

Recitation #6

18-649 Embedded System Engineering

Friday 3-Oct-2014



Note: Course slides shamelessly stolen from lecture
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**Carnegie
Mellon**

Announcements and Administrative Stuff

- ◆ **Project 5 due tonight at 10:00 PM**
- ◆ **Project 6 is posted**
- ◆ **Project 6 is due Thursday Oct. 10th by 10:00 PM**

Minimum Requirements Document

- ◆ **Project is not turned in until a COMPLETED minimum requirements chart for your group is filled out**
 - This includes the hours spent since last project
- ◆ **You will accrue late penalties until this is turned in**

Reminder: Java Files

- ◆ **All your code belongs in the elevatorcontrol package**
 - Including your payload translators (if you wrote them)
 - This is where we place the files from your *portfolio/elevatorcontrol* folder
- ◆ **Java files need to compile on the ECE machines**
 - No dependencies on weird libraries.

Build Teams (Assign this role to a team member)

- ◆ **Build Teams in software development in the industry ensure –**
 - All the modules are the latest
 - The code does Clean compile
 - The Watchdog timer is working
 - Final build passes tests one more time
- ◆ **You have a build process too**
 - Must be *assigned to one person explicitly (should be clear who has to do it)*
 - Look at the sitemap for scripts to help with this
 - Ensure that the project compiles (all Code and Test)
 - Check the Project against the grading rubric (including re-running the tests)
 - Run the code on the ECE machines
- ◆ **Compilation is 23% of your grade for project 6**

E-mail Check-list (On Admin Page)

◆ Before writing that e-mail

Check blackboard to see if an answer has been posted

Re-read the assignment to make sure you are reading it correctly

Look at the grading checklist to see if it has relevant information

Look at the Pepsi machine example to see if it provides a reasonable example

Discuss the problem with your teammates and see if you can agree upon a reasonable way to proceed without violating written assignment requirements

◆ Regarding e-mail on assignments

If you simply don't understand, then skip the e-mail and go to office hours

If you think there is a defect in the course materials, include the URL of the document you have a question about and a specific explanation of the defect or contradiction

Start your e-mail with "I've used the e-mail question checklist, and I think the following is an issue:" or the e-mail might not be replied to

Wait 5 minutes before sending. Seriously. We get lots of "oops, found it" e-mails less than 5 minutes after sending a query

Project 6 - Overview

- ◆ **More of the same from project 5**
- ◆ **Implement second half of elevator**
 - Dispatcher
 - Lantern Control
 - Car Position Control
- ◆ **Traceability - State chart to code**
- ◆ **Unit testing**
- ◆ **Integration testing**

Implementation

- ◆ **Create new java files to implement four controllers**
 - Place these files in ../simulator/elevatorcontrol/
 - Each module must be included in simulator.elevatorcontrol package
- ◆ **General requirements listed on the website. Some examples:**
 - You shall use the interface defined in the behavioral requirements
 - You shall NOT add additional communication channels between controllers
 - No accessing global variables, etc.
 - Just communicate using network and physical messages
 - You shall adhere to the message dictionary and interface
 - Don't be tempted to create new messages or modify the dictionary
- ◆ **We'll eventually run your implementations on our own test files**
 - Probably fail tests if your design uses secondary channels or altered dictionary

Traceability

- ◆ **All transition arcs must be traced to the code that causes the transition**
 - In most cases, comment just above the if statement that tests guard statement
- ◆ **Code must contain comments that indicates each transition**
 - Forward traceability
- ◆ **Portfolio must include traceability table**
 - Each transition and its corresponding code line # must be in the table
 - Backward traceability
- ◆ **Detailed instructions and hints on project 5 web page**

Testing

- ◆ **Project 5 page contains link to detailed instructions for testing**
 - You must perform each step listed in the detailed testing instructions
- ◆ **Unit Tests**
 - Exercise all the transitions in your state chart
 - Reminder: If your transition has an OR, you must test both branches!
 - **You must pass all unit tests for all controllers**
- ◆ **Integration Tests**
 - Select **TEN** sequence diagrams
 - Must include specific scenarios (4A, 5B, 6A, and 9A)
 - OK to include the two from Project 5 in this set
 - Must pass **EIGHT OUT OF TEN** integration tests
- ◆ **Traceability required for each test**
- ◆ **Peer review required for each test (unit and integration tests) and for each module that is implemented (code).**

Questions?