gauge viability and usefulness.

### Developing Use Cases

We developed several use cases for a busy working individual with weight loss goals.

1. Mandy is a busy working professional trying to lose weight. She’s stuck working late at night and she’s stressed about a deadline due the next morning. She opens up her CUI and asks to order Chinese takeout. She wants to order something satisfying and greasy, but her CUI advises against it, reminding her of her fitness goal. Mandy reconsiders but she says she wants to override anyway. The CUI tells her the consequences of this action for her week and how this will affect her weekly progress / goal. Mandy reconsiders again and decides to take off the fried eggroll appetizer and just goes for one main dish instead. The CUI takes the order, sends it to the restaurant and arranges for its delivery.
2. While the food is on its way, Mandy keeps asking about the progress since she’s starving and it’s 8:30pm now. After the second time she’s asked within the past ten minutes., the CUI advises Mandy on distraction strategies to keep her mind off her hunger. It is 9pm now and the delivery order should be arriving, but it is late. The CUI automatically contacts the delivery person and confirms the estimated time delay before telling Mandy her food should be here in ten minutes. The CUI thanks Mandy for her patience.
3. Mandy is going for a jog on the treadmill during her lunch break. The CUI senses via the accelerometer that Mandy is exercising and recommends some healthy snacks like a banana for after she’s done working out. Mandy agrees to get a banana, and the CUI has a banana delivered to her from the gym food store. Mandy is craving a cupcake when she’s done with her workout, but the arrival of the banana and the fact that it’s already paid for helps her make the decision to not get a cupcake. She thanks her CUI for helping her make good decisions.

### Designing the Physical Form

A design consideration when creating the physical form of the CUI would be how involved / intrusive we wanted this device to be. Would it always be on the user like a watch, monitoring him/her and providing feedback throughout the day? Or would it be a stable object at home that’s more passive? Another consideration was that measuring the user’s weight for compliance (e.g., using a connected scale) and to approximate the user’s BMI and daily caloric intake requirements more accurately would require the user to physically get on a non-portable scale. Alternatively, a portable device could also have Fitibit-like sensors to monitor physical activity.

Our decision in the end was to have a device at the home, like the Amazon Echo. However, to account for when the user needed to change their meal plan while away from home (e.g., because of last minute dinner plans with a coworker), there is also a portable device with more limited functionality. Several product design considerations for the portable device was that it should be fashionable, provide other sources of feedback (e.g., lights, haptic) and be context sensitive. We considered a few options for the physical form of the portable device, including a watch, pendant, ear-piece, and earring. We ended on a bracelet with a flushed button that could be pressed down. The device would vibrate when it was about to order as a warning signal. The user can press down on the button and hold to cancel the next incoming order, and a green light would emit to confirm or a red light would emit if it was too late to cancel. We did not want the bracelet to speak to the user, since it may make the user uncomfortable in a public setting. We also wanted to give the user a non voice dependent option in case the user was in a noisy setting where other individuals’ conversations may accidentally set it off.

### CUI Design Rationale

Based on the CUI’s feedback options and purpose, we decided it would be more like a health coach in terms of personality. It would be supportive but also firm when needed.

We discussed wanting the CUI to take more initiative to help motivate the person, so we decided to have it initiate conversation once the person returns home via either GPS detection or smart home integration.

We also decided the CUI would act as a comprehensive meal planner, taking care of grocery delivery and meal delivery while also making suggestions for meals at restaurants (e.g., when eating out with friends).

If user starts lying to the CUI about following the meal plan, the CUI will notice when the user is weighing him/herself via a connected scale, and the CUI will confront the user on his/her falsehoods.

## Final Design

Through feedback from experience prototyping sessions and iteration, we finalized our meal plan CUI design to best support the busy, everyday working layperson with weight loss / healthy lifestyle goals.

### Customer Description and Goals

Based on our persona, we created a description of our target user and his/her goals: Mandy (28 years old) is a busy working professional trying to lose weight for a friend’s wedding she will be a bridesmaid for in 3 months. Her main goal is to look good for the wedding, and she’d also like to develop a more healthy lifestyle over the long term. Her time is limited, so she values convenience and gets her meals delivered frequently.

### CUI Description

We created a brief description of the CUI for the experience prototyping session based on the above design considerations: Our CUI’s name is “MoJo”, a voice interface marketed towards busy working professionals which helps users plan their daily meals according to their goals. MoJo has a main component in the customer’s home paired with a simple portable device (bracelet) for when customers need to change their meals on the go.

### Conversation Mapping

We envisioned a few conversations between Mandy and MoJo that would show key use cases, namely: planning a meal, making changes to a meal plan, recording preferences and dietary restrictions, error recovery, and falling off track from the prescribed meal plan. We extrapolated from the conversation envisioning and mapped out the different conversational paths that could be taken. We decided that the CUI would at the end of each day review how that day went and determine if the user is on-track or off-track for meet their weight loss goal. If the user is on track, the CUI provides positive feedback and encouragement and plans the next day’s meals as per usual. If the user is off track, the CUI provides less flexibility in meal planning and is more directive and will provide negative feedback.

### MoJo Physical Prototype

We decided to use a hair tie with a metal clasp for the portable MoJo device, since the metal clasp could serve as the button and it would be a simple, portable object. For the home MoJo device, we decided to use an aroma diffuser, since it has an ambient light and has a friendly appearance that many viewers won’t immediately look at and detect what it is.

# 

# 

# Personal Website

front-end development, wireframing, prototyping

## Duration

Ongoing since December 2016

## Project Description

This project aims to develop my personal brand as it follows my personal taste and touch. I chose a old-schooled black, gold, and white theme to represent my love for the old and sentimental, my attraction to simplicity and elegance, and my wish to create boldness and timelessness.

## Process

I conducted competitive analysis on others' portfolio websites as inspiration.

I quickly created a paper prototype of my potential website to visually play with layout and how I wanted interactions to pan.

I consolidated the different interactions, and simplified the design so that each page would keep consistent and a strong brand emerged.

I created a medium fidelity prototype on InVision to further define navigational interactions that made sense.

Finally, I got to the code, and here we are!

# 

# 

# Music of the Age

communication design, graphic design

## Duration

2 weeks

## Project Description

In this project, I wanted to create a series of concert posters that was cohesive, emotional, and abstract, all while tapping into the specific sounds of the artists. To start, I listened to the music and created moodboards for each artist. I created initial sketches of poster designs I thought could bring the music together. Because a concert denotes fun and excitement for family and friends, I chose from my initial set of sketches the poster version that was most playful and organic to iterate. I melded the colors that complimented the artists to the design, playing with typography, color and composition. The results are as follows and may be downloaded as a single PDF here.

# 

**Current Projects**

Interaction Design Studio - CUI

ACS CSN Project

AMT Interface - RAPT

Police Intelligence Assistant - uReveal

Task Calendar Prototype - Personal project

Typography Animation - Personal project

Tactile Maps

Methodology of Visualization Vases - 3D Printing

Pittsburgh Symphony Orchestra - Pittsburgh Symphony Orchestra

Music of the Age - Concert posters

Tanks