

# CarHub

## CLONS5:

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# Content



- CarHub - What is it?
- Demo
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  - Reusability, extensibility & maintainability
- Gantt Chart

# CarHub



Roadmap application designed to aid motorists in their commute.

Provides the following functionalities:

1. Car park lot availability
2. Images of traffic conditions
3. ERP Gantry State
4. Traffic Alerts

A detailed map of Singapore is shown in the background. The map includes various geographical features like the Singapore Strait, Jurong Island, and several urban areas. A green car icon is positioned at the bottom center of the map, near the Harbourfront area. Overlaid on the map is the word "Demo" in a large, bold, black font, and a URL in a blue, underlined font.

# Demo

<https://carhub.justins.in/>

# Containerization (Docker)



- Allows standardization of development and production environments
  - Setup is automatically handled by Docker
- Isolation from host system
  - Limits impact of any security issues

# Collaboration with Git

- Separate master (stable) and development branches
- Changes are tested in separate branches

## Add backend for ERP gantries #14

Merged

JustinOng merged 6 commits into `master` from `Feature-ERP` 11 days ago

Conversation 0

Commits 6

Checks 0

Files changed 14



Jnse97 commented 14 days ago

*No description provided.*



Jnse97 and others added 6 commits 14 days ago



Add backend for ERP gantries



Remove debug statements



Cast lat/lon to float



Fix swapped latitude/longitude labels



Display ERP gantries on map



Change ERP icon if gantry is active



JustinOng merged commit `f5f07e7` into `master` 11 days ago



JustinOng deleted the `Feature-ERP` branch 11 days ago

# Automated Deployment



**GitHub**



**dockerhub**



**Watchtower**

Push to `master`

Build Docker image

Create container with  
updated Docker image

# Automated Deployment



**GitHub**

Push to master



**docker hub**

Build Docker image



**Watchtower**

Create container with  
updated Docker image



# Automated Deployment

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GitHub



dockerhub



Watchtower

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# Automated Deployment



**GitHub**



**docker hub**



**Watchtower**

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# Automated Deployment



**GitHub**



**dockerhub**



**Watchtower**

Push to `master`

Build Docker image

Create container with  
updated Docker image

# Automated Testing

ERP

passes: 14 failures: 0 duration: 0.02s

100%

inRecord

Weekday

- ✓ should return false right before start time
- ✓ should return true at start time
- ✓ should return true right before end time
- ✓ should return false at end time
- ✓ should return false on Saturday
- ✓ should return false on Sunday

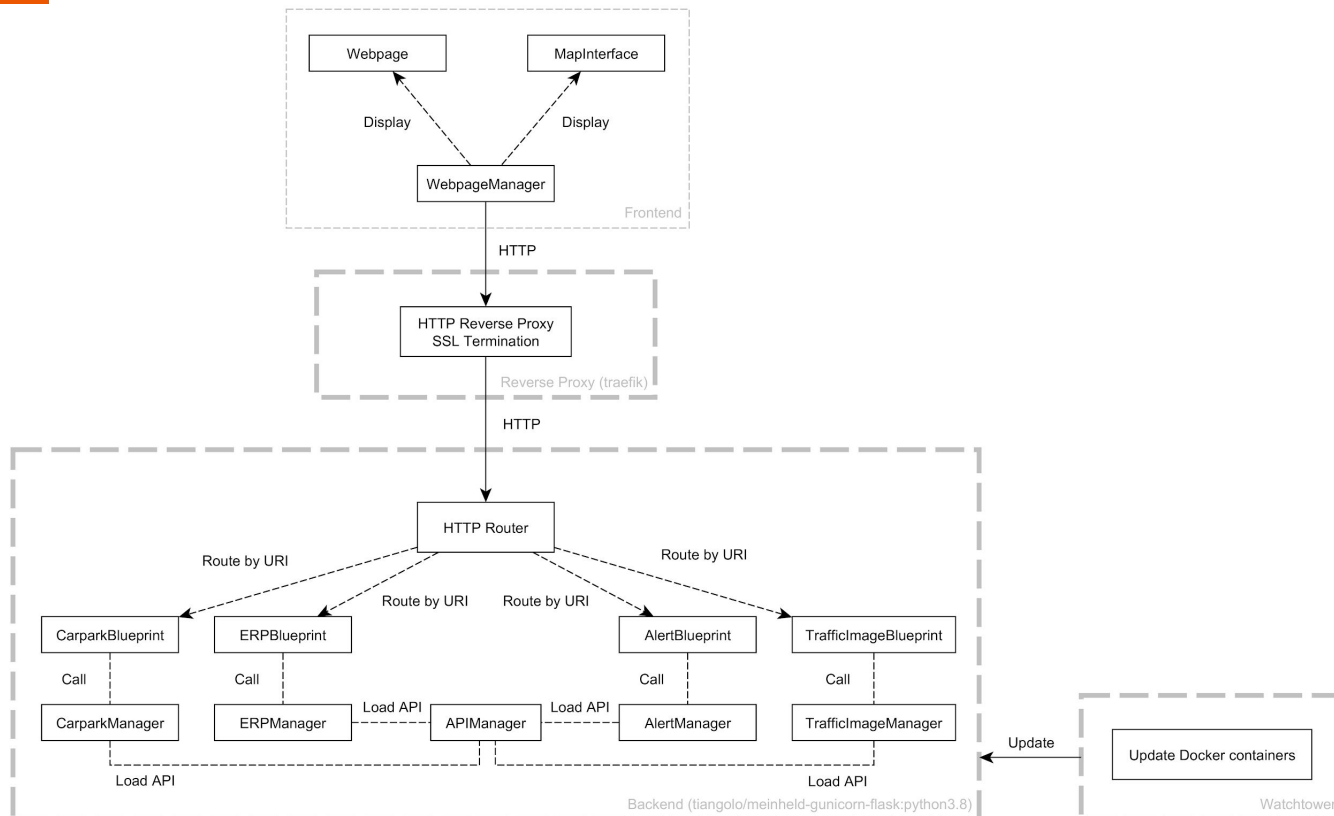
Saturday

- ✓ should return false right before start time
- ✓ should return true at start time
- ✓ should return true right before end time
- ✓ should return false at end time
- ✓ should return false on Sunday
- ✓ should return false on a Weekday

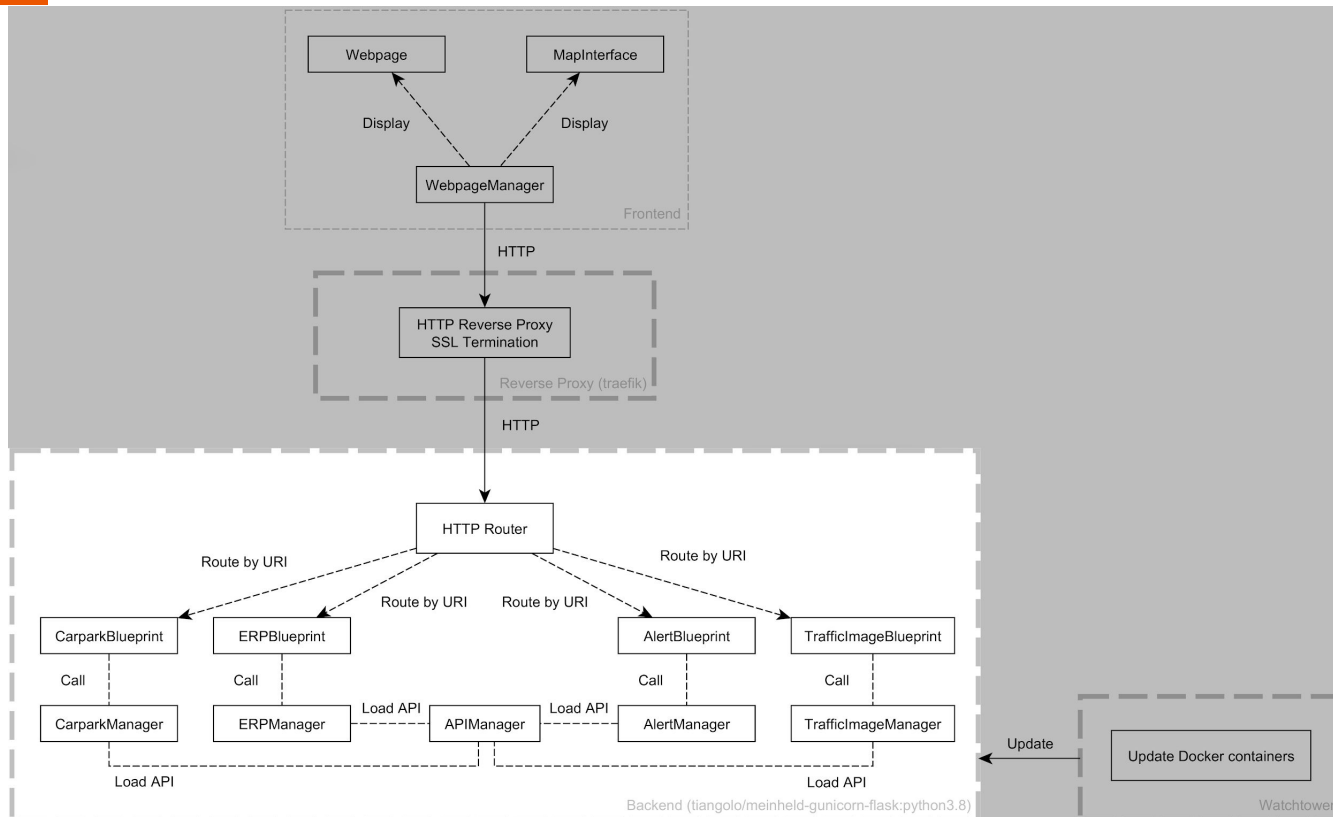
Invalid Record

- ✓ should throw if startTime > endTime for a Weekday record
- ✓ should throw if startTime > endTime for a Saturday record

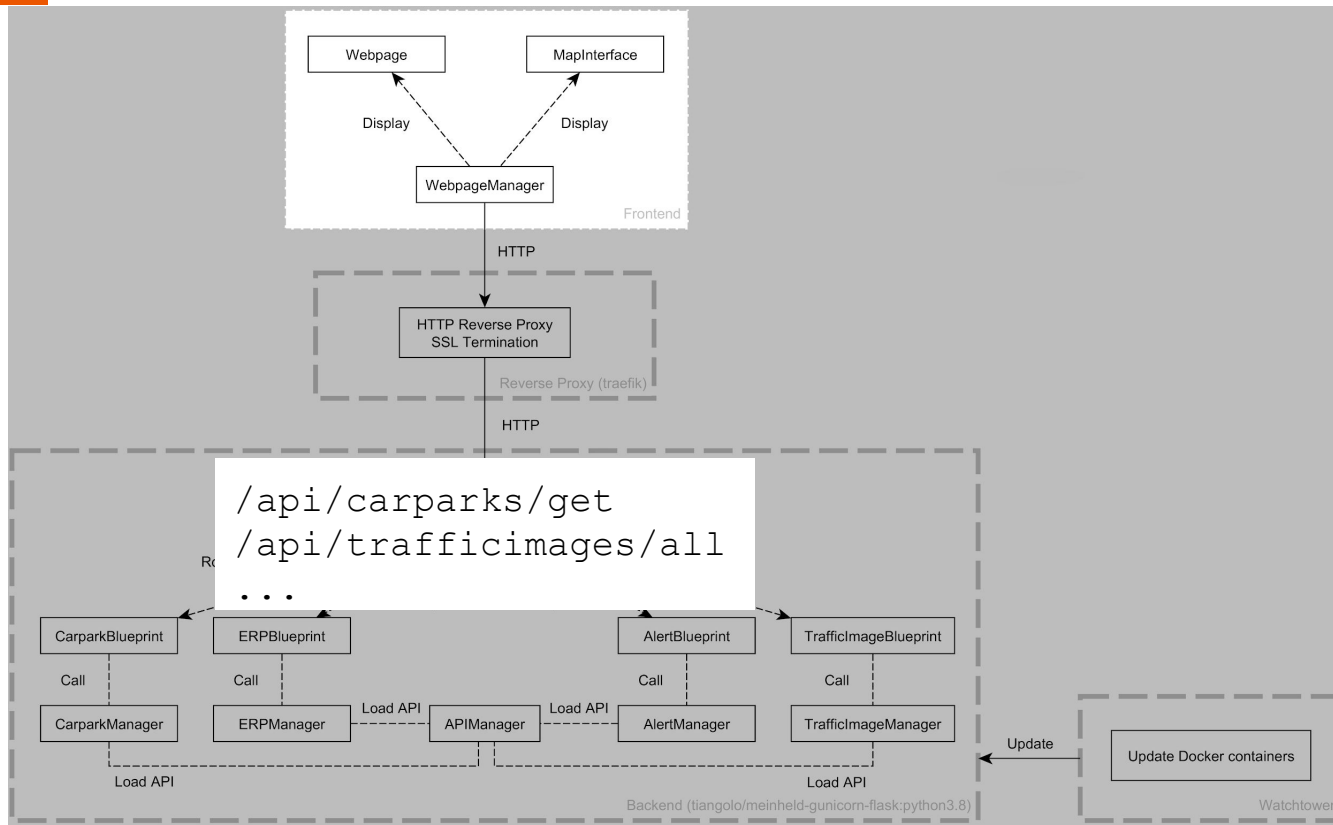
# System Architecture



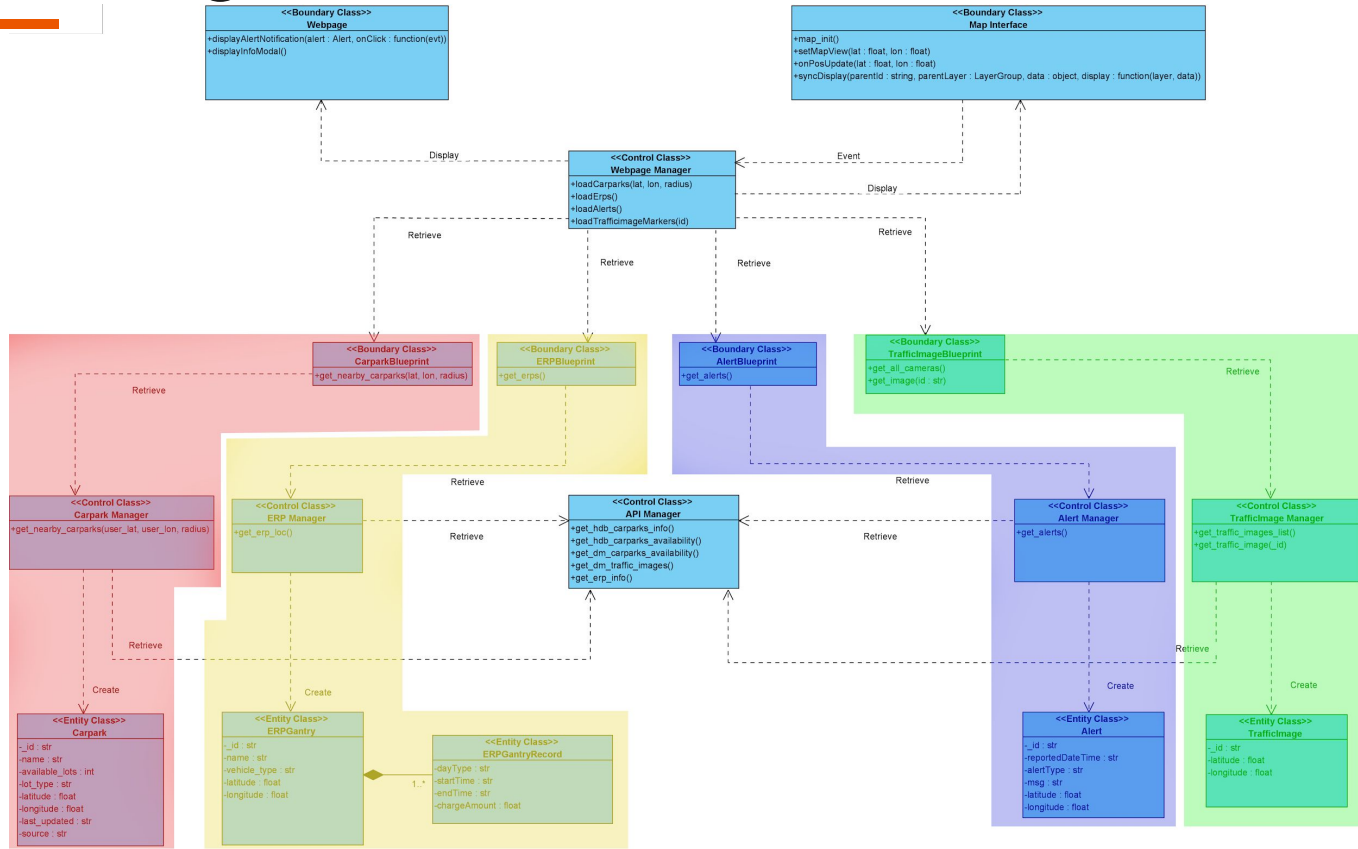
# System Architecture



# System Architecture

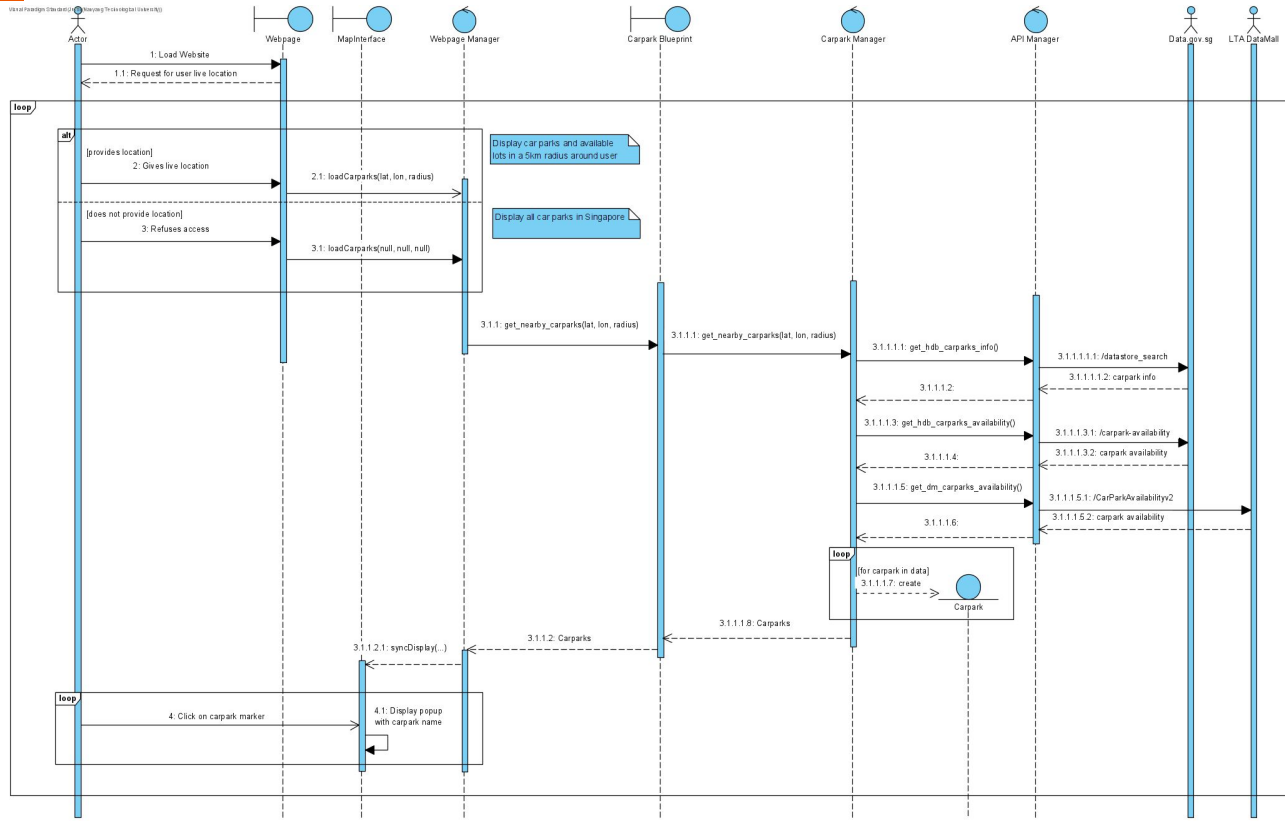


# Class Diagram





# Car Park Availability

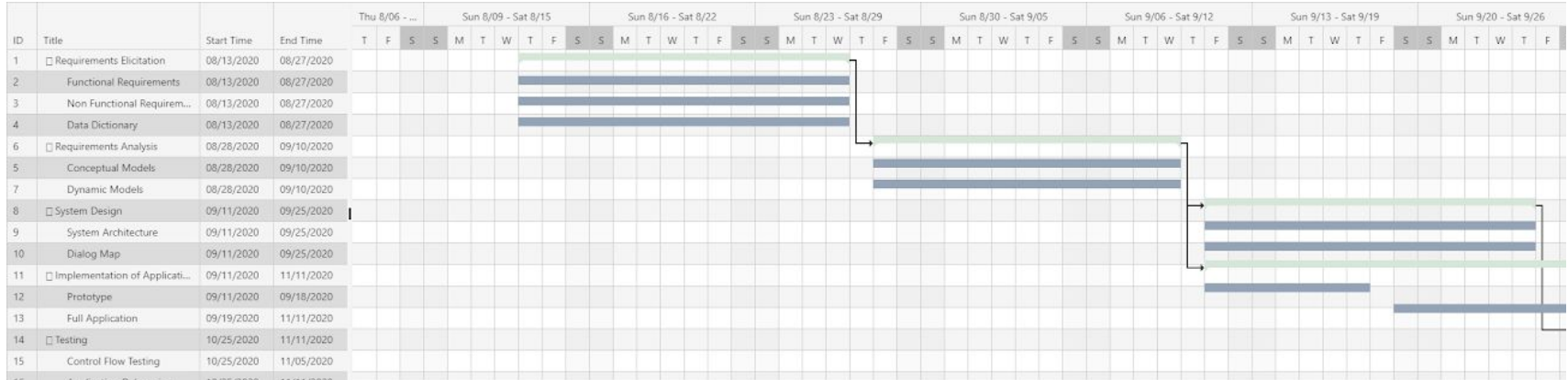


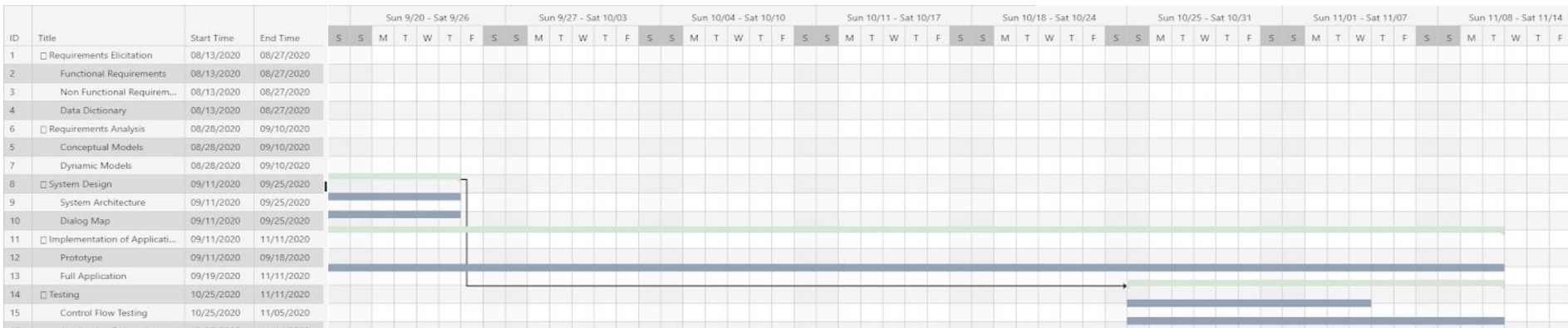
# Reusability, extensibility & maintainability



- Reusability
- Extensibility
- Maintainability

# Gantt Chart (1)





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**Q&A!**