Project Proposal
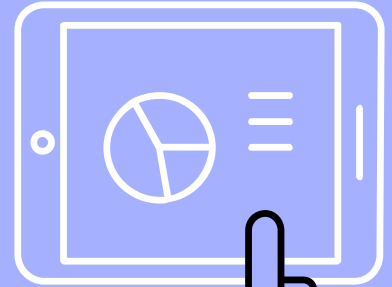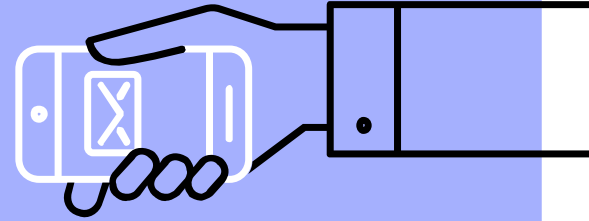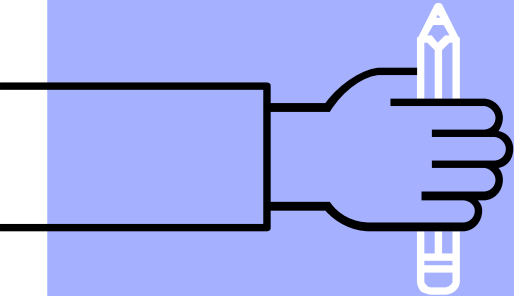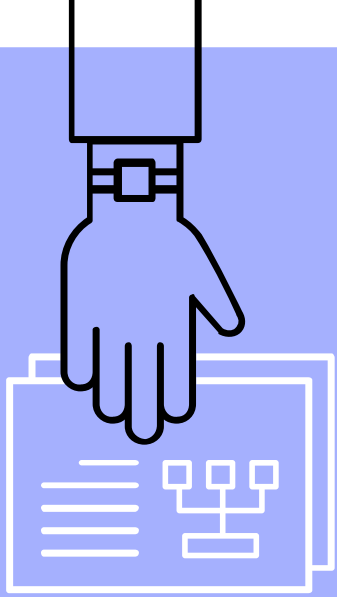
Scope

▹ The Team

▹ Business Pain Point

▹ Idea & Project Description

▹ System Features

▹ Wireframe

▹ Technology & Deployment Environment

▹ Timeline

The Team

Chin Siong

Backend Developer

Frontend Developer

Hai Qi

Frontend Developer

Backend Developer

Afiqah

Graphic Designer

Frontend Developer

Nicholas
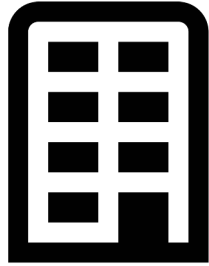
Frontend Developer

Backend Developer

Vincent Yeo

Backend Developer

Frontend Developer

Business Pains

Underutilized spaces

Spaces in hots' facilities that are unused whereby it does not optimized the office space nor its costs
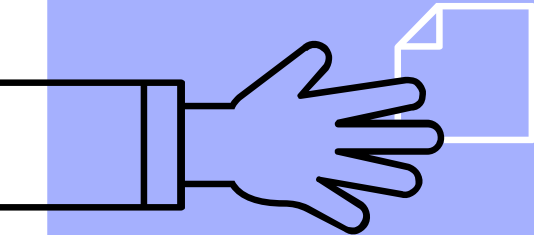
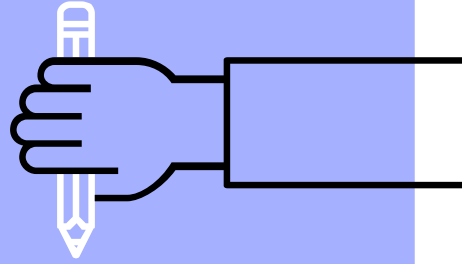**Financial Lock-in**

Traditional lease system is a fixed costs that does not meet the flexible workspace need of individuals or businesses

The Idea

Project Description

> ## *The "Airbnb"*
> ## *for underutilized spaces*

An online marketplace web-based platform system to match <u>facilities providers</u> with <u>individuals and/or company</u> who need space <u>on-demand</u>, <u>adhoc- basis</u>

Features of the System

1

On-demand booking

Create and manage your facilities reservation conveniently real-time

Location-based Posting

Visualize host location on Google Map

2

3

Community Feedback and Review

Guests can post give their feedback and rating for each facilities visited

Smart Lock Facility Add-On

A QR code based smart door lock compatible with the platform

4

Benefits of the System

Flexibility

Deliver cost-effective space solutions whenever and wherever your business demands more flexibility.
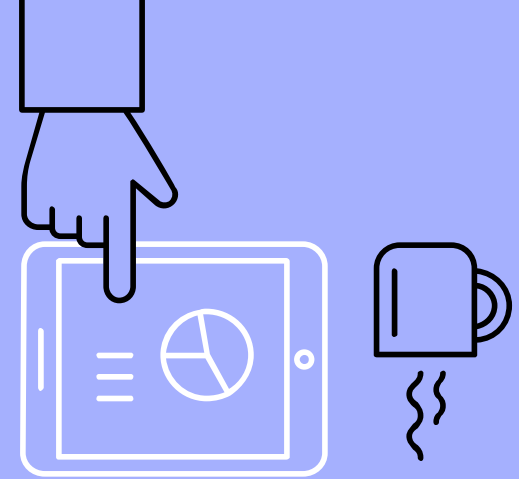
Choice & Simplicity

Access diverse and trusted network of space solutions at the click of a button.

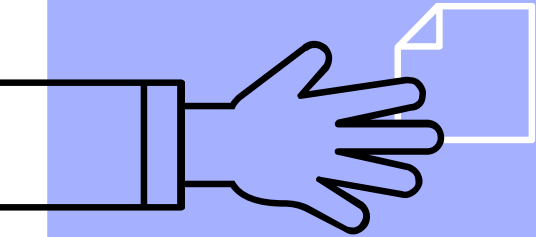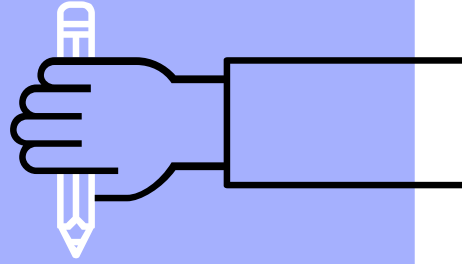Simplify the search process, transaction and management of spaces.

Sustainability

Reduce the waste of half empty spaces and time spent commuting.
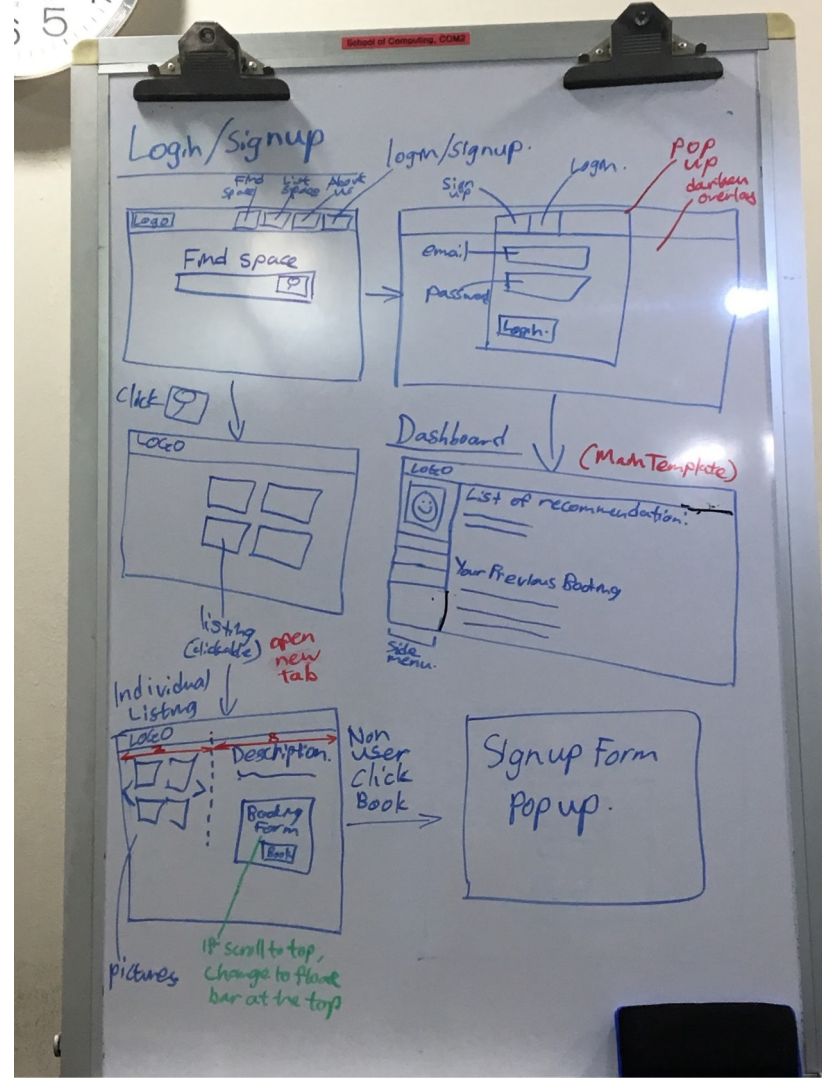
Wireframes

Main Page:

- Non-registered users can search for listing on main website
- They will be prompted to register an account with us when booking a room

Basic Access System:
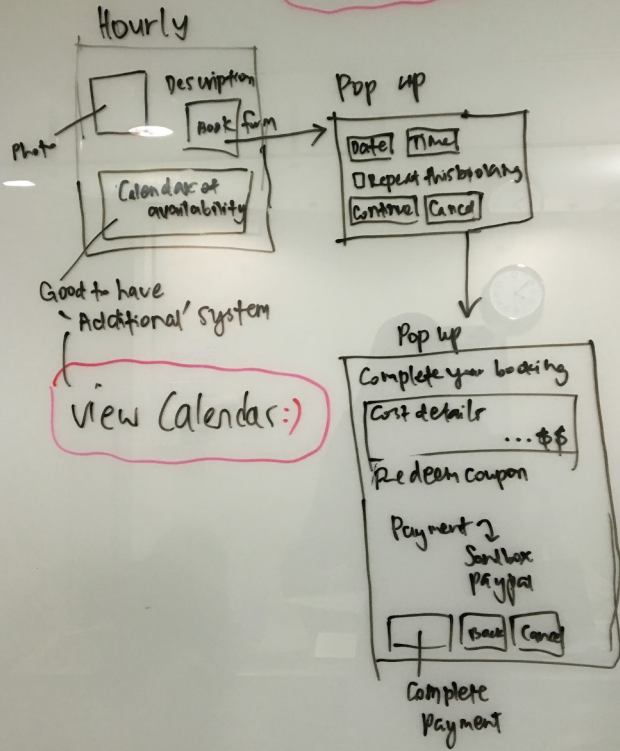
- Login and/or sign up modal box using email and password

Individual Listing Page

- Each Listing page have its pictures and location presented on the google map

Timetable

- In listing, there is a timetable showing availability of venue

Booking Process
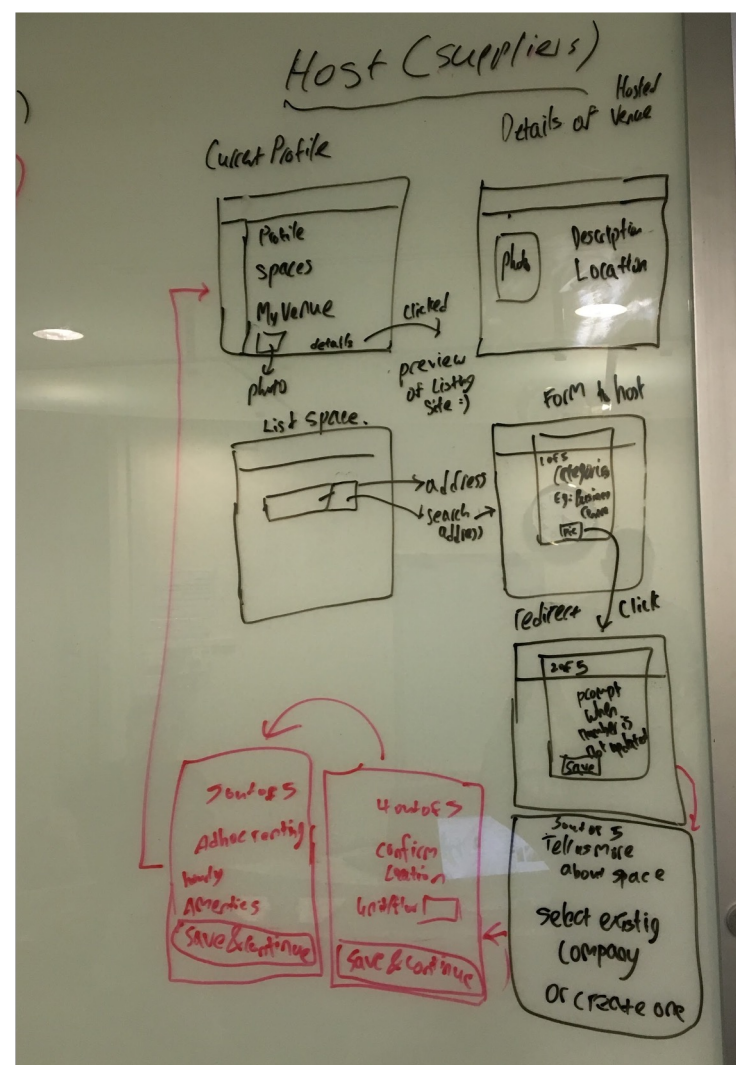
- Modal box form to handle the booking
- Leading to payment process of the deposit, handled by 3rd party like Paypal.

Posting of Listings:

- From hosts' dashboard
- Create a new listing via the form wizard where they enter the venue location.

Managing Listings:

- Host can edit and manage their timetable of listing
- They can open up or block out the timeslots for their spaces
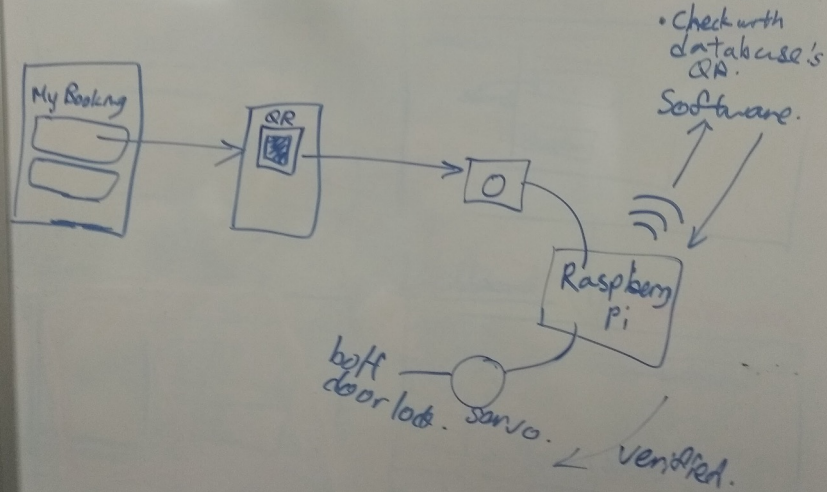
QR Code System

- Each booking has a unique QR code
- Guest scan the QR code to the reader to sign in
- The QR code is verified with the software and unlocks the door.
- Guest scan the QR code again to to sign out and lock the door when they leave

Hardware-software communication

- Raspberry pi camera will capture QR code
- Then communicates wirelessly to server for QR code verification
- Then programs servo to lock/unlock door

Technology
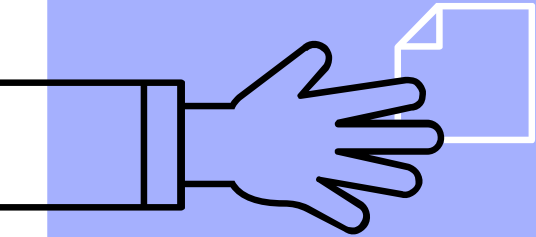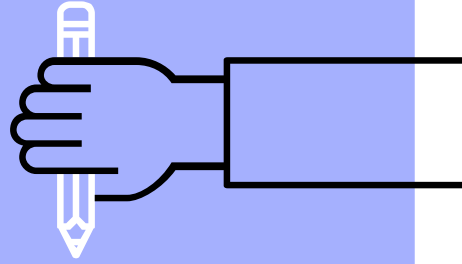
Technology

- ▸ Software – Web-based application with mobile friendly interface
- ▸ Hardware – A Smart Door Lock with QR code sign-in and sign-out
- ▸ Deployment Environment:
  - Facilities whereby there is Internet connection
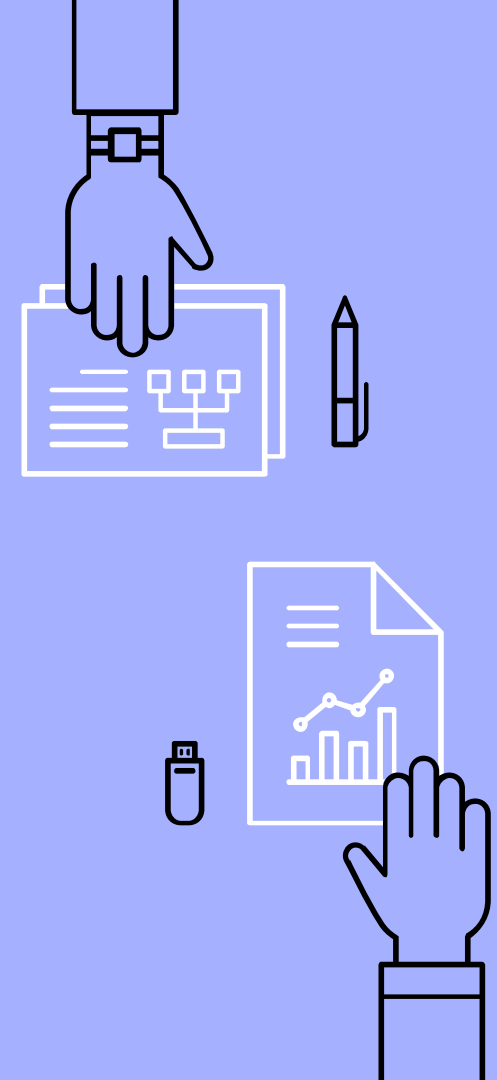
Hardware - SMART Door Lock

USB
Power
Supply

Raspberry Pi

Raspberry Pi
Camera

Servo

Barrel Door
Lock

Similar setup with Arduino: https://www.youtube.com/watch?v=8gzh95w4Hmk

Hardware - SMART Door Lock
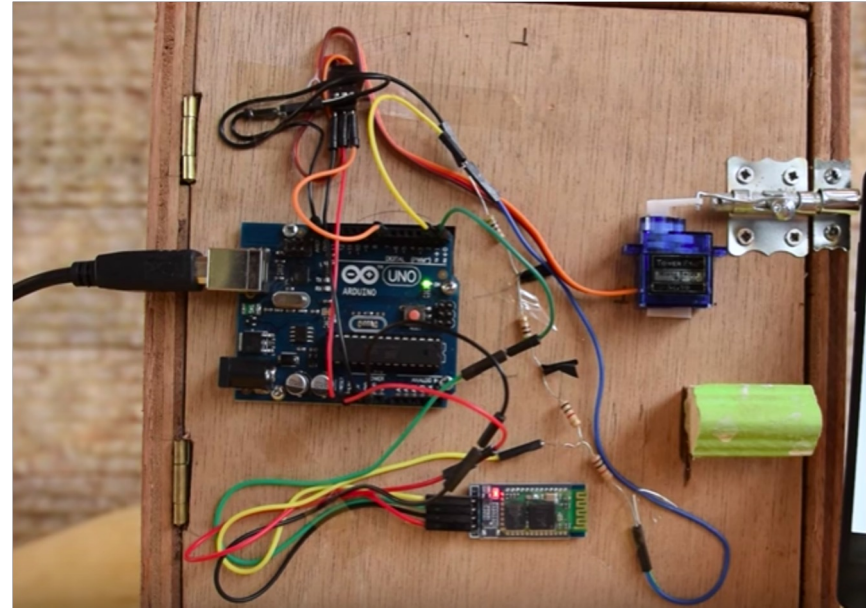
Similar projects to based on

Tech
Environment

Database

Enterprise JavaBeans (EJB)

Organization Boundary

Remote
Interfaces

**SOAP Web Services
(JAX-WS)**

**RESTful Web Services
(JAX-RS)**

HTTP
Requests

HTTP
Requests

**JavaScript Web–based
(Lightweight Client)**

External Clients

**External
Lightweight
Clients**

Java EE Stack (Backend)
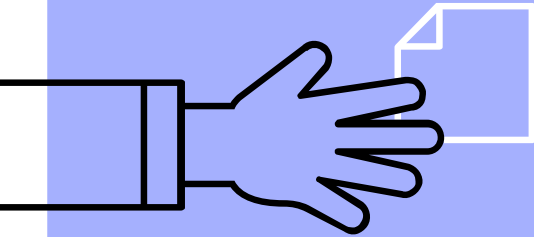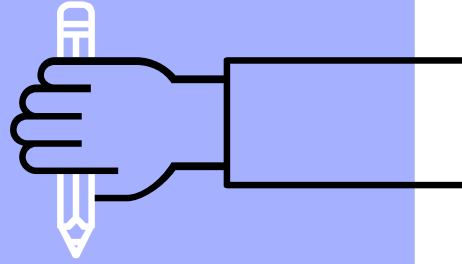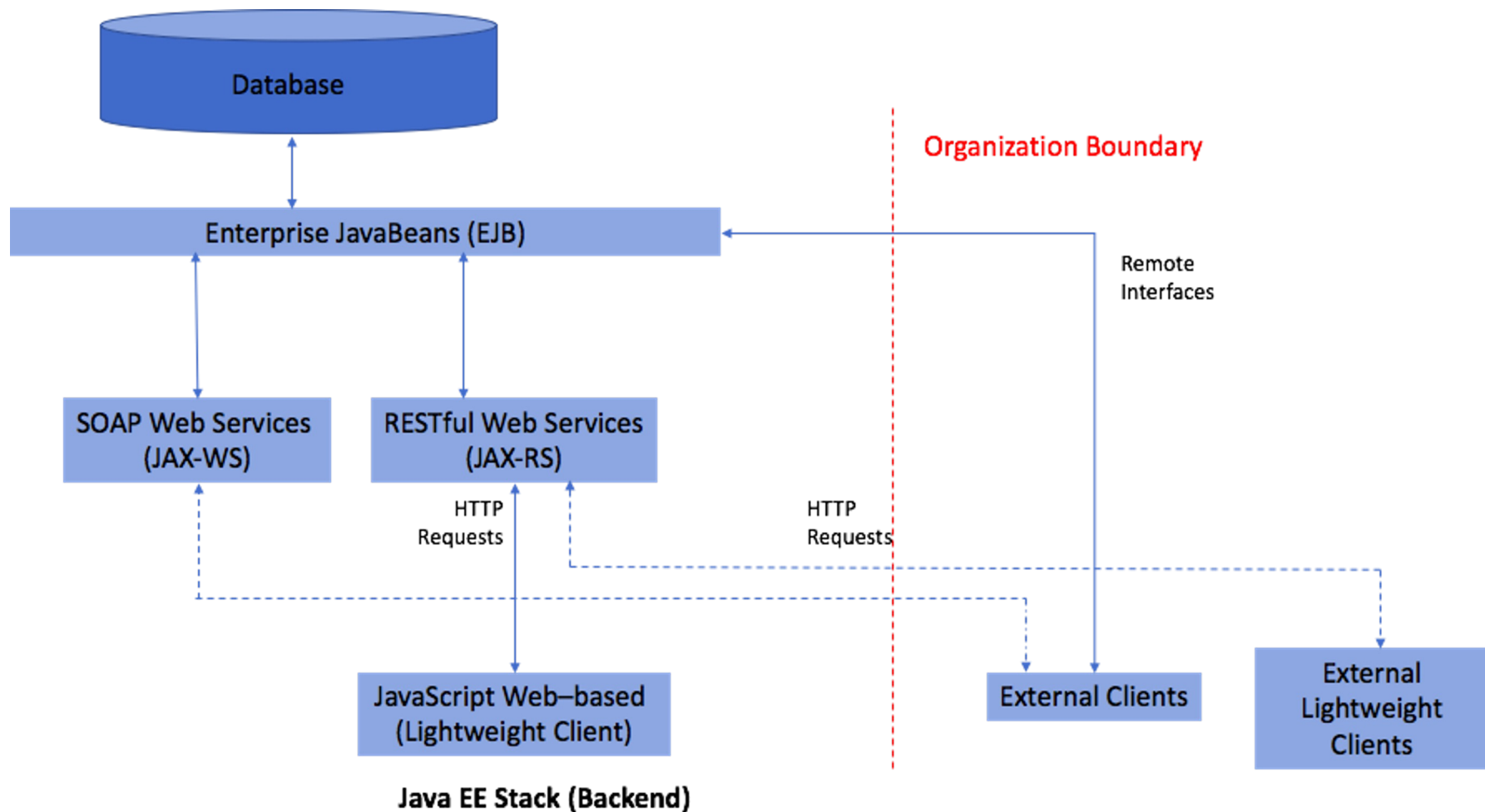
Timeline

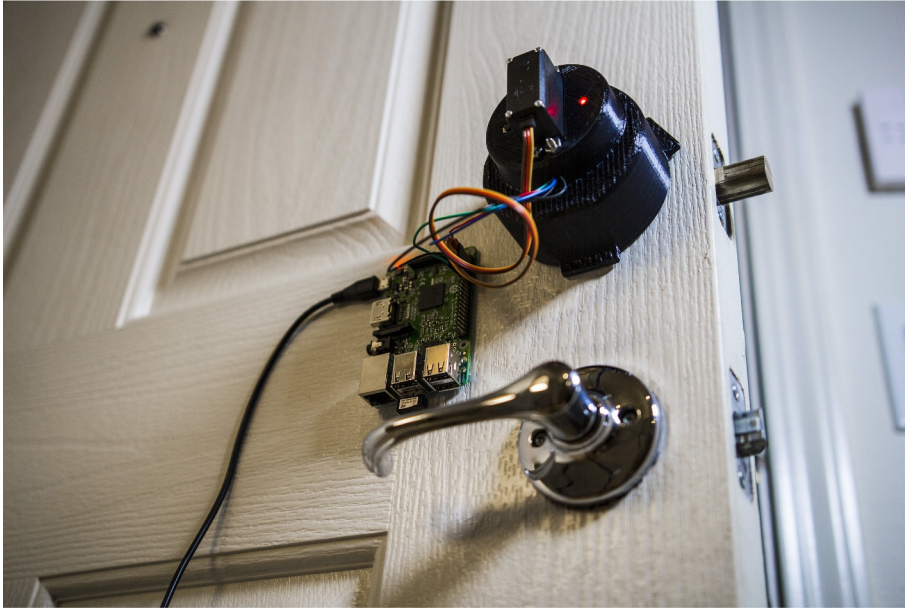| Week 3	Week 4	Week 5	Week 6	Term Break	Week 7
Project Discussion	**Project Planning**	**Essential Iteration**	**Essential Iteration and Testing**	**Secondary Essential Iteration**	**Secondary Essential Iteration**
- Project Planning - Idea Expansion, Research & Discussion of the System - Craft out the Project Proposal Presentation - UI Website Design	UI: UI Website Design Bootstrap template set up, HTML, CSS Frontend: Backend: - Project Architecture Map - Entity Mapping	UI: UI Website Design Bootstrap template set up, HTML, CSS Frontend - Coordinate with UI designer on expectations and alignment of interface - Functionality Testing with Backend. Backend: - CRUD of all the session beans - Message Driven Beans	UI: - UI Design Flow for sign up as member, upload listings Frontend - Learning React and React Native Framework (Basic) - Functionality Testing with Backend Backend: - Write functional tests for session beans - Write integration testing procedures	UI: - Feedback and improve flow of UI - UI Design flow for listing display Frontend - Implementing React and React Native Framework (Basic) - Align mobile themes with UI designers Backend: - Secondary features of session beans - Hardware, backend support	UI: - UI Design flow for purchasing space, information to display Frontend - Implementing React and React Native Framework - Functionality Testing with Backend Backend: - Third party API integration and hardware backend support

Timeline

Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Testing	**Third party API and hardware developing**	**Third party API and hardware developing**	**Third party API and hardware developing** **Project poster**	**Finalising of Project** **Preparation for presentation**	**Presentation & Submission**
Write functional tests for session beans Write integration testing	UI: UI Design flow for after purchase works, feedback prompts Frontend: Implementing React and React Native Framework Backend:Third party API integration - Paypal payment - Google Map Location Hardware building (part 1 - the setup)	Hardware building (part 2 - continue setup) Frontend: Implementing React and React Native Framework Backend: Third party API integration - Paypal payment - Google Map Location	Graphic Designer: Poster Design Draft UI: Clean up website design Frontend: Implementing React and React Native Framework Backend: Third party API integration - Chatbot - Hardware 3rd party integration	Hardware Building (part 3 - integrate with software) Poster finalised Backend: Final testing for Project	System Submission Final Presentation during STePS

"

THANKS!