# IT Major Project Prototype: Supporting Documentation

## Original Planned Features

Rendering engine:

Render polygons

Colour polygons

Texture polygons

Perspective

Opacity

support 100 models

support 1000 models

Render at a slow speed

Render at a fast speed

User Experience:

Panes for object list and editing

Select individual objects

Editing individual objects

Editing multiple objects

Delete individual objects

Delete multiple objects

Move camera with hotkeys

Move objects and camera with dragging mouse

Load multiple textures and meshes

Save project

Load project

Event logging

Manual

## Additional features

OOS = Out of Scope

Rendering engine:

Lighting

Particle generators (OOS)

Dynamic UI (Drag and drop panes)

Multiple Shaders (OOS)

Guidelines (Axes, compass, grid, selected item orientation)

User Experience:

Key Bindings

Save multiple camera positions

## Justification for non-included features

I could not implement saving/loading in my allocated time, due to time constraints. This is the same for multiple object editing, the mouse dragging feature, and the manual. However, my prototype effectively demonstrates the core features of my project, with single object editing, multiple object deletion, asset loading, and a modal for creating models.

## Justification for added/removed features

I have not removed any planned features, except for spheres. A sphere can be substituted with a polyhedron with many, many faces. The features I have proposed on top of my original plan are new targets to demonstrate my understanding and proficiency of Information Technology and software development design—for example, key bindings is a feature to aim for because it will increase the quality of the user experience. I will not move on to them until I finish work on the saving/loading system.

## Timeline update

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| --- | --- |
| Week | Progress |
| 1 | Rendering Engine |
| 2 | Rendering Engine |
| 3 | Partial Overhaul of Rendering Engine, Completion of Rendering Engine |
| 4 | Graphical User Interface |
| 5 | Graphical User Interface, Saving/Loading |
| 6 | Saving/Loading, Lighting |
| 7 | Advanced functionality (multiple object editing, mouse interaction) |
| 8 | Manual, Additional features |
| 9 | Bug fixing, additional features |
| 10 | Bug fixing, additional features |

## Other changes made

* Use of OpenGL
* Use of PyQt