UML DIAGRAM

I have designed a UML diagram based on my Normal handling use case and Exception handling use cases

The UML diagram is based on the simulation of an elevator with different classes. I have a building class which goes to my floor class. Floor class methods will be reused by 2 different methods(Floorbutton & Elevator class) My Floorbutton class inherits the getFloorNum(), openDoor(), closeDoor() methods from my Floor class, while the Elevator class inherits the (getArrives(), getFloorNum(), getOpenDoor(), getcloseDoor() & currentFloor()) methods from my floor class also. I also have the Passenger inheriting the button pressed from the Floorbutton class and in the Signal class I am inheriting when the helpButton gets pressed. The signal class sets the exceptional handling scenario(firealarmsignal, overloadsignal, powerout). Then I call the methods in my ControlSystem class. All classes have a 1 and possibly more relationship except Passenger, Floorbutton, Otherfloors, Signal and ControlSystem class. It is possible for these classes (Passenger, Floorbutton, Otherfloors, Signal and ControlSystem class) not to exist at all. So, they have a 0..* relationship.

I am setting my Helpbutton in Floorbutton class because the elevator has the help button. So, the passenger presses the button

SEQUENCE DIAGRAM

NORMAL HANDLING

If a user presses a button. I inform the the Floorbutton of the direction. Then I send in a floorRequest that takes in floorNumber and direction of where the elevator should commute to. When I arrive at the door. My door should open and the bell should ring. Then door should close. After the door closes, the elevator should move to a new floor.

EXCEPTIONAL HANDLING

HELP-SIGNAL

A user presses the help button. Then the helpsignal should be sent to the control system

LIGHT-INTERRUPTED

If the door is closing and the light is interrupted. The door should open and a warning should be sent

ECS (Allocation Strategy)

When an elevator is called. If the ecs_id is 1, call strat_a else call strat_b

FIRE-ALARM SIGNAL

If the fireAlarm signal is true, a message should be sent and the elevator should move to a safe floor

OVERLOAD-ALARM SIGNAL

If the Overload-Alarm Signal is true. A message should be sent

POWER-OUT ALARM SIGNAL

If a PowerOutSignal is true. A message should be sent and the elevator should move to a safe floor