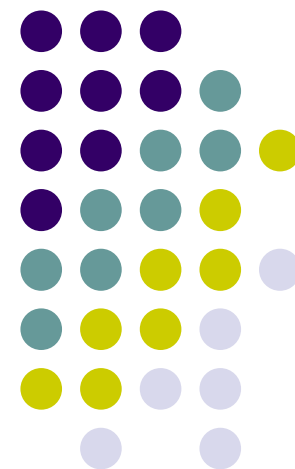# Ubiquitous and Mobile Computing CS 403x: CrowdCade – A *Crowdsourced Arcade Cabinet Locator*
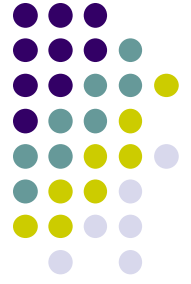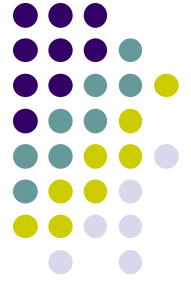
Joshua Allard, Nathan Bryant, Andrew Busch

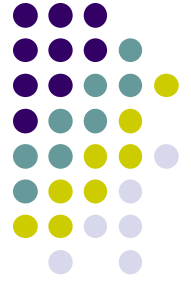*Computer Science Dept.*
*Worcester Polytechnic Institute (WPI)*

# Problem Introduction/Motivation

- Arcade machines are relics of the past
  - Increasingly difficult to locate
- There are only a few ways to play most of these games
  - The original cabinets or emulators
- A community exists that prefers using the original cabinets
- There exists no extensive resource for locating publicly playable games

# The Vision

- A system for users to report locations of specific arcade cabinets

- Using a user's location, they can check to find nearby games

  - They can also check for specific game locations

- Users can add new arcade locations, optionally including a picture taken with their camera
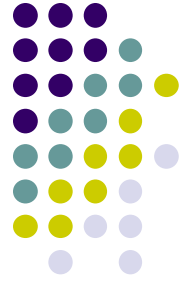
# Related Works

- Similar Apps
  - Yelp – Crowdsourced restaurant locator and review platform
  - Waze – Crowdsourced traffic and road conditions reporting app
- Research
  - *CommuniSense: Crowdsourcing Road Hazards in Nairobi*

# Methodology – Complete Product



https://drive.google.com/file/d/0Bw8it6hm1f5Gbk12NmtLekInUGc/view?usp=sharing
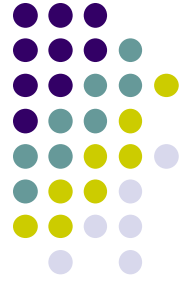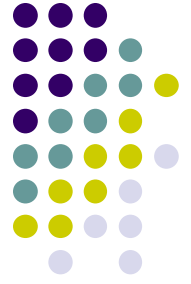
# Implementation

- Google Maps API
    - User location, markers for arcade cabinets
    - GPS and WiFi sensors
- PHP Server
    - Connecting and accessing the reported data
    - Android app communicates over the internet
- Android Camera API

# Results

- User Testing
  - Users would search for "Pac-Man" and view the details for the closest one
  - Users would report a made-up game and info provided to them
  - They then found it on the app and viewed it
- User Feedback
  - Positive!
  - Suggestions for additional features

# Future Work

- Synchronizing address entry with map marker placement
- Editing existing entries
- Reporting inaccuracies and abuse
- Venue look-up
    - Searching for arcade locations
    - View all games at certain locations
- Increasing the efficiency of picture downloads
- Display current location on map

# References

- *Yelp,* http://www.yelp.com/about
- *Waze,* https://www.waze.com/about
- *CommuniSense: Crowdsourcing Road Hazards in Nairobi,* http://arxiv.org/pdf/1506.07327.pdf