Design Doc (DirectX Application)

[DATE] [REVEIWER] [PEOPLE WORKING ON THE DOC] [AUTHOR]

**Overview**

This design outlines what the current state and the future vision for the graphics application built in directX11. This document will outline in a technical light was is currently developed for the application at the time of writing and what features will need to be implemented in the future to achieve the envisioned future application.

**Context**

*[Why you are doing this project and what good things come out of it]*

*[Size: Small]*

This project is being done to outline skill and prowess using graphics api’s, namely DirectX and to show how a graphical engine could be constructed from a framework using minimal external libraries and featuring adequate features for viewing (lighting, textures, materials, etc). This project will improve my skill as a programmer and help widen my knowledge of graphics api’s and the techniques and nuances that come with working with them.

**Goals**

*[What goals you would like the application to succeed and also non-goals for stuff like make gta 5 in dx11]*

*[Size: Bullet points, small desc’s]*

Goals:

* Having a solid graphics frontend (Lighting, texturing, materials)
* Having a good interaction layer (Mouse input and picking to allow for user interaction)
* Having an efficient program (No unnecessary lag on low overhead code and also making high overhead code as efficient as possible)

Non-Goals:

* Making GTA 6 is directX11
* Making a full game engine out of this framework
* Making a perfect application
* Making anything that has real-time raytracing
* Making unreal engine 5

**Existing Solution**

*[Description of the current solution and how it works, class breakdown n stuff]*

*[Size: Large]*

The existing solution consists of a lot of classes, I am currently in the process of splitting the supplementary classes from the DirectX framework and making them interchangeable within the code and also implementing new features which will allow for better representation of 3D objects in the space provided (e.g. point lights and advanced texturing).

**Future Solution**

*Splitting the engine from the app*

*Making more lights, splitting materials from the lights*

*Making more texturing options, making new normal maps and specular maps, maybe even bump maps*

*Adding more functionality to the window, Fullscreen and window res capability, locking the mouse to the screen, UI*

*Adding the actual game, with game objects and a nice way to interact with the world and shaders*

*Adding game features, like ray shooting and collision*

*[Same as before just for the future]*

*[Size : Medium]*

**Timeline**

*[Timeline of events getting from the current to proposed solution* / Conclusion of what you’re going to do*]*

*[Size: Large]*