**CHAPTER 1**

**INTRODUCTION**

**1.1 Objective of the Project**

Computer Graphics become a powerful tool for the rapid and economical production of pictures. There is virtually no area in which Graphical displays cannot be used to some advantage so it is not surprising to find the use of CG so widespread.

Although early application in engineering & science had to rely on expensive & cumbersome equipments, advances in computer technology have made interactive computer graphics a practical tool.

Computer Graphics is used in a diverse area such as science, engineering, medicine, business, industry, government, art, entertainment, education and training.

Now it can be answered about computer graphics as generalized tool for drawing and creating pictures and simulates the real world situations within a small computer window.

The main objective of this project is to graphically demonstrate the concept of lighthouse and its implementation.

**1.2 Computer Graphics**

Computer graphics is a sub-field of computer science and is concerned with digitally synthesizing and manipulating visual content. Although the term refers to three-dimensional computer graphics, it also encompasses two-dimensional graphics and image processing. Computer graphics is often differentiated from the field of visualization, although the two have same similarities. Graphics are visual presentation on some surface like wall, canvas, computer screen. Graphics often combine text, illustration and color.

Computer graphics started with the display of data on hardcopy plotters and cathode ray tube (CRT) screens soon after the introduction of computers. It has grown to include the creation, storage and manipulation of models and images of objects. These models come from a diverse and expanding set of fields, and include physical, mathematical, engineering, architectural, and even conceptual structures. Computer graphics today is largely interactive. The user controls the contents, structure and appearance of objects and of their displayed images by using input devices, such as keyboard, mouse, or touch-sensitive panel on the screen.

Graphical interfaces have replaced textual interfaces as the standard means for user-computer interaction. Graphics has also become a key technology for communicating ideas, data and trends in most areas of commerce, science, engineering and education. Much of the task of creating effective graphic communication lies in modeling the objects whose images we want to produce.

Computer graphics is no more a rarity. Even people who do not use computers in their daily work encounter computer graphics in television commercials and as cinematic special effects. Computer graphics is an integral part of all user interfaces and is indispensable for visualizing objects.