

CSC3081 Computer Graphics Programming (2023/24)

Individual Project Proposal

Department of Statistics and Computer Science
Faculty of Science
University of Peradeniya

Name	K.A.V.I. Kulathunge
Registration No	S/20/421
Date	2025/8/5 (Resubmission)

1. Project title:

Provide a clear and brief description of your project. This is the working / draft title for the project.
3D Titanic Shipwreck Site

2. Brief overview of project:

Provide a brief overview of your project.
This project creates the Titanic shipwreck with its surroundings using OpenGL, featuring a textured ocean floor, animated marine life, and lighting effects. Particle systems for bubbles and plant life are also included along with interactive camera controls.

3. Project details:

Section outline: <ul style="list-style-type: none">• The objectives of the project:• Project Significance:• Project Scope and Limitations:
<p>Objectives :</p> <ul style="list-style-type: none">• To model the sunken Titanic.• To implement animated marine life models and particle systems.• To simulate underwater lighting effects.• To provide interactive camera controls for exploring the scene. <p>Significance :</p> <ul style="list-style-type: none">• Demonstrates key OpenGL graphics programming techniques including lighting, shading, and animation.• Offers a visually engaging and educational tool to illustrate the Titanic shipwreck.

Scope and Limitations :

- Implementation of terrain representing the ocean floor with textures and caustic light effects.
- Animated and textured models for fish and basic marine life.
- Particle systems to simulate bubbles and floating underwater particles.
- Interactive camera for scene navigation.
- Marine life does not use any AI, therefore it uses simplified animations.
- Real-time performance limited to moderate complexity due to resource constraints.