



# HOSTEL DBMS



# Slot 11

# Group 9

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# **I > INTRODUCTION**

## **A > PURPOSE**

The project was made by us keeping in mind some of the problems faced by hostelers in IIT Bombay viz . :-

- a> Less Interaction with hall manager
- b> Room cleaning issues
- c> Absence of a database of students

We tried to assert the problems above in our project.

Secondary purpose of project was to gain some knowledge of OOPS concepts ,data file handling in C++, and to sharpen our programing skills

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## **B> SCOPE**

The Project has a great scope in improving daily lives of students . It runs on negligible memory and can be run on old computers which are being thrown as E waste. If each of these computers are installed on floors , we can successfully implement live feeding of washing machine timings etc.

The project may also work in tandem with GSec,Warden and other coordinators and may form an interface between them and students. It may successfully replace the paper work which is tedious and easy to lose and may digitalise it making it more secure and less redious for authorities.

# C> References Used

- 1> Lecture Slides of Prof. Supratik Chakraborty and Prof. Deepak Phatak .
- 2> C++ by Sumita Arora
- 3> Various blogs and sites on net
- 4> Wikipedia
- 5> Introduction to C++ by Abhiram Ranade.

# **II> DESCRIPTION OF PROJECT**

## **A> Perspective View of Project**

Basically the project implements a database management system with various database functions like searching, modifying etc.

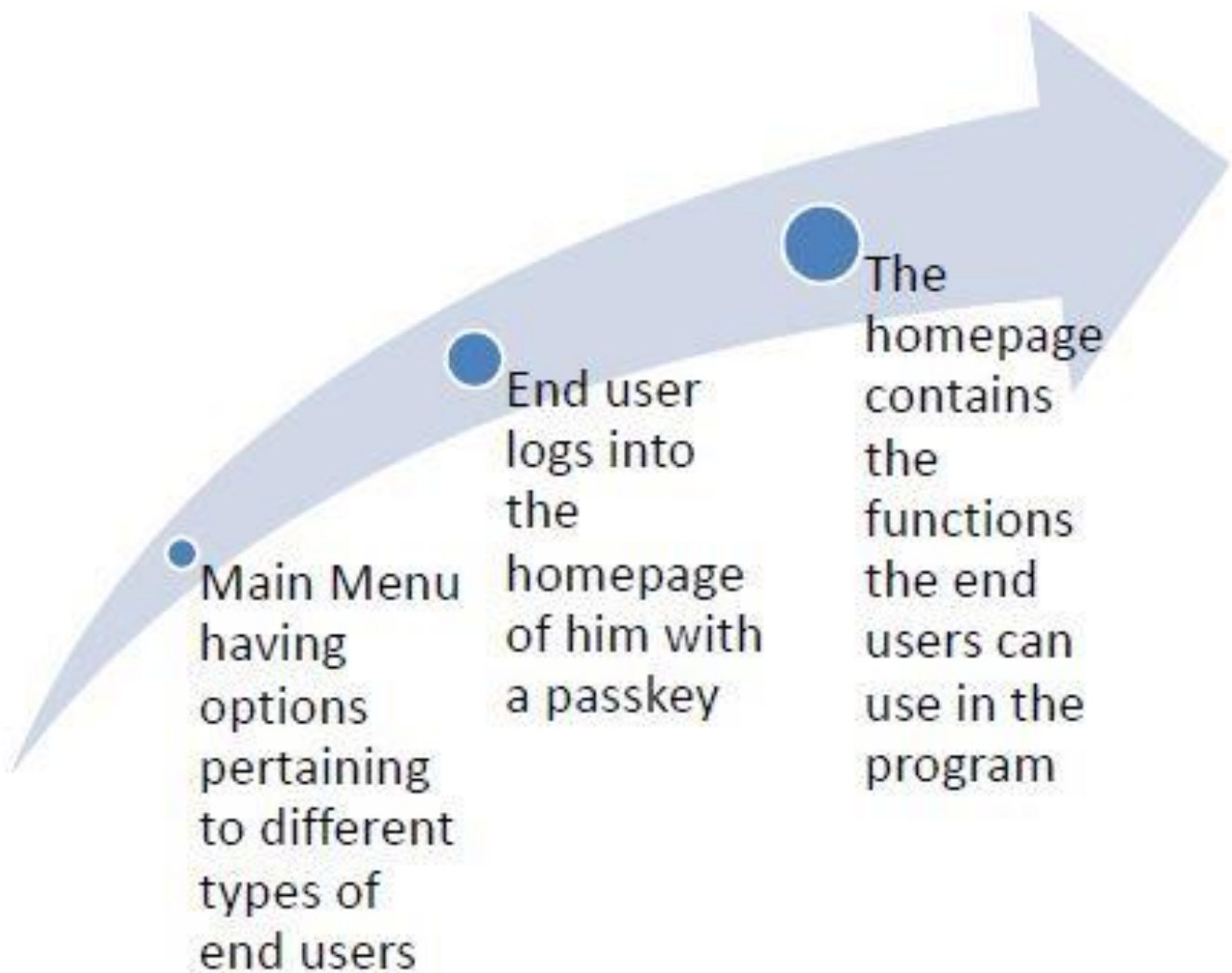
The end users consist of students, warden, workers, security officers, mess co and cult co. All end users access the database by providing a specific identification code which leads them to their homepage where they see messages from others, notices and some options .

Main menu having options pertaining to different types of end users.

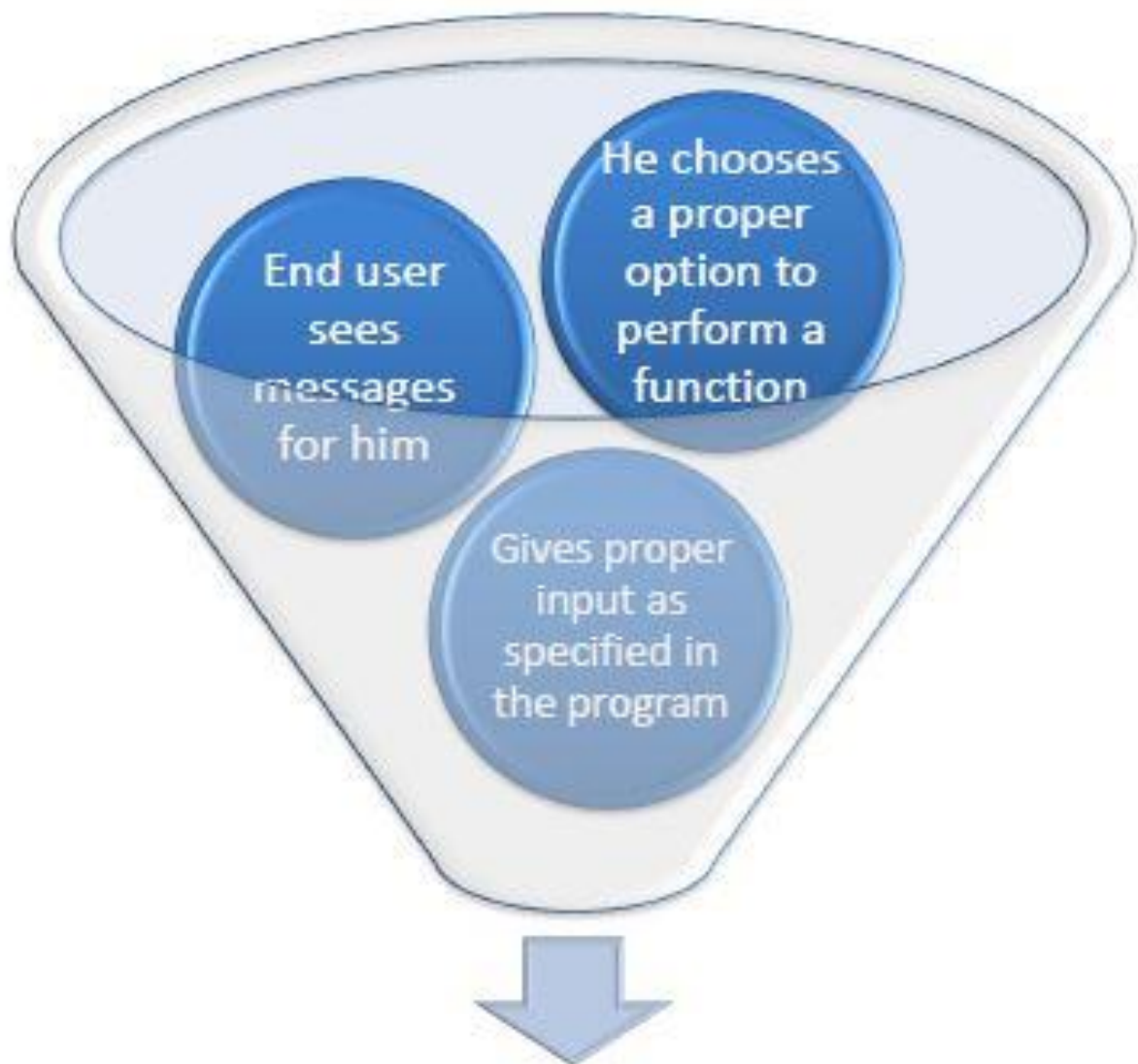
End user logs into the homepage of his/her with a preset passkey.

The homepage contains the functions the end users can use in the program.

# PERSPECTIVE VIEW OF THE PROGRAM



# PERSPECTIVE VIEW OF HOMEPAGE





## B> General Constraints

Although we tried our best to make a robust program there are some constraints to deal with:

1> We have not integrated networking concepts and have assumed 1 master computer to have all data required, so all the changes are to be made from 1 computer only.

2> The cinstr function used has some fallbacks , it takes little more time and doesn't erase the text outputted previously upon clicking backspace.

3> The arrays used have implemented static data allocation, i.e. they have a specific size and we can't violate it or recover some unused memory.

4> The Upper limit of messages is 5 and it should be less than 100 letters long .

# **C>. SPECIFIC REQUIREMENTS**

Codeblocks13.12 version IDE with Simplecpp integrated version.

Windows 7/8 OS to support it.

# 3>.FUNCTIONAL SPECIFICATIONS

i) **Functions of the computer** : The basic tasks performed by the system are as follows:-

- Registering mouse click of the user
- Input typed using keyboard
- Storing data in files
- Outputting data on screen
- Providing windows for display of menus and interfaces.
- Implementing database operations

## **ii) Functions used in program**

- Getdata(),Putdata() functions in classes to get data and print(put) data in each class.
- Mutator, Accessor , Constructor and Destructor Functions of class.
- Delete data function
- Modify Data Function
- Add data function
- Functions to display main menu
- Functions for displaying homepages of various end users.
- Functions for displaying submenus
- The “cinstr” function which takes string in the simplecpp graphic window
- The cpasskey function which is used to input passwords
- Various other user defined and inbuilt functions were used.

### iii) Classes Used

We have used classes to store objects containing data for the following things :-

- Hostelier ( Name, roll no. , Department, batch,tutorial batch , room,wing , hometown , annual income of parents, messages received, Contact no , email)
- Lost And Found ( Name of student, Object , Place where it was lost probably,Date)
- Worker ( Name , Phone no. , Floor Assigned)
- Complaints ( Name , string containing complaint , date )
- Visiting Persons ( Name , room visited ,wing visited , no of persons , purpose of visit )
- Mess menu (Day,Type(lunch,dinner etc),String having all dishes)
- Things Happening (Date,Time,String containing event name )

- Security Guard info ( Name , Shift ,Contact no. )

Further we have declared many variables of various types to help in smooth running of program.

#### **iv) Libraries Used**

Fstream,Graphics using simplecpp, stdio.h, cstring, cmath and other header files .

## **4. SUPPORT INFO**

If Program crashes at some point , just end task the codeblocks IDE , restart it and rerun it.

If it happens again there is a serious problem with code and contact us in this case.

Many times some trivial run time errors like inputting a string where integral input was required and many such errors may occur , which can be debugged by starting the program again.

We have tried our best to avoid the 1<sup>st</sup> type of errors but any kind of feedback is well accepted by us , and please take the error in sporting manner as we also are on learning phase .