

Web Application Solution for Changing Needs in College Management

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Abstract— One of current need in changing requirements of information management and distribution in organization with large amount of data is to render a better management of such work by nullifying the tedious paper work which is prone to errors by a better technological system. This paper gives an insight on idea of using a technological solution of web application for fulfilling this need. This web application will be the single point of access for the information and content. Users will be provided with all the services available on web application only after login. They will be provided with features like academic schedules, notices, information, online notes and other helpful resources. It will reform the whole model of information delivery.

Index Terms— Web Application, Information Management, Technological System, Administrator

1 INTRODUCTION

There's a great impact of Internet and computers in this age of technology. There's a constant need of getting correct information which is transformed into a well organized product so as to benefit the users by fulfilling their needs. Thus, to be well informed and properly organized, there's a need of consistent service which is easily accessible and simple to use. For that, using Internet and Web Application to fulfil this purpose would be a great option.

2 WHAT IS WEB APPLICATION

Web Application: A web application or web app is a client-server software application in which the client (or user interface) runs in a web browser. Web applications are popular due to the ubiquity of web browsers and the convenience of using a web browser as a client to update and maintain web applications without distributing and installing software on potentially thousands of client computers is a key reason for their popularity, as is the inherent support for cross-platform compatibility [10].

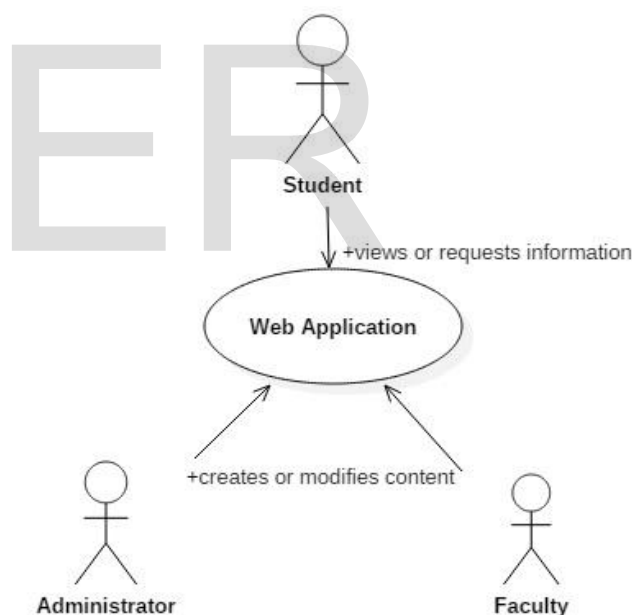
A web application would give the capabilities to multiple users with different permission levels to manage either all or section of content or information on it. It would require an administrator who would be responsible to plan and control the organization of the information and to respond to the changing needs of the organization. This would enhance the current system of management.

The web application would be easy to use which assures security as user will login with single user ID and password. This will protect students' as well as faculty's privacy.

A database will be maintained so that information can be targeted to particular groups of students. The database design will be essential for the proper working of the web applica-

tion, as it will allow users to easily identify each other. The following is the general architecture of the web application:

Figure 1. Architecture of Web Application.



The web application would work on two levels:

A. Information Level

Information level deals with all the static information which will be made available on the web application. This static information would consist of information pages displaying the content like notices, syllabus of subjects, assignments, schedules, results etc.

Here, all the information is posted by either administrator or the teacher which will aim to notify the students with basic information no further activity from the student side. The content could be modified later by the teacher or the administra-

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tor for maintaining the correctness of the content. But this would not require any response from the student end users.

B. Transaction Level

This level would deal with dynamic side of the web application. This means the web application which will behave depending on the information which the user will request to view. This could be a page where the user would request all the seminar reports related to a particular topic or seek previous exam papers of certain department. This would require the web application to take in the input from the user end and display the information from the database which it finds related to it. This would require the two way flow of data and thus there will be transaction amongst the user and web application.

4 FEATURES

- IJSER It will give easy access to syllabus and detailed semester wise course information.
- It will provide a paperless medium to provide inter-college test schedules & results.
- It will provide an academic calendar system to maintain schedules.
- It will have online notes and books for each subject.
- It will provide with an access to PDF files of past examination papers.
- It will give links to college e-magazines.
- It will have have a E-Notice board and message board for notices posted by teachers.
- It will have a seminars report repository.

It will provide a better user experience and enhance the level of communication between faculty and students. It will also encourage students to be readily updated with all the schedules and latest information related to them.

5 PURPOSE

- The central goal will be to reduce paperwork and transform the daily operations by putting more information other useful content online.
- It will provide a single, complete, integrated & authoritative source of information.
- It will help in process improvement and making it more efficient.
- It will introduce a new model of information delivery.
- It will allow students, an online access to college notices, information and services, using a single user ID and password.
- It will collect these college services and functions into a single website, making it easy for students to find and use online services.

6 REQUIREMENTS

Because The requirement of the web application is of two types:

A. Functional Requirements

This web application improves the efficiency of college information management. The main function will be managing and maintaining information. The administrator, faculty (teachers) and students are three major functional requirements in this system. The administrator will be given top level authority to ensure that the information entered is authentic and useful. Faculty (teachers) can update the specific set of information on the web application as they will also have certain modification rights. Students won't have leverage to modify the content but they will use the system to query, get information and other useful content as per their need.

B. Non-Functional Requirements:

The following are some of the non-functional requirements of the web application.

- Performance Requirements: The web application will be used as a system for helping the organization in managing the whole database of the information distribution within the organization members. Therefore, it is expected that the database should perform properly all the time as per requirement.
- Safety Requirements: System failure may result in database getting crashed at times. Therefore, taking periodic database backup is required.
- Security Requirements: Security regarding the information stored in database is essential. There will be certain categories of users like administrator, faculty and student who will be the viewers or modifiers of either all or some specific information. Depending upon the category of user the access and modification rights are decided.

7 ADVANTAGES

Some of the advantages which are expected from the use of the web application based information management system are as follows:

- Organized portal: It will provide easy access to information by bring all sorts of content together at a single place. Using this web application, users can do certain activities, receive information and services.
- Enhanced communication: A portal can help in making a better flow of communication between students and the college. If all campus work and communication is accessible at single point of access, students are likely to be updated by checking their portal often and receiving notices and information in an efficient and timely manner.

- Better management system: Such system will provide faculty with an easy way to communicate, make schedules, send assignments and set deadlines for it, make discussion groups, display results, and send notices. An integrated calendar system would give staff and groups an easy and consistent way to communicate information about events and deadlines.
- Easy Access: Students can access their information and content from anywhere using Internet. This gives students more flexibility in when, where, and how they can use the web application

8 CONCERNS

There are few concerns which may arise. These are listed below.

- Governance: Any information going on the portal through data owners (content providers) must go through a filtration done by senior authorities. Clear guidelines and procedure for this purpose must be established.
- Regular updates: If the information provided on the portal does not go through timely updates and proper screening, it may result that student will be aware of wrong information leading to dissatisfaction and possible loss of user.
- Robust and scalable: Efficient technical infrastructures must support heavy traffic of users without crashing or delay.

9 CONCLUSIONS

A web application based system will help in computerizing the existing manual paper based system. This system will promote a paperless work by putting all the information and content online. As it can be monitored and controlled remotely, it will reduce the man power required and provide more accurate information. Communication gap regarding the information distribution between the students and college will be significantly reduced as students will get direct access with latest updates in college. All the information gathered over the course of time will be saved in the database and it would be accessed at any time. Therefore, the data stored in the repository will help the users by providing them with variety of information and content available any time. All the students, faculty and college management can get the required information without delay. In such way, a web application based system can turn out to be very beneficial organization with huge amount information management related requirements such as colleges and universities. Thus, it will be significantly efficient to have a web application based system for information management.

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