constraints of the data to be stored in the database. The database definition or descriptive information is also stored by the DBMS in the form of a database catalog or dictionary, it is called meta-data. Constructing the database is the process of storing the data on some storage medium that is controlled by the DBMS. Manipulating a database includes functions such as querying the database to retrieve specific data, updating the database to reflect changes in the miniworld, and generating reports from the data. Sharing a database allows multiple users and programs to access the database simultaneously.

History of DBMS

In 1959, the TX-2 computer was developed at MIT's Lincoln Laboratory. The TX-2 integrated a number of new man-machine interfaces. A light pen could be used to draw sketches on the computer using Ivan Sutherland's revolutionary Sketchpad software. Using a light pen, Sketchpad allowed one to draw simple shapes on the computer screen, save them and even recall them later. The light pen itself had a small photoelectric cell in its tip. This cell emitted an electronic pulse whenever it was placed in front of a computer screen and the screen's electron gun fired directly at it. By simply timing the electronic pulse with the current location of the electron gun, it was easy to pinpoint exactly where the pen was on the screen at any given moment. Once that was determined, the computer could then draw a cursor at that location. Also, in 1961 another student at MIT, Steve Russell, created the first video game, E. E. Zajac, a scientist at Bell Telephone Laboratory (BTL), created a film called "Simulation of a two-giro gravity attitude control system" in 1963.

During 1970s, the first major advance in 3D computer graphics was created at UU by these early pioneers, the hidden-surface algorithm. In order to draw a representation of a 3D object on the screen, the computer must determine which surfaces are "behind" the object from the viewer's perspective, and thus should be "hidden" when the computer creates (or renders) the image.

In the 1980s, artists and graphic designers began to see the personal computer, particularly the Commodore Amiga and Macintosh, as a serious design tool, one that could save time and draw more accurately than other methods. In the late 1980s, SGI computers were used to create some of the first fully computer-generated short films at Pixar. The Macintosh remains a highly popular tool for computer graphics among graphic design studios and businesses. Modern computers, dating from the 1980s often use graphical user interfaces (GUI)

to present data and information with symbols, icons and pictures, rather than text. Graphics are one of the five key elements of multimedia technology.

3D graphics became more popular in the 1990s in gaming, multimedia and animation. In 1996, Quake, one of the first fully 3D games, was released. In 1995, Toy Story, the first full-length computer-generated animation film, was released in cinemas worldwide. Since then, computer graphics have only become more detailed and realistic, due to more powerful graphics hardware and 3D modeling software.

Application of DBMS

Applications where we use Database Management Systems are:

- **Telecom**: There is a database to keeps track of the information regarding calls made, network usage, customer details etc. Without the database systems it is hard to maintain that huge amount of data that keeps updating every millisecond.

- **Industry**: Where it is a manufacturing unit, warehouse or distribution centre, each one needs a database to keep the records of ins and outs.

- **Banking System**: For storing customer info, tracking day to day credit and debit transactions, generating bank statements etc. All this work has been done with the help of Database management systems.

- **Education sector**: Database systems are frequently used in schools and colleges to store and retrieve the data regarding student details, staff details, course details, exam details, payroll data, attendance details, fees details etc. There is a hell lot amount of inter-related data that needs to be stored and retrieved in an efficient manner.

- **Online shopping**: You must be aware of the online shopping websites such as Amazon, Flipkart etc. These sites store the product information, your addresses and preferences, credit details and provide you the relevant list of products based on your query. All this involves a Database management system.

- **College:** College keeps records of students attendance, results, projects, internal-assessment, it has millions of files that should be keep secured and safe. As DBMS provides a big security assurance to the information so it is widely used in colleges. One can easily search for all the information about anyone within seconds with the help of DBMS.

1.2 Introduction to Attendance Management

Introduction

Attendance Management System is a software developed for daily student attendance in schools, colleges and institutes. It facilitates to access the attendance information of all student in a particular class. The information is sorted by the operators, which will be provided by the teacher for a class. This system will also help in evaluating attendance eligibility criteria of a student.

Purpose

The purpose of developing attendance management system is to computerize the tradition way of taking attendance. Another purpose for developing this software is to generate the report automatically at the end of the session or in the between of the session

Scope

The scope of the project is the system on which the software is installed, i.e. the project is developed as a desktop application, and it will work for an institute. But later on the project can be modified to operate it online.

1.3 Disadvantage of Present Working System

- **Not User Friendly:** The existing system is not user friendly, because the retrieval of data is very slow, and data is not maintained efficiently.

- **Difficulty in report generating:** We require more calculations to generate the report, so it is generated at the end of the session. And the student not get a single chance to improve their attendance.

- **Lots of paperwork**: Existing system requires lot of paper work. Loss of even a single register/record led to difficult situation because all the papers are needed to generate the reports.

- **Time consuming**: Every work is done manually so we cannot generate report in the middle of the session or as per the requirement because it is very time consuming.

- **Manual control**: All calculations to generate report is done manually so there is greater chance of errors.

1.4 Characteristic of the Proposed System

- **User Friendly:** The proposed system is user friendly because the retrieval and storing of data is fast and data is maintained efficiently. Moreover, the graphical user interface is provided in the proposed system, which provides user to deal with the system very easily.

- **Reports are easily generated:** reports can be easily generated in the proposed system so user can generate the report as per the requirement (monthly) or in the middle of the session. User can give the notice to the students, so he/she become regular.

- **Very less paper work:** The proposed system requires very less paper work. All the data is feted into the computer immediately and reports can be generated through computers. Moreover, work become very easy because there is no need to keep data on papers.

- **Computer operator control**: Computer operator control will be there so no chance of errors. Moreover, storing and retrieving of information is easy. So, work can be done speedily and in time.