

Milestone Report I

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Comp2008 – Introduction to Game Programming – Josh “CatSandwich” TS

Group: Dev Group (With Devon McManus and others)

Milestone Goals:

Luc:

- Movement
 - Working tank controls
 - Momentum system
 - When front runs into wall stop mech
- [Stretch] Camera
 - <https://unity.com/features/cinemachine>

Report:

What I made:

- Two scenes, each to test a version of movement which will be decided on Monday, 03-24-2025.
- Each scene contains a floor and wall, as well as a player object to test movement.

What I wrote and am pleased with (for now):

- Two scripts (one just a slightly expanded version of the other).
- The script titled “Let’s Move” is simple and working as intended:
 - Pressing the W or S key grants either positive or negative acceleration along the z axis, A and D, along the x-axis.
 - This is the only method of altering player velocity; said velocity will not change unless additional acceleration inputs are provided (like with objects in Space).
 - WASD is hard-coded as the movement control (we may change that) but the acceleration rate is serialized and may be altered inside of Unity.
 - This script is applied to the Sphere Player Sprite in the scene “Ev’ryWayI’mAcceleratin’”, if you want to have a look.
 - It meets the first two main requirements above (Working tank controls and momentum system), and the third item (“When front runs into wall stop mech” we’ve (I, but with Devon’s approval) altered slightly so that the Player object is unable to pass through the object but still attempts to; this may be altered later on.

In progress:

- The other script, “Twist’n’Shout’n’Accel” (I wish I used ‘n instead of and) uses a different version of this basic movement idea where the W and S keys apply positive and negative acceleration, but the A and D keys rotate the player. The idea is that the acceleration will then proceed along whichever direction the player is now facing; this is *not* currently functioning as intended and will need more time to work-shop.
- [Stretch] Camera: This mainly came down to an issue of time (surprise!); Cinemachine has been acquired and added to the first scene (with the Sphere, “Ev’ryWayl’mAcceleratin’”), and there is camera movement (the sphere object has been added to the Cinemachine Camera component on the game object FreeLook Camera. I have begun working through several tutorials on using Cinemachine effectively; one seems quite good, though slightly out-dated.

Reflection:

- While I did not technically miss any committed goals, I was hoping to have the movement system completely finished and decided on by now, but that will mainly be decided once Devon and I have merged our assets, so we can have a look at the game properly and see what works best.
- Easier: the acceleration script; when I discovered the actual acceleration code had been deprecated I was a bit nervous, but then I remembered how physics works. (Also file this under “problem that I learned from”; in this case, I can see why acceleration was deemed unnecessary and deprecated. It is quite easy to just code out)
- Easier: adapting to using 3D: many of the concepts still apply, and the ones that don’t haven’t really been an issue yet.
- Harder: Rotation and movement as conceptualized; I have a sneaking suspicion I will have to use quaternions, but we’ll see.