VISVESHWARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM

A MINI PROJECT SYNOPSIS ON FUN WITH POLYGONS
(Using OPENGL)

SUBMITTED BY

ABHISHEK S (3GN16CS002)
&
KESHAV POLA (3GN16CS029)

*Under the guidance of **Prof.V.S.PADMINI***

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
GURU NANAK DEV ENGINEERING COLLEGE
BIDAR-585403

ABSTRACT

Computer Graphics has grown into a very important topic in the branch of Computer Science. This is due to an effective and rapid communication formed between man and the machine. Human eye can absorb the information in a displayed diagram or perspective diagram much faster than it can scan a page or a table of contents.

This project demonstrates the creation of various polygons by giving the number of vertices as input. The user is also given the option to see the polygon from different views. OpenGL is used to make this possible by virtue of its various functionalities.

We can generate simple geometric figures like triangle, square, circle and various polygons by giving the number of sides from users input. Polygons like triangle, square, pentagon and so on can be generated with ease. We also include tilting and moving properties for the various polygons.

The code implemented makes use of various OpenGL functions for translation, rotation and keyboard callback function, built-in functions for solids and many more.The concepts of computer graphics stand a backbone to achieve the aforementioned idea. Primitive drawing, event driven interactions and basic animation have been the important concepts brought out by this application.

The report is chalked out into sections describing the basic requirements superseded by the briefing on functions used. Following this, the detailed description of how the implementation is done effectively using these functions and C language is presented.

The source code is provided along with necessary comments to enhance readability of code. The screenshots have been provided for amelioration of our little effort. The conclusion and the future enhancements proposed conclude the report. The maximum efforts are been made to ensure that the view is aesthetically pleasing and eye-catching.

SCOPE OF THE PROJECT:

The scope is to use the basic primitives defined in openGL library creating complex objects. We make use of different concepts such as display(), idle(), specialkeys(), updaterotate(), onmousebutton() and other functions.

DEFINITION:

The project ***FUN WITTH POLYGONS.***

It is created to demonstrate OpenGL's concepts. It encompasses some of the skills learnt in our OpenGL classes such as display(), idle(), specialkeys(), updaterotate(), onmousebutton() and other functions.

System and User Requirements:

↳ User Requirement:

- Easy to understand and should be simple.

- The built-in functions should be utilized to maximum extent.

- OpenGL library facilities should be used.

↳ Software Requirements:

- Ubuntu Os (or) Microsoft OS.

- Eclipse compiler.

- Glut libraries

Hardware Requirements:

- Processor- Intel or AMD (Advanced Micro Devices)

- RAM- 512MB(minimum)

- Hard Disk-1MB(minimum)

- Mouse

- Keyboard

- Monitor