Indian Institute of Information Technology, Sri City

CGM Project Report

Group No - 1

Members-

1. Madhur Saxena - S20200010115
2. Samyak Bansal - S20200010186
3. Abhay Kumar Ray - S20200010002
4. Yash Gupta - S20200010234

ABSTRACT

‘A picture is worth a thousand words goes the ancient Chinese proverb. This has become a cliché in our society after the advent of inexpensive and simple techniques for producing pictures.

Our project fishing is based on the human and nature interaction theme which is 2D interactive animation. The fisherman comes near the sea and drops the fishing rod into the water to catch the fishes. Then finally the fisherman catches the fishes from the sea. We have used scale and translate functions to set different objects and transformed them in an animation. This project was created with the help of OpenGL Utility toolkit and the various libraries associated with it. Each of the elements were created as a different entity and then accumulated to form a animation.

INTRODUCTION

Computer graphics is no longer a rarity. It is an integral part of all computer user interfaces, and is indispensable for visualizing 2D; 3D and higher dimensional objects. Creating 3D objects, rotations and any other manipulations are laborious process with graphics implementation using a text editor. OpenGL provides more features for developing 3D objects with few lines by built-in functions. Geometric objects are the building blocks of any individual. Thereby developing, manipulating, and applying any transformation, rotation, and scaling on them is the major task of any image development.

As the need for computer graphics is increasing in many fields like game development and animation series, we use it here in our project to create an efficient representation of fishing. In this project, we are rendering a basic fishing animation. We try to make our rendered animation look as realistic as possible. Added a couple of extra features to give it a look closer to the real one.

PROJECT DETAILS

- PROBLEM STATEMENT

  Our project “Fishing” is based on the Human and Nature interaction theme, which is 2Dinteractive animation. The purpose of this project is to implement and understand the basic OpenGL functions and accurately know the working of it, which is an important aspect of computer graphics.

- MOTIVATION

  The ultimate motivation for this project is to provide graphical interfaces between the user and the system by using the OpenGL interactive application provided by Computer graphics. And also, our main goal is to implement(apply) the knowledge we have learnt about theOpen Graphical Library for designing mini graphical applications.

- PROPOSED SYSTEM

Here in this project, Fishing is based on the Human and Nature interaction theme, which is 2Dinteractive animation.

We have two menus like select snapshot and exit

In the select snapshot we have sub menus FISHES INSIDES THE WATER, to see theSCALMAN, FISHING, CATCHED FISHES and SCALEMAN with FISH.

- In first sub menu we can see the fishes translating from one co-ordinate to another.
- In second sub menu we can see the scaleman with the fishing wire to catch the fishes.
- In the third sub menu the scaleman puts on the wire to the see to catch fish.
- In the fourth sub menu the fish get hooked with the wire.
- In the fifth sub menu we can see the scaleman with the catched fish.

METHODOLOGY

The fishing can be implemented using some of the OpenGL inbuilt functions along with some user-defined functions. The inbuilt OpenGL functions that are used are mentioned under the FUNCTIONS USED category. The user-defined functions are mentioned under USER DEFINED FUNCTIONS category.

❖ FUNCTIONS USED

- Void glColor3f (float red, float green, float blue):
- Void glClearColor(int red, int green, int blue, int alpha):
- Void glutKeyboardFunc():
- Void GLflush():
- Void glMatrixMode(GLenum mode):
- void glutInit (int *argc, char **argv):
- glOrtho ( ):
- void glutMainLoop(void):
- glutPostRedisplay():

❖ USER DEFINED FUNCTIONS

- Void fish(): This function used to display the fish on the scene
- Void sea(): This function depicts the sea on the scene.
- Void land(): This function is used to display the land on the scene.
- Void sky(): This function is used to display the sky on the scene.
- Void water(): This function is used to display the water on the scene.
- Void man(): This function is used to display the fisherman(features include eyes ,nose,eyebrows,mouth,shirt,hands,pant) who comes with the wire to hunt the fishes.
- Void GoMenu():
  This function would provide the menu that consists following options:
  1.Fishes inside the water
  2.To see the Scaleman
  3.Fishing
  4.Catches fish
  5.scaleman with fishes.

CONCLUSION AND FUTURE ENHANCEMENTS

In this project, we are rendering fishing operations. Firstly, we have clearly shown fishes in the water. We have also shown the man with whom we will be performing the fishing operation. We have shown how the fishing will be done, the rod will go in the water and then the man standing with fish he caught. All these five things can be seen separately viewed, each and every one in new screen using the menu. To make it realistic, we have added land, face and body features to the man.