PPP Assignment 2 –

Initial spec

When I looked at the brief for the assignment I somewhat immediately thought of recreating a game I had played at friend’s not too long ago. Super Stardust HD which is already a ”remake” of the original SS back in -94.

The idea was somewhat simple: in the game you control a ship that protects a planet/tries to destroy asteroids that approach its surface/atmosphere. What I liked about the idea is that even while being a simple game, the amount of different elements in the game is enourmous. This allows me to basically continue implementing stuff as much as I can.

The list of things/functionalities I’d like to get:

1. Player: movement and shooting
2. Projectiles (goes hand-in-hand with the player’s shooting) that would simulate a flamethrower sort-of an effect.
3. World: display/draw the planet, skybox and geodesic grid atmosphere similar to the original game
4. Asteroids: Have asteroids come towards the planet and start rotating around its atmosphere.
5. Camera: As the camera will be moving, implement a class that handles the camera
6. A type of a main class/object that would handle the non game mechanic stuff like creating the context, windows and most of SDL/GL related stuff.

That’s my initial ”wishlist” on what I’d like to achieve before the deadline, but as mentioned above; what I like about this game is that it has some many fine elements that there’s room to expand beyond this plan.

For the player movement I’d like to achieve the same type of a rotation around the sphere that’s found in the Super Stardust HD. I already did some quick testings rotations with sphere and faced a problem where an object would rotate along the latitudes so to say. Where as the movement I want to achieve would go left whenever the player presses left and rotate so that the rotation axis would always stay absolute relative to the player movement. As for the shooting I’m not too worried about as I think the mechanic will be somewhat simple.

As for the projectiles I’m still not quite sure on how to approach them (points, triangles, solid meshes?) to achieve the desired flamethrower effect but I think this will come with testing different options.

The world part should be pretty easy as I’ll just start with spheres with possibly simple textures and should I make progress, I can always try to improve the visuals more.

Asteroids should randomly pop up somewhere and start heading towards the planet. As for how they’ll affect the player when they reach the atmosphere is open, but I think I’ll do something like the Chaos mode in Super Stardust HD where the asteroids just keep piling up and the player tries to score as much as possible without dying. One thing that somewhat intimidates me at the moment is how I’ll get the collisions working as getting it done will make a huge difference to the game with these elements: it’s the thing that actually makes it game with a goal and some difficulty.

The main class/object shouldn’t be much of an issue. It will be holding the SDL/GL initialisation and basic input which it will the forward to the classes that handle more specific input.