



FINAL YEAR PROJECT

“Nirapod Sorok (Safe Road)”

BY

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

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DAFFODIL INTERNATIONAL UNIVERSITY

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APPROVAL

This Project titled “Nirapod Sorok (Safe Road)” submitted by **Md. Azharul Islam** 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 **29th November 2018**.

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DECLARATION

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

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Finally, I must acknowledge with due respect the constant support and patience of my parents.



ABSTRACT

"It is well known that public health traffic accidents across the world are very important. Moreover, in developing countries like Bangladesh, accidents are higher in road accidents compared to other South Asian countries."Most of the people are killed and seriously injured do not affect the quality of life of citizens, but traffic accidents negatively affect the country's economic and social development. Statistics show that many people were injured or seriously injured in traffic accidents.

Nowadays there has been a lack of 3D animation work about traffic accident and road sign. However, the animation which is I have done, this kind of animated work will play a vital role to create a social awareness.

At the beginning of this project, I prepared a story board which was used to the pre-visualize making of the project. Three couple of software like as, Autodesk Maya, Adobe Photoshop and Adobe After effects were used to create of 3D animation, texturing and motion graphics.

Lastly, the composition of my animation was done using Premiere Pro. Music and voice over were adopted for the presentation of the project in a professional manner. This visualized work of the character animation based on traffic accident and traffic sign may be used for any educational purpose or create the social awareness.

In this project, I can find an overview of traffic accident and what will happen if someone don't follow the traffic rules. This unique project presents the importance of following road sign and also shows us that A little bit of concern can prevent us from very dangerous traffic accident awareness.



TABLE OF CONTENTS

CONTENTS	PAGE
APPROVAL.....	ii
DECLARATION.....	iv
ACKNOWLEDGEMENT.....	v
ABSTRACT.....	vi

CHAPTER

CHAPTER 1: Introduction 1-3

Introduction.....	1
1.1 Introduction.....	1-2
1.2 Motivation	3
1.3 Objectives.....	3



CHAPTER 2: Literature Review 4-15

Literature Review.....	4
Introduction.....	4-8
2.1 Road signs in Bangladesh.....	9-15

CHAPTER 3: WORK PROCESS 16-35

3D Model Development	16
Introduction.....	16
3.1 Story Board.....	16-20
Importance of story Board.....	16-17
Storyboarding of my project.....	17-20
3.2 Software.....	21-24
Autodesk Maya.....	21



Adobe Photoshop.....	21-22
Adobe Illustrator.....	22
Adobe After-Effect.....	23
Adobe Premiere Pro.....	23-24
3.3 Hardware Requirement.....	24
3.4 Model.....	24-28
3.5 Texturing.....	29-31
3.6 Rigging.....	31-32
3.7 Camera.....	32-33
3.8 Lighting.....	33-35



CHAPTER 4: ANIMATION 35-40

4.1 Animation.....	35
Introduction.....	35
4.2 3D Animation.....	36
Animation Created for this project.....	36
4.3 Rendering.....	37-38
Final render Image.....	38-40

CHAPTER 5: Video composition 41-42

Video composition.....	41
5.1 Video composition.....	41
After Effects Timeline.....	41
Premier Pro timeline	42



CHAPTER 6: Discussion 43

Introduction.....43

6.1 Discussion.....43

CHAPTER 7: Conclusion 44

Conclusion.....44

APPENDIX.....45-46

Reference.....47



LIST OF FIGURES

FIGURES	PAGE NO
Figure 1- 24 Road sign	9-15
Figure 25: Screenshot of my building-1 Structure.....	24
Figure 26: Screenshot of my building-2 Structure.....	25
Figure 27: Screenshot of my building-3 structure	25
Figure 28: Screenshot of my building-4 structure	26
Figure 29: Screenshot of my car.....	26
Figure 30: Screenshot my car wheels.....	27
Figure 31: Picture 15: Screenshot of my character in car.....	27
Figure 32: Screenshot of road sign	28



Figure 33: Screenshot of road sign.....	28
Figure 34: Screenshot show how I applied texture.....	30
Figure 35: Screenshot of UV mapping.....	30
Figure 36: Screenshot of texture collect from Google.....	31
Figure 37: Screenshot of character rigging.....	31
Figure 38: Screenshot of character rigging.....	32
Figure 39: Creating Camera1 in Maya.....	32
Figure 40: Creating Camera2 in Maya.....	33
Figure 41: Screenshot of sunDirection Lighting.....	34
Figure 42: Screenshot of sunDirectional Light.....	35
Figure 43: Screenshot of sunDirectional.	35



Figure 44: Screenshot of how I setup render setting	37
Figure 45: Screenshot of how I setup render setting	38
Figure 46: Final render Image (mid-short).....	38
Figure 47: Final render Image (long-short).....	39
Figure 48: Final render Image (close-short).....	39
Figure 49: Final render Image (long-short).....	40
Figure 50: Screenshots of After Effects TimeLine.....	41
Figure 51: Screenshots of Premier pro Time line.....	42



CHAPTER 1

1.1 Introduction:

"At least in a road traffic accident is an accident takes place in the streets, which refers to the public for public transit, and at least one person was injured or killed. Deliberate act (murder, suicide), and natural disasters are excluded.

"Road accidents in both developed and developing countries around the world, death, injury and disability is one of the reasons. According to estimates of a broad, global traffic accidents per 1 minute, two people were killed and 95 others were seriously injured or permanently disabled. "Traffic accidents resulting in injury-related deaths and significant economic losses suffered severe physical and psychological damage. "Traffic accidents in developing countries than in developed countries, affecting more than. According to World Health Organization statistics, 75% of traffic accident deaths occurred in developing countries, the world is 32% of motor vehicle ownership. The annual loss of 10,000 or 10,000 cars to run low or medium-income countries, from 20 to 200, artists in countries varies between 1.5 and 5. The global economic cost of traffic accidents estimated 518 billion dollars per year. "Developing countries have a share of \$ 100 billion, which is 1 to 3% of their total national product. Road traffic crashes occur every continent and in every country in the world. Every year, more than one hundred thousand to half a million people live, and is unfinished. Pedestrians, non-motorized transports vehicles User-income and middle-income countries, cyclic, rickshaws, cart and motor cyclist in road traffic deaths and serious injuries, including a wider range of global carry the burden.

"The basic strategy of the safe approach method is to ensure that in the event of any crash, the impact strength lies below the probability of production of death or serious injuries. This threshold crash scenario will change from crash to crash, depending on the level of security provided to users in the connected streets. For example, an unstable pedestrian driving speed at a speed of more than 30 minutes / hour reduces the chance of survival, but 50 kilometer / hour and 70 km / h for the accuracy of the properly guarded motor vehicle.



"Road safety has not been identified as a sustainable solution for all classes, especially in low-traffic rural and remote roads, a sequence of control should be applied, like occupational safety and categories used for health improvement. The highest level of serious injury and death disasters need to be considered in all the original results areas with durable resistance, durable. Real-time risk reduction is reduced in the second stage, which provides the user with a lesser risk that enables them to take precautions. The third level applies to road design standards and guidelines which reduce the risk of crash, driver behavior and enforcement improvements.

Road Traffic Accident Data Analysis An important tool for determining which steps should be directed to the main security issues. Nowadays, road safety has become a major concern in most modern societies. Road accidents cannot be stopped altogether, but with the help of limitations of the speed limits, increasing the security of the vehicles, setting up the street locations that are more dangerous than others, identifying the accidents and identifying the minimum age to drive and driving. All help to prevent road accidents and road safety policy.

Traffic signs or road signs on the side of the road or street signs are placed, or to instruct users. The earliest symptoms are simple wood or stone, was a milestone. Then, directional signs, including weapons, are presented, for example, the UK equivalent of fingerprints and their wooden Saxony.

Increasing the traffic volume in the 1930s, many countries have overcome their symptoms and increase their traffic safety or otherwise simplified and fitted their symptoms. Such symbols use symbols (often silhouettes) instead of words, and are generally based on international protocols. This type of symptom was first developed in Europe, and most countries have been accepted in different degrees.

If we are following traffic rules & Road sign than road accident rate is low. so we need to know properly traffic signs.



1.2 Motivation:

I am always try to find different types of topics. This time I am try to figure out this topic which is called “Safe Road”. Now-a-days road accident is the main problem in our country. Everyday anywhere in our country people death or injured by road accident. Many students spot death in road accident. They are death very young age. This road accident destroy many family income source because many family survive the road accident affected people incomes. Not only people but also government also face huge amount losses every year. Sometimes driver’s mistakes or sometime people mistakes are reason of road accident. So we need to follow traffic rules & also know the road sign. If we know the road sign than we can easily crossed road and easily drive car in road.

To make this topic visible I am tried to make visualization process by combine 3D and motion graphics. I tried to make a 3D character animation and motion graphics based on my topic. In this case I am tried to visualize that people known road sign” 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.

1.3 Objectives:

1. To complete the requirement for my B.sc degree in Multimedia Creative Technology
2. To identify the problem and find out the solution.
3. To make our project is a social awareness to the peoples.
4. To make sure that everyone should following traffic rules & know road sign.
5. To understand what happens if you do not know road sign.
6. To do further research on this particular topic and make sure that peoples should concern know to road sign near future.



CHAPTER 2

Literature Review

Introduction:

Key facts

By 2030, the newly adopted 2030 Agenda for Sustainable Development has set an ambitious target of worldwide deaths and wounded by road traffic crashes. Without sustainable action, road traffic crashes can be the seventh major reason for death by 2030.

Road traffic crashes most countries spend about 3% of their gross domestic products. Almost half died in the streets of the "weaker road users": pedestrians, cyclist and motorcyclists. Low- and middle-income countries 90% of the roads in the world occurs, even though these countries is around 54% of global vehicles. 9 to 15-year-old man died in road traffic because of injury.

As a result of road traffic crash, 1.25 million people die every year. As a result of Road Traffic Accidents, the life of 1.25 million people decreases every year. "Many 20 to 50 million people are victims of serious injuries, many of them are disabled due to their injuries.

Road traffic injuries individuals, their families and significant economic damage to the entire nation. These losses were killed or disabled by their injuries and medical expenses and lost productivity for individuals and family members to care for the injured, for those who need to spend time at work or school, and are derived from. Road traffic crashes most countries spend about 3% of their gross domestic products.

Who is at risk?

Socio - economic conditions

More than 90% of road traffic occurs in low-middle-income countries. The highest in the African regions of death to hit road traffic. Even in high-income countries, people of less social socio-economic backgrounds are more likely to be involved in road traffic crashes.



Age

People aged 15 to 44 have 48% of world-wide road traffic deaths.

Sex

At an early age, women are more likely than men to be involved in a road traffic Crash. Nearly three-quarters of the nearly 5-year-old young men (73%), road traffic deaths, including those of young people could be killed in a road traffic Crash almost 3 times.

Risk factors

Safe System approach: human error accommodating

The safety of all road users' safe method to ensure a safe transport system. Crash seriously injured road traffic due to this type of approach to human weaknesses and human errors for the system should be designed to accept forgiveness. This approach road and cornered safe roads, safe speeds, safe vehicles and safe road users, fatal and serious injury crashes in order to reduce fixed all of them should be eliminated.

Speeding

Increasing the average speed involves directly related to both the crash of the crash and the intensity of the crash of the crash. For example, an increase of 1 kilometer / hour increase in average vehicle speed increases 3% in case of crash and 4-5% increase in fatalities. An adult pedestrian death risk of 20% is less than 60% of the vehicle hit by 50 kilometer / hour speed and hit 80 kilometers / hour.

Driving under alcohol and other psychoactive substances, Due to the effects of alcohol and any psychoactive substances or drugs, the risk of driving crash increases, resulting in death or serious injuries.

In the case of drinking-driving, the risk of road traffic crash begins at lower levels of the blood pressure contraction and the driver's BAC ≥ 0.04 g / dl increases significantly. In the case of drug-driving, raising the risk of street traffic crash increases depending on the degree of psychoactive drugs. For example, those who have used amphetamine have a risk of serious catastrophe, some 5 times the risk of those risks.



"Motor cycle helmets, seat belts, and baby control neglect, By eliminating motorcycle helmets properly, the risk of death can reduce the risk of severe injury of about 40% and more than 70%.The seat belt wearing the seat belt reduces a serious risk between 40-50% of passenger passengers and 25-75% of the passengers in the rear seats. If properly installed and used, approximately 70% of children under the control of children and death among young children decrease between 54% and 80%.

Dangerous driving

There are many confusions that may lead to poor driving. Growing concerns for mobile phones due to confusion are increasing concern. Without using mobile phones, drivers are almost 4 times more likely to be involved in the crash than using mobile phones. Using a phone while driving helps reduce difficulties of time (especially when the response time is wasted, but the response to the traffic signals), and makes it difficult to keep in proper music and follow the right exact distance. Hands-free phones are not much safer than hand-hold phone sets and increase the risk of crash in the curriculum.

Unsafe road infrastructure

Road design can have a significant impact on their safety. Ideally, roads should be designed keeping in mind the safety of all road users. This means that the pedestrian, cyclist and motorcycle is to ensure that adequate facilities. Sidewalks, cycling lanes, safe crossing points and other traffic calming measures, such as measures to reduce the risk of injury to users of the road could be significant.

Unsafe vehicles

Safe vehicles play an important role in reducing the chances of crash disasters and serious injury. There are several rules for the safety of the cars in the United States that, if countries are applied to production and production standards, then they can save a lot of lives. To ensure electronic stability control (to prevent over-steering) and to ensure the firing of airbags and seat belts in all vehicles, the car manufacturers need to meet the front and side of the reaction. Risk of Traffic Injury Without These Basic Values - Both the vehicle and the outside - have significantly increased.



Inadequate post-crash care

Increases the seriousness of the detection and care delay for traffickers involved in road traffic crashes. After the accident, the care of the injuries is very time sensitive: the delay of a few minutes can distinguish between life and death.

Inadequate law enforcement of traffic laws

Traffic laws for drinking-driving, wearing seat belts, speed limits, helmets, and baby controls are not applied, they cannot reduce the road traffic risk and reduce the chances of certain behavioral injuries. Therefore, if traffic laws are not enforced or are not applied, then perhaps it will not be agreed with and there will be very few opportunities to influence behavior.

Has been included in the effective application of, regularly updated, and the national, municipal and local levels to implement the laws referred to in the above mentioned risk factors. This includes the definition of the appropriate fine.

What can be done to address road traffic injuries?

Road traffic injuries can be prevented. The government must take measures to tackle road safety. These traffic, police, health, education and roads, vehicles and road users' safety measures need to be involved in more than one sector.

Effective interventions include safe infrastructure design and road safety features in land use and transportation planning, improving safety features of vehicles, improving post-crash care for road accident victims, establishing and implementing the laws related to risk, and increasing public awareness

WHO response

Providing technical support in the country In WHO countries, it works across the spectrum in partnership with national and international stakeholders in multilingual and different sectors. Its purpose is to support member state to plan and implement road safety policy.



In addition, WHO collaborates with partners to provide technical support to the country. For example, WHO is currently collaborating with the Bloomberg Initiative for Global Road Safety (BIGRS) 2015-2019 to reduce targets and injuries to road traffic crashes in low and middle-income countries and cities?

In 2017, WHO publishes a road safety technical package to Save Lives, which corroborates the evidence-based systems that can significantly reduce deadly road traffic and reduce significant hazards? Save life: A road safety technical package focuses on speed management, leadership, infrastructure design and improvement, vehicle safety standards, traffic law enforcement and post-crash survival.

"The package prioritizes the risk factors by highlighting 6 tactics and 22 interventions and by 2020, the number of deaths and injuries caused by road traffic crashes by the 2020 provides member states guidance to meet the road safety goals.

Coordinating the Decade of Action for Road Safety

In collaboration with the United Nations Regional Commission - the WHO-led organization for road safety in the United Nations System. WHO challenges the United Nations Road Safety Cooperation and acts as a road blockade for road safety 2011 -2020. In 2010, the UN General Assembly resolution was published, the 2011 Disclosure of Action was published in more than 110 countries. The goal of saving millions of lives to implement the Global Plan for the Decade of Acton.

The highest political level in favor of road safety through continuing efforts to manage global efforts WHO plays an important role. Compiling and prevention, data collection and trauma care to promote best practice; Information about the risk to the public, and how these risks can be reduced; And drawing attention to the need for increased funding.

2.1 Road signs in Bangladesh:

Road signs in Bangladesh are similar to those used in some parts of the United Kingdom, except that they are multilingual. We need know our country road sign. If we know our country road sign then we know what the meaning that sign is. Five part of road sign, they are below here

1. Regulatory signs
2. Warning signs
3. Information signs
4. Additional signs
5. Traffic signals

1. Regulatory signs:

Regulatory sign are two part one is 'Yes-Speech' Compulsory sign and 'Negative-Speech' Compulsory sign.

I am describing 'Yes-Speech' Compulsory signs in my project.



This road sign means Ahead Only



This road sign means Turn Left



This road sign means Turn Right



This road sign means Keep Left



This road sign means Keep Right



This road sign means Turn Left Ahead



This road sign means Turn Right Ahead



This road sign means One Way Street



This road sign means One way Street

I am describing 'Negative-Speech' Compulsory signs in my project.



This road sign means Stop and Give Way



This road sign means No Entry



This road sign means No Parking



This road sign means NO Stopping



This road sign means No Overtaking



This road sign means No Turn Right



This road sign means NO Turn Left



This road sign means Temporary Stop Sign



This road sign means No Passing without Stopping

2. Warning signs:

I am describing Warning signs in my project.



This road sign means Cross Road - Minor Road Ahead



This road sign means Cross Road - Major Road Ahead



This road sign means Side Road Left



This road sign means Side Road Right



This road sign means T Junction



This road sign means Traffic Signals



This road sign means Road Hump



CHAPTER 3: WORK PROCESS

3D Model Development:

Introduction:

Measurement of the actual 3d model those are used on my scene was obtained from multiple websites and self-taken in the real object. I have also recorded videos of human walk style those from different angles so that I can get a clear reference while creating the walk cycles, story board, model development, and texturing and camera animation. In this chapter, we have presented 3D models of the four monuments including their views from different angles. Screen shots of the software are also given in this chapter.

3.1 Story Board:

The storyboard is an outline, usually illustrated, it is used in a television show, movie, commercial, animation or game planning. In recent years, the term has been applied to video games and web pages. You might think of a pictorial flow chart as a storyboard. The pictures are somewhat similar to the comic book industry. The artist has made the pen and the storyboard of both paper and computer software. There is a "frame" on a storyboard, which represents a special scene in the production of each frame.

Importance of story Board:

Best way to share our vision:

A visual aid makes it much easier for you to share and explain our vision for your video with others.


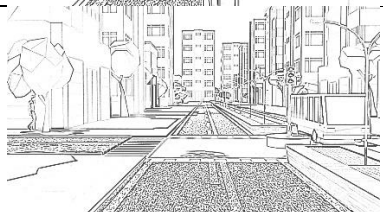
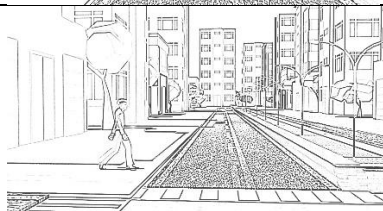
The production makes it much easier:

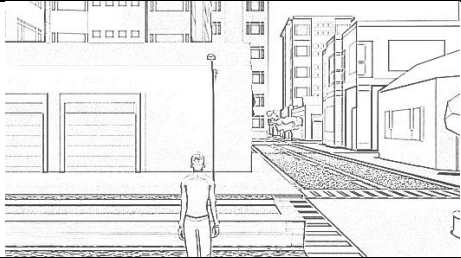
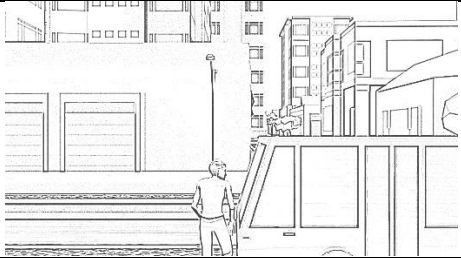
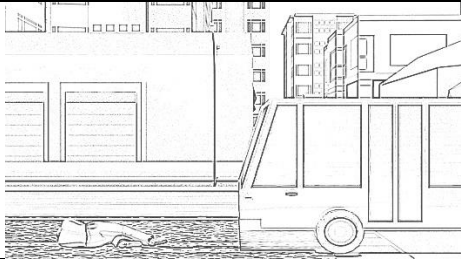

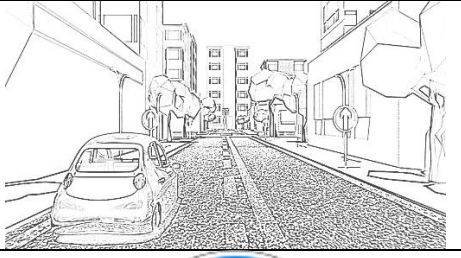

Our storyboard is a video set up when you are setting up a plan for production, with all the necessary shots we need, so that they will be filled and how the visuals will communicate with the script. Our Storyboard is a video when you are setting up a plan for production, our including all the necessary shots, so that they will be filled out and how to visualize the scripts will contact you.

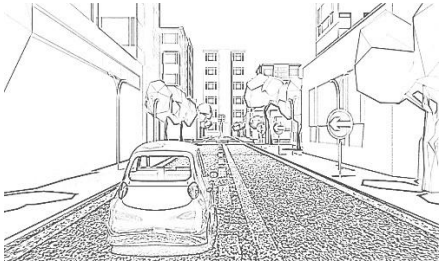

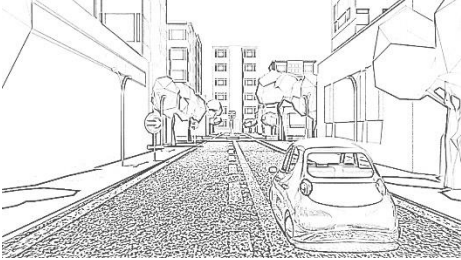

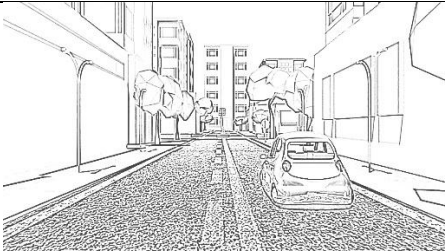
Saves you time:


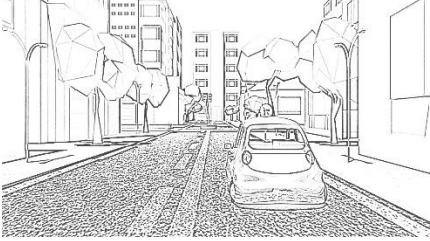

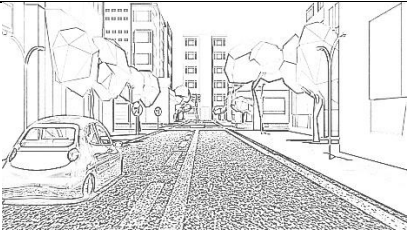
It may take a while to gather our storyboards, but in the long run it will save our time in revisions. This will not help explain our viewpoint to our team, it will make the process easier.

Storyboarding of Our project: I have pre-visualized my final project and drawn the following storyboard so that the storyboard can act as a reference during actual animation and post production.

shot	Visual description	Visual	Sound	Duration
1	Long shot		Background sound	4sec
2	Long shot		Background	4sec
3	Zoom in shot		Background	2sec

4	Mid shot		Background sound	2sec
5	Mid shot		Background sound	2sec
6	Long shot		Background sound	2sec
7	Long shot	Text animation	Background sound	3sec
8	Long shot	'Yes-Speech' Compulsory signs 	Background sound	2sec
9	Zoom in shot		Background sound	6sec
10	Long shot		Background sound	2sec

11	Zoom in shot		Background sound	6sec
12	Long shot		Background sound	2sec
13	Zoom in shot		Background sound	6sec
14	Long shot	'Negative-Speech' Compulsory signs	Background sound	2sec
15	Long shot		Background sound	2sen
16	Zoom in shoot		Background sound	6sec

17	Long shot		Background sound	2sec
18	Zoom in shoot		Background sound	6sec
19	Long shot		Background sound	2sec
20	Zoom in		Background sound	6sec



3.2 Software: Following software were used to create the final output:

- Autodesk Maya 2015
- Adobe Photoshop CS6
- Adobe Illustrator CS6
- Adobe After Effects CS6
- Adobe Premiere Pro CS6

- Autodesk Maya:

Autodesk Maya is generally smaller than Maya, a 3D computer graphics software powered by Windows, MacOS and Linux, which is developed by Alias System Corporation and is currently owned and automated by Autodesk. It is used to create interactive 3D applications with video games, animated film or visual effects. Maya is basically a next-generation animation product based on the code of Power Animation and Alias Sketch by Wave Front Technologies, Elias Research, Inc. from Advanced Visualizer! The code was ported to IRRIX and the animation feature was added; the porting project code name was Maya. During the production of Dinosaur, Walt Disney featured animation collaborations closely with Maya's development. Disney has requested that the application's user interface can be customized so that a personalized workflow can be made. This was a special influence on the Maya Open Architecture and it was partly responsible for being so popular in the animation industry. I used Autodesk Maya to create 3D models and environment for this project. Some features of Maya, like some basic 3D objects, helped create the environment.

- Adobe Photoshop:

A Raster Graphic Editor published and published by Adobe Systems for MacOS and Windows. Photoshop was created in 1988 by Thomas and John Knoll. Then, it has turned into true art value in graphics editing, for example, "Photoshop" has become an action in the "Photoshop film", "Photoshop" and "Photoshop Competition", although Adobe disappoints such use. It can edit and compile raster images in multiple layers and supports different color models including masks, alpha compositing and RGB, CMYK, CIELAB, spot color and Duotones.



Photoshop has huge support for graphic file formats, but it uses all its own PSD and PSB file formats that support all the default features. In addition to raster graphics, it also reduces the ability of text, vector graphics (especially through clipping paths), 3D graphics, and video editing or rendering capabilities. The Photoshop feature set can be expanded by the Photoshop plug-in, Photoshop's independently developed and distributed programs can run inside it and provide new or improved features. Photo Editing of Photoshop Adobe, Image Creation and Graphic Design Software. The software provides many image editing features for raster (pixel-based) images as well as vector graphics. It uses a layer-based editing method that creates images and changes with multiple overlays that support transparency. Layer can work as underlying color changes, masks or filters. Shade and other effects can be added to the level. Photoshop functions include automation features to reduce repetitive work requirements. Photoshop CS6 allows an alternate user to work on content from any computer. The purpose of Adobe Photoshop for this project is mainly to create textures for models.

- Adobe Illustrator:

A vector graphics editor is developed and marketed by Adobe Systems. Version CS6 was the 16th generation of Adobe Illustrator. Adobe has added many more features and most bug fixes such as new user interface, layer panels, RGB code, and color ramps to increase performance. Adobe Illustrator for Apple Macintosh started commercializing in 1985 (shipping in January 1987). Adobe Photoshop Adobe Photoshop Affiliate Products. Photoshop is primarily focused on digital photo manipulation and photo-graphic styles of computer images, where Illustrator design provides results in typesetting and logo graphic areas. Early magazine advertising (featured in graphic design trade magazines such as Communication Arts) refers to the product as "Adobe Illustrator". The product name of Illustrator 88, version 1.7, was released in 1988 and introduced many new tools and features. BYTE was listed as the Elastrator 88 listed among the winners of the BEYTE Awards among the "Isolated" winners of Ilyas Freehand in 1989. The basic versions of the software do not support working in preview mode and users were required to open their windows in two windows so that their work was previewed. To display a progress in a window, another window to show a preview of progress.



- Adobe After Effects:

A digital visual effects, motion graphics, and compositing application are developed by Adobe Systems and used for film production and post-production process for television production. Among other things, the effects can be used for how to track, compositing and animation. It works as a very basic non-linear editor, audio editor, and media transcoder. The effects were originally created by Science and Art at Providence, Rhode Island, where the first two versions of the software, 1.0 (January 1993) and 1.1 were released by the company. In July 1993, the COSA was achieved alongside the effects of Eladas Corporation, which was acquired by Adobe in 1994 and it is covered with Poodle. Adobe's first new version was released version 3.0 later. There is extensive plug-in support after effects; Available in a wide range of third-party plugins. Various types of plug-in styles exist, such as particle systems available for realistic effects for rain, snow, fire etc. Effects can render 3D effects with or without third-party plugins. After some effects in these 3D plugins, the basic 2D level is used. In addition to 3D effects, there are plugins to show videos like videos or cartoons; Simulating fire, smoke, or water; Particle system; Slow motion; Create animated charts, graphs, and other visualization information; A 2D video shot counting a 3D camera movement; Timeline translation from FCP or Avid; High end color correction added; And other workflow improvements and visual effects.

- Adobe Premiere Pro:

Developed by Adobe Systems Adobe Premiere Pro is a timeline-based video editing applications, and published it as part of Adobe Creative Cloud Licensing Program. Adobe Premiere Elements video editing software published by Adobe Systems. This is a scale down version of Adobe Premiere Pro and the new editor and useful for consumers. Entry screen clip organizing, editing and auto-film generation supply options. Premiere Pro project file, the file is not compatible with Premiere Elements project. Adobe Premiere Pro premiere rescheduled successor and was launched in 2003. Premiere Pro 2003 and refers to the published version, which also refers to the previous version. Premier is the first computer-based NLEs (Non-Linear Editing System) was this is the first version of the Mac in 1991. Adobe Premiere version of the Mac platform, leaving 6.

Up to version Premier Pro 2.0 (CS2) version, software packaging featured a great horse, Edward Muybridge's work, "Sally Gardner in Galio" .Adobe Premiere Pro is used for post-production. This helped to create video files from image files, color correction and audio editing.

3.3 Hardware Requirement:

I am used only one windows desktop computers with following configuration to create this project:

PC:

- Processor Intel Core i5-8600K (4 core processor)
- RAM: 8 GB DDR4
- GPU: NVidia GTX

3.4 Model:

After opening Maya 2015, I have taken a cube from the polygon option. By extruding the cube I have created multiple steps that resemble the shape of the base of building. I have created the building and car using multiple cubes and by changing their shapes. Car wheels create by using cylinder and car windows glass creating using polygon plane. I am also create a road sign use polygon circle and cylinder.

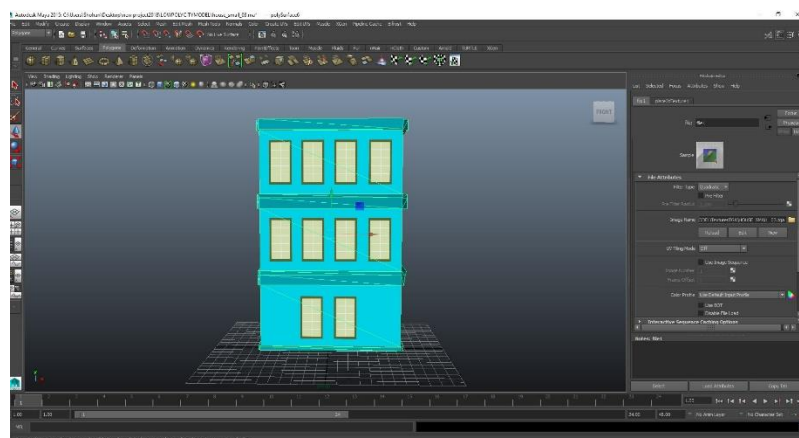


Figure 25: Screenshot of my building-1 Structure

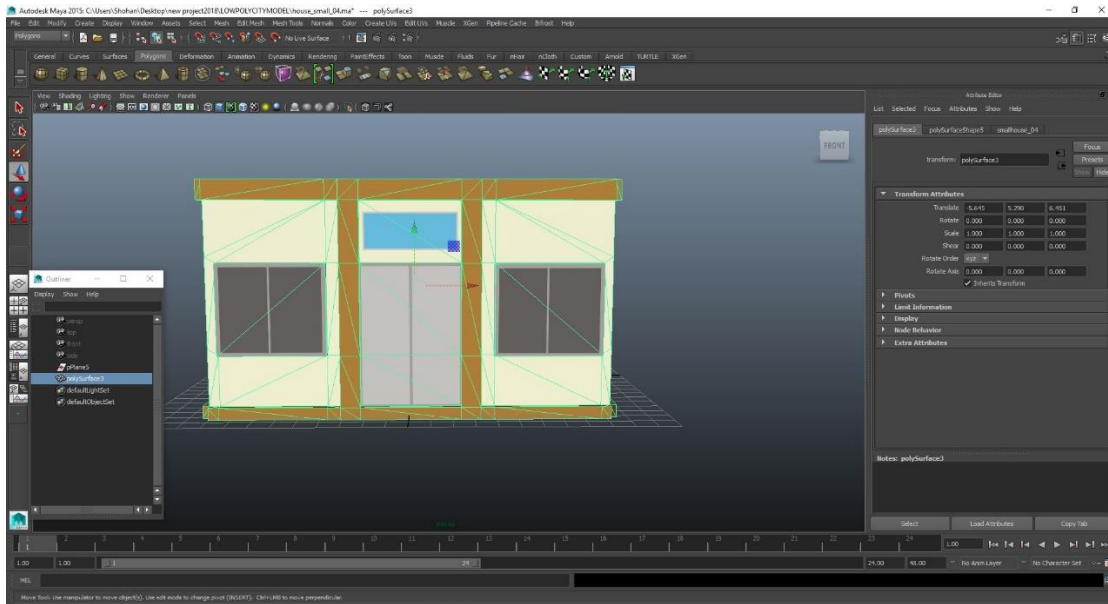


Figure 26: Screenshot of my building-2 Structure

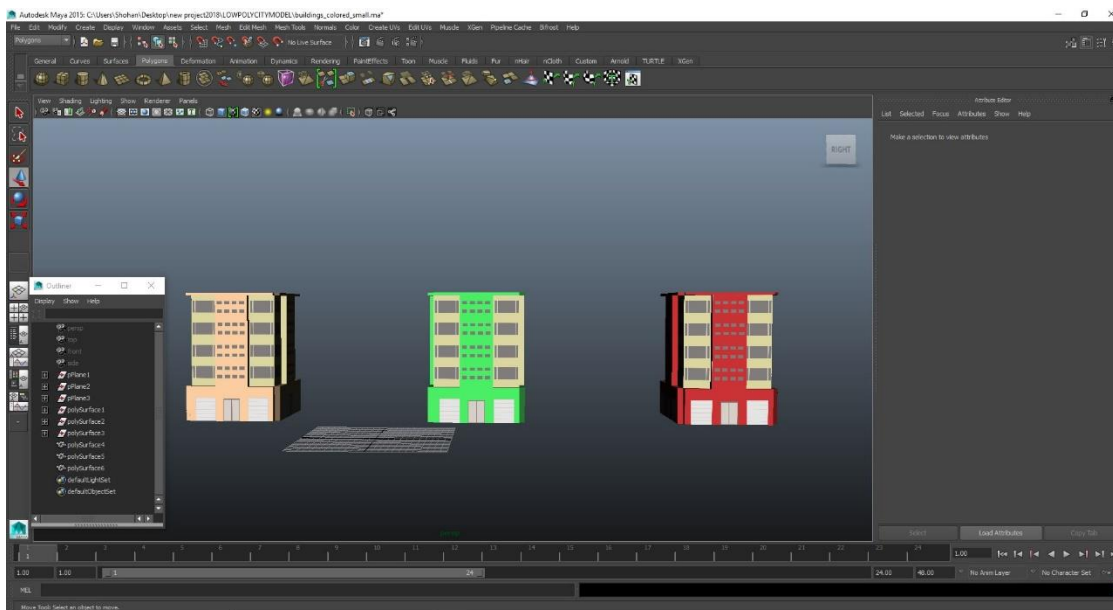


Figure 27: Screenshot of my building-3 Structure

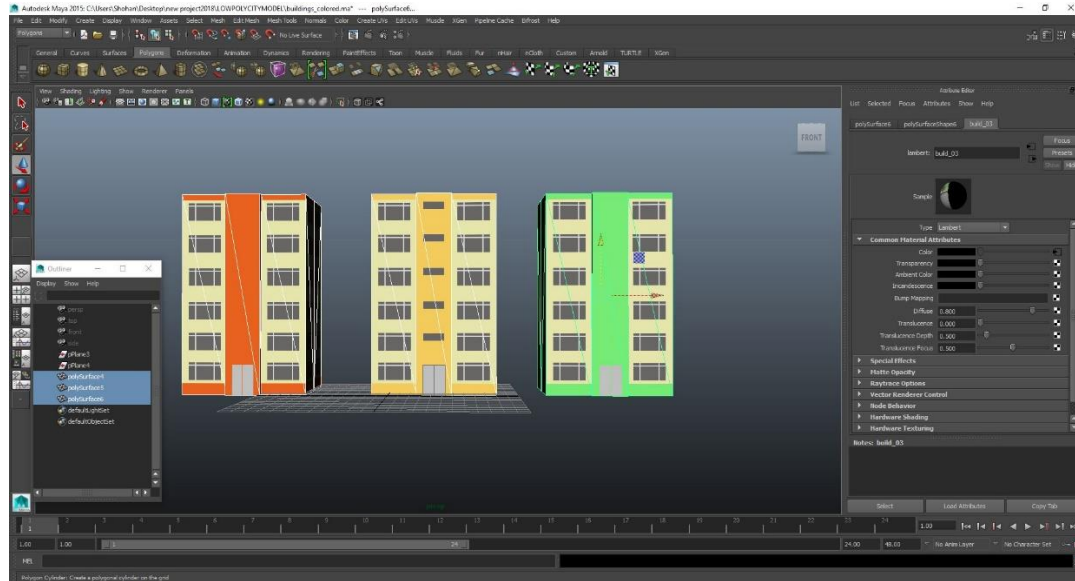


Figure 28: Screenshot of my building-4 Structure

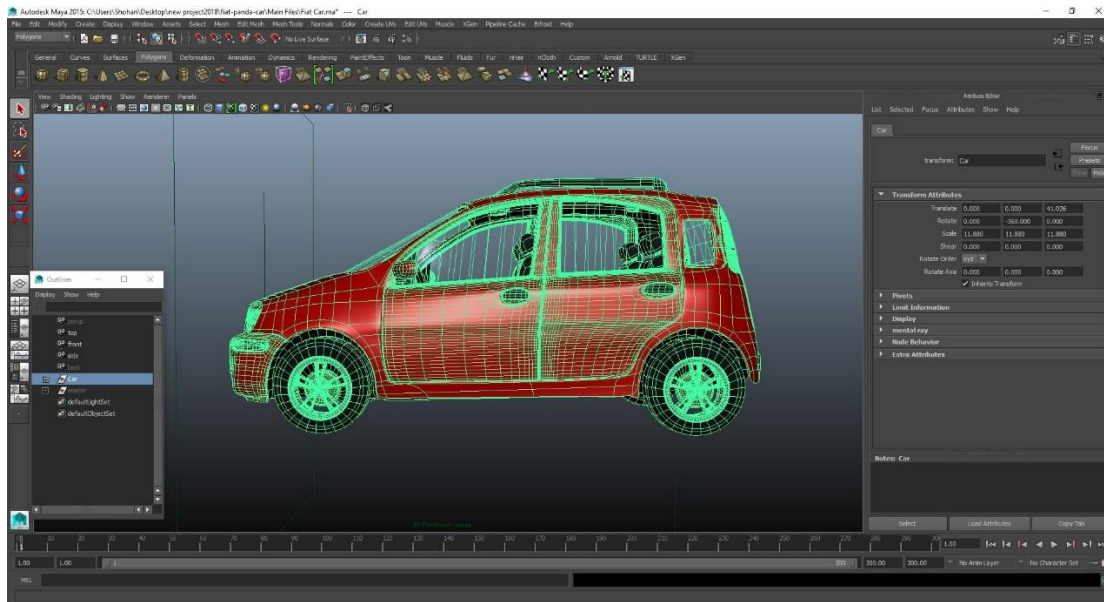


Figure 29: Screenshot of my car Structure

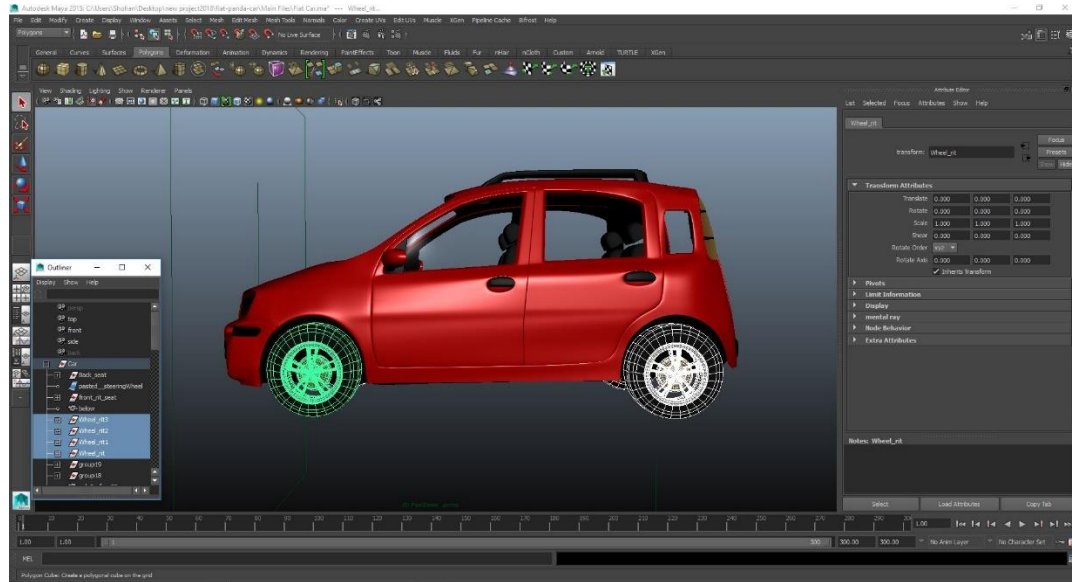


Figure 30: Screenshot of my car wheels Structure



Figure 31: Screenshot of my character in car Structure

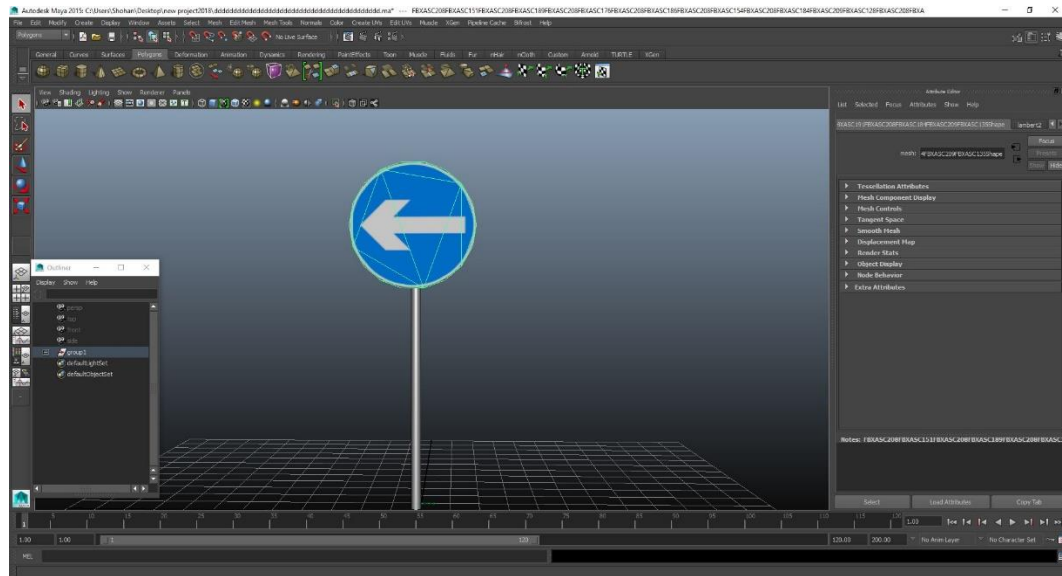


Figure 32: Screenshot of road sign Structure

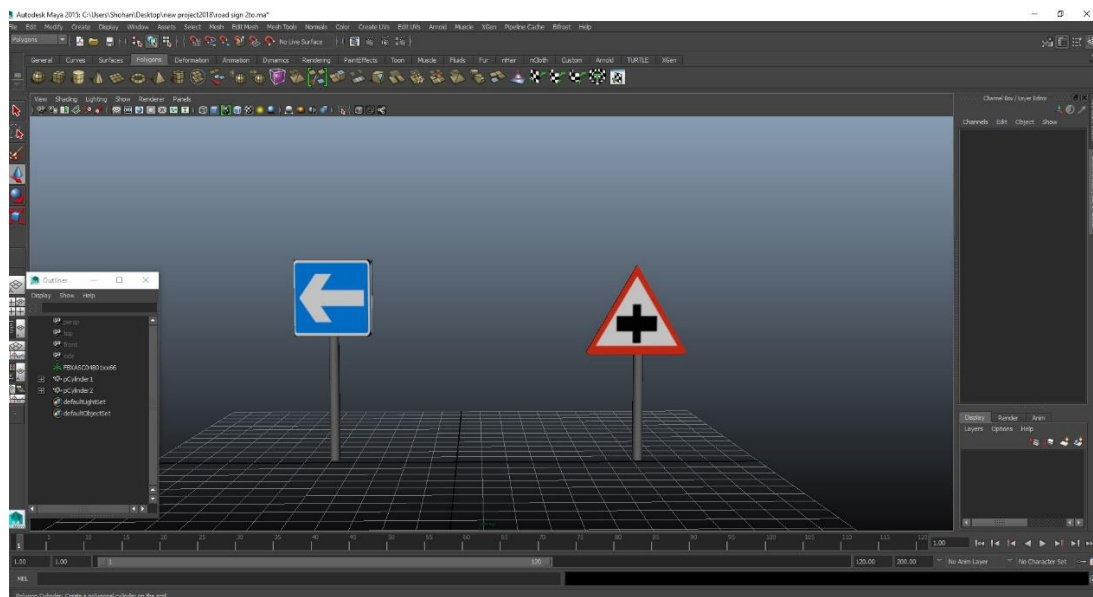


Figure 33: Screenshot of road sign Structure



3.5 Texturing:

Vector Art in Texture, art is a work-felt surface quality. It is a two-dimensional and three-dimensional design element and is distinguished by its available visual and physical features. The design can express the use of textures as well as textures, different messages and emotions. Texture mapping is a method for defining high-frequency detail, surface texture, or color information on a graphic or 3D model generated by a computer. A method of texture mapping has been mentioned, which is simply pixel wrapped and mapped from texture to a 3D page. In recent decades, multi-pass rendering and the emergence of complex mapping such as height mapping, left mapping, normal mapping, displacement mapping, reflection mapping, special mapping, mipmaps, occlusion mapping and many other diversities of technique (controlled by an instrument) are a realistic and effective. Multicultural plural and light to create 3D visualization .Java calculated in real time by reducing the number closer to imitate photorealism possible.

A texture map applied to a shape or polygon page (mapped) is an image. This can be a bitmap image or a processive texture. He can be stored in standard image file format, referenced in 3D model formats or element definitions, and may be combined into organization bundles. They may have 1-3 levels, although 2 levels are the most common for visible surfaces. For the use of modern hardware, texture map information can be stored in sparkling or tiled orders to improve cache prosperity. Rendering APIs usually manage texture mapping as buffers or surfaces and allow 'render textures' for additional effects such as post processing, environmental mapping. They usually have extra channels for RGB color information and sometimes alpha mix (RGBA) for billboard and decal overlay textures. It is possible to use alpha channels (which may be preserved in hardware paramated formats) for other uses like speculariry. Multiple texture maps can be combined for speculariry, normals, displacement, or control over subsurface distortion such as. For rendering leather. Multiple texture images can be combined in texture atlases or array textures to reduce state changes for modern hardware. Modern hardware often supports solid map textures with multiple faces for environmental mapping.

In this project I am used normal mapping and UV mapping. Mainly I am used photoshop to create texture map. From the automatic mapping in Maya, I am saved UVs as *.jpeg format. Then, I've opened these images in Photoshop and applied the downloaded texture on the UVs.

After this I've taken the completed texture file into Maya and applied over the model.

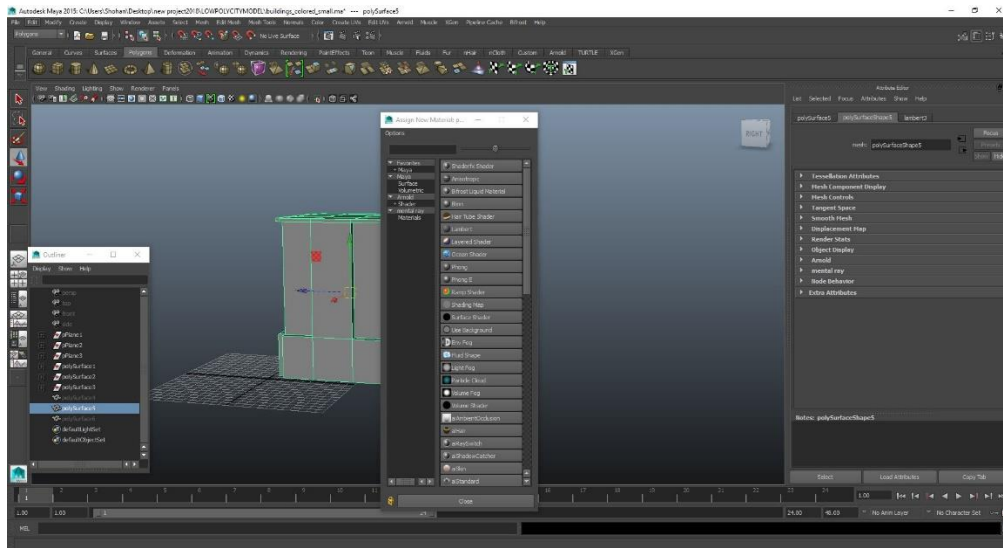


Figure 34: Screenshot shows how I applied texture

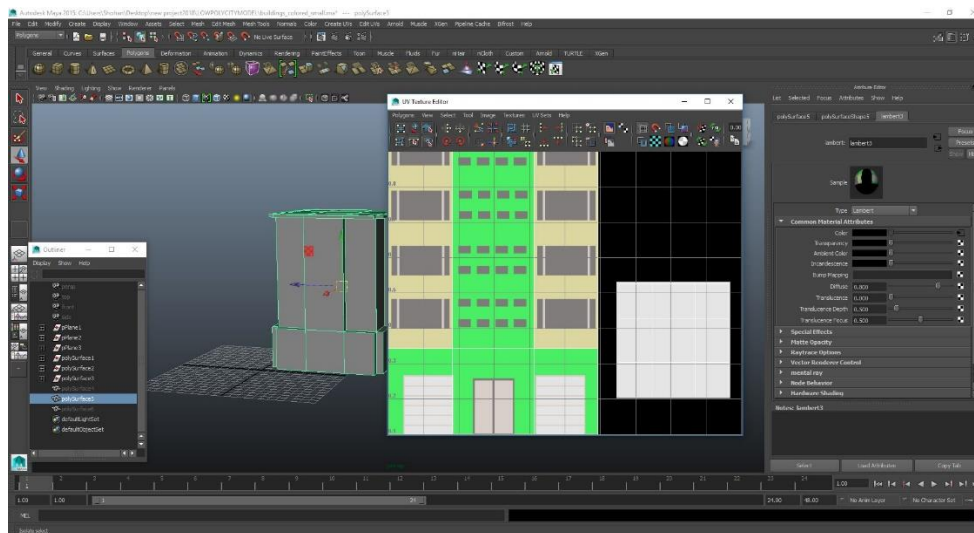


Figure 35: Screenshot of UV mappings



Figure 36: Texture collect from Google.

3.6 Rigging:

Skeletal animation is a technique in computer animation that represents a character in two parts: the character is used to represent the presentation (known as skull or mesh) and a hierarchical set of interconnected bones (called skeleton or rig). Pose and key frames) Although this technique is often used for animating human beings for biological modeling, it only makes the animation process more intuitive and the same technique can be used to control the evolution of an object - a door, a spoon, a building, or A galaxy.

Rigging Created for this project:

In is project I create my character use charactergenerator.autodesk.com and rigging use online web site mixamo.com .rigging to move my character easily & creating animation.

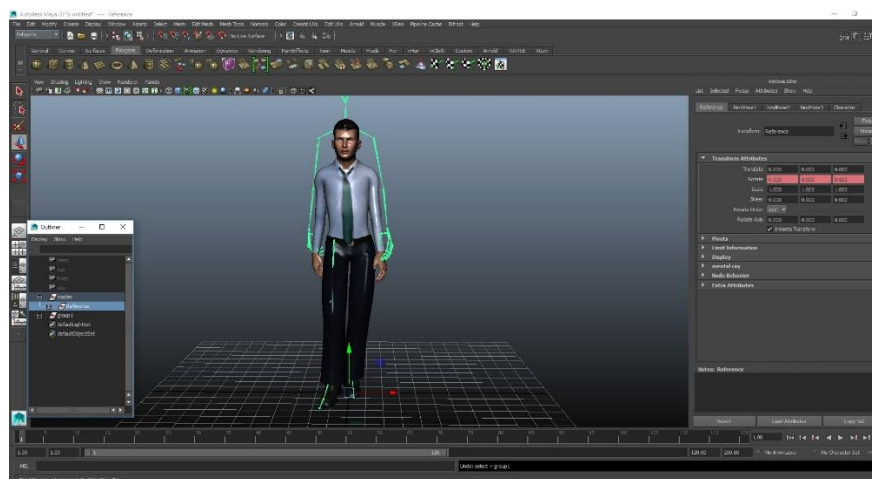


Figure 37: rigging character

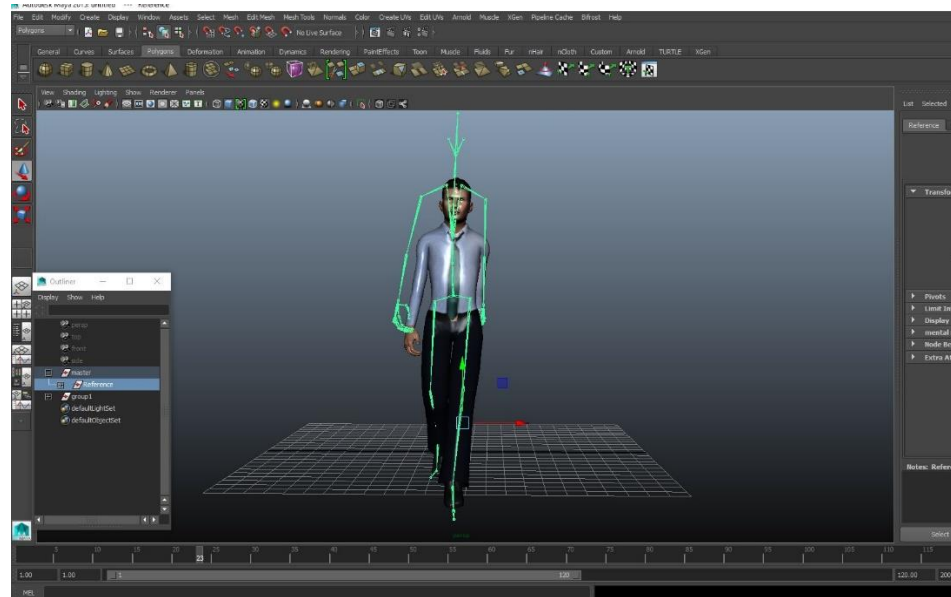


Figure 38: rigging character

3.7 Camera:

Create to create a new camera> Camera> Camera Type> (where the camera type is the type of camera you want), select. Create camera option for the type of camera displayed. Note: If you have set the options for this type of camera, but the camera type you can select options before opening; Every time you do not have to set its options.

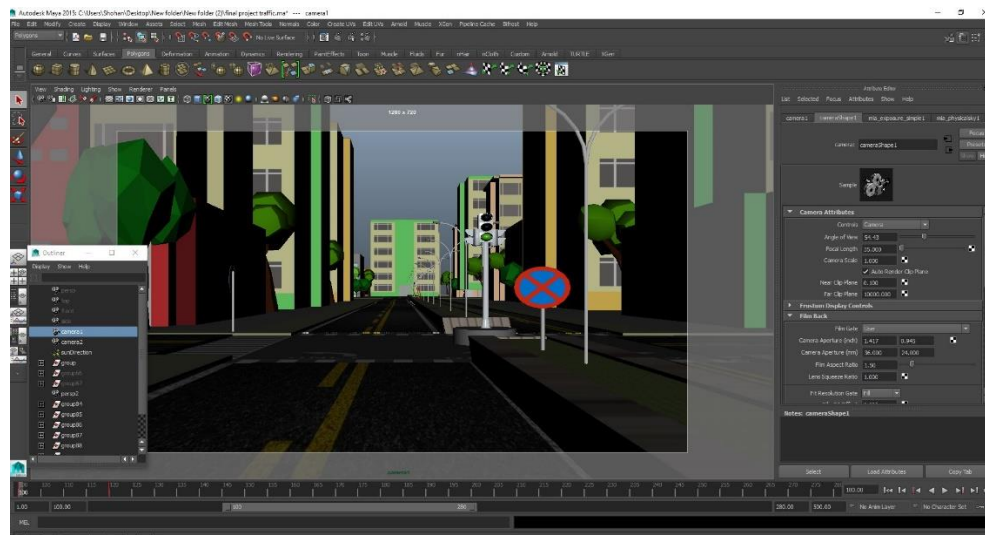


Figure 39: Camera1 in Maya



Figure 40: Camera2 in Maya

3.8 Lighting:

There are several well-established 3-D techniques of discussion and type of environment, it is often by default, in which case the most appropriate. For example, if you have a few good internal environment and an external modeling makes very little sense. The same approach "studio lights" because it works for the movie in 3-D Animations and approach than light. Omni lights point or a point of light in a single 3-D environments, from small sources contain ray each side. It has a particular shape and size. Point Light is a 3D view of the "enlightened light" effect that can add, as well as candles, Christmas tree lights, no light source can mimic or others.

Spot Light:

There are targeted spot lights and free sports, which means that they have no target objects. It is often used to simulate light fixtures, for example desk lamps or streetlights, as it casts a focused ray of light.

Ambient Light:

An ambient light is similar to any other type of light. It contains the soft ray, although it does not provide any specific guidance, and no shadow on the ground does not. This can be compared to the evening after sunset. It is often the main source of light in color as well as the source for a 3D scene.

Directional Light:

This is contrary to the Omni light, it is a very distant source of light, which (like the light of the moon). Directional parallel rays to a single direction. Such 3D lighting is often used to imitate sunlight. To change the scene illumination light or you can adjust the color and the compass Rotate the light source.

Area Light:

Area Light is a certain size and shape (rectangular or round), a set of light emitted within the boundaries. Playing this type of architecture as well as the light source products often are used for visualization of lightning. Area lights create your rendering that as more realistic shadows, creating soft-rays. Navigation lights, reverse lights in all aspects of the area as it does not emit and out of parallel rays.

Volume Light:

This is similar to a certain point as the omni light rays from all the rays. Yet, in a volume of light in a specific shape (a geometric primitive) and size. This is only the surface of the volume set volumetric light illuminates. Volume Light smoke, fog, impact, etc. are available). Parallel rays.

Lighting for our project:

I am used sunDirectional light (physical sun and light) form lighting. After finishing all models and environments I am worked for lighting. The intensity of the light is 1.00, saturation 1.2. The light I am used is supported by mental ray renderer. This light can be used to simulate different times in a day.

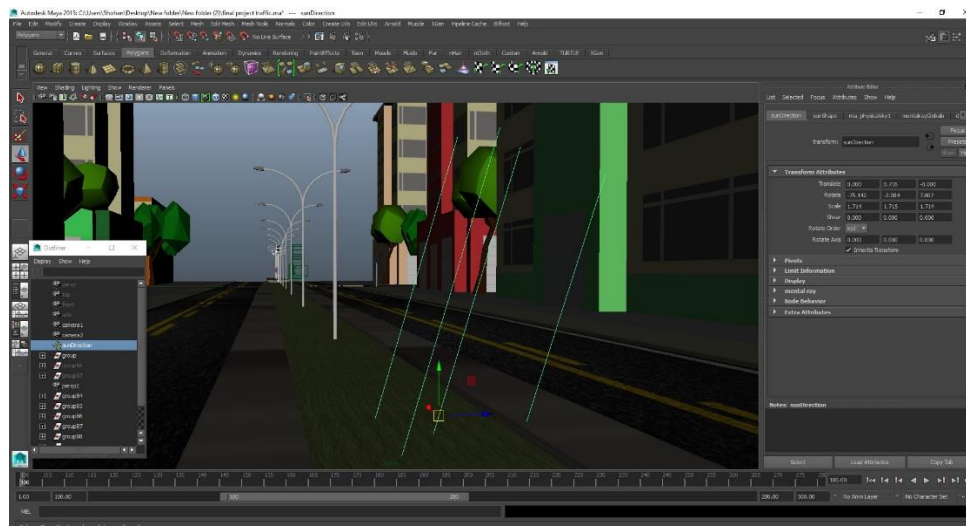


Figure 41: sunDirection light in Maya

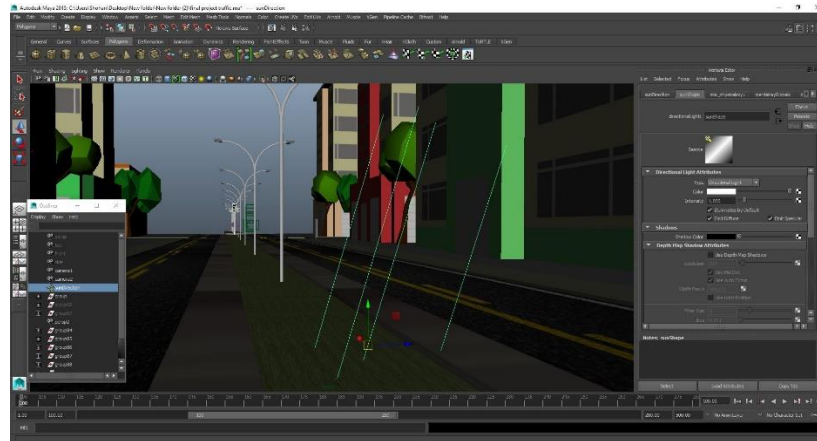


Figure 42: sunDirection light in Maya.

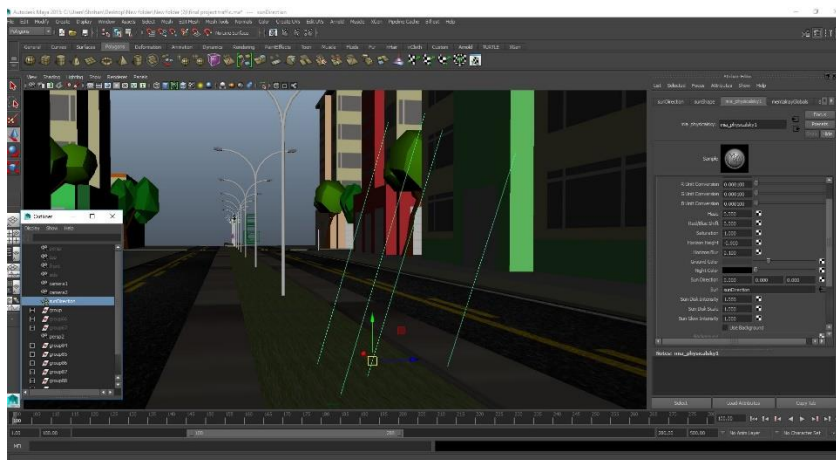


Figure 43: sunDirection light in Maya.

CHAPTER 4

4.1 Animation:

An animation showing rapid succession by a series of still create the illusion of movement. For the current project, the effect of animation was used to create several graphic software. Animation artist who specialized in the creation of animation. Generally, animation media, flip book, motion picture film, video tape, digital media, animated GIF, Flash animation and format, including digital video can be recorded, including the animation. To view the animation, a digital camera, computer, or the projector is used with the new technology that is used.



Several Animation Techniques are:

- Traditional animation
- Stop motion animation
- Computer animation
- Mechanical animation

4.2 3D Animation:

The process of creating three-dimensional moving images in a digital environment. 3D models or 3D object manipulation carefully in order to export the animation sequence or sequences in the film provides the illusion of movement. However, it is entirely based on the strategy used for manipulating objects. The process of generating a series of 3-D is classified into three major sections and modeling, layout and animation, and rendering. Modeling 3D objects in a scene that describes how to create a stage. Layout and positioning phase of animation and animation of objects in a particular scene for the following describes the process. Finally, the end result is described in the output of computer graphics rendering or finished. Successful production processes mentioned above, and other sub-sections of the sections is done with caution. Professional 3D animation software used to create the market and on the range of affordable low-end versions of the high-ends is filled. Next, I'll try and go through the differences between the two animations.

Animation Created for this project:

- × Firstly I focused on the whole scenes equipment or props then I created some 3D models for required for my scenes. My character create & rigging I using online web site charactergenerator.autodesk.com and mixamo.com
- × Then I fixed the texture and set up the lighting.
- × Then I worked on the character animation, my car animation and lastly worked on the camera animation.

4.3 Rendering:

3D rendering is the 3D computer graphics process of automatically converting 3D wire frame models into 2D images with 3D photorealistic effects or non-photorealistic rendering on a computer.

- × First of all whole render was done by using mental ray render.
- × Then we used the 720 HD resolution.
- × I optimized scenes textures models and lightings as well as mental ray render settings. I used best possible samples for my render and still it took almost 16 days for complete render After selecting Mental ray renderer from Rendering section of Maya, I have check marked color management system and selected sRGB and Linear sRGB option. Global illumination was set to 500. Render output format was set as Targa. Main render outputs were at 1280 * 720 pixels. Finally, I used batch rendered to get render outputs.

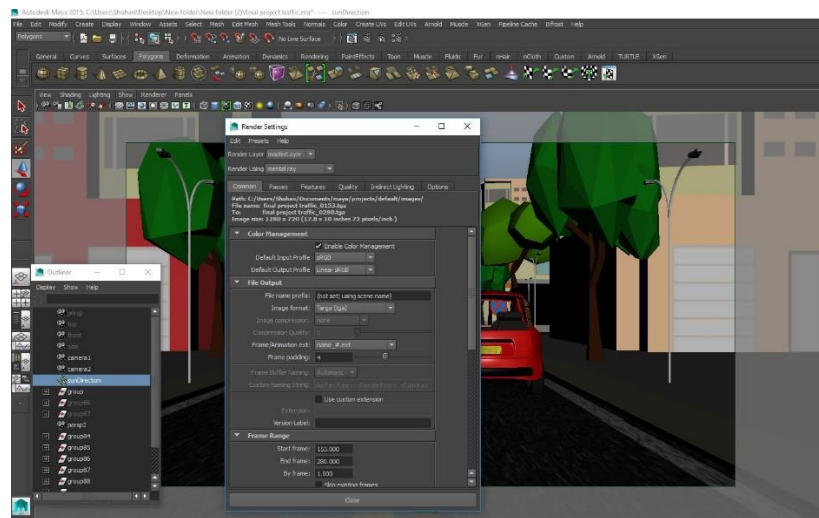


Figure 44: Screenshot shows how I setup render setting in Maya.

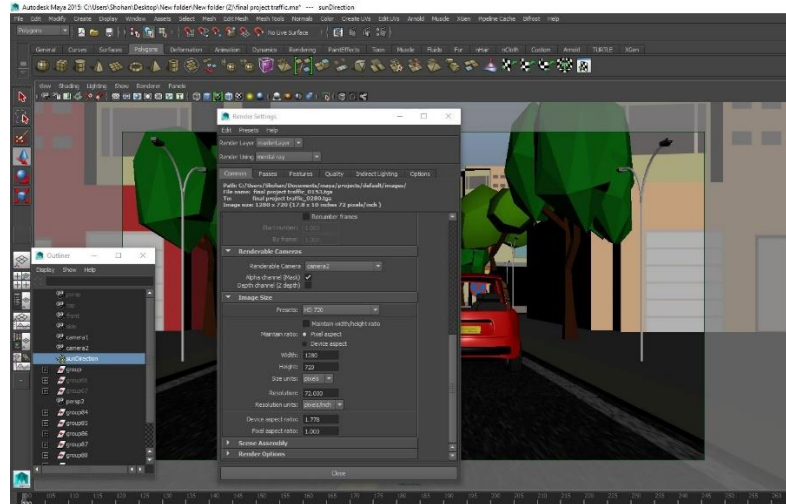


Figure 45: Screenshot shows how I setup render setting in Maya.

Final render Image:



Figure 46: Final render Image (mid-short)



Figure 47: Final render Image (long-short)



Figure 48: Final render Image (close-short)



Figure 49: Final render Image (long-short)

CHAPTER 5

5.1 Video composition:

Video Composition Rules. An offshoot of those artistic rules, used in still photography and video, is called the rule of thirds. The rule of thirds states that you should mentally divide the frame (what you see in the viewfinder) into thirds, both vertically and horizontally.

I am mainly used Adobe After Effects for video creation. As well as Adobe CS6 . Adobe After Effects is used to edit videos, including movies, and is quickly became the go-to program for filmmakers all over the world, both amateur and pro. At first, I imported all the rendered images in Adobe After Effects and add those in sequence in desired order. After that, I cut some unnecessary images and changed length and speed of clips. I used Adobe After Effects for color correction and as well as for adding sound. Basically the final video output is made by Adobe After Effects. Then we put a intro before the video start .that will allow the full introduction of my project. I am also used Premiere Pro to sound add my project.



Figure 50: Screenshots of After Effects time line



Figure 51: Screenshots of Premiere Pro TimeLine



CHAPTER 6

6.1 Introduction:

In this chapter I am made several comments about the Safe Road that I have done for visualization with reference to the real scenario. It includes a comparison of my created models that is, to what extent this scenario close to the real objects regarding quality and measurement.

6.2 Discussion:

In this world there are lots of things are happening .some are really good for people and some are not. For examples like any kinds of road accident are always harmful for human beings and other animals of this planet. Among them there are lots of people death by road accident. So I chose this particular topic for my project. Being a Multimedia and Creative Technology student, I have decided to create 3D animation about Road Sign and try to show which road sign means what. Through this whole project I work alone. My four years education life this project was the biggest and most important one. To complete my project successfully I am worked so hard. I done lots of research on the internet. I watch few videos on YouTube .but couldn't found any 3d animations based road sign.so I decided that I make a unique 3d animation project which will be so different from exists project on internet. I learned so many things through working on my project. I learned how to works under pressure, how to overcome any boundedness through doing my works theses all I learned from this project. The project also required good skills in video and audio editing. The final output may act as a benchmark for undergraduate level multimedia students. It may also help to provide knowledge to general people and perhaps attract a few tourists. Though I complete the final project then even there is still some little mistake on my project. Due to time and resource constraints, I could not touch my desired result. I am tried my level best to make this project more thoughtful to people.



CHAPTER 7

Conclusion:

Now-a-days road accident is the main problem in our country. Everyday anywhere in our country people death or injured by road accident. Many students spot death in road accident. They are death very young age. This road accident destroy many family income source because many family survive the road accident affected people incomes. Not only people but also government also face huge amount losses every year. Sometimes driver's mistakes or sometime people mistakes are reason of road accident. So we need to follow traffic rules & also know the road sign. If we know the road sign than we can easily crossed road and easily drive car in road. Road sign is very important for human life because every day we go to outside of house to earn money, study etc. If we are know the every road sign

Than we safely crossed the road and drive car in the road.

To make this topic visible I am tried to make visualization process by combine 3D and motion graphics. I tried to make a 3D character animation and motion graphics based on my topic. In this case I am tried to visualize that people known road sign” 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.



APPENDIX

Story Board:

Storyboard is a graphical organizer in the form of illustrations or images displayed in sequence for the purpose of pre-visualizing a motion picture, animation, motion graphic or interactive media sequence. 3D model Three-dimensional (3D) models represent a physical body using a collection of points in 3D space, connected by various geometric entities such as triangles, lines, curved surfaces, etc.

Autodesk Maya:

Autodesk Maya usually becomes smaller, it is a 3-D computer graphics software for Windows, and Linux MacOS which is powered by the Alias Systems Corporation developed and it is currently owned and developed by Autodesk. This video games, animated films, TV series, or an interactive 3-D applications, including visual effects are used to create.

Texturing:

In vector art texture, perceived surface quality of a work of art. This two-dimensional and three-dimensional design material and it provides her with visual and physical features are different. As well as other elements used in design texture, different messages and can express emotions.

Animation:

An animation showing rapid succession by a series of still create the illusion of movement. For the current project, the effect of animation was used to create several graphic software.



Rendering:

3D rendering 3D computer graphics frame models with automatic 3D wire frame models
3-D effects photorealistic or to convert any computer with a non-photorealistic the rendering process.



Reference

1. https://en.wikipedia.org/wiki/Road_signs_in_Bangladesh
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3. <https://charactergenerator.autodesk.com>
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5. http://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries?fbclid=IwAR0dJNHWFp1uOUI3C462mGZuFN-B_zmIKuM9ZJAoN8AoDv5cQMLPaVzvwZk
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