PROJECT SYNOPSIS

on

PORTAL TO KNOW ABOUT VARIOUS NATIONAL AND INTERNATIONAL SCHOLARSHIPS

Submitted for Partial Fulfilment of Award of

BACHELOR OF TECHNOLOGY

In

Computer Science and Engineering

(2023)

By

Astitva Singh (Roll No: 1901220100034)

Ashwani Kumar (Roll No: 1901220100032)

Under the Guidance

of

Dr. Nidhi Saxena

SHRI RAMSWAROOP MEMORIAL COLLEGE OF ENGINEERING AND MANAGEMENT, LUCKNOW

Affiliated to

Dr. APJ ABDUL KALAM TECHNICAL UNIVERSITY, LUCKNOW.

TABLE OF CONTENTS

APPENDIX

CHAPTER – 1

INTRODCTION

Supporting education through scholarships to students of higher learning is an important aspect of government's effort to assist students at all levels of learning to allow them afford the basic needs that accrue during their studies. It's a government plan to develop a critical mass of professionals who would serve as catalysts of change and agents of scientific and technological advancement, as well as sustainable economic development. However, the cost of education has risen drastically over the past few years hindering the families of low income earners to send their children to school as they can barely afford the cost. Scholarship as defined by [1] is a grant or payment made to support a student's education, awarded on the basis of academic or other achievement. Many scholarships are awarded based on merit. However, some also take into account financial need. Scholarships do not have to be repaid. As a result, Niger State Scholarship Board invites applications from qualified candidates for sponsorship of outstanding students at undergraduate and postgraduate studies levels as part of it effort to develop professionals who would serve as catalysts of change and agents of scientific and technological advancement. Currently, the procedures of applying for scholarships, managing scholarship and evaluating application forms at Niger State Scholarship Board are all done manually using paper-based processing. Applicants have to fill out their application forms and submit them manually to the office. If there is any problem with their applications while they are processed, it will also take an extra time for both the reviewing committee as well as the applicant to communicate and correct the errors. Therefore, additional paperwork for the review may cause a delay in the entire procedure. The processes of screening the applicant's credentials, evaluation of applicant's form, conducting aptitude test and oral interview are also tedious. This informed the development of an online web-based system (e-scholarship system) which can facilitate the processes of various scholarship applications.

1.1 LITERATURE SURVEY:

The use of the Internet has been extremely fast since it can now be accessed almost anywhere by numerous means. It has also introduced a new era of computing, providing the basis for promising application areas like e-banking, eexams, e-ticketing [2]. In the late

‘90s came the introduction of the World Wide Web, and the implementation of the Web browser. This graphically oriented view of data quickly became popular for the Internet. Today we find much of our on-line interaction taking place through the browser. As the number of users on the World Wide Web increases every day, its use in different areas is also growing. One of the most powerful aspects of the web is that anybody who has internet access can browse on the net. This enables sharing the information worldwide. According to [3] Internet has become the means for conducting growing numbers of transactions because of the speed, flexibility, and efficiency that it offers. This technology is required by every organization if it does want to reach out to its customers in this age of globalization. The term "scholarship" according to [4] is a form of financial assistance that does not require repayment or employment and which is usually offered to students who show potential for distinction, or who possess certain characteristics important to the scholarship provider (such as religious beliefs, hobbies, ethnicity, etc.). A scholarship is a form of financial aid that is specifically geared towards students who are attending college. It is used as a way of financing their education, and it may pay a part of their education, or it may pay the entire cost of a student’s tuition.

CHAPTER – 2

PROBLEM DEFINITION

The idea of developing an e-scholarship system was born out of the fact that the methodologies of the existing system is a manual process hence the adoption of a new system to help the scholarship board better manage its processes of application and awarding scholarship which makes it possible for applicants to apply for scholarship anytime, anywhere and receive feedbacks with the use of their internet enabled devices.

2.1 EXISTING SYSTEM

Paper-based method is what is used in the entire procedures of applying for scholarships and managing scholarship applications. This manual method is faced with the following challenges:

- **Waste of time:** A proper evaluation of the paper-based processing method currently in use reveals that lots of time is wasted during the processes involved in processing student's application. This includes the communication between various parties (applicant, screening committee members and committee chairman) which involve a lot of paper work. Sometimes, an error in the application may cause the paper to be sent back to the previous processing step which may further delay the processing of the application.
- **Prone to errors:** Following the processes involved in compilation of students application, scrutiny of applicants, preparing and publishing provisional list and also to publish final list, the possibility of errors cannot be ruled out, attempts to rectify the errors identified usually lead to delay in the entire process of awarding the scholarship and disbursement of funds to beneficiaries.
- **Fraud:** There is also the case of fraud whereby some unscrupulous staff of the board guarantee that they can get the scholarships for the applicants or award them scholarship in exchange for an advance fee. With these, many applicants have fallen victims of these corrupt officials. Paying no attention to all these problems could

sabotage the effort of government to support professionals and outstanding students in the state.

2.2 FEATURES

The main features of this project is:

- Through this system we can easily maintain the data without any loss or damage.
- By using this system time consumption will be reduced.
- By using this portal students can easily know about the information of scholarship details.

2.3 PROPOSED SYSTEM

The software development approach that has been employed for this project is the Object-Oriented Analysis and Design (OOAD) methodology. After careful analysis of the user requirements the following application scenarios that would be handled by the system were identified.

- Student/Applicant log in to the website to create an account. Log in with account details, upload passport, fill the application form and upload qualifications. The applicants also can view feedback to enable her/him know the progress of their applications.
- Admin Officer Log in to website, the officer verifies the documents uploaded by each applicant. The officer view the evaluation report of applicant; can carry out shortlisting of qualified applicants and sends invitation for interview. The Admin officer also sends a notification to qualified applicants via email and SMS on their success and the award of the scholarship. The officer generates reports e.g. list of shortlisted candidate for interview.
- The System Administrator log in using his user name and password. The administrator configures the system and places various measures for updating the system and maintenance of the server. He creates log in for Admin Officer and always initiate backup for the system.

2.4 METHODOLOGY:

INPUT DESIGN: In the input design, the user oriented inputs are converted into computer recognizable format. The collection of input data is the most expensive part of the system in terms of equipment used, time and number of users involved. Input design is the processes of converting user oriented inputs to a computer based format. The goal of designing input data is to make data entry as easy, logical and free from errors as possible.

Input design is the link between the information system and the users and the skip necessary to put transaction data in to a usable form for processing. Instructing the computer to read data from a written printed document can activate the activity of putting data into the computer for processing or it can occur by keying data directly into the system. The design of input focusing on controlling the amount of input required, controlling the errors, avoid delay extra steps, and keeping the process simple. System analysis decides the following input design details:

- What data to input
- What medium is to use
- How the data is arranged and coded
- Data items and transaction needing validation to detect error occurs.

Activities performed as part of input design are:

- Data recording
- Data verification
- Data conversion
- Data validation
- Data correction

OUTPUT DESIGN: Output design is a process that involves designing necessary outputs that have to be used by various users according to requirements. Designing computer should proceed in well thought out manner. The term output means any information produced by the information system whether printed or displayed. When analyst design computer output they identified the specific output that is needed to meet the requirement.

Computer is the most important source of information to the users. Efficient intelligent output design should improve the system relationship with the user and help in decision making. When designing the output, system analyst must accomplish the following:

- Determine information to present
- Decide whether to display, print, speak the information and select the output medium.
- Arrange the information acceptable format.

The output design is the key to the success of any system. Output is the key between the user and the sensor. The output must be concerned to the system's working, as it should. Output design consists of displaying specification and procedures as data presentation. User is never left with the confusion as to what is happening without appropriate error and acknowledges message being received.

2.5 PROJECT OBJECTIVE:

- Ensure timely disbursement of Scholarships to students.
- Provide a common portal for various Scholarships schemes of Central and State Governments.
- Create a transparent database of scholars.
- Avoid duplication in processing.
- Harmonisation of different scholarships schemes and norms.
- Application of direct benefit transfer.

CHAPTER – 3

DESIGN OF SYSTEM

System design describes how the proposed system will operate. Unified Modeling Language (UML) tools are used in the system design. The tools used include Use case, class and sequence diagrams.

- **Use Case Diagram:** A use case diagram is a diagram that shows the relationships among actors and use cases within a system. Below is the use case diagram of the system.

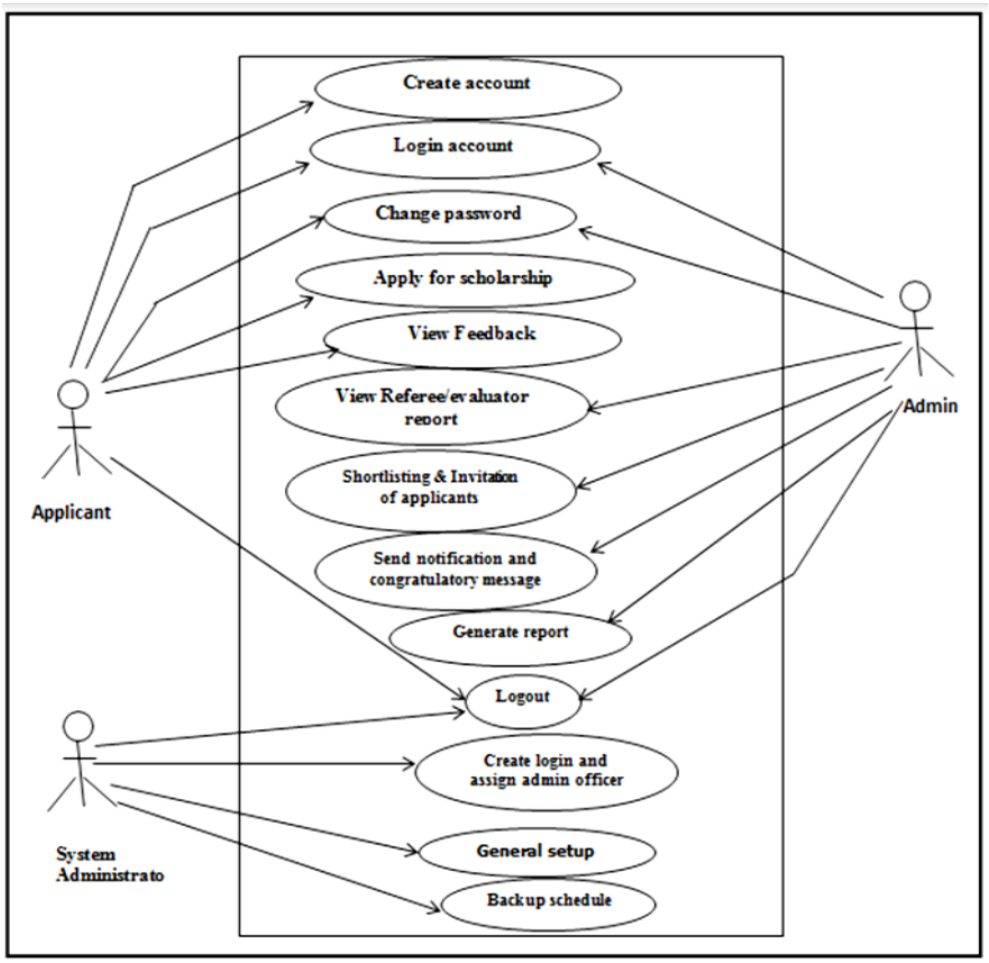

Fig. 3.1 Use Case Diagram

- **Class Diagram:** A class diagram in the Unified Modelling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attribute, operations (or method), and the relationships among objects. The classes are analyzed below with the aid of a class diagrams. The class diagram shows the major components of the classes. In the object modelling, the attributes and method (actions) are discussed and represented in the diagram.

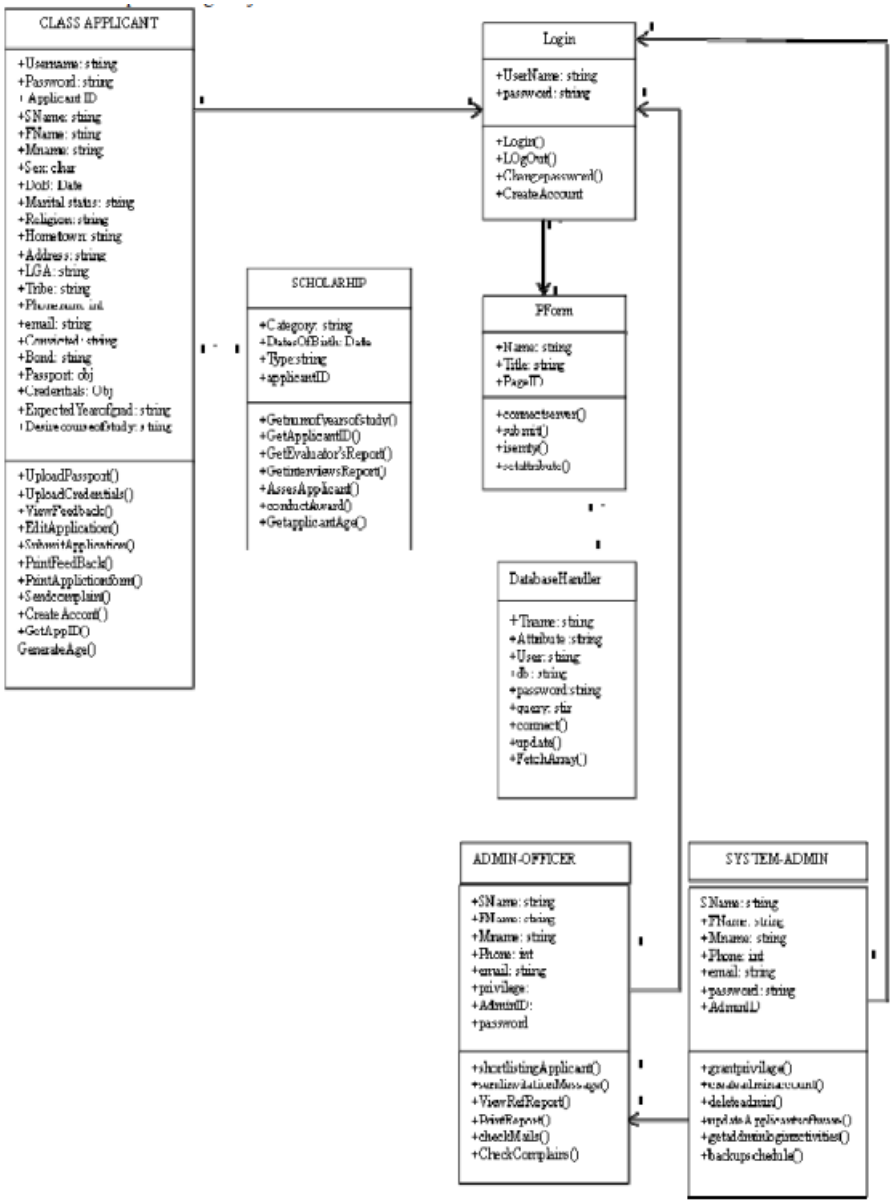

Fig 3.2 Class Diagram

- **Sequence Diagram:** Sequence diagrams are often used to illustrate the processing described in the use case scenarios. They can be used to illustrate a succession of interactions between classes or object instances over time. In practice, sequence diagrams are derived from use case analysis and are used in systems design to drive the interactions, relationships, and methods of the objects in the system.

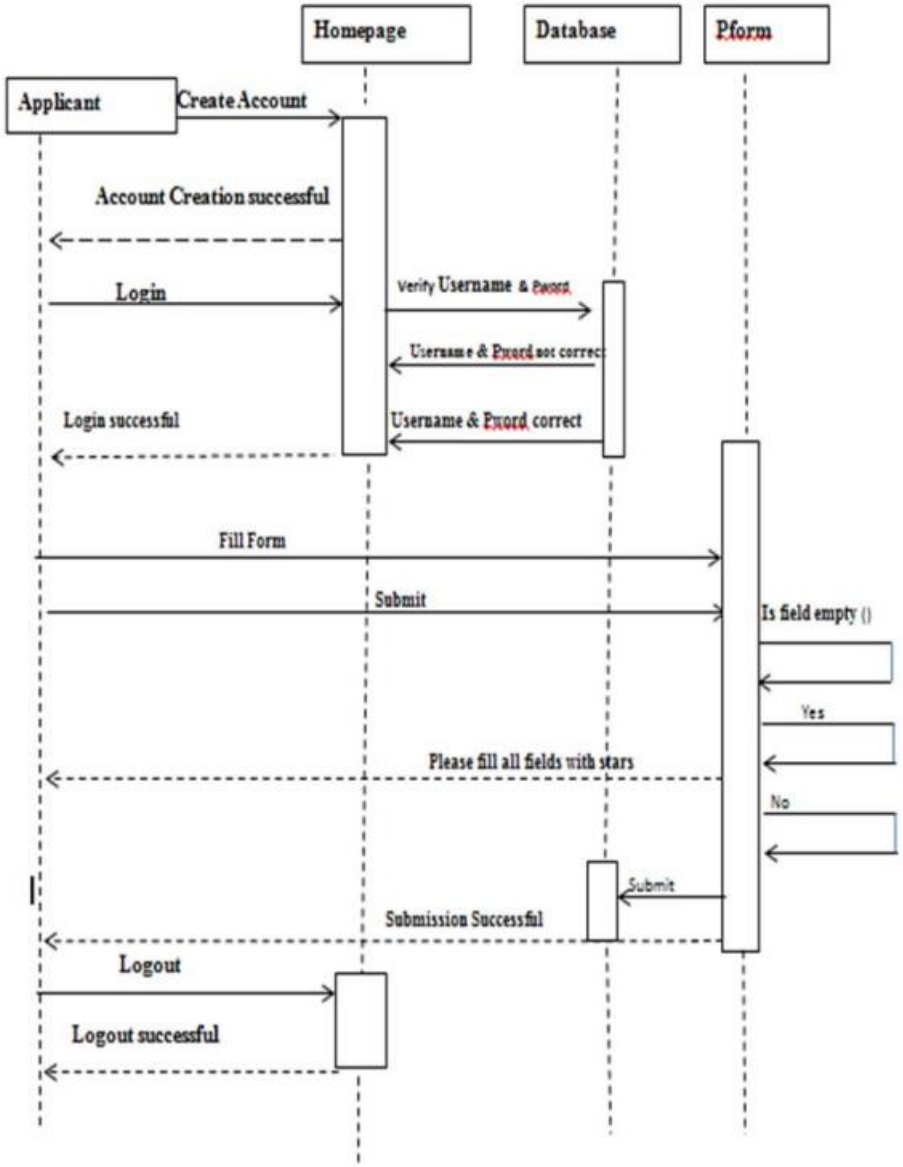

Fig. 3.3 Sequence Diagram

- **System Architecture:** The architecture of the system design is a three-tier. The tiers are presentation tier, middle tire, and data tier. Figure 4 shows the System Architecture.

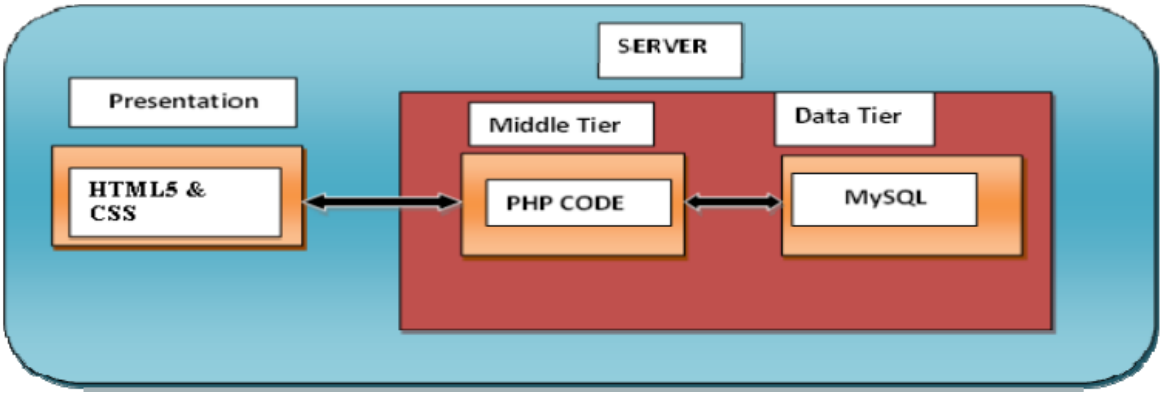

Fig. 3.4 System Architecture

3.1 CODE DESIGN:

The coding step is a process that transform design into programming language. It translates a detail design representation of software into a programming language realization. The code design should be done in such a way that the lines of code used in the software should be minimum for the specified design of the solution. The coding should be in modularized manner.

When code is placed in a module, one may hide it from view and give those executable statements a name (the name of the function or procedure). Information hiding is a good thing when it enhances the understanding of a program by letting to focus on a higher level of abstraction. Information hiding is a bad thing when it obscures one's understanding of a program. This usually happens when the name for the module is not chosen accurately.

In this software, the modularized approach is used. Different functions are created for different operations. The name of the module is chosen such a way that it describe what it does, ie the name gives the action performed by the module.

3.2 DATABASE DESIGN:

The details about the relevant data that came into lay in the system are identified according to the relationship the tables are designed by following the standard database design methods. The dative for each data in the table is defined. For optimum design of database

to have better response time, to have data integrity, to avoid the redundancy and for security of the database tables created and analysed.

A database system can be defined as a representation of an information system in a computer. The general theme behind a database is to handle information as an integrated whole. A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general objective is to make information access easy, quick, inexpensive and flexible for the user. In database design, several specific objectives are considered:

- Controlled redundancy
- Ease of learning and use
- Data independence

- More information at low cost
- Accuracy and integration
- Recovery from failure
- Privacy and security
- Performance

The scheme is the view that helps us the DBMS decide what data in storage it should act upon as requested by the application program. The subschema is concerned with a relatively small part of scheme. In database design, several views of data must be considered along with the persons who use them. The logical view is what the data look like, regardless of how they stored. The physical view is the way data exists in physical storage. It deals with how data are stored, accessed or related to other data in storage. The logical view are the users view the programmer's view and the overall logical view, called a schema.

CHAPTER – 4

SOFTWARE AND HARDWARE REQUIREMENTS

4.1 SOFTWARE REQUIREMENTS:

Backend Frameworks: Node JS, MongoDB, Express

Front End Frameworks: HTML5, CSS3, JavaScript libraries such as (React or Angular)

Runtime Environment: Web Browser

Database Tool: MongoDB

IDE: VS Code

4.2. HARDWARE REQUIREMENTS:

PROCESSOR: Any processor

RAM: 1 GB or above

HDD: 512 MB or minimum (Free Space)

O.S: Any Operating System

Screen: Any

Mouse: Standard Mouse

Keyboard: Standard Keyboard (QWERTY)

Backup Device: CD or Pen Drive (PD) minimum 4 GB

Power Backup: UPS/ 4 Cell Batteries

4.3 FEASIBILITY ANALYSIS:

Feasibility study is a test of a system proposal according to its workability, ability to meet user needs and effective use of resources. The objective of feasibility is not to solve the problem but to acquire a sense of its scope. The main aim of the feasibility study is to test the technical, social and economic feasibility of the system. The feasibility study can be classified into the following categories:

- Economical Feasibility
- Technical Feasibility
- Operational Feasibility

4.4 ECONOMICAL FEASIBILITY:

Since the existing system is manual on the feasibility for wrong data entry is higher and consumes a lot of time and can occur errors. But the proposed system aims at processing of information's efficiently, thus saving the time. The new system need only a system therefore the cost is negligible. Proposed system use validation check so there is no errors. Even though an initial investment has to be made on the software and the hardware aspects, the proposed system aims at processing of information's efficiently. Thus, the benefits acquired out of the system are sufficient enough for the project to be undertaken.

4.5 TECHNICAL FEASIBILITY:

Technical feasibility deals with hardware as well as software requirements and to what extend it can support the proposed system. The hardware required is a printer and software is Visual Basic 6.0 and Microsoft SQL server. If the necessary requirements are made available with the system that is a system, then the proposed system is said to be technically feasible.

4.6 OPERATIONAL FEASIBILITY:

The proposed system offers greater of user friendliness combined with greater processing speed. Since the processing speed is very high compared with manual system on that management can take timely actions depending on information's obtained. Since the workload is also reduced the college authority convenience that the project is operationally feasible.

CHAPTER – 5

MODULE DETAILS

In this software mainly have 4 modules. They are:

- Login
- Student
- Scholarship
- Reports

LOGIN: The Login module contains username and password. Username is not changed and password can be reset using a security question.

STUDENT: The Student module contains all the details of the students applied for various scholarships in the college.

SCHOLARSHIP: The Scholarship module contains the details of scholarships and the criteria details.

REPORTS: The Reports module contains all the reports of eligible and non-eligible students for scholarships.

CHAPTER – 6

PURPOSE, SCOPE AND ADVANTAGES

6.1 ADVANTAGES

- The system avoids redundancy by the use of several type of validation that is the system is enhanced.
- Quick access and processing is the main advantage that forces as to implement the proposed system.
- The main alteration between the existing system and the new automated system lies in the specialty which reduces the time consumption in an appropriate manner.
- The system will reduce the amount of paper work require.

6.2 SCOPE

This system has developed to automate the scholarship processes that are running in the college. This includes student details, details of the scholarship, eligible and non-eligible students.

The SMS will provide a way to keep track of the student details and scholarship details. This will also produce list of eligible and non-students.

This application allows the user to search the list of all student's year-wise.

6.3 PURPOSE:

The main purpose of Scholarship Management System is to help automate the entire Scholarship process performed in the college. The main objective of the proposed system is to eliminate the limitations of the existing system. Computers are fast and tireless machines that can process large amount of results. In short, it provides quality reports and registers. The goals of Scholarship Management System are:

REFERENCES

[1] R. H. Michael, "The Impact of Financial Aid on Postsecondary Persistence: A Review of the Literature", Nasfaa Journal of Student Financial Aid, Vol. 37, No. 3, 2008. pp 30-34.

[2] C.W. F. Anthony, S. Andrea, G. Kappel, R. Werner, E. Kimmerstor, et al, "Ubiquitous Web Application Development – A Framework for Understanding", Hagenberg, Austria, Pp.1-7, 2000. Available: http://www0.cs.ucl.ac.uk/staff/A.Finkelstein/papers/uwa.pdf.

[3] D. Ernst, "The Internet's Effect on Business Organization: Bane or Boon for Developing Asia?" Asia pacific issues. No. 48, 2001, pp.1-8.Available:

[4] K. Peterson, "Financial Aid Glossary", A Nelnet Network, 2013. [Online]. Available At: http://www.fastweb.com/financialaid/articles/financial-aid-glossary.

[5] B. Sanothimi, "A Study on Scholarship Management and its Effectiveness in terms of Enrolment and Retention Final Report" Kuleswar, Kathmandu, 2010. Pp 3-5.

[6] M. Brumbaugh, "Increasing Efficiency in a Community College Scholarship Program", M.Sc. Thesis, Concordia University, Portland, 2011.