A Study on Optimized System for Faculty Assistance

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ABSTRACT: This project aims in developing a computerized system to maintain all the daily work of faculties. This project has many features which are generally not available in a normal portal like facility of field interest of faculties, their achievements, and extracurricular activities; about their social life. A separate column for students is there to view and search where student can get the whole information about the faculties.

KEYWORDS: Module Description, Software Requirement Specification, System Analysis, System Design, Technologies Implemented, Testing, UML Modelling

I. INTRODUCTION

Faculty Portal is a portal for the students and faculties. It is an interactive approach for students and of Information Technology Department to seek information about the department. It is easy to operate and efficient for interaction between faculties and students of IT department of AITR. It can also be used for keeping track of information and documents of students and faculties as well.

Project Aims and Objectives
The project aims and objectives will be achieved after completion of this project is discussed in the subchapters. The aims and objectives are as follows:
• Portal having information about all faculties at one place.
• A separate column for social life of faculties.
• A column where student can find the information about the particular faculty.
• A search column to search exam papers.
• A teacher login page where teacher can add any events being organized in the college.
• A separate column for the faculties to add about their personal and professional life.

Background of Project
IT Portal is an application which focuses on developing a computerized system to maintain all the daily work of faculties. It is used by faculties to display details and their schedule using a computerized system where he/she can record various transactions like lecture plans, exam papers, about themselves, their achievements, goals etc.

II. RELATED WORK

There is no such system available particularly for IT department. The students cannot communicate with teachers properly. There is a great problem in maintaining record of daily attendance, performance of each student, profile of each person working with the department, and there were a lot of difficulties for the student regarding interaction with the faculties and viewing the current updates. References have been taken from various ERP Portal and student portal [1].

III. PROPOSED SYSTEM

Problem Recognition

The main problem here is the more time is taken to answer the queries of students. This has to be eliminated. A comprehensive solution has to be developed which will facilities to answer the queries in a faster and more efficient way.

The proposed system is to make a portal for IT Department, so that everyone can get the information about the department, students can easily communicate with teachers from anywhere. And can keep records of every student easily and efficiently.

IV. TECHNOLOGIES IMPLEMENTED

Front end

The front end is designed with help of HTML, Java Script and CSS.

1. HTML

HTML stands for Hyper Text Markup Language. It is used to create web pages with the help of different tags available. It is the most simple and easy language to create attractive web pages. In HTML, each tag describes different content of document. All HTML work is shown in web browsers, that shows layout of the web page designed.HTML is widely used by designers as it is simple and efficient language.

2. CSS

Cascading Style Sheet is used for designing. It is used to style web pages written in HTML and XHTML, but the language can be used for any type of XML document, including plain XML, SVG and XUL. CSS separates document content from document presentation. It also includes elements such as the colours, layout, and fonts. This separation improves accessibility, providing control and flexibility in the specification of presentation characteristics, enabling multiple pages to reduce complexity, share formatting and repetition in the content.

3. JAVA SCRIPT

This programming language is mainly designed for developing of network centered applications. It is complimentary to JAVA and integrated with HTML, that's why it is easy to use. It is open and cross platform. A developer must learn java script to program behavior of web pages.

Back End

The back end is designed using MySQL which is used to design the databases

MySQL

In MySQL the SQL stands for Structured Query Language. It is most popular open source Relational Database
 Sql database management system. It is one of the best RDBMS used for developing web based software application

MySQL Database:

MySQL is very fast simple and easy to use RDBMS used by many small and big businesses. It is marketed, developed, and supported by MySQL AB, which is a Swedish organization. The reason why MySQL is soo popular is due to the following reasons:

- MySQL is a ease of use and is a open-source license and thus it is free of cost.
- It is very powerful program and have its own right. Apart from this it handles a large subset of the functionality of almost all expensive and powerful database packages.
- MySQL works on several operating systems. It includes many languages such as C, C++, PERL, JAVA, PHP, etc.
- MySQL has a quick working ability and still works well with large data sets.
- MySQL is very friendly to PHP.
- MySQL is customizable. The open-source license allows programmers to modify MySQL software to fit their own specific environments.

V. TESTING RESULTS

Software testing is process used to assess the quality of computer software. It is a technical investigation performed to provide information about the quality of the product or service under test, with respect to the context in which it is developed to operate.

- **Testing Methods**

There are 2 types of testing done in a broader category via white box testing and black box testing. These two approaches are used to describe the point of view that is used by a test engineer takes while designing the test cases.

1 Black Box Testing

Black box testing works with the software as a black box without any information about the internal behaviour. Its objective is to test the functionality corresponding to the requirements. Hence the testing engineer work is only to input data and afterwards he sees the output from the test object. This kind of testing requires through test cases to be provided to the tester who verifies the given input, the output value is the same as the expected value specified in the test cases.

2 White Box Testing

Unlike Black Box testing, in white box testing internal parts are tested, once the tester has the access to the structure and coding area of the system. White box testing is done to check whether code correctly implemented or not, because that's how system will work if it is internally correct.

- **Levels in Testing**

Testing levels are given below

1 Unit Testing

In unit testing, each unit is tested to verify in detail the designing of the product developed, whether correctly implemented or not, unit testing generally includes constructors and destructors. These testing tests the smallest modules of the software component in the system developed

2 Integrating Testing

Integrating Testing exposes the defects in interfaces and interaction between components that are integrated
Large modules of the system are tested in a way so that they can work together as a system and are tested until whole software works as a system.

3 Final Testing

Before delivering of the final version of the system, alpha and beta testing are also done additionally.

3.1 Alpha Testing

This testing is done at server side or we can say at the developer's end, this is an actual testing done with potential users or as an independent testing process at server end. Alpha testing is done to internally acceptance of software before beta testing is done.

3.2 Beta Testing

Beta testing is done after performing alpha testing, versions of a system or software known as beta versions are given to a specific audience outside the programming team. This is done to further test the minor bugs and faults of the system that can come while using the system, sometimes these versions are made available to open public to see the feedback to see the future scope of the system. Finally at the end acceptance testing is done by the end user that whether to accept the system or not.

- **Testing of Faculty Portal**

Testing by us (developers) was done by executing our system in IT department server to check whether all the modules are working properly.

- **Results Analysis**

The role of the results section is clear; it is an accurate account of the experimental findings.

- **Scope of Testing**

It is very important to communicate about the report to the reader of scope of testing. One could provide,
- In scope of testing
- Out scope of testing

Any deviations from the planned scope It makes a lot of difference to handle each of these aspects while reporting the results. Strengths and limitations of a product can be better presented to the customer only if they are handled individually

S.no	Testing	Priority
1.	Functionality	High
2.	Regression	High
3.	Security	Medium
4.	Performance	Medium
5.	Scalability/Reliability	High
6.	Usability/GUI	High
7.	System interpretability	High
8.	Installation	High

Table 1: Testing of Faculty Portal

It makes a lot of difference to handle each of these aspects. Each of these has its own impact on the state of the application. Strengths and limitations of a product can be better presented to the customer only if they are handled individually.

VI. CONCLUSION AND FUTURE WORK

As there was no such system available for department by which the students can communicate with teachers properly. This project will provide the students proper medium to communicate with the faculties over there problems regarding studies and other topics. There was a great problem in keeping record of performance , daily attendance of each student, profile of each person associated with the department. There were a lot of difficulties for the student regarding the current updates of the department. All the latest updates of the departments are provided on the website, such as all the information is uploaded on the website as quick as possible.
In future enhanced version of this project will be developed by including various more features and also both for student's login and more departments can be added.

REFERENCES

[1] "ERP PORTAL" HTTP://STUDENTPORTAL.COM
[2] "IEEE STANDARDS" HTTP:// STANDARDS.IEEE.ORG
[3]"HTML" PHRASE AND WORD TAKEN FROM HTTPS://EN.WIKIPEDIA.ORG/WIKI/HTML
[4]"CSS"PHRASE OR WORD TAKEN FROM HTTPS://EN.WIKIPEDIA.ORG/WIKI/CASCADING_STYLE_SHEETS
[5]"JAVA SERVER PAGES" PHRASE OR WORD TAKEN FORM HTTP://WWW.TUTORIALSPOINT.COM/JSP/
[6]"UML MODELING" PHRASE OR WORD TAKEN FROM   HTTPS://EN.WIKIPEDIA.ORG/WIKI/UNIFIED_MODELING_LANGUAGE

BIOGRAPHY

Aditya Tomar is a student in the Information Technology Department, Acropolis Institute of Technology and Research, RGPV University. He received his Bachelor of Engineering degree in 2016 from RGPV, Bhopal India. His research interests are Computer Networks (wireless Networks), Database, Data Structure, web 2.0 etc.