**Introduction**

The project is “SNAKE GAME” using OpenGL. It is a very interesting game designed with basic functions of OpenGL. It is very player friendly and easy to play. We displayed various things related to the game on the window. The player can see his score, the length of the snake and instructions on the window.

We used various features of OpenGL to design the game. We provided a set of keys for the movement of the snake. We used various functions like ‘glutBitmapCharacter’, ‘gluPerspective’, ‘glutTimerFunc’, ‘glutKeyboardFunc’, ‘glutSpecialFunc’, ‘glRaster3f’.

**Game Details**

This is a simple “Snake Game” involving eating of the food and growing in size. The food is generated at random places on the window. The player has to control the snake with provided keys and move the snake in the direction of food and eat it. The player has to avoid the hitting of the wall or hitting itself.

Each time the snake eats the food the length of the snake is increased which makes it difficult as the game continues. The game has 3 difficulty levels based on the speed of the movement of snake. The player can choose the level at the beginning of the game.

Player can always see his score on the top right edge of the window. Each time snake eats the food score is increased by ‘50’ points. The length of the snake is increased by ‘2’ units.

The keys for the movement of snake:

**W** – To move upwards **UP\_ARROW** – To move upwards

**S** – To move downwards **DOWN\_ARROW** – To move downwards

**A** – To move left side **LEFT\_ARROW** – To move left side

**D** – To move right side **RIGHT\_ARROW** – To move right side

The keys for Level Selection:

**E** – Easy Level

**M** – Medium Level

**H** – Hard Level

‘**Q**’ or ‘**ESC**’ for the exiting the game.

Functions and Modules

This game uses a lot of functions and modules from OpenGL library. These functions are very helpful in designing computer graphics. The major functions used in the Project are:

glTranslatef(x,y,z)