Team members

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Title: Simulation of Queuing system in an Amusement park

Objective:

A theme park consists of the following sections: rides, food courts, and entertainment shows.

We will be trying to do the following as part of simulation using Arena:

- Define the input parameters like Frequency of visitors entering the amusement park, ride times, queue capacity, server capacity
- Incorporating Priority Queuing by accommodating Fast track visitors in addition to normal queue.
- Increase in system capacity and reduction in ride times during peak hours.
- Queuing for more than 1 ride at the same time.
- Single Queue with multiple servers for food courts inside the park
- Finding the total queuing time and riding time.

Significance:
In recent years, due to the growth of the tourism and entertainment industry, amusement parks have seen a surge in visitors. This has led to an increased average waiting time in queues for rides, which has impacted customer satisfaction levels to a great extent. Through this project, we are trying to address this issue by simulating various scenarios mentioned above.

Why Simulation?
In this problem statement, we are considering the scenario of an amusement park with different rides having various queue capacities. By simulating different scenarios, we can find the average time the customers spend in each queue and hence find the best model to maximize customer satisfaction by minimizing the time spent in queues.

Work Schedule

Oct. 1 – Oct. 15	Learn basics of Arena
Oct. 16 – Oct. 31	Build simulation model
Nov.1 – Nov.15	Possible extensions to the model
Nov. 16- Nov. 30	Prepare final report and presentation

References

1. Chu, Liou, Fu Yi Hung, and Yen Cheng Lu. "Analysis and Simulation of Theme Park Queuing System." *Intelligent Information Hiding and Multimedia Signal Processing (IIH-MSP), 2014 Tenth International Conference on*. IEEE, 2014.

2. Chu, Liou, Lin Hui, and Fu-Yi Hung. "Simulation of theme park queuing system by using arena." *Intelligent Information Hiding and Multimedia Signal Processing, 2013 Ninth International Conference on*. IEEE, 2013.