PD Bike Theft Predictor

It's like Minority Report...but for bikes

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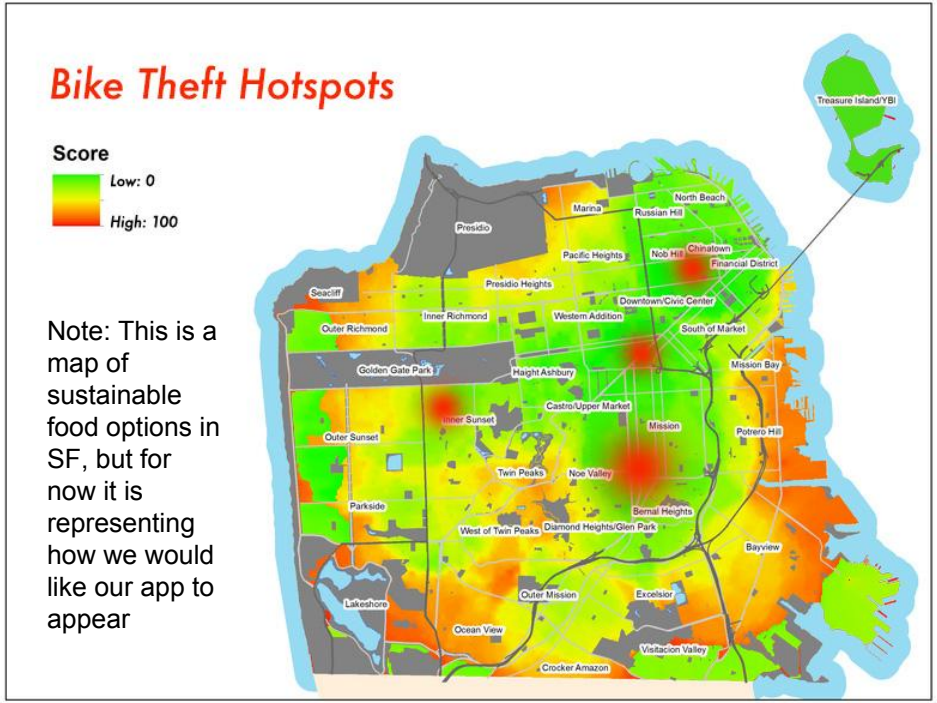
Our Project

- Application that uses historical and live reported bike theft data to create a living map of theft ‘hot spots’ and to help officers catch serial bike thieves and predict theft
- Tool is most beneficial for police officers, as widespread public knowledge of theft patterns can aid improved planning for theft
- ‘Street corner’ accuracy would be optimal for this application



Note: This is a map of sustainable food options in SF, but for now it is representing how we would like our app to appear

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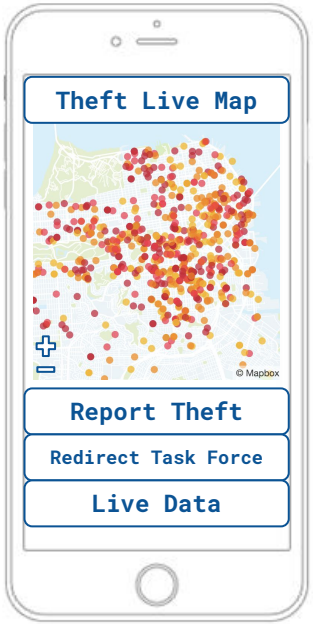
User Perspective



Notification! Theft most likely on the corner of 16th and Mission. Redirect Task Force to that location

- For Bike Owners: simpler and more efficient method of reporting bike theft, reducing the opportunity costs of theft reports while today's average bike prices increase

- For Police Department: adapting predictor of current and potential bike theft based on historical data

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Project Technical Components

https://begreaterbikes.com/no-lost-loves-preventing-bike-theft/

- UI
- Live Map -- Google Maps API
- Use of Logistic Regression to determine theft likelihood
- Data sources
  - Multiple cities -- Philadelphia, Seattle, NYC, SF
- Matching registry between stolen bikes and online bike markets (e.g BikeIndex.org)

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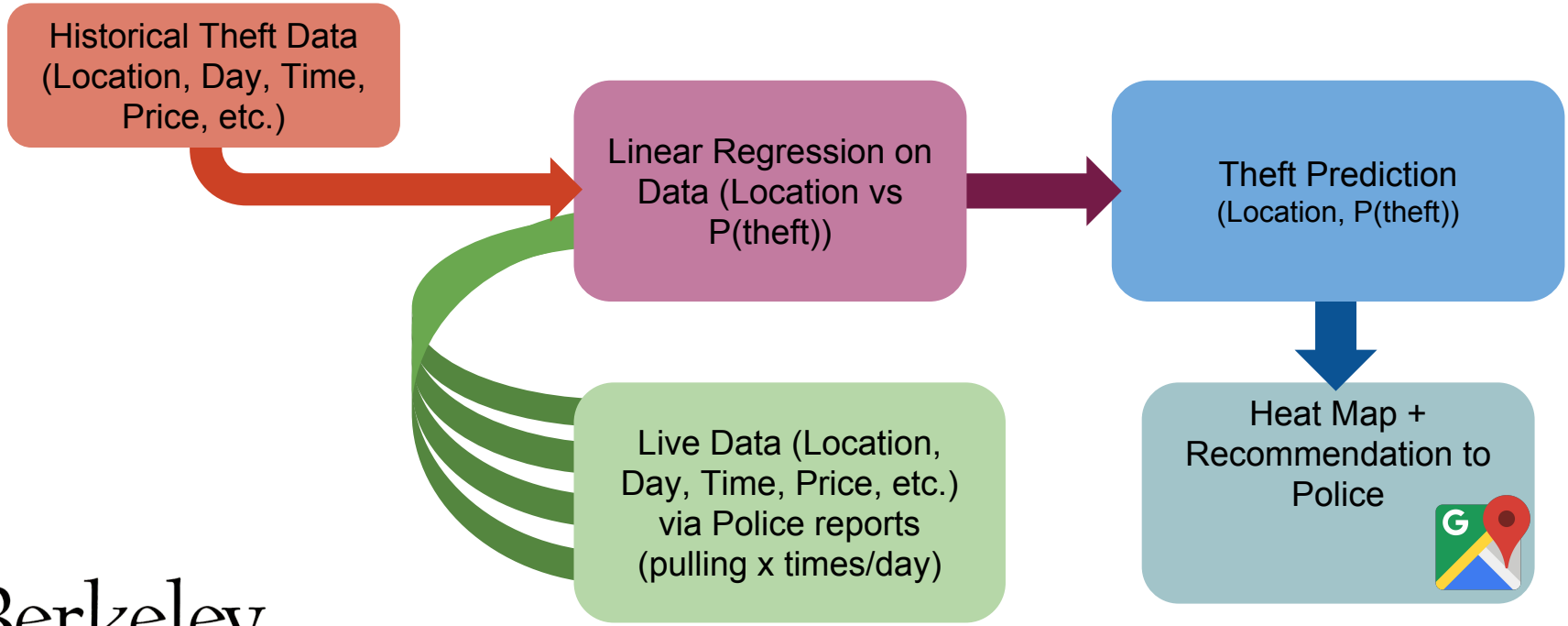
Data Model and Architecture



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Semester Plan

1. Gather existing bike theft reports for targeted urban areas (weeks 1-2)
2. Research bike registry websites (weeks 1-3)
   - Webscraping
3. Create app for efficient bike theft reports from bike owners to local police (weeks 2-5)
4. Matching reports to registry (weeks 3-5)
5. Adjusting app to users' preferences (weeks 5+)

https://secure.i.telegraph.co.uk/multimedia/archive/03082/biketheft4_3082764k.jpg

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Research

- Datasets
  - Philadelphia data
  - Toronto data
  - Seattle data
  - Other cities have data as well (link)
- Maps API
  - http://googlemapsmania.blogspot.com/2014/10/thieves-dont-like-hills.html