Introduce yourself to the class by stating your major and anything you’d like to share about yourself. Include why you are interested in working with OpenGL or might find it useful to your career goals.

OpenGL is an API that is used to render computational graphics. You need to understand where OpenGL is used and what variants it has.

Review this week’s resources to understand OpenGL’s variants and uses better. Find an example of where OpenGL is used. Then respond to the following prompts:

* How is OpenGL used in the example you selected? For example, what types of graphics and animations are used in your example?
* What variant of OpenGL is being used in your example? Why is that variant or OpenGL in general a good choice? Think about OpenGL’s capabilities and how they are being used.
* How would you use OpenGL to improve this example?

Respond to at least two of your peers by comparing your post with theirs. Include the following in your replies:

* What common themes are in your example? How do your themes compare to your peers’ themes? For example, how was OpenGL used in your peer’s case?
* How are the design and development goals of your example different than your peers’ goals? For example, how did your peers use OpenGL to achieve their specific goals?

My name is Jamar Sampson, returning to school nearly a decade later to earn my bachelor’s in computer science with a concentration in software engineering. I started my learning majoring in computer engineering but found it more to my liking & availability with the online curriculum to switch to computer science. I’m a pretty big gamer, or maybe I just enjoy using electronics without all the rhyme or reason. I just recently managed to secure a 5090 through a raffle and will be learning to use Blender for animations.

From the resources provided, I was able to see that OpenGL is used in popular video games that I play. From our example, I expected to see only 3-dimensional style games using OpenGL. But instead, I see quite a few side scrolling titles that are built using openGL (1001 spikes “true”, angry birds “2.1”, axiom verge series “true”, Balatro “2.1”). Deeper research showcases that OpenGL is ideal for 2D & side scrolling titles because of its ability to handle tasks such as rendering sprites, managing textures, & enabling smooth animations. It can be used to provide assistance in physics-based games such as Angry Birds or the motion in -----1001 Spikes.

These games rely primarily on OpenGL ES, which is optimized for mobile devices. It has programmable shaders, which allow for advanced visual effects & efficient performance on lower-0end mobile hardware, which is perfect for mobile games in comparison to large scale system using the full OpenGL. Ways to improve these games could be based on how much the developers utilize advanced features. Programmable functions such as dynamic lighting, post-processing effects like bloom, or subtle 3D elements can enhance visual. Then making sure the delivery is optimized can improve performance and ensure smooth gameplay across a wide range of devices. I think this creates even more situations where openGL is the best option based on the flexibility.

*OpenGL ES  :  views  :  Android developers*. Android Developers. (2024, June 18). https://developer.android.com/develop/ui/views/graphics/opengl/about-opengl

*List of OpenGL games*. List of OpenGL games - PCGamingWiki PCGW - bugs, fixes, crashes, mods, guides and improvements for every PC game. (2024, June 21). https://www.pcgamingwiki.com/wiki/List\_of\_OpenGL\_games

Sellin, D. (2024, May 22). *6 seriously cool ways to use 3D computer graphics*. Rightware. https://rightware.com/blog/6-seriously-cool-ways-to-use-3d-computer-graphics/

Afternoon Abby,

I’ve been looking forward to this class, particular with game design & development in mind. I’ve enjoyed the opening lessons about how OpenGL rendering is used in a variety of ways, especially in many 2-dimensional games. Your explanation about the 3D rendering of human organs & MRI scans just show how far the technology can be implemented.

In my own research, I found that OpenGL plays a key role in adding dynamic lighting and particle effects to 2D games, bringing more depth and realism to side-scrollers and platformers. It’s impressive how these techniques can elevate both visual quality and the overall player experience. I think your idea of incorporating advanced shading techniques into 2D environments could push this even further, making game worlds feel richer and more engaging. OpenGL’s ability to enhance 2D gaming continues to showcase its power in shaping the future of computer graphics. I guess it is just up to how the mind can interpret it and maximize on its efficiency.

Afternoon Jake, have you explored any games in the 2D spaces when it comes it OpenGL?

Good choice of games seems you into the classics. I didn’t go fully down the list I was looking through, but I have a feeling Diablo & Diablo 2 might have been rendered on OpenGL. Like your example of games like *Doom* and *Quake*, I’ve also explored how OpenGL is used in 2D gaming, such as side-scrolling platformers or physics-based games like *Angry Birds*. Both 2D and 3D games show how versatile OpenGL is for rendering graphics in real-time, whether it’s for immersive 3D worlds or simpler 2D environments.

We seemed to both look into the uses of OpenGL ES for mobile gaming. Impressive OpenGL scalability to shift between console & mobile. Probably helps with all the cross-platform support that has been coming. I like to highlight one difference between the usage of OpenGL for 2D vs 3d, which is how objects are represented. 2D is used only on the X & Y axis, allowing it to remain smooth & flat. Meanwhile, 3D adds a Z axis for depth, to create the 3D feel, having more realistic scenes.

Another difference is rendering complexity. 2D is easier to render since it doesn’t require advanced techniques like lighting or perspective, while 3D relies on transformations, shaders, and textures for lifelike visuals.

Excited to learn more about OpenGL with you this term and explore its uses in both 2D and 3D gaming!