

V – Information Exchange Management System

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ABSTRACT

Our project aims to serve as a web based platform for student interaction, dedicated to the students of our institute. V – Information Exchange Management System is a website which allows students of the institute to share information with peers, ask queries/doubts or provide answers to queries about different topics, take timed mock tests set by teachers of the institute, buy/sell books to other students, and other such features which would increase the information exchange among the students and ease the interaction with each other. The system would also analyze the interests of the students, and based on that, different topics that might be of interest to the student would be recommended to them.

Keywords : V-Information Exchange Management System, viems, student platform, student interaction, queries, mcq test,

I. INTRODUCTION

In today's highly competitive environment in the field of Computer Science and Engineering, students need help of each other for a lot of purposes. Few examples include: a student skilled in a particular domain can help other students who are new to the field. A final year student might want to share his placement experience and provide tips to the junior students. A student might want to gather students who share the same interest as him/her on a particular topic and form a team to start on a new project. A student might want to sell his previous semester books to students who are studying or yet to study that particular semester.

All such cases involve student-student interactions. And so our system aims to serve as a common platform for the same.

A. AIM AND OBJECTIVE

The following are the objectives of our project in brief:

1. To create a user friendly platform for information exchange for students of the institute.
2. To ease the intradepartmental as well as interdepartmental communication among the students.
3. To make it easier for the committee members of the institute to publicize their events to the students.
4. To make it easier for the committee members of other colleges to publicize their events to our students.
5. Conduct MCQ tests to test a student's knowledge in a particular subject.

B. PROBLEM STATEMENT

Currently, for our college, there isn't a dedicated student interaction platform. Over the course of years it had been observed that students found it difficult to communicate with the peers if they needed help for some academic purpose, due to the

lack of a common platform for students. There were no collaborative project efforts as all the skill set required to implement the project could not be found in a single department and the Institute lacked cross department communication between students. There was a need to publicize events, seminars and webinars on an institute level. Also, the Institute did not have a gateway for the inter-Institute communication, such as activities and events taking place in the other Institutes.

So, there was an overall need for an all round common platform for students of the institute.

C. SCOPE

The project focuses on providing a common platform for all the students of the institute, which the students could use for a variety of academic purposes. The project is also built with a thought to build a healthy interaction among the students of the institute.

The following are the features of our website ‘V-Information Exchange Management System’, abbreviated as ‘V-IEMS’:

NewsFeed : A page where the users are able to view all the Events, Webinars, Seminars scheduled in the institute and other institutes as well. An ‘Add Post’ option enables the users to broadcast a post.

Q/A Section : Users are able to post queries, view queries posted by other users and answer to them.

Collaborate :To team up with students of a specific skill set.

MCQ Tests : Student users can take timed MCQ-type tests set by teachers of the college. Teacher users can conduct tests.

Buy/Sell books: Users are able to buy/sell books from/to other students using this feature.

II. LITERATURE SURVEY

Following are the published papersthat we studied during our literature survey.

Papers/Websites	Description	Points to be considered
Web Application Development with Component Frameworks ^[1]	This paper describes development of dynamic web application using web frameworks based on web components.	Knowledge of different frameworks. Development of web application usingLaravel framework.
Design Lessons from the Fastest Q&A Site in the West ^[2]	This paper analyzes a Question and Answer site for programmers, known as “StackOverflow” that dramatically improves on the utility and performance of Q&A systems for technical domains.	Highly responsive and iterative approach to design. Upvotes and Downvotes feature for queries and responses. Analysis of the patterns of user interaction with the site.
COLLEGE MANAGEMENT SYSTEM ^[3]	It manages the college information, student information , placement information , various different types of event going on in our college .	Platform for student interaction. To create interest and awareness in technical stuff.

Online CMS ^[4]	Online College Management System (OCMS) provides a simple interface for maintenance of student information.	Facilitate us explore all the activities happening in the college. Different reports and Queries can be generated based on vast options related to students, course, technical stuff, etc.
A Research Paper on College Management System ^[5]	This paper is aimed at developing an Online Intranet College Management System (CMS) that is of importance to either an educational institution or a college	The staff can view the student's details. Could be used to uniquely identify each student based Upvotes they get on the posts.
Web Based College Admission System ^[6]	College Management Software is web enabled software designed to manage the entire Operations of an institution.	Manual notice boards change into digital using the software.

Following are the websites which we studied.

Website	Description	Limitations
www.vidyalankarlive.com	VidyalankarLive.com is essentially a web based forum for students of our institute.	Vidyalankarlive (Vlive) is focused on being a forum for students, whereas our site aims to provide a lot of other functionalities too like, Q/A section, MCQ Test Section, Collaborate Section, Buy/Sell section.
www.stackoverflow.com	Stackoverflow is the largest Q&A site for programmers.	Stackoverflow is a Q&A website, not a dedicated student platform.
www.quora.com	Quora is a question-and-answer site, where questions concerning variety of topics are asked and answered.	Quora is a Q&A website, not a dedicated student platform.

III. PROPOSED SYSTEM

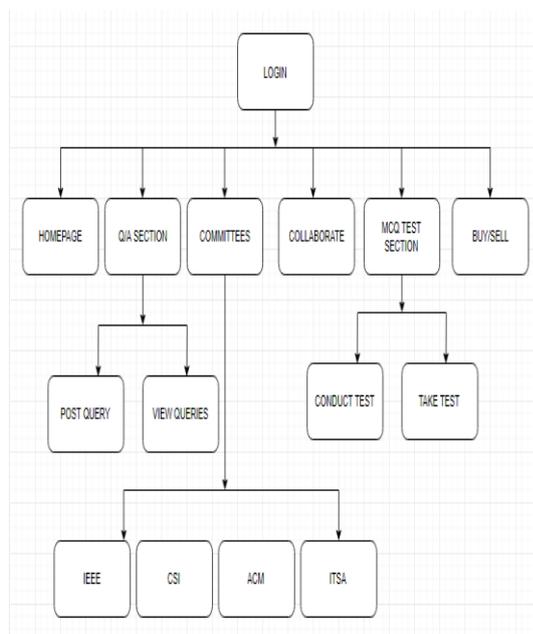


Figure 1. Proposed System

Our website “V-Information Exchange Management System”, abbreviated as “V-IEEMS” serves as a web based system built for our college students. There would be three kinds of users of this website:

- 1) Student user: All the students of the institute would be given respective login ids and passwords.
- 2) Teacher user: This type of users would consist of the teaching staff of the institute. The teacher users would be able to conduct MCQ Tests for the students on the website.
- 3) Committee user: A committee user is a member of a committee like ITSA, IEEE, ACM or CSI. Posts by a committee user would be shown in the respective committees section of the website.

Below is how the homepage/main page of the website looks like.

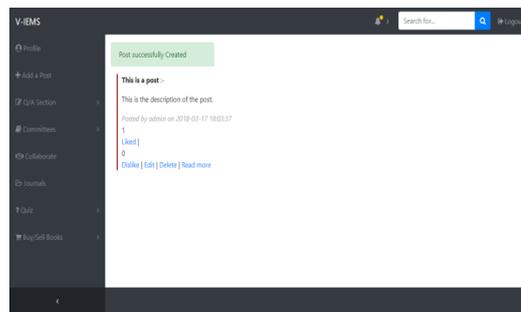


Figure 2. Homepage [7]

On the left hand side of the page are all the different features that are available to the user. On the top portion of the page, we have a “Notifications” icon, a “search bar” and a “logout” button.

Notifications: The notification icon would display all the notifications the user has got. A ‘notification’ is an alert/message that the user would get if a certain action occurs. For example, if user ‘A’ comments on user ‘B’s post, then user ‘B’ would be notified about the same.

Search Bar: A search bar is used to provide search results for given keywords.

Logout: Logout button would end the session of that particular user on the website.

II. METHODOLOGY

Below is the methodology we followed while developing the project:

1. We conducted project meetings on regular basis.
2. We had daily communication with our Project Guide.
3. Working software would be delivered frequently (weeks rather than months).
4. During each iteration, we would be monitoring risks as well as adding features if required.
5. We would welcome changing requirements, even late in development.
6. We would be giving continuous attention to technical excellence and good design.

A. TECHNOLOGIES USED

Database: MySQL is an open-source relational database management system (RDBMS). MySQL is a database system used on the web. MySQL is a database system that runs on a server. MySQL is ideal for both small and large applications. MySQL is very fast, reliable, and easy to use & uses standard SQL. MySQL compiles on a number of platforms. It is developed, distributed, and supported by Oracle Corporation. The data in a MySQL database are stored in tables.^[9]

Framework: Laravel is a free, open-source PHP web framework, created by Taylor Otwell and intended for the development of web applications following the model-view-controller (MVC) architectural pattern.^[10]

Languages: Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects, such as interactive forms, may be embedded into the rendered page. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets.^[11]

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language.^[12]

JavaScript (“JS” for short) is a full-fledged dynamic programming language that, when applied to an HTML document, can provide dynamic interactivity on websites.^[13]

PHP is an acronym for “PHP: Hypertext Preprocessor”. PHP is a widely-used, open source

scripting language. PHP files can contain text, HTML, CSS, JavaScript, and PHP code. PHP code are executed on the server, and the result is returned to the browser as plain HTML.^[14]

B. WORKING

1. Login.

To prevent unauthorized access to the website, any person visiting the website would first have to be authenticated.

Upon valid login, the user would be directed to the dashboard.

2. Dashboard.

The dashboard consists of the following:

a) Homepage.

The homepage displays all the “posts” posted by other users. The user which is logged in can create a new post using the “Add Post” button. Every post can be “liked” or “disliked” by other users using the “like” and “dislike” buttons. Other users can comment on the post too. The user who has posted it can also delete the post or edit it.

b) Q/A Section.

In this section, the user can ask a query or can view queries asked by other users. Every query is related to “tags” which define the domain the query belongs to. For example, a query concerning the topic “Artificial Intelligence” would have tags like “#AI” or “#MachineLearning”. Every query can be “liked” or “disliked” by other users. Other users can answer to the queries if they know the answer to that particular query.

c) Committees.

If the user is a committee, then its posts would be shown in the respective column of this section.

d) Collaborate.

If a user wants to team up members for a particular project, he/she can post their ideas on this section. Other users would be able to view the ideas. If a user finds a particular idea

interesting, he/she would click on the “Collaborate” button which would then inform the user who posted the idea, via Notifications or email.

e) **MCQ Test Section.**

This section consists of two subsections. The teacher users can click on “Conduct Test” to conduct an MCQ type test. They would, then, be given option to formulate questions, provide options/choices for questions, and set the total time of the test.

f) **Buy/Sell.**

In this section, the user would click on the button “Sell” if he/she wants to sell books. A user willing to purchase books would have a look at all the books that are listed for sale, and would click the button “Buy” beside it. Upon clicking the button, the seller would be informed via notification or email.

IV. ANALYSIS

B. PROCESS MODEL

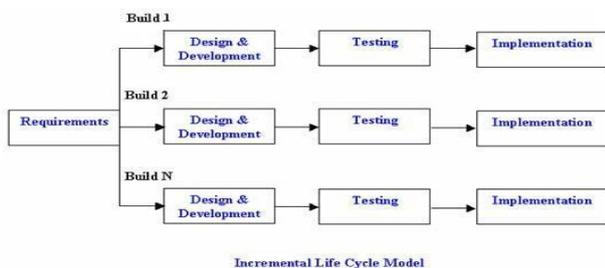


Figure 3. Incremental Model [8]

For the project, we have used the Incremental model for the following purposes:

- 1) We would be delivering our project to the students in iterations, and based on the feedback from the students, we would be developing the project.
- 2) The requirements can evolve over time.

B. FEASIBILITY

1) Technology Feasibility :

The technologies used are open source and freely available. The admin (website developers) would

look after updating the database.

2) Economic Feasibility :

Source of financing: It is a self financed project.

3) User Feasibility :

From user perspective, our system is very easy to handle and requires no specialized knowledge.

C. COST ANALYSIS

There is no external requirement in hardware and software. As this is a web based system, it is built using php, mysql, html,css, javascript and jQuery. For hardware part we have used Apache Web server local host.

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