**CHAPTER 1**

**INTRODUCTION**

Thisis a program written in the OpenGL programming interface. The program shows an array of squares connected to each other. At first the all the blocks are shown. Various functions are used in the code to implement the game.

The array is altered according to the rules of the game depending on the square selected by the player. The motive of the game is to select the longest chain of adjacent squares of same color.

A track of the score is maintained based the number of squares eliminated while playing. When there are no more adjacent squares of same color the game ends and the final score is displayed.

* 1. **Problem Statement**

OpenGL is a software interface to graphics hardware. OpenGL is designed to work efficiently even if the computer that displays the graphics created isn't the computer that runs the graphics program. OpenGL is designed as a streamlined, hardware-independent interface to be implemented on many different hardware platforms. To achieve these qualities, no commands for performing windowing tasks or obtaining user input are included in OpenGL. Similarly, OpenGL doesn't provide high-level commands for describing models of three-dimensional objects. Such commands might allow you to specify relatively complicated shapes such as automobiles, parts of the body, airplanes, or molecules.

**1.2 Objectives**

Computer Graphics is concerned with all aspects of producing pictures or images. The term computer graphics includes almost everything on computers that is not text or sound. Today nearly all computers use some graphics and users expect to control their computer through icons and pictures rather than just by typing. The term Computer Graphics has several meanings:

* The [representation](http://en.wikipedia.org/wiki/Representation) and [manipulation](http://en.wikipedia.org/wiki/Manipulation) of [pictorial](http://en.wikipedia.org/wiki/Pictorial) [data](http://en.wikipedia.org/wiki/Data) by a [computer](http://en.wikipedia.org/wiki/Computer)
* The various [technologies](http://en.wikipedia.org/wiki/Technologies) used to create and manipulate such pictorial data and the [images](http://en.wikipedia.org/wiki/Image) so produced.
* The sub-field of [computer science](http://en.wikipedia.org/wiki/Computer_science) which studies methods for digitally synthesizing and manipulating visual content, see [study of computer graphics](http://en.wikipedia.org/wiki/Computer_graphics_%28computer_science%29).

Today computers and computer-generated images touch many aspects of our daily life. Computer imagery is found on television, in newspapers, in weather reports, and during surgical procedures. A well-constructed graph can present complex statistics in a form that is easier to understand and interpret. Such graphs are used to illustrate papers, reports, theses, and other presentation material. A range of tools and facilities are available to enable users to visualize their data, and computer graphics are used in many disciplines.

* 1. **Scope**

The main idea of making this project was to depict the square breaker in the system. During this project, we came across how to play the game using combination of similar colors of square in OpenGL. We also came to know how to break geometrical shapes using basic OpenGL primitives and how to clear similar color square box to win the game.