Report notes:

Started by going through each class and setting up the header files, ensuring inheritance and associations were sound.

Then implemented the ‘create’ and ‘print’ functions for the scene objects and camera at a barebones level. (Just assigned values to the attribute parsed from the json file). Also ensured constructors and destructors were implemented, even though mostly all trivial.

To make this easier, added a constructor for Vec3f in math/geometry.h that takes a json object as input.

Started working on camera class to implement more helper variables, such as normalising the input vectors, calculating the aspect ratio, focal length, height and width of the resulting image plane, and making sure that the up vector is orthogonal to the lookat vector.

i width

j height

Let i be 3, j be 4

|  |  |  |
| --- | --- | --- |
| i = 0, j = 3 | i = 1, j = 3 | i = 2, j = 3 |
| i = 0, j = 2 | i = 1, j = 2 | i = 2, j = 2 |
| i = 0, j = 1 | i = 1, j = 1 | i = 2, j = 1 |
| i = 0, j = 0 | i = 1, j = 0 | i = 2, j = 0 |

J \* size(width) + i