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Automation of Engineering College using College Management System

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ABSTRACT

This paper gives the idea about how the automation in accessing of any information can be done in the Engineering College. The transaction that could be done is according to the customer and user requirements. This paper will enable colleges to conduct transaction and have automated checking information of the operations based on the processing of college. This paper presents the system that will also provide the facility to find how information is transferred in all over the departments of the college. All the transaction is done in the departments of the college and then can be sent to the University.

Keywords: College Management System, Planning, Confidentiality and Interface

1. INTRODUCTION:

This paper allows assessing any information in the College through software. The transaction would be highly customizable. This paper will enable colleges to conduct transaction and have automated checking information of the operations based on the processing of college.

The paper allows user to give them login page, user can enter the user name and password to go to the next page which is the account open page and for new user login account form, user can open their new account by inputting user name password and nominee's name, age and father of the person. Administrator also provides an authentication to any operations in the college.

The main purpose of this paper is to provide the statement to the user when he /she submitted his query of any particular problem can see the statement and analyze it. It helps in removing the problem of practicing the manual system and carry out the operation in a smooth and effective manner. It helps in decreasing load of person involved in existing manual system. The information can be updated as well as accessed easily.

1.1 Scope of the Paper:

This paper would be very useful for College management where regular evaluation is required. Further it can also be for anyone who requires information based on College management.

1.2 Review of recent works

Almost all educational institutes face difficulty in managing and sharing the information if the management follows conventional or manual system. However, this difficulty can be removed by using computer and software. The related cost is also competitive. A management of even small institute can bear the cost. Many authors have presented research work in the area of managing the information system. Some of them have been summarized in the next paragraph.

Yue and Jin [2011] presented student management system using network environment and concluded that such concept develops a system which is not only convenient for the student management, but it also results in enhancement of enthusiasm of student as student can conveniently access the various information. Josphineleela and Ramakrishnan [2012] have investigated automatic attendance system making use of fingerprint reconstruction technique. They concluded that the proposed reconstruction algorithm has successfully matched the type-I and type-II attack. Type-I attack is related to matching the reconstructed fingerprint against the original one, whereas, type-II attack is related to matching the reconstructed fingerprints against various impressions of the original fingerprint. Bharamagoudar, Geeta and Totad [2013] presented a student information system which address all issues related to student like attendance, placement, admission etc. They used SQL for data base management. Sivasankaran and Muruganand, Periasamy [2013] reported a smart school management system using GSM supported advance embedded system. They implemented the system on laboratory scale. Joshi [2015] reported an information management system for educational institute in which Oracle was used for database. The literature review shows that the management information system using Microsoft access as database management has not been proposed. So, the present study encorporates the use of Microsoft access as database. The main objectives of the proposed study have been presented in the section 1.3.

1.3 Objectives:

The objective of the proposed college management software can be stated as follows:

i. To check the response by the user automatically and instantly
ii. To reduce time for accessing the information
iii. To reduce paper work of college
iv. To generate various reports on demand
v. To help in monitoring the various activities that will help in improving the performance of system.

2. REQUIREMENT AND FEASIBILITY STUDY

The requirement for automation of the present system has been found out by have a detailed discussion with various stakeholders. Based on the discussion the requirement can be stated as follows:

i. Store information or database about various entries of the college
ii. Course information for helping internal staff
iii. Updating and deleting of record
iv. Searching of student record for taking fast decision on matters related to student
v. Robust security system to prevent data theft
vi. Creating various forms instantly at the time of need

After the requirement analysis, feasibility study has been carried out. It includes the solution of the problem by considering various possible ways of providing the solution to the problem addressed. The solution should be proposed in such a way that it is flexible enough to take the future need. The feasibility study has been carried out from both economical and technical point of views. The technology has been decided on the basis of minimum cost factor so that the management can bear without any difficulty. It was ensured that the benefits to management resulting from the automation of college process will overcome the initial cost and running cost.

3. SYSTEM ANALYSIS:

Analysis and design are two main parts while developing a system. The system design can be defined as the process of planning a new project system or one to substitute or complement present system. However, one should thoroughly understand the old system before the planning is executed and be able to find how computers can best be used to make its operation more effective. System analysis can then be viewed as the process of gathering and interpreting facts, diagnosing problems, and using the information to recommend improvements to the system. The background information related to the use and purpose of the current system should be provided. When there is a requirement to improve the general description, interfacing systems should be referred.

3.1 System Objectives and Current Functionality:

3.1.1 About the existing system:

The present College management Systems and their respective options provided by the Administrator may or may not be in English today many college also prefer to do their work in Hindi, and it is good revolution in the College management, because Hindi is our Mother Tongue language, and a customer can easily work in Hindi, and they can protect their account number from any other person.

Hence the Hindi work in College management gives progress to less illiterate people and they are not able to get complete information and new report of the College management.

3.1.2 Value of missing information:

One can compute the daily turnover cost of College for not having the document at the time of need with the help of archetypal lost document statistics. However, College management decided to measure the actual cost of lost information in order to get actual data for a software organization. The college staff filled out a form for each request for over two weeks in order to recover a document from store room of college management. The total number of files requested and results of each request were documented using the collected data.

3.1.3 Current Methods and Procedures

The current methods and procedures being employed need to be described to satisfy the existing information requirements. A graphic representation depicting the existing data flow through the functional system from data acquisition through its processing and eventual output should be provided. The graphic may be complimented by a narrative explanation of the sequence in which the user performs the operational functions.

3.1.4 Our Proposed Methods and Procedures

The proposed method is clicking the links which direct a page to another page. Methods that are used in project are link reference bind with image link, button link and static link. Another procedure that used project is search method written by coder and as well we make a search method by using Google search engine.

4. IMPROVEMENT TO EXISTING SYSTEM:

There are various improvements that are intended to the existing Capability. Since at beginning the work that are done, is totally manually but when the system is computerized then it becomes a time saving technique and the all the records are maintained in the very less time than the manual system and there may be taken a short idea in few minute of all work.

5. COMMUNICATIONS INTERFACE

The database is connected to all the online forms through jdbc connection. The major functional processing steps are described by individual function using graphic representation (e.g., flowchart and DFD) or descriptive use cases. The enough details should be provided to support development of design specifications.

6. FUCTIONAL REQUIREMENTS:

Flowchart/data flow diagram can be used specifically for presenting the flow of information in the system.The pictorial representation of the process being studied is termed as flow chart. The flowchart gives the information to people with a common language or a reference point when dealing with a project or a process. Each flow chart provides a different aspect to a process or a task. It is an excellent form of documentation for a process, and flowchart is generally useful when examining the different steps in a process work together.

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5.1 Data flow diagram

A DFD consists of a series of bubbles joined by lines**.** The bubble represents data transformation & line represents the data flow in the system.

5.1.1 Cnntext free diagram

Diagram plays a very important role in studying the current system. It contains a single process which the system interfaces to user or can say it determines the boundaries. It is a top level DFD. Fig. 1 represents context free diagram of the system.

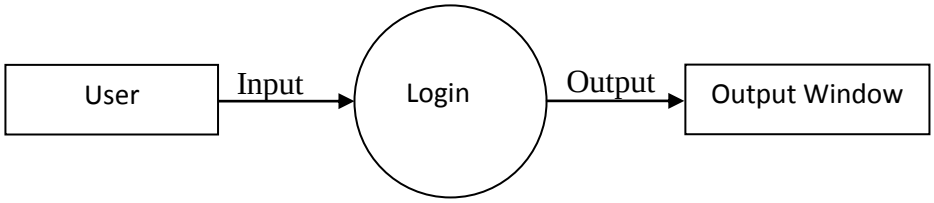

Fig 1: 0 level Data Flow Diagram of College Management System

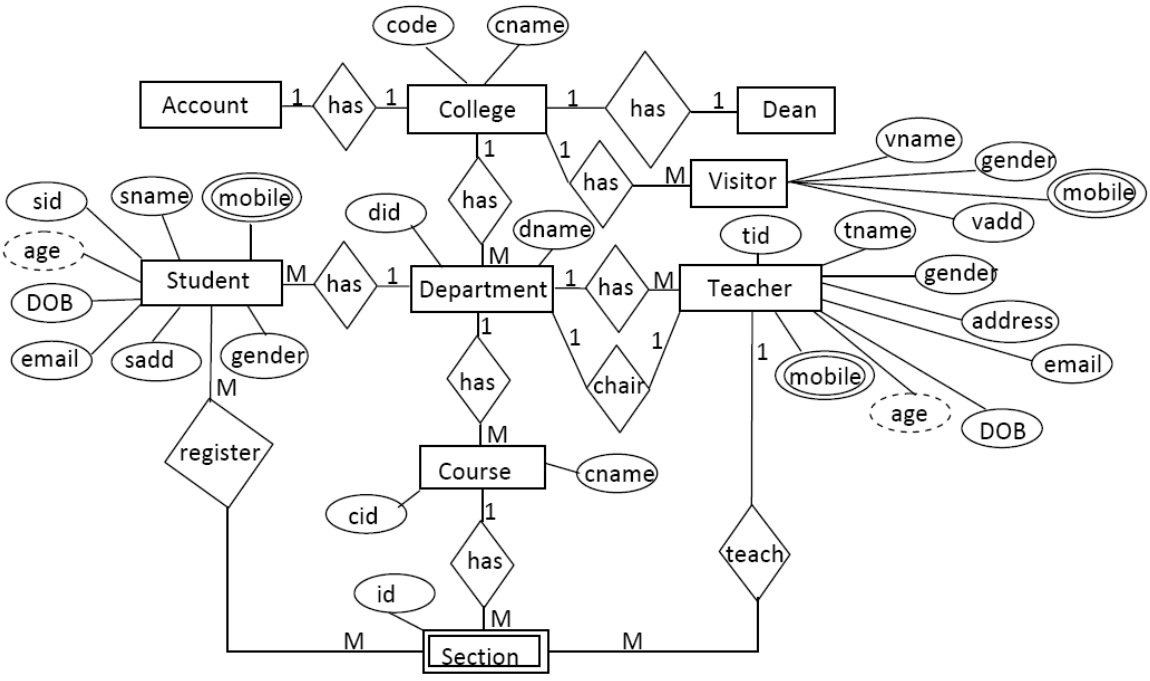

Fig 2: E-R diagram of College Management System

3. Conceptual Database Design

As of now, the organization has been described with the development of the information system architecture and the Enterprise Data Model (EDM). This section carries out conceptual design, which will take over from the external schema in the database development procedure. This section will finally lead to the development of the Entity Relationship (ER) Model by defining the entities and their relations in detail followed by describing the structural constraints.

Fig. 2 represents E-R diagram of college management system. It contains College, Department, Student, Course, Section, Dean, Account, Visitor, Teacher and Chair as entities. It has to be noted here that 'section' is weak entity. Student identity (sid), student name (sname), mobile number, date of birth (DOB), age, email, student address (sad) and gender as attribute. Student has student id as key attribute. Mobile number is multiple attribute because a student can have many mobile numbers. Age is a derived attribute because one can calculate age using date of birth. Similarly, teacher has teacher name (tname), teacher id (tid), mobile number, gender, date of birth (DOB) and age as attribute. Table 1 represents the table for student resulting from E-R diagram. Similarly, Table 2 represents table for teacher that results from E-R diagram. Similarly other tables can be drawn.

A Conceptual schema is a detailed specification of the overall structure of organizational data, while being independent of any database management technology. A conceptual schema defines the whole database without reference to how data are stored in a computer's secondary memory. A Conceptual Schema of the system is necessary so as to know and represent data from the viewpoint of the user, independent of any technology that will be used to implement the model.

Table 1: Student table resulting from E-R diagram

Sname	sid	mobile	DOB	Age	email	gender	sadd

tname	tid	mobile	DOB	age	email	gender	address

Table 2: Staff (teacher) table resulting from E-R diagram

4. Implementation details:

The implementation part gives the look and feel about the output of the automation done with respect to the project.

Fig. 3: Home page of college management system

Table 3: Details regarding home page and login page

PURPOSE	Loading of project
INPUT	To Press login button
PROCESSING	Process data
OUTPUT	Successfully linked to choosing frame

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Fig. 4: Login Page of the automated system

Fig. 5: Selection of choice in the automated system

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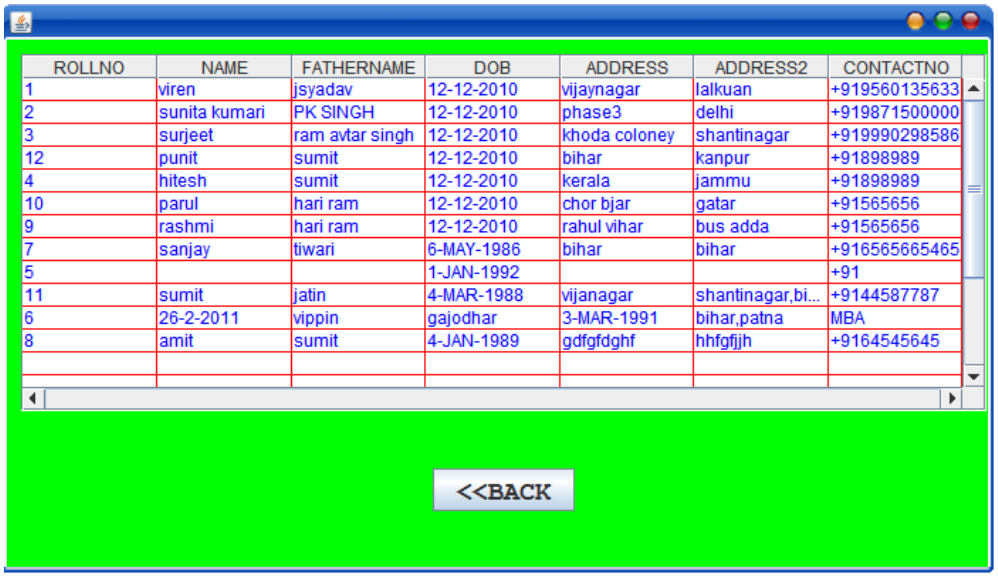
Fig. 6: Form for adding the staff

Fig. 7: Deletion of existing user

Table 4: Table regarding creation of new account



5. Testing the Model:

This part of the paper deals with testing for the functionality, validity and performance. For testing the system, the various different tests are conducted. The main objective behind testing phase is to ensure that the system meets all requirements and constraints of the user. Here, the focus has been made on testing the developed system using various test strategies for verifying the correctness and user acceptance. Testing can be defined as the process of executing a program with an aim to find the error. A test case is considered good if it is capable of finding undiscovered error. A successful test is one that uncovers an as yet undiscovered error. It should have high probability of detecting an error. The tester must understand the software to attain this objective. He should attempt to develop a mental picture of various ways in which the failure software may take place. Ideally the classes of failure are probed. It is not redundant: testing time and resources are limited. The purpose of conducting the different tests should be different.

All the testing strategies are applied according to the user requirement there by user is able to find out whether the system is working smoothly with respect to the input and other user requirements. A document describing the scope, approach, resources, and schedule of intended testing activities. It identifies test items, the features to be tested, the testing tasks, who will do each task, and any risks requiring contingency planning.

6. CONCLUSIONS

The paper allows the user to design the automation system with respect to the user and which can work smoothly on any operating system platform and the output is effectively used for any user. This system can save lot of time for the management as one can access any information regarding the college at any time within few

seconds. It helps the account department to keep the record for future use. Student data can be accessed for use by any stakeholder.

REFERENCES:

1. Josphineleela. R, and M.Ramakrishnan, An Efficient Automatic Attendance System Using Fingerprint Reconstruction Technique, International Journal of Computer Science and Information Security,Vol. 10, No. 3, March 2012

2. Lalit Mohan Joshi. Article: A Research Paper on College Management System, International Journal of Computer Applications, 122(11):32-44, July 2015.

3. S.R.Bharamagoudar, Geeta R.B. and S.G.Totad, Web-Based Student Information Management System, International Journal of Advanced Research in Computer and Communication Engineering, Vol. 2, Issue 6, June 2013.

4. V. Sivasankaran, S. Muruganand, Azha. Periasamyinternational, Advanced Embedded System Assisted Gsm and Rfid Based Smartschool Management System, Journal Of Advanced Research In Electrical, Electronics And Instrumentation Engineering Vol. 2, Issue 7, July 2013.

5. Zhi-gang YUE, You-we JIN, The development and design of the student management system based on the network environment, International Conference on Multimedia Communications,978-0-7695-4136-5/10 2010 IEEE, 2010