MS in HCI/d
2020 Graduate Degree Book
Foreword

The Capstone course represents the conclusion of the professional Master’s of HCI/d program at the Indiana University Luddy School of Informatics, Computing, and Engineering.

Students pursue their own independent project, scaffolded by a year long course, their peers, and the teaching team (3 faculty members and 4 associate instructors). The Capstone is each student’s opportunity to show themselves, their peers, and potential employers what they can do.

Students choose from one of four types of projects: Interaction Design, User Research for Design, Service Design, or Academic Research. Methods overlap considerably across all four types. The final deliverables determine which type a student has completed.

This cohort of masters students in HCI/d faced unusual and, frankly, harsh circumstances. On March 11, 2020, the World Health Organization declared COVID-19, a novel coronavirus, a pandemic. The coronavirus has had a devastating effect on all our lives and on many of our loved ones’. Since Spring Break 2020, the state of Indiana has enacted a shelter-in-place policy and Indiana University has suspended face-to-face teaching, robbing us all of the studio and cohort culture that is so vital to HCI/d’s success.

Despite these setbacks - both mental and physical - our students have persevered. Grounded in the critical skills and knowledge they have cultivated over the past 2 years, students embraced online technologies to find clever solutions and workarounds to succeed in their projects. Their capstones represent, perhaps more than any other year, that HCI and design itself is a messy endeavor, full of twists and turns.
Capstone Advisors

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**Cohort 2020**

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Yunyan Yang
Jing You
Sihan Zha
Cindy Zhang
Boyu Zhao
Yaxin Zheng
Zixuan Zheng
Interaction Design

Culminates in the development, proposal, and evaluation of an interactive artifact. Along with other process documentation, students deliver an interactive prototype.

User Research for Design

Emphasizes user experience research, including the design and execution of one or more user studies, data analysis, and synthesis in the forms of implications for design and ten design concepts informed by results.
Service Design

Culminates in the development and proposal of a service, which is an organized system that provides for or accommodates a need and may contain many products. Along with other process documentation, students also deliver service blueprints and customer journey maps.

Academic Research

Culminates in a novel scientific contribution expressed in a publishable paper. It consists of a rigorous literature review, study design, presentation of results, and well-considered implications for the research community.
Interaction Design

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Graduate Students Admissions: Pre-Networking At The Airport

Ashwin Athlye

Process

An admission process is similar to a very hard video game. If you’re carrying out the tasks yourself, without the aid of any consultancy, it’s painful at every level. The key assumption here is that a Grad School Admission process is not “a breeze” for most students. I’m referring to rather the large laundry list of activities a student needs to go through.

I planned to initiate the interviews by introducing a visual infographic/map of the current IU admission process. The visual map was prepared in order to jog the memory of the participant regarding their admission process as quickly as possible. The interviews would also provide both quantitative and qualitative information.

Outcomes

Imagine if you could network/interact with other students traveling with you on the same flight or waiting in a nearby area during layovers. There can be a booth/kiosk set up in many places at an airport with the university logo at the forefront to attract students to it. There they can see other students’ information such as flight timings, gate number they’re waiting at, and interests such as what they like to shop, or if they like playing arcade games. This way students can meet up during the waiting times and network.
Welcome to AirSim!

Please answer a few questions so we can tailor your experience to your needs.

Continue
Skip

What will you primarily be using AirSim for?

Choose a scenario.

Inspection
Agriculture
Delivery

Skip to configuration

API List

Common
Image/Computer Vision
Collision
Time of Day
Weather

reset
This resets the vehicle to its original starting state. Note that you must call enableApiControl and armDisarm again after the call to reset.

confirmConnection
Checks state of connection every 1 sec and reports it in Console so user can see the progress for connection.
Democratizing AI Simulation Platforms with a Personalized Onboarding Experience

Kavya Basu

Process

AirSim is a platform for AI developers to test autonomous vehicles without worrying about cost and real-world damage. Currently, AirSim has a high barrier to usage and needs to be accessible to a diverse user base.

I conducted interviews, observations, and co-design sessions with a product manager and research engineer for AirSim to design an onboarding process for varied users to have a smooth, enjoyable experience.

Outcomes

The onboarding process takes the user’s role, scenario of use, programming experience, and provides them with personalized direction. I followed Fluent design system guidelines and created a design language for a dark UI to match with the surrounding interface. The design went through various iterations (left image) culminating in a personalized onboarding experience (right).
Coco’s Home: Providing Human Connection Digitally During COVID-19 Pandemic

Ashley Bates

Process

Started with interviews to lay the groundwork for what people considered “art” and what it means to “collaborate”. This step led the way to the material exploration phase.

Several iterations of the material exploration tool kit were made but before the final form could be finalized, the world was hit with a pandemic.

In response to COVID-19, I made this art making activity online, with a special focus on self-care and human connection to combat feelings of loneliness and anxiety.

Outcomes

The end result of this interaction design comes in two parts: Coco the Creature, and Coco’s Home. The objective of the game is to create a creature or a home and match it with someone’s creation.

The objective of this design is to connect users through the means of art creation and expression and use this design’s collaborative efforts to feel connected to one another. The look and feel of the project is meant to be whimsical to entice users.
DietVision: Supporting Dietary Assessment Using Food Computer Vision

Penny Chiang

Process

Current food image recognition algorithms often focus on recognizing the ingredients and estimating calories of a single image. However, in practice, health experts often look for eating patterns across days. There is a need to support health experts to better understand the patterns and trends of individual eating behavior and decisions beyond current practices.

I started with the literature review and competitive analysis to better understand how existing food recognition technology is used in supporting dietary assessment. Then, I conducted research with 10+ dietitians to learn how they make recommendations for clients based on food diary photos. I used affinity diagrams to synthesize the data to obtain insights.

Outcomes

DietVision is an app that uses computer vision to support health experts’ dietary assessment process. Users can create client profiles and upload food diary photos to get machinery analysis. The results will be categorized by themes such as food group balance, food preparation, and eating time, which are important information dietitians looking for to make recommendations. Food photos will be labeled with meal types, food groups, or food preparation to help users find eating patterns and behavior faster.
Cup Participatory Installation: Share Stories about the City and Us

Rachel Fang

Process

Concept testing: Hear and share city stories
I tested a paper prototype using Wizard of Oz. Ten people listened to stories and recorded responses to a prompt they picked. They felt connected to strangers and being heard.

Exemplar Collection: Participatory projects
I collected over 20 exemplars about preserving memory, self-expression, and connection. In public installations, there were design patterns of inviting the public to participate and engage.

Outcomes

It’s hard to feel connected. What are our voices? What’s Bloomington’s voices? The cup installation is an intimate place in the city plaza encouraging people to hear others’ stories and leave theirs.

Step 1 - Get in the installation. Grab the guide, the blue cup at the entrance with a screen on the lid. Yellow cups on the wall represent stories left by others.

Step 2 - Pick a story. Tap any yellow cup on the wall and the guide cup in your hand will play the story accordingly. You can like or save the story.

Step 3 - Record your story. Interact with the screen on the guide cup lid. You can add your response to the same prompt of the story you heard or select more prompts. Record your story to share.
Photo Organizing App: Enhancing “Physical to Digital” experience for filmmakers

Ya-Ching Hsieh

Process

Film pre-production requires filmmakers in the art department to invest an amount of time on location scouting and prop searching. Art workers have to visit many prop stores and locations to record the details of the spaces and objects.

I conducted remote interviews with filmmakers across different departments and identify the need for a tool to tackle the issue of a tedious and complicated process of inputting data to photos and renaming, organizing files.

Outcomes

My final design is a mobile application for filmmakers to organize working photos more efficiently. My design solves the problems from the beginning of the workflow. I design a feature that enables filmmakers to input a default file name for every photo. The application could connect with external platforms such as dropbox. There are several special features: (1) Voice assistant: Enables users to quickly record information of an object and it will be converted into texts without additional work. (2) Collage: Users could crop one photo and paste it on the other one, this features eventually reduce the numbers of photos users might take. (3) Tag: Label each object with tags. When users upload photos to laptops, all the files will be arranged in order, it’s easier for users to organize files.
Meal Planning Assistant: Helping Busy Individuals Cook Smarter

Xiaoxiao Jin

Process

To understand how individuals plan meals now and their pain points during the journey, I conducted a survey with 65 responses and 10 interviews as follow-up with students and office workers who live and cook alone.

I created personas for my target user group and identified their habits and preferences to facilitate my design decision. I also mapped out the experience journey of their meal planning process to help scope design opportunities.

By collecting exemplars, I analyzed what has been done in the market, what competitive apps are doing well and what they are not, and finally pointed out the gap between people’s needs and what they provide, which contributed to my final design.

Outcomes

The final high-fidelity clickable prototype I created has four main functions to achieve my design goal:

(1) Help make shopping plans with a clear idea of what dishes can be made and how much it costs.

(2) Make meal plans based on schedule.

(3) Track the food freshness in pantry and get timely notification.

(4) Get dish recommendations from leftovers and generate a new recipe.

Feedback from user tests turned out to be mostly positive, but since people have various lifestyle and diet preferences, more customization design should be considered for future improvement.
Design Language System: Keeping the consistency and making design scales

Lexie Li

Process

UI Components Update: Based on the current UI components library, I worked on updating some key components by following the mobile guidelines of the Schlumberger Design Language System.

Usability Testing: I implemented some of the components in the current mobile product provided by Schlumberger, and reach out to participants to run tests on. At this stage, I also utilized the “think-out-loud” method.

Outcomes

I was able to update more than 100 UI components in the current shared library and implement around 20 of them in Schlumberger Glossary mobile application.

The updated UI components are compatible for mobile version following with changes and forms under different status.

The implementation process not only includes simply following the UI design principles but reframing and reevaluating the user flows by optimizing Schlumberger Glossary information architecture based on different use-case scenarios.

I was the only designer working on this project with three other members from the dev team. The mobile UI components will be used as a reference to other ongoing mobile product design projects.

This project is sponsored by Schlumberger BGC office and will be submitted to the OWP wireline planning team as one of the innovation pitch projects.
Value-Tasting Menu: Reflecting the Shared Value of Stakeholders

Ce Liang

Process

I interviewed 4 customers, 2 restaurant managers and 1 waiter about the ordering process and their considerations and discovered that menu design has great potential value to improve the experience of multiple stakeholders.

In addition to the competitive analysis of menus, I also collected exemplars related to dining experience broadly such as food-themed games and museums, food culture & history, which deepened my understanding of the value behind it.

To understand the browsing habits, concerns and emotion flow of customers when ordering, I created toolkits to conduct research activities including love letter activities, scene simulation role-playing and co-creating menus.

Outcomes

Through agile user testing on the initial prototype, the initial concept was pivoted, iterated, and eventually developed into the final design concept - Value Labels & Filters of Dishes. “Value labels” represents those decision-making criteria that can help customers select their desired dishes, such as healthy ingredients, calories, promotional dishes, signature dishes, kid’s meal, etc. Using “Value Tags” as the second-level filter can not only facilitate customers to explore and find what they want quickly, but also highlight the value proposition of the restaurant or embed the promotion information. In addition, I designed different card layouts to show the corresponding various “value elements” such as ingredients, likes, and customer reviews. When a customer chooses a different label, the value element on the card will also change automatically.
Digital Communities: Diversifying Online Communication Through Design

Gefei Liu

Process

I first reviewed scholarly papers, gathered exemplars, and conducted interviews. These activities granted me a deeper understanding of the physiological reasoning behind online hate speech and helped me proceed further.

I used paper prototyping during my ideation process. I quickly sketched out different concepts, including mobile design, browser plugin design, and critical design. I kept these options open for exploration.

I recruited representative users for evaluation. The six evaluation sessions are focused on both posting and viewing experiences of online conversations. The fruitful insights I gained informed me about design alternatives.

Outcomes

Instead of merely showing proposition/opposition thoughts in different tabs, I revised the thoughts listing with the addition of an algorithm. This algorithm mixes all of the thoughts according to the proposition to opposition ratio of a particular topic.

Before posting thoughts, users will be asked to separate their thoughts into different points, which will be treated as distinct comments. This structure could help not only posters to think coherently but viewers to browse comments easily.
This blood comes from the dining room

The “real” world

Inner Space
Mr. Gray: A Narrative-driven Puzzle Game About “Devil”, “Fear”, and “Inner Space”

Jingyao Liu

Process

Based on user interviews and exemplar collections, I decided keywords of the game. The whole process is creation-driven and prototype-based. Co-design workshops and the weekly brainstorm were conducted for the ideation.

There were three rounds playtests with clickable prototypes for iterations of game mechanics. The final design is an experience prototype which includes wireframe, art design, story scripts.

Important Iterations: (1) simplify the game mechanic to ensure the player can “influence” the game world easily and directly; (2) Increase positive feedback, break the big mission into pieces; rewrite scripts.

Outcomes

Introduction

In a storming night, “you” are summoned as Mr. Gray (a devil) for humans’ secret desires. “You” make a deal with a dead man to find the murder for his revenge...

Game Mechanics

#1 Information Collection: the player is a summoned devil without a “real body”, he needs to manipulate the “black eyeball” to investigate the objects in the “real world”.

#2 Explore Inner Space: There are two types of spaces in the game: (1) the real world where the characters live in, (2) the inner space of characters. The character’s shadow is a bridge connecting these two worlds for the devil (player). The inner space is the shadow side of the character, of which the player can find secrets, fears, and psychological traumas — the key information that cannot be found in the real world.

#3 Shape-shifter & Decision: In the inner space, the evil (player) can change its form with objects collected in the inventory. When using the “right body,” the player will trigger events and influence characters and the story with his selections.
Organize and Synthesize

Review and Internalize
Interaction Design

iKnow: Synthesizing and Internalizing Knowledge in a Natural Way

Yingxia Lou

Process

I did primary and secondary research on people’s current process of learning and internalizing knowledge and possible ideal processes. Based on the results I created a journey map analyzing what people do good now and what the painpoints are.

Outcomes

Based on this I set the goal of helping people moving forward on the learning journey and brainstormed design directions. After 4 rounds of prototyping and testing, I finally focused on 2 directions and combined them together to form my final design.

STEP 1 - Collect Knowledge Snippets
- This is a menubar tool that enables users to jot down their notes and thoughts about a certain field quickly and easily.
- With the options of List view and Mindmap view, users can easily build a structure for the knowledge snippets in a way they are used to
- Users can input topics, tags for the snippets and link it to raw data for future reference.

STEP 2 - Synthesize Information Easily
- Knowledge snippets are listed by topics. Users can drag and drop the snippets to organize them, with the assistant of the auto-organize tool
- Users can select certain parts on a canvas to create memory cards which will be listed on the right column
- The cards can be customized to set the platforms being shown and frequency mode

STEP 3 - Review Knowledge Cards in a Natural Way
- Cards will be shown on third-party platforms according to user’s setting
So I began writing,
You Tube Keep Thoughts: Offload to Maximize Takeaways from Videos

Christine Lu

Process

After spotting and verifying a design opportunity: video platforms don’t prompt users to clarify and takeaways from videos, I searched for inspirations with exemplar analysis, exploratory interviews, and contextual inquiries.

From my findings, I found out that offloading (e.g. write, talk) helps to clarify thoughts and reflect. To create behavioral change, I decided to design a feature on YouTube that can inspire and help people to offload privately and reflect.

To create an interaction design that is as useful and flows as naturally as possible, I created prototypes and iterated with the findings from a diary study and 4 rounds of user testing.

Outcomes

Keep Thoughts Feature
Whenever a user is inspired by a video, YouTube Keep Thoughts is readily accessible for users to write down their thoughts privately. They can also insert clips or subtitles from the video.

Thoughts Collection
Users can find everything they have offloaded in thoughts collection. They can be sorted by the date added, video, or hashtags.
IUEcho: Designing A Digital Feedback Platform for IU’s Online Services

Jessie He Ma

Process

I interview developers, designers and surveyed users at IU to expand my understanding of how product teams differ from each other, how teams handle user feedback, and what users’ attitudes are towards giving feedback.

Thinking from IU online service users’ perspective, IU’s online services are organized into three categories after extensive researches; doing so allowed the “feedback loop” model to be more simplified. A/B testings were then conducted.

Outcomes

As the center piece of this project, a full set of UIs for IUEcho, the centralized platform for product teams in IU where feedback and comments from users are gathered and kept track of, was created. A clickable prototype were also created to provide a dynamic demonstration to UITS as well as serve as the tool for usability testing. The Rivet Design System which is IU’s current official design system was taken into consideration during the creation of the UIs. UI elements were also created and used in a semi-professional way similar to how designers would create, use, update and manage a design system.
I like how he painted the boat and use the same color for the sky and the water.

I love the brush strokes.

Everything is related to his senses, how the sun and landscapes influenced his day.

Quick fact
Monet has found the new method for painting outdoor light. “What’s important is not the thing that I’m painting but it is the optical experience of seeing.” He said.
Engaging Art-museum Visitors through Augmented Reality

Weiyi Meng

Process

Within the art museum topic, I did research including field study, survey, user interviews to identify problems. From the research, I learned that the current information and experience museums provide are not ideal for visitors to explore art by themselves. Therefore, I designed an Augmented Reality HoloLens experience people used in art museums to gain more knowledge about artwork. I brought my interactive prototypes to test with users and iterated my design based on user feedback.

Outcomes

With the HoloLens headset, users are able to see both the AR interface and the real-world environment. The cards at the bottom allow visitors to select the information they are interested in (e.g. quick fact, artist’s story, location) to learn more. With different media and types of information provided, users could have a deeper understanding of the artwork. The hand menu is easily accessible and allows users to make notes, read others' comments or save this artwork to the collection for a revisit later.
SpoilerSource: Using Crowdsourcing to Filter or Obscure Spoilers on the Internet
Aswati Panicker

Process

People’s viewing experiences are impacted when they find spoilers on the internet. In my Capstone, I first use research methods like literature reviews and exemplar collections to delve deeper into technology solutions that use various filtration mechanisms to block spoilers. I then conduct 10 interviews to gather personal experiences surrounding spoilers. To synthesize, I use Affinity Mapping to generate themes that highlight various insights. I come up with 20 potential design directions from my collected insights and then choose to pursue “Community Based Spoiler Moderation” as my direction. Finally, I ideate and come up with a concept that leverages crowdsourcing to collect spoilers and improve its moderation.

Outcomes

My design outcome is SpoilerSource, a mobile app by which people can submit movie spoilers. This can be a recent release or a movie that’s listed on the app. On submitting the spoiler, the user can view the keywords that were generated from their submission and obtain a point based score for their contribution. SpoilerSource works together with a browser widget that syncs with the mobile app and filters or obscures content on the web that contains user submitted spoiler keywords.
Iconography for Privacy Awareness with Robots and Smart Devices

Dinesh Ram Ramaswamy

Process

To begin with, I took inspiration from many different sources including robots that were already in existence back to robots in fiction. This was done to better understand how people over time have envisioned people’s relationships to robots.

In any landscape that features entities which the capacity to record our actions through various channels, the users will have to be informed on how the devices handle the information they collect. This is necessary as a precursor to meaningful action.

Outcomes

Plentiful inspiration was taken from the living ISO standard for iconography which standardizes imagery for industries with the aim of keeping them accessible, consistent and time-agnostic. The user tests indicated a need for a total of 14 icons focusing on five kinds of information about personal data— the trigger for collection, the means of collection, storage duration of the data, purpose of data usage and whether the data will be used by public entities.
Alleviating Museum Fatigue: Personalizing a Focused Journey with a Smart Cube

Yuhao Shi

Process

I searched for 20 design exemplars. I grouped them into four categories framing the design directions: Flow/Rhythm/Pace Controllers; Being selective and plan ahead; separating experiencing and reflecting; encouraging regular visits.

I conducted a design workshop where I challenged participants to iterate on my initial concept solving the two main concerns: no serendipity and distracting. I also showed them the exemplars as inspirations.

With the two design directions I got from the workshop: Treasure Hunt and Personalized Visiting List, I conducted several rounds of quick ideation, concept test, iteration based on new feedbacks and inspirations.

Outcomes

Final design is a smart cube as a museum visiting companion. Visitors could rotate the bottom part to switch the items shown in the main screen. They could also affect what shows next by tapping the buttons.

Visitors could quickly skim through a lot of museum items and save their interested ones into the collection screens surrounding the cube. Once something in the collection is close, the cube will remind the visitors and navigate them to the item.
**Link: Exploring the Future of VR Communication**

**Yi Wang**

**Process**

Started by the topic of “loneliness”, I explored the possibility of using VR technology to help people far from their family and friends better communicate their feelings. A lot of user studies led to my future steps.

A shift in my capstone emerged after the COVID-19 pandemic heavily affected our lives, I altered my topic to explore the future of VR communication, to envision a more immersive communication for everyone in physical isolation.

After rounds of design iterations from user testing, lots of details were added to improve the user experience. Eventually, Link, a VR communication prototype was built and was used for usability testings in a verisimilar environment.

**Outcomes**

The core feature of Link is allowing people to see each other “in person” even they are thousands of miles away in the virtual environment they are familiar with, such as their home or where they had a sweet memory.

The system for Link requires a VR headset, an external image tracking system, and a device that can shoot 360° video (Fig. 1).

The concept is based on our vision of the near future’s technology capacity (Fig. 2). After evaluations with my participants, we asked the question, what would happen to VR communications in the far future?
London, UK
Flavor: A Gamification Design of Exploring Local Food Experiences

Yunyan Yang

Process

The concept comes from the dining experience I had with my friends in a Szechuan restaurant. She unconsciously ate some Szechuan peppercorns and drank tons of water because she didn’t know that it causes tongue numbness. When people try new foods, it is an opportunity for them to explore the food culture as well. But currently, it is not in a proper way. The most common scenario of new food experience is that we try new restaurants while traveling. Usually, we collect information from apps like Yelp, Tripadvisor and Google Maps to decide what to eat. However, six out of ten interviewers in my research said that they are still not sure about their choices and feel afraid that they might miss something worth trying.

Outcomes

I combined the local food exploring process with a card-based gamification design named “Flavor” aiming at creating an interesting and seamless experience for people to discover and taste local foods without time-consuming travel planning. Wherever they travel, Flavor will recommend them with different themed food cards that introduce a part of the local food cultures. To collect these cards, people need to go through the places and try the food on those cards.
iTale: Creative Platform for Children to Tell Their Stories

Jing You

Process

Storytelling helps children build creativity, and enhance their literacy skills. I conducted rounds of literature review and exemplar collection to learn about educators’ belief and existing storytelling tools.

I visited elementary schools to observe literacy education activities. I learned that children use character, place, event to create stories. Also, visuals and conversations play important parts in their storytelling.

I interviewed parents about their experience creating stories with children, learned about scenarios where children initiated original stories, and their forms of expression (e.g. acting, drawing, etc.).

Outcomes

Together with a product team, I designed iTale, an iPad application that incorporates the “components + flow” framework to guide children (6~10) to make their own stories. Visual components serve as the base for children to operate freely, and story framework serve as the structure and continuous inspiration for children to make the story more complete and creative. The community feature is designed to cultivate more audience awareness and promote learning-by-sharing.
Mango: Experience Emotions in Fruitful Exploration

Cindy Zhang

Process

Competitive Analysis & Co-Design
To know the market for emotional granularity, I explored the existing products in emotions, and creations-sharing, also exemplars in films to see similarity and differentiation in the focus of sensitivity.

Concept Testing
I synthesized the essential concept into a diary study with coloring balls activity to record and recognize emotions with two participants for seven days. I conducted follow-up interviews to understand they have very different usage.

Outcomes

A mobile application that users can move freely at any point in the flow of inspire, mold, define, categorize, and reflect. It will inspire users with new emotion definitions, encourage people to artistically describe and differentiate their feelings, save to emotion jars, and plant them in categorized lands, therefore seeing the impact. The application celebrates emotions as fruit plantations. Users can treat each emotion as a unique art piece.
User Guide Mode: Redesign the Onboarding Experience of iOS

Boyu Zhao

Process

I verified my assumption by online secondary research and user survey. By doing competitor analysis on the existing physical and digital user tutorial and observing user behaviors of learning using new smartphones, I identified users’s pain points of the original onboarding experience.

By collecting tutorial design in different fields, I got inspired by game tutorial design. I applied game tutorial design principles on the onboarding experience design of iOS and created interactive prototypes. After getting user feedbacks from user evaluation, I iterated and got my final design.

Outcomes

My solution is a new feature added to the iOS system on iPhone. I added a new ‘user guide mode’ setting interface to the original onboarding process of iOS where users can select their user levels. The system will be customized according to users’ experience level. New features will be highlighted by red indicators and the lightning color. A progress bar will also be added to show users how many new features they haven’t tried, which can encourage users to explore their phones more.
Feedback Management Platform: Bringing User-Centered Design Into Organization

Yaxin Zheng

**Process**

I started the project with understanding the organizational structure, their workflows and their frustrations. After several rounds of user interviews, I identified key features & capabilities which meet the needs of most product teams.

Through two ideation workshops with different product teams, I spread design thinking across the organization and got more buy-in from stakeholders. With their help, I generated design concepts with different perspectives.

**Outcomes**

From user research, I learned to build a well-run digital feedback system needs long-term organizational effort, which requires all product teams proactively understand who are their users, what do they need and then translate those data into product decisions. However, the reality is, not all team has the same resource and mindset to put users at their focus.

Partnering with UITS, I created an unified feedback management platform, an internal software that aims to streamline the workflow of storing, managing and organizing user feedback to help teams, especially teams lacking designers, to prioritize user feedback into product decisions. All the data on the platform can be easily shared with teams across the whole organization to bridge the communication gap between teams.
EarthquakeWiz: Responding Through Early-Warnings and Guidance

Zixuan Zheng

Process

I conducted exemplars collection, literature review, user interviews, and an expert interview to study users’ general experiences with earthquakes, problems they face, and essential elements of valid warnings.

Outcomes

I designed an app that not only gives earthquake early-warning but also provides useful guidance for users based on their locations, earthquake intensity, and time left. My research and usability tests helped me shape my design principle, which is clarity, efficiency, conciseness, and accuracy. Three levels of warnings, which are differentiated by titles and colors, are provided based on local earthquake intensity. The countdown for the earthquake is given to warn users. Clear guidance is provided step by step. Although the app offers instant instructions, preparation increases users’ confidence and improves their performance. The app contributes to earthquake pre-education and encourages users to learn earthquake knowledge and get familiar with the environment around them. User testings show that the design is clear and useful.

Insights from my research assisted in sketching out my first prototype. To evaluate my design, I did user testings with about 15 people. Feedbacks from users contributed to six rounds iterations and helped me flesh out my final design.
User Research for Design

Clara Bradford
Lisa Butler
Varna Das
Priyanka Lakkad
Lidong Liu
Marissel Llavore
Ries Murphy
Ankita Tapadia
Fashion in Museums: Immersive Learning Experiences with Fashion Design

Clara Bradford

Process

Fashion and costume design have long been a medium in which artists convey emotions, themes, and tell stories that provide viewers new insights about people and cultures from around the world. Interactions with these designs have the potential to cultivate empathy for others through the bridging of cultures. I conducted interviews, observations, an exhibition analysis, and ran a co-design workshop to better understand how we can turn experiences in these exhibitions into rich, immersive learning experiences that bring new perspectives. Through my research I show how these immersive experiences are heavily dependent on how the story of the designs are shared with the visitors of the art museum exhibition.

Outcomes

I discovered a multitude of examples of how contemporary fashion exhibitions can become more engaging and participatory. Because these learning opportunities can cultivate empathy and self-reflection, they should be designed for visitors from all demographics and educational levels. Every exhibition will be different, however, I identified common practices that can be applied to the curation and design of the exhibitions that ensure they both thoughtfully captivate and effectively educate their audiences.
We welcome ANYONE to come in and MAKE here 2 Billion
Hacking Spaces: Examining Barriers To Participation in Makerspaces

Lisa Butler

Process

Makerspaces are idealized as democratic spaces that seek to provide all people with education and resources to become 'makers.' The reality is that, in a reflection of the STEM fields from which the movement was born, people who are classified as makers often fall into narrow demographic definitions.

By documenting and analyzing the perceived biases and stereotypes associated with the activities, spaces, and people who make, we can see the underlying challenges facing those running makerspaces. These run the gamut from sexism and classism, to the logistics of finding and retaining repeat visitors.

Outcomes

Makerspaces cannot be expected to fix society’s wicked problems, but once they recognize that is the fight they are up against they can take steps to mitigate the effects. By focusing on their physical presence, clarifying their goals and stated purpose, and planning for ongoing assessment of their performance, these spaces can create more inclusive experiences.
Digital Companionship: A Look into Anthropomorphic Objects for Social Isolation

Varna Das

Process

Human beings create bonds with not only humans but also with the objects around them. To understand the human-object relationship in the context of social isolation, I explored the current work done via literature reviews and exemplars.

To motivate my research direction, I crafted early prototypes and deployed them as toolkits to probe in interviews. I conducted contextual inquiry to examine people’s interactions with objects and understand their experiences of isolation.

From my research, I ideated five design directions to speculate how objects exhibiting varying levels of agency can be used to compensate for the lack of social connection. Finally, I created paper, digital, and voice prototypes.

Outcomes

Viewing the objects as mere artifacts can reduce its influence on humans. To create a meaningful relationship with objects and help people feel less isolated, I came up with concepts where networked objects are used to create shared experiences (Social Radio—right image) and improve the ambiance of the space. I speculated what personified voice assistants look like (Eliza, The Guide). I also employed storification to learn about the backstory and historical narrative of objects to develop more empathy (left image).
Bleeding Confidently: Menstruating Confidently at the Workplace

Priyanka Lakkad

Process

The taboo associated with menstruation makes it difficult for one to be open about it. I realized menstruation’s invisibility as a topic of discussion for the majority of my interviewees (all the interviewees worked in the technology industry).

This motivated me to do an exemplar collection of modern and historical designs related to menstruation. The analysis was done by identifying the projected ethical values as well as embedded ethical values.

Inspired by some thought-provoking modern and historical designs from the exemplar collection, I generated critical designs to understand people’s views regarding menstruation, especially at the workplace (technology industry).

Outcomes

The Physiological Aspect: People tend to ignore physiological symptoms during their periods, especially when they are working. In many workplaces, there is a lack of supplies that are required during menstruation.

The Ideological Aspect: The taboo associated with menstruation makes it difficult for those working in the technology industry to communicate with others when or if required. The insights spark from the lack of awareness of the significance of menstruation.
Community-based: Rebranding Public Events For BT Bus Route Optimization

Lidong Liu

Process

I attended several Bloomington Transit (BT) and other city public events for research. The focus was to know what and how city projects were presented and how participants and event organizers interacted with each other.

Then by affinity diagramming, I arranged my research findings and integrated them into a user journey map. The problems of BT public events were identified as limited access, complex content, unclear goal, and divided interest.

Based on these insights, I came up with some initial ideas by rapid prototyping and co-designed them with both BT passengers and project managers. The ideas were further refined as the final deliverables below.

Outcomes

A set of public event toolkits were proposed to facilitate community-based decision making in BT bus route optimization. Take the board game above: it helps participants experience and understand the tradeoffs in bus route design.

Other ideas like generating “who,” “when,” “where,” and “what” elements as BT passenger cases were suggested for senior management at BT. Inspiring bottom-up and people-centered thinking is the primary goal of these proposals.
ConcernedCitizen @concernedCitizen
This post has been marked as spreading misinformation. Learn more

Marked as misinformation

Alternate Sources
Here are other posts about this story from verified sources. 42% of posts from verified sources dispute this story.

CNN Breaking News @cnn
Dangerous misinformation is spreading about how to prevent Covid-19. Thousands of Americans are consuming bleach.

ABC News @ABC
News coming out that people are drinking bleach to combat

Digital Literacy

ConcernedCitizen @concernedCitizen
Consuming bleach can prevent coronavirus... it’s a bit surprising, but I guess that makes sense. Anyone else tried this out and can say how it’s working for them? I’m thinking this is worth the try.

Impressions
111
Retweets
42
Likes
78

How can you know if a post is real?

Learn how to identify misinformation

JOURNALISM AND COVID-19: FRONTLINE LESSONS
Media Manipulation: Exploring Designs to Prevent the Spread of Misinformation

Marissel Llavore

Process

Based on an initial exploration of reality TV and concerns of “deception” and “fact,” I launched into a deeper study of deepfake. While continuing to understand user perceptions of deepfake and fake news, I probed into the history of deepfake, its other forms, and secondary research revolving around deepfake. With a broad understanding of deepfake as an extension of fake news, I moved forward with concepts. I conclude with five potential design directions to aid social media with addressing fake news.

Outcomes

I developed a system of concepts to address the issue of misinformation online. In addition, experiencing COVID-19 life was instrumental to my understanding of the environment that creates these opportunities for the spread of misinformation. Thus, observing this allowed me to recognize opportunities to interrupt the sharing of misinformation.
The Alchemist’s Anecdotal: A New Way to Disseminate Work & Findings

Ries Murphy

Process

For my capstone, I pursued two tracks of research simultaneously: first, ethnographic research with a team on two National Science Foundation grants; and second, individual research on new ways to capture and recount our adventures. These two research tracks - running in tandem - included an exemplar analysis (1A), literature reviews (2, B), six stakeholder interviews (D, 5), three site visits (C), design fiction (E), and a design activity (D) cut short by the COVID-19 crisis.

Outcomes

Stakeholder interviews with industry professionals revealed a myriad of nuanced relationships between traditional UX Design and UX Research disciplines. The Alchemist’s Anecdotal (6F) seeks, in its final form, to serve as an account of work that is accessible to curious readers otherwise “gate-locked” by academic language.

Disparate career tracks between UX Design and UX Research indicate a need to enable better communication between the two disciplines.
Distance Divided By Time: Exploring Long Distance Family Relationships

Ankita Tapadia

Process

This project is an exploration in the nature of long distance relationships shared by young adults - moving from Asian countries, specifically India, China, and Taiwan to the United States for higher education - with their families. Literature review and exemplar collection included explorations in novel designs supporting LDRs. This along with conducting photo design ethnographies [images on the page alongside] helped in framing the design space from a unique perspective coming together in the form of vision board.

Outcomes

The vision board guided the design concepting. My goal was to generate multiple concepts that spoke to the design qualities of playfulness, passive communication, designs embedded in artifacts and striving to create distinct shared moments. This phase involved quick sketching and user evaluation at the concept phase itself using what-if cards. These user evaluations became second rounds of research and I discovered underlying desires of the users in the actual design connecting them to their families. I prototyped Sun Globe using Arduino and tested the look & feel as well as the function with users. And carried out material and interaction investigations into the nature of balloons as part of the Take Me Home concept. The final outcome of this project is five design proposals out of the many ideas I explored throughout this project.
Service Design

Piyush Dawande
Elisa Krebs
Abby Stegall
Sihan Zha
Sustainable Skateboarding: Upcycling Skate Shoes To Reduce Waste

Piyush Dawande

Process

To fully explore this culture, I decided to become a skateboarder myself and document my learnings in the process. In 9 months, I visited local skate shops, met and skated with skateboarders, watched documentaries and movies about it. I also built my first skateboard and helped my friends learn about the culture.

I found that it’s difficult to keep skating as one has to purchase new items like shoes, pants, skate parts every few months. Focusing on skateboarding shoes, an average skateboarder goes through 5 to 7 shoes every year. I performed brainstorming sessions to create a service that can reuse the parts of the shoe into items purchasable online.

Outcomes

A service design that upcycles skateboarding shoes into utility items like backpacks, pouches, rubber grip tapes. The service collects old shoes from local skate shops and uses parts of the shoes into these products for sale on an online website.
After extensive UX research and multiple workshop prototyping sessions, I found an opportunity to remake textiles into a sustainable fiberglass alternative and designed VitaliTees, a company that was founded to rethink the lifecycle of t-shirts.

### Process

On average, Americans throw away 81 pounds of clothing every year. There are 2 paths to combatting this issue: changing consumer awareness or physically doing something with the scrap. The only way to achieve both is through service design.

VitaliTees collects unwanted shirts from individual consumers and misprinted products from t-shirt printing companies. The donation process is designed to require minimal user effort, remove existing barriers to donation and encourage individual consumers to play a positive role in the lifecycle of their clothing. After donation, the textiles are treated and repurposed into a novel, sustainable material that mimicks the form and durability of fiberglass. Throughout the treatment process, the textiles are cut, prepped, dyed and treated with resin in a transducer. The resulting material can be molded, shaped and cut into various consumer products including shelves, picture frames, trays and tables.

### Outcomes

VitaliTees collects unwanted shirts from individual consumers and misprinted products from t-shirt printing companies. The donation process is designed to require minimal user effort, remove existing barriers to donation and encourage individual consumers to play a positive role in the lifecycle of their clothing. After donation, the textiles are treated and repurposed into a novel, sustainable material that mimicks the form and durability of fiberglass. Throughout the treatment process, the textiles are cut, prepped, dyed and treated with resin in a transducer. The resulting material can be molded, shaped and cut into various consumer products including shelves, picture frames, trays and tables.
Runestone: A Service Design for Inclusivity in Gender Affirming Healthcare
Abby Stegall

Process

For this project, my process focused on different experience driven design theories as well as the concept of “experienced gender.” I set up this research process to devise a framework for how trans people lived and formed unique identities. Once I had done this, I map these user journeys and the create a service design that acted as a guidance tool for individuals going through transition. I completed my research by doing a combination of primary user interviews, secondary research, auto-ethnography and narrative exercises.

Outcomes

The final concept for Runestone is an Android app that scales to the user’s needs no matter where they are in their transition journey.

It has features that allow for reflection, self-expression and networking with others that are a same journey as they user. All of this is meant to help the user better craft their personal narratives and find the next step of their transition.

Once a user is ready, the are able to connect with doctors who are sympathetic to their needs and then share what they have learned about themselves with the people who can help them reach their goals.
Creating a Holistic Test Accommodation System for Disability Services for Students

Sihan Zha

Process

As a part time proctor working for DSS, I want to improve the test accommodation experience for both students and the department. I created two journey maps involving 4 groups of stakeholders to find out the main problems and design opportunities. I came up with a test management system to help DSS to better register, proctor and delivery students’ tests.

Contextual inquiry was conducted along with in-depth interviews to analyze current test accommodating process. Also by comparing with parallel departments in other universities, I realized an unevenly distribution of responsibility among stakeholders. So I decided to design a system embedded in the existing IU PIE system to help instruct each stakeholder’s work.

Outcomes

The design covers the test accommodation journey from scheduling a test to finishing and managing tests. By creating an integrated online platform, many previous offline and manual process like notifications, proctor logs and instructions could be tracked and managed easily.

The interfaces are designed user friendly and contextual. For instance, the proctor pages minimize typing and maximize the status visibility.
To design for real change, keep asking - “Is that really the problem?”

Design is rooted in our culture and societal structures, which is why we must democratize design with a healthy respect for expertise.

The best practices of design are through empathy, compassion, and inclusivity.

Every interaction is an opportunity for design.

Shoot for the stars, but don’t deny the value of the hilltop.

I design to connect people with technology and information, and to amplify our ability to be human.

I aspire to craft experiences that strike the right balance between utopia and the real.

I’m a Product Designer with a strategic approach to design inspired by human behavior & society.
Rachel Fang
Design thinking and design doing are both important.

Xiaoxiao Jin
I design to impact.

Priyanka Lakkad
I design to see people smile!

Ce Liang
Design is my lifestyle

Ya-Ching Hsieh
I explore the unexplored and serve as a medium to bring people together.

Elisa Krebs
Complacency is the enemy of good user experience.

Lexie Li
I design to make complex things simple but effective with empathy and love.

Gefei Liu
UX Design is a never-ending exploration about users.
I strive to design with intent, a process of collaboration, and from a stance of humility and compassion.

A keen observer and passionate problem-solver with a background in e-commerce and social media product.

Exploring how design can convey meaningful messages to touch and inspire people.

Design to have fun and see the future.

I discover the details, connect the dots, and draw a new picture holistically.

Design is a process to sensitize yourself — learn how to discover and frame the world in a new way.

A keen observer and passionate problem-solver with a background in e-commerce and social media product.

Life is design, to design, to understand design.

Designers are the alchemists of the 21st century. Who else combines art, science and storytelling with just a little bit of magic?
Aswati Panicker

My way of making a difference is designing for the less obvious, hidden problems that impact people’s productivity, relationships and workflow.

Dinesh Ram

Design is the process of making things better and it’s fun. What’s not to like?

Yu Hao Shi

I am a curator of digital experiences. Product is my collection. Users are my visitors.

Abby Stegall

Meeting users where they are is essential to making lasting change.

Ankita Tapadia

Design is in details.

Yi Wang

Design is connection.

Yunyan Yang

I design to elicit emotions.

Jing You

I believe in the power of connecting the dots.
With a background in engineering, I aim to integrate technology into our daily life through my design.

Boyu Zhao

Former architect; now building a bridge between our dreams and a tangible reality.

Zihan Zhao

I make design invisible and weave it into daily life to fulfill people’s hidden needs.

Sihan Zha

Former architect; now building a bridge between our dreams and a tangible reality.

Cindy Zhang

I design to distill, connect dots and connect people, just like drawing out the connections between the stars!

Yaxin Zheng

I design to delight.

Zixuan Zheng
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