

MICHIGAN STATE
UNIVERSITY

Beta Presentation

Reducing Shoplifting Using Machine Learning The Capstone Experience

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*From Students...
...to Professionals*

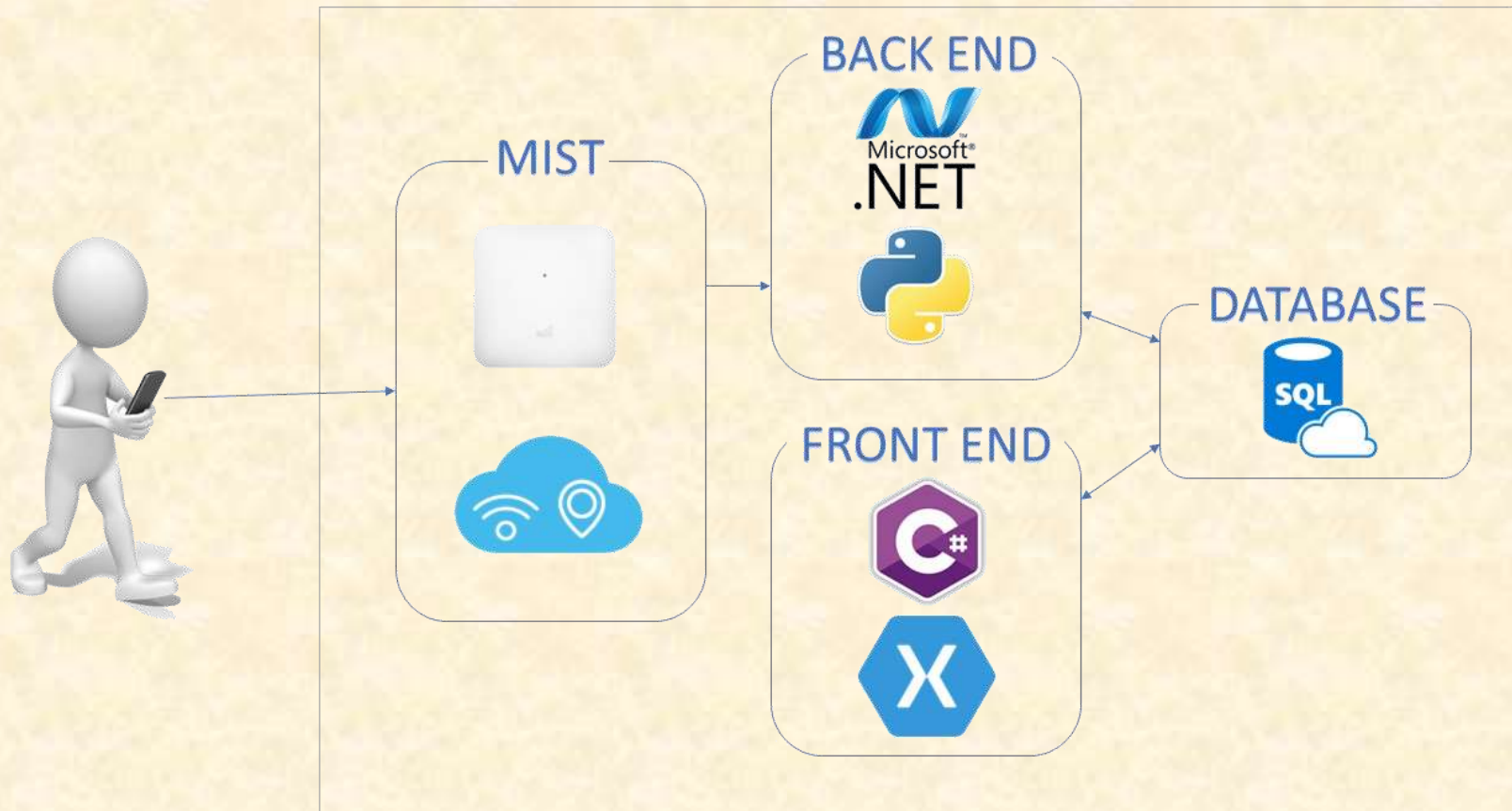
Department of Computer Science and Engineering
Michigan State University
Spring 20

Project Overview

- Monitor shoppers with Mist access points
- Look for suspicious activity
- Identity potential shoplifting incidents
- Send alerts and provide information to resolve incidents
- Monitor confirmed shoplifting devices to prevent further acts of shoplifting



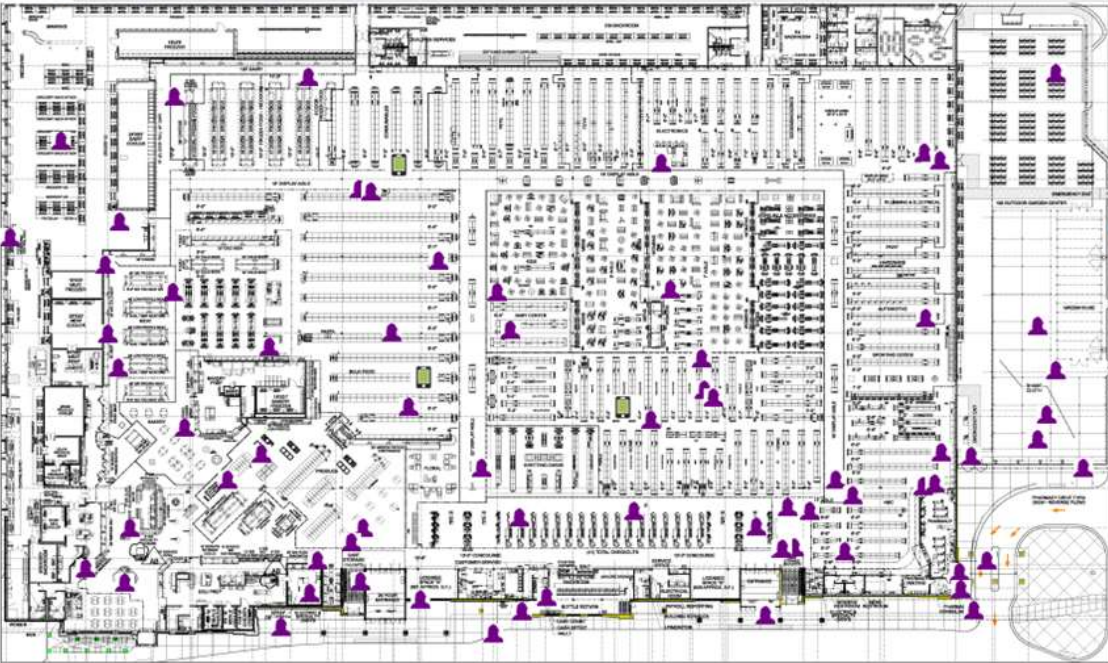
System Architecture



Desktop App

Store 158

Live View Customize Confirmed Devices Thresholds



meijer

Dwelt in Electronics for 13 minutes at 12:47 p.m., Exited through fire exit

Dwelt in Liquor for 9 minutes at 12:02 pm, Didn't dwell in point of sale at 12:22

Dwelt in Liquor for 9 minutes at 12:02 pm, Didn't dwell in point of sale at 12:22

Dwelt in Liquor for 9 minutes at 12:02 pm, Didn't dwell in point of sale at 12:22

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Dwelt in Liquor for 16 minutes at 12:47 p.m., Exited through fire exit

Dwelt in Liquor for 9 minutes at 12:02 pm, Didn't dwell in point of sale at 12:22

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Dwelt in Liquor for 9 minutes at 12:02 pm, Didn't dwell in point of sale at 12:22

Newer Older

☒ Show WiFi Clients
☐ Show Bluetooth Clients
☒ View Confirmed Devices
☐ Show Zones

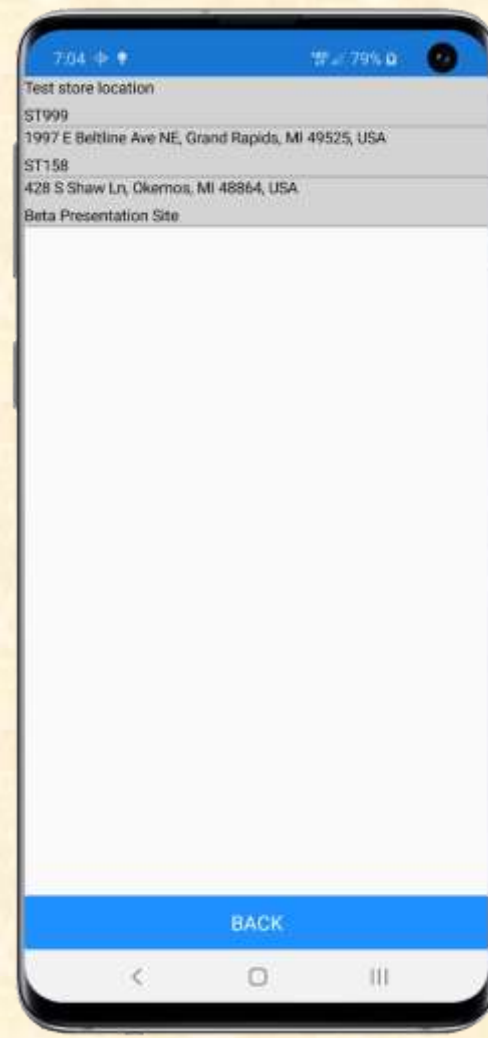
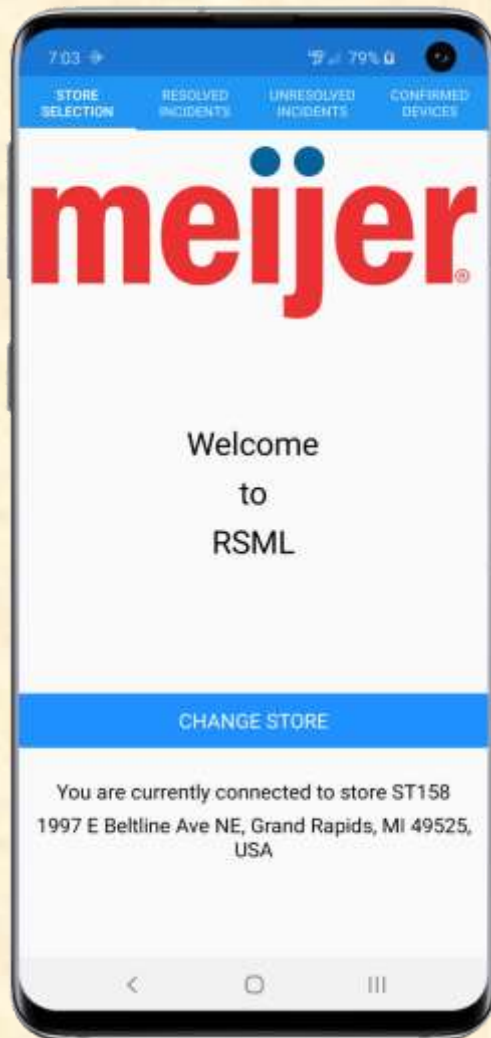
Incident Report
Date: 4/5/2020
Time: 1586122837.51817
Activities: Dwelt in Electronics for 13 minutes at 12:47 p.m., Exited through fire exit
Device: b9:d1:32:f4:2f:42

Confirm Shoplifting

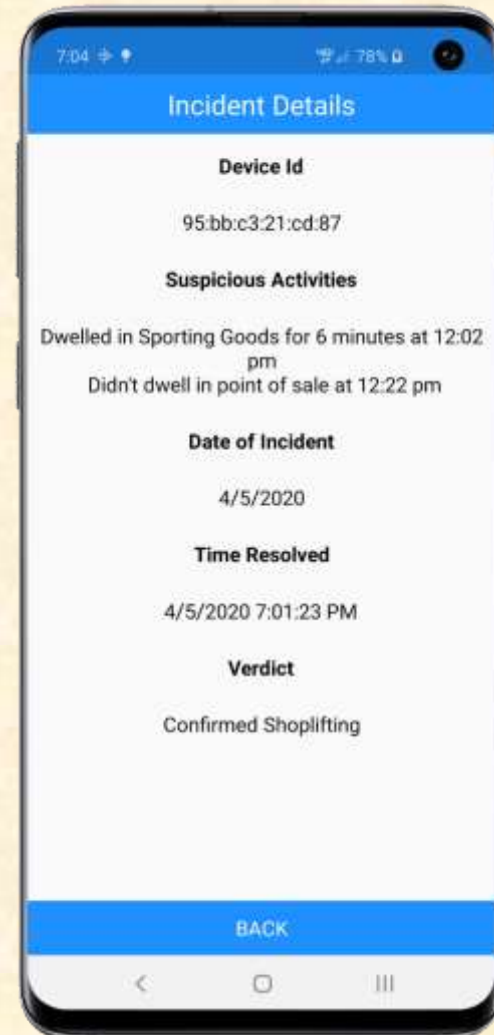
Dismiss Incident



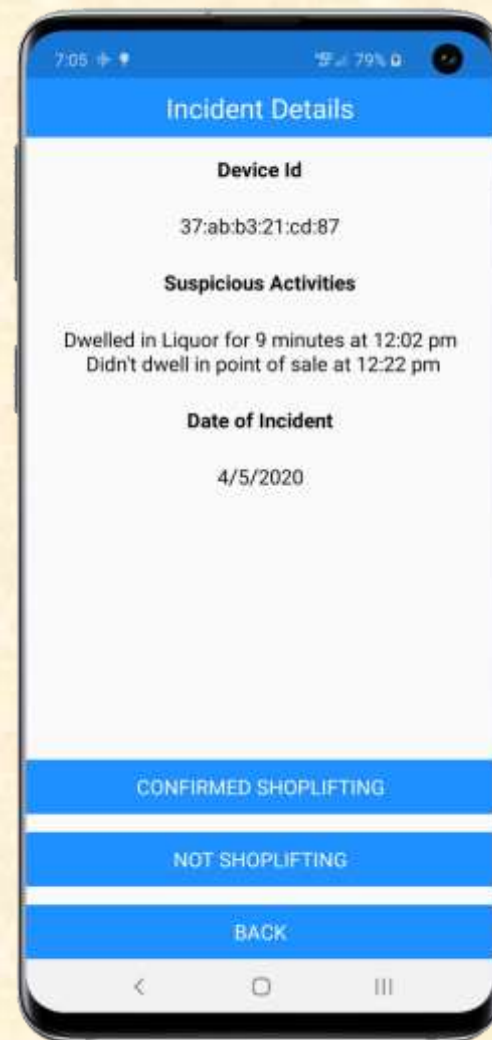
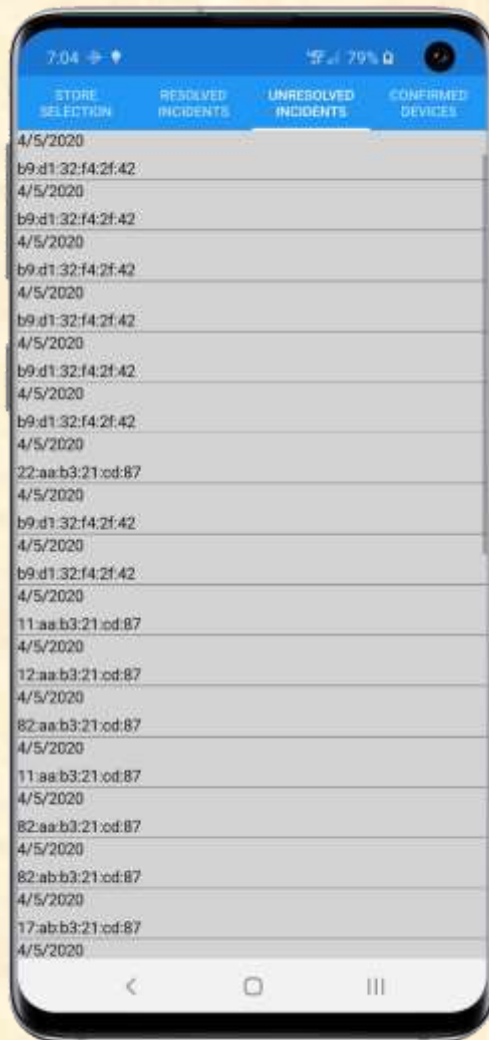
Mobile App Store Selection



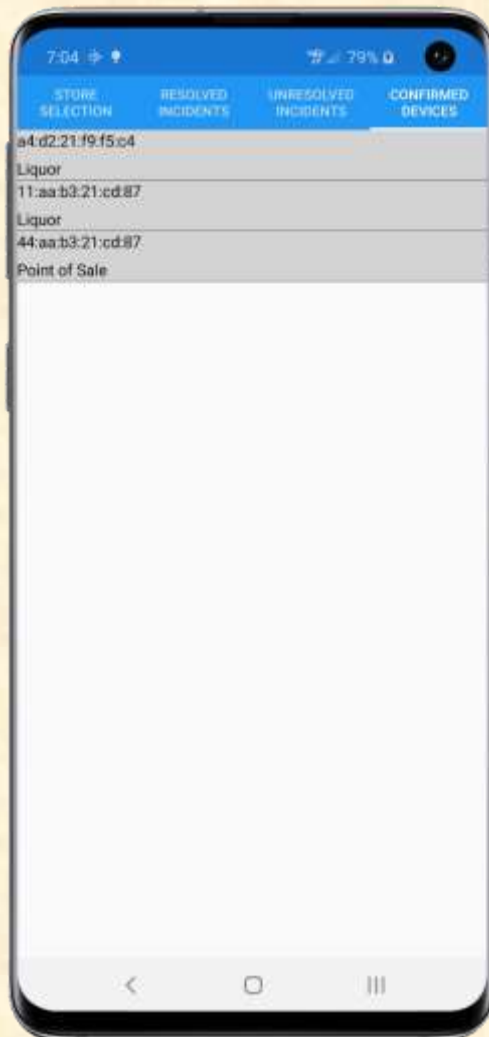
Mobile App Resolved Incidents



Mobile App Unresolved Incidents



Mobile App Confirmed Devices



What's left to do?

- Set up our webhook on the Meijer site
- Testing on store 158 and tweaking thresholds
- Make aesthetic improvements



Questions?

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