

COSC 729: Virtual Reality and its Applications
Fall Semester 2015
Instructor: Dr. Sharad Sharma
Assignment 3

VR University Campus Evacuation

This project will span a period of 2 weeks and is meant to familiarize you with the WorldViz Vizard IDE. This assignment will get you prepared for the final project.

Please submit your assignment by: **3/3/2015**

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_03_sharma.zip**

Description:

In this project you will create a ***VR University Campus*** environment. You are expected to create an entire virtual environment that combines 3D Studio Max models and WorldViz Vizard coding. You will be required to do the following:

1. **Modeling:** Create atleast 4-5 buildings on a Virtual University Campus
 - a. You can use freely available 3D models over the internet.
 - b. You have to use textures
 - c. At least 12 **UNIQUE** models
 - i. Must be different models (computers, benches, trees, chairs, etc)
 - ii. Must be uniquely textured
 - iii. Can use simple animations in Max or in Vizard
 - d. You must use polygonal modeling or convert non –polygonal objects to a polygonal object in order to export from Max to WorldViz Vizard.
 - e. Export your model from 3D Studio Max into Vizard using the OSG/IVE exporter.
2. **Programming:** The VR University should comprise of
 - a. Add atleast ten avatars
 - Utilize keyboard or mouse callbacks to control the movement of the avatars
 - b. Add a sky with environmental map, add audio file
(Refer “Using actions example.py”)
 - c. Create action events in the environment [refer animating avatars example.py]
 - comment the code to mention action event1, action event 2, etc.
 - Action events should be on other objects in the environment
(Refer “teacher in a book” for vizard. Refer “animating avatars example.py”)
3. **Evacuation:** Create an **AI controlled crowd behavior and path finding** for evacuation
 - a. You can use the AI functionality implemented for bees as mentioned in “teacher in a book” for vizard.

(Refer path following behavior in “onTheFly.py” in tutorials)