iOS Payment System

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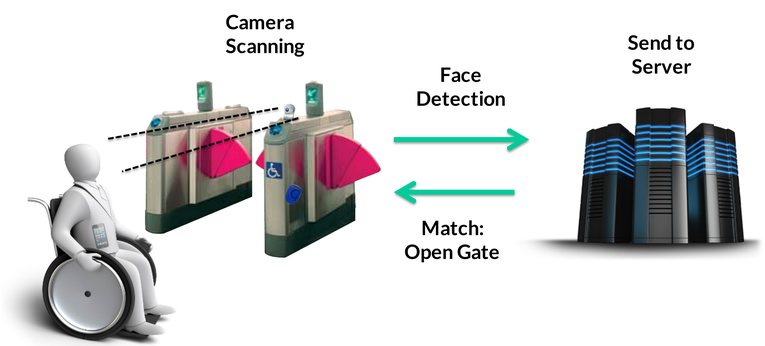
Background

The current prevalent transit payment system utilizes smart cards where you use a ticket vending machine to add funds, add passes, or view fare history. The improvements my project makes to the existing system is utilizing facial recognition and Bluetooth as a means of payment.

Improvements

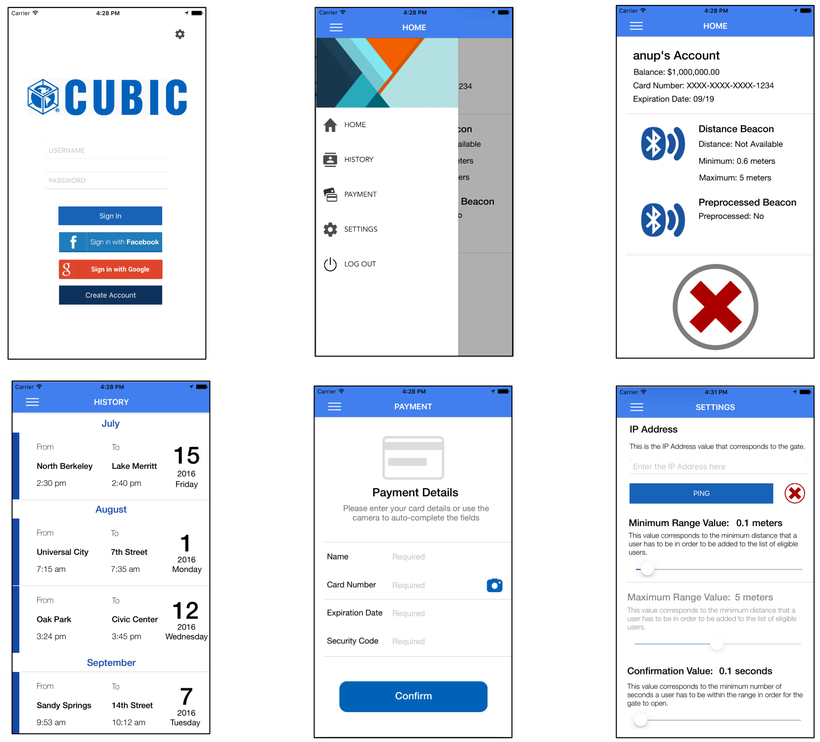
- Hands-free access to fare gate
- Use of newer technology
  - *Facial recognition – everyone's face is unique and accessible*
- More accessible for patrons with disabilities
  - *Patron simply walks up to gate, looks at camera and will be able to process*



Implementation

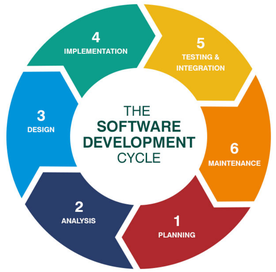
- Account based processing
- Core Data
  - *One-time configuration*
- Works even if the user doesn't run the app
  - *Locked/background mode*
- Fast processing time
  - *As fast as tapping a card*
- Seamless integration for the customer
- Optimizes time for patron and cost/space of ticket vending machines
- Provides easy hands-free access to patron, especially useful for patrons with disabilities

iOS Application



What I Learned

- Software Development Process
- Design (UI)
- iOS design patterns
- SCRUM/importance of feedback
- Time management skills
- Prioritization



Key Achievement

A key achievement through this project was seeing the app work in real life. A lot of the project was focused around improving my implementation, fixing functionality, and constantly changing the application to meet the requirements. Watching it work at a real fare gate on someone else's phone was definitely cool.

Connection to UCSD

- CSE 12 for design patterns (Singleton/MVC structure) and basic data structures
- CSE 11 for Java debugging and knowledge
- Through this internship, I hope to take the following courses at UCSD
  - Hardware related courses to gain lower level knowledge
  - More project based classes to gain exposure to real world tools (CSE 170/CSE 110/ENG 100)

Thanks to TIP and Cubic for the opportunity!