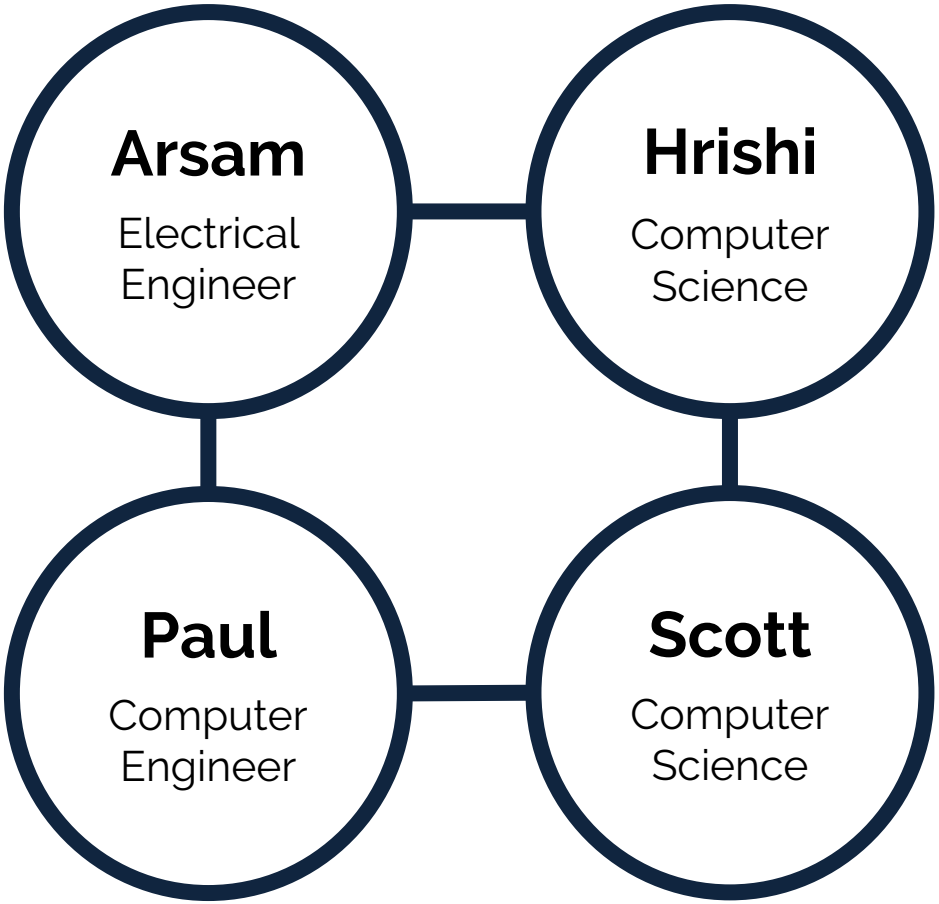
PĀKU

Park & Walk

Smart Parking System

MARCH 2016 WATERLOO WEARABLE & IOT HACKATHON

TEAM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OVERVIEW

Paku
(On-Street Park & Walk System)

Smart Parking Meter

+

License Plate Recognition

+

Software Infrastructure & Environment

Paku is an Internet of Things opportunity!

VISION

“Parking will be a hands-free, completely automated transaction”

- Charging based on exact parking duration
- Almost eliminates need for enforcement
- Includes benefits of other smart parking meter solutions: demand-based pricing, parking guidance map apps, management analytics, etc.

A smartphone is not even needed!

MARKET OPPORTUNITY

- Parking is a $100 billion per year market globally [1]
- Smart parking segment was $40 million in 2015, with expected CAGR of 26% [2]
- On-street parking represents 1/3 of parking revenues and controlled by cities & municipalities
- Existing “smart” parking meters cost $500 - $1000 per meter
- **Business model:** Infrastructure As A Service (IaaS)

[1] Frost & Sullivan

[2] Navigant Research

EXISTING RELATED SOLUTIONS

- “Smart” parking meters: meters with payment options (e.g. coin, card or phone)
- Parking spot occupancy sensors
- Off-Street (i.e. parking lot) physical parking guidance systems
- Smartphone apps mapping available parking spots, price and allowing reservations
- License Plate Recognition systems are in wide use, e.g. police vehicles, highway toll collection

TYPICAL USER EXPERIENCE

1. User pulls into a parking lot.

2. User walks away.

3. User comes back and drives away.

4. Parking charges are made to user.

PAKU SYSTEM

1. License plate recognized using low-cost camera and software
2. Accesses cloud-based CMS and checks that customer has an account
3. An entry is made in customer's account, recording time and parking spot
4. Large LED on parking meter turns green, indicating that customer is good to park & walk
5. Car driving away is recognized, CMS system is accessed to record departure time
6. Email receipt is sent to customer

- Design focus will be on "edge cases", including new customer and camera blockage scenarios

CHALLENGES

- Privacy
- Intellectual property
- Decreased revenue from fines
- Not capital light

Limited time, given school

TIME FRAMES & NEXT STEPS

Time Frame

- 4-6 months for a prototype
- 1 year after prototype for pilot

Next steps

- Development of optical character recognition