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IGME 202

Professor Erin Casscioli

Final Project Milestone 1 Write-Up

1. **The Terrain and the Characters in it.**

The world I am going to do will be a zoo in which robot people will move around and queue up in lines to lions, gorillas and other animal. The terrain will be design to look like a zoo with concrete paths leading around to each animal habitat and a food stand. The animal habitats will be enclosed with wooden fences, and the habitat will have bushes and trees relating to that animal, and the floor will be dirt/grass. The main characters will be robots. Theses robots will go and line up to see each exhibit. I will also have robots that follow a path around the park exploring. The flocking group is going to be falcons in the their own habitat. These birds will move around using flocking movements.

1. **Main Character and NPC’s**

The Main characters will not interact with the NPCs. The NPC’s in this world will be the animals, and the food vendor salesman. The Main Characters Are the Robots viewing the animals, the robot you’re controlling, and the robots following a path around the park. These two groups will not interact with each other.

1. **Main characters and The Environment**

The Main characters will relate to the environment by flowing certain paths and staying in certain areas. The robots viewing the animal will be blocked from entering the animal habitat by a wooden fence. The robots will attempt to avoid other robots and obstacles that enter their paths. The robots exploring around will not wander uncontrolled but on set paths throughout the park. The Robot that you control will be allowed to explore any part of the park to it your hearts content. The Robot you control won’t be allowed to leave the park and this will be done by fences to show the boundaries and invisible walls to enforce it.

1. **Advanced steering algorithms**

I will be using the following advance steering algorithms:

* Queuing (MAIN)
* Path following (MAIN)
* Arrival
* Separation

1. **Plan for Implementing advanced steering algorithms**
2. Queuing

My plan for implementing this steering algorithm is to use it when the robots line up to enter the exhibit to see the animal, so that way they will get them to enter in a slow orderly faster, it will be used again when they leave the exhibit. I also plan using it to get the gorillas to go between two rocks without having them crowd and run over each other.

1. Path following

My plan for implementing this steering algorithm is to use it for getting the robots exploring the park to follow a certain path, I also plan on using it for getting the robots seeing the exhibit to follow a path for leaving and entering. I plan on using it on some animals to get them to follow a path around their habitat.

1. Arrival

My Plan for using the arrival steering algorithm is for it to be used on all moving robots and animals to make sure they arrive at their destination and stop. This algorithm is also going to be necessary for queuing and path following to work properly.

1. Separation

My plan for separation is that it be used on all animals and robots so that they won’t crowd each other. It is necessary for both Queuing and Path Following.

1. Flocking

Flocking will be implemented in the falcon birds that will flock in their own habitat. They will avoid any obstacles that get in their way while flocking. I do not plan on this taking too long since most of the code and stuff have been done in other homework’s and ICE’s.

1. **Avatar and Camera Plans**

The Avatar for this world will be one of the robot you see exploring the world. You will take control of this robot and use it to explore around the zoo park. My plans for the camera is that the camera will start off following the player. Then the player can choose to press different keys that will switch the camera from an overview of the park to a zoomed in camera on each different main attraction.

1. **Why the idea is unique, neat, clever, or fantastic?**

I believe this idea will be neat and fantastic because the environment is going to look beautiful, and it will be awesome to see the animal moving around and the whole park active with robots exploring and seeing exhibits.

1. **Assets in Unity Scene and Credits for Them**

In the Unity scene in the unity project include are the main assets I will be using for my Project. I may add some more assets to add to the aesthetic appeal such as flowers, more trees, rocks stuff like that. But Every Crucial Assets That I need is included in the Scene.

* The Lion - made by CrossRoad\_kimys2848 assets package Name: Lion V 1.2, this lion will be used as one of the animals in my exhibits.
* The Gorilla – made by Reallusion assets package Name: Gorilla Character, This gorilla will be another type of animal I will use in my exhibits.
* The Toad Monster Creatures- made by CrossRoad\_kimys2848 asset package name: Toad Monster V 2.0 These Toad monsters will be used in the third exhibit of the zoo park.
* The Farmer Npc - made by CrossRoad\_kimys2848 asset package name: Micro Farmer NPC, this farmer will be the food vendor salesman that will be selling food in the park’s relaxation/eatery area.
* The Falcon- made by CrossRoad\_kimys2848 asset package name: Falcon, the falcon will be used as my flocking agents and they will also be one of the animals in an exhibit in the zoo.
* The lamppost, Phone booth, bench and fire hydrant – made by nolgraphic asset package name: London Street Assets, These assets will be used as décor/aesthetic pieces throughout the zoo.
* The two wooden Fences – made by unity Technologies asset package: Shanty Town: Town Fence, these fence will be used to mark paths not on the concrete road, theses path will mostly be to the animal exhibit.
* The umbrella table and chairs – made by Game Ready asset package name: Street Table, these table will be placed in the relaxation/eatery area of the zoo park for people to enjoy.
* The tall chain linked Fence – made by Unity Technologies asset package name: Shanty Town: Tall Fence, this asset will be used to outline the park boundaries.
* The palm tree, broadleaf tree Desktop, broadleaf tree mobile made by Unity asset package Environment, these trees will be used as decoration throughout the zoo.
* Swamp, grass and sand Texture- made Unity asset package: Environment, these will be used to texture the different habitats floors and grass areas.
* Cobblestone texture – got from google images credit: (<http://pegitboard.com/show-image/?img=/pics/t/35935.jpg>), this will be used for the main concrete pathways in the zoo.
* Stone wall texture – credit: (<http://www.lughertexture.com/stone-plates-and-ornaments-textures-download/medieval-stone-blocks-texture/medieval-stone-blocks-from-athen-16-1346>), this will be used to create stone walls.
* The dirt texture – credit: (<http://www.bianoti.com/gallery-darksoiltexture.html>), will be used to create dirt pathways.
* Robot – made by myself; this will be the character you control, and the robots that will be exploring the zoo and seeing the exhibits.
* Food stand Model Place holder – will be done by myself; will be used to give the food vendor salesman a stand.
* The Entrance sign Model Place holder will be done by myself; will be used to show the magnificent entrance to the zoo.
* Savannah trees –made by Unity Technologies asset package: Shanty Town: Trees, this will be the trees the falcons avoid while flocking and used to decorate the habitats.

1. **Rough Sketch Overview of zoo**

