1.**What limitations do you think your game engine would have? Try to explain what these limitations are.**

Some limitations our game engine would have will be like small file size, file sharing between programmer and graphic artists/designers, ease of use, and performance. **Small file sizes**- The engine would make use of vector graphics and compressed files that the game’s final file size can be exponentially smaller than those of games developed on other platforms.

**File Sharing**-programmers and graphic artists can collaborate by using the same files and folders in the engine.

**Ease of use**-by using our game engine, you can learn the ins and outs of the program and start creating games in a very short time.

**Performance**- the engine would require enormous plugins and extensions for games to perform well.

2.**How can you adapt your game engine in order to accept a different game genre?**

Our game engine can be adapted for various game genres. As it stands right now, our game engine is designed for platformer games.

If we had to convert our game into a different genre, such as a First Person Shooter. The game mechanics will still be similar with a change to the perspective making it a 3d perspective. Another element that may be added would be a shooting mechanic. New files would be able to be created such as pathfinding, an enemy spawning system, health, ammo and more to make this game feel like a first person shooter. With the addition of new plugins, we can import more elements that will be handled such as new mechanics, artificial intelligence , a functioning particle system, and health and ammo user interfaces.

In the diagram, the “Pickup Component Interface” would have ammo and health added to it while a 1st person camera is added to the Actor Component. When rendering the displayed graphics, it can be calculated through ray casting where only the surfaces visible to the player are made rather than the entire area. With the structure of our game right now, we could use the score system in another game genre as well. As demonstrated in the UML, an enemy AI structure is implemented along its different spawn system for each level while the player is upgraded with health and ammo system and the 1st person camera. Finally, in a different genre, we would be able to use the various levels as other things such as various maps or worlds.