mobile app for digital arcade tokens
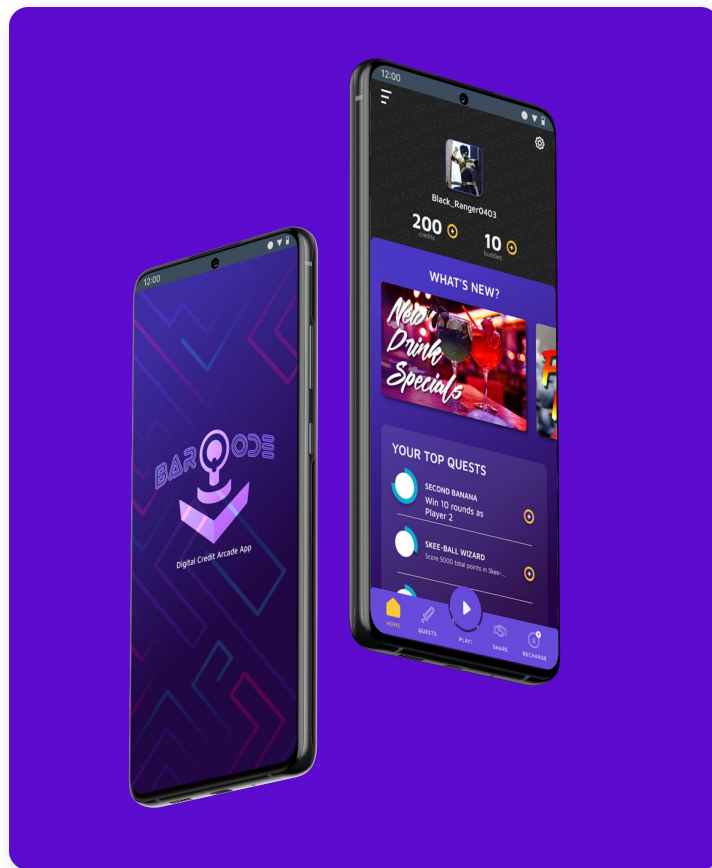
AUBREY YOUNG
CODE+DESIGN

Project overview

The product:

BarQode is a mobile app that adds a social aspect to the traditional fun of arcade games while also removing the need to carry arcade tokens. BarQode targets customers who enjoy a lounge atmosphere while reliving childhood memories with a joystick.

Project duration:

July to September 2022

Google

Project overview

The problem:

Arcade patrons want the option to carry and distribute digital arcade tokens to avoid carrying pockets full of video game tokens around with them.

The goal:

Design an app for BarQode Arcade that allows users to purchase, share, and use tokens from their mobile devices.

Google

Project overview

My role:

UX designer and researcher creating a mobile app prototype for BarQode Arcade, from conception to delivery.

Responsibilities:

- Create paper / digital wireframing
- Conduct interviews and user research
- Account for accessibility
- Conduct usability studies
- Create lo-fi / mid-fi / hi-fi prototyping

Google

Understanding the user

- User research
- Personas
- User journey maps

Google

User research: summary

I conducted 5 interviews to understand common behaviors, experiences, and frustrations with users who make mobile purchases or use mobile access for travel or entry into concerts and events. My initial assumptions of the personas included those who **play video games** and **use modern mobile technology** to plan group activities.

The differences between the user personas revealed that even though modern technology users engage in mobile pay, **traditional pay methods like cash or credit card should also remain available** for those who like familiarity or enjoy the tactile engagement of video game tokens. Other issues I encountered were wanting to **monitor gaming activity** and an **easy way to distribute gaming credits** within a group.

Google

User research: pain points

1

Digital purchase

Users want the freedom to choose between using tokens or digitally purchasing video game credits

2

Gamer incentives

Frequent users or larger parties may find it cumbersome to distribute tokens within their group

3

Child-friendly

Users may not know the themes or imagery of the games their children are playing
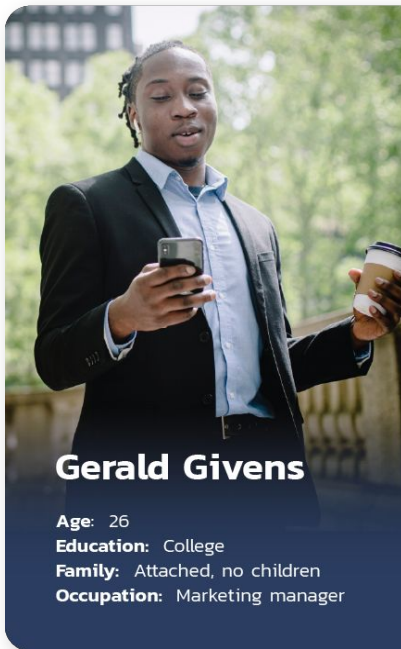
4

Activity tracking

Budget-conscious users do not have a digital method to track their purchases, stat-loving users do not have a way to track their game habits

Google

Hey, I'm
Gerald Givens

Problem statement:

Gerald is a marketing manager planning a team event at an arcade who needs to distribute video game tokens to his coworkers because he does not want to carry the video game tokens around with him.

"Work hard, game hard."

Gerald Givens

Age: 26
Education: College
Family: Attached, no children
Occupation: Marketing manager

Goals

- become more comfortable with using mobile pay options
- experience the excitement of arcades again, but in an adult setting

Frustrations

- "I'm fine with mobile access (movie/airline tickets, covid vax card), but mobile pay does not always work as conveniently as paying with a card."
- "My job has regular after-work outings, and I would like to suggest something different that we don't normally do."
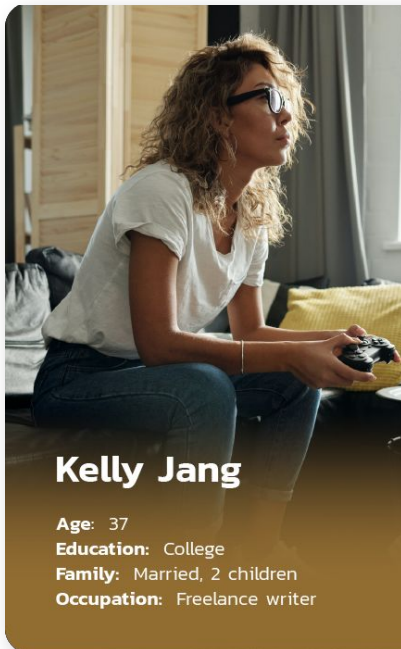
Story

Gerald is a marketing manager at an advertising firm and is comfortable with modern technology. The managers rotate the duty of planning the monthly outing for the team, and Gerald wants to plan something different than just a dinner; he wants his team to check out a "barcade," that is, a bar and video arcade. Although the barcade maintains the old-school option of tokens, it also has a mobile scan system that can be used to purchase credits to play as well. Gerald prefers this option to having to lug around a bag full of quarters to distribute to his coworkers.

Google

Hi, my name is
Kelly Jang

Problem statement:

Kelly is a freelance writer for a technology and parenting blog who needs to monitor her budget and which games her children play because she is writing an article on digital fun and safety.

"Make play time fun for everyone!"

Kelly Jang

Age: 37
Education: College
Family: Married, 2 children
Occupation: Freelance writer

Goals

- seek out entertaining venues/activities to share with her parenting blog
- visit venues that keep her whole family busy and having fun
- keep track of how much money is spent on outings

Frustrations

- Businesses reverting back to paper transaction with covid restrictions ending: "I miss the option of (our favorite restaurant) allowing us to pay with our phones."
- "Customer service is really slow at times. Most issues can be handled in the app, but when I need a human, wait times are horrendous."

Story

Kelly is a freelance writer for numerous lifestyle and parenting blogs, and has a healthy love for video games. She played with her brother as a child, then picked up the controller again when her kids started playing video games to both have fun with them and to make sure they were playing appropriate titles. She wants to meld a fun afternoon outing with her family with an article about positive gaming while also making easy money transactions and monitoring how much the arcade outing costs for her blog.

Google

User Journey Map

Mapping Gerald's user journey revealed how convenient an app for The BarQode Restaurant & Arcade would be for individuals and groups to have the choice of an old-school or modern arcade experience.

Persona: Gerald Givens

Goal: plan a fun evening with coworkers by purchasing and distributing digital tokens amongst them

ACTION	Notify coworkers of evening plans	Reserve tables	Order and eat dinner	Purchase/distribute game tokens	Play arcade games
TASK LIST	1. Email invite and event information 2. Receive confirm/cancel responses	1. Call The BarCode ahead with guest number 2. Ask about dietary restrictions, disability accommodations	1. Group places food/drink orders 2. Group plays screen trivia for rewards 3. Gerald pays dinner tab and opens bar tab for coworkers	1. Gerald goes to ATM to withdraw cash 2. Gerald places cash into token machine, receives tokens 3. Gerald evenly distributes tokens to coworkers	1. Group plays arcade games 2. Unused tokens are kept until player returns to use them
FEELINGS	• Excited for new hangout spot • Anxious about how many will attend and have fun	• Relieved for accomodations • Prepared for the evening	• Overwhelmed by menu choices • Cautious about coworker safety with drinks	• Annoyed at ATM surcharge • Unprepared to carry a large amount of tokens	• Having a great time with coworkers • Unsure of what to do with unused tokens
IMPROVEMENT OPPORTUNITIES	• App includes invite link • App includes "Add Event to Calendar" link	• Online table reservation • *Menu lists dietary restrictions* • *Menu accessible through app to accommodate low-visibility guests*	• Menu includes most popular items, group dining options • *Menu uses pictures and text descriptions* • player rewards for trivia performance	• App allows game credit purchase • Game token distribution through mobile app • Arcade games work with app and tokens	• Rewards program for app users • Unused credits can be used for food items or saved until next visit

Google

Starting the design

- Paper wireframes
- Digital wireframes
- Low-fidelity prototype
- Usability studies

Google

Paper Wireframes

Home page v1

The common idea behind the homepage composites was to design quick access to The BarQode app's major functions. The page includes buying and sharing arcade credits, adding a social aspect to modern arcades, and adding a floating action "Play" button for easy access.

Home page composites
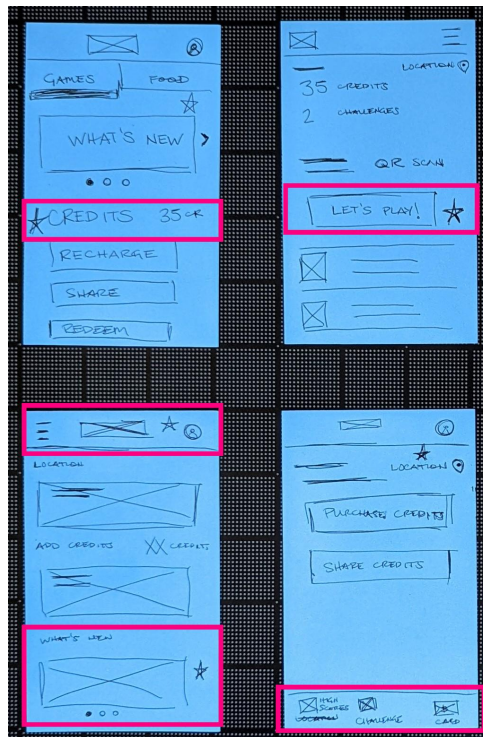
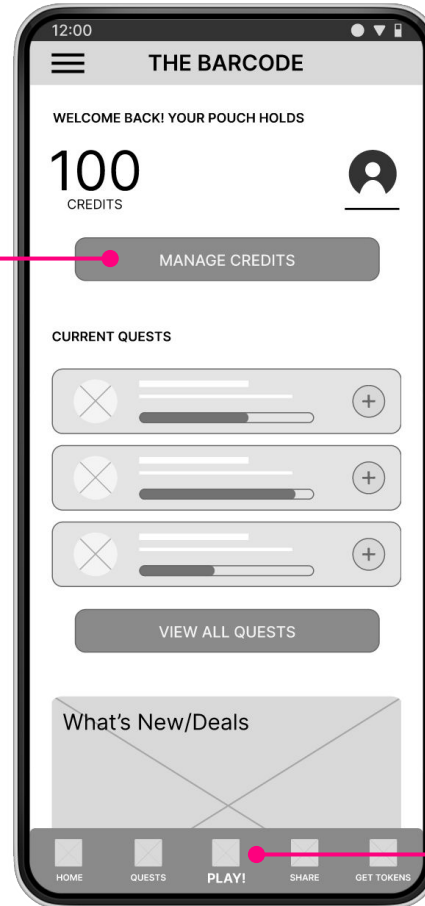Highlighted areas are replicated on my final paper homepage

Home page v1

Google

Digital Wireframes

Home page v2

Based on user research findings, I eliminated some features from the paper wireframe. For example, I removed the "Location" section at the top and placed it in the navigation menu.

The "Credits" section allows the user to see how much they have to spend. The button allows access to other credit options.
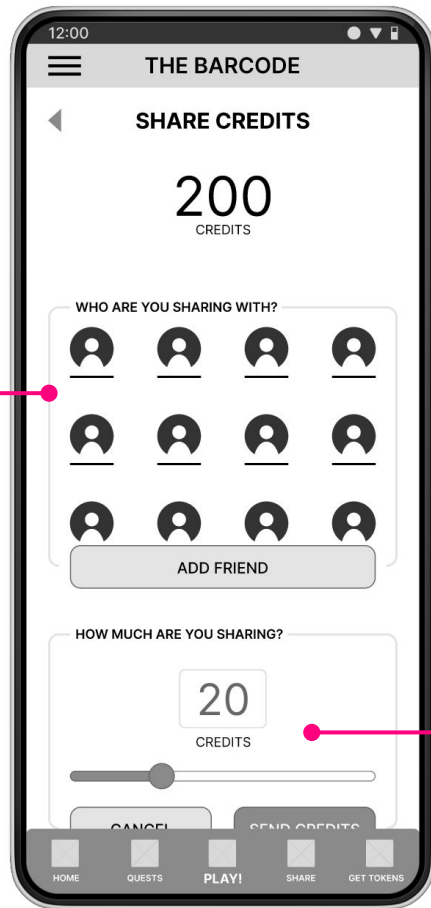
The bottom menu is on most pages, allowing easy access to the app's major functions

12:00

THE BARCODE

WELCOME BACK! YOUR POUCH HOLDS

100
CREDITS

MANAGE CREDITS

CURRENT QUESTS

VIEW ALL QUESTS

What's New/Deals

HOME   QUESTS   **PLAY!**   SHARE   GET TOKENS

Google

Digital Wireframes

Share page v2

In addition to the social aspect, a friends list allows easy arcade credit sharing between contacts. Friends list can also be accessed from the Home page profile icon.

The "Friends" section features profile pictures and names for accessibility

Sharing credits made visually easy by allowing either manual entry or sliding button

12:00

THE BARCODE

SHARE CREDITS

200
CREDITS

WHO ARE YOU SHARING WITH?

ADD FRIEND

HOW MUCH ARE YOU SHARING?

20
CREDITS

CANCEL   SEND CREDITS

HOME   QUESTS   PLAY!   SHARE   GET TOKENS

Google

Low-fidelity prototype

This prototype features the primary user flow of purchasing digital arcade credits, then sharing some credits with a buddy.
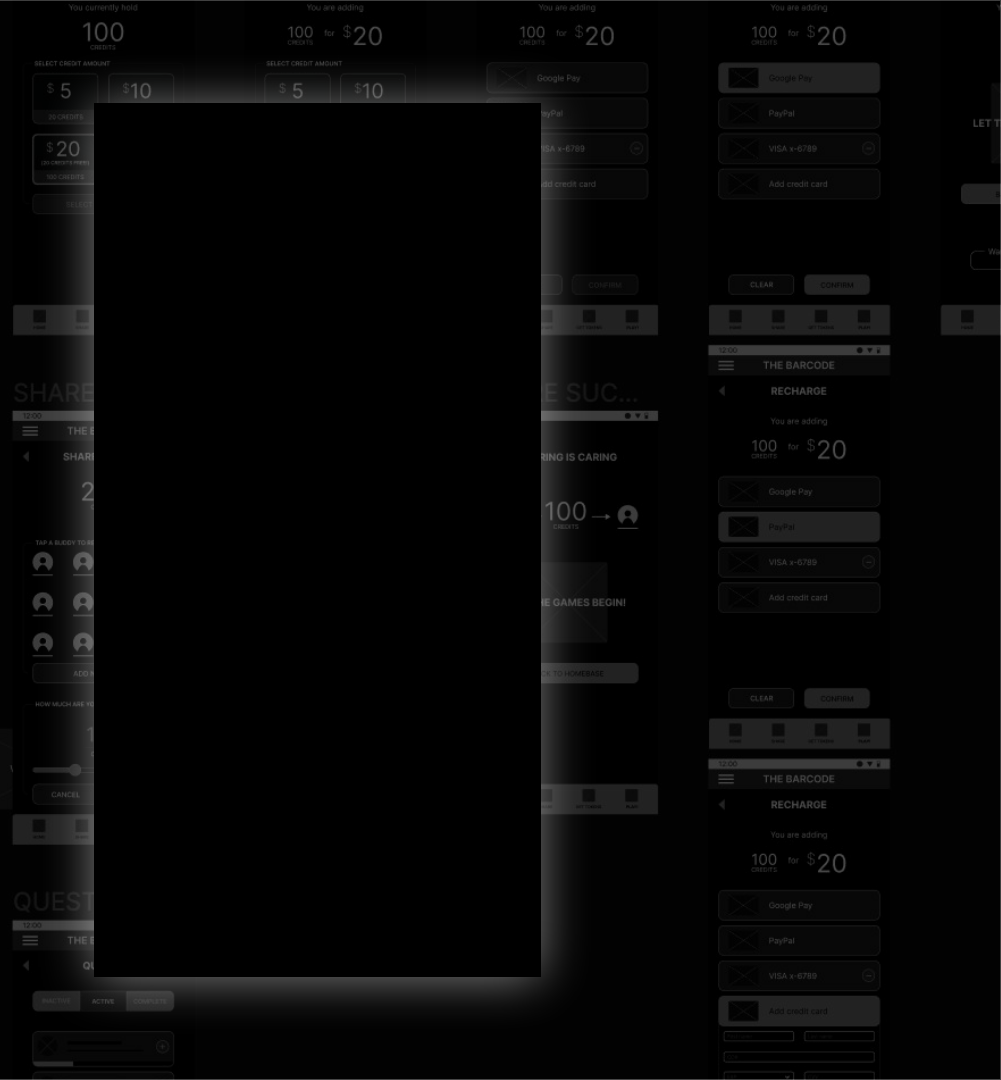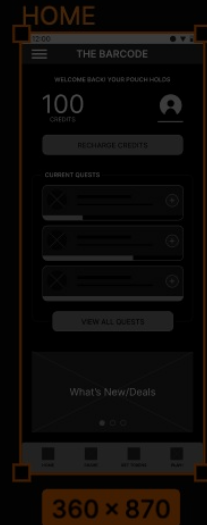
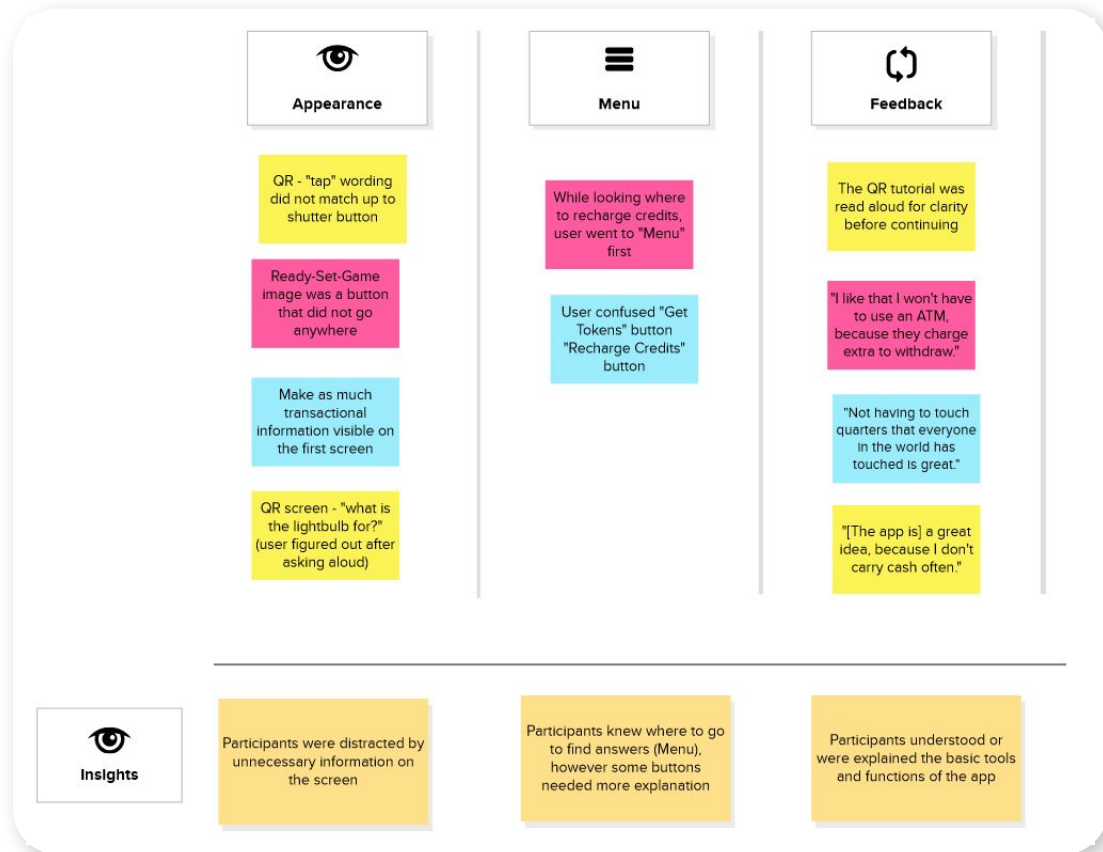Give the BarQode lo-fi prototype app a spin

Lo-fi demo
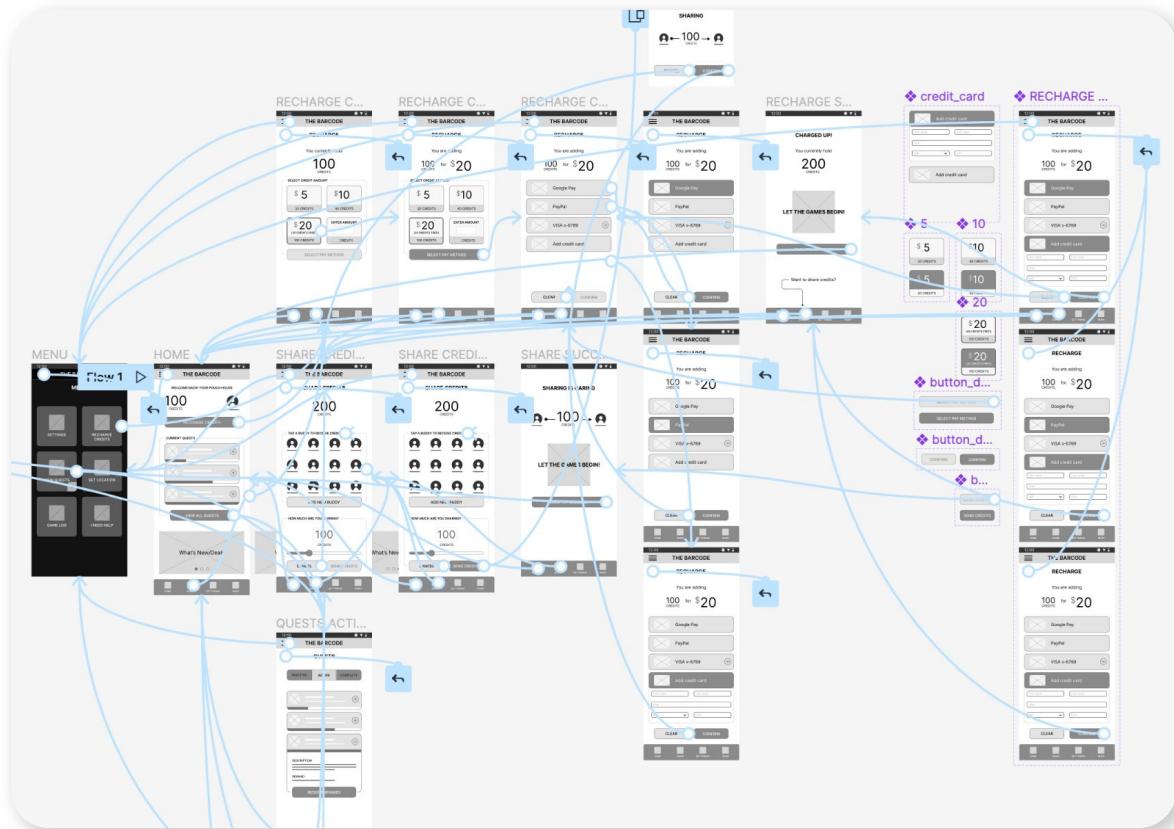
Prototype Test Drive

Give The BarQode prototype app a spin, right [HERE](#).

Affinity Diagram

1. Based on the theme that participants were distracted by unnecessary information on the screen, an insight is users need less guidance on inherent mobile functions.

2. Based on the theme that participants knew where to go to find answers, however some buttons needed more explanation, an insight is users need familiar, yet varying cues for less inherent functions. (i.e. "Get Tokens" vs "Recharge Credits")

3. Based on the theme that participants understood or were explained certain tools and functions of the app, an insight is users appreciate explanations of unfamiliar functions.

Appearance

QR - "tap" wording did not match up to shutter button

Ready-Set-Game image was a button that did not go anywhere

Make as much transactional information visible on the first screen

QR screen - "what is the lightbulb for?" (user figured out after asking aloud)

Menu

While looking where to recharge credits, user went to "Menu" first

User confused "Get Tokens" button "Recharge Credits" button

Feedback

The QR tutorial was read aloud for clarity before continuing

"I like that I won't have to use an ATM, because they charge extra to withdraw."

"Not having to touch quarters that everyone in the world has touched is great."

"[The app is] a great idea, because I don't carry cash often."

Insights

Participants were distracted by unnecessary information on the screen

Participants knew where to go to find answers (Menu), however some buttons needed more explanation

Participants understood or were explained the basic tools and functions of the app

Google

Usability Study

Round 1 findings

1 Users need less guidance on the app's main functions

2 Users need more variation in visual cues for purchasing credits vs tokens

3 Users appreciate explanations of unfamiliar functions

Round 2 findings

1 Users had trouble locating the **Play button** in the bottom menu

2 Users found the **"Share Credits"** screen presented too much information
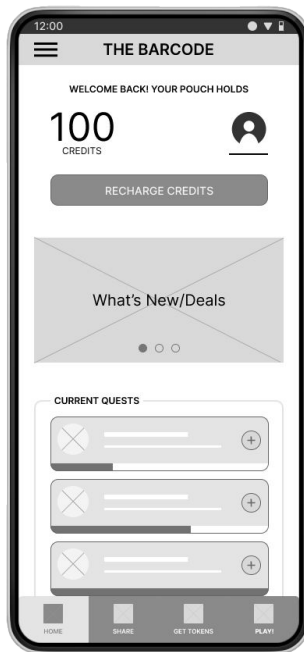
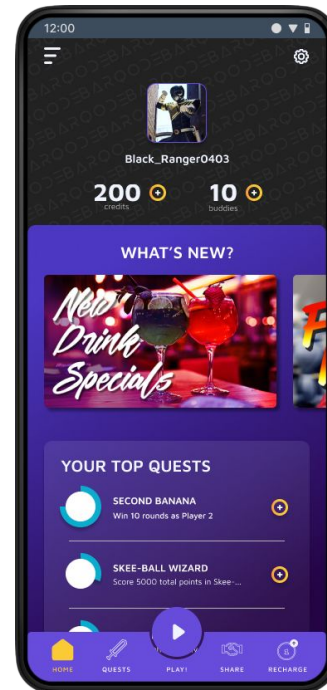Google

Refining the design

- Mockups
- High-fidelity prototype
- Accessibility

Google

Mockups

Hi-fidelity usability tests showed users had trouble initially locating the **Play button** in the bottom menu.

I revised the bottom menu to include a stand-out **Play button in the center**, as well as added sensible icons for the rest of the menu for easier recognition.

Google

Mockups

Usability tests also showed users found the **"Share Credits"** screen presented too much initial information.

I split the original screen into **2 separate screens** and **redesigned the buddy selection area to a buddy selection scroll** to reduce visual impact. A downside to this solution is giving the user one more screen to view to finish the credit transfer process.
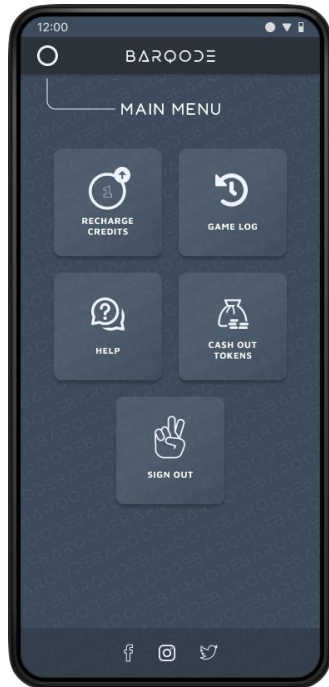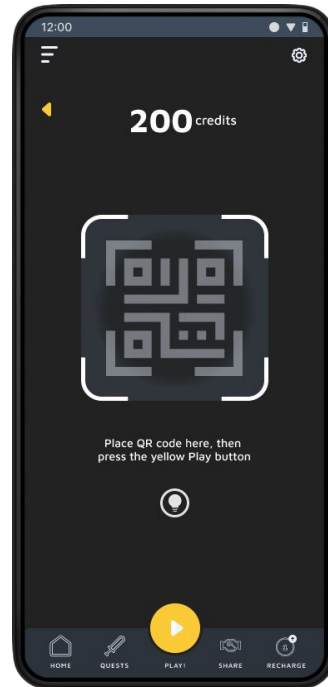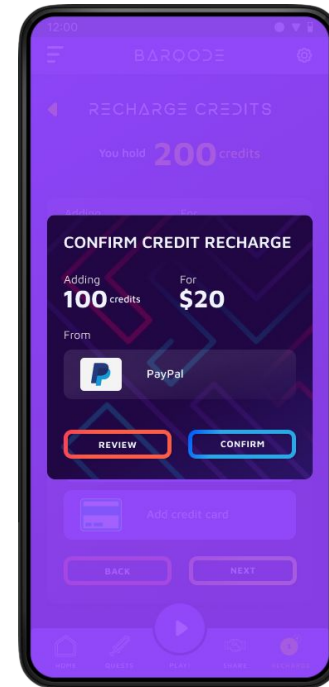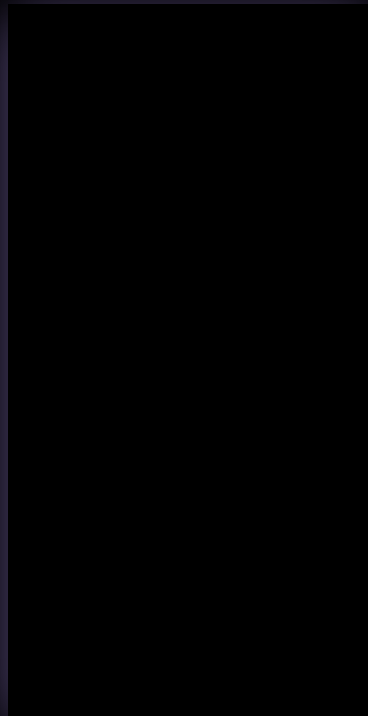
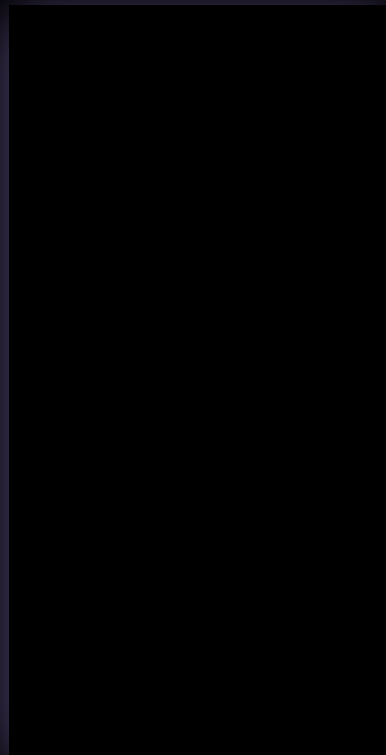

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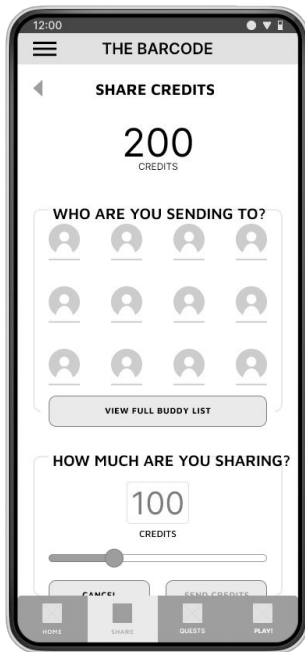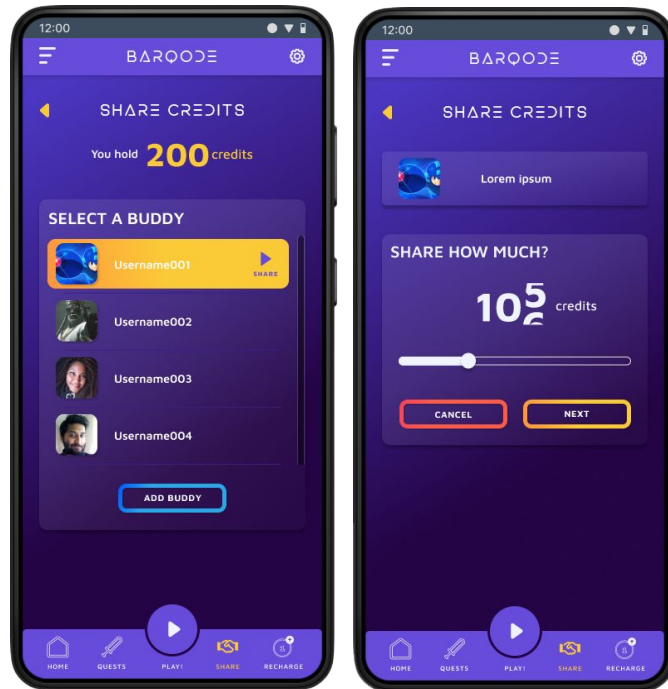
Key Mockups
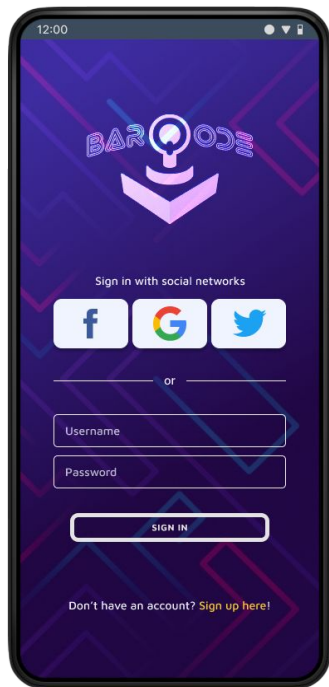
SIGN IN

MAIN MENU

QR SCAN

PAY CONFIRM

Hi-fidelity Prototype

My hi-fidelity prototype demonstrates the app's main functions of **playing arcade games and buying/sharing digital tokens**, while the refined screen animations give users a **feel of movement** and placement throughout the app.

Lo-fi demo

Hi-fi demo

Google

Accessibility Considerations

1

Labeled icons and menu options with text to help identification and navigation

2

Tested the app's colors for appropriate contrast to be easily readable on all devices

3

Limited visual input and options on decision screens so users are not distracted when attempting to purchase or share credits

Google

Going forward

- Takeaways
- Next steps

Google

Takeaways

Impact:

As more of us get used to hanging out in public again, **social connection and safety** is as important as it has ever been. BarQode's combining an arcade lounge that **eliminates one of many touch points** in a venue, while also **introducing a digital social aspect**, is a fitting reintroduction to social life.

What I learned:

My initial goals for the app shifted as I gathered user research and started building. I have built websites before, but activities like **usability studies really made me analyze** the "why" of creating a digital product, and not just the "how."

Next Steps

1

User Profile Customization

Expand user profile options, and allow a user to attach an existing social media account to their BarQode profile

2

Gamer Rewards system.

A tester suggested this feature, and a rewards system would work perfectly in a competitive and cooperative setting that BarQode provides.

3

Conduct more user research to determine if a personal **Gaming History** section would be beneficial to users.

Google

Let's connect!

Thank you for reviewing my presentation for The BarQode Digital Arcade app. If you would like to keep up with my projects, feel free to contact me:

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LinkedIn: aycodedesign
Portfolio: aycode.design

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