Skadoosh Feasibility

Skadoosh, because there is already enough crap to worry about!

TEAM YELLOW

CS 410

OLD DOMINION UNIVERSITY

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Biography

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Problem

► When it comes to identifying a quality restroom it can be difficult to get real-time data based upon feedback about the safety, cleanliness, and wait-time.

Problem Statistics

- 63% of Americans had unpleasant experience with public restrooms [1]

- Almost three-fourths of people surveyed said an unclean bathroom suggest poor management [1]

- 500,000 Bacteria found per sq. in [2]

- 60% of people delay defecation in public restroom [3]

[1] PR-Newswirem

[2] Enviro-Master
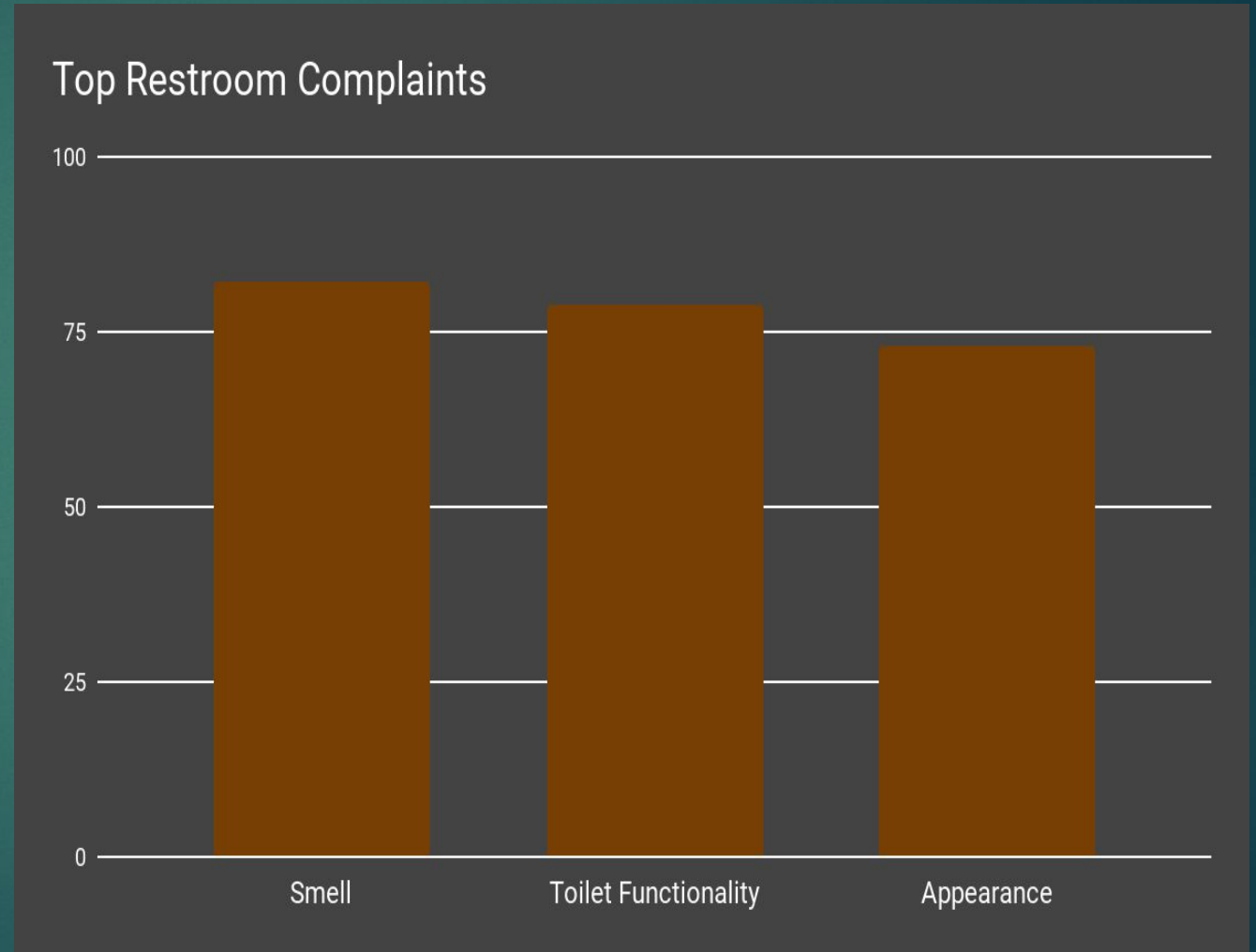
[3] Theconversation

Problem Statistics

▶ In a survey of men and women aged 18-65 done by The Bradley Corporation [1]

[1] PR-Newswirem

Top Restroom Complaints

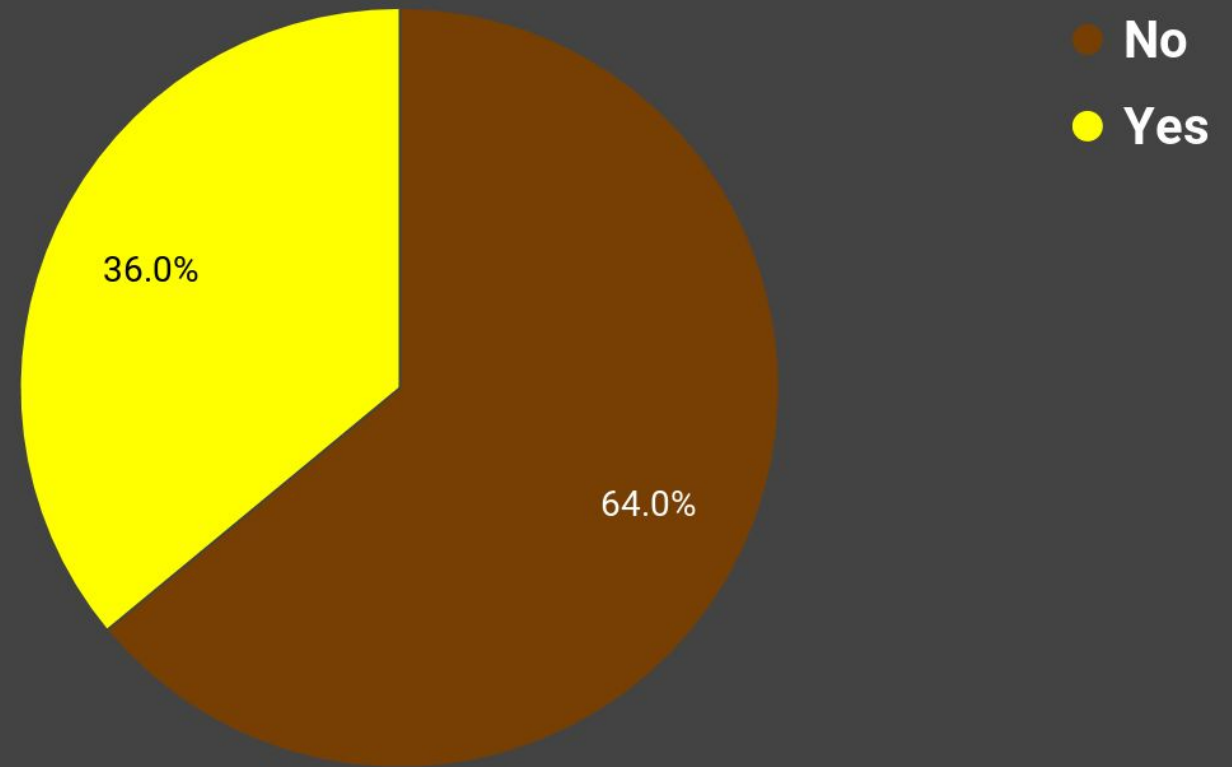(Bar chart showing values on a scale of 0 to 100: Smell ≈ 82, Toilet Functionality ≈ 80, Appearance ≈ 73)

Problem Statistics

► Bathroom cleanliness also affects sales [1]

► 64% of people surveyed said they would think twice or not frequent a business if its restrooms are unclean [1]

[1] PR-Newswirem

Will Visit Business if Bathroom is Unclean

- No
- Yes

36.0%

64.0%

Problem Characteristics

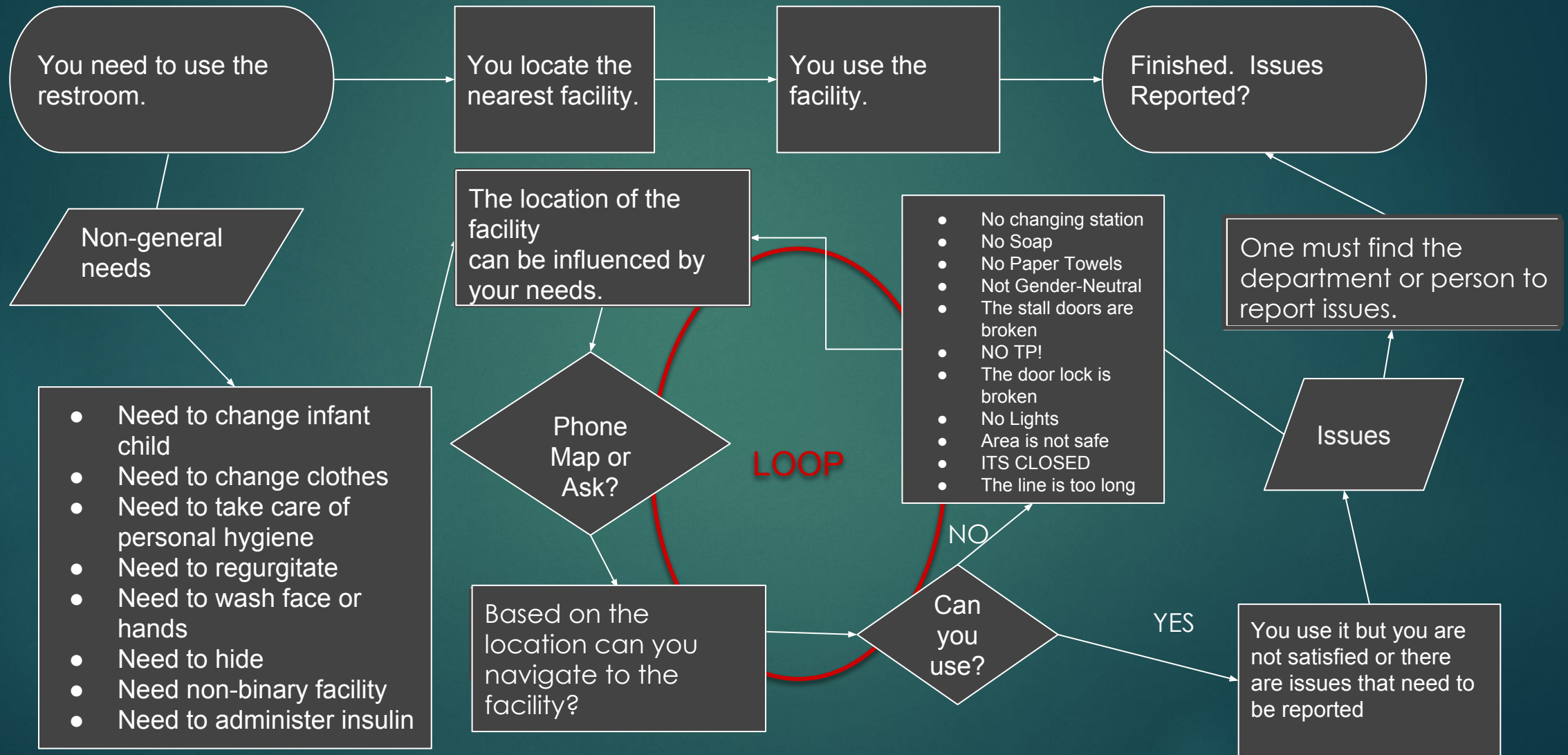- No real-time data concerning restroom
  - Cleanliness
  - Safety

- Lack of amenities such as:
  - No soap
  - Hand Dryers not working
  - No hand towels
- Gender neutral restrooms are uncommon
- Quality of amenities
- Long lines

Ideal World

You need to use the restroom. → You locate the nearest facility. → You use the facility. → Finished. Nothing to report.

What really happens.

You need to use the restroom.

You locate the nearest facility.

You use the facility.

Finished. Issues Reported?

Non-general needs

The location of the facility
can be influenced by your needs.

- No changing station
- No Soap
- No Paper Towels
- Not Gender-Neutral
- The stall doors are broken
- NO TP!
- The door lock is broken
- No Lights
- Area is not safe
- ITS CLOSED
- The line is too long

One must find the department or person to report issues.

- Need to change infant child
- Need to change clothes
- Need to take care of personal hygiene
- Need to regurgitate
- Need to wash face or hands
- Need to hide
- Need non-binary facility
- Need to administer insulin

Phone Map or Ask?

LOOP

Issues

Based on the location can you navigate to the facility?

Can you use?

NO

YES

You use it but you are not satisfied or there are issues that need to be reported

Solution Statement

- Skadoosh will allow users the ability to locate, provide feedback, and to safely use public restrooms within your surrounding area.

Solution Characteristics

► User Profiles
  ► Stores needs into a user profile shared with the application
  ► Users can have multiple profiles

► Location Profiles
  ► Locations have attributes that can be matched against user needs
  ► Locations can be connected by special Owner Profiles

► Owner Profiles
  ► Able to receive analytics and feedback about the facility

► GPS and facility matching
  ► Locations can be located in maps and users can be guided to facilities
  ► Users can create restroom location on their personal map and with verification from other users it can be added to the official map

► Feedback
  ► Users can provide real-time feedback about facilities making complaints or suggestions

Our Duties… Doodies

1. Provide users with the best possible restroom

2. Help users avoid a long wait time

3. Provide owners with real time constructive feedback

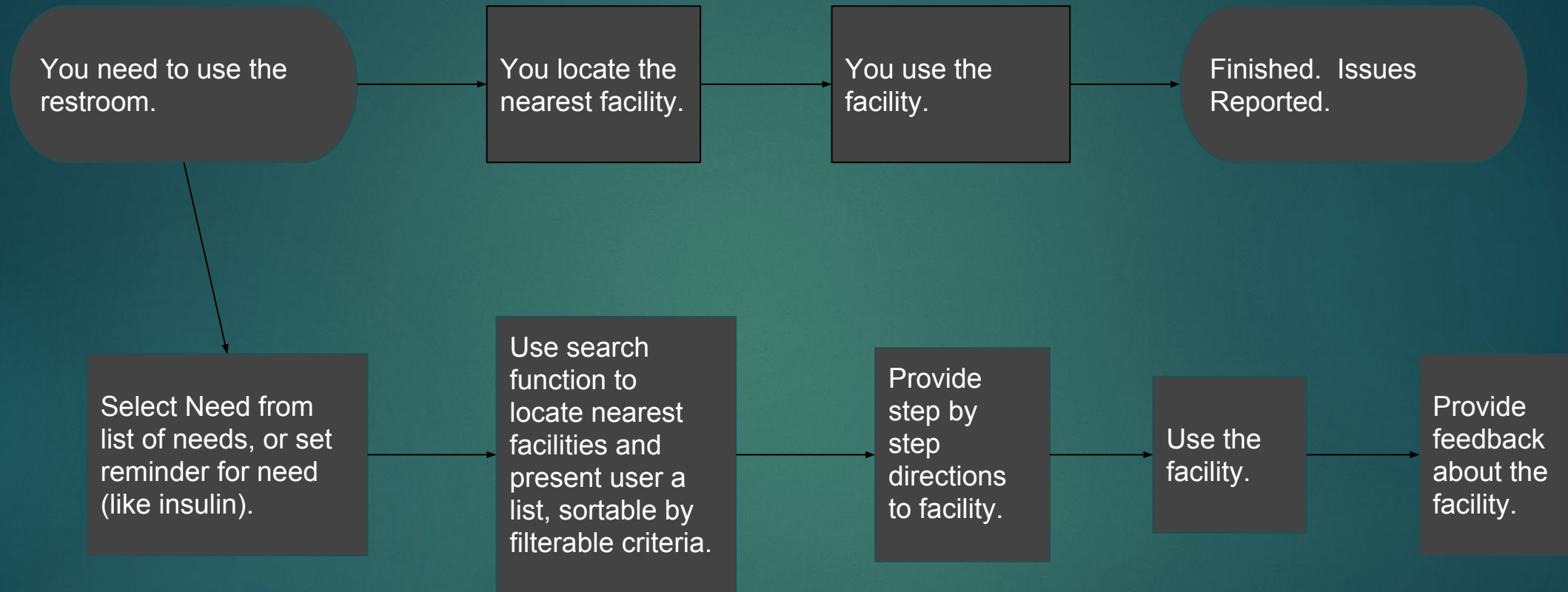4. It's not our job to offer clean restrooms… it's our doody

Issues we can't unclog

1. Actual maintenance of restrooms

Can we improve the flow for users?

You need to use the restroom.

You locate the nearest facility.

You use the facility.

Finished. Issues Reported.

Select Need from list of needs, or set reminder for need (like insulin).

Use search function to locate nearest facilities and present user a list, sortable by filterable criteria.

Provide step by step directions to facility.

Use the facility.

Provide feedback about the facility.

MFCD

- The iOS/Android app will talk with the local storage saving various personal information to run the app that doesn't need to be stored on the DB

- The iOS/Android app will also get information from the API server

- The API server will communicate with the GIS, DB, and Places API

- GIS and the places API will be served by Google's API's

- The DB will be a Postgres DB storing user information, restroom information, reviews, and location information to be provided through the API server.

Local systems

Mobile App

Local Storage

AWS / Cloud Service

Backend

API Server

GIS   DB   Places Api
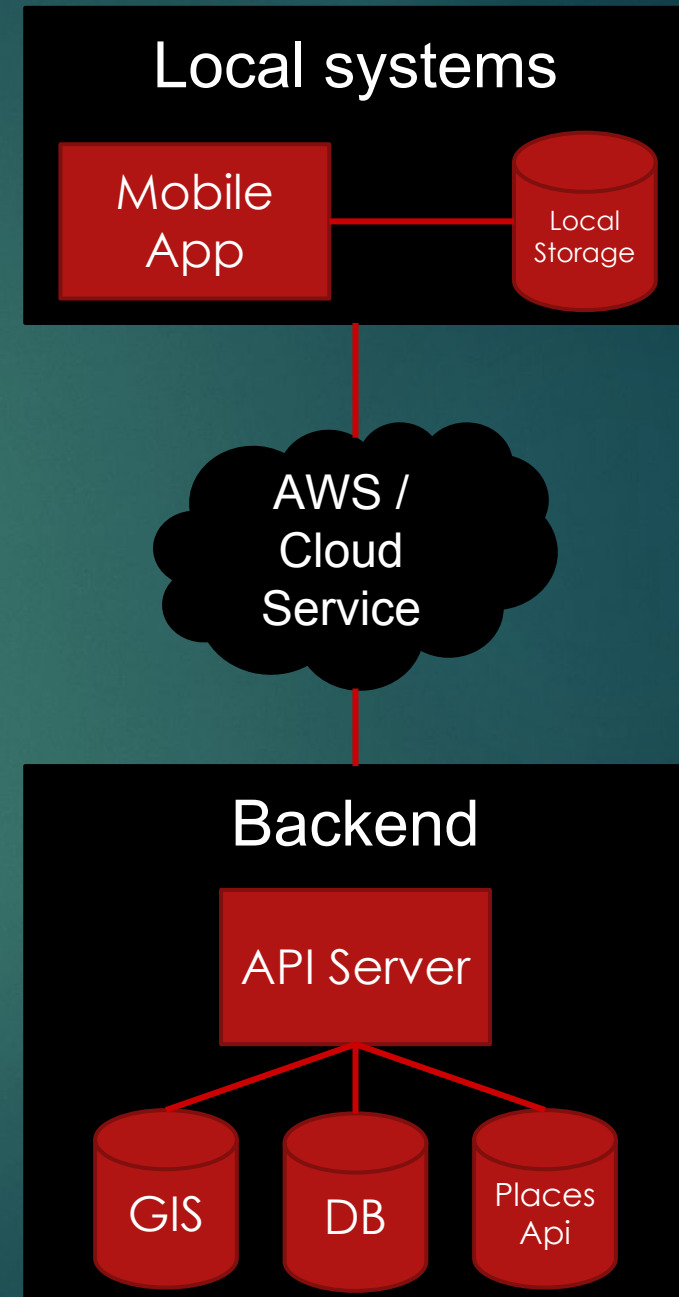
Competition

						Matrix
Features	Skadoosh	SitorSquat	Toilet Finder	Flush	Where to Wee	Bathroom Scout
IOS	✔	✔	✔	✔	✘	✔
Android	✔	✔	✔	✔	✔	✔
Rating	✔	✔	✔	✘	✔	✔
Directions	✔	✔	✘	✔	✔	✔
Filter	✔	✔	✘	✘	✘	✘
Accessibility	✔	✔	✔	✔	✘	✔
Safe	✔	✘	✘	✘	✘	✘
Amenities	✔	✘	✘	✘	✔	✘
Free	✔	✔	✔	✔	✔	✘

						Real-Time
Features	Skadoosh	SitorSquat	Toilet Finder	Flush	Where to Wee	Bathroom Scout
Real-time Feedback	✔	✘	✘	✘	✘	✘
Real-time Rating	✔	✘	✘	✘	✘	✘
Real-time Waiting	✔	✘	✘	✘	✘	✘

|						Owners
Features	Skadoosh	SitorSquat	Toilet Finder	Flush	Where to Wee	Bathroom Scout
Claim Business	✔	✘	✘	✘	✘	✘
Feedback to/from Customers	✔	✘	✘	✘	✘	✘
Add Restroom	✔	✘	✘	✘	✘	✘
Push Notification	✔	✘	✘	✘	✘	✘

Competition Cont.

- IOS / Android – app platforms

- Rating – allowing user to rate restroom

- Directions – Turn by turn navigation to restroom location

- Filter – allows user to filter map content based on applied criteria

- Accessibility – Handicap, gender, family

- Safe – tells the user if restroom is unsafe I.e. broken locks

- Free – application is free to use

- Amenities – shows restroom has changing station / supplies

Mockup
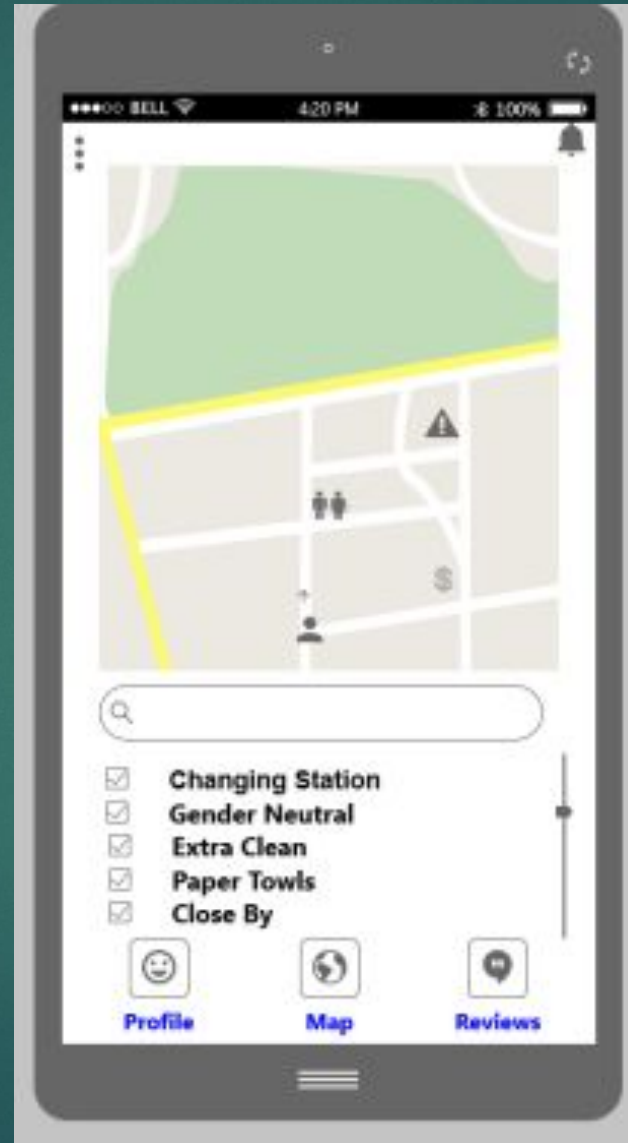
In Conclusion

- ▶ Finding the "right" bathroom can be hectic

- ▶ Different people have different needs

- ▶ Skadoosh offers a solution

References

- Bradley Corporation. "Americans Come Clean on Messy Public Restrooms in New Survey." PR Newswire: News distribution, targeting and monitoring. 18 Sept. 2013. 13 Feb. 2019 <https://www.prnewswire.com/news-releases/americans-come-clean-on-messy-public-restrooms-in-new-survey-224213141.html>.

- "Digestive Disorders & Gastrointestinal Diseases." Cleveland Clinic. 13 Feb. 2019 <https://my.clevelandclinic.org/health/articles/7040-gastrointestinal-disorders>.

- "How Dirty Public Restroom Floors Can Infect Your Entire Building." Enviro-Master of Washington DC. 07 Sept. 2017. 13 Feb. 2019 <http://www.enviromasterofwashingtondc.com/blog/dirty-public-restroom-floors-can-infect-entire-building/>.

- Molotch, Harvey. "Why do public bathrooms make us so anxious, and why aren't we doing anything about it?" The Conversation. 13 Jan. 2019. The Conversation. 13 Feb. 2019 <https://theconversation.com/why-do-public-bathrooms-make-us-so-anxious-and-why-arent-we-doing-anything-about-it-50107>.

- Person. "This Is How Many People Refuse to Poop at Work." Women's Health. 25 May 2018. Women's Health. 13 Feb. 2019 <https://www.womenshealthmag.com/health/a19998266/pooping-at-work/>.

- "Stress Constipation: Causes and Treatments." Healthline. Healthline Media. 13 Feb. 2019 <https://www.healthline.com/health/stress-constipation>.