SIMULATING FIRE EVACUATION AT HAYDEN LIBRARY

Submitted by:

Dev Dipak Patel (MSCS) - 1230732349

Vamsi Krishna Satyanarayana Vasa (MSCS) - 1229524844

Instructions to run the code:

In this submitted zip file 'vasa_4844-121.zip', we have provided the following java scripts,

Facility component models:

- Classroom1_lv1.java
- Classroom2_lv1.java
- Classroom3_lv1.java
- Classroom1_lv2.java
- Classroom2_lv2.java
- Classroom3_lv2.java
- Classroom1_lv3.java
- Classroom2_lv3.java
- Classroom3_lv3.java
- Classroom1_lv4.java
- Classroom2_lv4.java
- Classroom3_lv4.java

Staircase model:

- staircase.java

Generator model:

- libraryGenerator.java

Transducer model:

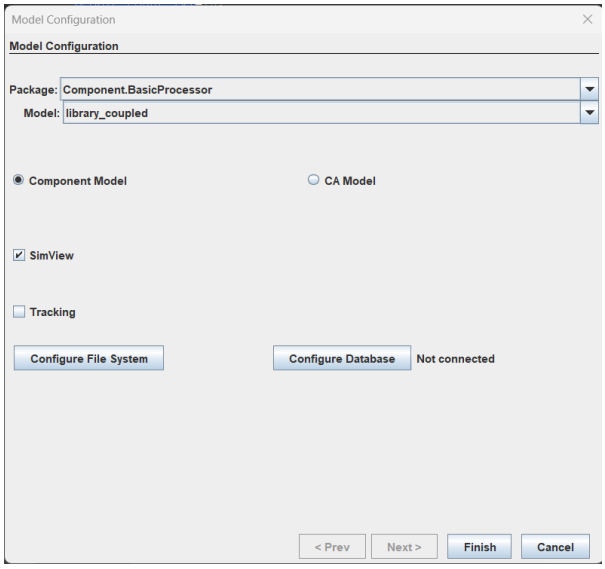
- libraryTransducer.java

Coupled model:

- library_coupled.java

Please follow the mentioned steps to run the simulation:

1) Place all the java scripts at path, ‘./DEVS-Suite-Mixerd_Win64_6.1.0/Models/Component/BasicProcessor/’.
2) To change the maximum capacities, you can navigate to the scripts for facility component models and edit the value corresponding to the variable named *max_capacity* in the initialization.
3) To change the current population of the component, you can navigate to the scripts for facility component models and edit the value corresponding to the variable named *people_count* in the initialization.
4) Model can be scaled by duplicating the components and providing the proper internal couplings between the components and staircase model.
5) To initiate the staircase with a certain population, you edit the values corresponding to the variables named, *people_count_lv1, people_count_lv2, people_count_lv3, people_count_lv4*.
6) To control the population at each step time, you can edit the array named *input_people_arr*, the only acceptable values in the array are 1 (to increment the population of all the components), -1 (to decrement the population of all the components), and 0 (to maintain no change in population).
7) After making the necessary changes to simulate a specific scenario, people run the package simulation and select *library_coupled* model (as shown below).



8) Start the simulation by injecting “” in the *start* port and control the population in components by using Step button.
9) To trigger the fire alarm, inject “” into the *fire* port.
10) Now run the simulation by setting certain steps or manually hitting Step button till all the levels are evacuated.

Please reach out to us in case of any further clarification.