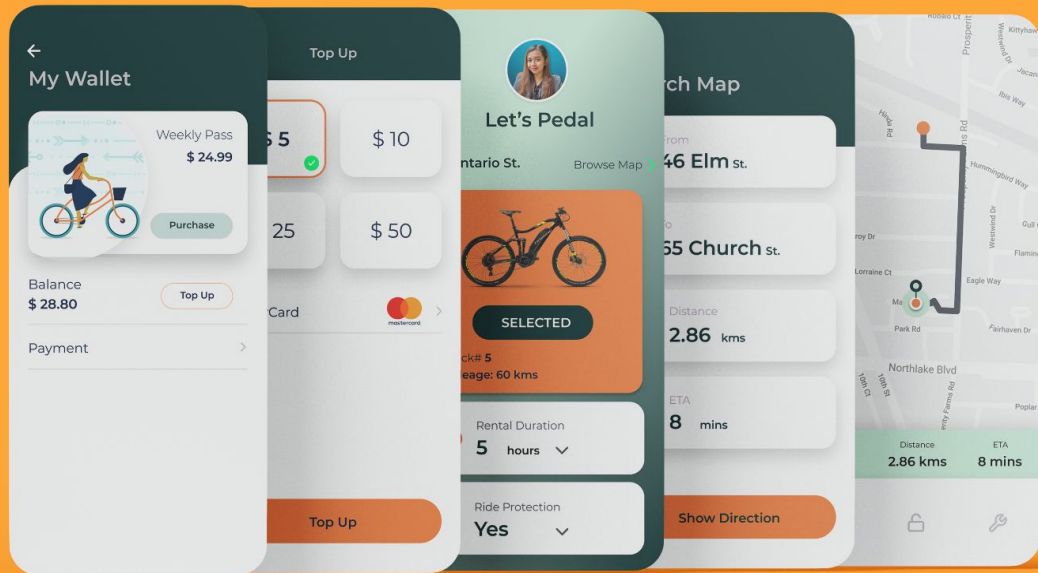# PEDAL
e-Bike Sharing App

PEDAL

PROBLEM

No intelligent system to ensure that riders are provided with a contactless experience at the rental booths.

No active automated system to administer that riders are genuinely following health guidelines during COVID.
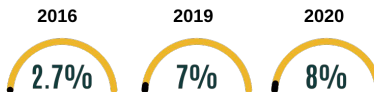
STATISTICS

2016	2019	2020
2.7%	7%	8%

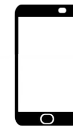**Figure: Torontonians travelling to work using bicycles**

During COVID, cycling has been more popular than public transit and the number of city dwellers considering cycle as a mode of transportation to work has been on the rise.

625

rental locations in Toronto with no contactless payment experience available

SOLUTION

Using the PEDAL app users can

Book/cancel ride online

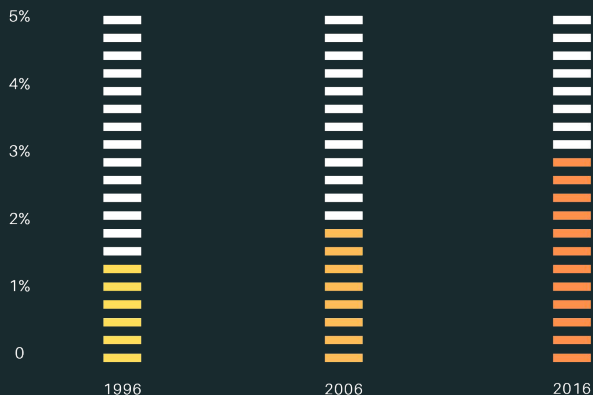**Unlock ride remotely using the app generated pass-key**

Take a photo wearing the personal protective essentials listed on the app; to verify health and safety guidelines have been met.

overview

ACCORDING TO STATISTICS CANADA

Commuting to work by cycle has increased significantly over the last 10 years

1996	2006	2016

Cycling is one of the fastest growing transportation modes in Toronto with the popularity of bike-sharing among millennials increasing significantly over the last few years.

According to the latest Census, 2.7 percent of Torontonians bike to work (city-wide average), up from 1.7 percent in 2006, with some downtown neighbourhoods in the range of 15 to 30 percent. A year of counts reveals over 1 million rides on the Bloor bike lanes, making them one of North America's busiest bikeways.

The PEDAL app is for users who make bike-sharing part of their pulse for a healthy lifestyle. User experience is a crucial element to the brand's success; so the PEDAL app offers a rider-centric bike-sharing experience with features that work in sync to make roaming around one's favourite city safe, convenient, easy, and environment-friendly.

problem
statement

In Toronto, bike-sharing riders have to rent in person, often leading to bike unavailability when they reach the rental booth. During COVID, visiting the rental booths in person is exposing the riders to up-close human interactions. Although the existing apps such as - Bike Share Toronto, Toronto Bike have road safety regulation tutorials for riders, there is no active automated system to administer or ensure that riders are provided with a contactless service or riders are genuinely following the health and safety guidelines while riding their cycle.

problem scenario...

Less safer UX

During COVID, using the rental kiosks for payments make the onboarding process less safe by exposing the users to the risk of getting infected with COVID through physical contact with the payment machines/terminals.

Inconvenient UX

Competitor apps only show road safety and regulations during the onboarding process. They do not update or inform the users of the health safety protocols at all.

Non-compliant users

Not all riders are complying with the health and safety regulations by riding too close to each other or in a group, causing the COVID virus to spread.

context

What

The research will focus on understanding what features Torontonians expect from a bike-sharing app during a pandemic.

Why

Because it is important to know what type of usability matter the most to Torontonians while using a bike-sharing app during COVID.

How

Perform qualitative, quantitative, and evaluative research as well as take interviews of 20 Torontonians aged between 16-60 years.

COMPETITIVE ANALYSIS

Strength

BCycle
- Bikes can be unlocked using the app
- Faster checkout for registered app users

nextbike
- Provides latest news and info on bike laws
- User can look-up rental history

Cycle Now
- "Take me home" option
- Show availability based on geo-location
- Track and notify availability

Weakness

BCycle
- Only members receive full access to app features
- In-app Ads provides unwanted UX

nextbike
- No e-mail registration allowed
- Requires Payment info for full access

Cycle Now
- Cannot access user rental history
- Unwanted Ads run during app usage
- Digital unlocking available at kiosk not in the app

Competitors	BCycle	nextbike	Cycle Now
App Name	BCycle	nextbike	Cycle Now
Features	- Sign-up/Login - Station Map - Availability Info - Pricing Info - Digital Unlocking - Online Support	- Sign-up/Login - Map View - Bike Selection - Rental History - Pricing Info - Online Support - Member Perks	- Network Selection - Show Availability - Track Availability - Night-Mode - Save Favourite
Platforms	iOS, Android	iOS, Android	iOS, Android
Price	Free	Free	Free
In-app Purchases	Yes	No	Yes
In-App Ads	Yes	No	Yes
Downloads	100,000+	1 million+	10,000+
App Ratings	3.3 ⭐	4.5 ⭐	4.7 ⭐

PUBLIC TRANSIT

23%

4%

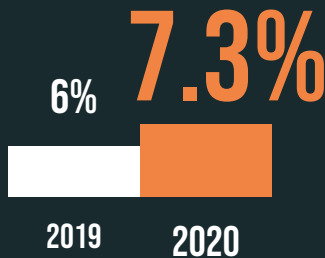2019   2020

CYCLE

7.3%

6%

2019   2020
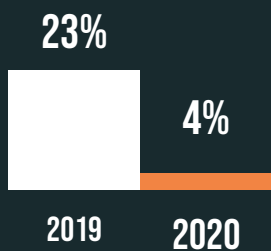
Figure: Percentage of resident's mode of transportation to work

Source: Statistics Canada 2020

There are 625 locations across Toronto where users can rent cycles, and payment is made through touch-screen machines or touchpad credit terminals.

Source: Bike Share Toronto website

COVID-19 has changed the way riders commute. **More commuters now prefer to use bike to work** than take public transit.

Cycling Canada has asked cyclists to wear a mask and maintain distance from other cyclists to reduce the spread of the COVID-19 virus.

Source: Canadian Cycling Magazine, 2020

ux research

Factors that shaped our service features

ux research
Factors that shaped our service features

Cyclists have to stay much farther than 6 feet from a rider in front of them to avoid inhaling respiratory droplets or having them land on our bodies. Atleast, 65 feet is needed when riding a bike at 30 kms. per hour. By that time, the droplets will have moved down to the ground and won't get in our face.

Source: Dr. Bert Blocken, Eindhoven University of Technology

research Q/A

Number of respondents: 20

Has the pandemic changed your perception about cycling?

- 35% of respondents have moved from taking public transit to cycling for work since the pandemic.

- 40% of respondents living in downtown Toronto have confirmed that they consider cycling to work in the future.

- Rush hour traffic and lineups for public transit are making 25% of respondents interested in cycling instead.

research Q/A

Number of respondents: 20

Important safety features to have in a bike-sharing app during COVID?

- **65%** of respondents prefer a feature that would remind the users to take protective health measures before the start of the ride.

- **40%** of respondents want to have a contactless feature that would allow users to pay and unlock the ride remotely.

research Q/A

Number of respondents: 20

When it comes to bike rentals, how do you feel about online payment and remote unlocking?

- 7% of respondents thought their ride can get stolen by the time they reach the booth after unlocking remotely.

- 3% were not too excited about the feature.

90%

Users believe these features will save time and effort

research Q/A

Number of respondents: 20

Sharing your picture time-to-time with the app for health and safety verification is something that you will be comfortable with?

- All respondents were comfortable with this feature for the sake of health concerns as long as their privacy is not compromised.

- 10% of the respondents raised concerns about how this sort of verification process should take place in between stops and not during an active ride.

The PEDAL app will save time and reduce human effort by utilizing efficient and intelligent features that do most of the work contactless. The app will allow online payments for rentals, and once the booking is confirmed, the users can unlock their ride remotely using a pass-key generated through the app. Thus, providing the user with a contactless experience. Besides, the app's onboarding process will verify time-to-time during a ride to ensure that users have taken all mandatory health and safety precautions before and while riding to reduce the spread of COVID.

solution

user persona

> An app that allows contactless payment, remote unlocking, and health verification; sounds like my kind of an app.

Irina De Silva, 25, **DATA ANALYST**
Independent, Active, Values time, Tech-savvy
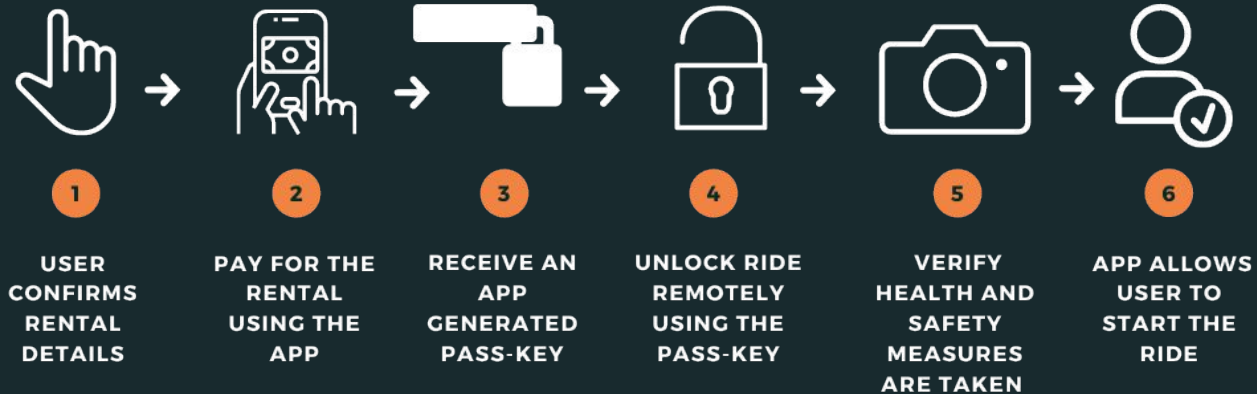Home & Office: **Downtown Toronto Area**

Goals

- Never be late at work.
- Save time and reduce effort through service apps.
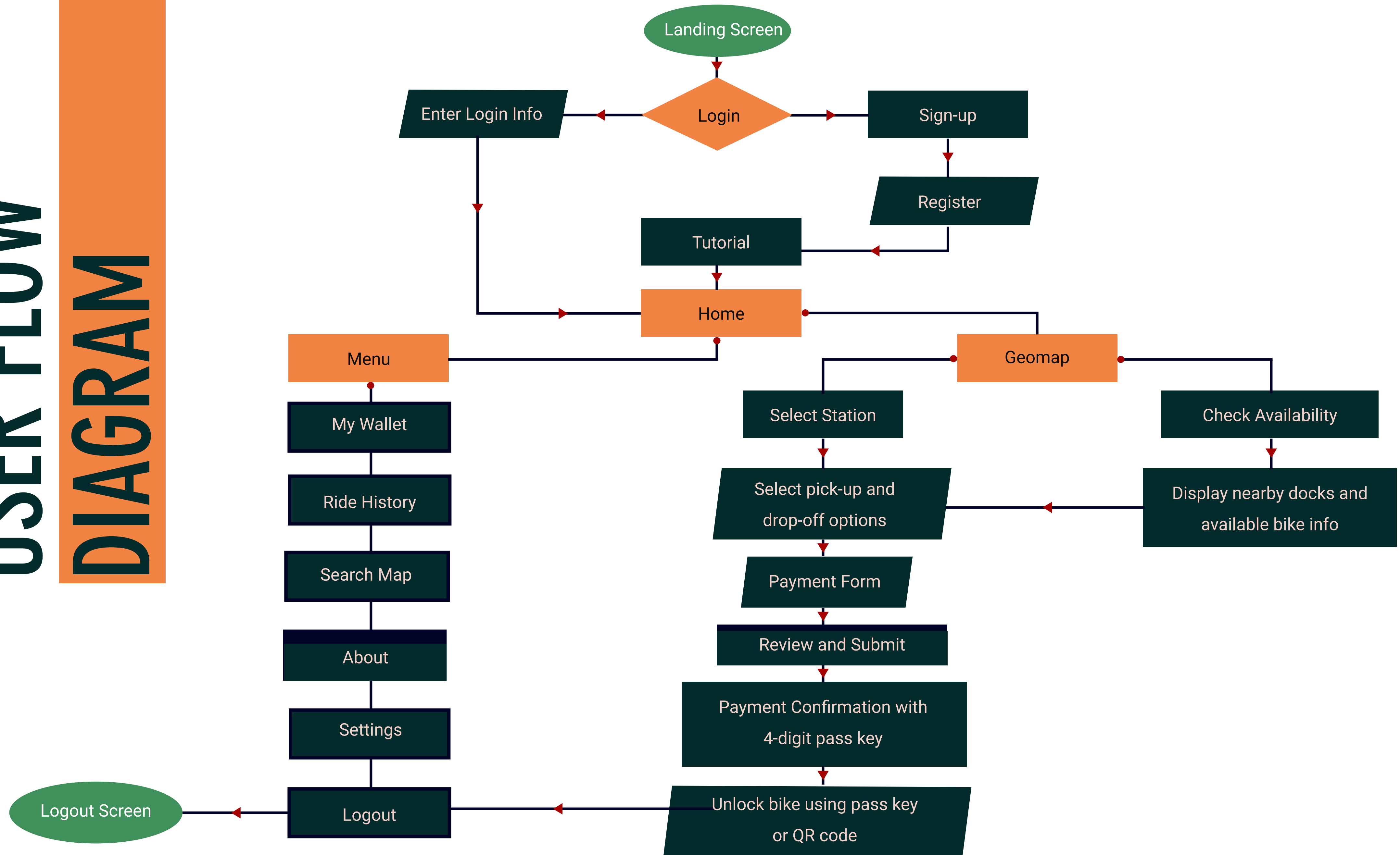- Follow health-safety protocols while travelling.

Frustrations

- Unwanted surface contact at the bike rental payment counters
- Wait for public transit to commute to work.
- Avoid public transit crowd due to pandemic crisis.
- Health safety protocols not verified by existing apps.
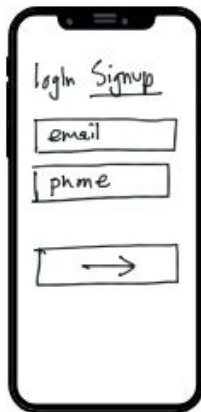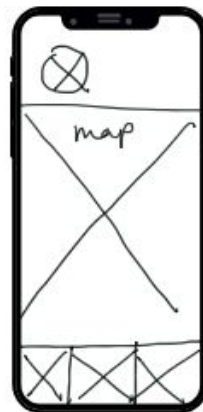
A 6-STEP PROCESS

1

USER CONFIRMS RENTAL DETAILS

2

PAY FOR THE RENTAL USING THE APP

3

RECEIVE AN APP GENERATED PASS-KEY

4

UNLOCK RIDE REMOTELY USING THE PASS-KEY

5

VERIFY HEALTH AND SAFETY MEASURES ARE TAKEN

6

APP ALLOWS USER TO START THE RIDE

USER FLOW DIAGRAM

Landing Screen

Login

Enter Login Info

Sign-up

Register

Tutorial

Home

Menu

Geomap

My Wallet

Ride History

Search Map

About

Settings

Logout

Select Station

Check Availability

Select pick-up and drop-off options

Display nearby docks and available bike info

Payment Form

Review and Submit

Payment Confirmation with 4-digit pass key

Unlock bike using pass key or QR code

Logout Screen

sketches

Splash Screen
- logo
- →

Login/Signup
- login Signup
- email
- phone
- →

Dashboard
- Hello!
- Weather
- Nearest Station

Map
- map

Station Details
- Map
- Station Details

Bike Selection
- Hello!
- select
- select

Navigation
- Direction
- Nav info

Payment Option
- Payment Card
- Balance
- Top up
- Payment
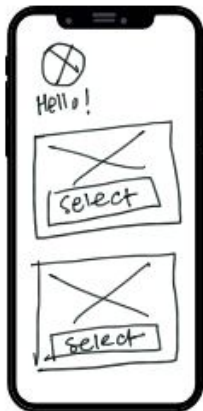
Top Up
- < Top up
- $5 $10
- $20 $50
- Option 1 >
- Top up
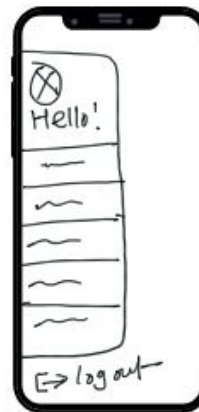
Menu
- Hello!
- → log out

sketches

Ride Dashboard

Safety Photo
Verification

Unlock ride with
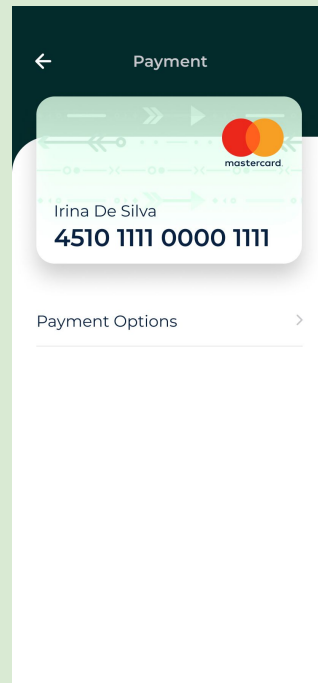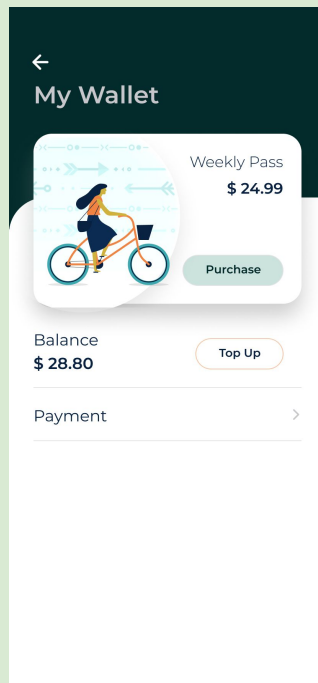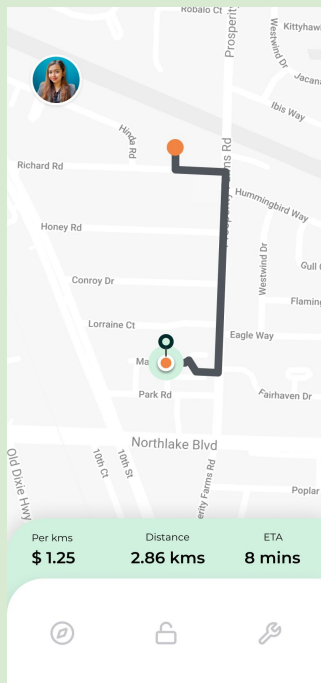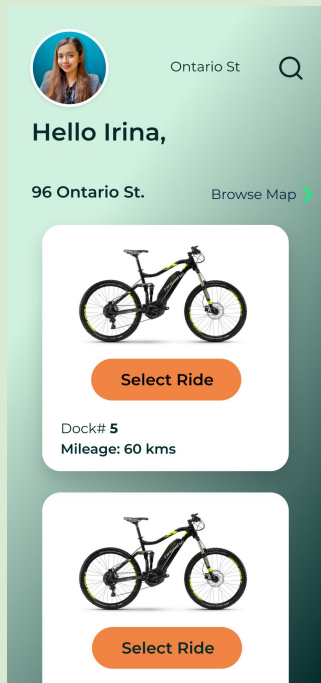QR code

Unlock ride with
QR code
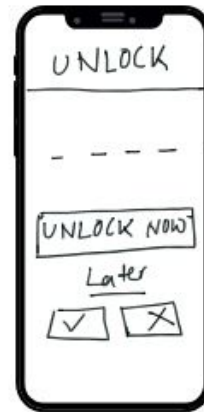
Schedule Unlock
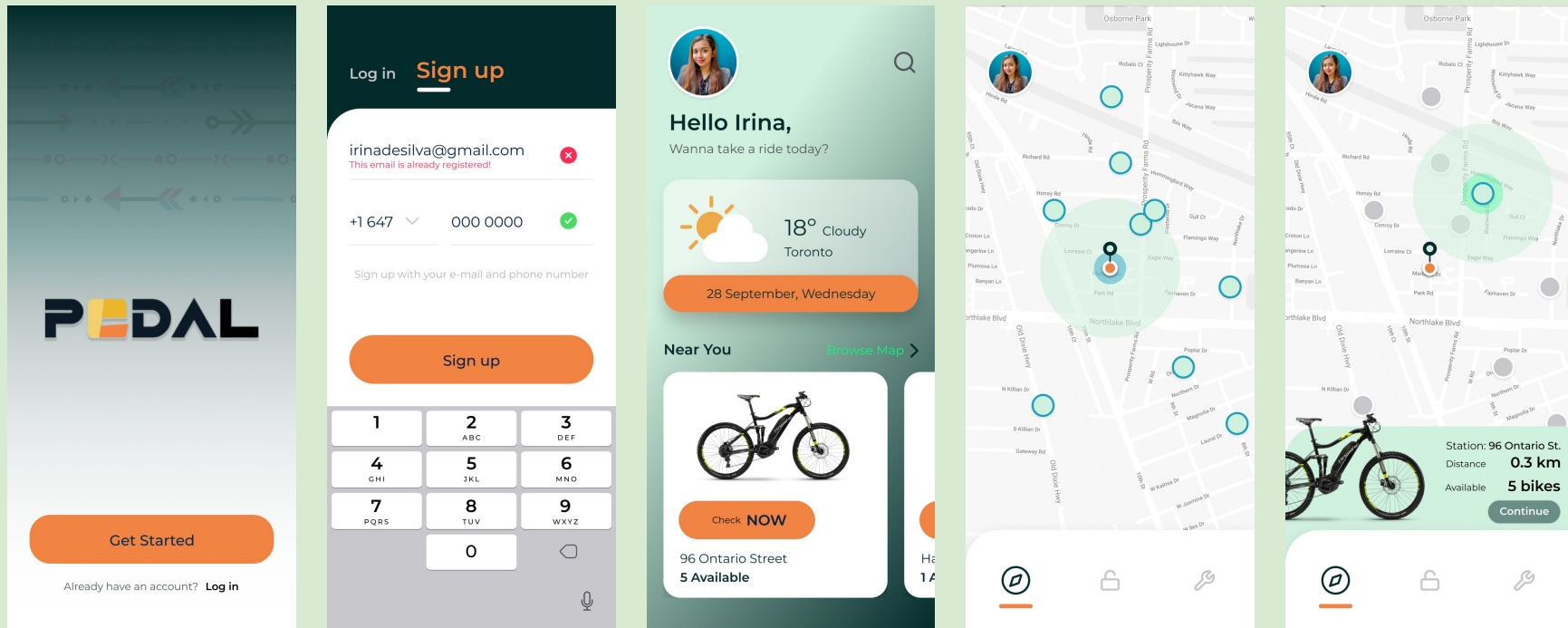
high-fidelity wireframes

high-fidelity wireframes

Ontario St

Hello Irina,

96 Ontario St. Browse Map ›

Select Ride

Dock# **5**
Mileage: 60 kms

Select Ride

Robalo Ct
Kittyhawk
Prosperi
Jacana
Ibis Way
Richard Rd
Honey Rd
Hummingbird Way
Conroy Dr
Westwind Dr
Gull C
Lorraine Ct
Flaming
Eagle Way
Park Rd
Fairhaven Dr
Northlake Blvd
Old Dixie Hwy
Poplar D

Per kms	Distance	ETA
$ 1.25	**2.86 kms**	**8 mins**

←
My Wallet

Weekly Pass
$ 24.99

Purchase

Balance   Top Up
$ 28.80

Payment ›

← Payment

Irina De Silva
4510 1111 0000 1111

Payment Options ›

← Payment

Irina De Silva
4510 1111 0000 1111

Payment Options ›

Payment Options ✕

✓ MasterCard

☐ Apple Pay

Pay with Another Card ›

high-fidelity wireframes

Irina Silva

My Wallet $ 28.80

Ride History

Search Map

About

Settings

Logout

Let's Pedal

96 Ontario St.   Browse Map

SELECTED

Dock# 5
Mileage: 60 kms

Rental Duration
5   hours

Ride Protection
Yes

Top Up

$ 5 $ 10

$ 25 $ 50

MasterCard   mastercard

Top Up

high-fidelity wireframes

ui design system
Color system

ui design system

accessibility

ui design system

typography

heading

DIN 30640 Std Neuzeit Bold Condensed

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

Roboto Regular

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789

copy

fahimwali.com