Using the existing specification and designs discussed in class for the soda machine dispenser and elevator controller, create a more robust design for each that include all of the common functionality found in such systems available today. In addition, please add an additional design feature that is not common found in such systems today. Provide a complete specification of the original design as well as a complete specification for common and original design extensions. You must also use different modeling techniques for implementing the design of each system from the following modeling techniques: Finite State Machines (FSM), hierarchical and concurrent FSMs (HCFSM), Statecharts, Program State Machines (PSM), or Synchronous Dataflow (SDF).

Please note, that this homework assignment is open ended and will in large be graded on how well you provide the complete specification and implementation of the common and additional design features. The grading for the assignment will be 25% usefulness/functionality/originality of your additional design features, 25% design specification, and 50% design implementation.