CSSE 373 - Formal Methods in Spec. and Design

Lab 6

You will model a statechart using the Yakindu SCT modeling tool in this lab. You will also auto-generate Java code from the statechart model.

Installation

Please review the pre-lab installation document under Week 6 section on Moodle.

Tutorial

Go to https://www.itemis.com/en/yakindu/state-machine/documentation/tutorials/ and complete the entire tutorial from top to bottom. You will create two projects, one for the Light Switch example and another for the Call Handling example. Run your Java client code and verify that the correct output is generated on your Eclipse output console. [**20 points**]

Modeling a New Problem

Recall the elevator model from Session 6-1. Using Yakindu, in a separate Eclipse Java Project, generate working Java code for an elevator that has stops at 3 floors. Assume that the elevator only stops at floors where it is requested. Only consider buttons inside the elevator. Ignore the doors. Include an emergency stop for the elevator.

You will need to code a driver method (i.e., main method) and print out the floor number on the console every time the elevator arrives at a floor. Try going up and down a multiple times in the test drive. [**30 points**]

[**Hint**: Start with the partial model available on Moodle. You can find more about Yakindu features here: https://www.itemis.com/en/yakindu/state-machine/documentation/user-guide/#the-statechart-language]

Deliverables

You will turn in a **pdf** that contains the snapshots of the two Statechart models (CallHandling and Elevator) as well as the corresponding test runs (Console Output) of the Java code. You will also turn in a **zip** file (**not rar**) that bundles the two projects on Moodle.

Note that you are attaching the pdf and the zip file separately to the Moodle assignment.