UOW MALAYSIA KDU PENANG UNIVERSITY COLLEGE
PART OF THE UNIVERSITY OF WOLLONGONG AUSTRALIA GLOBAL NETWORK

ASSIGNMENT COVER PAGE

Validated by: UNIVERSITY OF LINCOLN UNITED KINGDOM

Programme	**Course code and title**
Bachelor of Computer Science (Hons)	CCG3013/N Computer Graphics
Student's name / Student's ID	**Lecturer's name**
0204677 Lim Zhe Yuan	Dr. Khoo Hee Kooi

Date issued	**Submission deadline**	**Indicative weighting**
13th February 2023 (Week 3)	6th March 2023 (Week 6)	30%
Assignment 1 title	Scene rendering	

This assessment assesses the following course learning outcomes

# as in course guide	**UOW Malaysia KDU Penang University College learning outcomes**
CLO1	N/A
CLO2	Evaluate and draw the graphics elements involved in a storyboard using image manipulation software.
CLO3	Develop graphics program to render scenes, user interfaces, and interactions.
CLO4	N/A
# as in course guide	**University of Lincoln learning outcomes**
CLO1	Appreciation of a range of different graphics hardware devices and software used.
CLO2	N/A
CLO3	N/A
CLO4	Knowledge and skills in colour models, be familiar with 2D and 3D software programming.

Student's declaration

I certify that the work submitted for this assignment is my own and research sources are fully acknowledged.

Student's signature: Submission date: **6 March 2023**

Zhe Yuan

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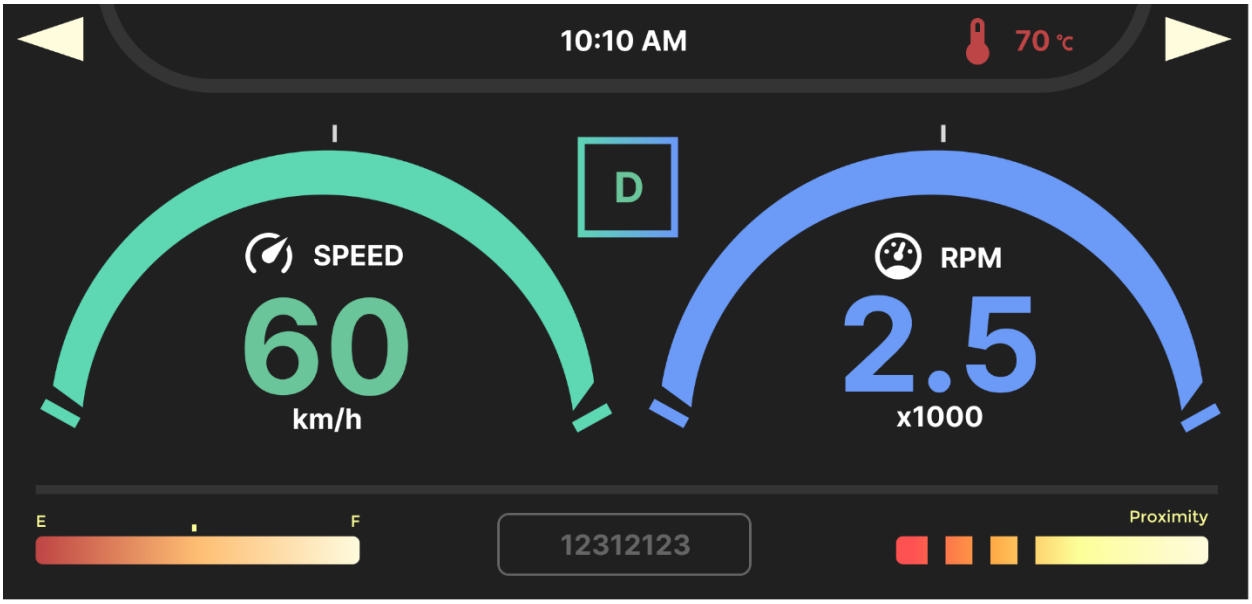
Main Report

- **Question 1: Conceptual design**



- **Question 2: Picture rendering**

References

Glprogramming.com (2023) *OpenGL Reference Manual.* Available at https://www.glprogramming.com/blue/index.html [Accessed 1 March 2023].

Kilgard, J. M. (1996) *The OpenGL Utility Toolkit (GLUT) Programming Interface API Version 3.* Available at https://www.opengl.org/resources/libraries/glut/spec3/spec3.html [Accessed 1 March 2023].

CCG3013/N Computer Graphics

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Assignment 1

Scene rendering (Weighted marks: 30%)

Question 1: Conceptual design (Score: 30%)

LEARNING OUTCOME	MARKING CRITERIA	SCALE					
		Failed (0% to 49%)	**3rd class (50% to 59%)**	**2nd lower (60% to 69%)**	**2nd upper (70% to 79%)**	**1st class (80% to 100%)**	**YOUR MARKS/COMMENTS**
CLO2: Evaluate and draw the graphics elements involved in a storyboard using image manipulation software.	**1. Creativity in the use of geometrical objects (20%)**	No primitive shape has drawn	Limited primitive shapes have drawn	Sufficient primitive shapes have drawn. However, lack of composition of primitive shapes has drawn.	There is a composition of primitive shapes has drawn	There is a comprehensive of primitive shapes has drawn	
	2. Creativity in the use of colours (10%)	No colour has used	Colours have used, however too vivid or blurry	Appropriate colours are applied on the graphic objects. However, no cohesion of colours is used.	Appropriate colours are applied on the graphic objects. Certain cohesion of colours is used, which is either hot or cold colours	Harmony colours were applied, which separate hot and cold colours	
						Total (30%)	

Question 2: Picture rendering (Score: 70%)							
LEARNING OUTCOME	**MARKING CRITERIA**	**SCALE**					
		Failed (0% to 49%)	**3rd class (50% to 59%)**	**2nd lower (60% to 69%)**	**2nd upper (70% to 79%)**	**1st class (80% to 100%)**	**YOUR MARKS/COMMENTS**
CLO3: Develop graphics program to render scenes, user interfaces, and interactions.	**1. Programming code (10%)**	Unable to compile the code.	Relatively hard to interpret the code.	Code able to interpret, but either lack of comments, some lines of unused code, or inappropriate indentations.	Code able to interpret with appropriate indentations, however certain lines of code not encapsulated.	Program code is well managed which includes proper indentations. All lines of code are encapsulated.	
	2. Window setting (20%)	OpenGL window could not be rendered.	Inappropriate configuration of OpenGL window is set.	An appropriate configuration of OpenGL window is set. However, inappropriate handling of frame buffer.	An appropriate configuration of OpenGL window is set with proper handling of frame buffer.	An appropriate configuration of OpenGL window is set with proper handling of frame buffer. Good contrast settings between object and background.	
	3. Drawing functions (20%)	No drawing function is used.	Only limited drawing functions are used.	Good varieties of drawing functions are used. Unable to combine primitive objects to produce a shape.	Good varieties of drawing functions are used. Able to combine primitive objects to produce a shape.	Good varieties of drawing functions are used. Able to combine primitive objects to produce an aesthetics shape.	
	4. Matrix transformation (20%)	No matrix transformation is applied.	Inappropriate application of matrices for transformation.	Appropriate application of matrices for transformation.	There is a mastery in the application of matrices for transformation.	There is a mastery in the application of matrices for transformation as well as matrix stacks	
						Total (70%)	
						Overall score (100%)	
						Weighted marks (30%)	