



# **C**HandRehab

Hand rehabilitation medical device based on soft robotics

Team Project Collaborated with Ming Gong & Rustin Pan Berkeley, CA, Spring 2022

HandRehab includes a mobile app and a pair of smart gloves, It helps the users to bend their fingers, practice hand gestures, and develop muscle strength easily. It could also gradually increase the pressure and frequency so the hand could recover faster.

## [Problem Space]

About 15 million people are affected by stroke annually around the world and more than 70% of stroke survivors have damaged hand function to different degrees. The recovery of some lost function through intensive physical therapy typically involves the use of repetitive task practice (RTP), which need the patient to practice repetitive hand postures multiple times everyday.

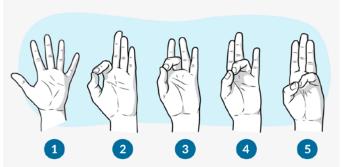
However, for a great number of patients, their hand condition is not good enough for them to complete the therapy by themselves. They normally hire experienced therapist to assist the practice on a high hourly rate.

Our goal for HandRehab is to develop a wearable device to enable patients to perform RTP on their own, whether at home or in a clinic, in order to improve the accessibility and effectiveness of therapy.













- 1. Patients with hand damage
- 2. Silicon soft robotic test
- 3. A hand therapy session diagramed https://www.aarp.org/health/
- 4. A smart glove controlled by app. It can help patient bend fingers according to the RTP process.

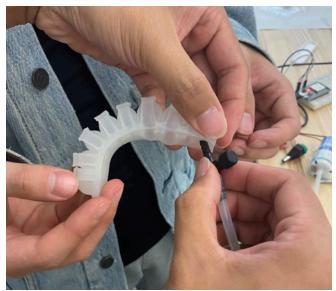
## | Fabrication |

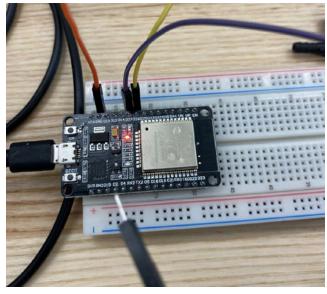
The functionality of this project means that the soft robotics structure needs to have considerable strength. We started with the small regular linear prototypes we built in the class and they turned out to be too weak for the bigger fingers.

So before starting the fabrication process, we dived a little bit deeper into the different prototypes of soft robotics. Then we realized, that to achieve a similar movement, you can leverage different structures. We tested several different structures and decided to apply heavier and stronger ones on the two main fingers, lighter and weaker ones on the other.

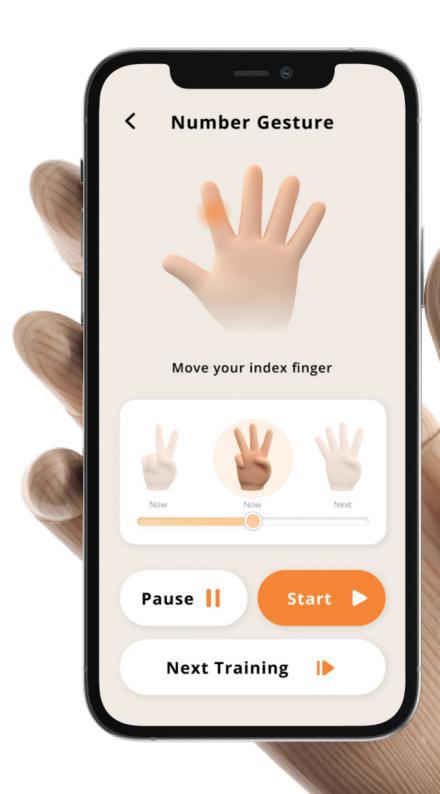


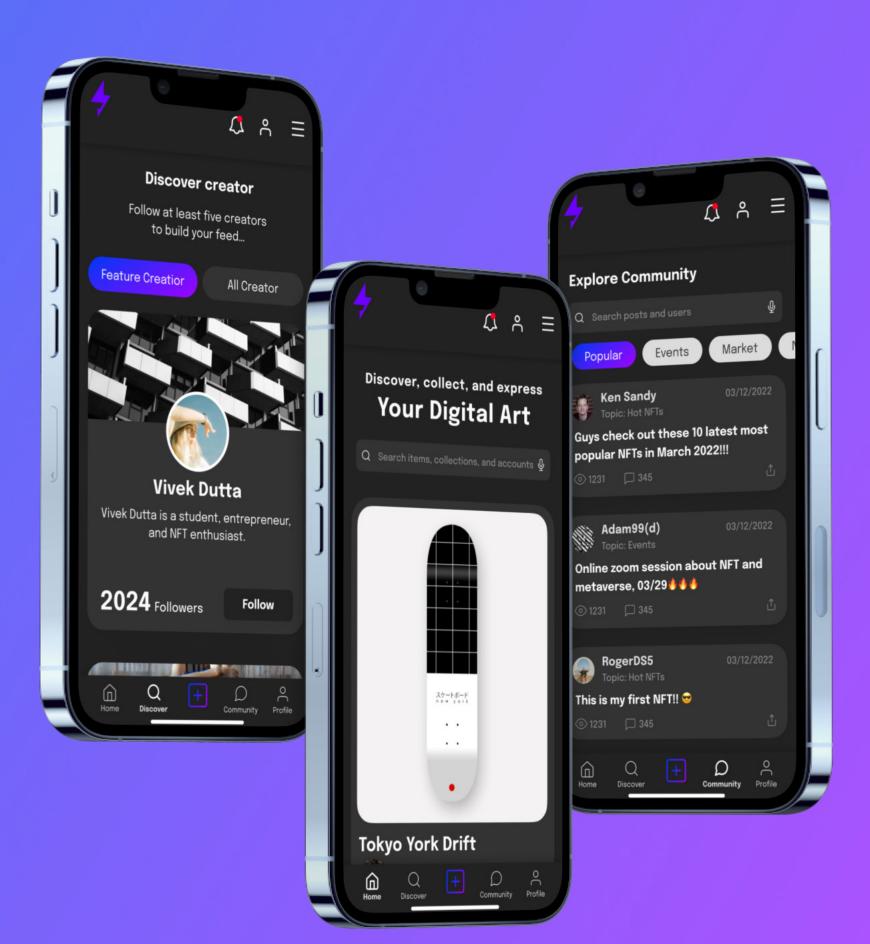






Fabricating process: Molding, casting, installing, and Ardurino connecting.





# O2 Zeus App

A Decentralized NFT Community for Creators and Media Users

Team Project Collaborated with Ethan Fang, Rickey McGregor, Vignesh Siva, Vivek Dutta, Jayla Goler Berkeley, CA, Spring 2022

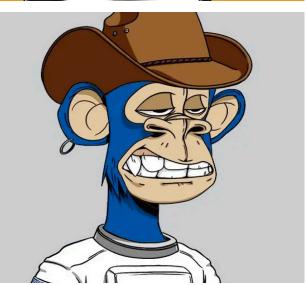
Zeus is all you need to stay up to date with trending NFTs and NFT artists, giving you quick & easy access to all of the NFT related content, the ability to follow and interact with creators directly, and grow your own audience as a creator yourself to boost your investment and sales outlook.

## [Problem Space]

Non-fungible tokens (NFTs) are noninterchangeable units of data stored on a blockchain that serve as a form of digital ledger and can be sold and traded

Meet Zeus: A new way for NFT creators and lovers to socialize and build community. Humans thrive in community, and we bring that to the NFT space.





Zeus is all you need to stay up to date with trending NFTs and NFT artists, giving you quick & easy access to all of the NFT related content, the ability to follow and interact with creators directly, and grow your own audience as a creator yourself to boost your investment and sales outlook.

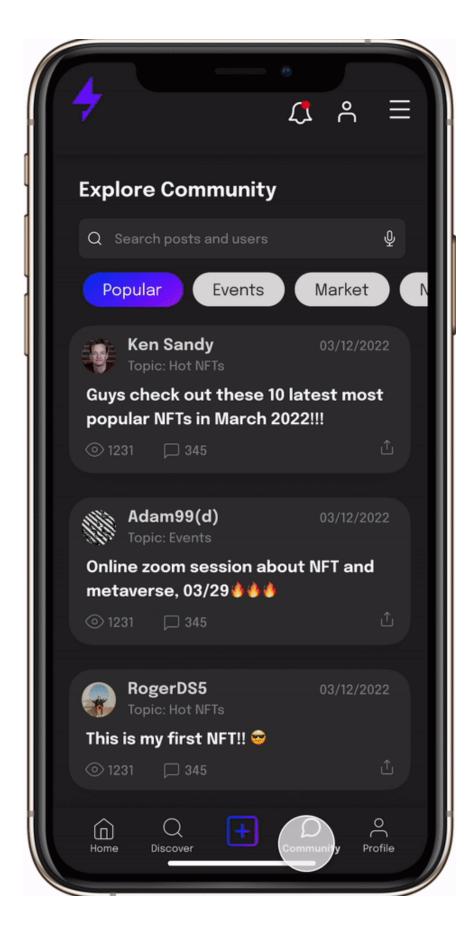
Current NFT community tools and platforms are scattered and hard to find. Users have to move across too many different platforms in order to browse, verify, and engage in NFTs effectively. Additionally, the barrier of entry into NFT-oriented communities often feels untenable: newcomers may be intimidated or otherwise unsure of where to meet, interact with, and learn more about NFTs. As nonfungible tokens become increasingly prevalent across the intersections of tech, art, and social media, there should be a one-stop platform that connects each of these components into a flourishing community of trailblazing creators.

### Final prototype:

A smart recommendation system for users to see their favorite NFT art.







Final prototype: A community for NFT/ Web3 Users





# O3 APEX

Augmented Public Engagement Experience Empowered by AR

Individual Project MDes Thesis Berkeley, CA, Fall 2022

I am proposing an augmented public engagement experience (APEX) that connects the tool of Mixed Reality and the problem space of public participation in urban development. The project explores the possibilities of bridging local communities and urban design experts through AR.

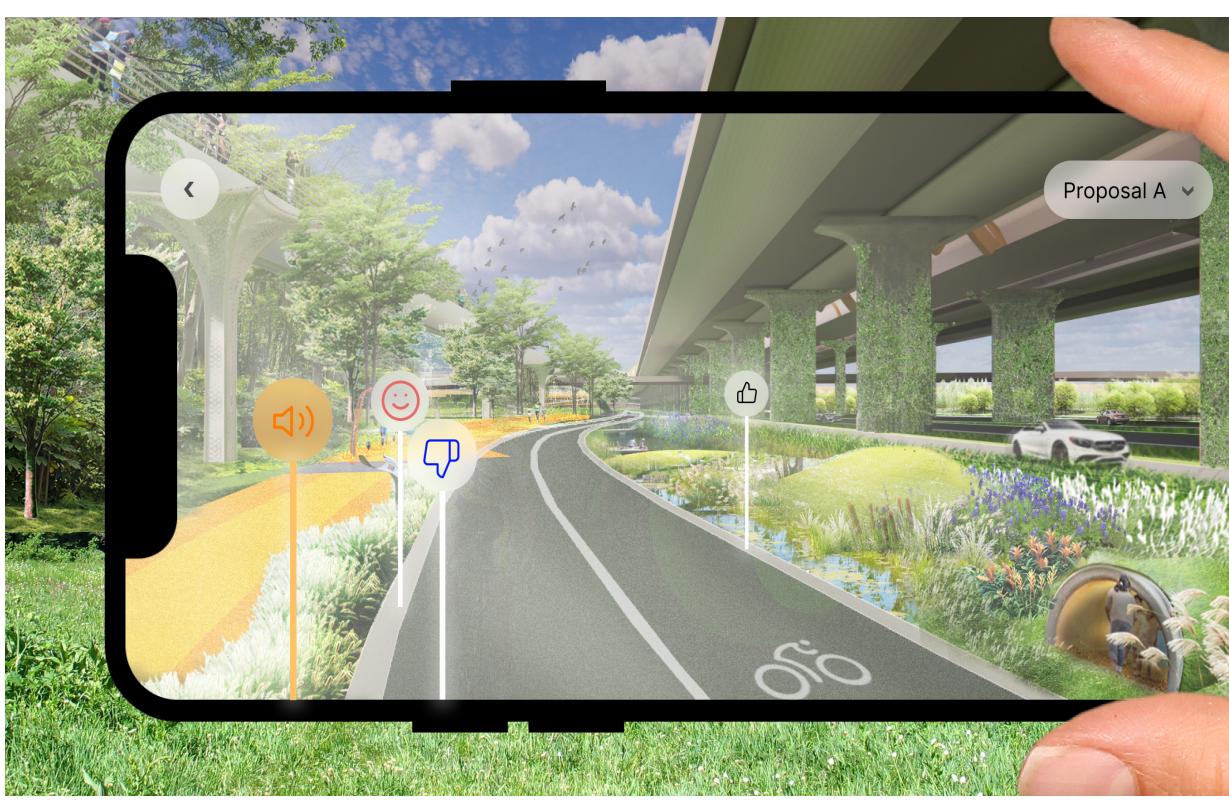
# **|APEX: Connecting Communities & City|**

For decades, Augmented Reality(AR) researchers have been exploring its potential applications in reducing learning barriers in highly professional domains. As AR technology advances, we can almost see how its applications seamlessly bridge the exclusive professional domains and normal people. Current AR applications can provide a highly inclusive way to engage with virtual objects or interact with other users. They are blurring the boundaries of virtual and physical worlds by creating collaborative content in digital environments that can be overlaid in the real environment.

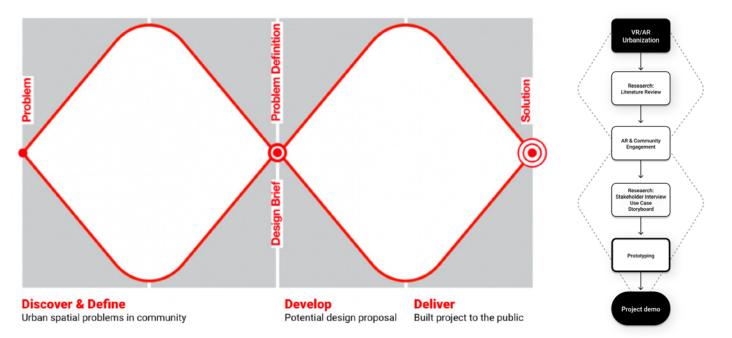
Meanwhile, city government and urban designers are facing challenges from the gap between highly professional design content and the public's limited domain knowledge. The



Sunrise Tomorrow, Community Co-Creation Workshop Sacramento, CA, 2020



An AR system to bridge local communities and urban development experts



Double Diamond Design Method for urban development project

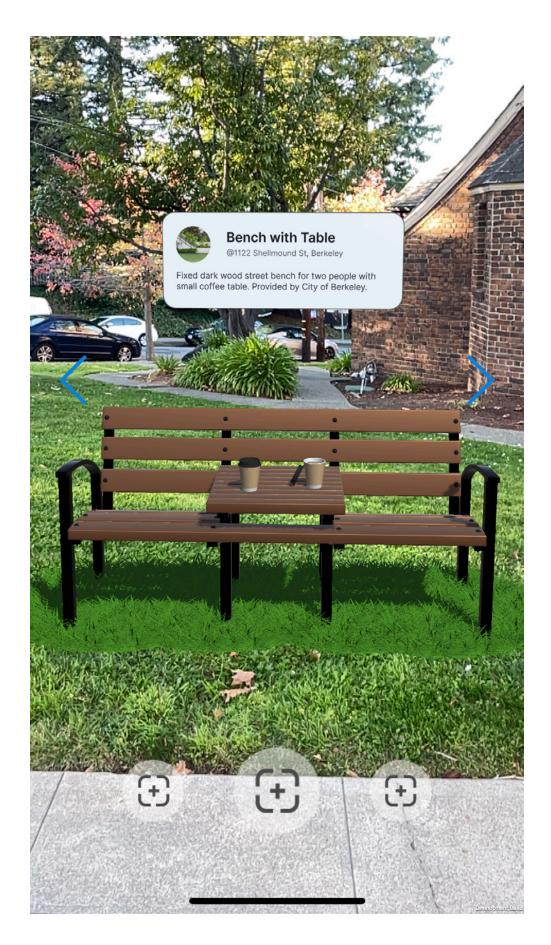
A simplified design process diagram for this thesis

design concept can easily clash with the user's actual needs when designing urban spaces. So in the architectural design and urban planning area, public participation and community engagement is essential in project development. However, the current public participation models still need to communicate with the public through traditional technical drawings and in-person group discussions, which will likely cause misunderstanding and exclusion.

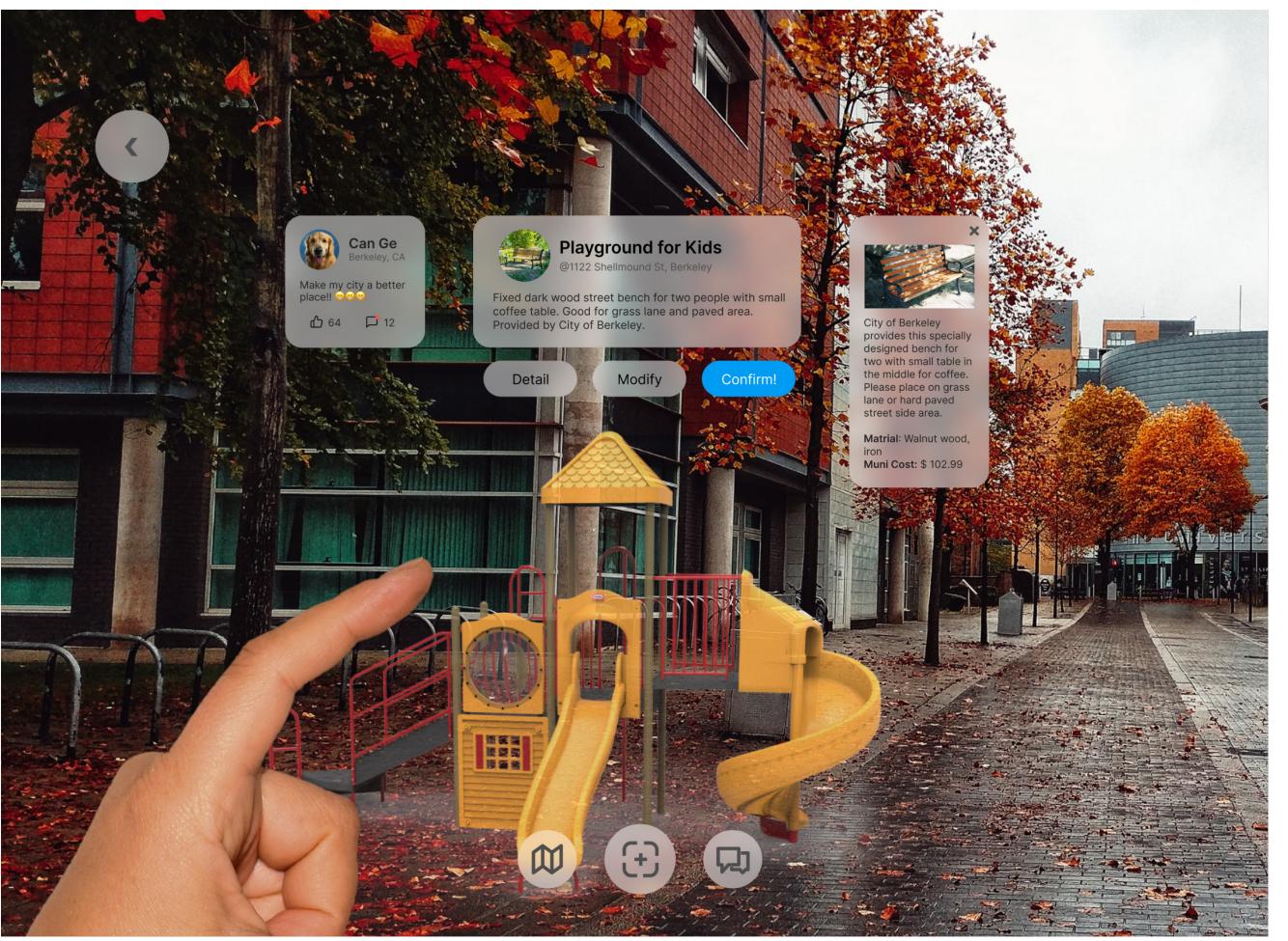
Therefore, I am proposing an augmented public engagement experience (APEX) that connects the tool of Mixed Reality and the problem space of public participation in urban development. The project explores the possibilities of bridging local communities and urban design experts through AR.

Initially, I conducted thorough research on the current landscape of public engagement to understand the limitation and pain points of traditional participation models. Secondly, the project focused on innovative solutions that solve the problems in these scenarios by connecting digital and physical realities. Eventually, high-fidelity prototypes are created. The outcome will be a series of working AR prototypes, a video of the design process, and a well-documented research report. As a designer, I understand that AR can benefit from multiple potential use cases in urban development, and the design could be different in different cities. However, due to the limitation of this thesis project, the final presentation and showcase will focus on the urban park design in Berkeley, California, as a case study.

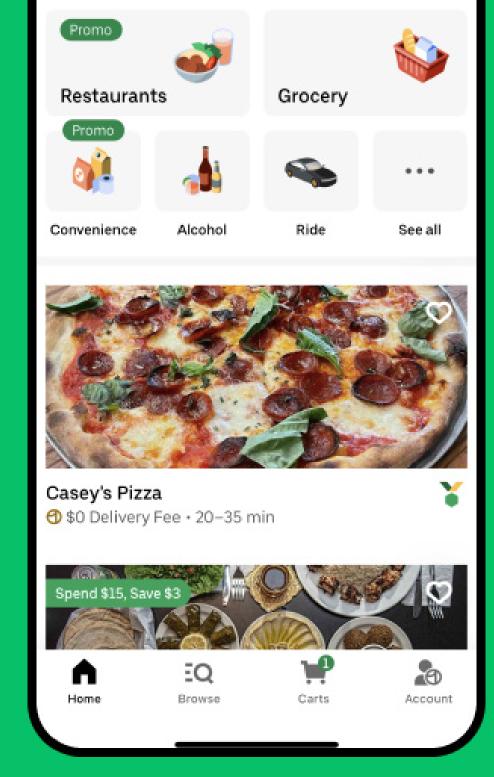
This project tries to unlock how the public understands the urban environment. AR technology can bridge the divide between residents and their cities, making the future city more intelligent, transparent, and inclusive.

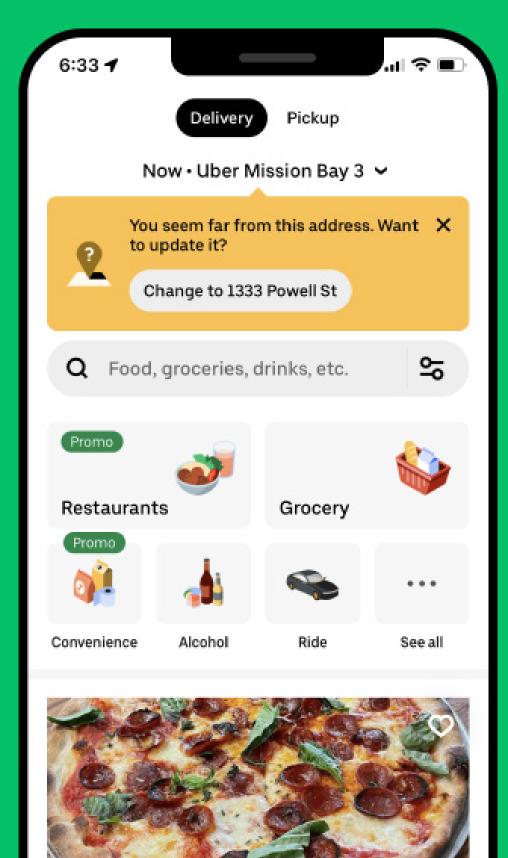


Final prototype: An APEX screenshot of proposing a bench in the park



Final prototype:
After choosing the location,
a virtual design project will
appear and project on the
actual environment in the user's
device. Then, the resident
can switch between different
proposals from the experts, see
design detail, and modify the
size or layout.



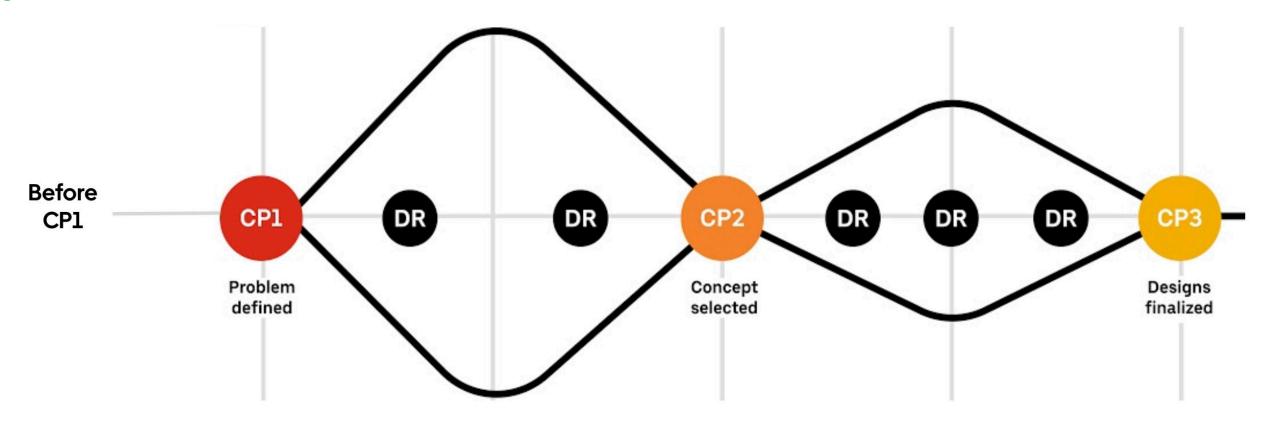


# Uber Eats Streamlined Address Entry Redesign

Intern Project MDes Design@Large San Francisco, CA, Summer 2022

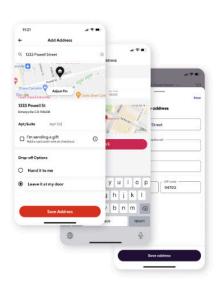
Redesigned UberEats address entry flow to streamline the experience and improve address accuracy. Led the protect with the help of my mentor through all checkpoint reviews and the final design was appended into the feature pipeline to be delivered in early 2023.

# | Design Process |



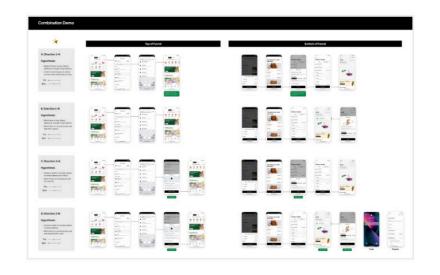
Pre-CP1 Research

Competitor audit | Flow map | Design crit



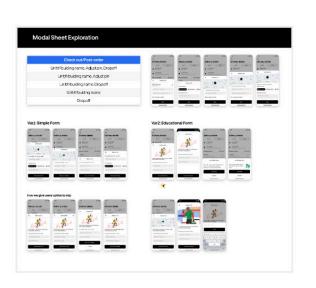
**CP1-2 Exploration** 

UX concept | Brainstorm | Design review



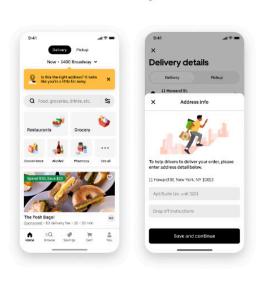
**CP2-3 Refinement** 

Ul refine | Flow map | Design crit



**CP3 Meeting** 

Scheduled early next week





# **CAN GE**

### **EXPERIENCE**

### **Uber** I Product Design Intern

[05/2022-08/2022] San Francisco, CA

- Redesigned UberEats address entry flow to streamline the experience and improve address accuracy. Led the project with the help of my mentor through all checkpoint reviews and the final design was appended into the feature pipeline to be delivered in early 2023.
- Collaborate with PMs, engineers, copywriters, and peer designers to understand requirements, and provide creative, thoughtful solutions.
- Communicate the UX process and interaction design with wireframes, flow maps, mockups, and high-fidelity prototypes.
- Advocate for the prioritization of accessibility, design-centered changes, refinements, and improvements based on user feedback.

### **Yirental** I Product Design Intern

[02/2021-10/2021] Seattle, WA

- Lead the mobile/Web UI/UX design of the end-to-end new feature that helps users manage home maintenance requests in collaboration with PMs and devs, from research to prototyping.
- Conduct interviews and usability tests. Iterate and optimize design among customer needs, business goals, and technological feasibility.
- Build wireframes, prototypes, and high-fidelity visual designs based on the existing UI design system.
- Contributed to the design system with more than 10 new UI elements and components, keeping the product interface consistent and saving time for communication between designers and developers.

### Gensler | Technical Designer

[07/2019 - 07/2021] Houston, TX

- Produce design ideas and collaborate with marketing and tech teams.
- Contrive meaningful infographics that visualize technical concepts using Adobe Suite for architectural and sustainable studies.
- Create VR walk through experiences by Unity3D.

# **University of California, Berkeley** I *VR Design Researcher* [02/2019-05/2019] Berkeley, CA

 Work closely with 3 teammates to deliver VR solutions by designing user experience, building 3D models, and developing with Unity/C#.

### **EDUCATION**

### University of California, Berkeley

Master of Design

[08/2021-Expected 12/2022]
M. Des Student Fellowship [09/2022]

### University of California, Berkeley

Master of Architecture

[08/2017-05/2019], GPA: 3.74/4.0 Chester Miller Fellowship [12/2018] M. Arch Student Fellowship [09/2017]

### **Beijing University of Technology**

Bachelor of Architecture

[09/2012-07/2017], GPA: 3.52/4.0

### SKILLS

### Design

UX / UI Design, Prototyping, Wireframing, Rapid Ideation, Interaction Design, Design System, Mobile Design, 3D Modeling, User Interview, Usability Testing, Team Collaboration

### Coding

HTML, CSS, JavaScript, Python, C#

### Tools

Figma, InVision, Principle, Adobe Suite, Unity, AutoCAD, Rhino, Modo, Blender, SketchUp, VRay, Hand Sketching

### Language

English, Mandarin Chinese