AMERICAN INTERNATIONAL UNIVERSITY BANGLADESH

COMPUTER GRAPHICS

Course Code: CSC4118

Fall Semester 2023-24

Project Report

IMPLEMENTATION OF TUNNEL FOR CONNECTING VILLAGE AND CITY.

Under the Guidance of

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Group 3

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Course: Computer Graphics
Section: A

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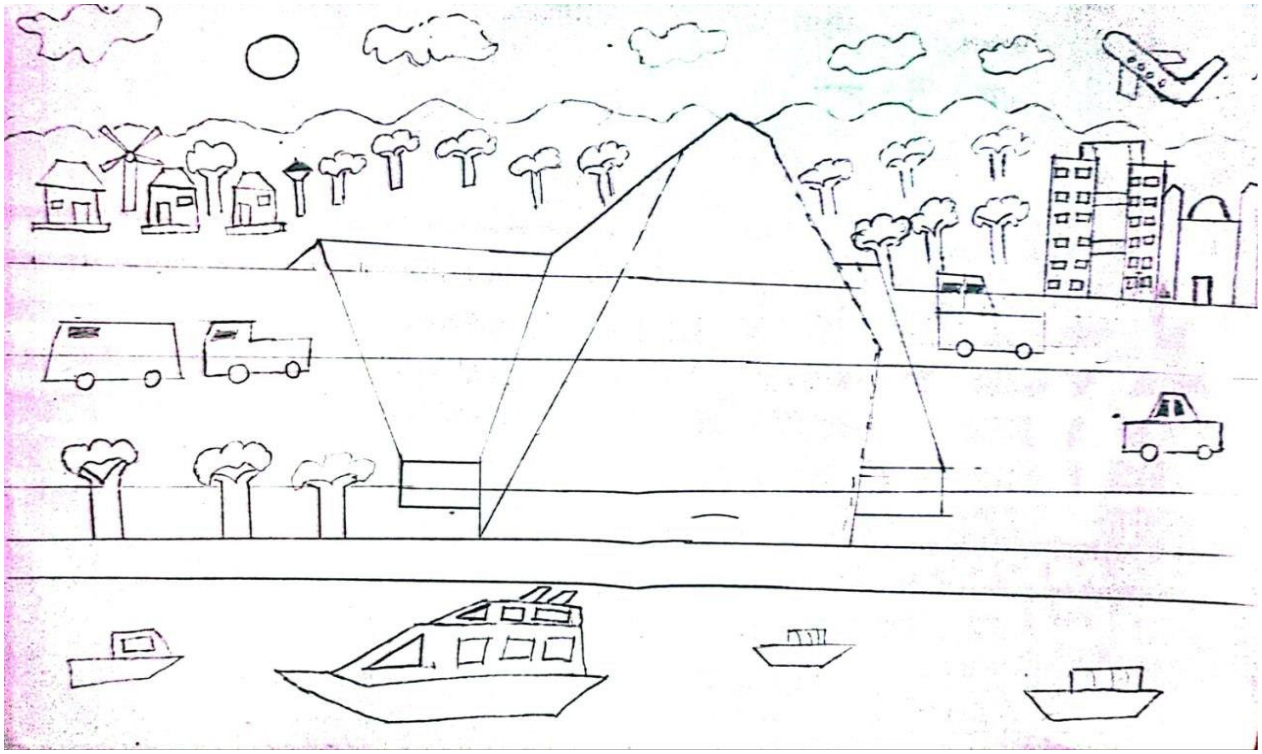
Introduction:

The objective of this project is presented as a way to solve the communication barrier between the two cities due to natural causes. In this scenario, the problem of communication between a developed and a undeveloped city due to mountains is shown to be solved by constructing tunnel. A village scene is shown that includes some trees, houses, forest, windmill etc. and can be considered as undeveloped city. A city scene is also considered that includes buildings, factory, hospital, mosque etc. and is considered a developed city. Between these two cities a huge mountain is shown which is one of the barriers of communications between the two cities. There a tunnel has cut through the mountains to establish communication between these two cities. And various types of vehicular movement is observed through the tunnel. A huge river is shown in front of these two cities where various vehicles such as boats, ships etc. are shown moving. Also day and night variations is observed. The movement of clouds in the sky and the movement of aircraft are also shown.

Project Diagram:



List of Objects:

SL#	OBJECT ID	OBJECT NAME
1.	Cloud-1,2,3,4	Cloud
2.	Moon	Moon
3.	Tree-1,2	Tree
4.	Tree	Tree
5.	Forest-1,2,3	Forest
6.	Windmill	Windmill
7.	House-1,2,3	House
8.	Straw	Straw
9.	Hill-1,2	Hill
10.	Tunnel-1,2	Tunnel
11.	Aero plane	Aero plane
12.	Building-1,2,3	Building
13.	Mosque	Mosque
14.	Boat-1,2	Boat
15.	Ship	Ship
16.	Car-1,2,3,4	Car
17.	Bricklin	Bricklin
18.	Rail Track	Rail track
19.	Rail Line	Rail line
20.	Rail	Train
21.	Main Hill	Hill
22.	Town	Town
23.	Lamp Post	Lamp Post

List of Functions(Represent Objects):

SL#	OBJECT ID	FUNCTION NAME
1.	Cloud-1,2,3,4	cloud-1,2,3,4()
2.	Moon	moon()
3.	Tree-1,2	tree1,2()
4.	Tree	tree()
5.	Forest-1,2,3	forest1,2,3()
6.	Windmill	windmill()
7.	House-1,2,3	house1,2,3()
8.	Straw	straw()
9.	Hill-1,2	hill1,2()
10.	Tunnel-1,2	tunnel-1,2()
11.	Aero plane	aeroplane()
12.	Building-1,2,3	building1,2,3()
13.	Mosque	Mosque()
14.	Boat-1,2	boat1,2()
15.	Ship	ship()
16.	Car-1,2,3,4	car1,2,3,4()
17.	Bricklin	bricklin()
18.	Rail Track	railtrack()
19.	Rail Line	railline()
20.	Rail	rail()
21.	Main Hill	mainhill()
22.	Town	town()
23.	Lamp Post	lampost()

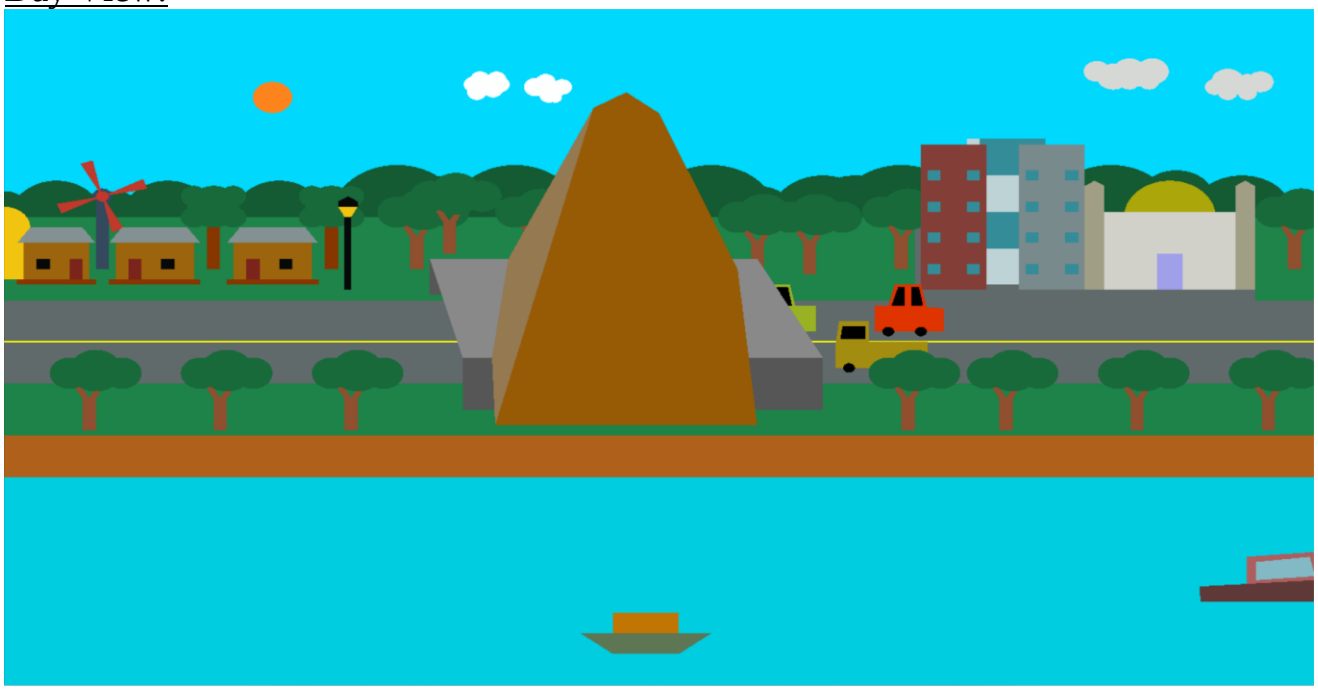
List of Animation Functions:

SL#	Animation Function	Object/ Scene
1	cloud1,2,3,4()	Cloud
2	car1,2,3,4()	Car
3	ship()	Ship
4	aeroplane()	Aero plane
5	boat1,2()	Boat
6	windmill()	Windmill
7	rail()	rail
8	mykybrd()	Day-Night

Output Screenshot:

First Scenario:

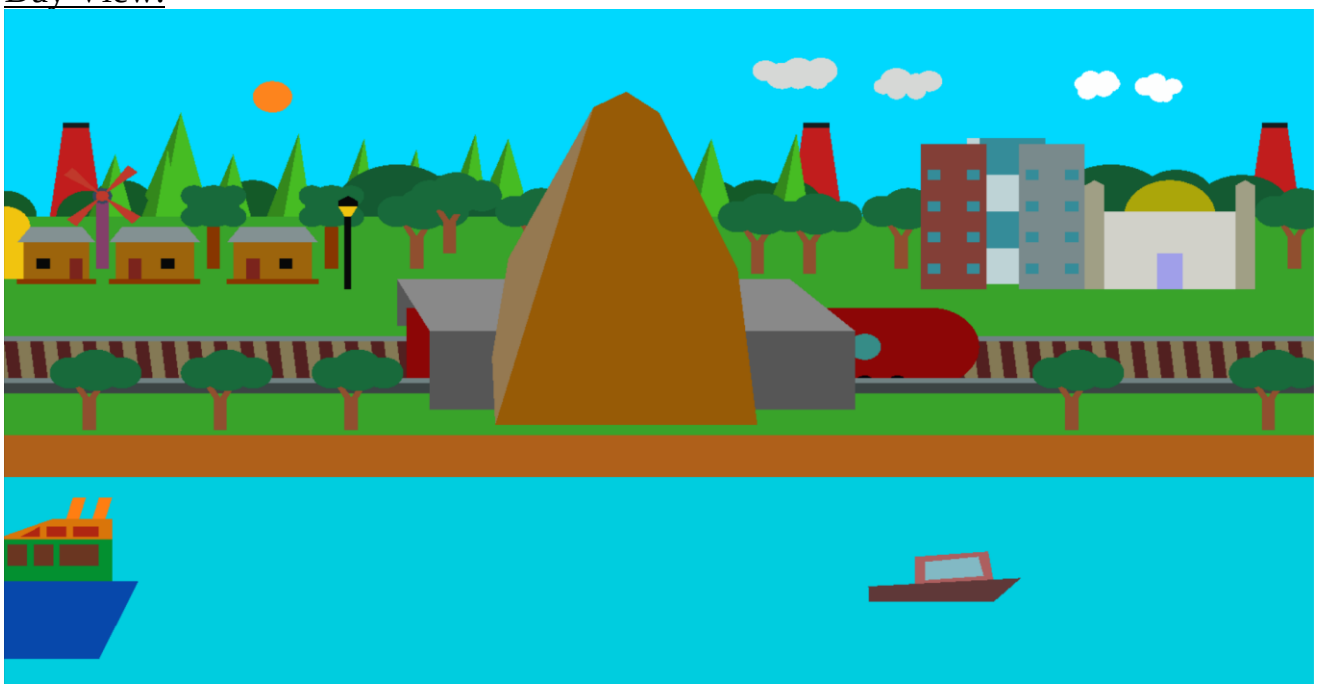
Day View:



Night View:

Second Scenario:

Day View:



Night View:

Contribution:

Name & ID	IMPLEMENTED FUNCTION	IMPLEMENTED ANIMATED FUNCTION	CONTRIBUTION
MD READWANUL HAQUE CHOWDHURY(21-45887-3)	tree(), forest2(), tunnel1,2(), car4(), bricklin(), railtrack(), railline(), rail(), mainhill(), tunnel1,2(), mykybrd(), boat2()	car4 rail() boat2() mykybrd()	40%
MAHMUD AL ALVI (22-46128-1)	cloud1,2(), moon(), tree1,2(), forest1(), windmill(), house1,2,3(), straw(), boat1(), car1,2(), lamppost(),	cloud1,2() windmill() boat1() car1,2()	30%
MD. ABDUL AZIZ (22-47013-1)	cloud3,4(), forest3(), hill1,2(), aeroplane(), building1,2,3(), mosque(), ship(), car3(), town()	aeroplane() ship() car3() cloud3,4()	30%

Conclusion:

In conclusion, this project serves as a solution of communicating between a village and a city using the specialized code of OpenGL and C++. It is not just a static display but also rather a dynamic blend of various scenarios and controllable elements, providing an immersive and enjoyable experience. The project goes beyond visual observation; it transforms our imaginative ideas into a tangible digital reality. By putting us in control, we can shape the movement and activities within the project scenario. Moreover, this digital creation offers a unique perspective of adding an educational and explorative dimension to the coding. It is like creating our own fun world on the computer, where we use special code to make a solution of communication between two cities. We can decide how things move and what happens, making it cool. It is not just looking at pictures; it is like playing in our own digital playground. This project lets us see and imagine tunnel which connect two cities of different types, showing us how awesome coding can be in a way that easy to understand and enjoy.