**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

Jnana Sangama, Belagavi



A Mini-Project Report on

**“DOUBLE ENDED QUEUE”**

**Computer Graphics & Visualization Laboratory with Mini Project**

**15CSL68**

Submitted by

**Shylashree M A (4VV16CS103)**

**Taurunika Shivashankaran (4VV16CS115)**

Under the Guidance of

**Pavan Kumar S P Gururaj H L**

**Assistant Professor Assistant Professor**

****

**Department of Computer Science & Engineering**

**VIDYAVARDHAKA COLLEGE OF ENGINEERING  
 MYSURU-570 002**

**2018-19**

**Vidyavardhaka College of Engineering**

Department of Computer Science and Engineering

Mysuru, Karnataka 570 002

**(Affiliated to Visvesvaraya Technological University, Belagavi)**

****

**Certificate**

This is to certify that the Mini-project work entitled **“Double Ended Queue”**, is a bonafide work carried out by **Shylashree M A(4VV16CS103) and Taurunika Shivashankaran(4VV16CS115)** having completed the Computer Graphics & Visualization with Mini-project (15CSL68) during the year 2018-2019.

|  |  |
| --- | --- |
| **Guide**  Assistant Professor,  Dept. CS & E, | **Dr. Ravikumar V**  Professor & Head,  Dept. CS & E, |
| **Dr. B Sadashive Gowda**  Principal, VVCE | |

**External Viva**

Name of the Examiners Signature with date

1.

2.

**ABSTRACT**

Aim behind implementation of this project is to make clear understand ability of various operations which can be performed on double ended queue using OpenGL functions. This will simulate the operations of double ended queue such as creation of nodes, insertion at front, insertion at rear, deletion at front and deletion at rear. We are implementing it using different primitives available in OpenGL library and combining them together in a required manner. Our project illustrates the role of different callback functions that provides easier way to accomplish the implementation of double ended queue in an effective manner. Thus, our project provides effective and efficient knowledge of double ended queue.

**TABLE OF CONTENTS**

|  |  |  |  |
| --- | --- | --- | --- |
| **Ch. No.** | **Chapter Name** | | **Page No** |
| **1.** | **INTRODUCTION** | | **1** |
|  | 1.1. | Computer graphics | 1 |
|  | 1.2. | OpenGL Interface | 2 |
|  | 1.3. | Project Description | 3 |
| **2.** | **METHODOLOGY** | | **4** |
|  | 2.1. | Functions in OpenGL | 4 |
|  | 2.2. | User defined functions | 6 |
| **3.** | **RESULTS** | | **7** |
|  | 3.1. | Snapshots | 7 |
| **4.** | **CONCLUSIONS** | | **12** |
|  | **REFERENCES** | | **13** |

**LIST OF FIGURES**

|  |  |  |
| --- | --- | --- |
| **Fig. No.** | **Figure Name** | **Page No** |
| 1.2.1 | Graphics pipeline | 2 |
| 3.1.1 | Starting screen of output | 7 |
| 3.1.2 | Selection of operation | 8 |
| 3.1.3 | Insertion at rear | 8 |
| 3.1.4 | Insertion of other elements | 9 |
| 3.1.5 | Queue is full | 9 |
| 3.1.6 | Deletion from front | 10 |
| 3.1.7 | Insertion at front | 10 |
| 3.1.8 | Deletion from rear | 11 |
| 3.1.9 | Queue empty | 11 |