Art Walking, Anew High Level Design (HLD) Document

1. **Introduction**

     A new 24-hour gallery wing is opening in the Louvre Museum in Paris. However, there is too much foot traffic, and new pieces must be added to the collection.

2. **Subject Matter Experts Agreement List**

Name	Title/Role	Mandatory Reviewer (Y/N)	Approved
Apprentice name	Developer	Y	
Phil List	Supervisor	Y	
Keith	Intern- apprentice wrangler	Y	
Mentor	Mentor	Y	

3. **Requirements**

    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 of 30 seconds. The guests should be represented by a happy face and 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) given 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). This unhappy must be represented by another depiction from the "happy". It should be a sad face rather than a happy face. The curator will count how many people leave happy and unhappy. Every 24 hours the curator will add one new piece of art to the gallery. The curator will keep adding new pieces until the number of unhappy guests is 80%, or the model runs for 30 days, whichever happens first.

One time step = 30 seconds
Gallery size = 20x40
People, entrance, exit, and art work = 1x1 square

Presentation

You will need to present your completed model to the rest of the office, explaining each detail of the model. Make sure to address these questions in your presentation:

- Based on your model what did you find?
- What are some advantages and disadvantages of the modeling style you chose?
- What was the most challenging part to implement? Why?
- What part of your models are you most proud of? Why?
Did you have fun?

You Need To Complete
- The following model that fits the requirements specified in the Requirements
  - 1 Agent Model (NetLogo or AgentSheets)

- A Presentation

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).

5. Desired Behavior / Components

The Environment

　　The gallery should be 20x40 blocks and should be a beige or tan color. It must be a grid and the agents must be able to move randomly in the environment.

Agents

　　This model should have 3 agents: The guests, the curator, and the art pieces.

　　　　The Guests

　　　　　　The guests should have 2 depictions: a sad depiction, and a happy depiction. They will enter from the right from the entrance represented by a green 1x1 block. The guests should be 1x1 blocks and they must move randomly and have a counter that shows the number of art pieces they have visited. When they reach an art piece, they must stop for 1-5 times steps.   This can be modeled with the following statement.

　　　　　　　　If there is a <piece of art> [above], [below], [left], or [right] of the <guest>…then {stop} the movement of the <firefly> and {wait} for a random number of time steps from 1-5.

　　　　　When the guest has viewed at least half of the items, he/she will leave with the happy depiction through the exit on the left represented by a red 1x1 block. However, the guests also have a tolerance number between 5 and 25. When they can't move due to another guest, their guest count number should go up. If their guest count number reaches their tolerance number, they should leave with the unhappy depiction.

　　　　The Art Pieces

　　　　　　These should be 1x1 blocks that should look similar to a piece of art. They do not have to move.

　　　　The Curator

　　　　　　The Curator should count the number of guests who leave happy and unhappy. He will be located outside of the gallery and

every 24 hours, he should move next to the entrance and add a new piece of art in an empty block of the gallery. When the number of unhappy guests reaches 80% or the model has run for 30 days, he will stop adding pieces of art.

6. Conclusion

The goal is this activity is to …

- Demonstrate your current understanding of either agent modeling or system modeling.
- Interpret an HLD modeling a real-world event and follow the instructions to construct a corresponding model or series of models.