Game Engine Assignment #1

RunningOnEmpty

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Question #3

1:

Some of the expected limitations of ThomasTheTankEngine are:

* The inability to do any physics calculations, we are not planning on building our own physics engine nor do we plan on buying one.
* The engine will only handle simple lighting, we do not plan on supporting reflective surfaces or multiple light sources.
* We are planning on having a small viewable area, we expect to not render objects efficient enough for sweeping landscapes to be possible.
* The engine will input from keyboard and controller, no mouse input.
* No online functionality is planned.
* Camera movement is not expected to be implemented.

2:

If we were to redesign the engine to fit an FPS model, we would need to:

* Support mouse input
* Implement a system to move the camera with said mouse input
* In the case of a multiplayer FPS we would need to support multiple viewports for local and likely change the entire structure of the engine to support either server based or peer to peer online multiplayer.
* To support headshots, we would need to be able to detect hits on specific parts of the character models.
* Our game plans to use a “Tank like” movements systems (rigid turns and only forward and backward movement), this style of movement hasn’t been acceptable in a fps since 2001, and as such we would need to update the movement system to support modern fps controls.
* Our engine would need support some sort of player ownership system to account for inventory such as ammo and grenades as well as available guns.
* Our engine would need to be able to support multiple weapons for the player.