

<Art Walking> High Level Design (HLD) Document

1. Introduction

Scenario

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.

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

Create an AgentSheet Model with following features and behaviors:

One time step = 30 seconds

Gallery size = 20x40

People, entrance, exit, and art work = 1x1 square

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

The guests will enter the gallery from the right and move around randomly trying to view over 50% of the works of art. Guests will keep track of what pieces of art they have viewed. When a guest is next to a piece of art they will stop moving for a random number of time steps (1-5). Once a guest has viewed over 50% of the pieces of art in the gallery, he/she will head directly to the exit out of contentment and wonder (happy). Each guest will have a "crowd tolerance" for how many people are in the room. A guest's tolerance will be a random number (5-25) giving to them

upon entering the gallery. 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 directly to the exit out of frustration (unhappy).

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

The Gallery

The whole gallery, including people and art works, should be 20x40.

(People, entrance, exit, and art work = 1x1 square)

The gallery should start with three art pieces.

The People

-A random number of people (0-4) will enter the gallery every time step.

(One time step = 30 seconds)

-Then, each person would move randomly trying to view over 50% of the artwork.

-When a guest is next to a piece of art they will stop moving for a random number of time steps (1-5). (Guests will keep track of pieces of art they have viewed)

-Once a guest has viewed over 50% of the pieces of art in the gallery, he/she will head directly to the exit out of contentment and wonder (happy).

-Each person should have a "crowd tolerance" at a random number (5-25).

- When the guest count number equals their tolerance number, the guest will head directly to the exit out of frustration (unhappy).

The Curator

-Should count how many people leave happy and unhappy.

-Should add a new piece of art to the gallery every 24 hours.

(Keep adding until the number of unhappy guest is 80%, or the model runs for 30 days, whichever happens first.)

6. Conclusion

The goal of this activity is to acquire better understanding of AgentSheet modeling and to learn how to make a realistic model. This specific model should help people figure out maximum number of art pieces with the minimum number of unhappy people.