

COSC 729: Virtual Reality and its Applications  
**Spring Semester 2017**  
**Instructor: Dr. Sharad Sharma**  
**Assignment 4**

**VR City** Evacuation [Part 2]

This project will span a period of 1 weeks and is meant to update the previous assignment 2 you developed using WorldViz Vizard IDE. This assignment will get you prepared for the final project.

Please submit your assignment by: **3/13/2017**

**Submission:**

Submit your code files and all scene assets in a single zipped file (as a \*.zip) and submit the file on blackboard.

Example: **Assignment\_04\_sharma.zip**

**Description:**

In this project you will update the **VR City** environment. You will be required to do the following:

1. **Multi-agent System:** 2 **CUSTOM** avatars (such as a civilian and fireman) and **INBUILT** avatars in vizard to create a multi-agent system.
  - a. Must use a basic bone system and animation
  - b. Utilize keyboard or mouse callbacks to control the movement of the avatar you are logged in as.  
(Refer: C:\Program Files\WorldViz\Vizard5\tutorials\avatars)
2. **Programming:** Create evacuation scenario
  - a. **Landmarks:** Like pigeon hunt game, add 4-5 landmark places to visit in a time duration.( C:\Program Files\WorldViz\Vizard5\examples\pigeonHunt
  - b. **Click an agent: Add text or any relevant description for agents when clicked.**  
(Refer; C:\Program Files\WorldViz\Vizard5\tutorials\picking)
  - c. Add two **proximity sensors:** Refer: C:\Program Files\WorldViz\Vizard5\tutorials\proximitySensors)
  - d. **Data File:** Record the elapsed time in a txt file. Record how many exits (key points in the city)the user saw before exiting. (Refer: C:\Program Files\WorldViz\Vizard5\tutorials\data\data.py)  
Note: copy the data.py from program files to a different location to play the file
  - e. **Virtual evacuation drill:** Incorporate the following script in your project. Make necessary adjustments to incorporate it in your city evacuation project.  
C:\Program Files\WorldViz\Vizard5\tutorials\flowControl\ experimentDesign.py
3. **Behaviors**
  - a. Add fire and smoke in the environment
  - b. Animate the viewpoint: Use keys to move the viewpoint to a different location (refer C:\Program Files\WorldViz\Vizard5\examples\viewAnimate)
  - c. Add multiple windows: The upper right window is a rear view of the scene, The upper left window is a birds eye view (refer: C:\Program Files\WorldViz\Vizard5\examples>windowViews)