International Journal of Engineering Applied Sciences and Technology, 2020
Vol. 5, Issue 2, ISSN No. 2455-2143, Pages 356-361
Published Online June 2020 in IJEAST (http://www.ijeast.com)

DEPARTMENT MANAGEMENT SYSTEM [WEB-BASED APPLICATION]

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Abstract: **This work done is aimed at developing an Online Web-based "Department Management System" that is of importance to a specific department of a college. The system is a web-based application that can be accessed throughout the department of an organization. This system may be used for monitoring the overall activities as well as performance of the students.**

This work is being developed for an engineering to maintain and facilitate easy access to information. For this the users must be registered with the system after which they can access as well as modify data as per the permissions given to them. DMS is a web based application that aims at providing information to all the levels of department in an organization. This system also contains department yearly magazine "BYTE" and all other books in the library module which are related to the department. For a given student/faculty can access the system to either upload or download some information from the database.

Keywords—**Admin, Department system, Feedback, Information, Management System, Student**

I. INTRODUCTION

The title of the work is "Department Management System (DMS)". DMS is defined as an application build on web that is useful in providing information at all levels of a department.
For the users of this system the administrator creates login IDs and respective passwords from which student/staff can easily access the system. This work is basically a website which includes attractive designs and proper arrangements of links and images.
From department library to department yearly magazine, from staff rating to student's feedback, every notice and upcoming events is showcased in this system. Placement and rooms/labs record are also stored in the system.

II. LITERATURE SURVEY

In this section we present reviews of related research papers. In [1] Abhinav Sekhri (2020) proposed School Management System which is introduced mainly for a School. This system includes functionality like holidays, classes, accounts, reports etc. On the other hand it do not contain library management module from where students as well staff can issue books related to their interest.
[6] Another similar system, College department Management System (2018) proposed by Ms.A.V.Sinhasane, Ms. A.N. Kashid, Ms. P.J.Kumbhar, Ms. P.R.Shirpale, Prof. S.L.Mortale from International Research Journal of Engineering and Technology which is introduced to reduce the stress and efforts of a staff as well as students. This system have functionalities like voting event details, feedback, newsline etc. This system is basically useful for students as they get the event details through SMS. But there are no basic modules which are important to both staff as well as students such as marks, assignments, notes etc.
[8] Author Kartiki Datakar (2016), from International Journal of Computer Science and Mobile Computing, quoted that Online Attendance and Feedback System is software developed for daily student attendance in schools, colleges, and institutes. It facilitates to access the information of a particular student in a particular class. It is concluded that a graduated approach to result monitoring is the most effective response, in which sanctions have a place, although only as a last resort. Online Attendance and Feedback System are software developed for daily student attendance in schools, colleges, and institutes.
[5] Author 'Lalit Joshi', "A Research Paper on College Management System" (2015), International Journal of Computer Applications, referred that the system utilizes user authentication, displaying only information necessary for an individual's duties. Additionally, each sub-system has authentication allowing authorized users to create or update information in that subsystem. All data is thoroughly reviewed and validated on the server before actual record alteration occurs. In addition to a staff user interface, the system plans for

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student user interface, allowing users to access Information and submit requests online thus reducing processing time.

III. METHODOLOGY

This document plays a vital role in the development of life cycle (SDLC) as it describes the complete requirement of the work done.

Any changes made to the requirements in the future will have to go through formal change approval process.

The methodology we used for designing the system is "SPIRAL MODEL". Spiral model was mentioned in 1988 article by Barry Boehm, "*A spiral model of Software Development and Enhancement*".

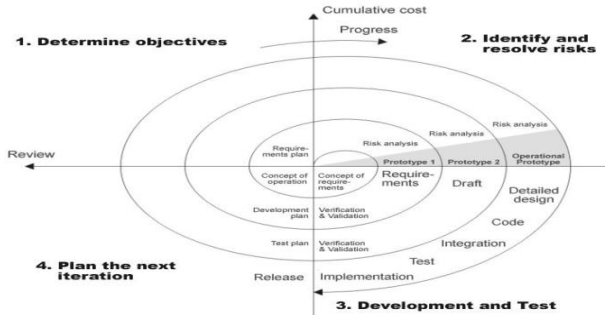

Figure 1. Methodology

IV. PROPOSED WORK

A. USER CHARACTERSTICS

The target audience for implemented work is the department students/staff.

The users for this system are

1. ADMIN- System administrator is the one who create, update, delete as well as manages the database of the whole system. In this module some of the activities done by the admin are managing library, keeping records of placements, rooms and labs etc, adding faculty details in the system as well as updating the same.
2. STUDENT- In this module, students can login and can get various information and notices through notice board module, can also give feedback about teachers through feedback module, download assignment provided by teachers, can also download and read the departmental magazine available online and can also issue books online from library module.
3. STAFF - In this module, the faculties updates the attendance of students on daily basis through attendance module, uploads notes and assignments through upload document module, also they can add room details through the room detail module and can also issue books through the library module.

B. OVERVIEW OF FUNCTIONAL REQUIREMENTS

1. The administrator should govern the working of the system.
2. The staff can view the student details.
3. A mechanism to uniquely identify each student.
4. The students can view marks/attendance/exam schedules/upcoming events etc.
5. The system should have a login.
6. It should allow students to give feedback to the staff i.e. the system should have a rating and feedback feature.
7. Student/faculty have the functionality to the application where in admin can manage, add, update or delete the information

C. NON-FUNCTIONAL REQUIREMENTS

Table 1. Hardware Requirements

Pentium-IV (processor)
512 MB RAM
Hard Disk 10GB
Microsoft Compatible 101 or more keyboard

Table 2. Software Requirements

Operating Systems	Windows
Programming language	C#
Web- Technology	.NET
Front-End	ASP.NET
Back-End	SQL SERVER

V. SPECIFIC REQUIREMENTS

A. EXTERNAL INTERFACE REQUIREMENTS:

1. Simple, Attractive, User friendly.
2. Self-contained, consistent, self-explanatory
3. Robust.

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B. MAIN MODULES OF THE SYSTEM

MAIN MODULE- This module is referred as main because it is the starting page of our project.

Table 3 Home Page

1.	Home
2.	Login
3.	Registration
4.	Gallery
5.	About Us
6.	Contact us

ADMIN MODULE- Manage users, library, keep records of placements, rooms & labs etc.

Table 4 Admin

1.	Registration Teacher
2.	Info
3.	Schedule
4.	Library
5.	E-Magazine
6.	Rooms
7.	Placement Records
8.	Logout

FACULTY MODULE- Faculty can upload exam information, notes & assignments, etc. Can view library, etc.

Table 5 Faculty

1.	View profile
2.	Attendance
3.	Upload documents
4.	Room details
5.	Library
6.	e-magazine
7.	logout

STUDENT MODULE- Can give feedbacks. Have access to download study material provided etc.

Table 6 Student

1.	Profile
2.	Notice Board
3.	Feedback
4.	Download assignment
5.	Library
6.	e-magazine
7.	logout

VI. RESULTS AND DISCUSSION

A. SYSTEM DESIGN

1. The system should be quite stable.
2. We tried to involve accuracy to enhance the efficiency of the system.
3. Aim for the system with minimum cost.
4. System should be modifiable depending on the changing needs of the user.
5. Security is the most important aspect which is followed in this designing phase

B. ARCHITECTURAL STRATEGIES

DATA FLOW DIAGRAM:

DFD is a means of representing a system at any level of detail with a graphic network of symbols showing data flows, processes and their respective sources and destination. These diagrams are like a road map with different details on different hierarchical levels.

LEVEL-0 DFD also known as context diagram, shows a data system as whole and only emphasizes on the relation between the user and the system.

LEVEL-1 DFD is more detailed than level-0. It divides level-0 processes into sub-processes to make understanding much better.

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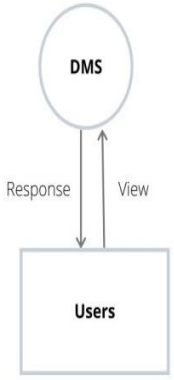

FIG. 2. DFD LEVEL-0

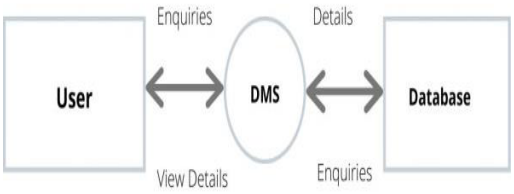

FIG.3 DFD LEVEL-1

ACTIVITY DIAGRAM

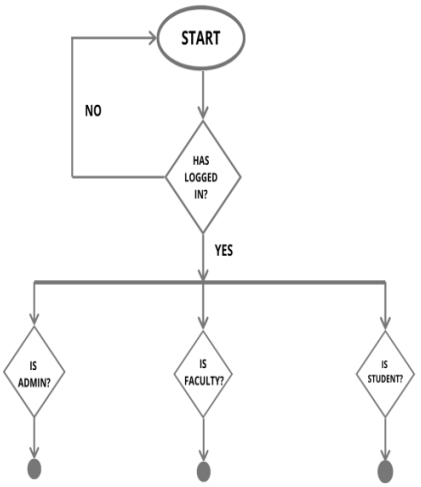

FIG.4 LOGIN AS?

UML DIAGRAMS

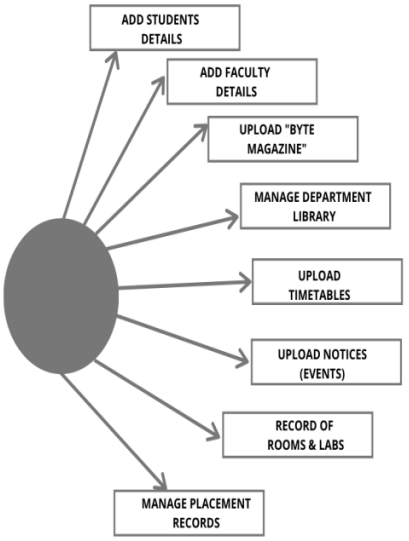

FIG.5 UML DIAGRAM FOR ADMIN

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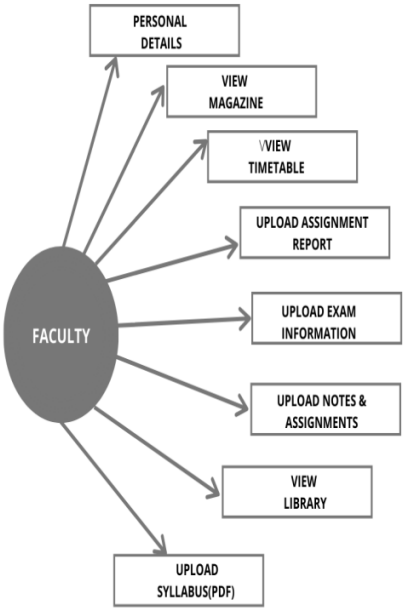

FIG. 6. UML DIAGRAM FOR FACULTY

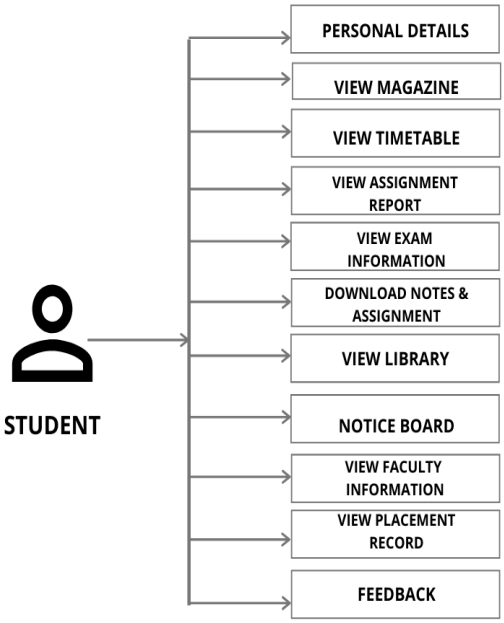

FIG.7 UML DIAGRAM FOR STUDENT

VII. FUTURE WORK

1. Chatbot systems can be added for communication through applications
2. Development of Android app for the website.
3. Test for placement drives can also be added which will be designed according to the company requirements. (MCQ, Short questions etc).
4. Better animations with friendlier user interface.
5. Number of electronic devices (fans, lights or computer systems) in each class or lab will also be mentioned in room module.

VIII. CONCLUSION

At present this system is only website based and do not have any such software for communication purpose.

It does not include information like how many computers are working within a lab or the defective ones.

Using the free express edition of SQL Server can limit how large your database files can be. SQL Server Standard edition has an upper limit of 524 petabytes, but it is not free.

If database reaches the limit of SQL Server Express Version, will begin to experience errors due to the inability of the database tables to accept new data.

IX. ACKNOWLEDGEMENT

It gives us a great pleasure to present the report of the B.tech project undertaken during final year. We owe special debt of gratitude to professor SAPNA YADAV, Department of Computer Science and Engineering, IMSEC, Ghaziabad for her constant support and guidance throughout the course of our work. Her sincerity, thoroughness have been a constant source of inspiration for all of us. It is only her cognizant efforts that our endeavors have seen light of the day. We also take opportunity to acknowledge the contribution of PANKAJ AGARWAL, Head of Department of Computer Science and Engineering, IMSEC, Ghaziabad for his full support and assistance during the development of the project. We also do not like to miss the opportunity to acknowledge the contribution of all faculty members of the department for their kind assistance and cooperation during the development of our project. Last but not the least, we acknowledge our friends for their contribution in the completion of the project.

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