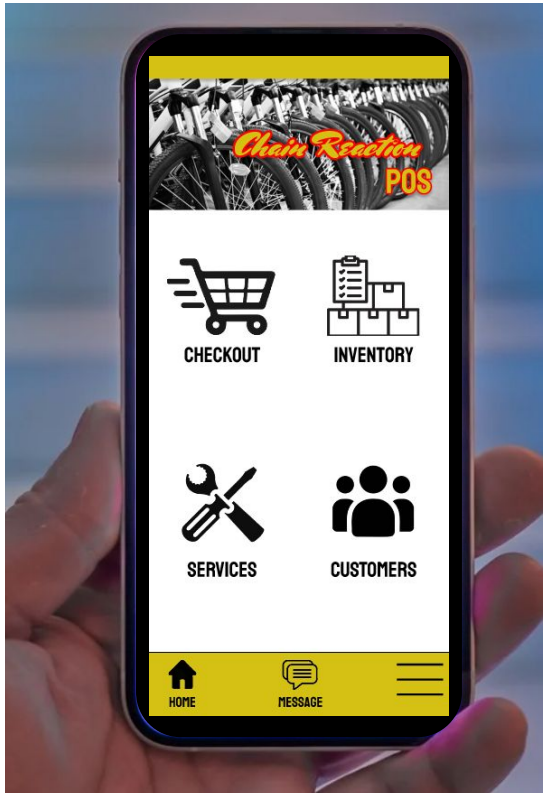
Chain Reaction Point of Sale App Design

Ashley Kerns

Project overview

The product:

Chain Reaction is a bicycle shop that sells bikes, bike accessories, and provides servicing on bikes. They serve a wide variety of customers and bike lovers. They currently use an outdated checkout system that leaves both them and customers frustrated and want to improve this aspect of their business.



Project duration:

July 2023 - November 2023

Google

Project overview

The problem:

Many bike shops are using outdated technology to check out customers and need a more efficient way to complete this process.

The goal:

Design an app for Chain Reaction that allows bike shop owners and their sales associates to checkout customers with ease.

Project overview

My role:

UX designer designing an app for Chain Reaction to design a cash register app from conception to delivery.

Responsibilities:

Conducting interviews, paper and digital wireframing, low and high-fidelity prototyping, conducting usability studies, accounting for accessibility, and iterating on designs.

Understanding the user

- User research
- Personas
- Problem statements
- User journey maps

User research: summary

I conducted interviews and created empathy maps to understand the bike shop I'm designing for and their needs. A primary user group identified through research was bike shop owners who use outdated tech to ring up sales and communicate with customers.

The users identified also revealed further frustrations and pain points, like tracking inventory, keeping tabs with customers and orders, whether orders we paid, etc. These users were frustrated by the tools they currently use and want a more efficient and simple way to ring up their customers.

User research: pain points

1

Old Tech

Many bike shop owners are using paper systems and old cash registers to ring up a sale, making it hard to keep track of sales.

2

Communication

Bike shop owners want a better way to communicate with their customers and make sales easy and simple for them.

3

Management

Bike shop owners have different systems for sales, inventories, customers, and reporting. They want an app that can house it all.

Persona: **Sam**

Problem statement:

Sam is a manager for several bicycle shops who needs and app that can handle all transactions and manage services, because his shops need to move away from slow and clunky systems.

Sam

Age: 47
Education: HS Diploma, some college
Hometown: Houston, TX
Family: Married, two kids
Occupation: Manager of Two Bike Shops

"I want to run successful shops so customers keep coming back."

Goals

- Give friendly service to customers
- Improve employee experiences
- Manage the shops efficiently
- Get better systems into place

Frustrations

- Using old technology to ring up sales
- Customers not receiving good communication
- Do not get great reports on sales, inventory, or productivity

Sam is a 47 year old who is the Manager for two bicycle stores in the Houston, TX area. He is married and has two kids. He is frustrated at work because the technology to check out and manage customers is getting increasingly outdated. He's looking for ways to motivate the owners to improve and update the businesses.

Google

User journey map

Mapping Sam's user journey revealed how helpful it would be sales staff and owners to have updated technologies in ringing up a customer.

Persona: Sam, manager of a few bike shops

Goal: Improve the technology in our store to better serve customers.

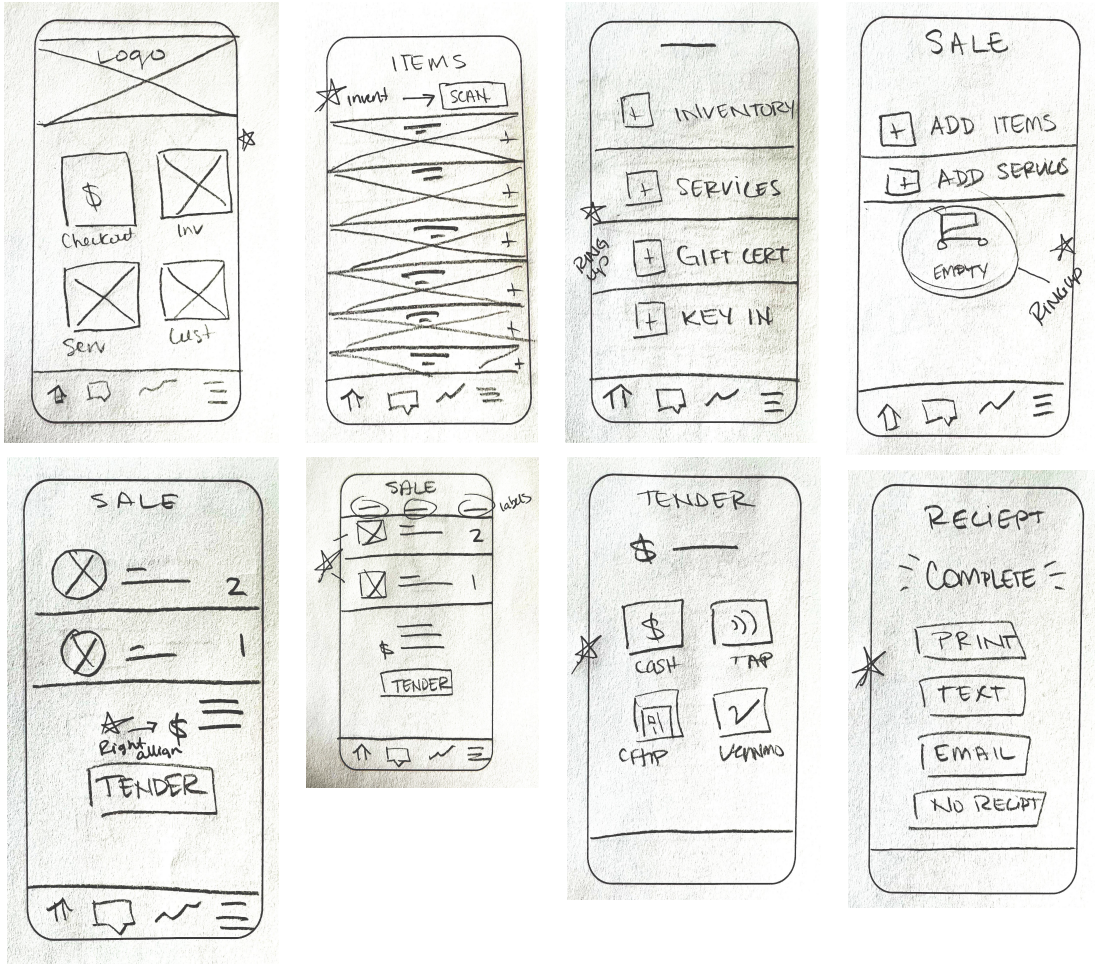
ACTION	Customer walks in to pick up his bike	Locate Bike and Get approval	Customer goes to counter pay	Transaction	Post Transaction
TASK LIST	-customer has been called that bike is ready -customer is coming to retrieve order	-clerk retrieves order from back -confirms customer info & services	-clerk brings service order form to cash register -clerk inputs price of each item	-clerk asks how customer will pay -customer pays with card -clerk goes to separate machine to run card and print receipt	-clerk asks for signature on paper receipt -clerk staples carbon copy of service form and credit card receipt for customer
EMOTIONS	Happy to see a customer	Focused, ensuring everything is done correctly for customer	Nervous, this part takes time Frustrated, if an error is made, it's hard to correct	Focused and nervous, has to make sure both totals match	Embarrassed, transaction took time Happy transaction is over
IMPROVEMENT OPPORTUNITIES			Organize pre loaded services into a system	Marry the two separate transaction	Print/email/text detailed but concise receipt for customer

Starting the design

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

Paper wireframes

Time was taken to map out paper wireframes of the cash register app to study and iterate on the flow of the app before it made it's low fidelity move to digital.



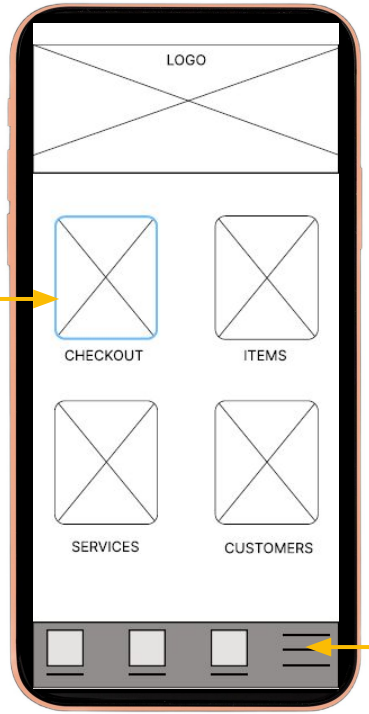
*Stars were used to mark the elements of each sketch that would be used in the initial digital wireframes.

Google

Digital wireframes

As iteration continued into digital, I made sure elements that were desired from the paper wire frames were included and feedback from usability research studies were incorporated for a more thorough flow.

Checkout was the most important element of this app, we ensured it was front and center



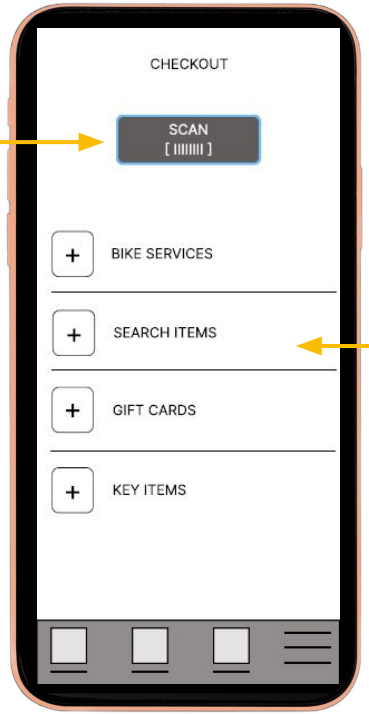
A familiar navigation bar was also included to ensure users could navigate their way through the app

Google

Digital wireframes

The checkout process needed to be clear and simple. Featured were considered to both scan items using the phone's camera function or manually search and add items from inventory to the cart.

A scan feature would utilize the phone's camera function to scan the UPC code of items in the shop



Items to add to the sale are also searchable by taking them to the inventory portion of the app

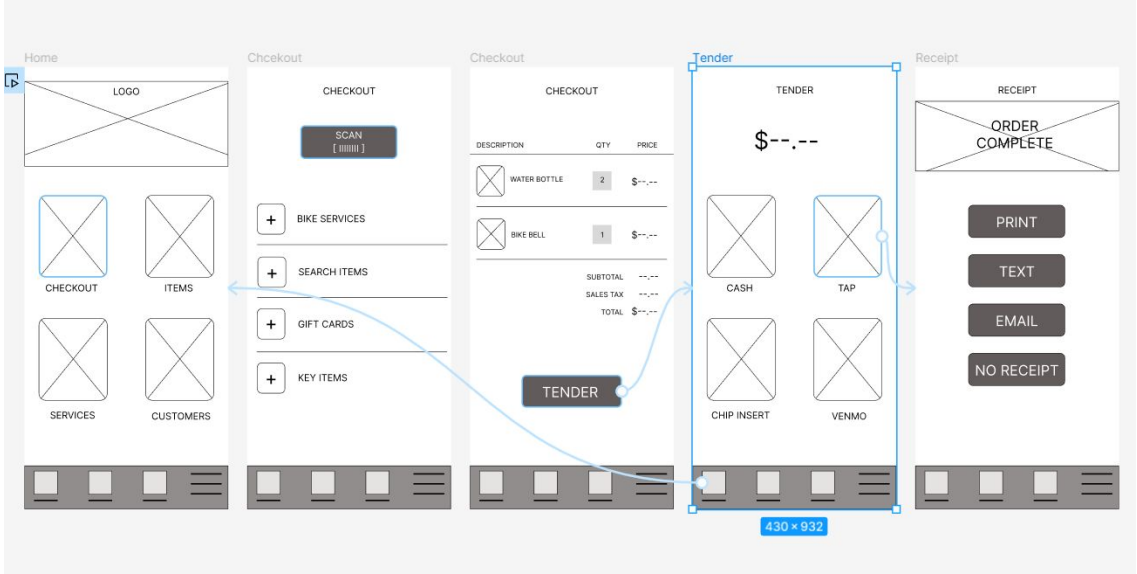
Google

Low-fidelity prototype

The low fidelity prototype I created showcased the user flow for ringing up a customer and completing a transaction.

View the Chain Reaction

[Low-Fidelity Prototype]



Usability study: findings

I conducted two rounds of usability studies. Findings from the first study helped guide the designs from wireframes to mockups. The second study used a high-fidelity prototype and revealed what aspects of the mockups needed refining.

Round 1 findings

1. Users wanted clearer ways to show the order was completed
2. Users wanted a more simple layout when it came to tendering cash
3. Users were unsure of where to go next after the “No Receipt” option was selected

Round 2 findings

1. Users need a more intuitive screen for printing a receipt for a customer
2. Options were needed to consider users with accessibility issues
3. Users navigated back to the home screen more often to start any new task

Refining the design

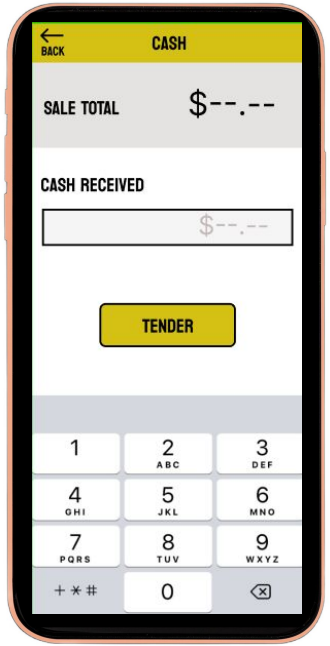
- Mockups
- High-fidelity prototype
- Accessibility

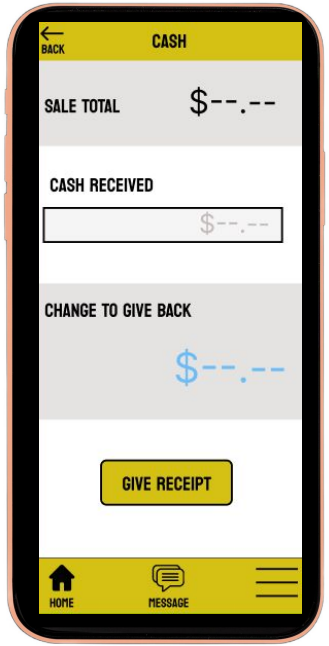
Mockups

Users wanted a more simple layout when it came to tendering cash. The updated layout provided an interactive field that brought up a number pad and clearly indicated the change to give back to the customer.

Before usability study

After usability study



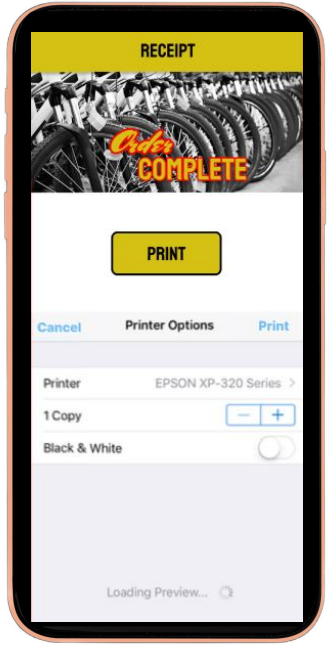


Google

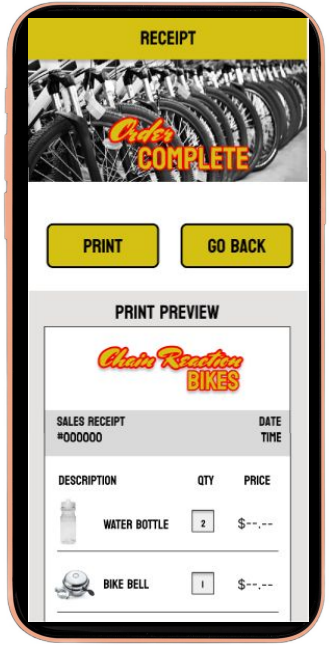
Mockups

Users in usability studies met a pain point here as print was indicated twice on the screen. A improved screen was created to indicate a preview of the receipt and if they wanted to go back instead.

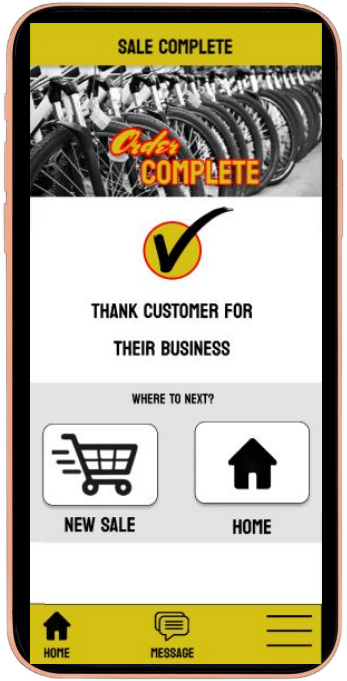
Before usability study



After usability study



Key Mockups



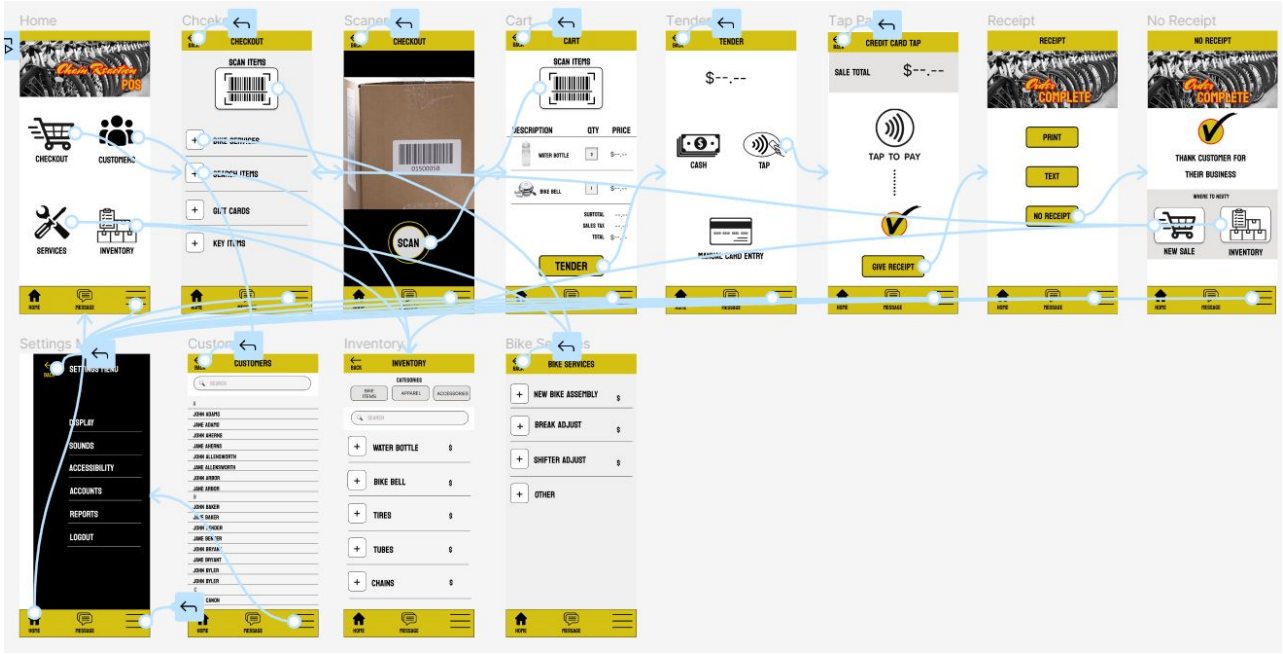
Google

High-fidelity prototype

The high fidelity prototype for the cash register app provided a simple and easy to use process for users. They were able to quickly identify the next steps and complete tasks efficiently.

View the Chain Reaction

[High Fidelity Prototype Here]



Accessibility considerations

1

A high contrast color palette was used to consider users who may experience low vision.

2

Universally used and large icons were used as an additional resource to navigate through the app.

3

A settings option was also put in place to adjust type of accessibility options offered in the app. Options included utilizing different sounds and haptics, vibrations, and speech commands.

Going forward

- Takeaways
- Next steps

Takeaways

Impact:

The cash register app for Chain Reaction makes users feel confident in their transactions with customers.

One participant from a usability study stated: *“This app has a clean interface, icons are not vague, they are nice and clear, it’s bulletproof simple…..you want it to be straightforward and quick and easy.”*

What I learned:

Users are not only customers who use a company’s app to obtain a product or service, but they are also people who work on the flip side. Business are also looking for ways to streamline their internal operations with apps. These apps need to be built with empathy, ideation, research, and iteration.

Google

Next steps

1. Prepare for product to be handed off to engineers.

2. Launch product.

3. Continue periodic usability studies with clients and participants to continue making updates.

Let’s connect!

Thank you for your time reviewing my work on the Chain Reaction Cash Register App!
Check it out on my portfolio as well.

Website: mashtileux.com

Google