**Members**:

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**Github Link**: <https://github.com/WaywardTaco/GrapDump/tree/master/GrapDump>

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| **Feature** | **Summary** |
| 3D Models | Using a model class that takes in 2 parameters, .obj and .jpg file paths in str format, all 6 enemy models plus 1 player model are able to be rendered.  A setScale, setPosition and rotate member functions of the model class are used to fit them inside the skybox with an appropriate size and disposition. |
| Skybox | Skybox representing the ocean depths is fully implemented.  Source: https://jkhub.org/files/file/3216-underwater-skybox/ |
| Lighting | Implemented a spotlight for the sub using:  theta = dot(normalize(light.base.position - fragPos), normalize(-light.direction));  epsilon = light.innerCutoff - light.outerCutoff;  intensity = clamp((theta - light.outerCutoff) / epsilon,0.0, 1.0);  Then the final lighting = intensity \* pointlight |

**Game Map**

A screenshot of a computer

Description automatically generated

**Player Sub**

A computer screen shot of a fish

Description automatically generated

Source: <https://free3d.com/3d-model/fish-v1--996288.html>

**Goose**

A screenshot of a computer

Description automatically generated

Source: <https://open3dmodel.com/3d-models/goose_6873.html>

**Dolphin**

A computer screen shot of a cartoon dolphin holding a magic wand

Description automatically generated

Source: <https://open3dmodel.com/3d-models/cute-cartoon-dolphin-2_32270.html>

**Frog**

A screenshot of a computer

Description automatically generated

Source: <https://open3dmodel.com/3d-models/leopard-frog_29310.html>

A computer screen shot of a blue and gold creature

Description automatically generated**Blue Fish**

Source: <https://open3dmodel.com/3d-models/anime-character-kawaii-fish_38789.html>

**Angler Fish**

A computer screen shot of a fish

Description automatically generated

Source: <https://open3dmodel.com/3d-models/red-angler-fish-rig_34217.html>

**Alligator**

A plastic animal on a white background

Description automatically generated

Source: <https://open3dmodel.com/3d-models/mosasaurus-alligator_493001.html>