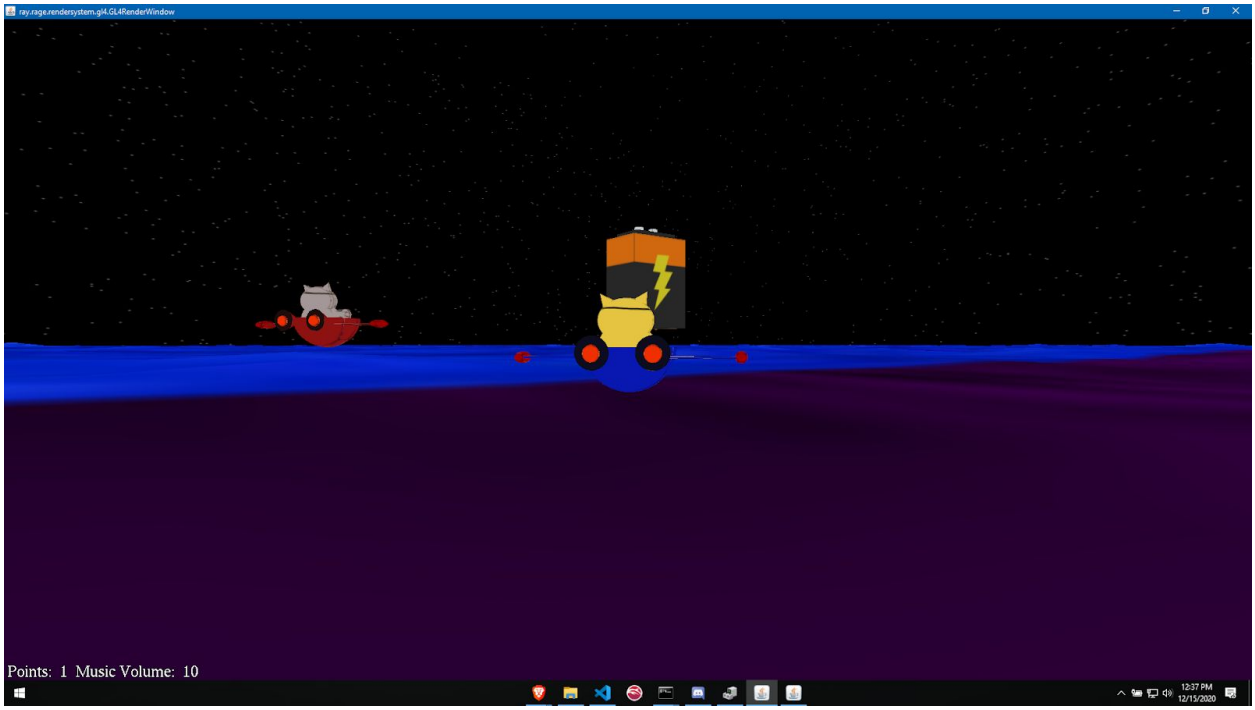
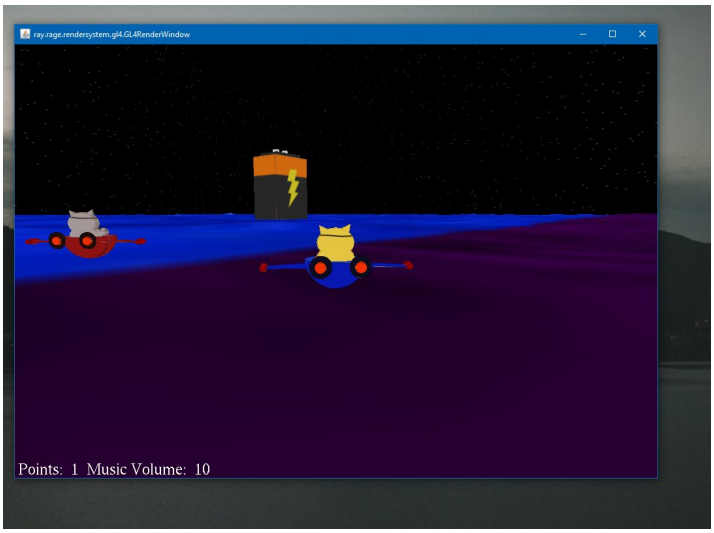
CSC 165 - Computer Game Architecture and Implementation

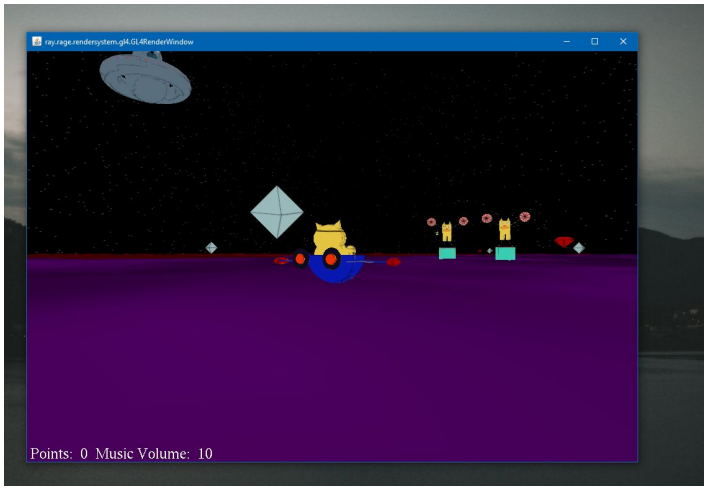
Player's Guide: KittyCat Galactica

1. **Names**
    a. **Name of Game: KittyCat Galactica**
    b. **Names: Alejandro Blanco & Kimlee Chea**
2. **Screenshots**
    a. **Full Screen Screenshot**



b. Partial Sized Screenshots





3. Compiling & Running the Game

a. Compiling and Running through the command prompt:

i. cd "Directory of the main folder all the files"

ii. Javac KittyCatGalactica*.java myGameEngine*.java

iii. java -Dsun.java2d.d3d=false GameServer.NetworkingServer [PORT] UDP

iv. java -Dsun.java2d.d3d=false -Dsun.java2d.uiScale=1 KittyCatGalactica.MyGame [IP ADDRESS OF SERVER] [PORT]

b. Compiling and Running through the folder:

i. Go to the directory where all the files are

ii. Click and run compile.bat

iii. Click and edit runServer.bat

1. **Edit [PORT] with a port of your choosing**

iv. Click and edit run.bat

1. **Edit [IP ADDRESS OF SERVER] to the IP address of server**
2. **Edit [PORT] with the same port chosen for the server**

v. Click and run runServer.bat

1. **(Server must be executed first if multiplayer is wanted)**

vi. Click and run run.bat

c. (NOTE: Wherever there is a [...] above, insert the required field without brackets)

4. **Devices Required:**
    a. **A mouse and a keyboard.**
5. **How to Play:**
    a. **In Game Objective:**
        i. **You are a Pirate Space Cat and your objective is to collect as many gems and crystals as possible before the other Pirate Space Cats do.**
        ii. **Enemies will try and steal all the gems and crystals before you can.**
        iii. **Gems, Crystals, and Batteries are scattered around the map**
            1. **Collect as many gems and crystals before the other player does.**
            2. **Batteries will allow you to use a speed boost to collect other items.**
            3. **Gems and crystals will respawn randomly on the map**
        iv. **Scoring:**
            1. **Gems = 100 Points**
            2. **Crystal = 20 Points**
            3. **Battery = Increments batteries**
            4. **Collect 500 points to win**
6. **Player Controls:**
    a. **Keyboard Keymaps:**
        i. **W - Move player forward**
        ii. **S - Move player backward**
        iii. **A - Tilt player left**

iv. **D - Tilt player right**

v. **M - Mute music**

vi. **K - Increase music volume**

vii. **L - Decrease music volume**

viii. **U - Make the game brighter**

ix. **I - Dim the game**

x. **ESC - Quits the game (still buggy)**

b. **Mouse Inputs:**

i. **Scroller - Zoom in and out**

ii. **Mouse movement - Rotate camera around player**

7. **Scripting**

a. **Used scripting for the positions of SceneNodes among the map as well as mapping their sizes, locations, and their rotation.**

b. **Also used scripting for the mapping of physics objects and their placements.**

8. **Network Protocol Additions**

a. **Added Server side scoring checker.**

i. **If a limit is reached the winner will be declared.**

b. **Added Server side items that appear in game**

i. **Items: Gems, Diamonds, and Batteries**

c. **Passed in textures through the server**

i. **To find the item textures as well as the player avatar texture**

9. **Genre, Theme, Dimensionality, and Activities Utilized**
    a. **Genre: Real-time Strategy (RTS) / 3D Platformer / Resource-Gathering**
    b. **Theme: Space Pirate Cats**
    c. **Dimensionality: 3D Ground/Outer Space**
    d. **Activities Utilized: Exploitation, Physical Dexterity, and Driving Vehicles**
10. **Project Requirements**
    a. **External Models:**
        i. **Space Pirate Cat objects**
        ii. **Gems, Batteries, and Crystal objects**
        iii. **Cat Space Station and Cargo Cat objects**
        iv. **Kimlee made all the Cat Objects**
        v. **Alejandro made all the itemized Objects**
    b. **Networked Multiplayer:**
        i. **UDP Server is being used with a protocol client.**
        ii. **At least two players can play this game.**
        iii. **Players can see each other's avatar.**
        iv. **Game functions in single player.**
        v. **Command Prompt asks users to enter the cat model they'd like to choose.**
            1. **This is passed through the server so each player has their designated model in each other's games.**
    c. **Scripting**
        i. **Used scripting for the positions of SceneNodes among the map as well as mapping their sizes, locations, and their rotation.**
        ii. **Also used scripting for the mapping of physics objects and their placements.**
    d. **Skybox and Terrain**
        i. **Terrain: A textured tessellation object.**
        ii. **Skybox: Skybox object with a perspective of space including stars.**

e. **Lights**
    i. **Three positional lights.**
        1. **One is above the origin.**
        2. **One is above one of the cat stations.**
        3. **One can be turned off and on by the player and it's stationed on the player.**
f. **3D Sound**
    i. **Multiple sounds throughout the game.**
        1. **Background Sound - Music of the game**
        2. **Rocket Sound - Attached to player avatar**
        3. **Item Sound - Plays when an item is collected**
        4. **Cat Sound - Plays when a player collects an item**
g. **HUD**
    i. **Bottom left HUD for each player indicating their points and music volume**
    ii. **When the point goal is met, the HUD prints "Winner" or "Loser"**

h. **Hierarchical SceneGraph**
    i. **The hierarchy is the space stations attached to a larger general space station. There is a sink controller attached to the general space station that results in the space stations sinking into the arena simultaneously when the game ends.**
i. **Animation**
    i. **The player avatars have an animation for when the game starts and when they pick up an item.**
    ii. **The space stations has a rotating wheel**
j. **NPCs**
    i. **There are robot cat NPCs that are instantiated by the server and they rotate around the bases.**
    ii. **Over time with-in a second or 10 seconds they will shrink or grow**
k. **Physics**

i. **The space stations bounce throughout the game.**

11. **Requirements not Working**
    a. **Players are not able to quit the game properly.**
12. **Beyond the requirements**
    a. **NA**
13. **Team Member Contributions**
    a. **Alejandro Blanco**
        i. **Server/Client Side Networking**
        ii. **NPC and AI.**
        iii. **Scripting**
        iv. **Physics objects**
        v. **Some object implementations with UV-unwrapping**
    b. **Kimlee Chea**
        i. **Majority of object/theme UV-unwrapping**
        ii. **Sound**
        iii. **SkyBox and Terrain**
        iv. **Lights**
        v. **Animations**
        vi. **SceneNode Hierarchy**
14. **Team Member Item Creations**
    a. **Alejandro Blanco:**
        i. **Battery, Gems, and Crystals object UV-unwrapping**
    b. **Kimlee Chea:**
        i. **Space Cat Avatars, Space Station, Space Cargo Cats object UV-unwrapping**
        ii. **Height Maps for terrain**
15. **Evidence of Permission**
    a. **See SoundLicenses.txt**
    b. **Or see next page:**

c. Sound Licenses and Attributions

i. Title: Rocket
About: Rocket and rocket space ship blast off sound effect.
This sound was requested by donna dayvis.
Uploaded: 07.11.10
License: Sampling Plus 1.0
Recorded by dobroride
File Size: 8.54 MB
Changes: conversion to MONO 16-Bit

Related Links: http://soundbible.com/1498-Rocket.html
https://creativecommons.org/licenses/sampling+/1.0/

ii. Title: Shooting Star
About: Sound of a shooting star or bright idea.
A twinkle or a sunbeam. Just some soft chimes with
Uploaded: 02.17.11
License: Attribution 3.0
Recorded by Mike Koenig
File Size: 202 KB

Related Links: http://soundbible.com/1744-Shooting-Star.html
https://creativecommons.org/licenses/by/3.0/

iii. Title: Kitten Meow
About: Sound of a tiny kitten meowing.
kitten. This kitten meow can be used for any scene involving a cat or
Maybe even a baby lion cub.
Uploaded: 01.03.10
License: Attribution 3.0
Recorded by Mike Koenig
File Size: 882 KB

Related Links: http://soundbible.com/1286-Kitten-Meow.html
https://creativecommons.org/licenses/by/3.0/

iv. Title: Accordion
About: This is an accordion sound requested by alex.
Great for circus, or street music.
Uploaded: 06.08.09

License: Sampling Plus 1.0
Recorded by junggle
File Size: 362 KB

Related Links: http://soundbible.com/528-Accordion.html
https://creativecommons.org/licenses/sampling+/1.0/

v. Title: Flute Tone
About: Its a soothing flute tone flute lovers will love it
Uploaded: 02.15.11
License: Public Domain
Recorded by Kushal Parikh
File Size: 407 KB

Related Links: http://soundbible.com/1739-Flute-Tone-.html
https://creativecommons.org/publicdomain/zero/1.0/

vi. Title: Covid-19 Beats (7 - 80 BPM kits)
About: 7 fierce kits and a basic vocal mix for the Covid-19 outbreak.
The kits are broken into A and B with their own preview.
They have their own keys and own mood.
All material is original outside of the quoted Wikipedia article.
Uploaded: Sun, Mar 22, 2020 @ 2:42 AM
License: Attribution 3.0 Unported (CC BY 3.0)
Recorded by coruscate

Related Links: http://ccmixter.org/files/Coruscate/61252
https://creativecommons.org/licenses/by/3.0/

16. RVR-5029 Labs Tested

a. **Tested and worked on ECS-ASTEROIDS paired with ECS-CRASH.**