
ECE 18-649

Final Project Report

15 Deceber 2015.

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Overview

Introduction.

Project statistics.

Dispatcher design.

Lessons learned.

Tweets to the future.

Project Statistics.

	Mid semester	Final
SDs	16	21
Requirement lines	43	59
Number of states	23	32
Number of arcs	29	66
Code (lines)	1359	4068

Project Statistics - cont.

	Mid semester	Final
Unit test / integration tests	7 / 16	39 / 21
Issues	110	257
PR / defects	50 / 194	130 / 333
Test defects	9	14

Dispatcher

Updates.

Sequence diagrams.

Requirements.

State chart.

Flow chart.

Code.

Dispatcher - major updates.

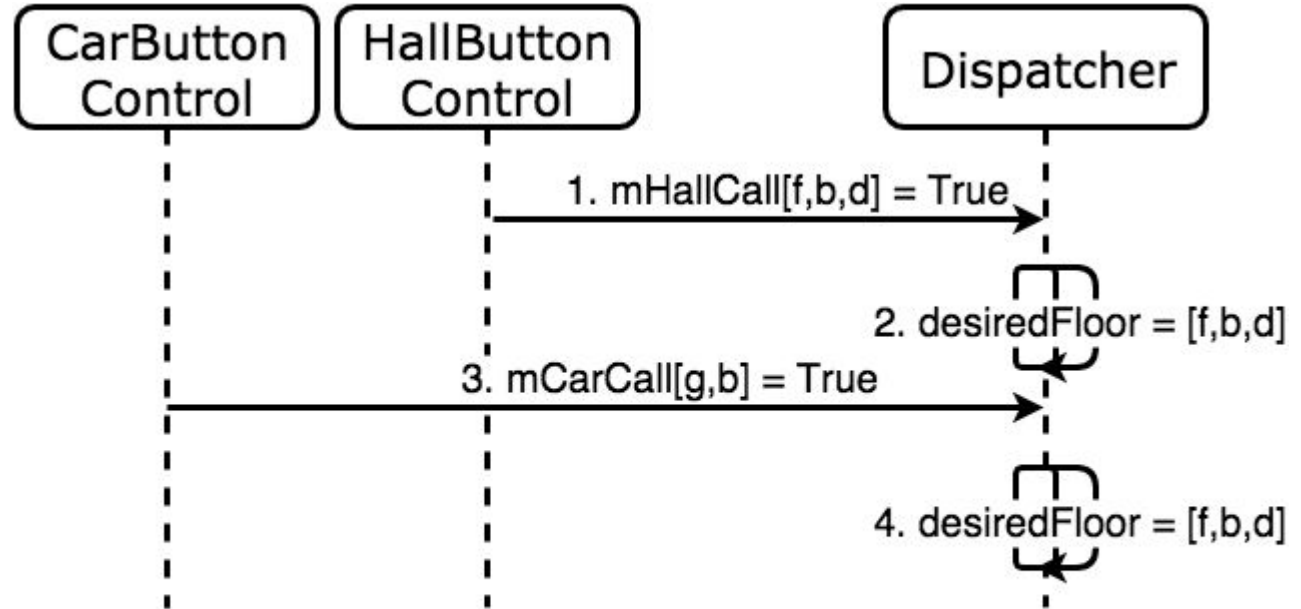
Use cases.

- no longer deterministic
- aware of commit point

Desired floor.

- based on calls
- based on current state
- based on commit point
- re-open at a floor

Dispatcher - SDs.



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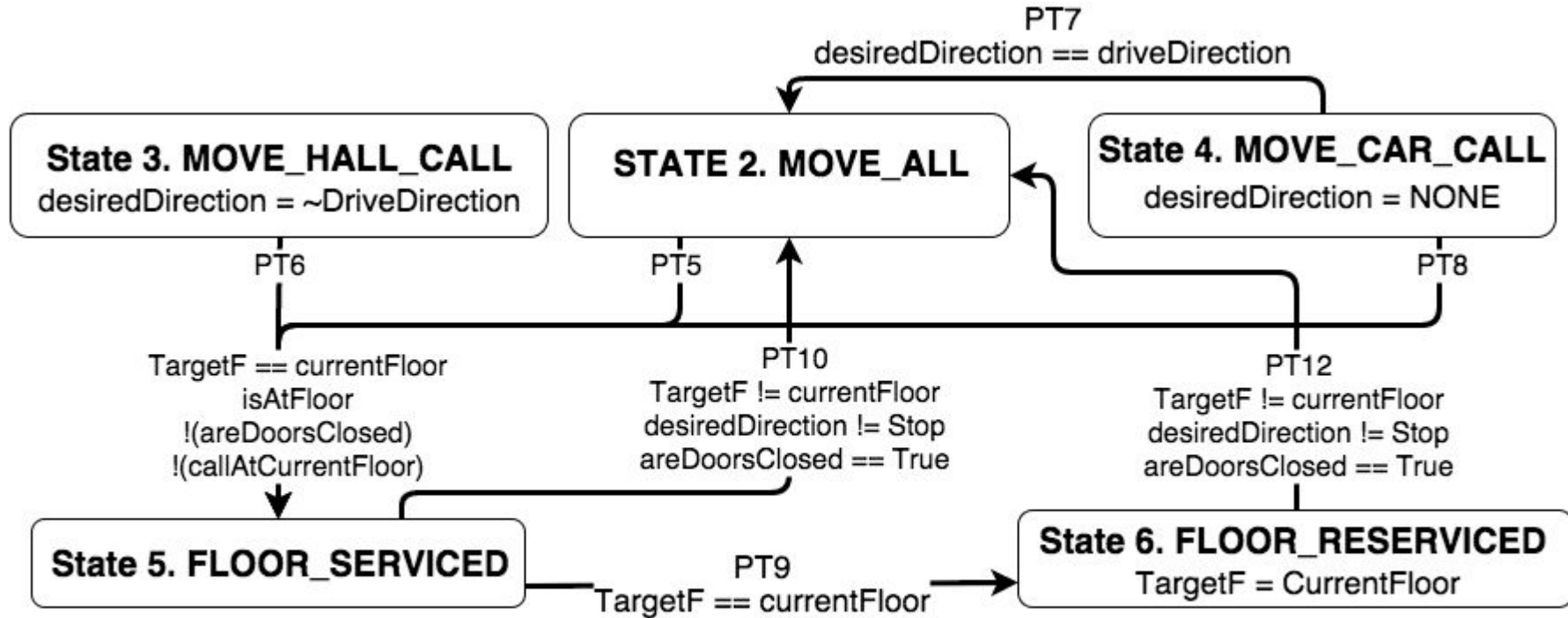
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Dispatcher - requirements.

- 11.7. Whenever any mHallCall or mCarCall is True mDesiredFloor **should** be recomputed.
- 11.8. Whenever there is a valid call in the system, mDesired floor **shall** be set to a valid floor, hallway, and direction.
- 11.9. Whenever there are no valid calls in system, mDesiredFloor **shall** be set to 0, NONE, STOP.
- 11.10. A floor with a valid call **shall** only be re-serviced once before all doors close.

Dispatcher - state chart.

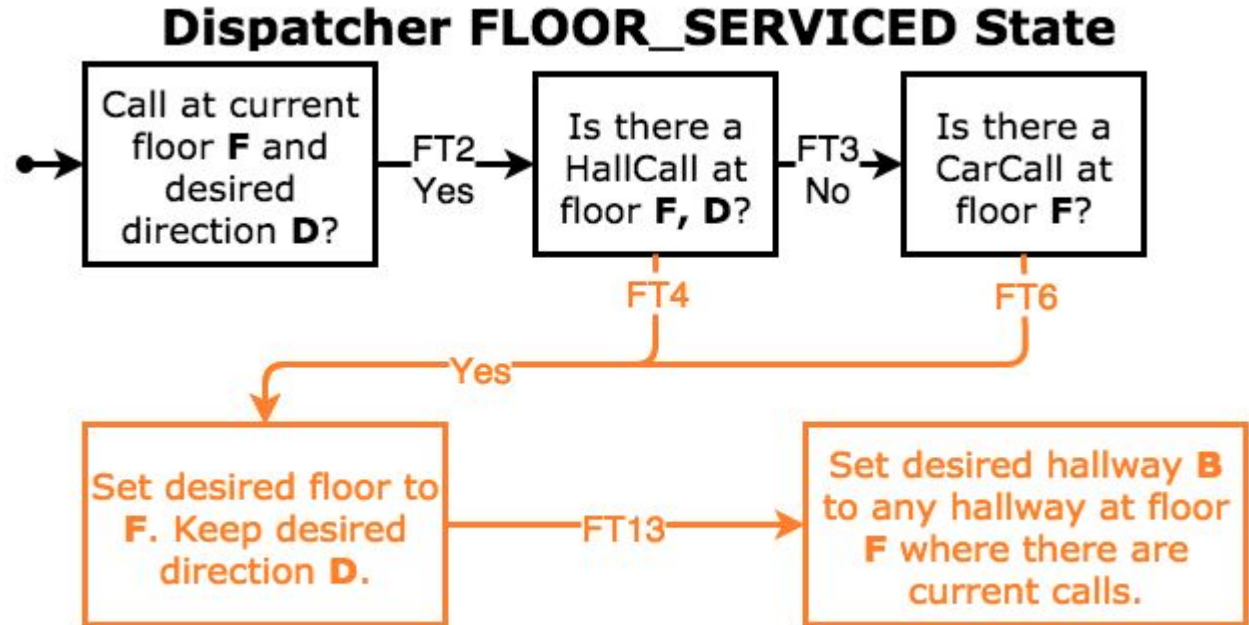


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Dispatcher - flow chart.



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Dispatcher - coding.

```
// SET NEW TARGET
// check current floor
//#transition 'STOP/FT2'
if(CURRENT_FLOOR) {
    //#transition 'STOP/FT4'
    if(mHallCallArray.isHallCall(currentFloor)) {
        target_set = setTargetToFloor(currentFloor);
    }
    //#transition 'STOP/FT3'
    else {
        //#transition 'STOP/FT6'
        if(mCarCallArray.isCarCall(currentFloor)) {
            target_set = setTargetToFloor(currentFloor);
        }
        //#transition 'STOP/FT5'
        else {
```

Reflection

Lessons learned.
Open issues.
Tweets to the future.

Lessons Learned

Lessons Learned.

- Stick with the process
- Peer review every time
- Good time management
- Monitors can misbehave

Strategies Used.

- Cloud9
- GroupMe
- Early meetings
- Multiple meetings

Open Issues

- Dispatcher floor service
 - Floor 1 desired direction DOWN
 - Floor 8 desired direction UP
 - Occasionally call skips on Floor 1 and Floor 8
- Runtime monitor
 - some runtime monitor throws false warnings.

@DanielSantoro

Design early. Fail fast. Iterate quickly. At the end of the project there are no “quick” changes.

@DavidThompson

When discussing design choices,
always get someone to play devil's
advocate.

@RahulRamesh

The high level design is most important to get right.

Some degree of redundancy in tasks is good, but redoing the same thing twice isn't.

@JialiangTan

Lectures do not seem much related to projects but indeed they are! Use them in your projects and get great benefits!

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To future students...

Design early. Fail fast. Iterate quickly. At the end of the project there are no “quick” changes.

When discussing design choices, always get someone to play devil's advocate.

The high level design is most important to get right. Some degree of redundancy in tasks is good, but redoing the same thing twice isn't.

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