

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
BELAGAVI**



*A Mini Project Report on*

**“CLIENT SERVER SIMULATION USING OPENGL”**

*Submitted in the partial fulfillment for the requirements for the conferment of degree of*

**BACHELOR OF ENGINEERING**

*In*

**COMPUTER SCIENCE AND ENGINEERING**

*By*

**Mr.Mohammed Daaniyaal**

**1BY15CS051**

**Bhargav Sagiraju**

**1BY15CS016**

*Under the guidance of*

**Mr. SHANKAR R**

Asst. / Assoc. Professor,  
Department of CSE, BMSIT&M.



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
B.M.S. INSTITUTE OF TECHNOLOGY & MANAGEMENT  
Yelahanka, BENGALURU-560064**

**2017-2018**

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY  
BELAGAVI**

**B.M.S INSTITUTE OF TECHNOLOGY & MANAGEMENT**

**YELAHANKA, BENGALURU-560064**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**



**CERTIFICATE**

This is to certify that the Mini Project work entitled “**CLIENT SERVER SIMULATION USING OPENGL**” is a bonafide work carried out by **Mr. MOHAMMED DAANIYAAL (1BY15CS051)** and **Mr. BHARGAV SAGIRAJU** in partial fulfillment for the award of **Bachelor of Engineering Degree in Computer-Science and Engineering** of the Visvesvaraya Technological University, Belagavi during the year 2017-18. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in this report. The Mini project report has been approved as it satisfies the academic requirements in respect of project work for the B.E Degree.

\_\_\_\_\_  
**Signature of the Guide**

Mr. Shankar R

**Name of the Examiners**

1.

2.

\_\_\_\_\_  
**Signature of the HOD**

Dr. THIPPESWAMY G.

**Signature with Date**

## ACKNOWLEDGEMENT

We are happy to present this Mini project after completing it successfully. This project would not have been possible without the guidance, assistance and suggestions of many individuals. I would like to express my deep sense of gratitude and indebtedness to each and every one who has helped me to make this project a success.

We heartily thank our **Principal, Dr. MOHAN BABU G N, BMS Institute of Technology & Management** for his constant encouragement and inspiration in taking up this Mini project.

We heartily thank our **Head of Department, Dr. Thippeswamy G, Dept. of Computer Science and Engineering, BMS Institute of Technology & Management** for his constant encouragement and inspiration in taking up this Mini project.

We gracefully thank Project guide, **Mr. Shankar R, Asst. Professor, Dept. of Computer Science and Engineering**, for his encouragement and advice throughout the course of the Project work.

Special thanks to all the staff members of Computer Science Department for their help and kind co-operation.

Lastly we thank our parents and friends for their encouragement and support given to me in order to finish this precious work.

By,

**Mohammed Daaniyaal**

**Bhargav Sagiraju**

## **ABSTRACT**

In computer science, client-server is a software architecture model consisting of two parts, client systems and server systems, both communicating over a computer network or on the same computer. The client-server model is a distributed application structure that partitions tasks or workloads between the providers of a resource or service, called servers, and service requesters, called clients. Often clients and servers communicate over a computer network on separate hardware, but both client and server may reside in the same system.

The client process always initiates a connection to the server, while the server process always waits for requests from any client. A server host runs one or more server programs which share their resources with clients. A client does not share any of its resources, but requests a server's content or service function. Clients therefore initiate communication sessions with servers which await incoming requests. The client and server communicate with each other through a well-known application protocol.

## Project to Program Outcomes (PO) Mapping

**Project Name:** Client Server Simulation Using OpenGL

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
✓	✓	✓	✓	✓			✓	✓	✓	✓	✓

### Program outcomes (POs):

<b>PO1</b>	<b>Engineering knowledge:</b> Apply the knowledge of Mathematics, Science, Engineering fundamentals and an engineering specialization to the solution of complex engineering problems
<b>PO2</b>	<b>Problem analysis:</b> Identify, formulate, review research literature, and analyse complex Engineering problems reaching substantiated conclusions using first principles of mathematics, Natural sciences and engineering sciences
<b>PO3</b>	<b>Design/development of solutions:</b> Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
<b>PO4</b>	<b>Conduct investigations of complex problems:</b> Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the Information to provide valid conclusions
<b>PO5</b>	<b>Modern tool usage:</b> Create, select, and apply appropriate techniques, resources, and modern Engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
<b>PO6</b>	<b>The engineer and society:</b> Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
<b>PO7</b>	<b>Environment and sustainability:</b> Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for Sustainable development
<b>PO8</b>	<b>Ethics:</b> Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
<b>PO9</b>	<b>Individual and team work:</b> Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings
<b>PO10</b>	<b>Communication:</b> Communicate effectively on complex engineering activities with the engineering Community and with society at large, such as, being able to

	comprehend and write effective reports And design documentation, make effective presentations, and give and receive clear instructions.
<b>PO11</b>	<b>Project management and finance:</b> Demonstrate knowledge and understanding of the Engineering and management principles and apply these to one's own work, as a member and Leader in a team, to manage projects and in multidisciplinary environments.
<b>PO12</b>	<b>Life-long learning:</b> Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## Project to Program Specific Outcomes (PSO) Mapping

**Project Name:** Client Server Simulation Using OpenGL

PSO1	PSO2
✓	✓

### Program Specific Outcomes (PSOs):

<b>PSO1</b>	Analyze the problem and identify computing requirements appropriate to its solution.
<b>PSO2</b>	Apply design and development principles in the construction of software systems of varying complexity.