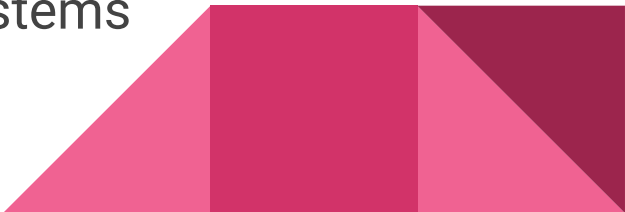


Secure Door Lock Milestone 1 Presentation

Luke Butcher, Christopher Kiefer, James Pabisz, Warren Smith

Milestone 1 Tasks

- Compare and select a Tech Stack
 - Design a proper IOT acceptance criteria
 - Set up Jira board
 - Requirements documentation
 - Design documents for subsystems
 - Integration documentation for subsystems
 - Design solution for lightweight facial recognition system
 - Design needed infrastructure to integrate all systems
- 

Comparing and Selecting a Tech Stack

- Multiple technologies were examined
- Research was split up by subsystems
 - App development, Network and Server interfacing, Hardware
- Native Android development tools will be used
- Kotlin will be used for application development
- Android Studio will be used as the IDE
- A react stack with AWS will be used
- For hardware a Raspberry Pi and 2k camera will be used
- Jira will be used as a project management tool



Setting Up a Jira Board

- Tasking was derived from itemized requirements
- High level requirements are categorized as User Stories
- Average expected work time requirement per User Story is 4 hours
- Each Itemized requirement has lower level tasking that is generated



Design Solution for Lightweight Facial Recognition System

- Amazon Rekognition
- Raspberry Pi Solution
- Self Hosted solutions
 - [Ageitgey/face_recognition](#)
 - [InsightFace](#)
 - [DeepFace](#)

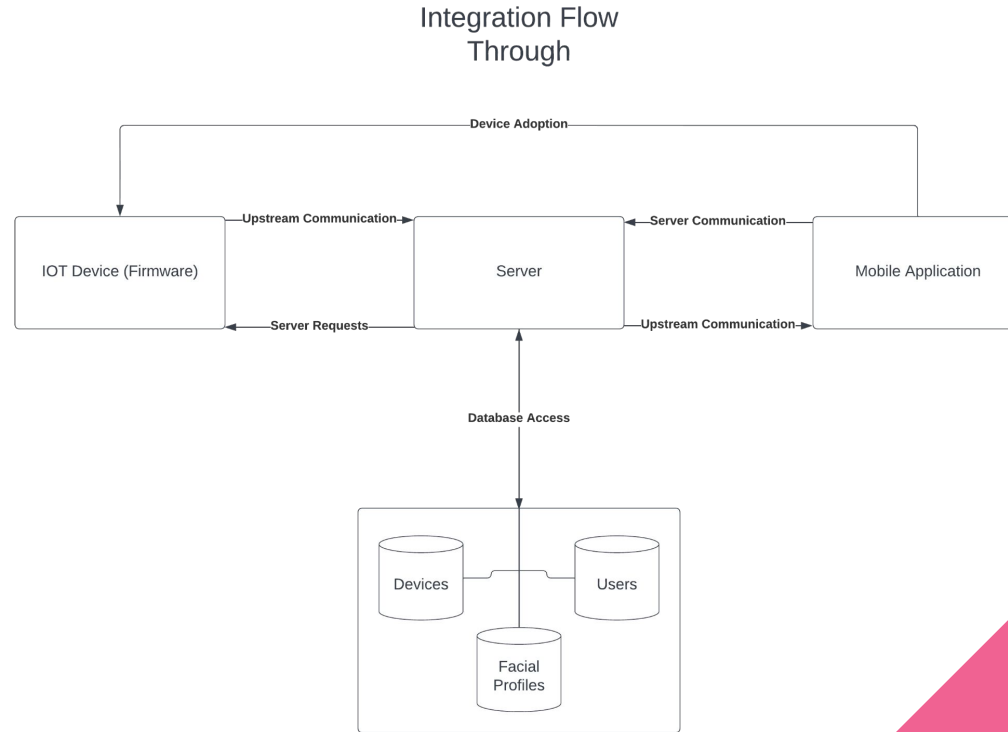


Requirements Documentation

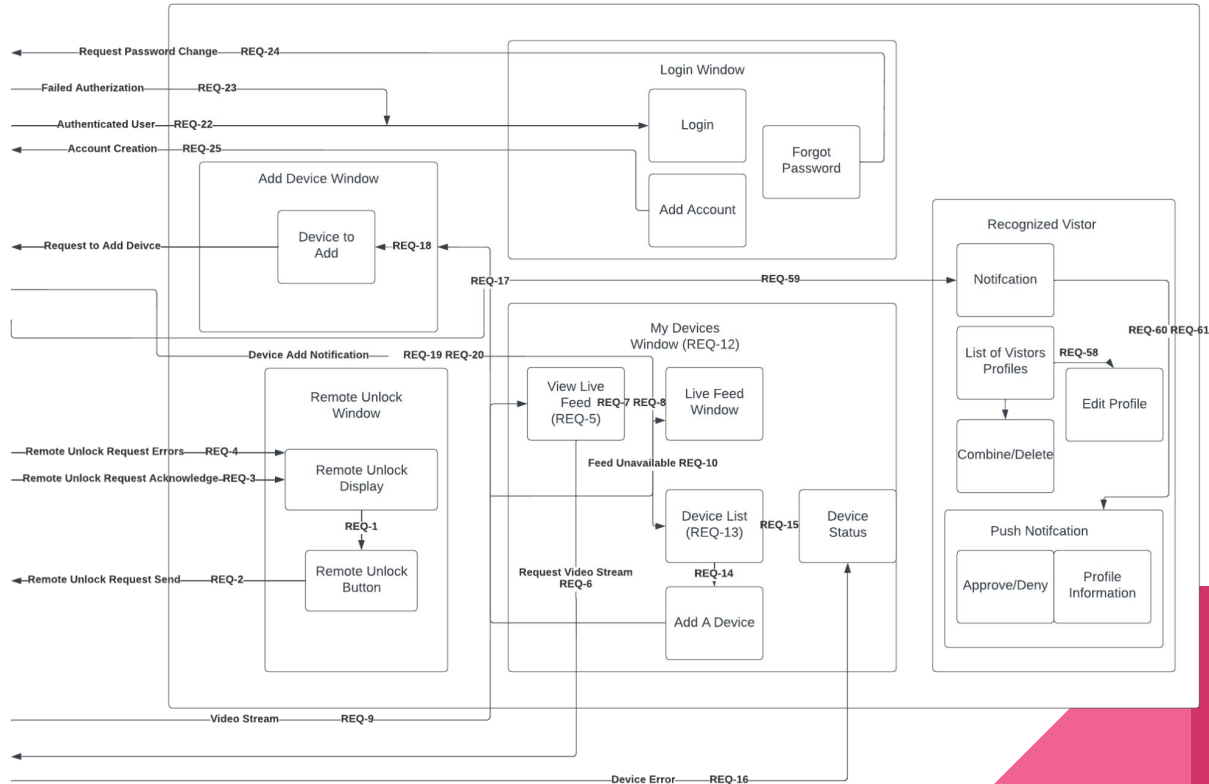
- **Mobile Application**
 - Remote Unlock
 - Remote Video Feed
 - User Authentication
- **Server**
 - Authentication
 - IOT Persistent Endpoint
 - Device Database
 - Facial Recognition
- **Firmware**
 - Unlock/Lock
 - Video Stream
 - IOT Adoption



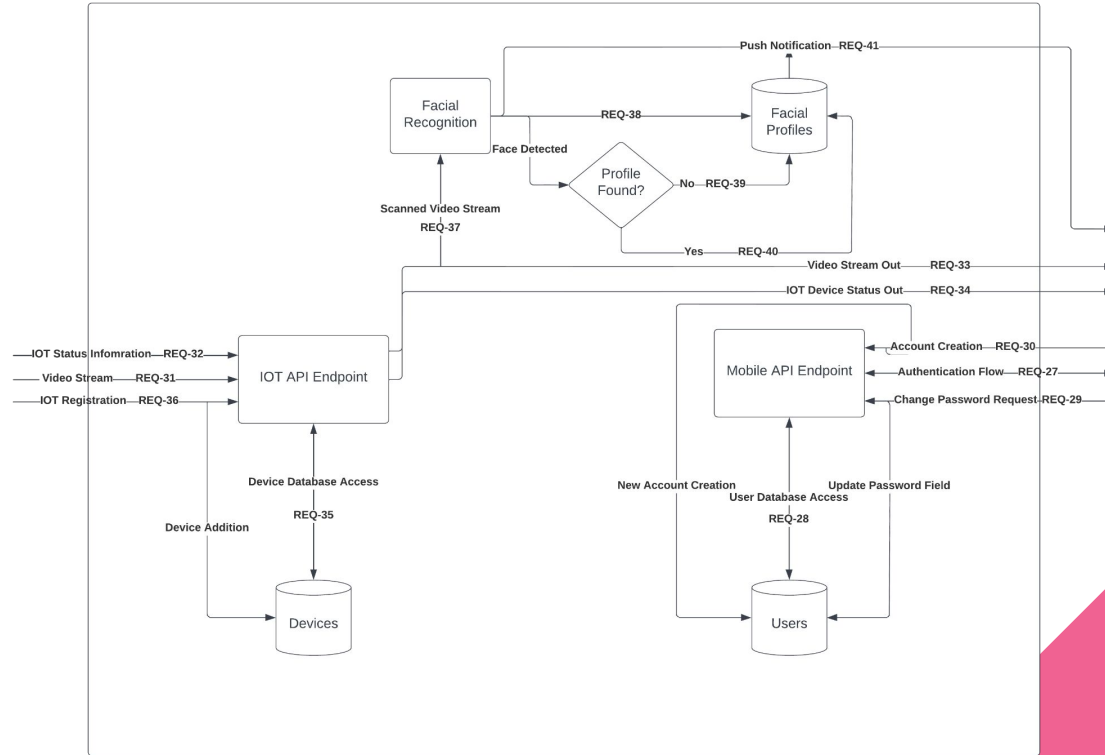
Integration Documentation for Subsystems



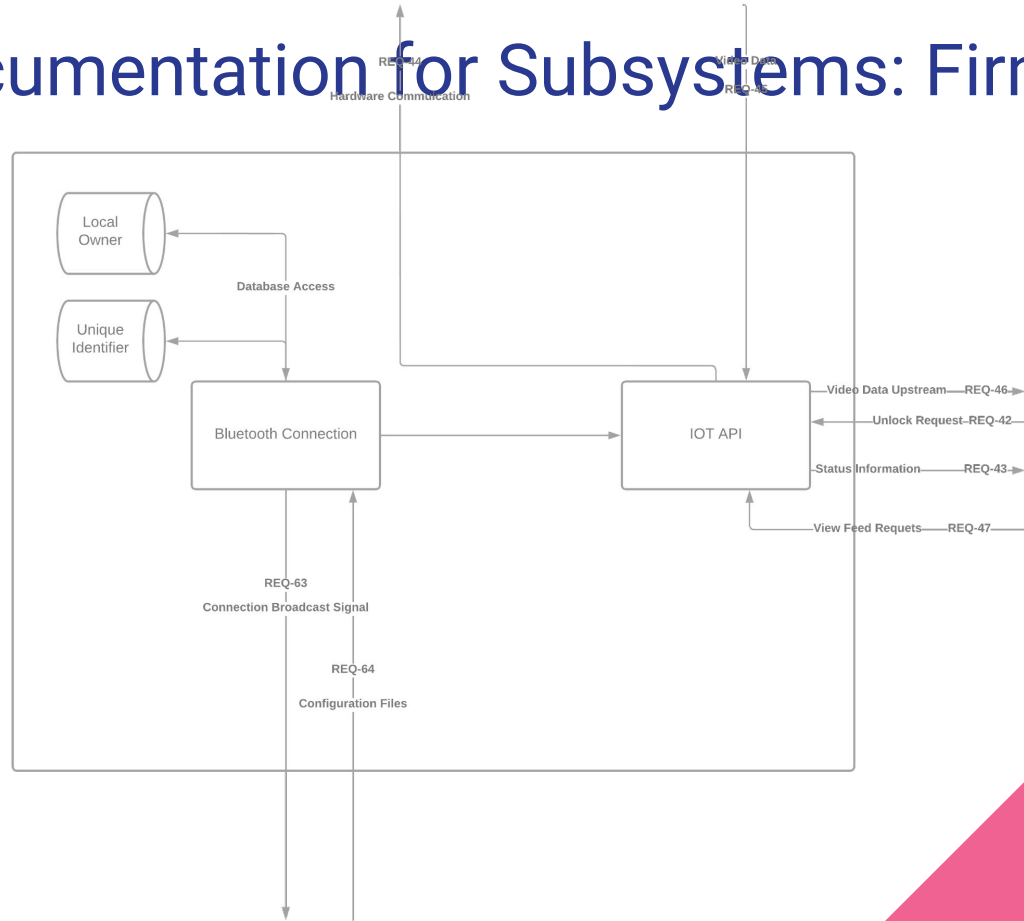
Design Documentation for Subsystems-Mobile App



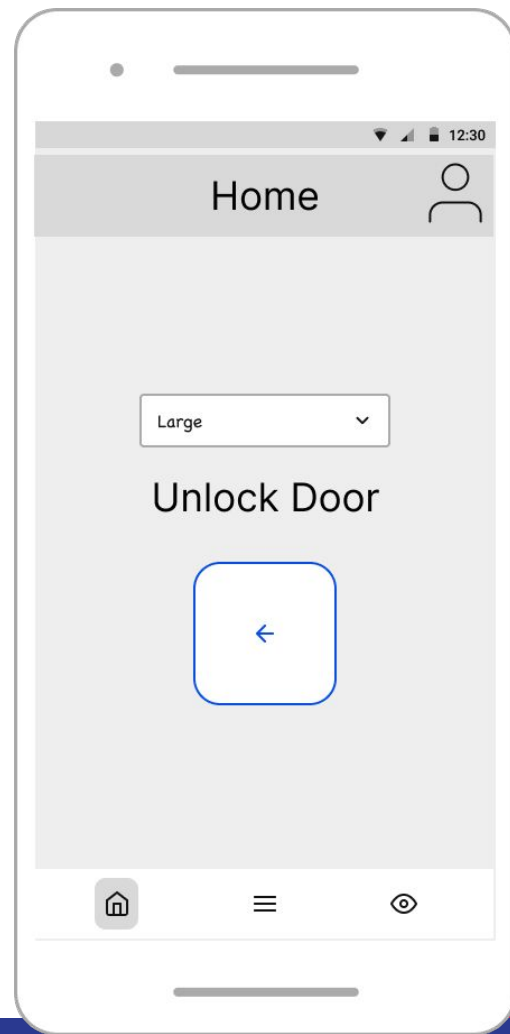
Design Documentation for Subsystems: Server



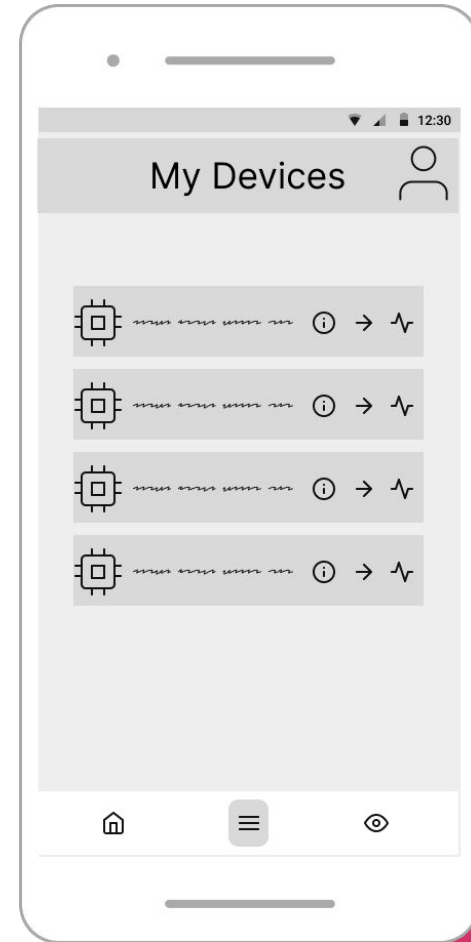
Design Documentation for Subsystems: Firmware



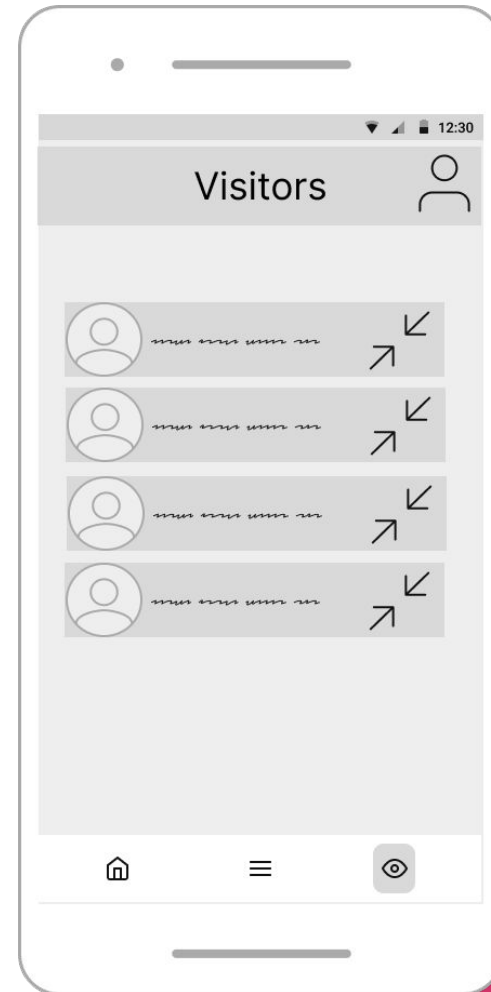
UI Mockup: Home Page



UI Mockup: My Devices



UI Mockup: Facial Profiles



Testing

Major Tests

- Create An account
- Unlock a Door
- Receive A Push Notification
- Update A Visitor Profile
- View a Live Feed





Thank you. Questions?