feLine

The **purrfect** public transportation assistant

INTRODUCING THE TEAM

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COLUMBIA
ENGINEERING
FOR
HUMANITY

Summer 2020
Design Challenge

INTRODUCING
Cat Lina

Hi, I am Cat Lina, and I will guide you through the crowds in NYC subways. Follow me **@thefelineapp** on Instagram

01	**Problem**	Transit safety
02	**Community**	Customer discovery & validation
03	**Solution**	Simple public transportation assistant app
04	**Impact & Plans**	A long-lasting transfer solution

01

PROBLEM

PROBLEM

With the spread of COVID-19, keeping **social distancing** is important for rider safety, but public transportation **crowdedness data is not readily visible** to the average person.

Even weekday NYC subway ridership amounts over 5.7 million, people still **lack incentive to follow crucial health precautions** like mask wearing, especially in a post-COVID-19 world.

02

COMMUNITY

Customer Discovery: What's the Real Problem?

Fact: Taking the subway is a weekday essential.

"I always take the subway to go to school."

—STUDENT

"Venus has a beautiful name and is the second planet from the Sun. It's terribly hot"

—WHITE COLLAR EMPLOYEE

What If the Station Gets Crowded During Post COVID-19?

"Try my best to get on the train. I don't want to miss my appointment. "

—REAL ESTATE BROKER

"At this moment, I prefer to take a taxi or ride a Citibike. "

—WHITE COLLAR EMPLOYEE

How Can We Help?

The Unaddressed Problem

Most times interviewees were uncertain about the subway crowdedness before entering the station.

Key Info

Interviewees might be willing to change their routes as long as it does not disrupt their plans.

Proposal

❏ Show users crowdedness of stations.
❏ Encourage social distancing through route suggestions including station changes and walking.
❏ Remind people to take health precautions.

FEEDBACK

Confirmed the necessity to Report crowdedness

"It would be nice to know about the crowdedness in advance"

Confirmed the rationale to suggest optimized walking routes

"I would walk for under 10 min to avoid crowds."

Confirmed the importance to remind users of precautions

"If everybody wears a mask, I would wait for another train."

03

SOLUTION

OUR SOLUTION

A **public transportation assistant app** that calls for users to make responsible travel decisions with information and incentive, together reimagine a safer and more efficient subway.

Crowd Avoidance

Visualization

Visualizes population density at public transportation hubs using historical and current data.

Route Suggestion

Recommends users safe walking routes to their destination.

Democratization

Allows for users to report the crowdedness situation inside the stations, and users earn coupons after reporting

Mapping Visualization and Algorithm

By analyzing historical turnstile data, real-time turnstile data, as well as user reported crowdedness we can accurately visualize population density in given subway stations.

Additionally, as more users begin to report crowdedness in the stations, our algorithm will become smart by weighing different input sources, significantly improving the crowdedness accuracy. We visualize this data using the MapBox API for an alternative route to avoid crowds that would include walking.

Incentive to Walk: Connect to Charities

1. Count users' steps during their trips, and users can **donate their steps** to any charities
2. Every donation turn lasts for two weeks, and the champion will be **advertised** in our app
3. Future plans: Collaborate with **local businesses**
   a. Businesses sponsor charity organizations
   b. Sponsors can be advertised
      i. In our app
      ii. On the advertisement of charity organizations at MTA
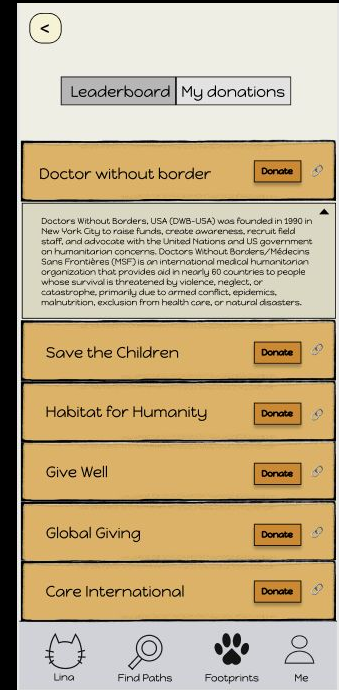
Interactive Components
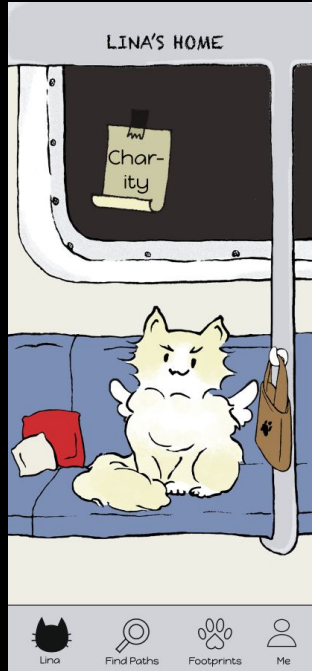
1. **Retro comic styled interface:** create a game-like feeling so that users are excited to explore
2. The homepage
   a. **Lina's bag: precaution reminders**
      i. Subway essentials to bring: mask, hand sanitizer, metrocard and alcohol prep pad in the bag
      ii. A "link up" game for fun with images of precaution items
   b. **Poster**: detailed advertisement of the champion charity in step donation

04

IMPACT AND FUTURE GROWTH

Impact and Future Growth

5.5 million

Weekday riders in NYC

0.95 million

Returned riders in NYC

?

Riders in a post-COVID world

THE NEW NORMAL: AN ECOSYSTEM

Subway crowdedness managed by crowds

COVID: better social distancing

Long term: efficient and more comfortable rides

Lifestyle changes: a healthy community

COVID: health precautions (e.g.masks)

Long term: healthier communities

Networks of businesses and charities

COVID: mental + physical incentive

Long term: network/platform

PROGRESS & NEXT STEPS

Deploying in the Apple App Store

Building an online presence through social media

Connecting and building partnerships with businesses

Connecting and building partnerships with charities

In preliminary business discussions with transit authorities

Registering as an LLC

APP DEMO

Thank You!

We invite you to view supplemental information at https://drive.google.com/drive/folders/1VNRwEYS 29Ki7tdBg4lN0ON8e9nIb6Ivl?usp=sharing

Do you have any questions? Please direct them to nolan.tremelling@columbia.edu and x.wen@columbia.edu

Connect with us @thefeLINEapp on Instagram!