



# Skadoosh Feasibility

Skadoosh, allowing everyone to find cleaner  
bathrooms and notifying owners of dirty ones.

TEAM YELLOW

CS 410

OLD DOMINION UNIVERSITY

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# Our Team

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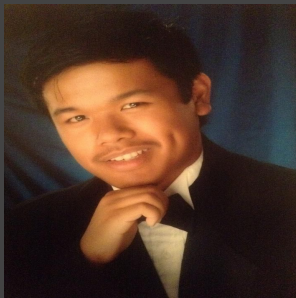
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# Problem

- ▶ Real-time feedback about cleanliness and amenities of restrooms available for public use is difficult to find and the ability for facility owners to use this feedback does not exist.



- ▶ 63% of Americans had unpleasant experience with public restrooms [1]
- ▶ Close to 75% of people surveyed said an unclean restroom suggest poor management [1]
- ▶ 500,000 Bacteria found per sq. in. [2]
- ▶ 60% of people delay defecation in public restroom [3]

[\[1\] PR-Newswire](#)

[\[2\] Enviro-Master](#)

[\[3\] Theconversation](#)

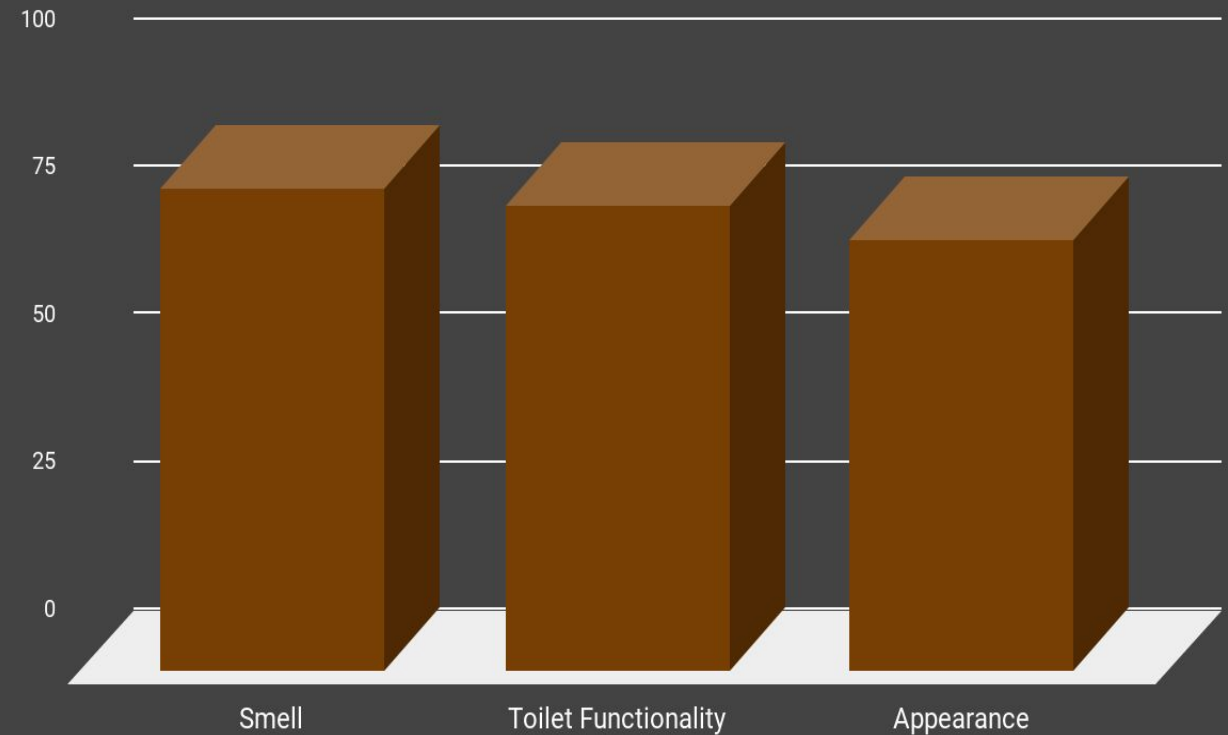
# Top Complaints

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Survey by The Bradley Corporation [1]

[\[1\] PR-Newswire](#)

Top Restroom Complaints Among Men and Women 18-65



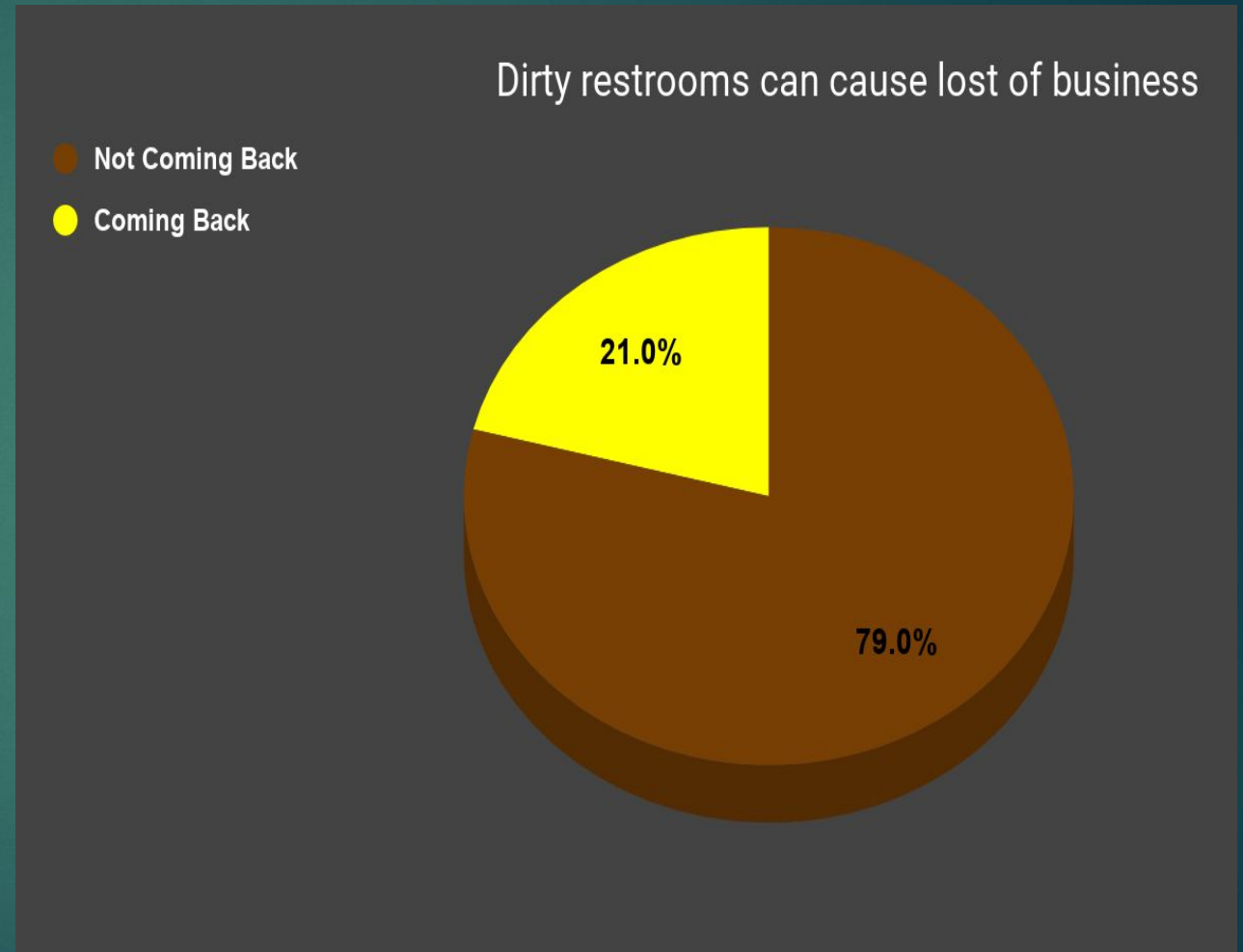
# Bathroom Cleanliness Affects Businesses

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- ▶ A survey showed, 79% of customers would not return a restaurant with dirty restrooms

Survey by the Clintas Corporation

[Clintas Corporation](#)



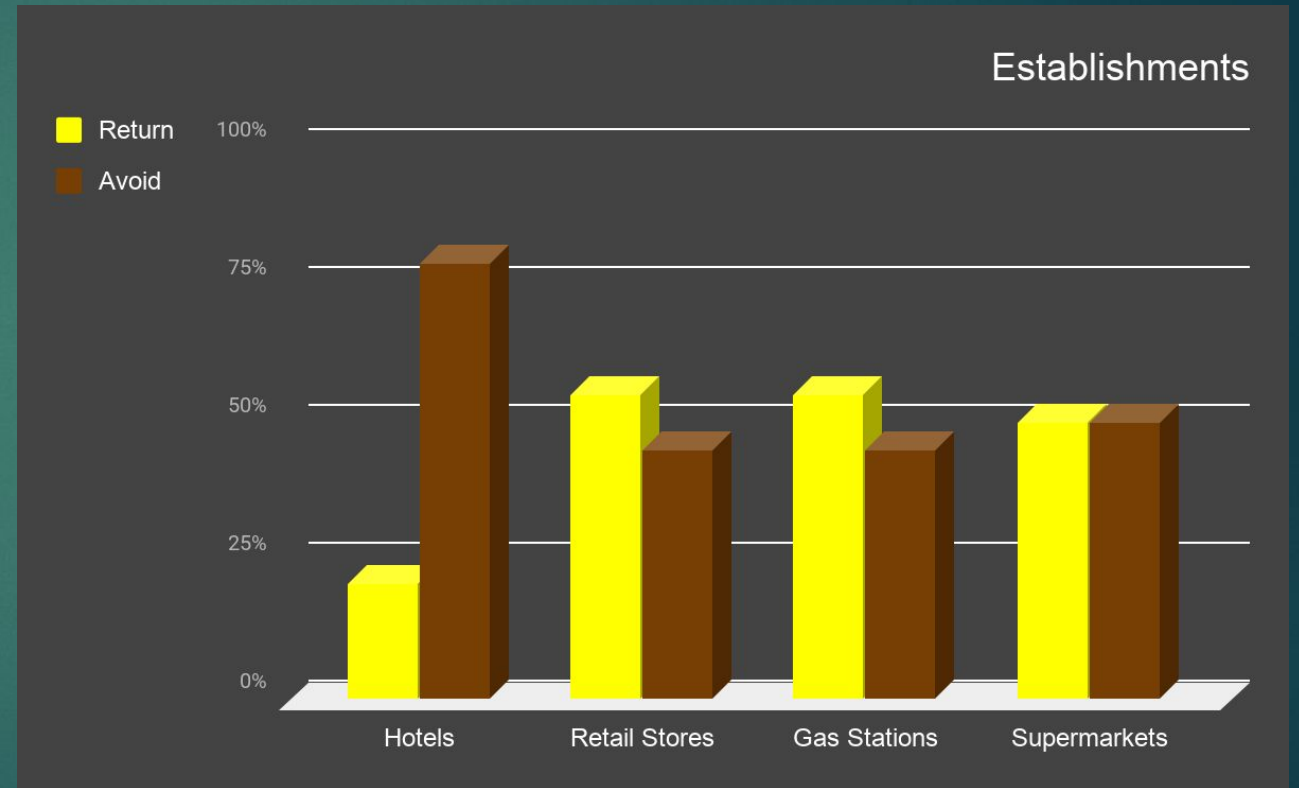
# Coming back?

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- ▶ Among the survey, the following locations were also asked about

Survey by the Clintas Corporation

[Clintas Corporation](#)

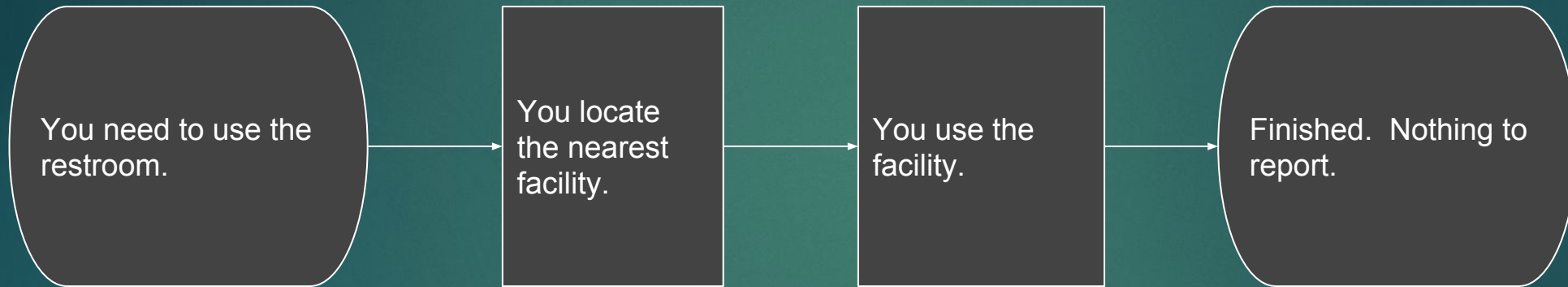




# Problem Characteristics

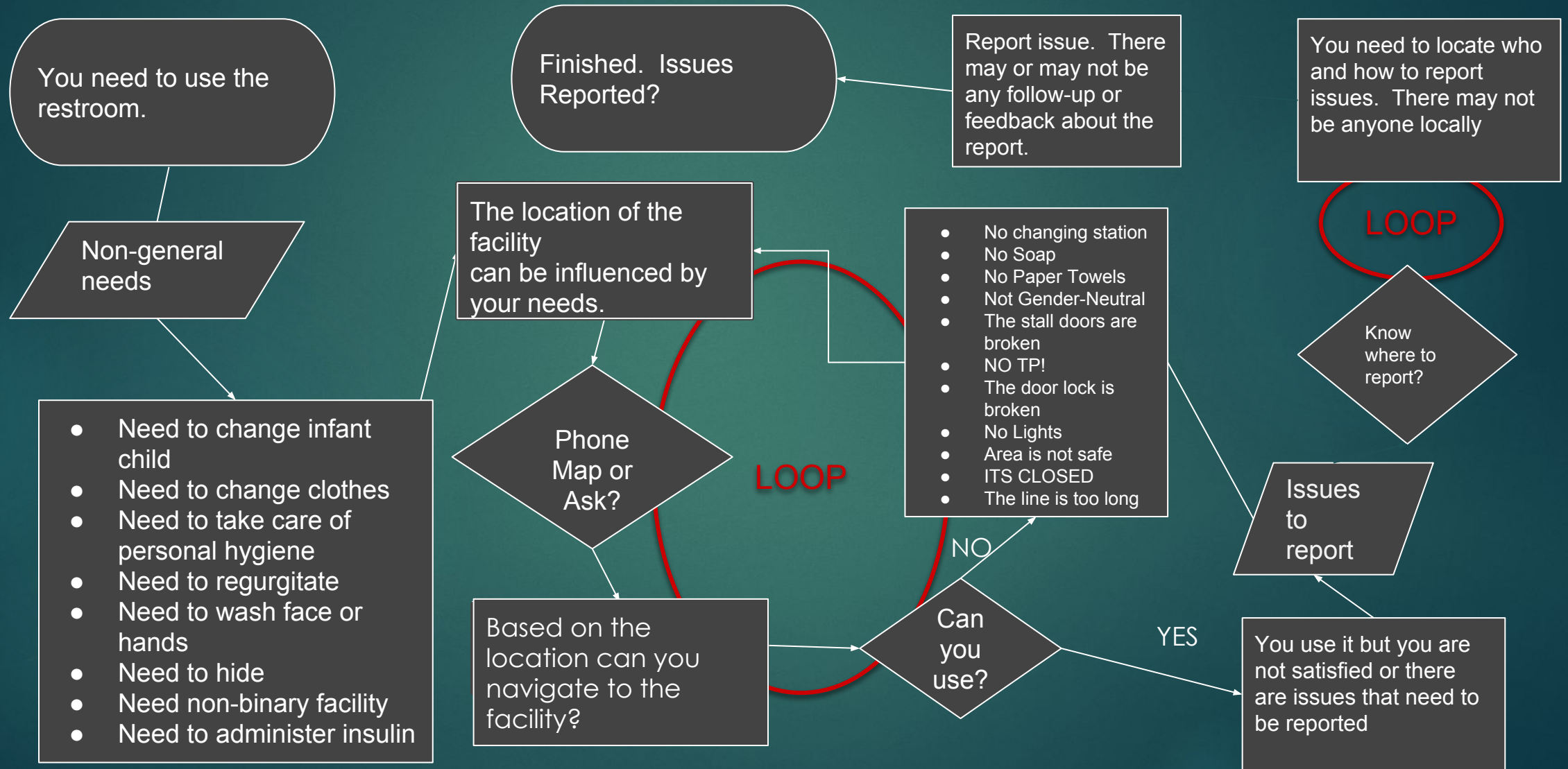
- ▶ No real-time feedback analysis for owners and people concerning restroom cleanliness
- ▶ Lack of amenities such as:
  - ▶ No soap
  - ▶ Hand Dryers not working
  - ▶ No hand towels
- ▶ Quality of amenities
- ▶ Gender neutral restrooms are uncommon
- ▶ Owners lack of cleaning

# Ideal World



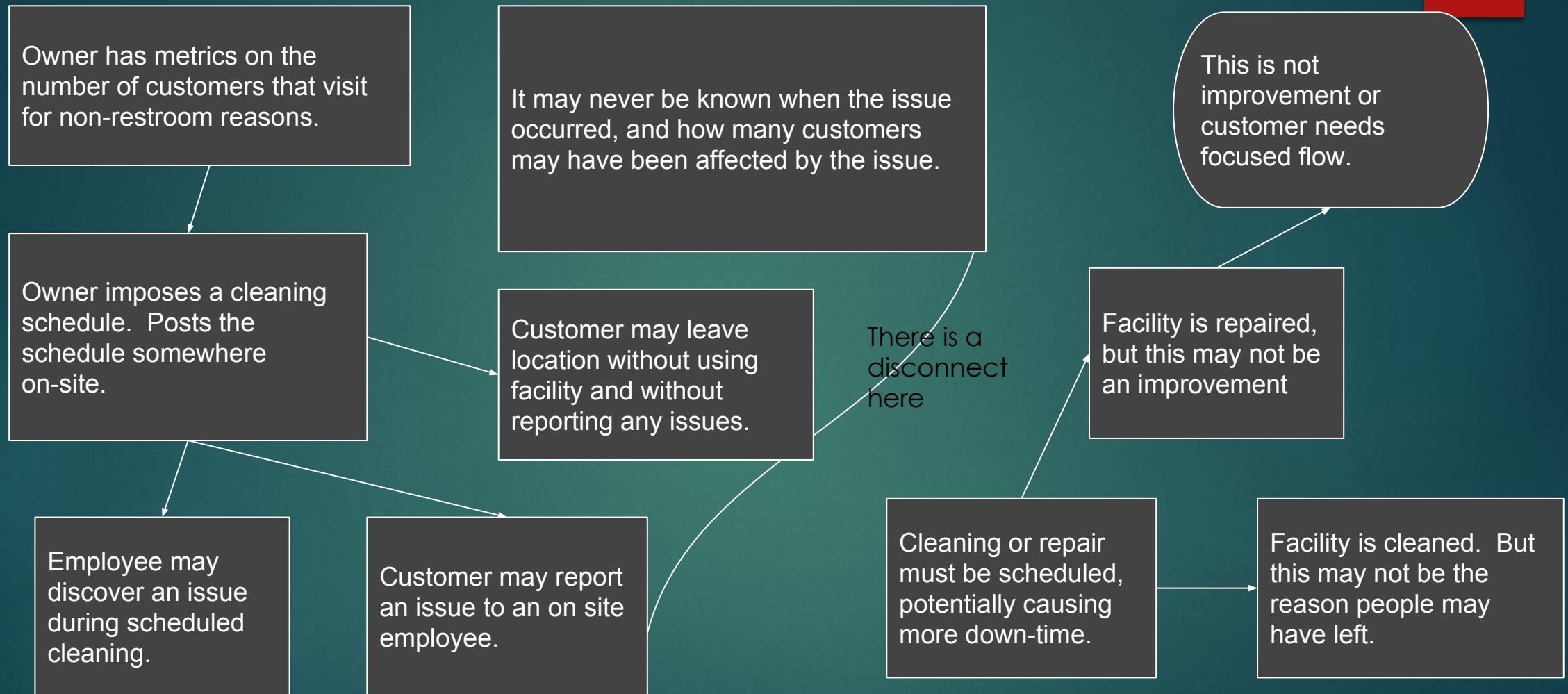
# What actually happens for Users

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# What about the owner?

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# Solution Statement

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- ▶ Skadoosh will provide users with the ability to locate and contribute real-time feedback that will notify owners of their restroom conditions.

# Solution Characteristics

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- ▶ Feedback
  - ▶ Users can provide real-time feedback about facilities making complaints or suggestions
- ▶ User Profiles
  - ▶ Stores needs into a user profile shared with the application
  - ▶ Users can have multiple profiles
- ▶ Owner Profiles
  - ▶ Able to receive analytics and feedback about the facility
- ▶ Location Profiles
  - ▶ Locations have attributes that can be matched against user needs
  - ▶ Locations can be connected by special Owner Profiles
- ▶ 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

# Our Duties

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1. Provide users with the best possible restroom
2. Allow users to give real time feedback about restrooms
3. Provide owners with that real time constructive feedback

# Issues we can't unclog

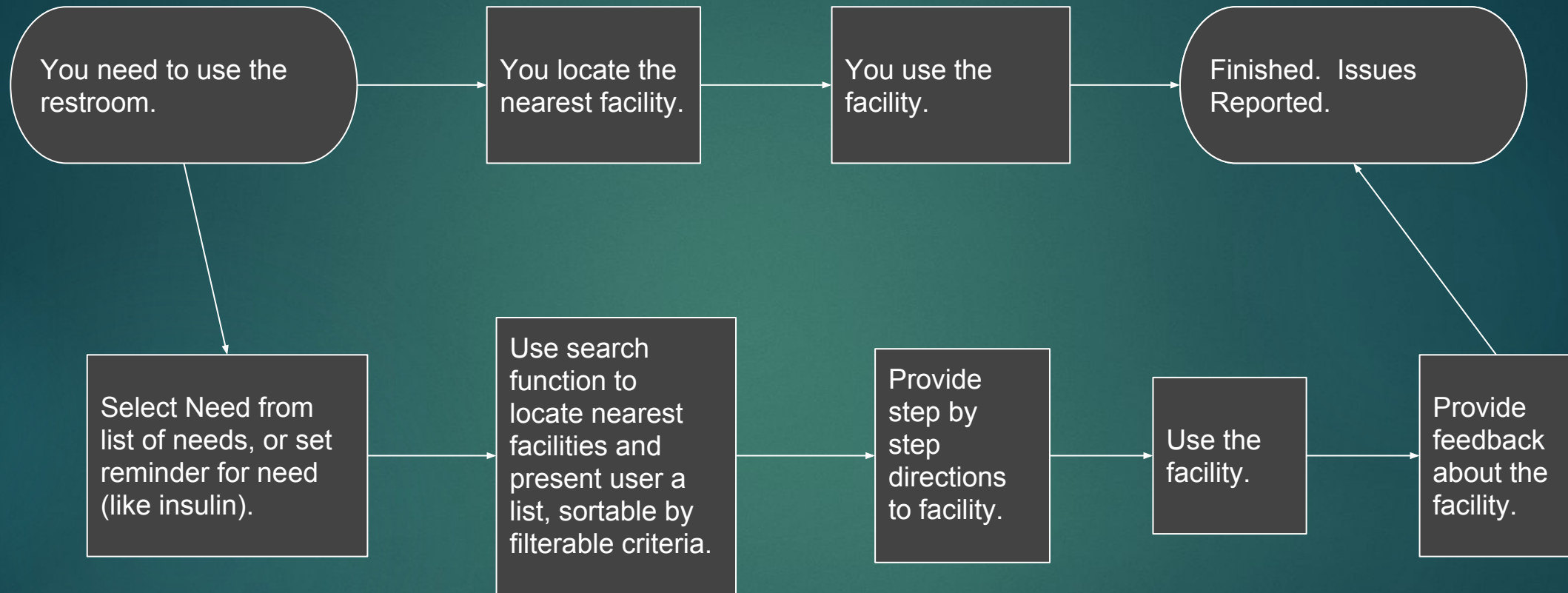
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1. Actual maintenance of restrooms
2. Impromptu janitorial services
3. Current visual representation
4. Real-time vacancies



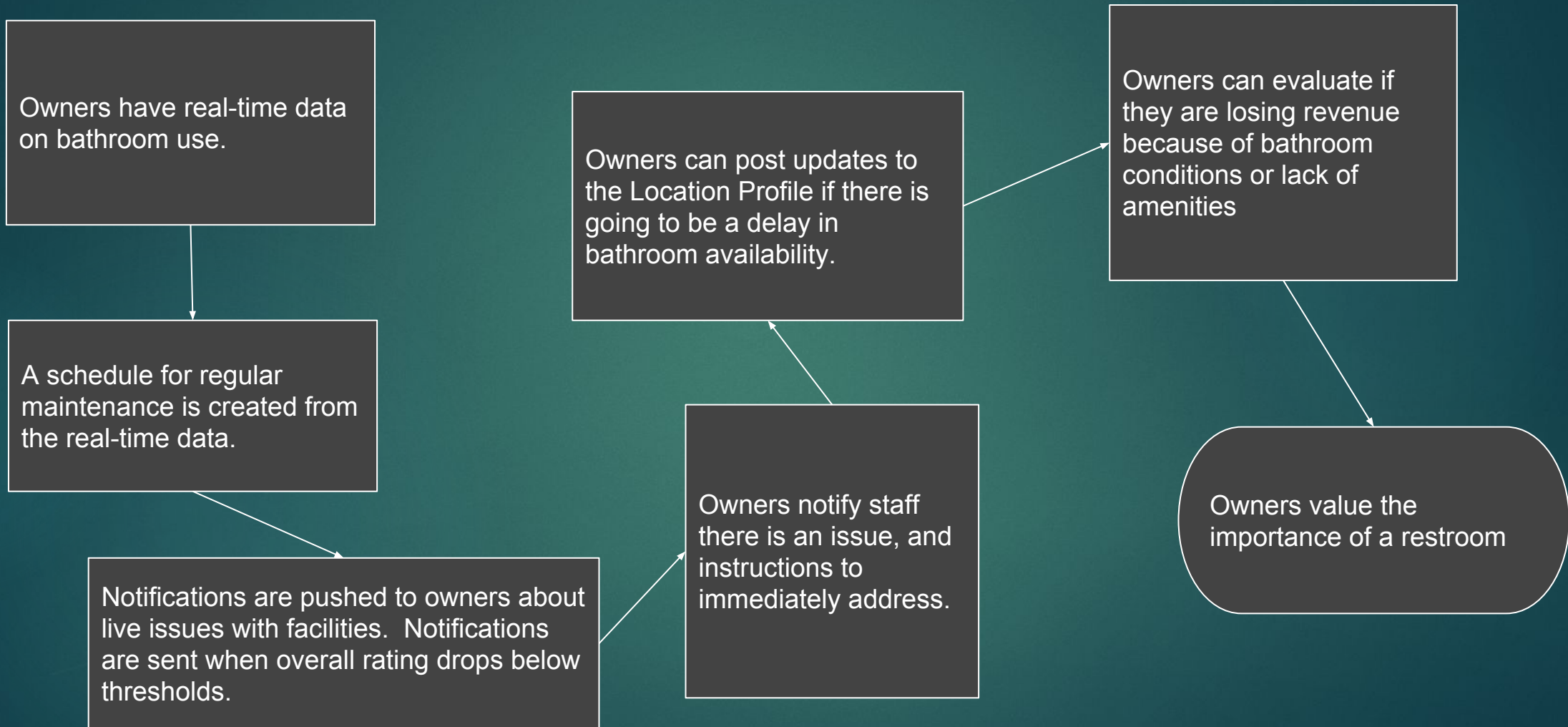
# Can we improve the flow for users?

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# Owners can have better flow too...

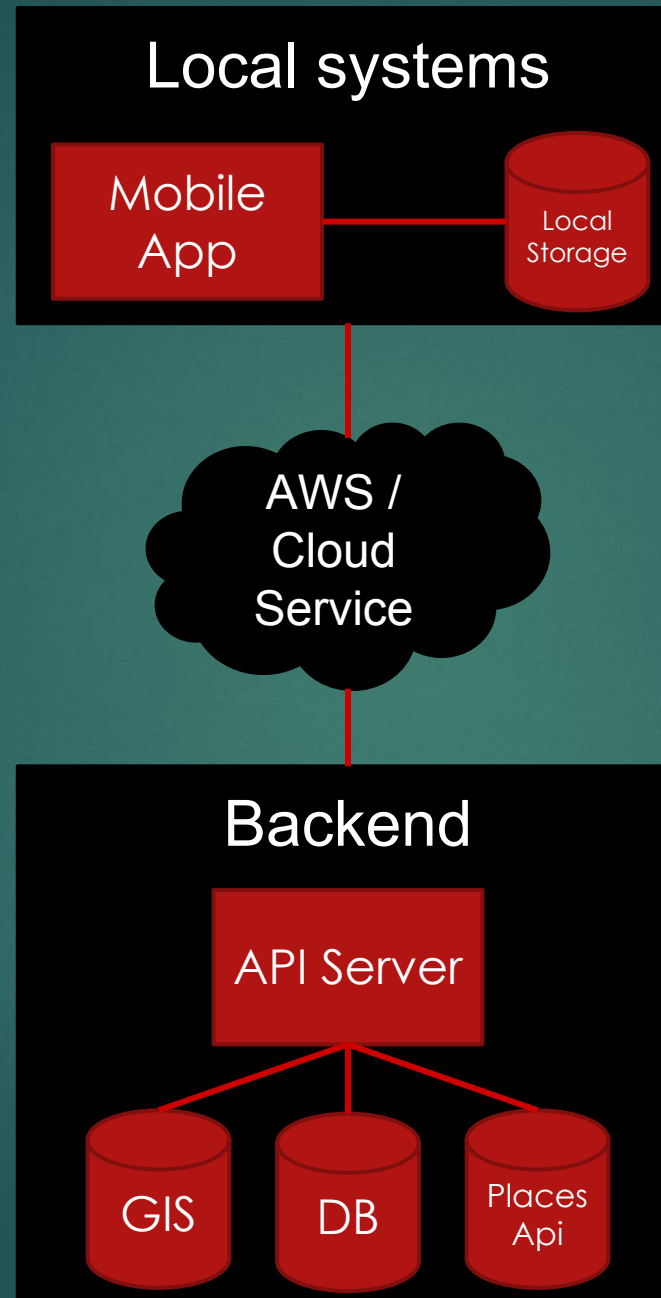
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# MFCD

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# MFCD - Local Systems

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- ▶ Local Storage will hold information such as:
  - ▶ Gender
  - ▶ Age
  - ▶ How long can a user hold before absolutely needing a bathroom
  - ▶ Bathroom Preferences
- ▶ The local storage is used so that the user's personal data does not have to be kept on our DB thus saving the user from unwanted data leakage
- ▶ The mobile app will serve interfaces that allow users:
  - ▶ Rate bathrooms
  - ▶ Find bathrooms
  - ▶ Leave reviews
  - ▶ Owner of restrooms to see stats of their restrooms
  - ▶ See real time data such as: waits, ratings, and reviews
- ▶ Mobile app will be written in React Native



# MFCD - Cloud

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- ▶ Cloud system will be hosted in AWS
- ▶ AWS Features used:
  - ▶ DynamoDB: restroom ratings, place information, and minor user details
  - ▶ Cloudfront: middleware access to the api service
  - ▶ Lambda: api call handling
- ▶ The AWS cloud system will hold all the virtualization needed for the backend

# MFCD - Backend

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- ▶ Lambda service using node.js and express.js will handle all the api calls
- ▶ Backend Db will be DynamoDB (no/sql) that will be accessible via AWS library
- ▶ Express app will have access to the GIS information given to us via Google's maps api
- ▶ We will also interface with Google's places api to get vital information such as:
  - ▶ commercial locations
  - ▶ recreational locations
  - ▶ parks
  - ▶ other "expected" restroom locations

# Competition

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Patron						
Features	Skadoosh	SitorSquat	Toilet Finder	Flush	Where to Wee	Bathroom Scout
IOS	✓	✓	✓	✓	✗	✓
Android	✓	✓	✓	✓	✓	✓
Rating	✓	✓	✓	✗	✓	✓
Directions	✓	✓	✗	✓	✓	✓
Filter	✓	✓	✗	✗	✗	✗
Accessibility	✓	✓	✓	✓	✗	✓
Amenities	✓	✗	✗	✗	✗	✗
Free	✓	✗	✗	✗	✓	✗

# Competition Cont.

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



# Competition Cont.

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						Real-Time
Features	Skadoosh	SitorSquat	Toilet Finder	Flush	Where to Wee	Bathroom Scout
Real-time Feedback	✓	✗	✗	✗	✗	✗
Real-time Rating	✓	✗	✗	✗	✗	✗
Real-time Notifications	✓	✗	✗	✗	✗	✗

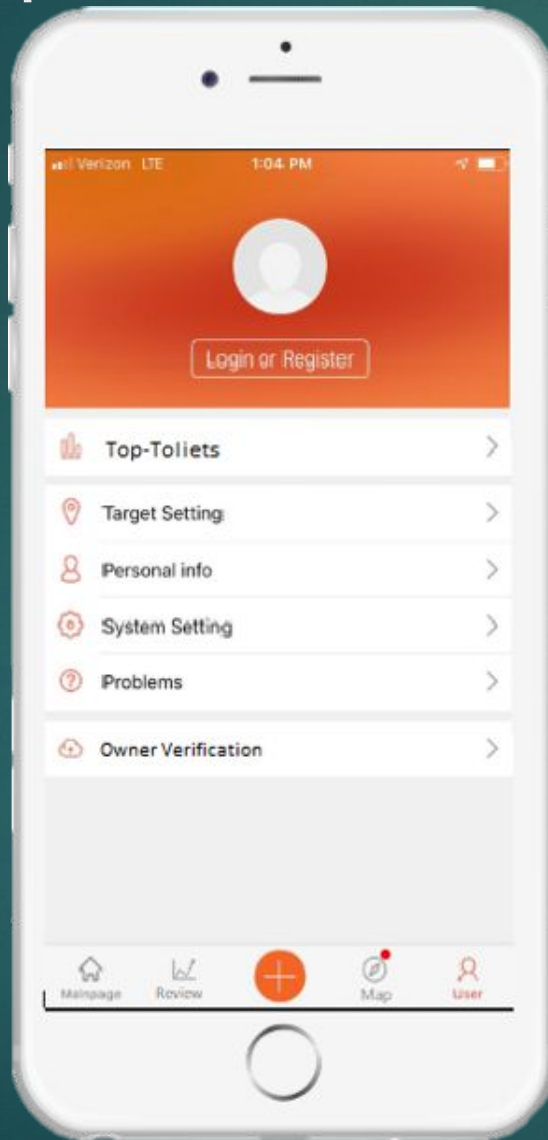
# Competition Cont.

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- ▶ 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

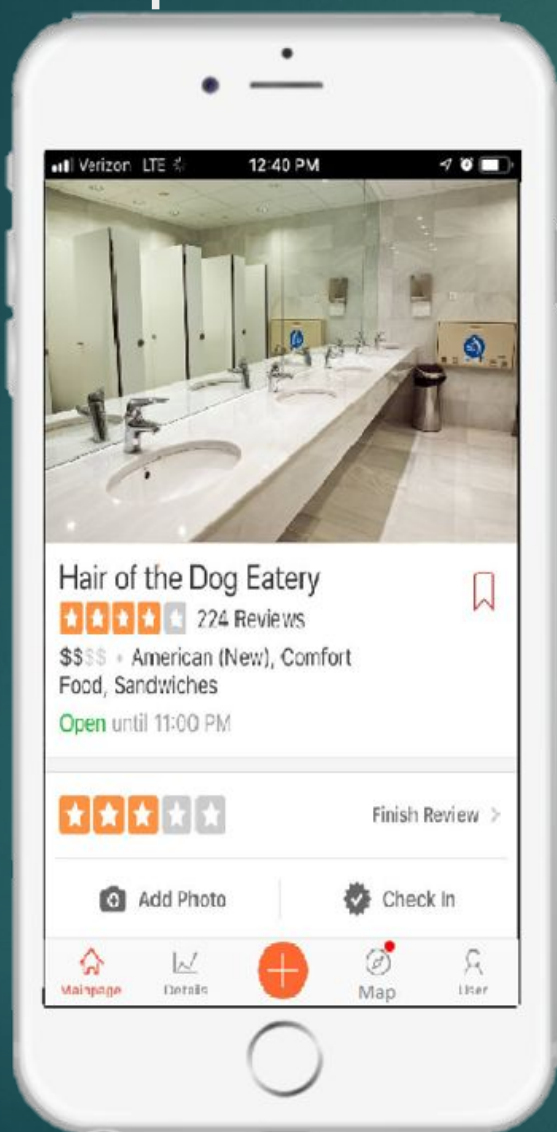
# Mockups

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# Mockups

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# In Conclusion

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- ▶ Anyone can struggle with finding the “right” bathroom
- ▶ We offer our users real-time feedback to amend this problem
- ▶ We crush our competition with the usage of reliable real-time feedback and owner interfaces
- ▶ Some might say Skadoosh is coming to flush out all the competition

# Skadoosh it !

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