Team 10 User Interface Report

Diagram

Description automatically generatedScreenshot of simulation in progress

**ANIMATIONS**

In this simulation, we have assigned different colors to agents with different types of passes and to different rides within the theme park. The purpose of assigning different colors is to visually distinguish between different groups of agents and rides, making it easier for users to identify and categorize them.

Specifically, agents with the express pass are colored blue, while agents with the standard pass are colored green. When the agents are exiting the park, they are colored white so that the user can differentiate between agents that are still taking rides versus agents that are exiting the park.

The use of different colors to represent different rides in the theme park simulation is beneficial for users as it helps them to easily identify and distinguish between the different types of rides. By using different colors, users can better understand the relationships between different ride types within the simulation.

Furthermore, we have created two scenarios within the simulation - one with two types of rides and the other with three types of rides. By coloring the different types of rides, it will be easier for the user to distinguish between the rides the agents are currently on.

Additionally, we have drawn the paths that agents take to move from one destination to another. This helps the user visualize the pathing of the agents to get a sense of how the agents move. Additionally, the simulation is updated at a sufficient frame rate, making the animation more fluid and easier to understand as the agent’s movements are not choppy. By visualizing the agents’ movements along the path, users can better understand how agents move around the theme park and how different variables, such as the location of rides, affect the agents' movement.

Overall, the use of color and animation in this simulation is useful for helping users understand the relationships between different objects and variables within the theme park. It allows users to better understand how different passes and rides affect the movement of agents and how agents move within the theme park.

**USER INTERFACE**

Our simulation interface is located at the bottom of the page and provides users with various data visualizations, including average profits, satisfaction levels, queue times, time spent in the park, the total number of visitors, and the current number of visitors in the park. We chose to place these at the bottom so that users can focus on the simulation first and then refer to the data as needed.

To avoid overwhelming users with too many graphs or numbers, we have used a mixture of both. We display critical information, such as the theme park's profitability, queue times and visitors’ satisfaction level, in graphs as they provide better visualization of the data. On the other hand, we display the total number of visitors and other average values in a numerical format that is easy to read and identify.

In addition, our simulation features a hover function that allows users to view detailed information about each ride, including capacity, runtime, turnover time, queue time, and ride type and number. This interactive feature enables users to easily drill down into the details of each ride while keeping the page clean and organized.

We have also included various buttons that make it easy for users to pause, start, or reset the simulation, as well as the option to hide the data visualizations if they choose. Furthermore, users can export all the data collected during the simulation into a CSV file, allowing for further analysis and insights.

Overall, our simulation interface is designed to be user-friendly, with a focus on providing clear and concise information through a combination of graphs and numerical values, as well as interactive features that allow users to explore the details of each ride.

**REPLICATION OF DATA**

In our current simulation, replicating data requires users to run the simulation multiple times, which can be time-consuming. To address this, we could add a forward button that would allow the simulation to run at a faster rate, enabling users to collect more data quickly for further analysis. With this feature, users would be able to replicate data more efficiently and save time.

Additionally, we could add a save button that would enable users to save the current state of the simulation, including all data and settings. This feature would make it easier for users to replicate the same conditions and data in the future without having to start from scratch. They could simply load the saved simulation and continue their analysis.

We would also need to design a user interface that makes these features easily accessible and understandable for users. This could include placing the forward and save buttons in prominent locations on the simulation interface and providing clear instructions on how to use them. By making the process of replicating data more efficient and user-friendly, we can enhance the usefulness and practicality of our simulation.