Goals and objectives:

1. Create a virtual simulation of a fire evacuation at Dulles airport.

2. Through virtual simulation show effective ways to conduct a fire evacuation

3. Show a room perspective as well as an individual perspective of a fire evacuation

Software used in project:

- 3DS Max

- VRML

Modeling:

The base model used was of a former student's model of Dulles airport. We added and very detailed environment such as employees behind counters and monitors with color screens used by the employees. Signs that one would normally see at an airport such as advertising and airline identifiers and also line separators for customers buying plane tickets and checking in their bags were also added as well as multiple benches. Planned geometry will be based on people in the environment and the fire animation. A total of 9 cameras were used to catch multiple perspectives of the environment including the inside and outside of the airport. One person in the environment will be able to be controlled be the user of this software while all other animation will be used to create reaction to a fire outbreak in this environment. Included daylight system and keyboard input for speed of animation and control of individual in the environment.

Problems encountered during project:

1. Loss of group member

2. Transferring of textures to Vrml from 3ds Max

3. Minor bugs in environment

This software will be very useful due to the fact that a fire drill can be conducted of an airport without interfering with the normal flow of an airport. This would be very expensive to do and would possibly create confusion during busy hours. Under a very detailed virtual environment, security of the airport could get a clear understanding of what precautions to take if a fire appeared. The downside of this software is the real-time aspect. There is no way to predict real-time reactions as well as to predict the specific location of a fire. For further improvements, this software could simulate other scenarios other than fires, other perspectives of evacuations and expand the virtual environment to the outside as well.

Links and references used:

1. Former project by Donovan Anderson and Nakisha Quander

   www.cs.bowiestate.edu/~sharad/vrlab/FINALPROJECT/DullesAirport/dulles2.WRL

2. www.the3dstudio.com/product_details.aspx?id_product=423597

3. www.cs.bowiestate.edu/~sharad/vrlab/FINALPROJECT/Traffic/virtualcity.wrl