

FINAL YEAR PROJECT

“3D visualization of historical importance building & architectural structure in Sylhet district in Bangladesh”

FINAL YEAR PROJECT REPORT

BY

Sayma Khanom Tonu

151-40-198

This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Multimedia and Creative Technology

Supervised By

Mr. Arif Ahmed

Adjunct Associate Professor

Department of MCT

Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY

DECEMBER 2018

APPROVAL

This Project titled “**3D visualization of historical importance building & architectural structure in Sylhet district in Bangladesh**” submitted by Sayma Khanom Tonu to the Department of Multimedia and Creative Technology, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Multimedia and Creative Technology and approved as to its style and contents. The presentation was held on 29 November 2018.

BOARD OF EXAMINERS

Dr. Shaikh Muhammad Allayea Associate Professor & Head Department of MCT Faculty of Science & Information Technology Daffodil International University	Chairman
--	-----------------

Arif Ahmed Adjunct Associate Professor Department of MCT Faculty of Science & Information Technology Daffodil International University	Internal Examiner
--	--------------------------

Md. Samaun Hasan Lecturer Department of MCT Faculty of Science & Information Technology Daffodil International University	Internal Examiner
---	--------------------------

Professor Dr Mohammad Zahidur Rahman Professor Department of CSE Jahangirnagar University	External Examiner
--	--------------------------

DECLARATION

I hereby declare that, this project has been done by me under the supervision of **Mr. Arif Ahmed, Adjunct Associate Professor, Department of MCT,** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised By

Mr. Arif Ahmed

Adjunct Associate Professor

Department of MCT

Daffodil International University

SUBMITTED BY

Sayma Khanom Tonu

ID: 151-40-198

Department of MCT

Daffodil International University

ACKNOWLEDGEMENT

First of all, I express my heartiest thanks and gratefulness to almighty God for His divine blessing which made me possible to completing the final year project successfully.

I would like to extend my appreciations to everyone who made the following study feasible and achievement of my ideas and objectives a reality.

To **Dr. Shaikh Muhammad Aliayear**, Professor and Head, Department of MCT, Daffodil International University and my supervisor **Mr. Arif Ahmed**, Adjunct Associate Professor, Department of MCT, Daffodil International University for their constant support, patience and mentorship throughout the entire process. All that I have done is only due to such supervision and assistance and I would not forget to thank them.

I would like to thanks to our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, I am thankful to and fortunate enough to got constant encouragement and support from my parents and all of my classmates which helped me in successfully completing my project work.

ABSTRACT

Animated documentaries have become one of the interesting and challenging areas of contemporary filmmaking. Generally documentary and animation are placed at opposite role of the cinematic spectrum part. However, this kind of animated work plays an important role to present the country's history to the new generations as well as the visitors. The main purpose of this project to creating animation documentary of Historical place of Sylhet in Bangladesh.

This project is about **3D Visualization of Historical Importance Building & Architectural Structure in Sylhet District in Bangladesh**. There have been created models of **HAZRAT SHAHJALAL MAZARSHARIF, KEAN BRIDGE, SHAHID MINAR, RAILWAY STATION**, by using Autodesk Maya, and Reelflow. Then animation of the models has been done by using the same systems. Finally, composition of the animation has done by using Adobe After effect and Adobe Premier Pro software. Music and voice over was adopted for presentation of the project in a professional manner.

In this project, the young generation and tourists will be able to know about how much Beauty of our Bangladesh. Moreover, the project will give me opportunity to show what I have learnt till now as a multimedia student. It will improve my skills and confidence as well.

TABLE OF CONTENT

CHAPTER1.....	1-3
1. Introduction.....	1
1.1 Background.....	1
1.2 Motivation.....	2
1.3 Objectives.....	3
CHAPTER2.....	4-12
2. Introduction.....	4
2.1 Hazrat Shahjalal Maza.....	4
2.2Keane Bridge.....	8
2.3Ali Amjad’s clock.....	9
2.4 Center Shahid Minar.....	10
2.5 Railway Station.....	11
CHAPTER 3.....	13-27
3. Introduction.....	13
3.1Story Board.....	12
3.2Story boarding	12
3.3 Software.....	16
3.4 Autodesk Maya.....	16
3.5 Adobe Premiere Pro.....	16
3.6 Real flow.....	17
3.7 Model.....	17

3.8 Texturing.....	24
3.9 Lighting.....	27
CHAPTER 4.....	28-30
4. Introduction.....	28
4.1 3D Animation.....	28
4.2 Animating.....	28
4.3 Rendering.....	29
CHAPTER 5.....	31
5.1 Video Composition.....	31
CHAPTER 6.....	32
6.1 Discussion.....	32
CHAPTER 7.....	33-34
7.1 Conclusion.....	33
7.2 Reference.....	34
IMAGE AND SCREENSHOT.....	6-30
Figure1: Dargah Gate of Hazrat Shahjalal Mazar Sharif.....	6
Figure 2: Hazrat Shahjalal Mazar Sharif.....	7
Figure 3: Keane Bridge	8
Figure 4: Ali Amjad's Clock.....	9
Figure 5: Sylhet Center Shahid Minar.....	11
Figure 6: Sylhet Railway Station.....	12
Figure 7: Story Board of	14
Figure 8: Sylhet Railway Station.....	14
Figure 9: Sylhet Railway Station.....	15

Figure 10: Sylhet Railway Station.....	15
Figure 11: Base of Dargah Gate.....	18
Figure 12: Base of Mashjid and Mazar Sharif.....	19
Figure 13: Inside building of Mazar Sharif.....	19
Figure 14: Image reference of Keane Bridge.....	20
Figure 15: Base model of keane Bridge.....	21
Figure 16: Creating Water scene from reflow.....	21
Figure 17: ShahidMinar of Sylhet.....	22
Figure 18: Railway Station.....	23
Figure19: Dargah Gate textured with solid color.....	24
Figure 20: Buildings textured with solid color.....	25
Figure 21: Used Glass materials.....	25
Figure 22: Trees and Grass were used texture.....	26
Figure 23: Walls were used texture.....	26
Figure 24: Directional Light.....	27
Figure 25: Single Camera.....	29
Figure 26: Final Output with Mental ray.....	30
Figure 27: Final output with different angle.....	30

CHAPTER 1

1.1 Background

Sylhet is a metropolitan city in northeastern in Bangladesh. It is the regulatory seat of Sylhet Division. The city is situated on the right bank of the Surma River in northeastern Bengal. The city has a population of the greater part a million. Sylhet is one of Bangladesh's most important cultural centers. It is the most essential urban communities of Bangladesh, after Dhaka and Chittagong because of its significance to the nation's economy insylhet.

The name of Sylhet is the anglicized type of the old Indo-Aryan term Srihatta. In 1303, the Sufi Muslim leader Shah Jalal conquered Sylhet by overcoming the nearby Hindu Raja. British started in the 18th under the organization of the East India Company . The Sylhet metropolitan board was build up in 1867. Initially the part of the Bengal Presidency and later Eastern Bengal and Assam; the town was a piece of Colonial Assam somewhere in the range of 1874 and 1947, when following a choice and the segment of British India, it turned out to be a piece of East Bengal. The Sylhet City Corporation was established in 2001. The Government of Bangladesh assigned Sylhet a metropolitan zone in 2009.

The 14th century denoted the beginning of Islamic impact in Sylhet. The Muslim general Shamsuddin Firoz Shah's armed force crushed the nearby Hindu Raja Gour Govinda. The general's armed force was helped by a Middle Eastern Sufi evangelist, Shah Jalal, and 313 of his mates. The area became known as Jalalabad under the Bengal Sultanate. It facilitated a mint which produced the taka. At the point when the Moroccan explorer Ibn Battuta visited Shah Jalal in Sylhet in 1345, he noticed that local people embraced Islam because of Shah Jalal's evangelist activities."It was by his works that the general population of these mountains changed over to Islam" composed Battuta in his journal. Bengali Muslims were exploiting the fertile place that is known for Sylhet for horticultural generation and appreciated relative thriving. The area started to experience a flood of Muslim settlers, including Turks, Arabs and Persians. The Mughals therefore vanquished the locale. Sylhet turned into a locale headquarter of the Bengal Subah. Its eight mahals included Pratapgarh, Bahua, Jaintia, Habili, Sarail, Laur and Harinagar. The area created yearly incomes of 167,000 rupees. The place is renowned for the holy place of Hazrat Shah Jalal where thousands go to religious social affairs.

Sylhet was a point of convergence of East Pakistan's Liberation War, which made the Bangladeshi Republic. It was the main residence of General Muhammad Ataul Ghani Osmani, the Commander of Bangladesh Forces. The Battle of Sylhet seethed between the Pakistani military and Bangladesh-India Allied Forces from 7 to 15 December 1971, in the long run prompting a Pakistani surrender and the freedom of Sylhet.

In 1995, the Government of Bangladesh declared Sylhet as the 6th divisional central station of the nation. Sylhet has assumed an imperative job in the Bangladeshi economy.

In 2001, the district was moved up to the Sylhet City Corporation. It was made a metropolitan city in 2009.

1.1 Motivation

I wanted to create kind of documentary of Sylhet in Bangladesh through 3D animation. Because of normally documentary seems to be in 2d video examining an event based on facts. Animation can be a medium of storytelling and visual entertainment which can bring pleasure and information to people of all ages everywhere in the world. This kind of animated work plays an important role to present the country's history to the new generations as well as the visitors.

The people of Bangladesh and perhaps visitors of any country should know about the historical significance of these structures. By this project it will be an encourages to visitors or other country's people to know about our country nature that how much beauty of our Bangladesh.

Moreover, the project has given me opportunity to show what I have learnt till now as a Multimedia and Creative Technology student. It will improve my skills and confidence as well.

1.3 Objectives

The objectives of the project are to:

1. Develop 3D models of the Historical place of building and Architectural structure of Sylhet in Bangladesh.
2. It plays an important role to present the country's history to the new generations as well as the visitors.
3. A way of storytelling and visual entertainment which can bring interesting and information to people of all ages everywhere in the world.
4. It will be an encourage to visitors or other country's people to know about our country nature that how much beauty of our Bangladesh.

In this chapter presents the review of the project and included important information of 3D Visualization of Historical Importance Building & Architectural Structure in Sylhet District in Bangladesh. The third chapter the development of the 3D modeling. This chapter includes the story board of the complete work of the project. Explanation of the animation techniques are presented in chapter 4. The discussion of Historical Importance Building & Architectural Structure in Sylhet District in Bangladesh with reference to the real structure of the places in chapter 6. Finally, an overview of the conclusion in chapter 7.

CHAPTER 2

2. Introduction

In this chapter, there have described the Historical place of building and Architectural structure of sylhet in Bangladesh. In all information was collected from Google website. I also visited there and faced with reality about the places.

2.1 Hazrat Shahjalal Mazar Sharif

SHAH JALAL AD-DIN AL-MUJARRAD AL-NAQSHBANDI popularly known as Hazrat Shah Jalal Bengali: শাহজালাল, is an observed Sufi Muslim figure of sylhetin Bangladesh. Jalal's name is with the spread of Islam into north-eastern Bengal through Sufism, part of a long history of travel between the Middle East, Persia, Central Asia and South Asia.

The biggest airport situated in Dhaka in Bangladesh as Hazrat Shahjalal International Airport, is named after him. First recorded in the mid 16th century by a specific Shaikh 'Ali (d. 1562), a relative of one of Shah Jalal's colleagues. According to this record, Shah Jalal had been born in Turkestan, where he turned into a spiritual disciple of Khwaja Ahmad Yasawi, who is one of the originators of the Central Asian Yasawi Sufi tradition.

Jalal ad Din bin Mahmoud became a makhdoom, iteacher of Sunnah and, for performing supplications in single milieu and having a disconnected existence as a parsimonious, al Mujarrad was postfixes to his name. Various researchers have guaranteed that he was conceived in 1271 CE in Konya in current Turkey and later moved to Yemen either as a tyke or grown-up while many trust he was conceived in a town called Kaninah in Hadhramaut, Yemen. His mom, Syeda Hasina Fatimah, and his dad, Mahmoud receptacle Mohammed container Ibrahim, were relatives of Hashemite line of Quraysh of Mecca. His father was a Muslim pastor, who was a contemporary of the Persian artist and Sufi spiritualist, Jalal advertisement Din Muhammad Rumi. Shah Jalal was taught and raised by his maternal uncle Syed Ahmed Kabir in Mecca. He exceeded expectations in his examinations; turned into a hafiz and aced fiqh. He accomplished otherworldly flawlessness following 30 years of study, practice and contemplation.

In 1303 the Sultan of Bengal, Shamsuddin Firoz Shah was occupied with a war the neighboring kingdom of Sylhet. This war started when Burhanuddin, a Muslim living in Sylhet relinquished a dairy animals for his infant child's. As indicated by custom, Govinda educated of this forfeit when a bit of hamburger from the dairy animals was gotten by a fledgling which was then dropped on the King's own sanctuary. Govinda, in an anger for what he saw as heresy, had the infant executed and additionally having Burhanuddin's correct hand cut off.

At the point when expression of this achieved Firoz Shah, an armed force told by his nephew Sikander Khan was sent against Gour Govinda. Two progressive strikes were endeavored, both consummation in disappointment because of the Bengali armed forces inability in the outside landscape and additionally Govinda's prevalent military system.

At third attack, now under the extra authority of Firoz Shah's Sipah Salar Syed Nasiruddin was embraced which was joined by Shah Jalal and his partners who now serialized 360. Shah Jalal, promptly before this been a visitor of the Sufi holy person Nizamuddin Auliya in may have been gathered for help after the underlying fizzled assaults against Gour Govinda. On the other hand now he may have been available in Sylhet, battling against the Hindu ruler freely before being drawn nearer by the Sultan.



Figure1:Dargah Gate of Hazrat Shahjalal Mazar Sharif

The army was then guided Sylhet by Burhanuddin, ultimately arriving at the banks of the Barak River. Here the third battle was fought between GourGovinda and the combined armies of Shah Jalal and Syed Nasiruddin, with the latter forces ultimately claiming victory. Govinda was forced to retreat and Sylhet was brought under Muslim control.

According to this tradition, Shah Jalal compared the soil with which was previously given to him by his uncle. In any case, following the battle he, along with his followers permanently settled in Sylhet.



Figure 2: Hazrat Shahjalal Mazar Sharif

During the later stages of his life, Shah Jalal given himself to proliferating Islam. Shah Jalal became be renowned to the point of famous traveler Ibn Battuta, at that point in Satgaon, made a one-month journey through the mountains of Kamarupa north-east of Sylhet to meet him. On his approach to Sylhet by means of Habung, IbnBatuta was welcomed by a few of Shah Jalal's followers had come to help him on his adventure. He seen that the colleagues of the Shah Jalal were outside and known for their quality and valiance.

The meeting between IbnBatuta and Shah Jalal is described in his Arabic travelog, RihlaAmirKhusrau. Additionally gives a record of Shah Jalal's victory of Sylhet in his book as AfdalulHawaade. Today in Hadramaut, Yemen, Shah Jalal's name is set up in legends. The correct date of his passing is discussed, yet he is accounted for by IbnBatuta to have kicked the bucket on 20 DhulQadah 746 AH (15 March 1346 CE). He deserted no relatives and was covered in Sylhet in his dargah, which is situated in an area presently known as Dargah Mahalla.

2.2 Keane Bridge

The Keane Bridge is a milestone of Sylhet city, Bangladesh. This bridge is known as the gateway to Sylhet city. Keane Bridge was named after Sir Micheal Keane who was English governor head of Assam from 1932-1937, situated over Surma river and it is known as the gateway to Sylhet. It was situated in the year 1936. Remaining on 1150 feet tall and with a width of 18 feet.

Keane Bridge was built with steel and iron. It is about 5.5 million taka was spent for building this extension. It is around one thousand one hundred and fifty feet long and eighteen feet wide. The Bridge is the best approach to drive by crossing the Surma River. It has made the life of many individuals in the region very relaxed. Individuals of this district can gain their business products quick by crossing Surma River.

Keane Bridge has an extremely significant historical meaning. It stands the symbol of the English principle in Bangladesh in that period. Pakistan armed force overwhelmed the scaffold amid freedom war of Bangladesh. They injured several parts of this bridge. Bangladesh government settled the harmed piece of the scaffold in the time of 1977.



Figure 3: Keane Bridge

Keane Bridge also has economic substance. A lot of livelihoods of people depended on this Bridge. When a traveler wants to cross the Bridge he will find a lot of people who helping the

rickshaw pullers to drag their vehicle in the rising grade. They do that just for two taka. The bridge also helps the businessmen to carrying their products in and out of the city.

2.3 Ali Amjad's Clock

The oldest clock tower of Ali Amjad's Clock is situated on the bank of Surma River in Sylhet, Bangladesh. People known as "the Big Ben of Sylhet" and it is a famous fascination, near to the Keane Bridge. The tower was developed in 1872 by Ali Amjad's Father only two years previously he was born. AliAmjad was the proprietor of previous Prithimpasha domain in Sylhet whose Ancestors were from Isphani,Iran.



Figure 4:Ali Amjad's Clock

In 1874, Folk stories refers to the presentation of the Ali Amjad Clock Tower, by Nawab Ali Ahmed Khan an excitement which was drawn from the one in Chandnichawk in Delhi, India. It was built up by a river named ShahzadiJahanAra. After his child Nawab Ali Amjad Khan Ali Ahmed, the tower was named Another story asserts that Amjad Ali built up the memorable clock by himself. In any case, it was discovered that Amjad Ali was just 3 years of old when the clock was built.

2.4 Sylhet Central Shahid Minar

Sylhet Central Shahid Minar which is situated Karimganj - Sylhet Road, Sylhet. Sylhet is a metropolitan city in northeastern Bangladesh. This is where wreaths are laid at the Shaheed Minar paying tribute to the martyrs who sacrificed their lives.

21st February has turned into a notorious occasion for Bengalis everywhere throughout the world. It is all the more generally referred to as Ekushey February or Ekushey, the day when all Bengalis dress in black and white, mumbling tunes of mourn. The day is an public holiday and the national flag flies at half-pole on all government and private buildings. Its their pride.

The Language Movement was one of the considerable developments which has come up in the nation of Bangladesh, therefore the Central Shaheed Minar efforts to represent to the soul of Bangladeshi nationalism and also highlight the significance of the Bengali language in the social and social advancement of the nation. Accordingly, the Shaheed Minar has an extremely significant place in the social and social system of Bangladesh.

At present, all national held every year, with respect to 21 February, have been fixated on the Shaheed Minar.



Figure 5: Sylhet Center Shahid Minar

2.6 Sylhet railway station

Sylhet railway station is a railway station in Bangladesh. This station is the third greatest in the nation in Bangladesh. There are two kinds of rail line in Bangladesh: Meter gauge and Broad gauge. This station is associated with meter gauge interface on the two sides from Chhatak and Dhaka. This railroad station is arranged in Sylhet city in Bangladesh.

The updated shaped Sylhet railway station was introduced in 2004. With the supervision of A.K. Rafique Uddin Ahmed, exhibiting Engineering and Planning Consultants Ltd was the main designer of the task.

In 1891 Assam Bengal Railway started improvement of a railroad track on the eastern side of Bengal, with the response of the Assam tea producer. Step by step railway interface spread through the district. The Kulaura-Sylhet fragment was opened in 1912–15, Sylhet railway station started working. Later the Sylhet– Chhatak Bazar line was produced in 1954, and related with the station.

Between Sylhet-Dhaka Highway and Sylhet Bypass Road, this station is easily accessible from any course. It is close-by Kodomtoli Bus Terminal, from where one can travel wherever all through the country by transport. Keane, a chronicled expansion on the Surma River, and Sylhet Polytechnic Institute are simply half km a long way from the station.



Figure 6: Sylhet Railway Station

Sylhet railway station is a to some degree impression of Kamalapur rail line station. This lotus-formed of blossom shell structure covering useful structures like an umbrella, entrances the general population. The station contains 2 ticket counters. The station has three stages and there are two eateries close to the opposite sides of the ticket counters. Shelter less take protect at the evening time in the station. Consistently, a huge number of individuals get through the station. People can go to Dhaka, Comilla ,Chittagong, Chhatak and so forth with effortlessly way. numerous spots straightforwardly from this station. The stages are constantly populated when the trains stop and before beginning. To guarantee the security and control the territory there are bunches of police and watches inside and outside of the station.

CHAPTER 3

3. Introduction

In this chapter, there have described how to developed 3D models of Historical places and which software I have used. I have developed models by some steps such as...

1. Storyboarding,
2. Modeling and
3. Texturing

Added some capture including their views from different angles after developed the models.

3.1 Storyboard:

A storyboard is a graphic illustrator in the form of illustrations or images displayed in sequence or frame by frame for the purpose of pre-visualizing a motion picture, animation, motion graphic or interactive media sequence.

3.2 Storyboarding

Storyboarding refers to the creation of a sequence which will be going on project in production time.

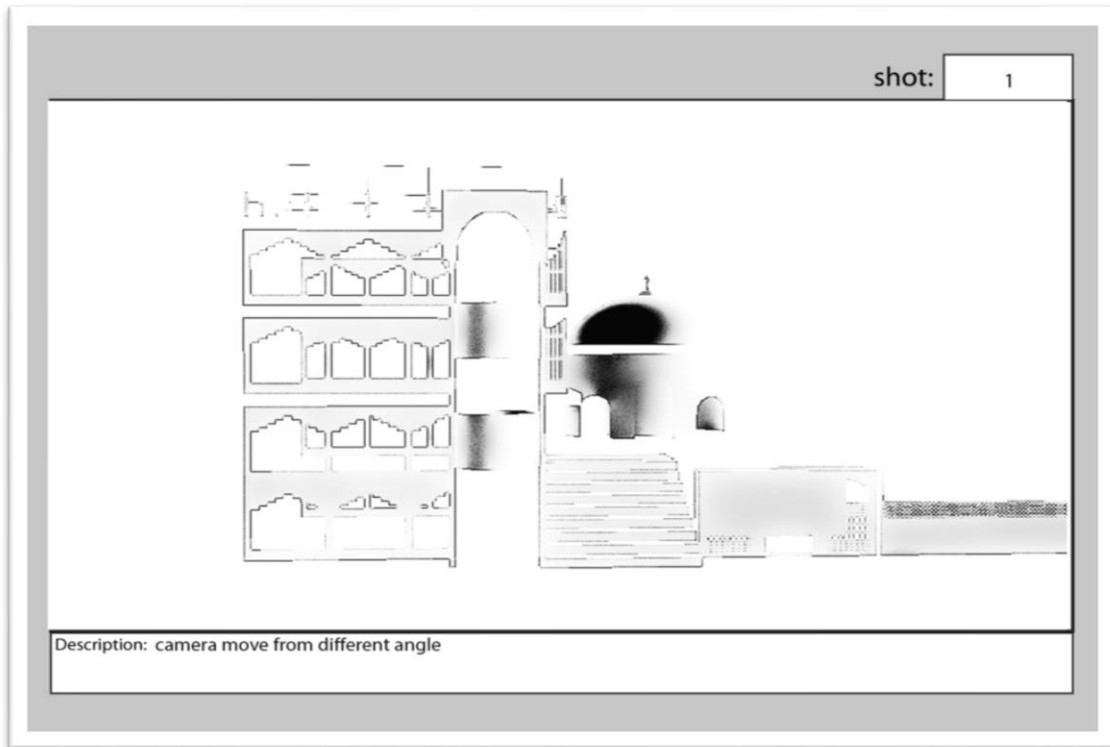


Figure 7: Hazrat Shahjalal Mazar Sharif

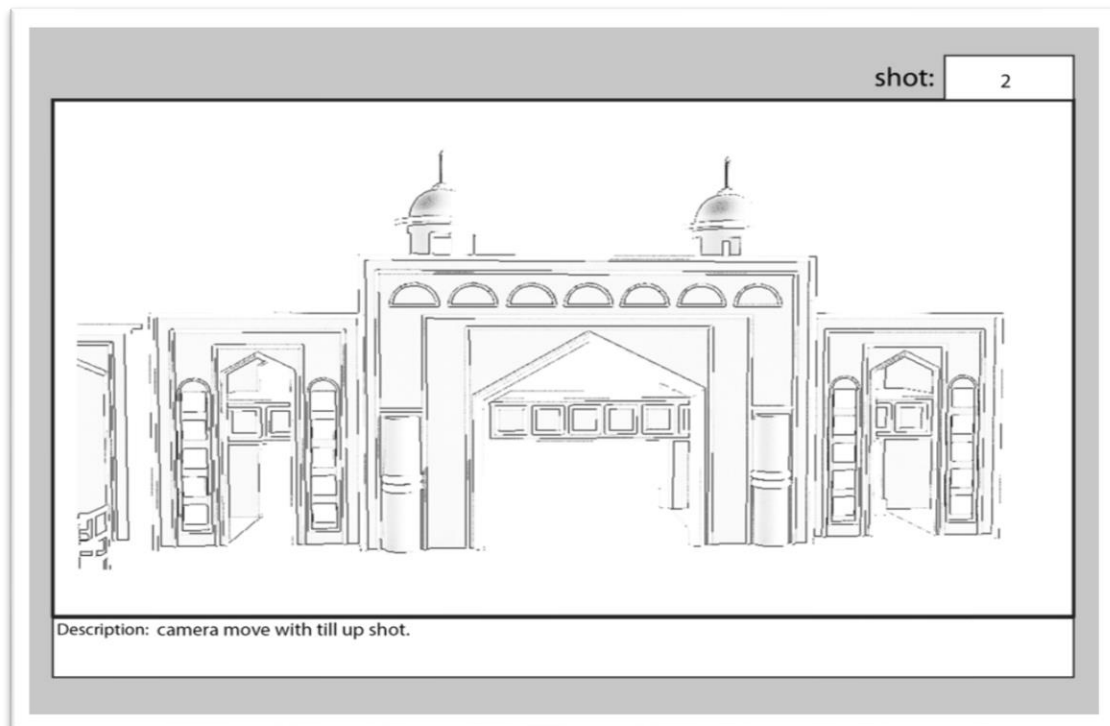


Figure 8: Dargah Gate

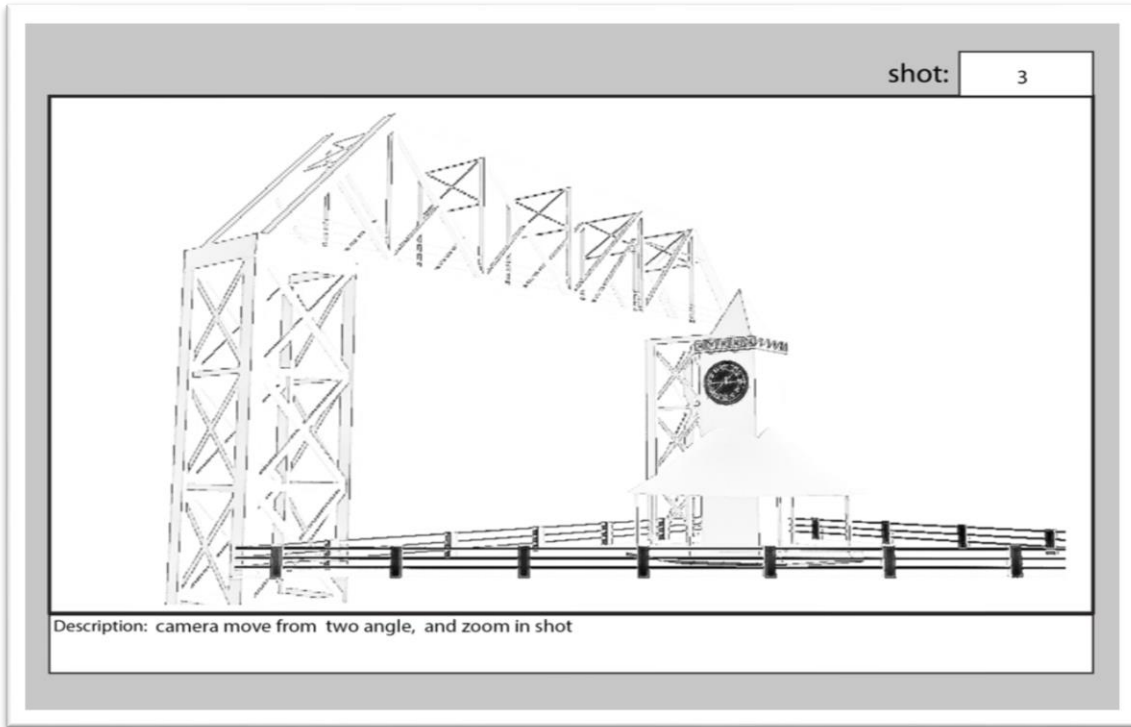


Figure 9: Keane Bridge

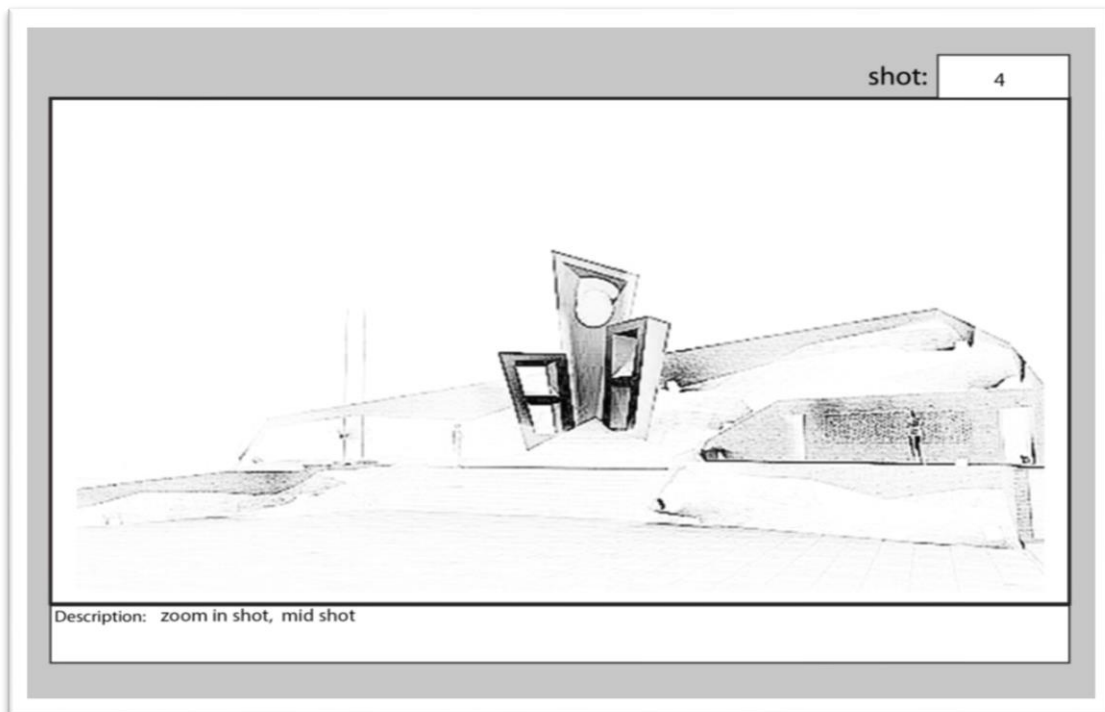


Figure 10: Central Shahid Minar of Sylhet

3.3 Software

Here is the software's I have used to create models and animation.

1. Autodesk Maya
2. Adobe Premiere Pro
3. Realflow

3.4 Autodesk Maya

Autodesk Maya usually abbreviated to Maya, is a 3D illustrations software that keeps running on Windows, Mac, OS and Linux, initially created by Alias Systems Corporation and presently possessed and created by Autodesk. It is utilized to make intelligent 3D applications, including computer games, animated film, series, or VFX etc.

I have used Autodesk Maya to create 3D models and environments for this project. Some features of Maya like some basic 3D objects, that helped to create my model and helped to create environment.

3.5 Adobe Premiere Pro

Adobe Premiere Pro is a video editing app developed by Adobe Systems and its part of the Adobe Creative Cloud authorizing program. Adobe Premiere Elements is a video editing software published by Adobe Systems. It is a downsized version of Adobe Premiere Pro and is tailored to novice editors and consumers. The passage screen offers clip organization, editing and auto-motion generation options. Premiere Pro project files are not compatible with Premiere Elements projects files.

Adobe Premiere Pro was used as composition part for post-production. It helps to create video file from render images, color correction and also audio editing.

3.6 Realflow

RealFlow is a liquid and dynamics simulation tool for the 3D and visual effects industry, created by Next Limit Technologies in Madrid, Spain. This independent application can be used related with other 3D projects to simulate fluids, water surfaces, rigid bodies, and meshes. In 2008, Next Limit Technologies was awarded a Technical Achievement Award by the Academy of Motion Picture Arts and Sciences for their development of the RealFlowsoftware .

Realflow was used in production time to create a water scene simulation.

3.7 Modeling

In 3D modeling is the way of developing a mathematical representation of any surface of an object in three dimensions. The kind of product is called a 3D model. Someone who works with 3D models may be referred to as a 3D artist or 3D modeler. It can be displayed as a two-dimensional image that called 3D rendering physical phenomena. The model can also be physically created using 3D printing devices. Today, 3D models are used in a wide variety of fields. The medical industry also uses detailed models of organs. The movie industry uses them as characters and objects for animated and real-life motion pictures. They can create any kind of environment By using a 3D model on a computer. Using technology, architects and engineers can create photo realistic representations of any project.

Hazrat Shahjalal Mazar Sharif

At first, I have created Dargah gate of hazratshahjalalmazarsharif with polygon.

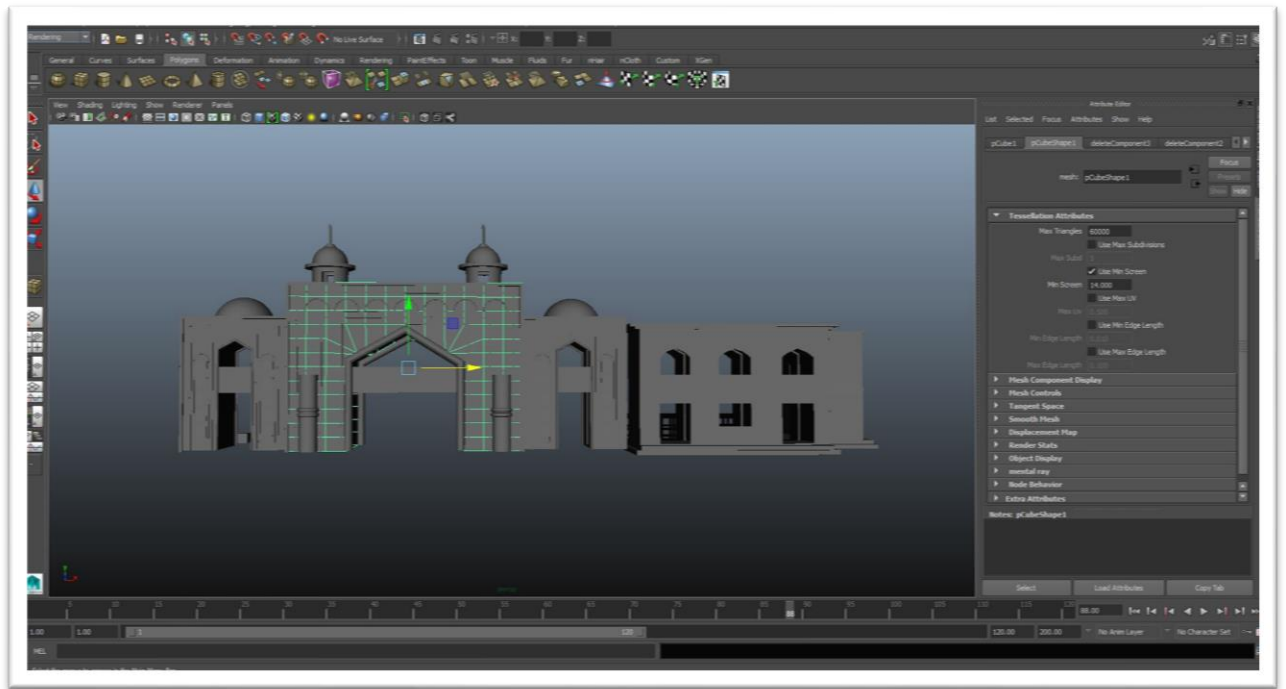


Figure 11: Base of Dargah Gate

Full model of mazarsharif environment has created by using multiple polygon with changing their shapes.

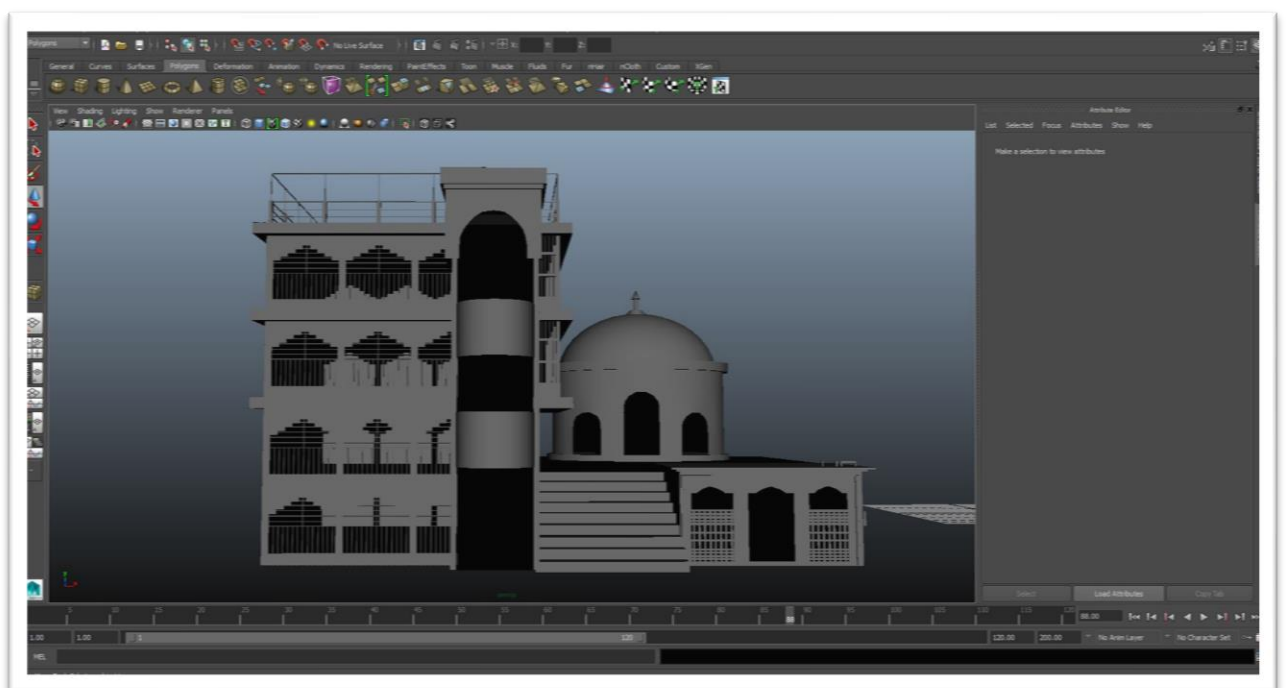


Figure 12: Base of Mashjid and Mazar Sharif

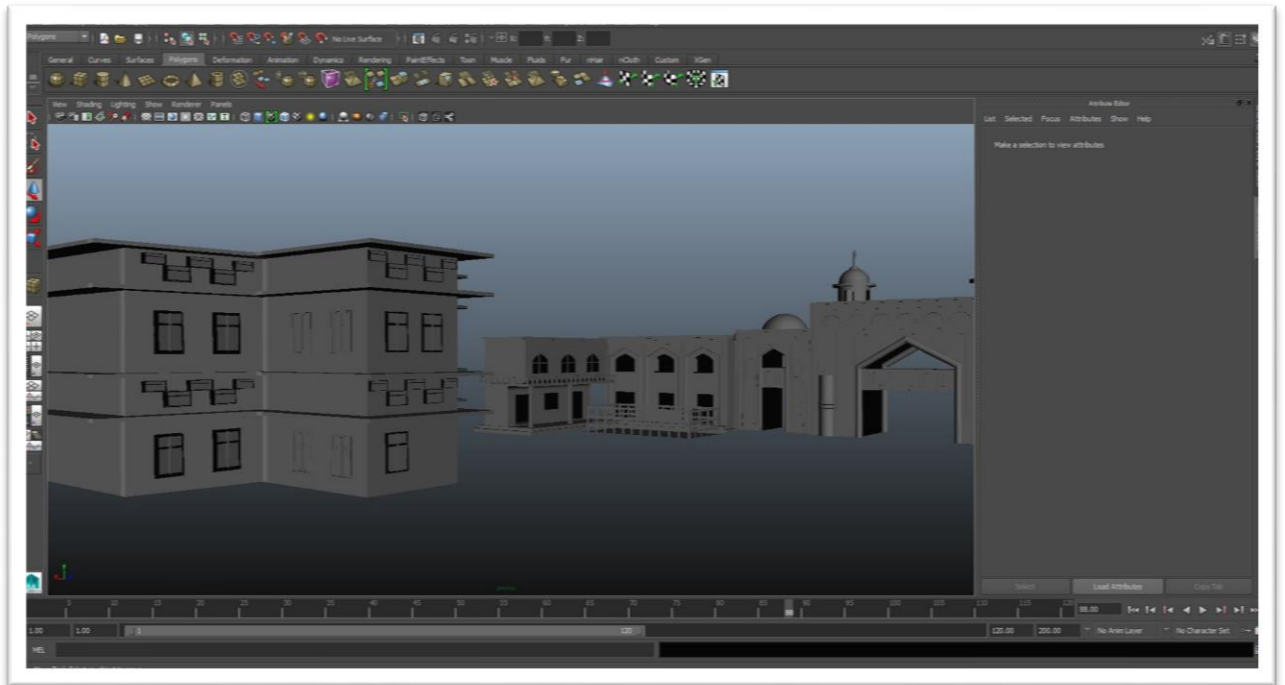


Figure13 : Inside building of Mazar Sharif

Keane Bridge

Before create model I have taken reference with a polygon plane with texture of Keane Bridge.

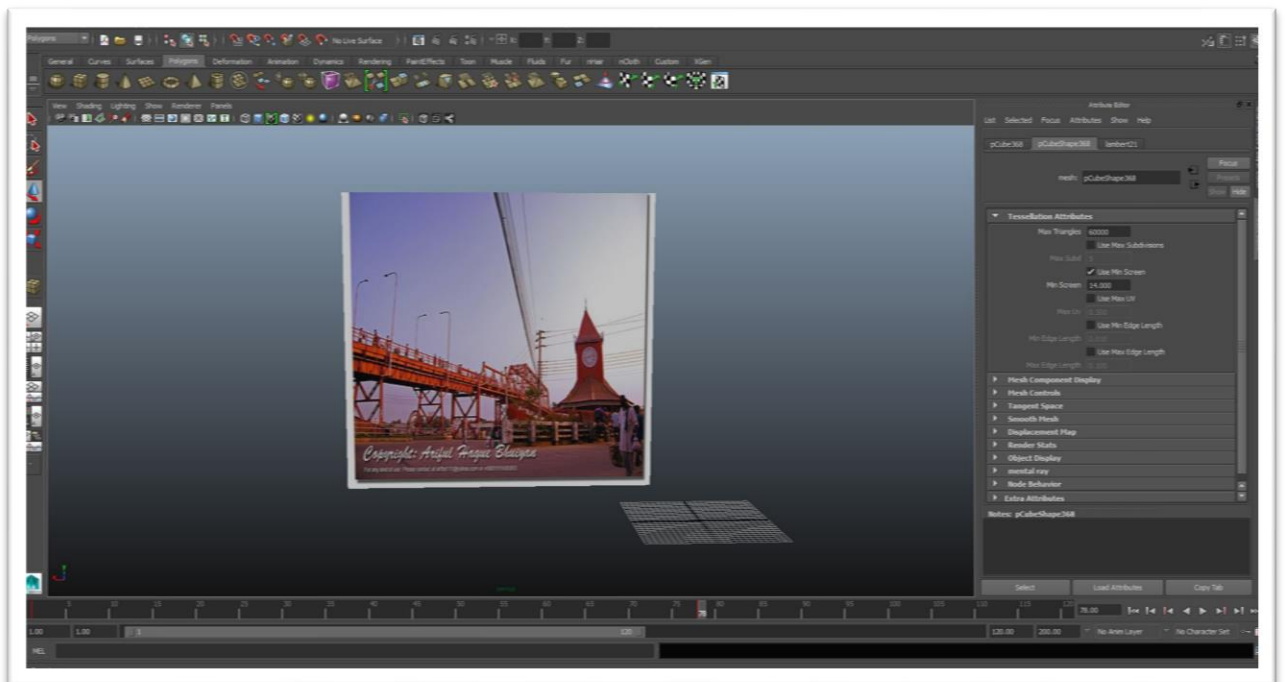


Figure14 :Image reference of Keane Bridge

In this model, there have maximum used polygon cube and shaped according to the measurement of the actual bridge and clock.

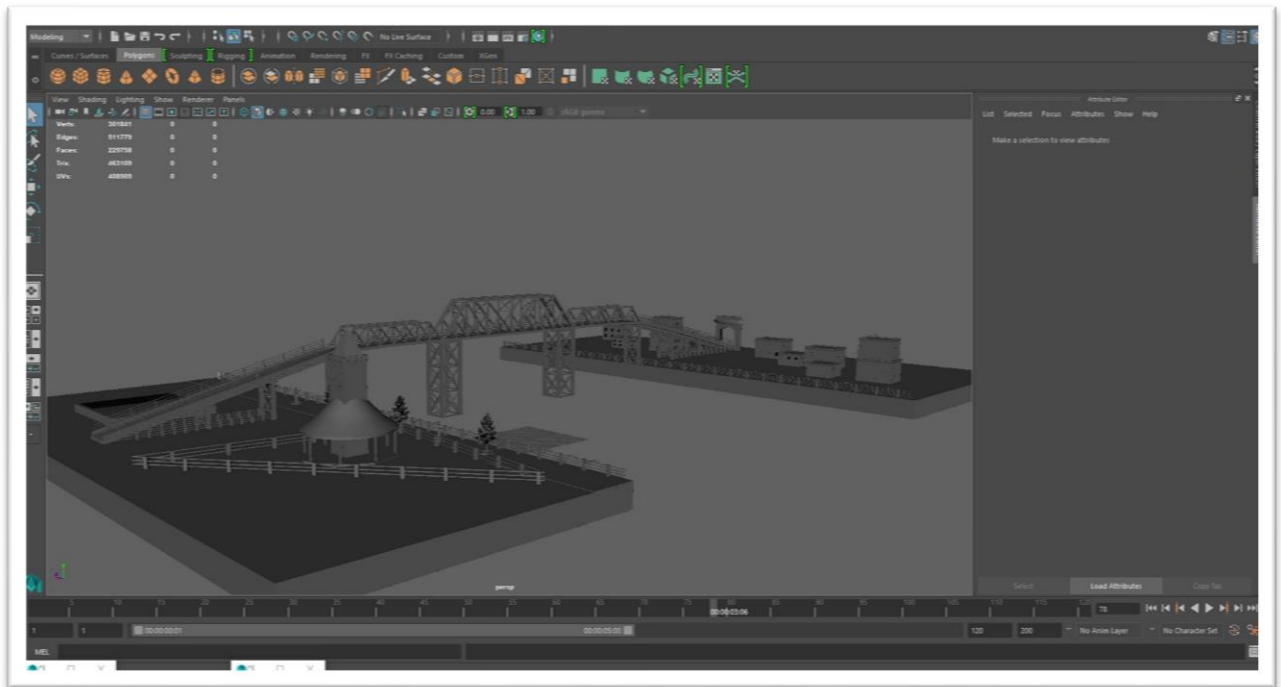


Figure 15: Base model of keane Bridge

In this scene, there have a water scene under the bridge which has used to create by Realflow software.

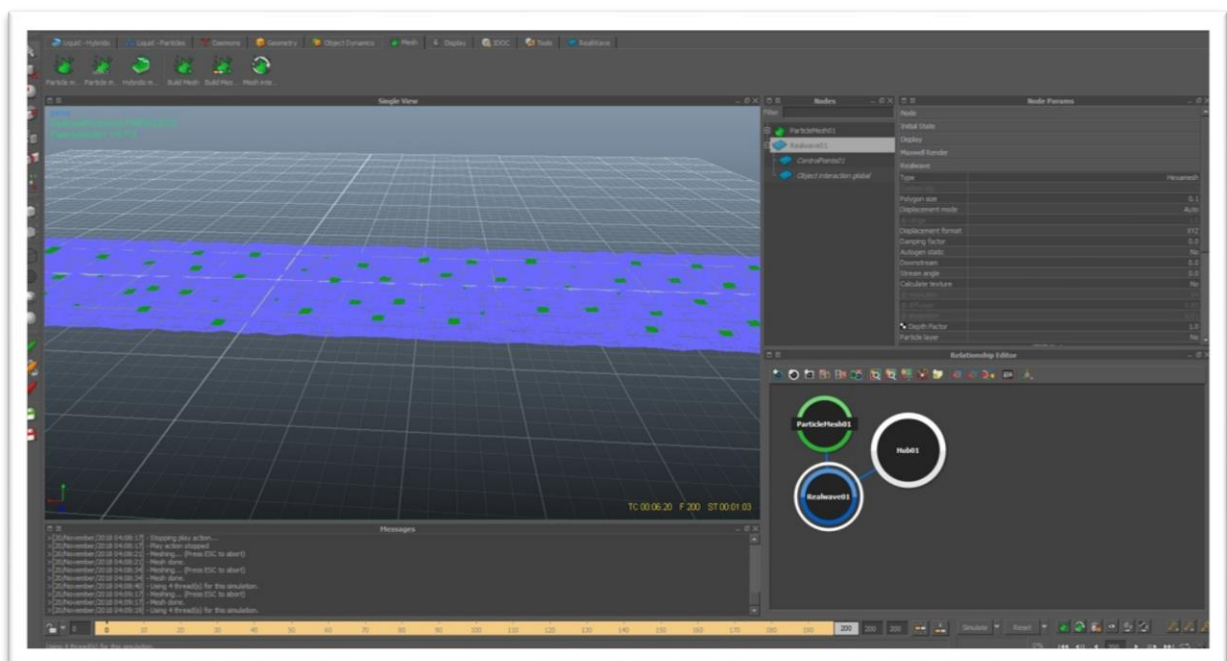


Figure 16: Creating Water scene from realflow

Sylhet Central ShahidMinar

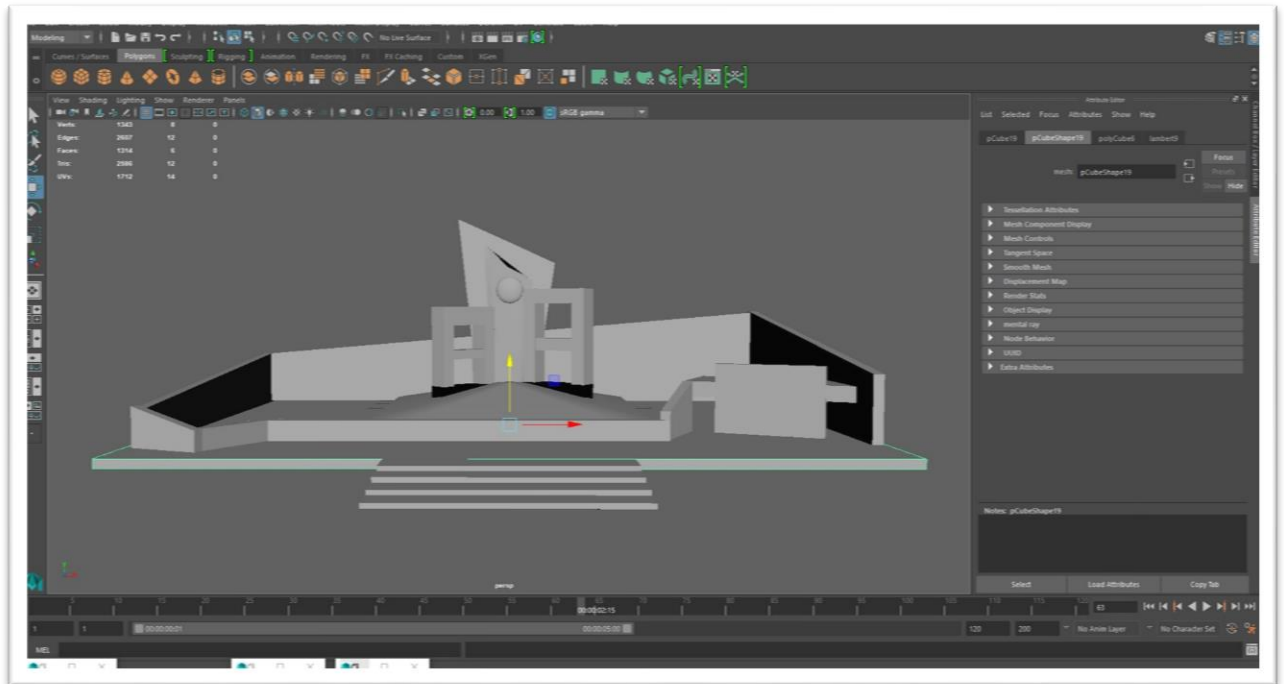


Figure 17: ShahidMinar of Sylhet

Sylhet Railway Station

In there, I have used visor to create grass.

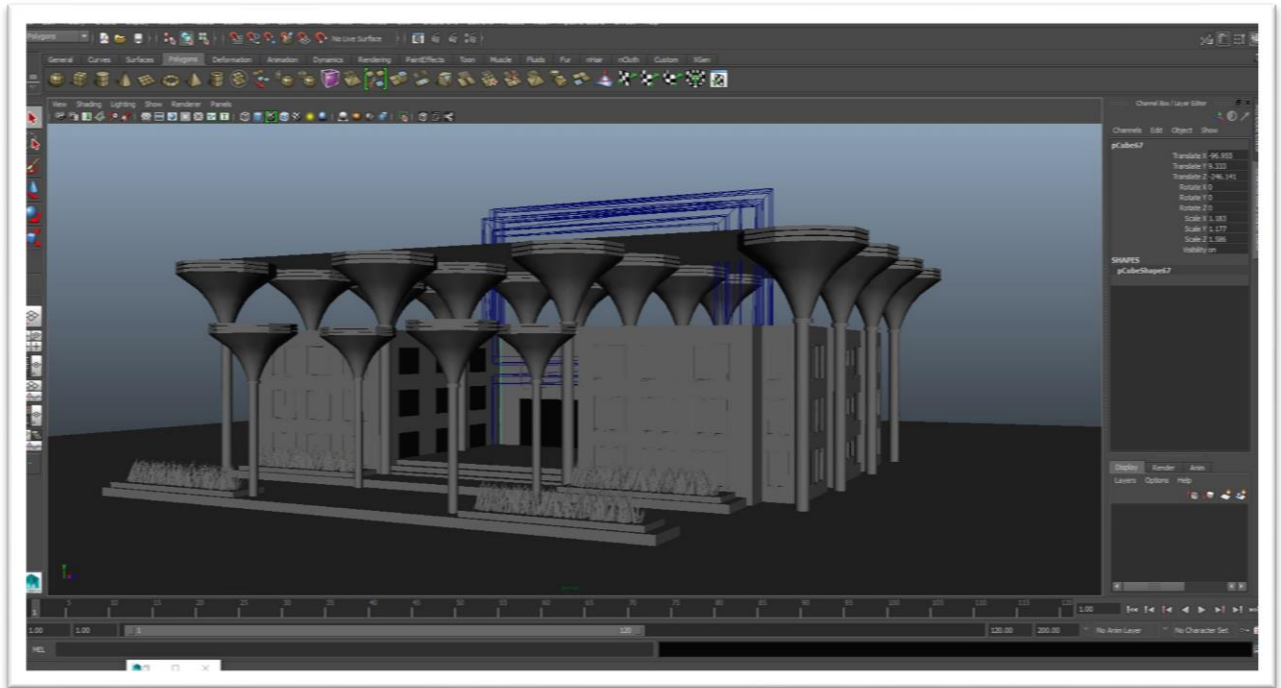


Figure 18 :Railway Station

3.5 Texturing

Texture In the visual arts, is the apparent surface quality of a work of art. It is an component of two-dimensional and three-dimensional structures and is recognized by its perceived visual and physical properties. Use of texture, can convey a variety of messages and emotions.

Texture mapping initially referred to a strategy that essentially wrapped and mapped pixels from a texture to a 3D surface. In recent decades the advent of multi-pass rendering and complex mapping such as height mapping, bump mapping, normal mapping, displacement mapping, reflection mapping, occlusion mapping, and many other variations on the technique have made it possible to simulate near-photorealism in real time.

In this project I have used normal mapping and bump mapping. And mostly I have used default solid color from maya software according to the main objects.

3.6 Texturing of models

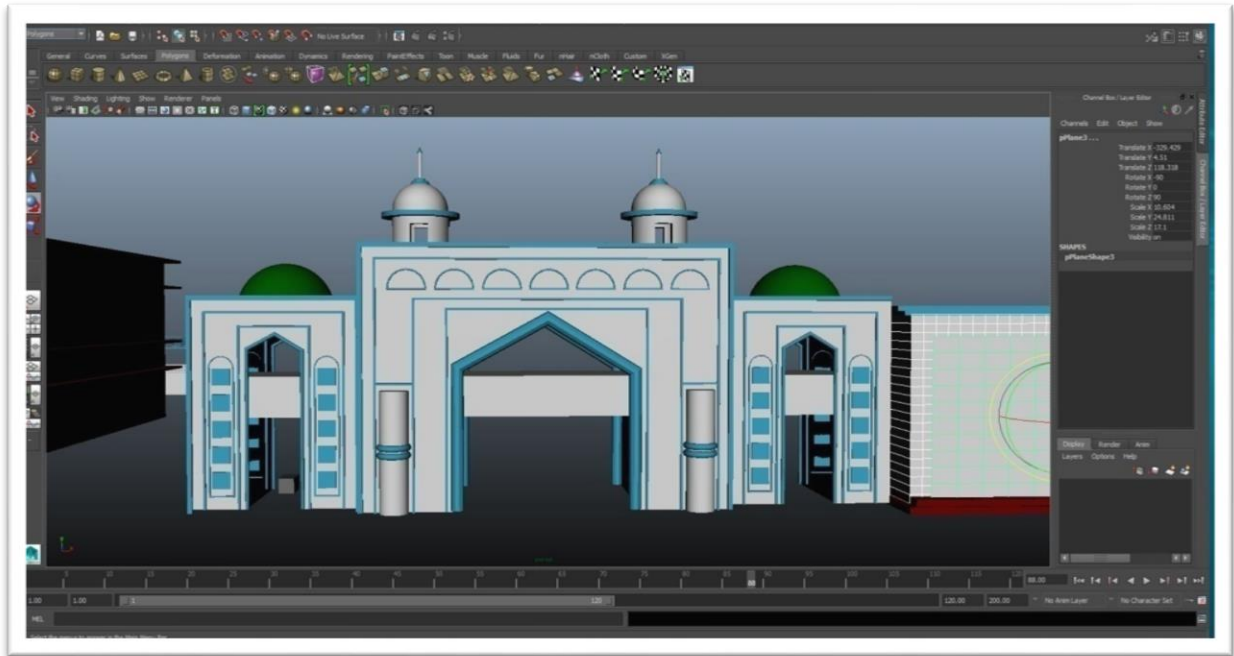


Figure 19: Dargah Gate textured with solid color

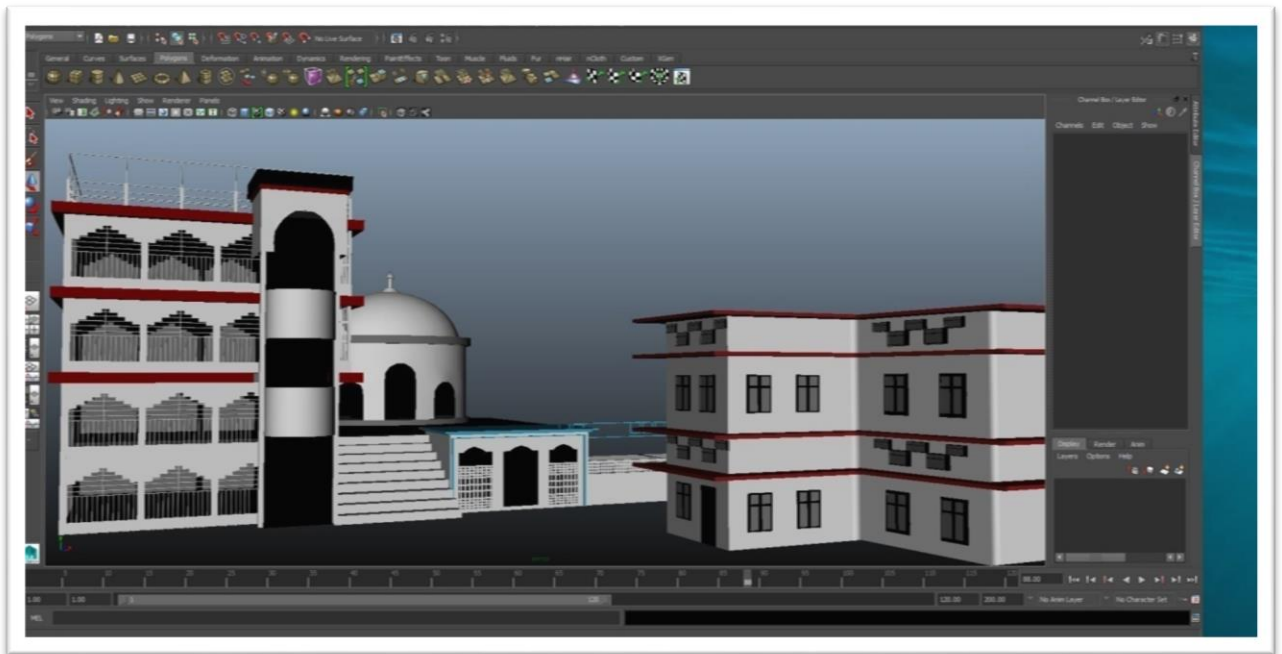


Figure 20: Buildings textured with solid color

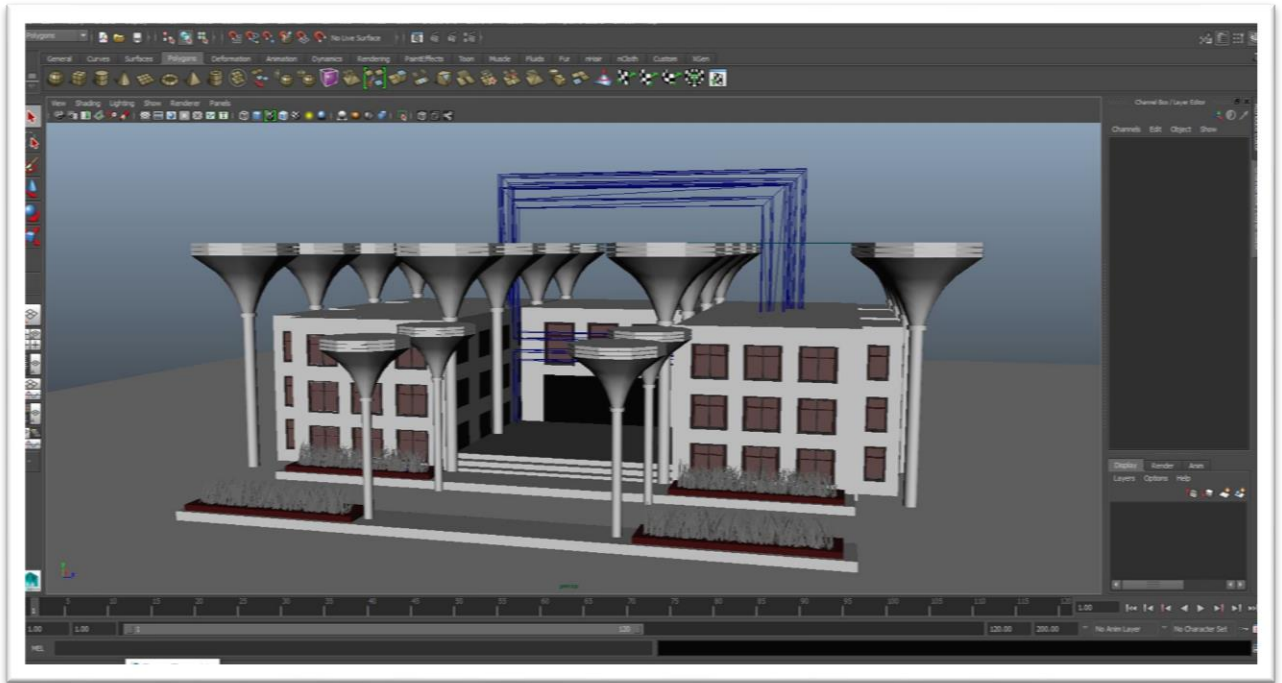


Figure 21: Used Glass materials

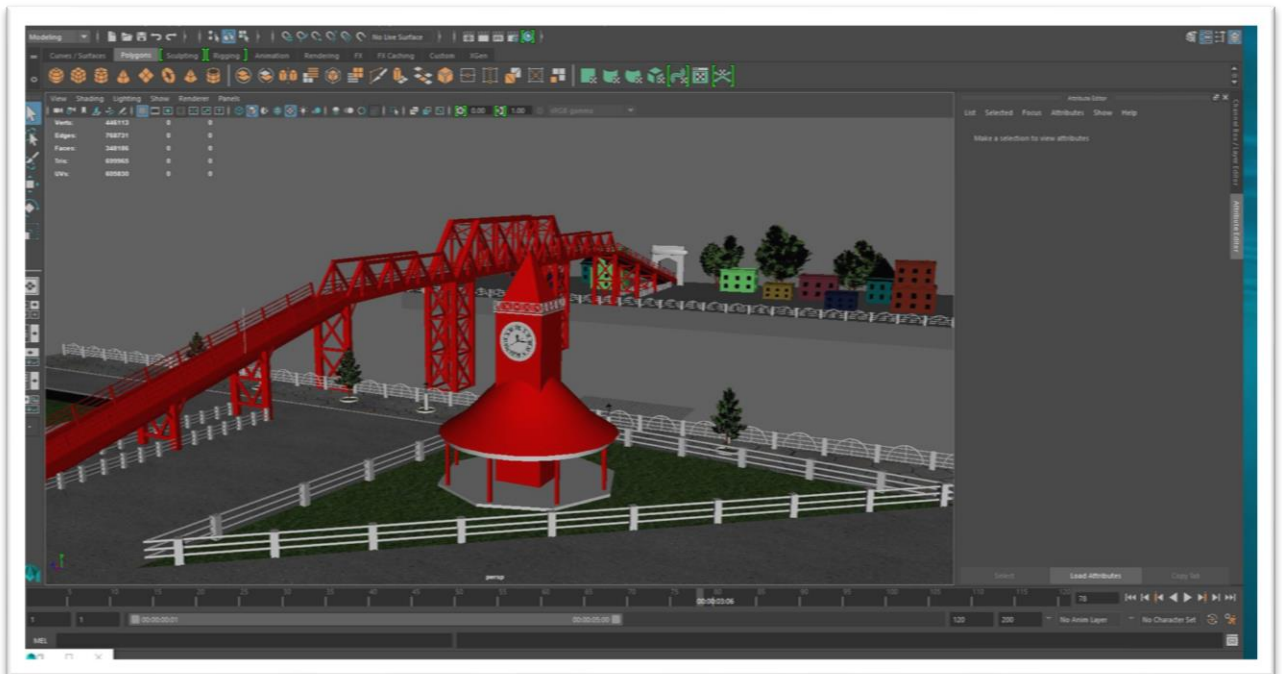


Figure 22: Trees and Grass were used texture

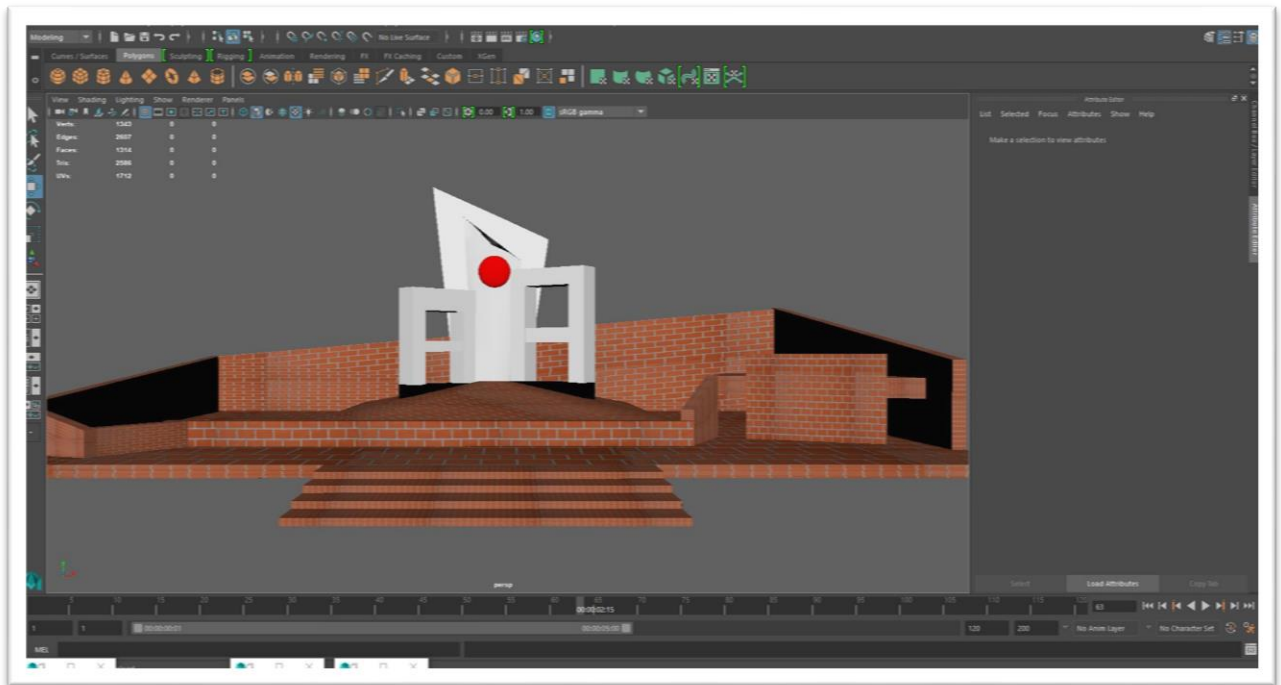


Figure 23: Walls were used texture

3.6 Lighting

There are well established 3D lighting techniques, and usually it is predetermined by the kind of situation which technique is appropriate in the environment. Some techniques work well in an interior environment and an exterior modeling. The similar approach works for the "studio" lighting as it requires systems that differ much from lighting for 3D animations and movies.

3.7 Lighting for my project

I have used one directional lightform indirect lighting. The light I've used is supported by Mental Ray renderer. This light can be used to simulate different times in a day.

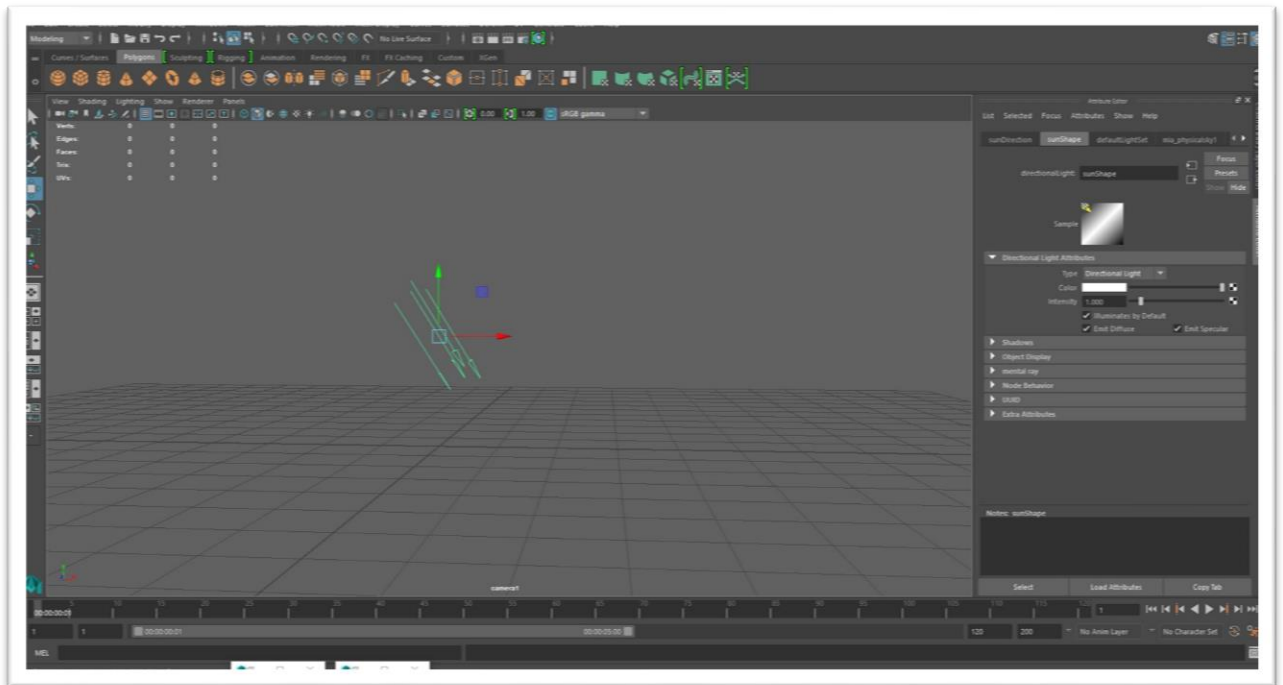


Figure 24: Directional Light

CHAPTER 4

4 Introduction

An animation is the illusion of movement created by showing a series of still pictures in rapid succession. For this current project, several graphic software were used to create this effect for animation.

4.1 3D Animation

Animating objects that appear in a three-dimensional space. They can be rotated and moved like real objects. 3D animation is at the heart of games and virtual reality.

3D animation and product modeling have become extremely reasonable and organizations are turning to this helpful any product, process or service in a more visual, easy to understand and clear manner. Additionally individuals are much more eager to watch a 30 second activity portraying a business or item than put in even 5 seconds finding out about what an organization does.

The possibilities of making and visualizing anything in a virtual 3D environment is endless. It enables you to exhibit anything imaginable from a new item, which is still to be manufactured saving costs on prototyping to creating a full 3D animated cartoon for TV or even bringing a presentations to life.

4.2 Animating

An animation camera, a type of platform camera, is a motion picture specially adapted for frame-by-frame shooting of animation. It comprises of a camera body with lens and film magazines, and is most often placed on a stand that allows the camera to be raised and lowered above a table often having both top and underneath lighting.

In full of my project , I have used camera animation with manually. I have used one camera for every single part. There have been taken shot with different angles such as pan shot, zoom in, zoom out, tilt up etc.

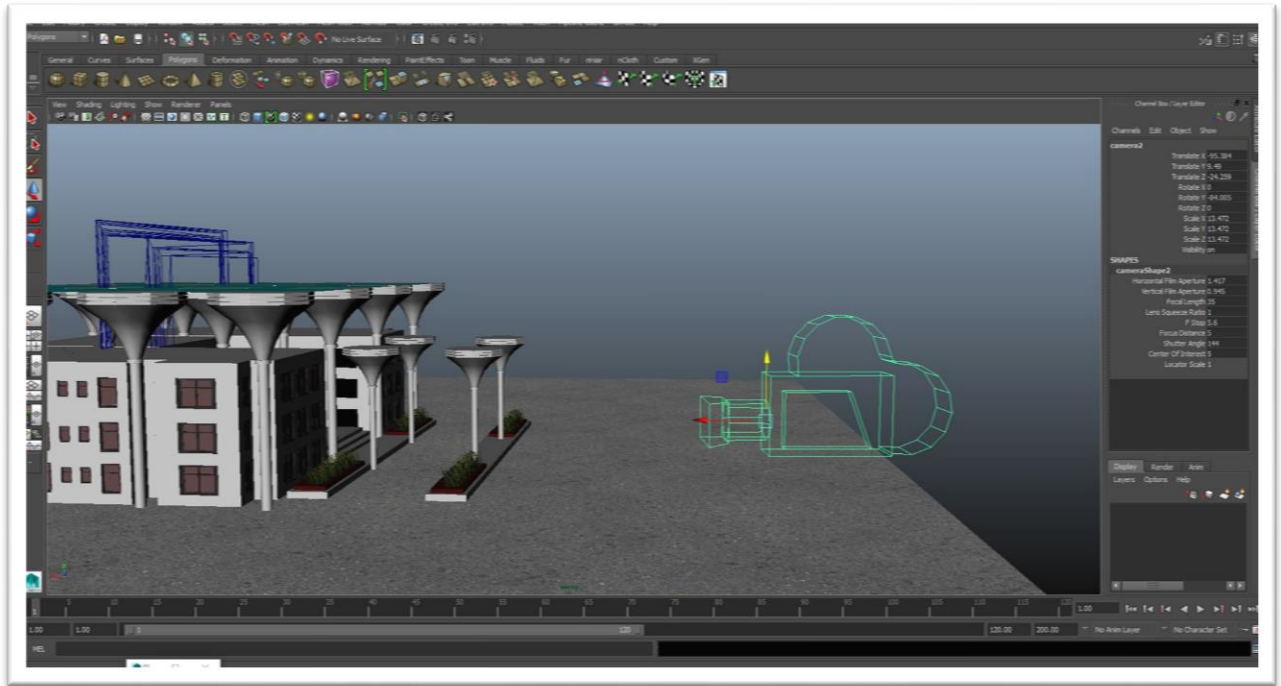


Figure 25: Single Camera

4.3 Rendering

Rendering is the automatic procedure of creating a photorealistic or non-photorealistic image from a 2D or 3D model. Also, the results of displaying such a model can be called a render. A scene file contains objects in an entirely characterized language or data structure; it would contain geometry, perspective, texture, lighting, and shading information as a description of the virtual scene. The data contained in the scene file is then passed to a rendering program to be processed and output to a digital image or raster graphics image file.

I have used Mental Ray renderer for this project. After selecting Mental Ray from the Rendering section of Maya, I have checked the color management system and selected sRGB and Linear sRGB options. Global illumination was set to 500. The render output format was set as Targa (tga), with a compression of 100. The main render outputs were at 1920 * 1080 pixels. Finally, I've batch rendered to get the render outputs.

4.4 Render Output



Figure 26: final Output with Mental ray

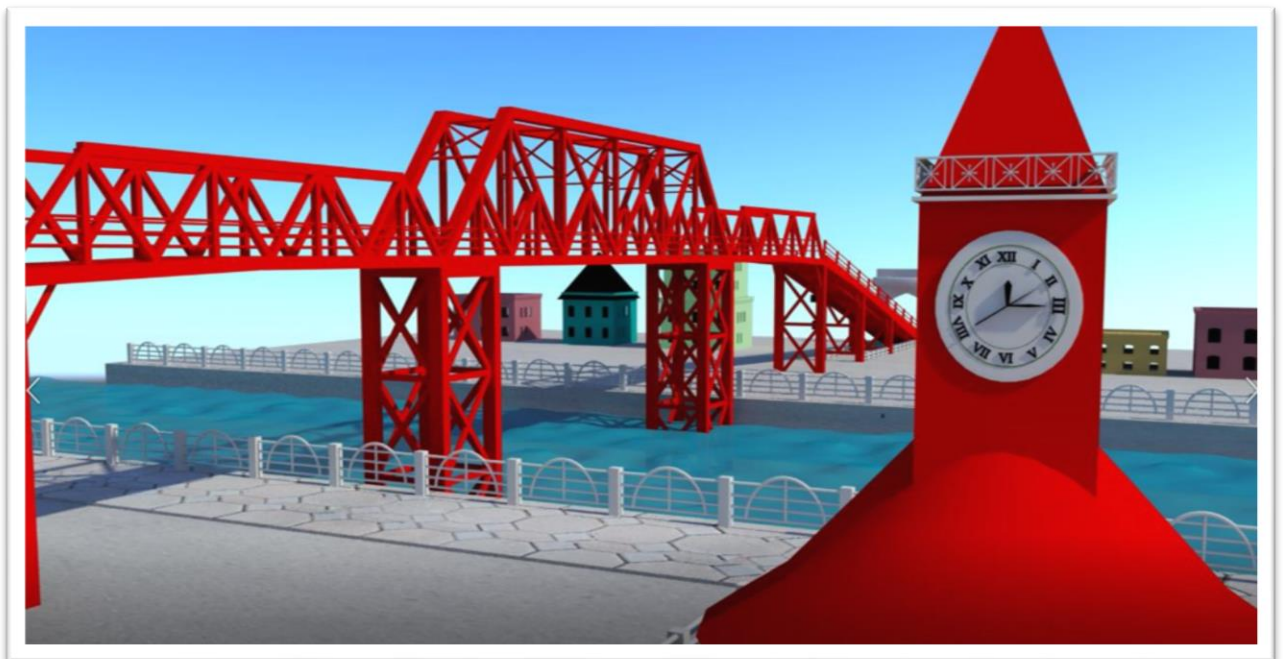


Figure27: Final output with different angle

CHAPTER 5

5.1 Introduction

Compositing is the combining of visual components from isolated sources into single pictures, regularly to make the dream that every one of those components are parts of a similar scene. A branch of those imaginative tenets, utilized in still photography and video, is known as the standard of thirds. The standard of thirds expresses that you ought to rationally partition the casing into thirds, both vertically and evenly

5.2 Video Compositing

I have used Adobe Premiere Pro for video compose. Adobe Premiere Pro is a video editing program that is part of the Adobe Creative Cloud software collection. First of all, I imported all the rendered images in Premiere Pro and add those in sequence in desired order. After that, I cut some unnecessary images and changed length and speed of clips. I gave information with subtitle about History of Building & Architectural Structure in sylhet and at all. And added a background music.

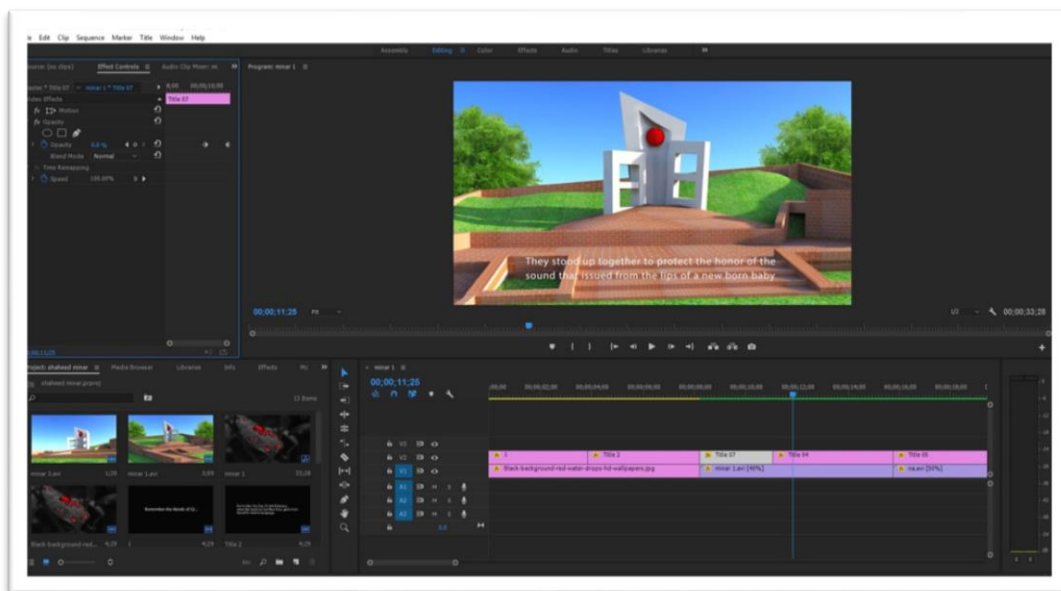


Figure 28: Used Adobe premiere pro for composition

CHAPTER 6

6.1 Discussion

This project is about 3D Visualization of Historical Importance Building & Architectural Structure in Sylhet District in Bangladesh. Generally I wanted to create kind of 3D Animated documentary about Sylhet in Bangladesh which will increase curiosity to the new generations as well as the visitors. It becomes one of the most exciting and challenging areas of contemporary filmmaking. The main purpose of this project to creating animation documentary of Historical place of Sylhet in Bangladesh to represent how much beauty of our Bangladesh.

Historical place of sylhet like HAZRAT SHAHJALAL MAZARSHARIF, KEAN BRIDGE, SHAHID MINAR and RAILWAY STATION that has created for this project .I have tried to create this models according to real model. Personally I visited there and faced the natural of sylhet which was really good experience for me. And I also collected information from Google.

The people of Bangladesh and perhaps visitors of any country should know about the historical significance of these structures.

Moreover, the project has give me opportunity to show what I have learnt till now as a Multimedia and Creative Technology student. It will improve my skills and confidence as well.

CHAPTER 7

7.1 Conclusion

Sylhet division occupies the north east part of Bangladesh . Its nature of beauty in Bangladesh. I have selected Historical place of sylhet like HAZRAT SHAHJALAL MAZARSHARIF, KEAN BRIDGE, SHAHID MINAR and RAILWAY STATION for this project because of there has history that we should know and specifically our next generation.

At the last moment, i want to say it was really good experience to know about historical places of Sylhet in shot time and created a output by 3D animation.

Moreover, the project has give me opportunity to show what I have learnt till now as a Multimedia and Creative Technology student. It will improve my skills and confidence as well.

7.2 Reference

1. <https://en.wikipedia.org/wiki/Sylhet>
2. https://en.wikipedia.org/wiki/Shah_Jalal

3. https://en.wikipedia.org/wiki/Keane_Bridge
4. https://en.wikipedia.org/wiki/Ali_Amjad%27s_Clock
5. http://en.banglapedia.org/index.php?title=Shaheed_Minar
6. <http://www.lged.gov.bd/DistrictLGED.aspx?DistrictID=61>
7. <https://bangladeshinformation.info/sylhet-city/>
8. https://en.wikipedia.org/wiki/File:Sylhet_Railway
9. <http://mirrorofbd2012.blogspot.com/2012/05/sylhet-one-of-source-of-natural-beauty>.
10. https://en.wikipedia.org/wiki/3D_modeling
11. https://en.wikipedia.org/wiki/Computer_animation
12. https://en.wikipedia.org/wiki/Autodesk_Maya
13. https://en.wikipedia.org/wiki/Adobe_Premiere_Pro
14. <https://en.wikipedia.org/wiki/RealFlow>
15. <https://en.wikipedia.org/wiki/Storyboard>