**ACKNOWLEDGEMENT**

Any achievement does not depend solely on the individual efforts but on the guidance, encouragement and co-operation of intellectuals, elders and friends. A number of personalities, in their own capacities have helped us in carrying out this mini project work. We would like to take this opportunity to thank them all.

We would like to express my profound thanks to **Sri. G Dayanand,** Chairman, Sapthagiri College of Engineering Bangalore, for his continuous support in providing amenities to carry out this Mini Project.

Special Thanks to **Dr. N. Srinivasan,** Director, Sapthagiri College of Engineering Bangalore, for his valuable suggestion.

Also we would like to express our immense gratitude to **Dr. K L Shivabasappa,** Principal, Sapthagiri College of Engineering Bangalore, for his help and inspiration during the tenure of the course.

We also extend our sincere thanks to **Dr. Kamalakshi Naganna**, Professor and In-Charge HOD, Department of Computer Science and Engineering, Sapthagiri College of Engineering, for her constant support.

We would like to express our heartful gratitude to **Mrs. Chaithra,** Associate Professor and **Mrs. Anuradha Badage,** Assistant Professor, Department of Computer Science and Engineering, Sapthagiri College of Engineering, for their timely advice on the mini project and regular assistance throughout the work.

We also extend our sincere thanks to all the **Faculty Members** and **Supporting Staff** Department of Computer Science and Engineering, Sapthagiri College of Engineering, for their constant support and encouragement.

Finally, we thank our parents and friends for their moral support.

**CHAITANYA ANAND (1SG16CS020)**

**DIVIJ N (1SG16CS029)**

**ABSTRACT**

The system is to illustrate the concepts of working of a Satellite in OpenGL. A Satellite is an object which has been placed into orbit by human endeavour. Such objects are sometimes called artificial satellites to distinguish them from natural satellites such as the Moon Satellites are used for a large number of purposes. Common types include military and civilian Earth observation satellites, communications satellites, navigation satellites, weather satellites, and research satellites. This pushed the entire network into a 'congestion collapse' where most packets were lost and the resultant throughput was negligible. Input devices like mouse and keyboard are used to interact with program. SolidCube is used for forming a complete network setup which helps to understand concept of Congestion Control very well. To differentiate, different colours are used for different objects. A menu which makes the program more interactive is added. In the system a small SolidCube is used to represent a data, which travels as data transfer from source to destination.

**TABLE OF CONTENTS**

**Sl. No. CHAPTERS Page No.**

1. **Introduction 1**
   1. Overview Of The Project 5
   2. Aim Of The Project 5
2. **Requirement Specification 6**
   1. Functional Requirements 6
   2. Non-Functional Requirements 6
   3. Details Of The Software 7
      1. Microsoft Visual C++ 7
      2. OpenGl And Glut 8
   4. Software Requirements 8
   5. Hardware Requirements 8
3. **Design 9**
4. **Implementation 10**
   1. Built-In Functions 10
5. **Testing 13**
6. **Results and Screenshots 14**
7. **Conclusion 16**

**Bibliography 17**

**LIST OF FIGURES**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Figure No.** | **Title of figure** | **Page No.** |
| 1 | 1.1 | Library organization of OpenGL | 4 |
| 2 | 3.1 | DataFlow Diagram for representing flow of execution of Satellite Communication | 9 |
| 3 | 6.1 | Initial display screen | 13 |
| 4 | 6.2 | Planet with an artificial satellite revolving around it | 13 |
| 5 | 6.3 | Transmission of signals from transmitter to satellite | 14 |
| 6 | 6.4 | Transmission of signals from satellite to receiver | 14 |

**LIST OF TABLES**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Table No.** | **Title of table** | **Page No.** |
| 1 | 1 | Test case results | 11 |