SIR M. VISVESVARAYA INSTITUTE OF TECHNOLOGY BENGALURU -562157

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



CERTIFICATE

It is certified that the project work entitled "HELICOPTER GAME" is a bonafide work carried out by ASHISH KUMAR DUBEY (1MV16CS021) & NITISH KUMAR KESHRI(1MV16CS063) in partial fulfillment for the requirements of mini project for the VI semester curriculum Bachelor of Engineering in Computer Science and Engineering of the Visvesvaraya Technological University, Belagavi during the year 2018-2019. It is certified that all corrections and suggestions indicated for Internal Assessment have been incorporated in the report. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the course of Bachelor of Engineering.

Name & Signature of Guide

Name & Signature of HOD

Mr.Elaiyaraja P

Asst. Prof

Dept. Of CSE, Sir MVIT

Bengaluru - 562157

External Examination:

Dr. & Prof. G.C. BHANUPRAKASH

HOD, Dept of CSE

Sir MVIT

Bengaluru -562157

Name of the Examiners

1)

2)

Signature with date

ACKNOWLEDGMENT

It gives us immense pleasure to express our sincere gratitude to the management of **Sir M. Visvesvaraya Institute of Technology**, Bangalore for providing the opportunity and the resources to accomplish our project work in their premises.

On the path of learning, the presence of an experienced guide is indispensable and we would like to thank our guide **Mr.Elaiyaraja P**, Assistant Professor, Dept. of CSE, for his invaluable help and guidance.

We would also like to convey our regards and sincere thanks to **Dr. & Prof. G.C. BHANUPRAKASH** HOD, Dept. of CSE for his suggestions, constant support and encouragement, Heartfelt and sincere thanks to Dr. & **Prof. V.R. MANJUNATH**, Principal, Sir. MVIT for providing us with the infrastructure and facilities needed to develop our project.

We would also like to thank the staff of Department of Computer Science and Engineering and lab-in-charges for their co-operation and suggestions. Finally, we would like to thank all our friends for their help and suggestions without which completing this project would not have been possible.

- ASHISH KUMAR DUBEY (1MV16CS021)

- NITISH KUMAR KESHRI (1MV16CS063)

TABLE OF CONTENTS

CERTIFICATE	I
ACKNOWLEDGEMENT	II
TABLE OF CONTENTS	III
LIST OF FIGURES	${f V}$
DECLARATION	VI
ABSTRACT	VII
CHAPTER 1 INTRODUCTION	1
1.1 INTRODUCTION TO COMPUTER GRAPHICS	1
1.2 HISTORY OF COMPUTER GRAPHICS	1
1.3 APPLICATION OF COMPUTER GRAPHICS	2
1.4 INTRODUCTION TO OPENGL	3
1.5 INTRODUCTION TO GLUT	4
1.6 APPLICATION OF OPENGL	5
1.7 OPENGL PRIMITIVES	5
1.8 PROPOSED SYSTEM	6
CHAPTER 2 SYSTEM REQUIREMENTS	8
2.1 HARDWARE REQUIREMENTS	8
2.2 SOFTWARE REQUIREMENTS	8
Dept. of CSE,SIR MVIT	2018-19

CHAPTER 3 ABOUT THE PROJECT	9
3.1 INTRODUCTION TO THE PROJECT	9
CHAPTER 4 SYSTEM DESIGN	10
4.1 INTRODUCTION	10
CHAPTER 5 IMPLEMENTATION	11
5.1 BUILT-IN HEADER FILES	11
5.2 BUILT-IN FUNCTIONS	11
5.3 USER DEFINED FUNCTIONS	14
CHAPTER 6 RESULTS AND SNAPSHOTS	15
6.1 CREATING OPENGL PROJECT IN CODE BLOCKS	15
6.2 EXECUTION OF MINI PROJECT	16
CONCLUSION	18

BIBLIOGRAPHY

Dept. of CSE,SIR MVIT 2018-19

19

LIST OF FIGURES

Sl. No.	Title of the figure	Page No.
FIG 1.1	OPENGL PIPELINE	4
FIG 1.2	OPENGL PRIMITIVE	6
FIG 4.1	SYSTEM DESIGN	10
FIG 6.1	SELECTING GLUT PROJECT TEMPLATE	15
FIG 6.2	SPECIFYING PATH OF PROJECT	15
FIG 6.3	SNAPSHOT OF RUNNING GAME	16
FIG 6.4	"GAME OVER" MESSAGE	16
FIG 6.5	DISPLAYING SCORE	17

٧ Dept. of CSE,SIR MVIT

2018-19

DECLARATION

We hereby declare that the entire mini pr	roject work embodied in this dissertation has		
been carried out by us and no part has been submitted for any degree or diploma of any			
institution previously.			
Place: Bengaluru			
Date:			
	Signature of Students:		
	ASHISH KUMAR DUBEY (1MV16CS021)		
	NITISH KUMAR KESHRI (1MV16CS063)		

Dept. of CSE,SIR MVIT

VI

ABSTRACT

This project is a simple game which is implemented using the concept of OpenGL. The game can be titled as Helicopter game. We use the three interfaces provided by the OpenGL that is GL, GLU and GLUT to develop the game called the Helicopter game. This is a light heartened game which is for the entertainment purpose.

It is a simple game in which a helicopter is made to fly while some obstacles will be coming opposite to helicopter. The obstacles are solid vertical blocks. It will be kept on coming in the way of helicopter and the player who is playing the game he/she should fly the helicopter in such a way that the obstacles and helicopters never touch each other.

If the helicopter comes in contact with obstacles then the game will be ended and the score will be displayed on the console according to following algorithm:

- For first 10 seconds-10 points/sec
- For next 20 seconds-15 points/sec
- For next 60 seconds-20 points/sec
- Afterwards 25 points/sec

This project is mainly developed for the entertainment and fun purpose where an end user can relax some time by playing an enjoyable game.