TITLE OF PROJECT

University Management System

A Project Work

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Abstract

Why Computerized University Management System?

Man is a social animal and has endless wants and needs. The days of the primitive man are gone. Gone too are the days when survival meant just food, clothing and shelter. Technology has changed the ways we live. The invention of currency has ushered in a new breed of humans. Most business transactions are clinched by fiscal exchanges.

To sustain them, people put in hours of work .The average adult spends approximately one-third of his or her life working. Business is booming. A considerable portion of the expenditure of the business is on the compensation given to its employees. Therefore it becomes necessary for an organization to maintain perfect and accurate record. For this we need a computerized university management system.

Perfect ness is the key to work. It is very important from the point of view of the organization as well as for the student that the record is maintained about the colleges and students error free. So, speedier and accurate maintenance of the university becomes a matter of importance. Automation does this to a large extent.

As we know that today is the world of computers and it has entered in the each and every phase of everyday life. Computer plays an important role in day-to-day work. Hence today is the day of computers.

The use of computers in the field of management of information is well known to us .The use of computers in the university management system provides following benefits over manual system

1.) Availability

It gives us that information which was not provided by the manual system.

2.) Timeliness

Provides information (output) in less time.

3.) Accuracy

Using computer, we will get the information more accurate rather than the manually calculated and manual records information.

4.) Completeness

Computer never gives us incomplete information. We will always get the complete and full information using the computer.

5.) Meaningful and action oriented

Whatever the work we will provide the computer to do, computer works on only that particular work. It means computer always do a meaningful and action oriented work for the user.

6.) Commensurate

Whatever the format (output) is designed for a particular program by the computer should be in such a manner that co-relates with the format of other information groups.

"A University Management System handles all information necessary for handling a college and student." This system must develop the paperwork necessary college and the students. The system must maintains files on individual college and student record, provide up to date the information, print outputs on information related to the University.

In addition, the system must have checks & controls that prevent fraudulent use of payroll funds.

* The University management system processes data related with activities of students and colleges. So university management system is very important for a university. Needless to say, careful planning and suitable backup measures are absolutely necessary when automating these activities. During the selection process, it is worthwhile to review our present universities policies.
Improve benefits over before talking the whole questions of automating the process.

A good university management system will process input data faster and reduce clerical time, while:

- Assuring management control in making certain that output is correct.
- Generally useful reports at little or no incremental cost.
- Project is handled with oops concept.

List of Tables

List of Figures

Pert Chart

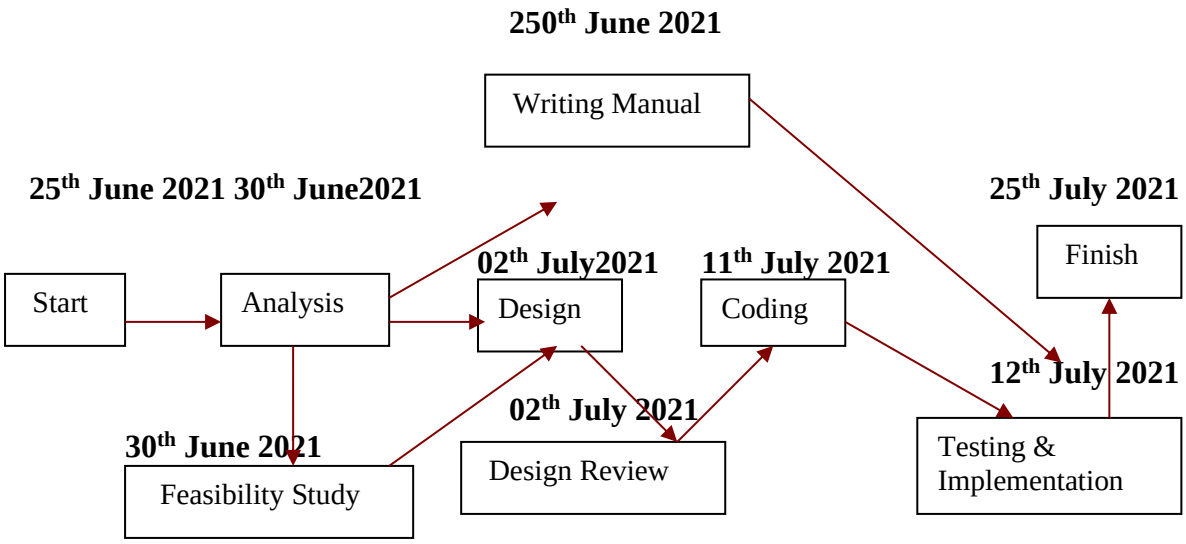


Fig (i). Pert Chart

Gantt Chart

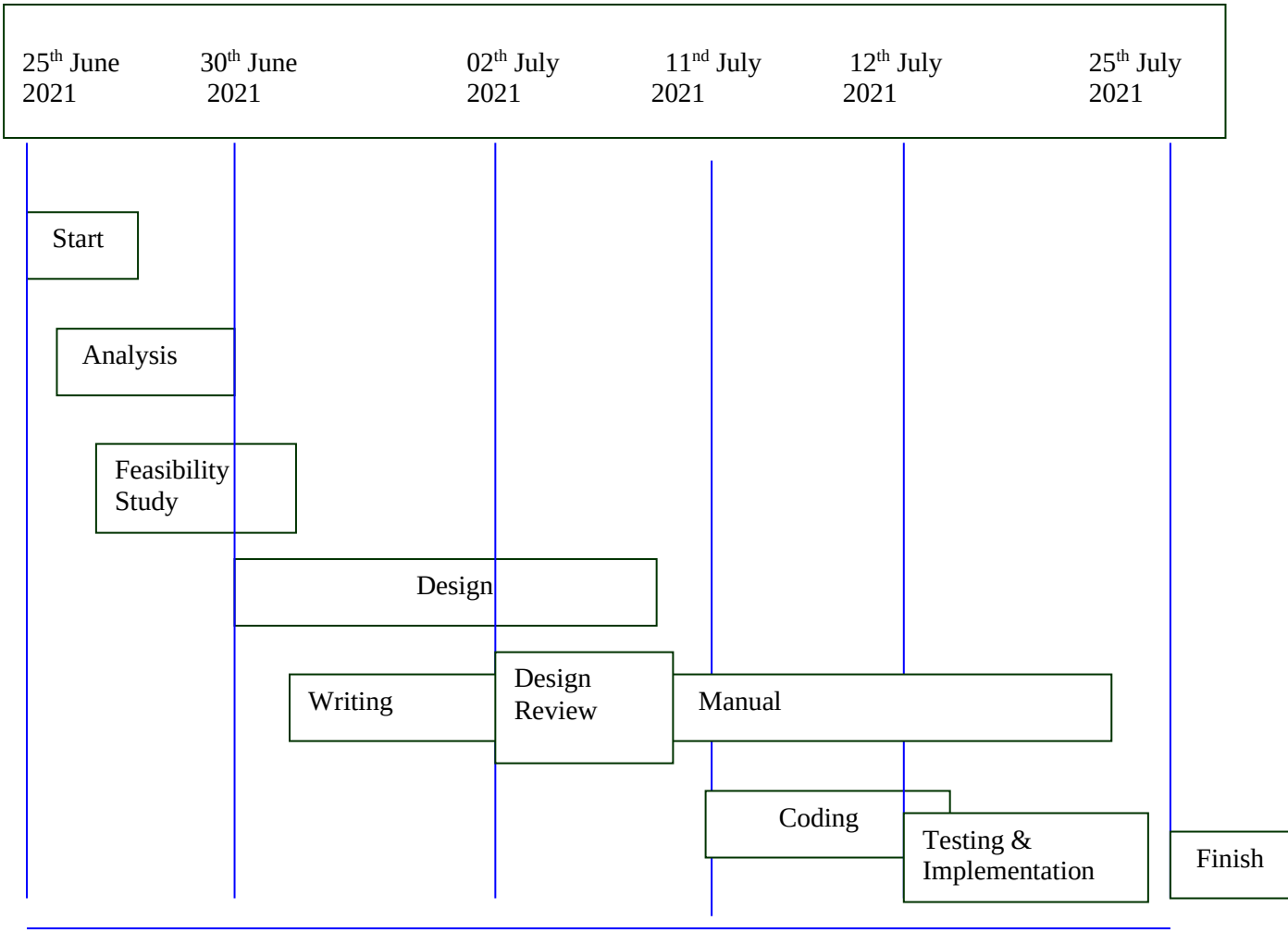


Fig (ii). Gantt Chart

1 INTRODUCTION

1.1 Project Overview

I begin with a brief introduction about this project and the different stages of the design and the development of **UNIVERSITY MANAGEMENT SYSTEM**. Before detailed discussion, first of all I would like to give an overall idea about this project.

TITLE OF THE PROJECT

"UNIVERSITY MANAGEMENT SYSTEM"

I developed my project on **UNIVERSITY MANGEMNET SYSTEM**, because University System is one of the most common and the first application implemented in any higher educational organization.

In University a large amount of data is processed and the results are used in running an organization. The University management system project maintains the list of colleges and their different streams. It also maintains the examination and the result department with a proper menu system.

1.2 Main Goal of The Project

The main goal of the project is to obtain the complete and correct information. Because University management department of an organization maintains a record of:

- The Colleges
- The Students
- The Examination & Result

To do that, the department:

- Prepares the record for each department, showing the total number of student and colleges.
- Keeps track of any modification necessary related to the students and colleges.
- Produces regular reports for the Organization giving the total information required.

Management needs to know details like department – number of colleges, their streams, the degree courses run by them and location. Management also needs to know the same information about the students.

Project Category

Category of this project will be "Object Oriented Programming System". Object oriented technologies loads to reuse leads to faster software development and higher quality programs.

1.3 Hardware Configuration

Processor: Intel Processor

Main Memory: 16GB RAM

HDD: 1000 GB

FDD: 1.44 MB

SVGA Color monitor

Logitech mouse

105 keys keyboard

1.4 Software

Operating System: WINDOWS 10

Programming Language: C++

Documentation: MS-WORD 2000

Backup media: Hard Disk Backup

2 LITERATURE REVIEW

University Management control system in university. The purpose of this program is to develop the management control system in university library, challenges associated with management control system and the enhancement strategies. This program is important as it provides insight in which university could improve staff performance leading to achievement of educational goal of the university by rendering effective information services to the students, faculty and the university community. Research revealed that management control system maintains a formulated policy with regards to the conduct and performance of the staff; material resources and financial records. The program discovered that there are challenges associated with utilizing management control system in university libraries, these include: inadequate staff training and development, poor communication system, inadequate infrastructure, inadequate funding, staff collusion, management overriding established control and alteration in the system. It was identified in the reviewed Program the strategies that could be used to mitigate challenges to effective management control system which include: From Managing Class to Managing the Student and Other Sets of Thing Available In University which Plays an Important part of the Student Study Life, Boosting the Statistical Data review And Easily Managing Things In The University This is fully Integrated Set of tool for Managing Student with Industry Standard Feature.

2.1 Drawbacks with Existing System

- Time Consuming.
- Less Data Security.
- More paper works are to be done.
- No view generation facility.
- No report generation.

2.2 Advantages of the Proposed System

The aim of the proposed system is to develop a system of improved facilities. The proposed system can overcome all the limitations of the

existing system. The system provides proper security and reduces the manual work.

- Security of data.
- Ensure data accuracies.
- Proper control of the higher officials.
- Minimize manual data entry.
- Minimum time needed for various processing.
- Greater efficiency.
- Better service.
- User friendliness and interactive.
- Minimum time required

    - Less time consuming.
    - Less paper Work.
    - Reports Generation can be done easily.
    - Query can be done easily
    - It does not require expert hand.
    - It is fully user friendly.
    - Faster Access of information.

2.3 *Feasibility Study*

Ones the existing system has been studied; it is the task to finalize the feasibility report. An outline of a feasibility study is as follows:

1) Statement about the objective of the problems
2) Terms of reference
3) Analysis of existing system
    - Data gathering

- Data presentations
- List of files and records required
- Preparation of flow charts
- Cost estimates

4) Analysis of alternatives meeting similar requirements. For each alternatives proposed:
   - Overview
   - Decision
   - Information flows
   - Technical details
   - Operational details
   - Impact on the organization
   - Total cost and benefits

5) Determine the main output requirements
6) Effects on company operations
7) Financial effects
8) Achievement of company objects
9) Conclusion.

2.4 System Design

The system is designed based on the objectives set for the new information system in the strategic plan. Our outermost objectives is as follows:

1) Increasing the company profit
2) Securing the customer intact with the company
3) Improving customer services
4) Understanding user requirement
5) Suggesting a logical organization of data
6) Monitoring and controlling decision
7) Securing a larger market share.

Up to the time of system proposal, we have concerned them with the local design of the system. Although we have decided that specific software should be purchased as well as interface like C++. After the system proposal is agreed to, we concern them with physical design of the system. Here we create, detailed specification for every aspect of the system. This includes form design, file organization, procedural steps and so on.

The following are the major steps in system design:

1) Specification of data elements, records and files
2) Specification in input forms, data preparation formats and identification of personnel who will complete them.
3) Specification of system output
4) Development of system flow charts
5) Development of feedback and control procedures
6) Development of program specifications
7) Development of operating specifications
8) Resource planning and implementation:
    - Phasing out the existing system
    - Training user or personnel
    - System review and parallel operation

2.1 Literature Review Summary

Table 2.1: Literature review summary

Year and citation	Purpose of study	Intermediate representation	Granularity Level	Types of clones	Type of vulnerabilities	Data set	Evaluation parameters
2017	For Inserting the Data set	3 Function	Includes File Handling To Store Date	Using different data structure Using stack queue data structure	More Time Complexity.	(PDF) UNIVERSITY MANAGEMENT SYSTEM USING MODEL-VIEW-CONTROLLER (MVC) 1 (researchgate.net)	Include all the Modules In our Project Modified version
2020	For data management and security	1 module	Includes file system so all the data gets stored file will be created to store delete	Using the delete function in admin user only	Using no data recovery function	University Management System C++ Project | Code with C	Includes In our Project with Modification
2020	For maintaining the Modularity	6 files	Not enhanced for adding different feature	Using one source code file	No security system in project	http://seminarprojects.com/Thread-university-management-system-full-report#ixzz2p7lKXwAb	Include in our project
2014	For Maintaining the data	2 functions	Include file system access, so for all the data gets stored in external	Using only password, no user	No security Authentication	University Management System C++ Project | Code with C	Include In our Project

3 PROBLEM FORMULATION

Keeping track the all activities and their record on paper and error. It is also very efficient and a time-consuming process of observing continuous increase in number of clients visiting the University. Recording and maintaining all the client record highly unreliable, inefficient and error pron. The problem facing the current manual system is difficult to update and maintain, inconsistent data, insecurity, difficult to impose different various data files and difficult to data backup. It is against this backdrop that automated system is being developed to addressed the problem.

Fig 3). The flowchart of this project is as follows

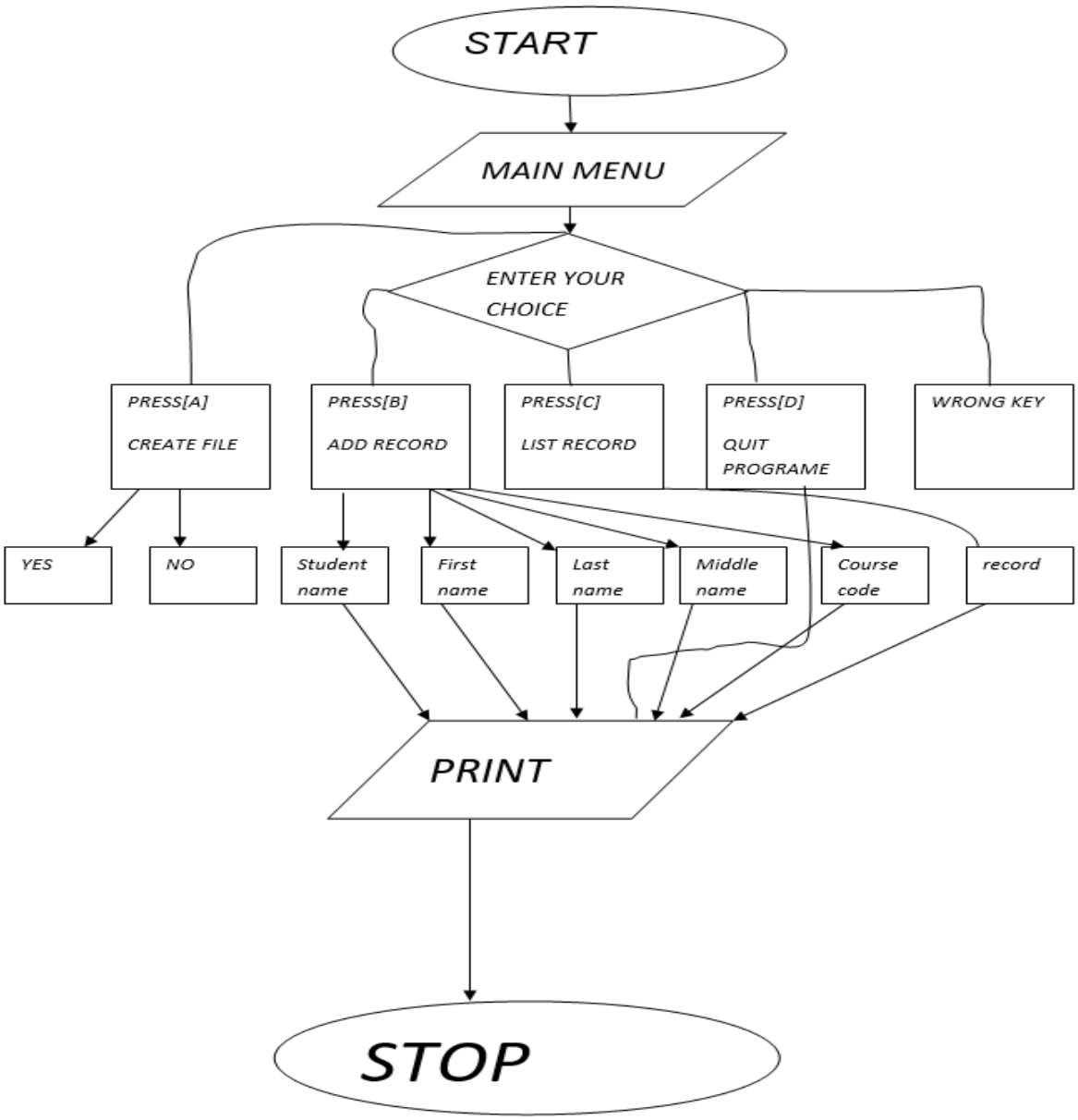


Fig (4) Data Flow Diagrams

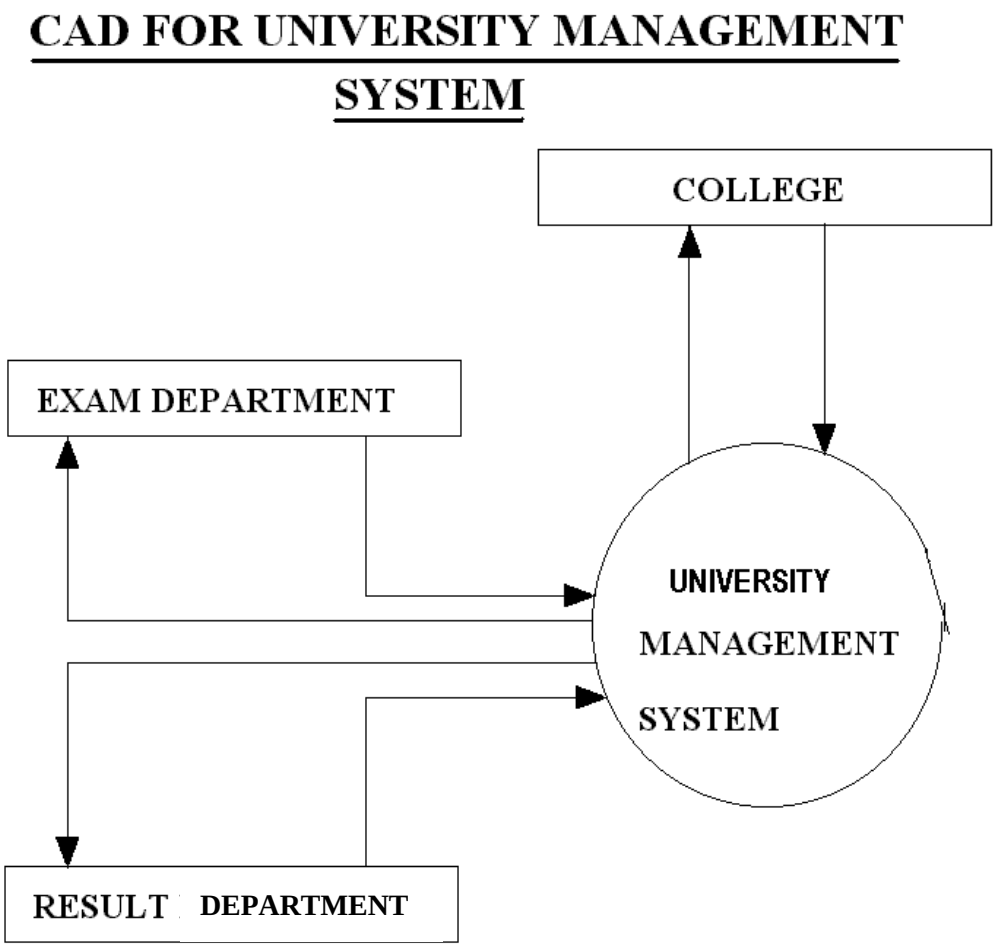
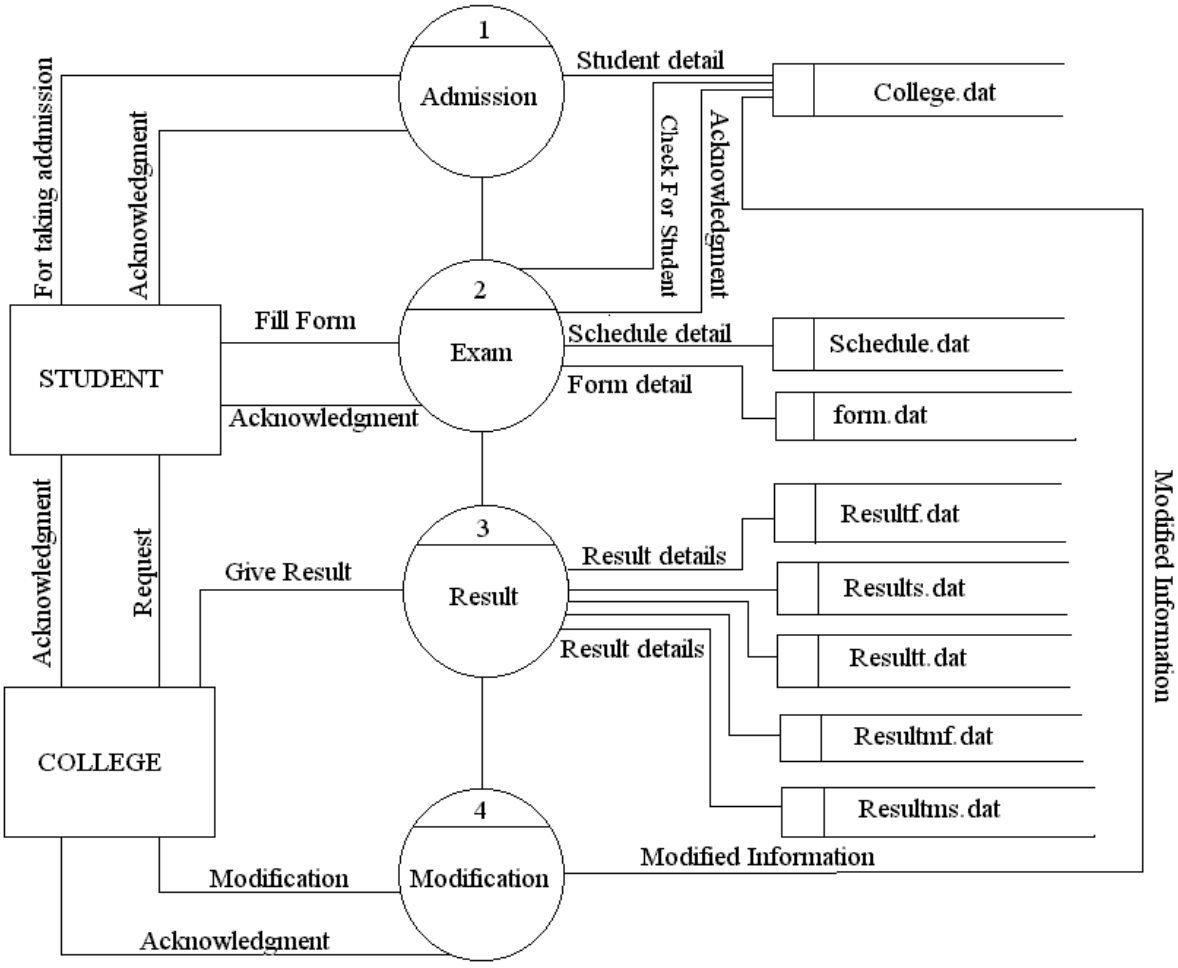
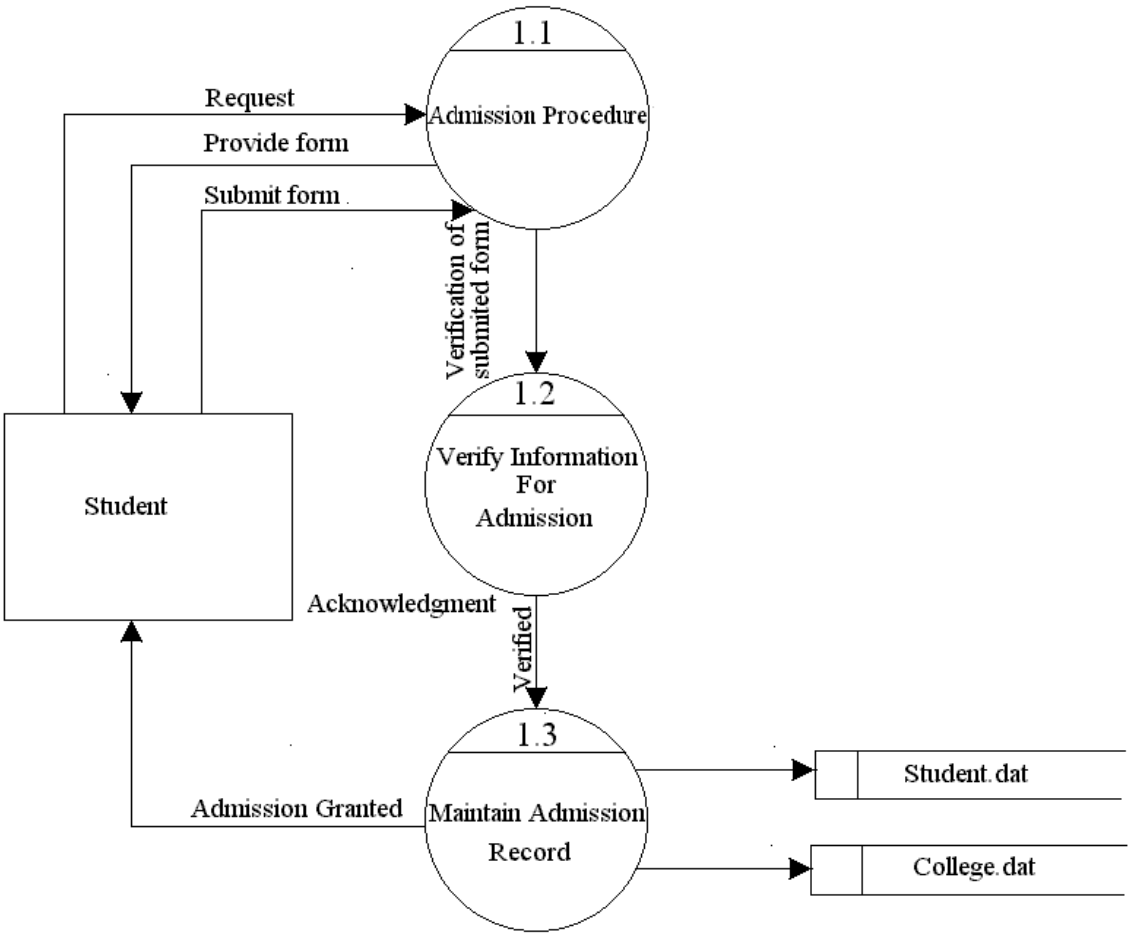


Fig (4.1)



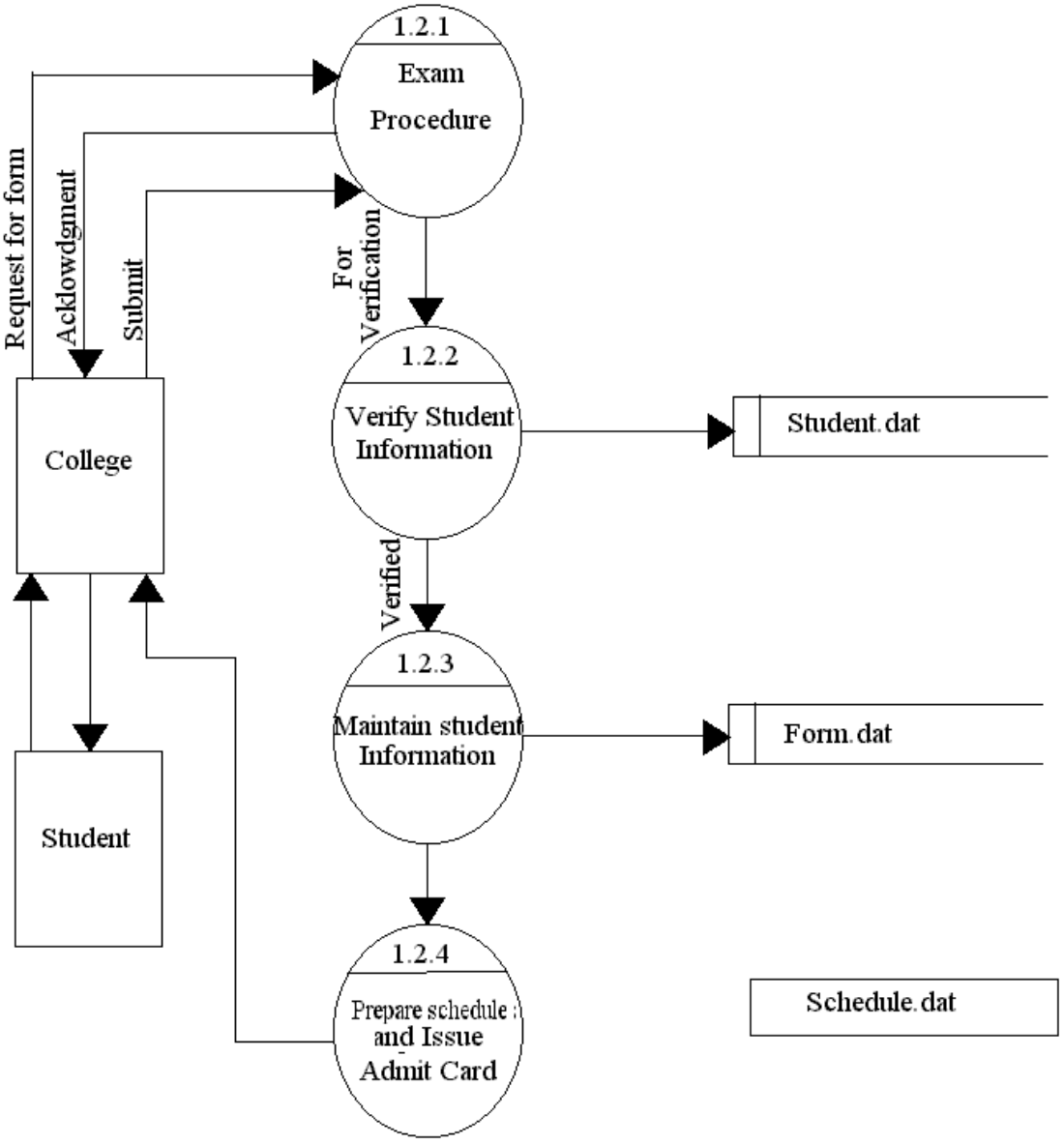
ZERO LEVEL DFD

Fig (4.2)



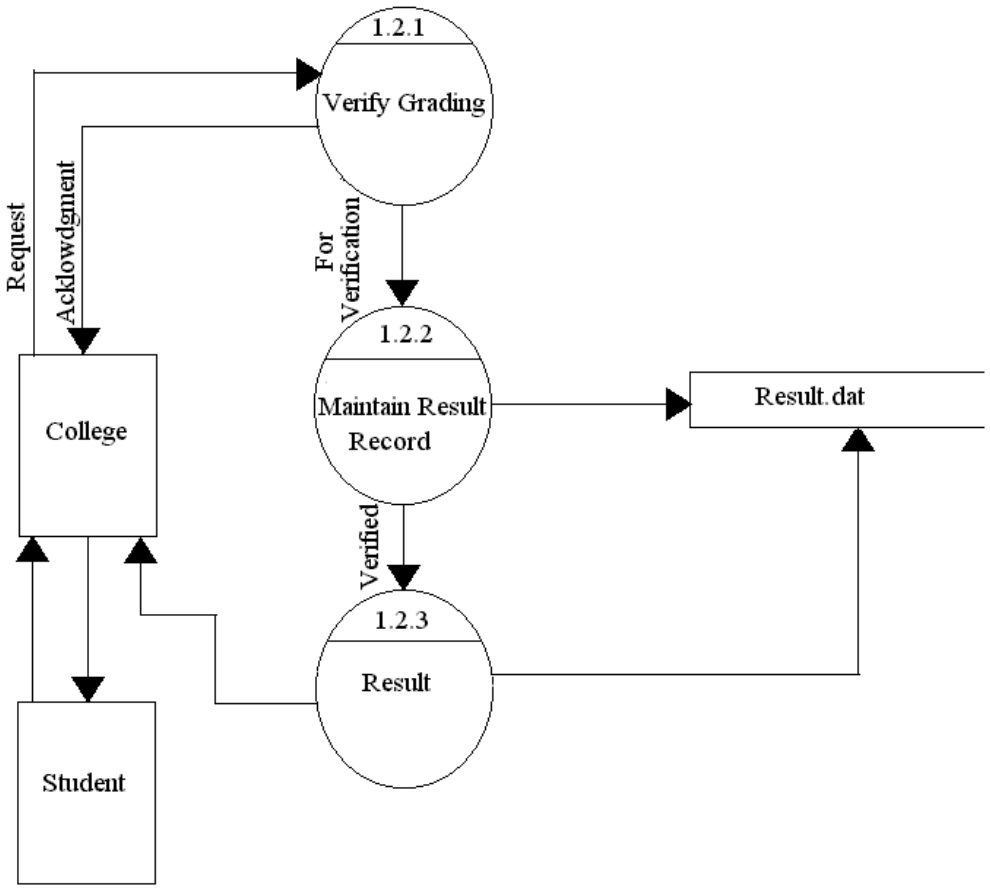
LEVEL-1 DFD FOR PROCESS 1.0

Fig (4.3)



LEVEL 1 DFD FOR PROCESS 1.2

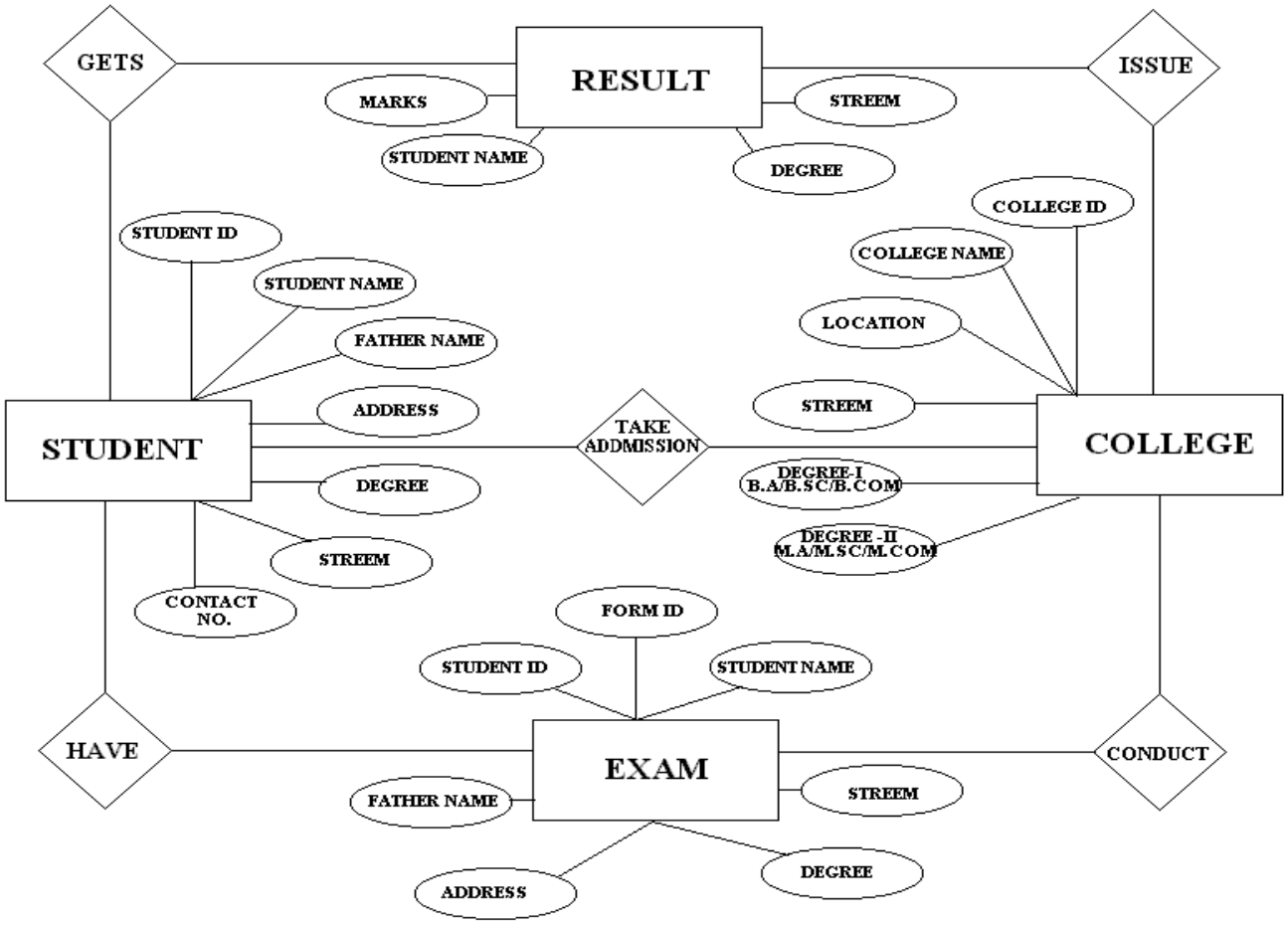
Fig (4.4)



LEVEL 1 DFD FOR PROCESS 1.3

Fig (4.5)

Fig (5) E-R Diagram of University Management System



UML Diagram

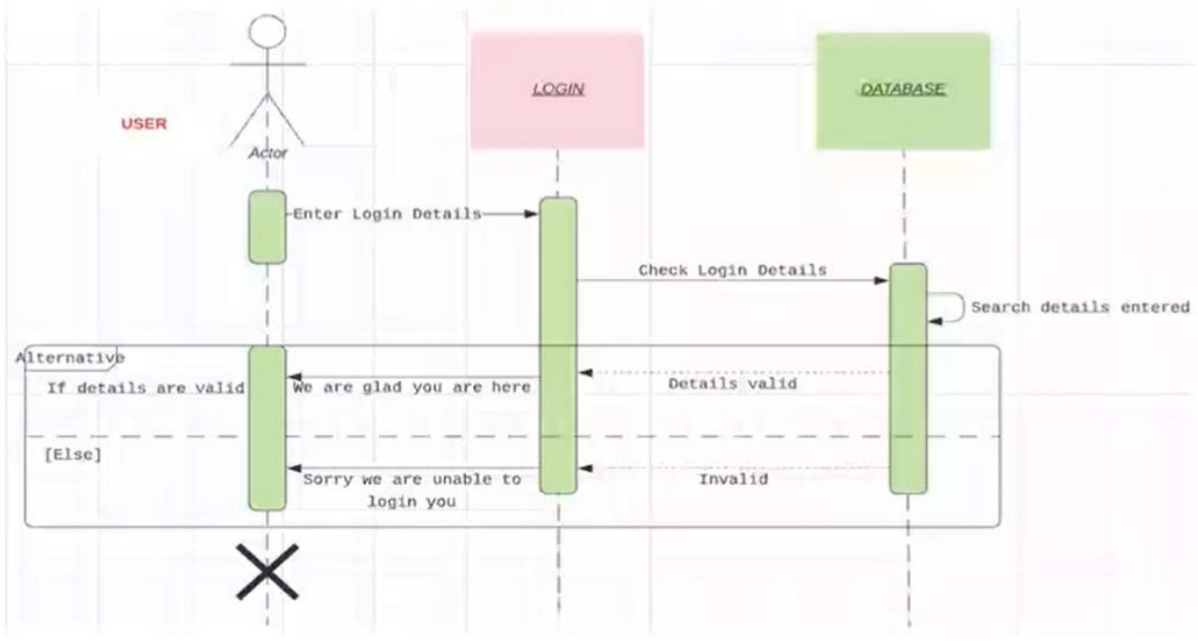


Fig (5) Log in

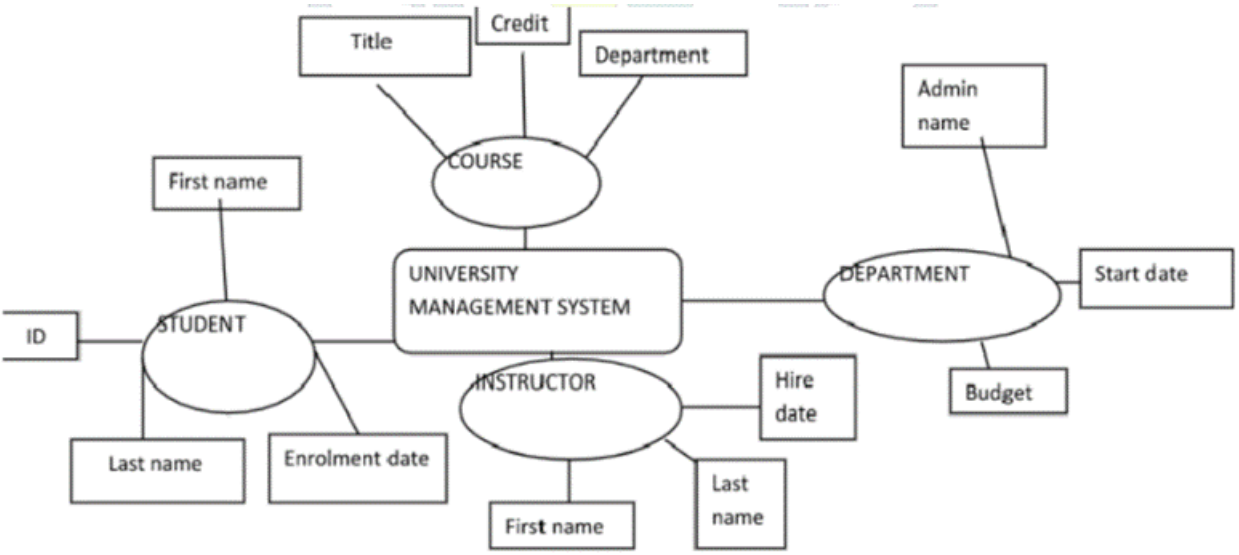


Fig (6) **Use Case Diagram**

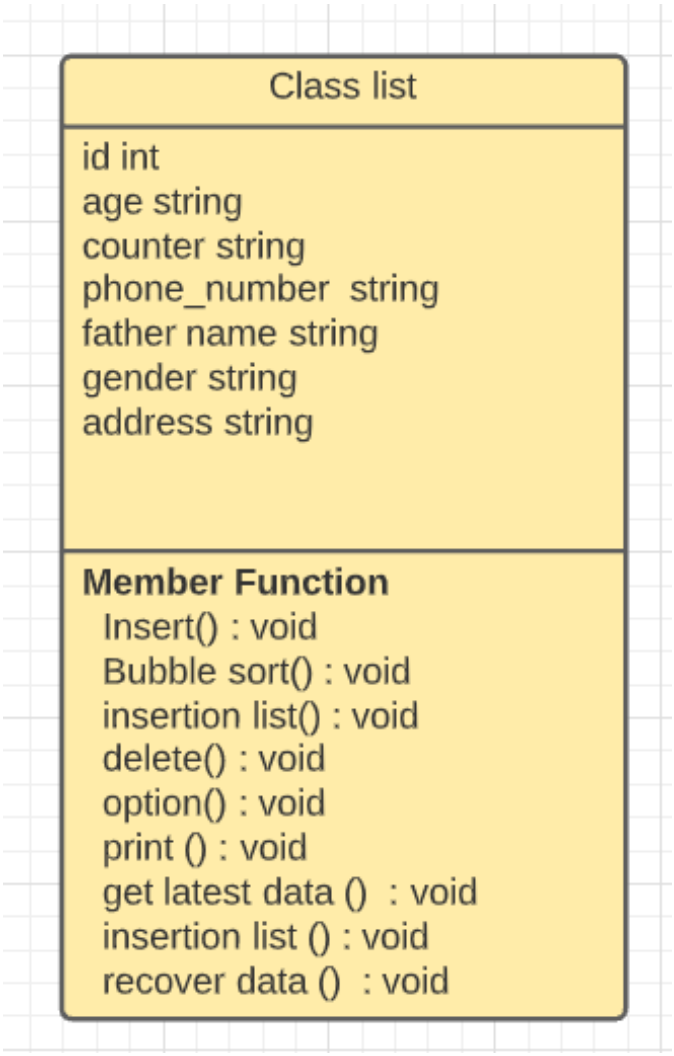


Fig (7) . UML Class Diagram Of Project

4 RESEARCH OBJECTIVES

The proposed research is aimed to carry out work leading to the development of an approach for vulnerable code clone detection. The proposed aim will be achieved by dividing the work into following objectives:

1. To understand and explore various types of software vulnerabilities existing in open source software.
2. To study and analyse various clone detection techniques that are suitable for vulnerable code clone discovery.
3. To design and develop the technique for vulnerable code clone detection.
4. To verify and validate the proposed system.

My project **"UNIVERSITY MANAGEMNT SYSTEM"** maintains detailed records of all the Colleges and Students as well as and the Examination and the Result department.

The University data file should contain following information:

Details of College information

In this section the project keeps the record of college id, college name, college location, college running the stream and the degree the college is running and maintains the information in college.dat data.

Details of Student formation

In this section the project keeps the record of student id, student name, student address, father's name, contact number, degree stream, std code.

4.1 Requirement Gathering

Requirement gathering refers to the collection of information pertinent to system project. To get information, we read books or reports; we go through company, collected forms from the company for later analysis and interview people. Interviewing is an important skill and we apply to the company manager, the teller and even the customers.

As information is collected we documented the important aspects so it can be referred to later on for this purpose we used charts and tables.

The principle methods of obtaining facts include:

2. Interviewing personnel.
3. Observing activities.
4. Use of questionnaires or by inspections.

In general, the stages of investments are as follows:

1. Define the problem.
2. Plan the project.
3. Record the facts.
4. Verify the records.

A part from collecting facts as indicated above, there are other specific points to be considered in a system analysis, as follows:

a) Collect specimen of all documents used in the system.
b) From the documents collected prepare.
    i. Document analysis from input.
    ii. Document analysis from output.
    iii. File analysis from.
    iv. Output analysis chart.

5 METHODOLOGY

Our project is meted out during a much-managed way. For that we do our coding in an exceedingly few easy step which is understandable by almost everyone. its easy to grasp and use. Our project initial step was to gather related data from the user. Then after collection of data they're analyzed. We are going to add different functions to perform different functions.

We are well aware about the fact that C++ follows bottom-up approach which is clearly depicted in our code. As a matter of fact, that compilation begins with main function our console will first encounter main function where function named as login system is present.

When the console moves to the login system function there will we three options provided to the user i.e., to register, to login and forgot password if the user forgets about the credentials the details that he/she want to enter and after going through the login system function the console name to main function where it will encounter the do-while loop which will provide a user eight options to perform different task.

Options are:

1. Faculty Staff
2. Library Staff
3. Admin Staff
4. Higher Staff
5. Recycle Bin

- Add member
- Search Person
- Delete Person
- Update Person
- Print all Data

Options like these will be displayed on the screen for the user to use and as per the choice entered by the user the task will be performed by using the function of file handling which will further may call to the functions of the class and after calling the function the console will return back to main function and will again displays the options if the user wants to perform any other operation and if the user doesn't want to perform any other operation the user can choose last option i.e., exit and user will exit from the function and our program end there with the message i.e., thank you for using our system.

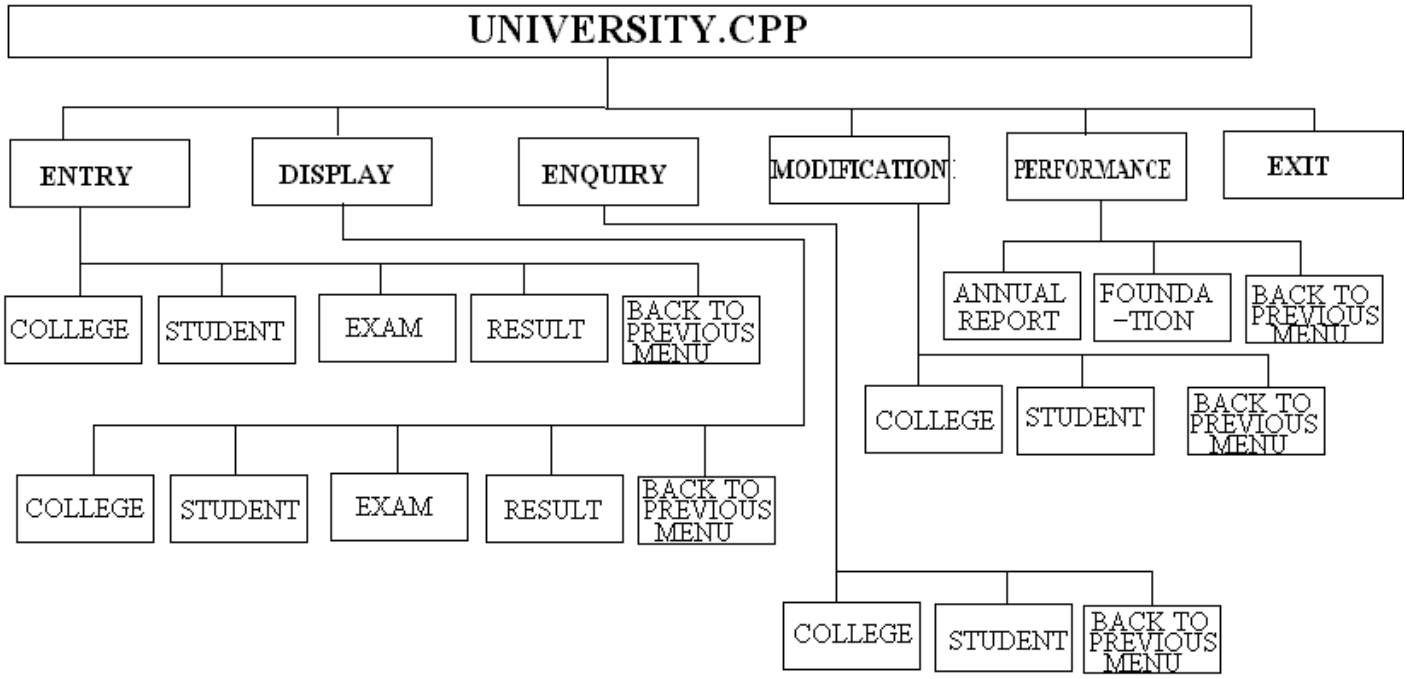


Fig (8) Complete *Structure of the University Management System*

5.1 Creation of Alternatives

Ones we get the clear idea of the problem, we begin to create some solutions usually begin to form while the initial research is going on. Then after completing the research, we choose the most promising alternatives and develop them.

In order to create alternatives, we have a broad background and familiar with the many different types of equipment that can be applied to the problem and familiar with the various types of procedures that can be used. From this background, we can develop an alternative similar to one that other company is using or can create special or unique solutions to the company problem.

It is important to realize that the solutions at this stage are not developed in detail. The procedures develop here are not specific. Although a general logic flow is created for each alternative, specific steps will be determined during the system design phase.

After creation of alternatives completed, now we are able to proceed with the Context Analysis Diagram and further Data Flow Diagram for our system.

5.2 System Maintenance

System maintenance is actually the implementation of the post-implementation review plan. So, at this stage we implement the following maintenance area:

i) **Administrative Maintenance:** The following activities are maintained under this maintenance:
   - User objective maintenance: This is an extremely critical area since it may be possible that over the period of time either the system does not meet the initial objectives of the user or the user objectives get changed as a result of the changes in the overall objectives of the organization.
   - Operating costs and benefits maintenance: Under this maintenance, current budgets are designed to manipulate the costs and savings of the system.

ii) **Personnel Requirement Maintenance:** Under this maintenance, all activities involving system personnel and staff members associated with the system are maintained. That is,
   - Maintained the performance of personnel objectives with current performance levels.
   - Maintained training performance through testing and conducting interviews.

iii) **Hardware Maintenance:** The hardware of the new system is also maintained including servers, terminals, and communication networks. The main target is a comparison of current performance specifications with design specifications.

For implementing the overall post-implementation plan, actually we employ little efforts, because most of essential tasks that are maintained in this stage are already performed with more efficiently. For example:

- During system development the user's requirements was defined more accurately.
- System documentation was prepared in a better way.
- Processing logic was also designed using more effective way.
- Existing tools and techniques are better utilized.

System engineering processes are managed effectively.

6 RESULTS AND DISCUSSION

Cost and Benefit

System cost can be sub-divided into the following categories:

1. Development Cost
2. Operating Cost
3. Intangible Cost

Development Cost

- The Salaries of the system analyst and the computer programmer who designed the entire computerized system.
- Cost of commenting and preparing data files and preparing system manuals and other supportive documents.
- Cost of preparing new or expanded computer facilities.
- Cost of testing and documenting the system, Training employees and other standard cost.
- Cost of stationary, system maintenances etc.

Operating Cost

- Cost of Hardware/Software, Rental or Depreciation cost.
- The salaries of the technical person such as computer operator,
- Other data processing personnel who will operate the new system.
- The salaries of system analyst and computer programmers who will perform the system maintenance function.
- The cost of input data preparation and control.
- Cost of data processing suppliers.
- Cost of maintaining the proper physical facilities, including power, air-conditioning, appropriate furniture, power backup facilities etc.
- Overhead Charges of the business firms.
- Cost of storing the data in machine code form.
- Launching cost like staff training, file communication and system training.

Intangible cost

- The development of the system may disrupt the activities of an organization and cause a loss of employee productivity.
- Comparativeness with the other firm with respect to the productivity due to computerization.

- Customer sales and goodwill may be lost by error made during the installation of new system.

Benefits

The benefits which results from developing new or improved information systems that utilizes the resources can be subdivided as follows:

1. **Tangible Benefits.**
2. **Intangible Benefits**

Tangible Benefits

Tangible Benefits are those benefits that can be accurately measured and are directly related to the introduction of a new system such as decrease in the data processing cost.

Intangible Benefits

Intangible Benefits are more difficult to estimate and justify usually requiring the skill of the particular management concern, the cost of input data preparation and control.

Benefits that can results from the development of the computerized system are summarized below.

- Increase in sales and profits.
- Decrease in data processing costs.
- Decrease in operating costs.
- Decrease in required investments.
- Increase operational ability and efficiency.
- New and improved information availability.
- Improved abilities in computation and analysis.
- Reduction in employees such as clerical aspects.
- Elimination of some specific costs, e.g., postage, stationary, office machinery, etc.
- Reduction in cost and effort due to improved procedures such as data capture and avoiding the data validation.

6.1 Future Scope of the Project

Normally a University covers different area of Services. However this project UNIVERSITY MANAGMENT SYSTEM only covers the implementation of the student, college's records and their various activities. The data accumulated in this project is used periodically to provide different types of managerial information.

The future applications of this UNIVERSITY MANAGEMENT SYSTEM are:

I) This overall project is basically written in function and can be used in conjunction with other program, for future development for UNIVERSITY system.

II) We have provided many data function through which any one can know about any STUDENT/COLLEGE giving COLLEGE/STUDENT number.

III) The project is using the modern trend OOPs that gives a better design to the software, which help in maintaining code in terms of reusability, modifiability, etc. These attributes a quit wanting in today's complex software scenario. OOPs giving a better designs objective taken this problem and provide better design objective.

IV) This software is design with OOPs so we chosen C++ language, which provide all features which will be needed in future. This software is having sounding economic aspect with the motion of controlling the local market.

V) Cost of our project is comparatively low.

After using UNIVERSITY MANAGMENT SYSTEM the user will find that in the package provided to them has some of the facilities are slightly different than any other packages. This project omits something or adds some additional minor details as and when required by the user**.**

6.2 Output

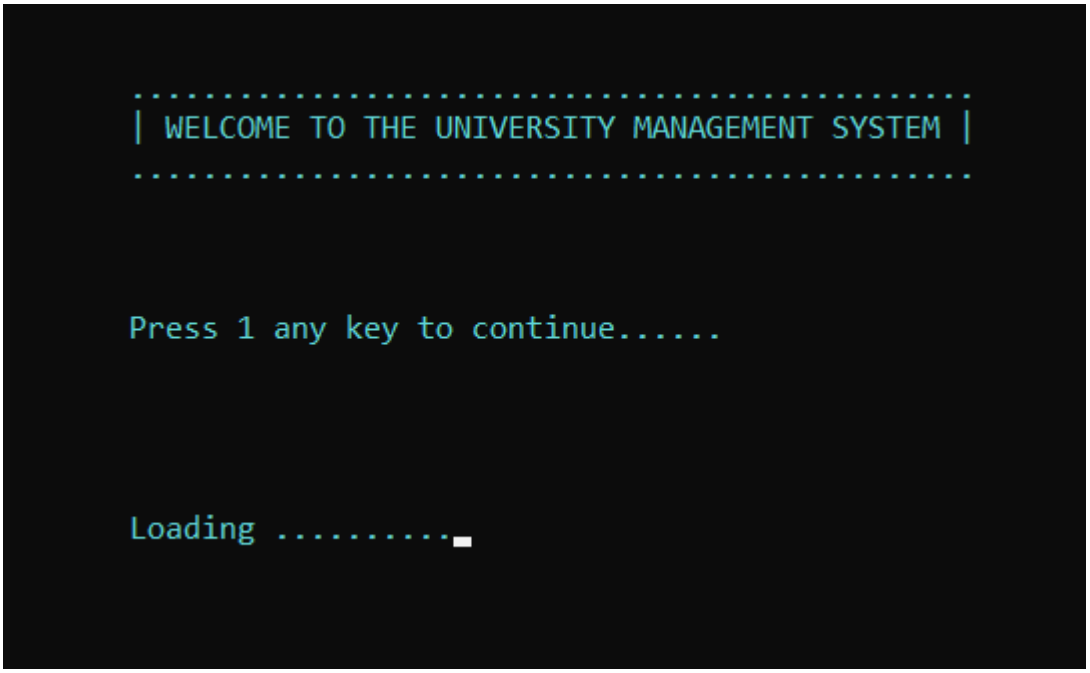


Fig (6.2.1) welcome screen

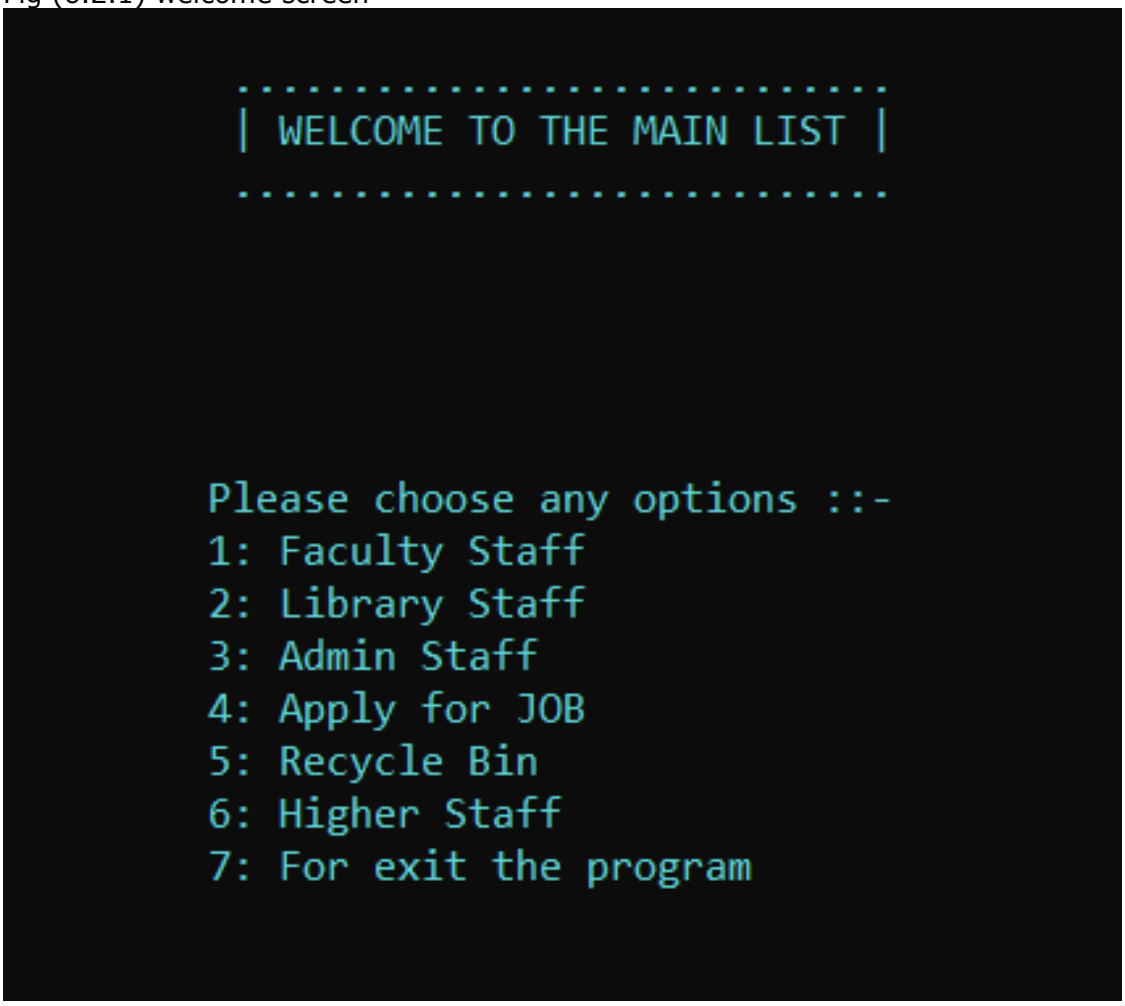


Fig (6.2.1) Main list

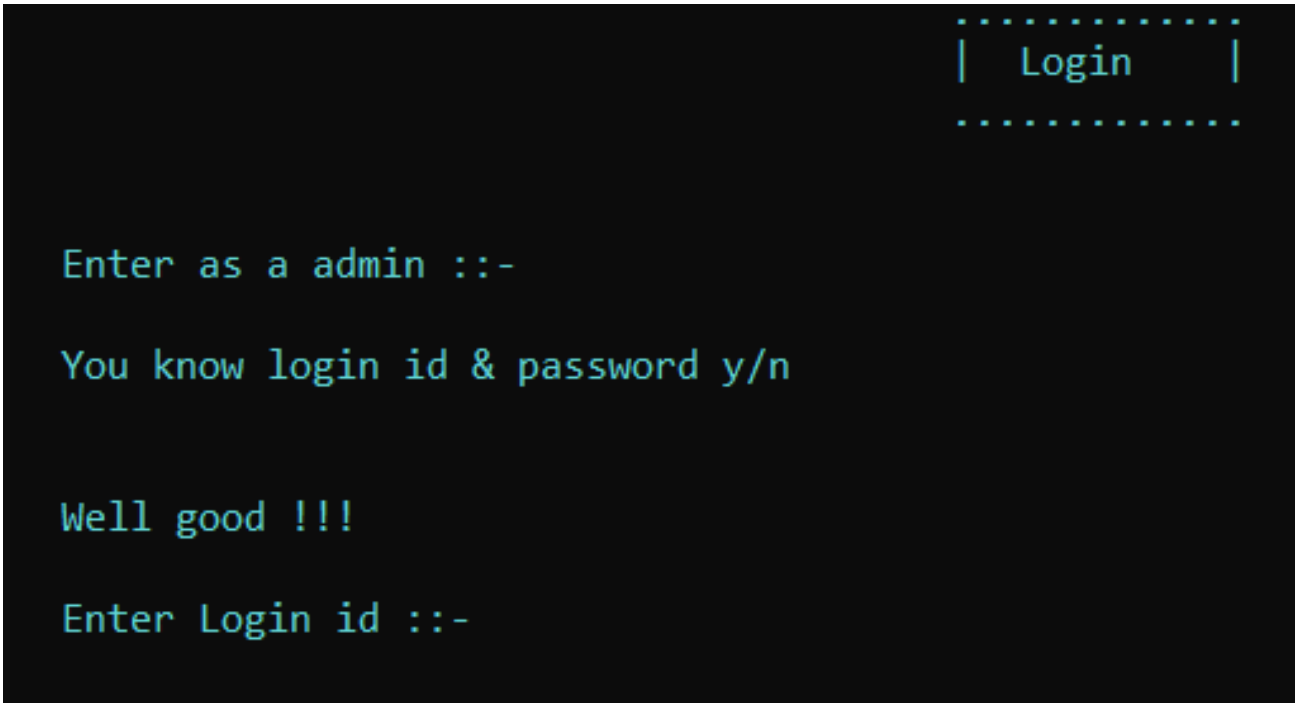


Fig (6.2.1)
Log in Screen

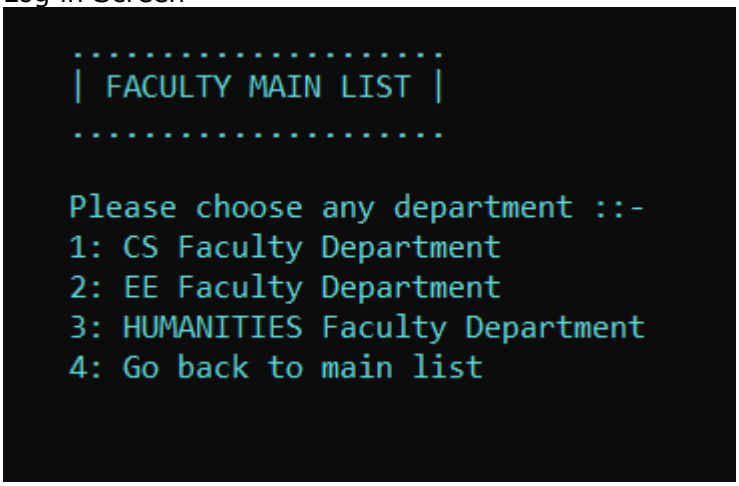


Fig (6.2.1) Faculty Staff

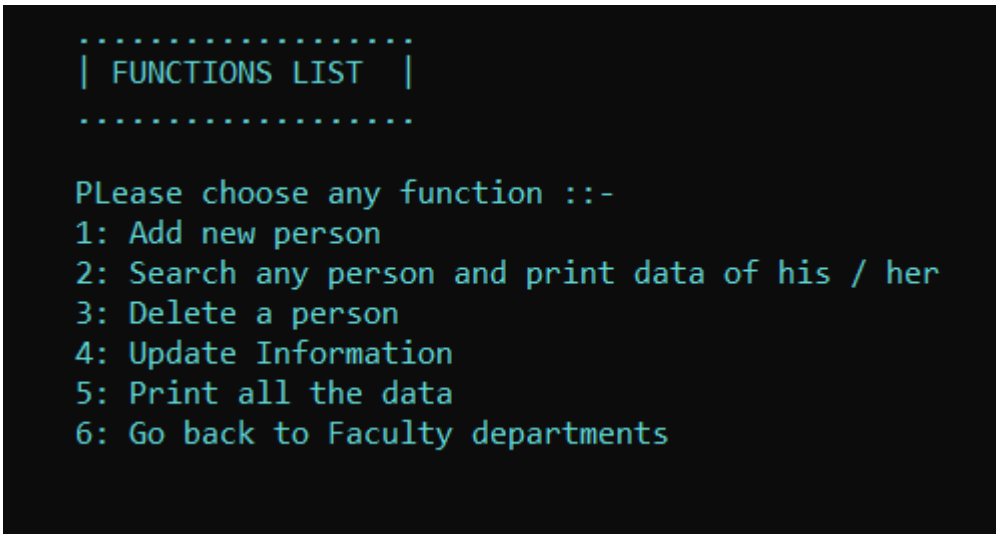


Fig (6.2.1) CS Department Faculty

```
Welcome in ADD NEW PERSON function

Enter the no. of person you want to enter in CS department ::-
```

Fig (6.2.1) Add new Person

```
            There are the ranks available for Library ::-
            => Manager
            => Assistant Manager
            => Helpers


You enter the information of Library




                    ................
                    | FUNCTIONS LIST  |
                    ................

                    PLease choose any function ::-
                    1: Add new person
                    2: Search any person and print data of his / her
                    3: Delete a person
                    4: Update Information
                    5: Print all the data
                    6: Go back to Faculty departments
```

Fig (6.2.1) 2 Library Staff

```
You enter to admin department ::-




        ................
        | FUNCTIONS LIST  |
        ................

        PLease choose any function ::-
        1: Add new person
        2: Search any person and print data of his / her
        3: Delete a person
        4: Update Information
        5: Print all the data
        6: Go back to Faculty departments
```

Fig (6.2.1) 3 admin

```
You enter the job portal




                                          ............
                                          |  Login    |
                                          ............

Press any options for login

        1: Guest                2: Admin                3:Go to back
```

Fig (6.2.1) 4 Apply for the Job

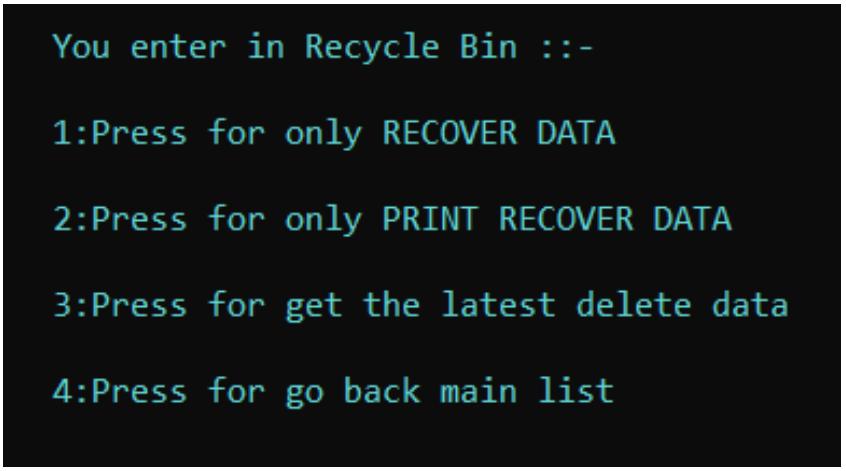


Fig (6.2.1) Recycle Bin

Fig (6.2.1) Higher Posta

7 REFERENCES

[1] https://www.codewithc.com/university-management-system-project-c/

[2] https://www.scribd.com/document/136451209/University-Course-Details-Management-System-in-c

[3] https://code-projects.org/simple-college-management-system-in-c-with-source-code/

[4] http://codefervor.blogspot.com/2015/02/university-management-system-project.html

[5] https://1000projects.org/university-management-system-cpp-project.html

[6] https://1000projects.org/university-management-system-project-c-source-code.html

[7] https://www.scribd.com/document/136451209/University-Course-Details-Management-System-in-c