

SYSC-3303-GROUP-PROJECT

Iteration 1 - Establish Connections between the three subsystems

Embedded Java Project Contributors:

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Names of Files

- Scheduler: In the current the iteration, Scheduler is a thread which is responsible for facilitating communications between Elevators and Floors. In future iterations, the scheduler will be responsible for scheduling Elevators responses to floor requests.
- Elevator: Elevator is a thread which is responsible for receiving requests to move from the scheduler and fulfilling those requests.
- Floor: Floor is a thread which is responsible for reading the events.txt file, and making requests to the scheduler to have the events acted upon.
- Messages extend an abstract `Message.java` object, this is done so all threads can communicate with the scheduler through one queue.
 - `MoveTo` : a message from the Scheduler to Elevator with the destination floor it should move to
 - `Ready` : a message sent from the Floor to notify the scheduler that it is ready to receive messages
 - `RequestElevator` : a message from the Floor which makes a request to the scheduler for an Elevator.
 - `ArrivedAtFloor` : message sent from Elevator to Scheduler to confirm it has received the `MoveTo` message
 - `ElevatorArrived` : message sent from Scheduler to Floor to confirm original "MoveTo" message was received
- `Direction.java` is an enum that contains information if the floor button is "Up" or "Down", will also signify direction of travel in future iterations.
- The Scheduler has an interface `MessageQueue.java` used for message buffers
- Util is our logging tool used to print displayed messages onto the console
- `SystemTest.java` is our Unit test to confirm that the System can properly be set up and send messages

Set up Instructions

- Make sure you use Java 11 or later
1. Open Eclipse IDE
 2. Navigate to File, Import, and select Project from Folder or Archive and click next
 3. Under import source click Archive and select the source code project submission.
 4. Once you press finish, the project will now be imported in eclipse
 5. Jump to `Steps` to `test` to test the project.

Steps to test:

1. Open project in eclipse
2. Open `SystemTest.java`
3. Right click on the `testFloorRequestElevatorFileInput()` on line 99 and click Run as JUnit Test .
4. View output in console
 - Information in console will be instructions read from file `event.txt`
 - The types of messages being sent (Different message types are created depending on who the intended sender and receiver are)
 - Floor sending message to the Scheduler
 - Scheduler relaying that message to Elevator
 - Elevator sending a message to Scheduler to inform that is has moved
 - Scheduler relaying that message to the Floor