Ubiquitous and Mobile Computing
CS 4518: Snuber

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Snuber

- **Problem:**
  - SNAP drivers often have a hard time finding students.
  - Students often don’t have any feedback as to how long SNAP will be or where it’s heading.

- **Importance:**
  - SNAP is a useful way for WPI students to get around the campus area.

- **Solution:**
  - Uber for SNAP, students can request SNAP from their phone.
  - Students receive an estimated shuttle arrival time.
Implementation

- Develop for android phones
- Using a django server
- Using GPS for driver and student location tracking
- Google Maps API
- Use camera for user profiles
- Firebase Cloud Messaging
App Flow Overview

PagerActivity -> LoginActivity

LoginActivity -> LoginFragment

LoginFragment -> SignupFragment

SignupFragment -> UserImageFrag

UserImageFrag -> StudentActivity

*if driver

StudentActivity -> DriverActivity
Onboarding Process

Request a ride from SNAP.
Choose your destination, and SNAP will be there soon.

See your estimated wait time.
Have an idea of when SNAP will arrive, so you can plan ahead.

Receive notifications from SNAP.
No more listening for the honk or looking for flashing yellow lights. Receive a notification and be on your way.
Login/Signup

Log In

Email
mespencer@wpi.edu
Password

LOG IN

Signup

Name
Tyler Bennett
Email
tjbennett@wpi.edu
Password
Password Confirmation

NEXT

CHOOSE PROFILE IMAGE

SIGNUP

Tyler Bennett
Students Side

- Students use the app to locate and call for a ride
- Only allows for valid destinations
- Tells student estimated time of arrival for the shuttle
Student Side

Student Page

Request Ride

No Ride Requested Yet

Cancel Request

Switch to Driver

Student Page

Request Ride

Calculating wait time...

Switch to Driver

Student Page

Request Ride

Estimated Arrival Time: 14 Minutes

Cancel Request

Switch to Driver
Driver’s Side

- Snap drivers would use the app to:
  - Display their location
  - Locate students in need of a ride
    - Displays information on where the student’s location and destination
    - Displays student name and picture
  - Drivers can switch to the student side and back
Drivers view
Demo Video

https://drive.google.com/file/d/0B8jkU53lbbbmYlNqYnZPWLxBxT0U/view?usp=sharing
Conclusions

● What the app can do:
  ● Connect students to drivers and allow them to request rides
  ● Displays location information for students and drivers
  ● Gives feedback to the student for an ETA

● Gives student more control and information on the process
Future Work

- Incorporating CAS login
- SNAP statistics
- Pickups along routes to maximize efficiency
- Path to destination for driver
- Ability to click on map to input destination
- Implement for SNAP?
References

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- https://web.wpi.edu/Images/CMS/Police/gateways/huttle_rdax_300x225.jpg