**Computer Graphics**

**Section – G (Fall 2020-2021)**

**Project Report- Army Camp View**

**Introduction:**

Our project title is **‘Army Camp View’**. We are total four members in our group. All group member’s information is given below—

|  |  |  |
| --- | --- | --- |
|  | ID | Name |
| 1 | 18-37548-1 | MOLLA, FAHAD |
| 2 | 18-37518-1 | KHAN, NUSRAT SONGITA |
| 3 | 18-37490-1 | TASNIM, NUJAT |
| 4 | 18-37535-1 | RAHMAN, MD. ATIQUR |

**Problem Statement:** Since our project topic is **‘Army Camp View’**, we have designed following objects in our project—

1. Zip Car
2. Missile Tank
3. Speed Boat
4. Watch tower
5. Satellite
6. Tent
7. Soldier
8. Gun with firing
9. Bird
10. Campfire
11. Sun
12. Moon
13. Mountain
14. Tree
15. Bangladesh’s Flag
16. Cloud
17. Grass

**System Implementation Method:** In this project we have drawn total 17 objects. We have used mathematical

formulas and different geometric primitives to draw these objects.

Zip Car: GL\_POLYGON, GL\_QUADS, GL\_LINES, GL\_LINE\_LOOP – these four primitives have used to draw it. We have used jeep() and within this function wheel() is used.

Missile Tank: To draw this we have used tank() and wheel() functions and primitives are-GL\_POLYGON, GL\_QUADS, GL\_LINES, GL\_LINE\_LOOP.

Speed Boat: GL\_POLYGON, GL\_LINE\_LOOP these two geometric primitives are used to draw this object.

Watch Tower:

Satellite: To draw this we have used satellite(), GL\_POLYGON, GL\_LINE\_LOOP, GL\_LINES.

Tent: teny(), tentMirror(), GL\_POLYGON, GL\_QUADS, GL\_LINES are used to draw this object.

Soldier: human(), GL\_POLYGON, GL\_LINE\_LOOP, GL\_TRINANGLES, GL\_LINES are used to draw soldier.

Gun with firing: GL\_QUADS is used to draw gun.

Bird: GL\_TRINANGLES, GL\_POLYGON, bird() are used to draw bird.

Campfire:

Sun:

Moon:

Mountain: mountain(), glTranslatef(), GL\_TRINANGLES are used to draw this object.

Tree:

Bangladesh’s Flag:

Cloud:

Grass: To draw this we have used grass(), GL\_TRINANGLES, GL\_LINE\_LOOP.

We have following features in our project-

1. Motion of constructive models like bird, cloud, sun, moon.
2. Environment changing such as day mode and night mode.
3. Rain drops.
4. Speed boat, Missile Tank, Zip car.
5. Soldier firing from gun.
6. Missile Tank firing bullets.
7. Addition of sound.
8. Camp fire in night mode.

**Significance of the Project:** From this project we can see a complete view of army camp and objects that an army camp should have. As we have two modes (day mode and night mode) in our project, we can visualize the day view of an army camp as well as the night mode of the camp. We have cloud movement, birds flying movement and other things that an army camp should have. We have used different geometric primitives to draw required objects using OpenGL API. So this project will give a complete view of an army camp.

**Conclusion:** Overall we have tried our best to complete this project and make it presentable. We have tried to add objects and movements that an army camp should have. We have tried our level best to make sure that anyone can get an idea of an army camp. Maybe we could have add some more features with some more time. Overall we hope that our honorable faculty will like our project.

**References:** As our honorable faculty gave us two sample projects to get idea from those, we would like to thank our honorable faculty Md. Kishor Morol Sir.

**Some Screenshots of Our Project:**