

Team Number:

School Name: Santa Fe High School

Area of Science: Behavioral and Social Sciences

Project Title: Evacuation Efficiency

Every public building is required to have a plan for evacuation during an emergency such as a fire or a gas leak. Some buildings such as schools have such a high density of people that evacuating in a timely and organized manner can be difficult or even hypothetically hazardous in a real emergency situation. The issue with emergency plans is it is difficult to know whether or not the plan works until there is an emergency. The goal of this project is to provide a visual simulation based on the principles of queueing theory to demonstrate how effective it is to move a certain volume of people through congested areas, specifically doorways at Santa Fe High School. In order to show this, our team plans on using a C based script to gather data and variables, then display those effectively with a Gamemaker application.

Team Members

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Sponsoring Teacher(s)

- Brian Smith

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Some sources of queueing theory

http://irh.inf.unideb.hu/user/jsztrik/education/16/SOR_Main_Angol.pdf

<http://web2.uwindsor.ca/math/hlynka/queue.html>