Design

Game – This game was made in Panda3d. This is a software for 3d game development maintained by the Carnegie Entertain Technology Institute. The game constitutes of an aircraft moving forward on its own thru an asteroid field. The user can control the motions of the aircraft using the ‘w’, ‘a’, and ‘d’ keys on the keyboard. On pressing the ‘w’ key, the aircraft jumps upwards. On pressing either the left or right key, the aircraft will move in the respective direction. The ‘s’ key shoots missiles which interact with the asteroids. The missiles can’t be destroyed but shooting at them increases the time the user has. The plane will move on a narrow path constructed for it. The game will be timed and the level has to be completed in a specified time. Also the plane’s health, score, number of largest missiles left will be displayed on the screen.

Code – The right, left and floor of the asteroids do not interact with the plane so they each have their own classes and Draw functions which makes then and renders them in the screen. The Base ship at the end of game also has its own has whose instance is called at the end of the code. The skybox has its own class. The skybox in the scene is rendered to the plane so it moves along with it and the plane does not go out of the skybox. The asteroid corridor will be interacting with the missiles and plane. It has its own class which is different from the other asteroid classes since the asteroids in this class also need a collision sphere which can detect collisions with the asteroids. The missile class is called when ‘s’ is pressed and renders the missiles and shoots it forward. It also detects the collision with asteroids and changes the timer accordingly (time increases if you hit asteroids). The plane class is the one which makes most of the game. It checks collisions with other objects. Moves planes on appropriate key inputs and creates instance of missile class when ‘s’ is pressed. It also keeps the timer. The Win class spawns the screen when the game ends. The Instructions class spawns when user clicks on the ‘Instructions’ button. The GUI class makes the widgets on the game screen and associates their functions with them.

Interface – The game was initially supposed to have four different splash screens. Due to limited time it only has two screens. The game starts with the plane flying immediately. This main screen has two buttons, ‘Quit’ and ‘Instructions’. The user can click on either and go to the respective screen or exit the game. When the time runs out or the user reaches the end, the game over screen is displayed.

Influence – The layout and timer of the game is alike that of the game ‘Race the Sun’ and I’ve used the timer idea from it. This game did not have any missiles and focuses on movement. I tried implementing some of this in the game. Also the idea of using pickups to increase health and ammo comes from here.