

College Automation System

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Abstract— College Automation System Project will work on college area network. It will include all the four departments in the college. It will have admission system for, class attendance, online notes and notice board, placement systems so that their students can get all the information by using their valid registration id and password. Let us see how this College Automation System Project will work. College Automation System Project will also help the college administrator. Administrator will be able to get all the information regarding any faculty members on particular day and time. Admin panel will also be able to edit the login display panel of teachers, staff members, students etc. Admin can add person, delete person, can give special permission. Admin can schedule classes, their lectures time. Teachers can get information of any students under their particular class. Teachers can also make query by using grade, percentage, can see list of students who come under the category of attendance shortage and many more under this one roof. For student section, they can get any particular teacher's notes of particular day and other information regarding their campus, such as placement session details, upcoming companies in particular month, their criteria, their venue details and many more. Student section will also include learning section, so that students can prepare for their exams.

Keywords— *College Automation, admission system*

I. INTRODUCTION

College Automation System is a software that helps both the students and the management authorities of the college. Our College Automation System is capable of storing the details of the students and the teachers and also maintain their details in a dynamic order.

This software can help us explore all the activities happening inside the college which we as students do not have any knowledge about. It can handle the details of students, teachers and head of the departments. In this system the HOD can maintain every detail of a particular student in his department. He can also post any notice corresponding to his department. He can also grant a student his attendance and allowance to appear for the examination.

There is also a question and answer portal in our project in which anybody is able to post a question and anybody is able to answer that question. In case of a student the name and the department of the student will also be displayed in the question bar. This system provides detailed structure of the departments of the college and the facilities of the college. Our system synchronizes the working of all departments.

II. LITERATURE SURVEY

II.A. Definition Of The Problem:

Today all the major work of a college is done by pen and paper method. The admission department has to manually forward the details of the students to other departments like examination department so that they can insert their details into their database. Technically until and unless the student has been registered into the university their details do not go to the examination department.

The pen and paper method is very time consuming and takes in much more effort and time. Since each day the number of students is growing and so is the amount of data relied to them, it is facing difficulties in maintaining the records of the students.

It is thus required to build up a computerized system that can both work as the representing side of the college and the working side of the institution. It is necessary to build up a system that can work automatically with lesser effort than the previous method and also be hundred percent trustworthy.

II.B. Objective:

The main objective of the system is to reduce the consumption of time during maintenance of record of the

college students. The Head of the department's role also include the maintenance of the details of the teacher. He can also maintain the attendance of each of his students under his department. He will fill in the internal of the student that will directly go to the examination department in a tabular format so that they do not have any hesitation in calculating the final marks of the students.

In other words our College automation system has, following objectives:

- Simple easy database maintained.
- To manage the tasks related to the students and authorities.
- User interface are user friendly.

All of the works of a college are under one system so that there is no chance of external errors. A portal that can

cater the questions of a student and a teacher will directly see them and answer their questions.

III . Methodology

The process development used in our project is the waterfall model.

The waterfall model:

The waterfall model is a sequential design process of a software, in which progress is seen as a process flowing steadily downwards (like waterfall).through the process of conception

, initiation, analysis, design, construction, testing, Production / implementation and maintenance.

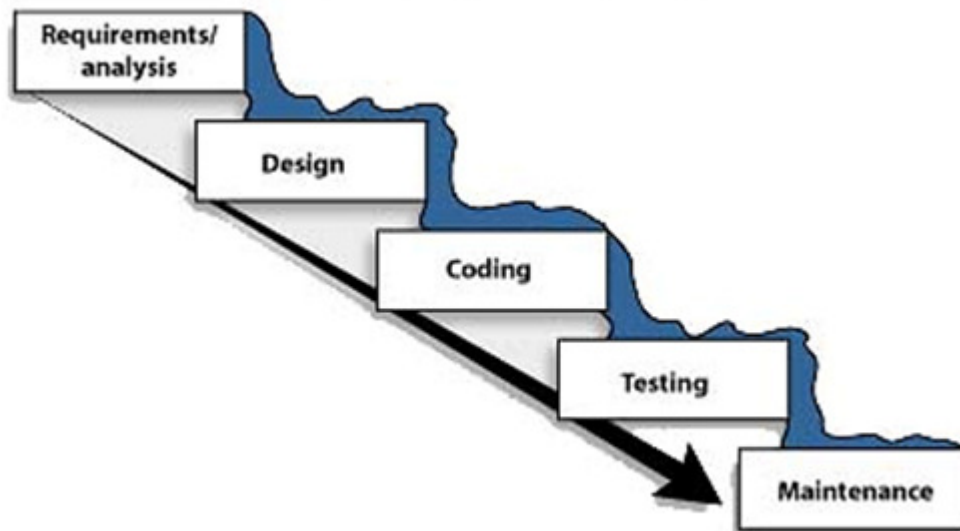


Fig.I: Development Process

The waterfall model are used in industries were the cost of after the fact changes are prohibitively costly, if not impossible. This is also called a hardware-oriented model for development of software.

III.A. Reasons For Selecting Waterfall Model For Our Project:

- Since we have well known, clean and fixed requirements therefore it best suits our project.
- Our project definition is stable.
- Technology is clearly understood.
- The project is comparatively short.

III.B. Disadvantages Of Waterfall Model:

- Once an application in its testing phases, it is very difficult to go back and change something that was not thought well through the concept stage.

- High amount of risk and uncertainty.
- Poor model theoretically for long and ongoing projects.

IV. PROPOSED METHOD

IV.A. Introduction:

Today all the work of admission of a student, managing of marks, publication of notices of the students are done by pen and paper method, which is very slow and time consuming. It is required to design of computerized automated management system to speed up and make it

easy to use the system. It reduces the manpower needed to perform the entire admission and administration purpose by reducing the paper works needed. The main goal of the system is to automate the process carried out in the organization with improved performance and realize the visions of paperless work.

Purpose : It's purpose is to automate and centralize the whole system of different departments. We are attempting to improve our existing system that runs on pen and paper.

Scope : It is more efficient and convenient for the colleges. It reduces the manpower associated with the running of the management. If all the work is done by computer there will be no

Chance of errors: Moreover storing and retrieving the information is easy, so work done can be easily done in lesser time. Need for the proposed system Automation for College management system will use centralized databases for all departments reducing the redundancy.

Features and benefits : User-friendly.

- Reports are easily generated.
- Very less paper works.
- Computer operator controls.

IV.B. Overall description

IV.B.a. Product perspective:

User interface: The application will have menu based and user friendly interface.

Following screens will be provided;

- A main screen will menu bars that will help the user to both gain information and reflect about it. From there he/she can gather information about the college. They will also be able to read the notice from there without having to login to their account.
- Students, teachers, administration will have their separate login pages.
- Once the users have logged in to their accounts they will notice the major tasks on the screen itself.
- All the major tasks mentioned above will have their separate forms and perform the desired actions.

Hardware interface:

- Intel core i3 or above.
- 1.5 GHz.
- 512Mb of RAM or more.

Software Interface:

- Windows XP/Vista, 7, 8 or above.
- Platform: JAVA.
- Database: MySQL server.
- IDE: Eclipse Luna.

Communication interface:

The Communication between the different forms and html pages is done by JSP.

Memory constraints:

At least 512 Mb RAM and 2 GB hard disk space will be required for running the application.

Operations:

- The system will have user friendly interfaces. The system will maintain the records of the students and the teachers and staff.
- It will also store the attendances and the internal marks of the students.
- Important Notices and upcoming Events can also be published on the site.
- Pailan E-Learning will allow better communication among teachers and students.
- Placement Record of students can also be updated.

Site adaptation requirements:

The centralized database is used so that the system can communicate to retrieve the information.

IV.B.b. Product function

There will be username and password for each of the users of the system. The username is most likely to be the email address in case of students.

Software will perform the following function:

- Only the Hood and the examination department can modify the data.
- Student can only view their information and only modify some of the details.

IV.B.c. Assumptions

- The product requires a computer with JVM installed.

- The student pays its fees and then only are registered by the admission department.
- The system must also be installed with database provider such as MySQL.

IV.C.a. User class and characteristics:

- The HOD is responsible for maintaining the attendance, punishing any new notice, create time tables and assign teachers to them, submit the marks of the student, update the student profile depending on the attendance and exam status.
- Student can ask questions in the question and answer portal that has been designed. Any random student of the institution can answer that question. He can also check his internal marks and his attendance.

IV.C.b. Functional requirement:

The basic service that automation system will provide are:

Entry of the new staff to the department.

Entry of attendance.

Entry of examination marks.

System shall provide username and password for the users of the system. Only the username of the student will be generated by the software that is his/her email-Id.

IV.C.c. Performance requirements

The proposed system that we are going to develop will be used as the chief performance system for providing help to the departments in managing the whole database of the student studying in the department. Therefore it is expected that the database would perform functionally in all the requirements that is specified.

- The system should be easy to handle.
- System should give expected performance results.
- The response time should be small.

IV.C.d.(i). Security requirements:

- We are going to develop a secured database. There are different kinds of user namely administrator, student, teachers who are viewing specific information from the database.
- Depending on the category of the user the access rights are decided.

IV.C.d.(ii). Safety requirement

The database may crash at time due to OS failure or virus. It is advised to take a backup of the database.

V. FUTURE SCOPE

College Automation System is a ever growing application which can be modified in endless ways to serve the purpose of facilitating the easy interactions of all the functioning departments of a college.

Some of the basic features which could be added to our project in the future are as followed :-

1. Attendance Module

1.1. Attendance of students can be evaluated on weekly basis.

1.2. Instead of taking attendance on notebooks, each faculty can update the attendance of their class through this application.

2. Internal Marks Module

2.1. Highest or average of the two internal marks will be calculated directly.

3. Routine Module

3.1. While updating the routine the application must provide the names of the faculties available at that allocated time only.

4. Pailan E-Learning

4.1. PDFs of notes can be uploaded by faculties.

4.2. Videos of important lectures of esteemed faculties can be uploaded as well.

4.3. Previous Year Questions can be made available here.

5. Notice already published can be updated.

6. Details of the events held or about to be held can be read.

7. Semester marks of students can also be accessed by this application.

8. Due to lack of advanced database, storing of previous year's information of students when they are promoted to a different semester could not be incorporated in this project.

To make this project viable an efficient data storage is required to keep all the records of the students and teachers.

VI. RESULT AND CONCLUSION

Earlier there was no such system in the college that would both be informative and would do all the processes required for the institution to function. We tried to create a system that is both informative and functional at the same time.

The work of registering a student was done by pen and paper method that would take a lot of time and effort. It would take least take more or less five pages and at least two people involved in that function. Now we have

designed a system that would do this job in minutes and involving only the management department.

Same goes with the registering of the teachers and assigning their departments. Now this job can be completely done by the management user himself. If we discuss about the functionalities of the HOD, one of the major functionalities of the HOD is to make a time table for the teachers and the students. This particular work may need minimum five sheets of paper and effort and also additional time. This process was optimized by us and now a now an HOD can create a time table for the students as well the teachers by using only one form.

Moreover if the HOD wishes to publish a current notice, it would require minimum two pages and several other persons involved in it that would consume a lot of time and effort. We have also optimized this process and now the HOD can publish a notice that would be then and there available on the system.

We have additionally designed a question and answer portal that is not present in most of the institutes. The question and answer portal lets anybody to ask a certain question that would be available to all the users of the system. Any user can login to his/her account and if they want they can see the questions and answer the same.

Calculation of attendance is often considered one of the hectic jobs for the teachers and to check the attendance a HOD has to access an excel sheet multiple times. The student has to confront the HOD for a lot of times to know his attendance and his status of allowance which would let him appear for the examination. This work is of utter importance and thus we have optimized this process for the HOD. Once the total attendance is calculated the HOD can allow or disallow any student based on the student's percentage of attendance with just one click. This would also conveyed to the student as soon as he/she checks his/her attendance.

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