COSC 729/477: Virtual Reality and its Applications
Spring Semester 2014
Instructor: Dr. Sharad Sharma

Assignment 4

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: **3/11/2014**

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_01_sharma.zip**

Description:
In this project you will create an ***underwater sea adventure with dinosaurs***. You are expected to create an entire virtual environment that combines 3D Studio max models and WorldViz Vizard coding. Use the terrain environment of dinosaur created in earlier class. You will be required to do the following:

1. **Modeling**: Create an underwater environment such as (just one):
a. Shallows (beach, manta rays, horseshoe crab, coral, shells, nesting turtles)
b. Coral reef (coral, ship wreck, colorful fish)
c. Mangrove forests (trees, crocodile, leaf litter, fish, shrimp)
d. The marina trench (steam vents, lava flows, tube worms)
e. The arctic (Icebergs, narwhales, seals, penguins)

2. The underwater environment should be composed of:
a. At least 12 **UNIQUE** models
i. Must be different models
ii. Must be uniquely textured
iii. Can use simple animations in Max or in Vizard

3. **Programming**:
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”)

4. Create an **AI controlled school** of fish and a predator
a. School must flock together and maintain cohesion
c. Predator must seek flock
d. You can use the AI functionality implemented for bees as mentioned in " teacher in a book" for vizard.