

Art Walk, Anew High Level Design (HLD) Document

1. Introduction

A new 24-hour gallery wing is opening in the Louvre Museum in Paris. The curator has hired you and your software engineer to help them maximize foot traffic in the space while maximizing the number of art pieces they can display in the gallery.

The gallery will start with three pieces of art located randomly in the gallery. A random number of people (0-4) will enter the gallery every time step.

2. Subject Matter Experts Agreement List

Name	Title/Role	Mandatory Reviewer (Y/N)	Approved
<i>Apprentice name</i>	Developer	Y	
<i>Phil List</i>	Supervisor	Y	
<i>Eric Horton</i>	Intern-apprentice wrangler	Y	
<i>Mentor</i>	Mentor	Y	

3. Requirements

- The agents are guest, curator, artwork, entrance, and exit.
- The entrance will be located to the right of the gallery and a random number of guests between (1-4) will enter every time step.
- The guest will enter the gallery from the right and move randomly around in the gallery. The guest will view 50% of the art then leave happy. When a guest is next to a piece of art they will stop moving for a random number of time steps (1-5). The guests will keep track of what art they have viewed. The guests have a crowd tolerance when they first enter the gallery (5-25). The guests will count how many times they cannot move because someone is in their way. When the guest count number equals their tolerance number the guest will head to the exit out of frustration (unhappy).

- The curator will keep track of the number of happy and unhappy guest. Every 24 hours the curator will add one new piece of art to the gallery in a random area. The curator will keep adding new pieces until the number of unhappy guest is 80%, or the model runs for 30 days, which should end the model.
- One time step = 30 seconds
- Gallery size = 20x40
- People, entrance, exit, and art work= 1x1 square

4. Timeline

This is due within five days of receipt of the task (that would be Friday, June 20 for those receiving this Monday, June 16). It is better to complete this sooner, so that you can begin implementing an HLD that one of your classmates has written.

5. Desired Behavior / Components

Guest

- a. The guest will enter the gallery from the right.**
- b. Walk around randomly until it has walked onto a square adjacent to a piece of art.**
- c. When it comes in contact with the art, the guest should stop moving for a random number of time steps between (1-5).**
- d. Continue to walk randomly and repeat steps b and c.**
- e. Once the guest viewed 50% of the art go to it will go to the exit and leave happy.**
- f. The quest will have a crowd tolerance between (5-25) that is given to them when they enter the art gallery.**
- g. Count how many times another guest gets in its way or makes it unable to move.**
- h. If the number of guests that blocks a guest is equal to that guest crowd tolerance then go to the exit in frustration (unhappy).**

Curator

- a. The curator will count how many guests are happy and are unhappy every time step.**
- b. Every 24 hours the curator will add one new piece of art to the gallery in a random location.**
- c. The curator will continue to do this until 80% of the guests are unhappy or the model runs for 30 days.**

6. Conclusion

The goal of this activity is to help you understand more about how to create a model using agent sheets or java.