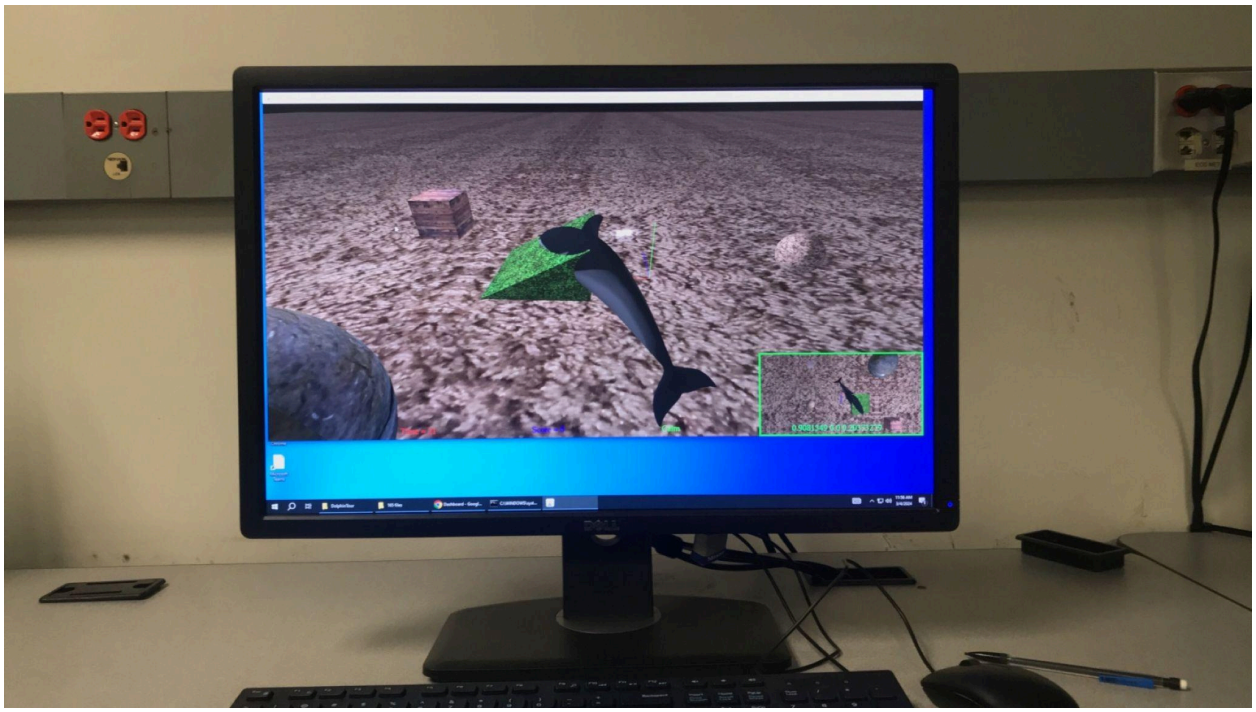
#1

Nick Chace
Dr. Gordon
CSC 165 Section 2
Assignment #2 A2 - Dolphin Tour 2

#2 Typical Scene



This is the game running on the machine “Mario”

#3 Dolphin Controls

Please be aware, I am using a PlayStation controller to test and run my game. I believe Xbox and PlayStation should be compatible but I am not sure.

(Gamepad)
Left Stick - Horizontal Movement = Turning Action
Left Stick - Vertical Movement = Forward Movement / Backward Movement
Xbox “A” / PlayStation “X” = Forward Movement
Xbox “B” / PlayStation “Circle” = Backward Movement

(Keyboard)
W / S = Forward Movement / Backward Movement
A / D = Turning Action Left / Right

For Axes Control:
(Gamepad) Xbox “X” / PlayStation “Square” = Toggle Axes
(Keyboard) E = Toggle Axes

#4 Camera Controls

(Gamepad - Orbit Controls)
Right Stick - Horizontal Movement = Azimuth around Dolphin
Right Stick - Vertical Movement = Zoom in & Out relative to the Dolphin
Left Trigger (Xbox LT / PlayStation L2) = Elevation Angle Down
Right Trigger (Xbox RT / PlayStation R2) = Elevation Angle Up

(Gamepad - Overhead Controls)
The D-pad should be the same for all controllers.
Up = Move Overhead Camera North / Negative Z
Down = Move Overhead Camera South / Positive Z
Left = Move Overhead Camera West / Negative X
Right = Move Overhead Camera East/ Positive X
Xbox LB / PlayStation L1 = Zoom In
Xbox RB / PlayStation R1 = Zoom Out

(Keyboard - Orbit)
1 = Rotate Clockwise around the Dolphin
2 = Rotate Counter-Clockwise around the Dolphin
3 = Increase Elevation Angle
4 = Decrease Elevation Angle
5 = Zoom Out
6 = Zoom In

(Keyboard - Overhead)

0 (Zero) = Pan Up / North
P = Pan Down / South
O (Oh) = Pan Left / West
[(Left Bracket) = Pan Right / East
8 = Zoom In
9 = Zoom Out

#5 Node Controllers

The two node controllers used are the RotationController (given in class) and the HoverController. Both controllers are used together when visiting a site. This gives the interaction a higher production quality than just one interaction. Additionally, this is supposed to be reminiscent of games like Minecraft that spin and "hover" items when dropped.

#6 Scenegraph relationships

My implementation of a parent/child relationship is a modification of my last project where the 4 magnets are the children of the dolphin. This is so that the magnets can follow the dolphin around as little achievements to count how many sites have been visited. However, one change has been made by the rotation being propagated along with the translation. This fixes the issue where the magnets would appear to not spin if you rotated the dolphin in the same direction.

#7 Tage Engine changes

-Javadocs added to Grass.java in "shapes" folder.
-Javadocs added to yaw() and pitch() in GameObject.java
-Javadocs for 4 new getter functions in RenderSystems.java
    Those being: getWindowXSize(), getWindowYSize(), getXSize(), and getYSize().
-HoverController.java in NodeControllers folder.
-Added functionality for a 4th HUD element in HUDmanager.java. This is up from 3 in the last project.
-Added CameraOrbitController.java
-Added CameraOverheadController.java

#8 Non-working Requirements

All of them are working. Here is a list of every requirement that is working:

1- Orbit Camera Controller with
    -Orbit without altering the avatar
    -Adjust elevation
    -Zoom
    -Keep relative position
2- 2nd smaller zoom and pan camera
3- Relative position HUDS
4- Ground plane, no arbitrary 3D movement, and disabling XYZ axes
5- 2 Node controllers, custom made
6- Hierarchical relationship (between Dolphin and magnets)
7- Do not go below ground plane
8- Do not hop off the dolphin

#9 Special Additions

I added a dome with a sky texture that rotates to give the world less emptiness.

#10 Assets

Assets in the “defaultAssets” folder, “skyboxes” folder, and any assets associated with the Dolphin come from the 01a-HelloDolphin example.

Magnet.png was created by myself in MS Paint.
paper.JPG and carpet.JPG are pictures I took of things in my room.
The Wood, Stone, Bricks, Sky, and Grass textures come from “open game art.org”
All links to the CC deeds are provided on the left-hand side of the screen.
Wood: https://opengameart.org/content/another-photo-texture-pack-woodplanksjpg
Stone: https://opengameart.org/content/another-photo-texture-pack-stonejpg
Bricks: https://opengameart.org/node/10151
Sky: https://opengameart.org/content/seamless-sky-backgrounds
Grass: https://opengameart.org/node/8146

The Wood, Stone, Bricks, and Sky textures operate under the Creative Commons 1.0 Deed (CC0) putting them in the public domain.

The Grass texture operates under the Creative Commons 3.0 Deed which means that the author needs appropriate credit and to indicate if any changes were made. The link to the author on the website is broken. Instead, here is a link to the same author on a different site: https://blenderartists.org/u/dim/summary

By the CC 3.0 agreement, I have not made any changes to the original work and the creator does not endorse me or my work.