THE TEAM

Kate Rushton
FRONT-END ENGINEER

Deb Linton
RESEARCHER & MANAGER

Raymon Sutedjo-The
DESIGNER

Coye Cheshire
ADVISOR

Luis Aguilar
BACK-END ENGINEER
Overview
Research & Insights
Design
Technology
Challenges
Demo
OVERVIEW
In urban areas like San Francisco, more than a quarter of all trips are carried out on foot.

Source: SFMTA

Image Source: Atlantic Cities
Problem

Existing navigation applications don’t take pedestrian safety into account
Problem

Many **women** don’t feel safe on the streets of their own city.
A web-based mobile mapping tool that helps **pedestrians** make more **informed decisions** about which route to take.
... but we are **not** developing a “safety algorithm”
Safety, accessibility, and aesthetics. Each helps support walking.

—Peter Lagerwey
Regional Office Director, Toole Design Group
“How might a mobile application improve walking safety?”

I would not use a mobile application.

I wouldn’t want my phone out at night ... because I wouldn't want to get mugged.

Since most property crimes involve theft of a mobile device, using an app while walking can only make one a bigger target.

Pulling out a mobile might give someone a reason to jump me and steal it.

Getting mugged or getting hit by a car while looking at a walking safety app would really stink.

Not sure.
“How might a mobile application improve walking safety?”

The app could show the safest routes depending on the time of day you are walking around.

I’d try an app that showed nearby routes that were well lighted or had lights at all.

Visible crime stats over the map

A list of nearby open businesses would make me feel safer.

Heat maps with crime stats overlaid, highlight streets without adequate lighting, highlight streets where most businesses are closed.
Gender-Sensitive Concerns + Relevant Data Visualization + “Hands-Free” Directions = Empowered Pedestrians

Image Source: The Noun Project
DESIGN
Key Feature
Pedestrian-Relevant Data Visualization
Key Feature
Mnemonic Directions

1. Turn **left** onto **Main St**
   - 0.3 mi (6 mins)

2. Turn **right** onto **Broadway St**
   - Destination will be on the right
     - 157 ft (1 min)
Key Feature
Mnemonic Directions

Larry Meets
0.3 mi (6 mins)

Real Bears
Destination will be on the right
157 ft (1 min)
TECHNOLOGY
User Input

StreetSavvy Database

Map + Visualization

Directions (Pictures and/or Text) + Mnemonic Option

Google Directions + Open Shops
HTML & CSS
Javascript/jQuery

PostgreSQL
PostGIS

Python
NLTK
Database

streetsavvy_categories

streetsavvy_artifact

streetsavvy_hollaback

streetsavvy_sfcrime

streetsavvy_streetlights
CHALLENGES

Image Source:
The Indian Institute of Geographical Studies
So Many Items, So Little Screen

- Open Shops
- Crime
- Directions
- Streetlights
- User-Generated Report
- Time Filter
- Street Map
More Data, More Problems

Raw crime data is exaggerated
More Data, More Problems

Visualizing crimes around 16th & Mission, San Francisco
More Data, More Problems

Which one of you am I going to RAPE first?

“... [m]y girlfriend and I were walking through Dolores Park when...”

—Hollaback! User
More Data, More Problems

Elusive streetlights data
Scenario

Tina lives in the Hayes Valley neighborhood of San Francisco. It’s 11pm and she is about to head home from a networking event in the Tenderloin.
Custom Directions Renderer
Heatmap Components

Marker Components
Real data
Real world problem
Real user needs
What makes people walk is what makes great places to live.

— Harriet Tregoning
Director of Office of Economic Resilience, US Department of Housing & Urban Development