American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science & Technology (FST)

MANHATTAN BRIDGE

Project Submitted By

Group #6

Semester: **Summer_21_22**		**Section:**	**Group Number:**	
SN	Student Name	Student ID	Contribution (CO1+CO2)	Individual Marks
1	Md. Mahinur Rahman	20-43821-2		
2	Md. Shakibur Rahman	20-43820-2		
3	Muntasir Rahman	20-43763-2		

The project will be Evaluated for the following Course Outcomes

CO1: *Analyze* the impact of software engineering models over various context of software development to assess societal, health, safety, legal and cultural issues.	Total Marks	
Project Background Analysis and feasibility (needs, goal, benefits, etc.)	[5 Marks]	
Analysis the impact of societal, health, safety, legal and cultural issues	[5Marks]	
Review of existing Studies and Relevant Example	[5Marks]	
CO2: *Explain* appropriate software engineering model, project management roles and their skills in the context of professional engineering practice and solutions to complex engineering problems in a software development environment.	Total Marks	
Appropriate Process Model Selection and Argumentation with Evidence	[5Marks]	
Evidence of Argumentation regarding process model selection	[5Marks]	
Submission, Defense, Completeness, Spelling, grammar and Organization of the Project report	[5Marks]	

Description of Student's Contribution in the Project work

Student Name: Md. Mahinur Rahman
Student ID: 20-43821-2
Contribution in Percentage (25%):
Contribution in the Project:

- Created functionalities and description, repository, main function and other necessary header files, winter view, winter river, winter sky, snow with animation, buildings, day view, clouds with animation, ships, rain with animation and thunder

MAHIN

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Signature of the Student

Student Name: Md. Shakibur Rahman
Student ID: 20-43820-2
Contribution in Percentage (25%):
Contribution in the Project:

- Written code for cars with animation, wave with animation, night view, sun, moon, rain cloud,

SHAKIB

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Signature of the Student

Student Name: Muntasir Rahman
Student ID: 20-43763-2
Contribution in Percentage (25%):
Contribution in the Project:

- Written code for bridge, clock with animation, monsoon view, star for night view,

MUNTASIR

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Signature of the Student

Contents

1. Introduction:

Manhattan Bridge is a graphical representation of all weather (winter, summer, rainy), day and night view of the Midtown Manhattan and the Manhattan Bridge from the viewpoint of the Brooklyn bridge. In this project the seasonal changes throughout the year can be seen. Other aspects such as the city buildings, cars, bridge, river and ships and the city and natural activities and movements are shown with animations.

2. Background:

The real-world Manhattan bridge from New York is set as a model for this project. A particular view from the Brooklyn bridge to the New York bridge giving a view of Mid-town Manhattan is the main focus of this graphical project. This project is inspired by a particular photograph (link) of Manhattan bridge. This web site is used to gather more information about the environment and the background story of that picture.

3. Objective:

- To demonstrate our grasp on openGl library.
- To display everyday Manhattan bridge and its surroundings.
- To understand and test our learnings from the Computer Graphics course.
- To make ourselves comfortable with working on Graphical projects.

4. Methodology:

Different tools and technologies are used in this project.

Technologies such as:

- C++ programing language
- OpenGL framework
- Glut library
- Git for version controlling

Tools such as:

- XCode
- Code Blocks
- GitHub for collaboration
- VECTORNATOR for illustration and prototyping

5. Significance:

This project introduces us to the endless possibilities of Computer Graphics. One of the most important ways for humans to interact with computers and receives data from computer is the visual representation of data. One of the most important and promising for this is Computer graphics with OpenGL framework. This is very advanced and much more sophisticated technology. With the help of this a visual representation of Manhattan Bridge is created. Mid-town Manhattan is a bustling place with continuous movement of vehicles on the Manhattan Bridge and ships on the water body. The animation of clock and the animation of other natural elements such as clouds, snow, rain and waves on the river has helped and made us more familiar and comfortable with Computer Graphics animation. The complex shapes of the buildings, stars and the thunder are also helpful to increase our proficiency in making Graphics with OpenGL.

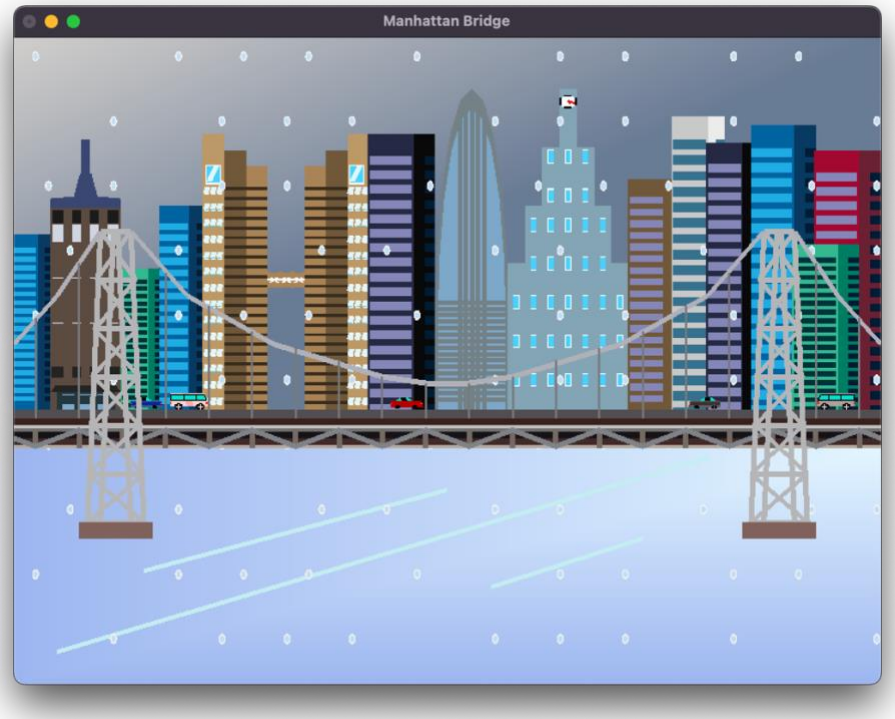
6. Conclusion:

This project has helped us to achieve proficiency with OpenGl and tested what we have learned from this Computer graphics course. We have learnt to make complex shapes and animation. Thus it can be said that this project has really been very important in developing our selves throughout this course.

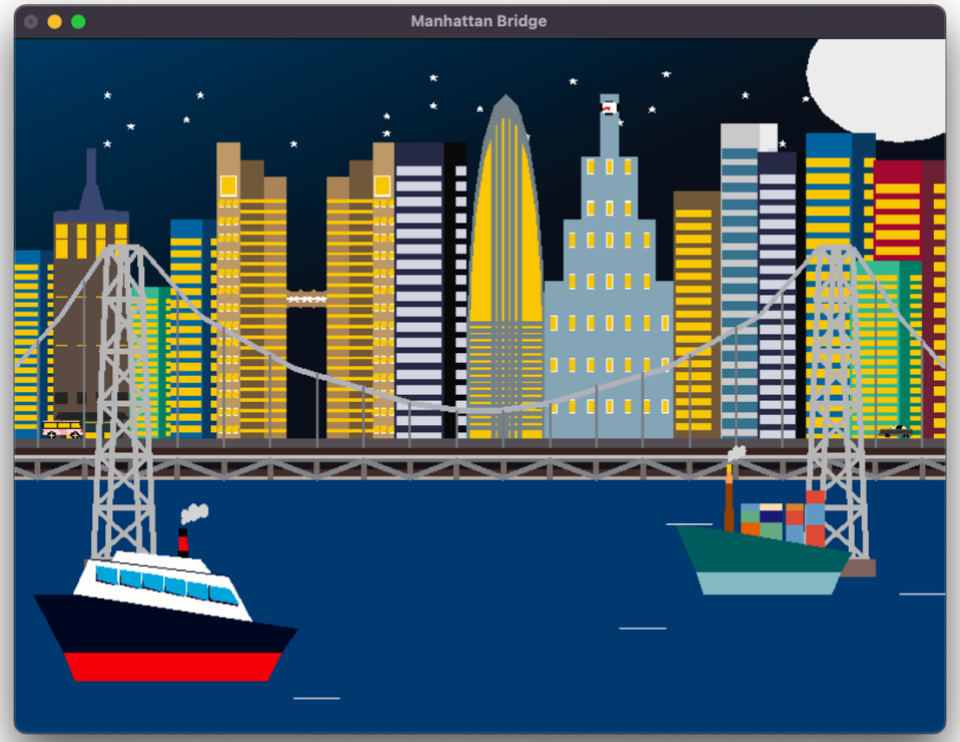
7. Reference:

- https://andrewprokos.com/photo/midtown-manhattan-bridge-view/
- https://www.lighthouse3d.com/tutorials/glut-tutorial/animation/
- https://www.geeksforgeeks.org/opengl-program-simple-animation-revolution-c/
- http://web.cse.ohio-state.edu/~wang.3602/courses/cse581-2012-spring/opengl_introduction.pdf

8. System Design:




Manhattan Bridge


Manhattan Bridge