Tech Lab Project

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Abstract

The purpose of this project is to make a game that simulates a war fought in outer space. There will be several solar systems through which the ships can fly through, and can be controlled by one army or another, depending on who has more ships in the area. If a particluar army has control of the area, then it can make ships, build infrastructure, etc.

This project has two main goals, for the five of us to figure out how to work together as a group, and for each of us to figure out how the respective parts of our game work.

In the real world of computer science, people don't work by themselves to make a final product. They work in large groups and need to coordinate their efforts in order to make a working final product, as opposed to several working parts of a not-working product. This project, although on a much smaller scale, has helped us to figure out how that can be done without one of us driving the others up the wall.

The other goal for our project was for each of us to figure out how the respective parts of our games work. Chase, who is working on the physics engine, is interested in physics and wanted to learn more about it. Akshay, who is working on our AI, is interested in AI.

1 Introduction

1.1 Purpose

The main purpose of my project is for me to learn the basics of software engineering, and for us to make a game that is available to play on the internet. I wish to become an engineer and plan on majoring in it in college, so I think that this will help me get a headstart on my future studies.

1.2 Scope of Study

This project will involve a fair amount of research on my part. I will need to find out how I can run different parts of the program on different threads so that nothing slows down something else. I will also need to figure out a way to show Mr. Latimer different prototypes

of my code, and not the others. Another thing that our group needs to find a way to do is to program the game even though we are not in the same period. It is possible, but it would have been easier if we were all in the same period, and we will have to have good coordination to make this work.

2 Procedure and Methodology

2.1 Preliminary tasks

2.1.1 Design

My first goal was to design the game. We needed to know what classes we needed, and what classes extended which.

2.1.2 Getting NetBeans to work

When we started this project, it was last year, before NetBeans was installed on the image. As such, we needed to find a way so that all of us could use NetBeans to run our project.

2.2 Coding the classes that we made when we designed the game

Most of the classes that I coded either make something show up in the game, or they store the data of the things that are in the game. For example, the planets that you can see in our current version, when Robby wants to draw it, he calls on my methods to find the radius and location of the planet. Then, Chase calls on my code to find out its radius, location, and mass, so that he can get collisions to work. Akshay will use my code to figure out which ships are next to his AI, and which aren't.

2.3 Making different parts of the game run on different threads

This is the part of the project that I am working on now. I am doing research on how to do this, and should have this finished sometime around Nov. 11.

3 Different Prototypes

3.1 Prototype 1

My first prototype had several different "planets" that were really just spheres that weren't rendered very well. The camera could either accelerate or deccelerate by using the keyboard, and by using either the numpad or the mouse you could turn.

3.2 Prototype 2

This prototype is, as Mr. Latimer requested, only my code. Since my code involves 0 graphics, all my code does is print out the stats that I am given by the others code.

References

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