



## Applying digital pedagogical techniques using student and faculty interaction system through web application

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**ABSTRACT** -Student-Faculty Interaction System is a web based service for students and faculty members for effective communication. The main objective for designing this website is to interact the faculty and students at outside of a class. It is a software application to manage student and faculty data and Student questions play an important role in meaningful learning. These relationships remained after controlling for student-faculty interaction at campus location. Recommendations regarding specific teaching practices are provided [1]. The Student-faculty interaction reflects on student's intellectual and personal (including social) educational outcomes gains during academics. Faculty can clear the doubts whatever the students can ask, they try to increase the confidence levels of students from their effective answers. The study found that all student racial groups have their unique patterns of student-faculty interaction in terms of its levels, effects on student outcomes, and causal directions related to student outcomes[2][8]. The effects of four aspects of student faculty interaction (abundance of formal and informal interaction, the way of faculty advising the students, the effective answers given by faculty to student queries, helpfulness of faculty) on a variety of student outcomes[13]. The use of Web-based learning technologies has increased dramatically over the past decade providing new opportunities for students to interact with their professors virtually using computer-mediated communication (CMC) technologies[7]. The main objective of the work is to provide an effective system between students and faculty members via this web application [15].

**KEYWORDS:** Student-faculty interaction, effective communication, abundance of formal and informal interaction, educational outcome gains, PHP, MYSQL, HTML, CSS, General effects Conditional effects Direct effects Indirect effects Reciprocal effects[3].

### 1. INTRODUCTION:

Student-faculty interaction is an important component to faculty and student members; right now it is more important to students. Long year ago, it is typically difficult to interact both faculty and students with each other. Now it is possible to interact outside the classroom. It improves the quality of study by knowing new aspects from faculty not only related to academic, it have a chance to learn out of a box. This web application i.e. student-faculty interaction system builds a bridge between students and faculty members, learn something new outside of a class. It shows a positive experience to faculty to teach and students shows a very much interest to learn, it improve career choice, personal growth and persistence in students. Furthermore, it has been suggested that informal interaction with faculty members outside of the classroom may leads for intellectual on students. Without understanding the quality of those interactions between student and faculty it is impossible to account for the related student outcomes what they expect before. Their study revealed that academic and non-academic related student-faculty interaction significantly and positively related to students overall satisfaction with college for all social class categories, but the association was significantly stronger for upper-class students than middle-class students[5].

As faculty increasingly embrace computer mediated communications and become more proficient in the use of CMC, its value in extending the boundaries of the traditional classroom has become more pronounced[6]. This web application is one of the innovative system allow, faculty to share important data to students and guide them to step on into a right side world. It consists of a faculty login,

student login and administrative login. Both students and instructors(faculty) have somewhat negative perceptions of working hours. Students fail to attend working hours on a regular basis for substantive and intrinsic reasons [12]. They login with a valid username and password by choosing their respective College names. Before each login, all the students and faculty members would register in this web application to create an account. Admin can also register into this web application. Admin can manage the both student and faculty details and data [11]. Every user will have a customized. Administrator is responsible for maintaining the database. The study utilized data from the 2010 University of California Undergraduate Experience survey and a sample of 5169 senior students across 10 campus [10].

web-page.

## All About HTML Tags

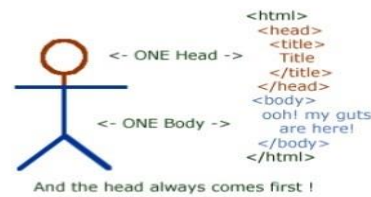


Fig: 3.HTML

### 2.2. CSS:

CSS stands for cascading style sheets. It describes the web page presentation. CSS includes the colors, background-colors, font-size, font-family, fonts.CSS accept the presentation to large screens as well as small screens [Fig: 2]. Here we can display our content that are written in code with beautiful colors in web page. It does not depend only on HTML we can use this CSS with any XML-based markup languages [fig: 4].CSS separates the document content from document presentation. There are three types of CSS. They are Inline CSS, Internal CSS and external CSS.

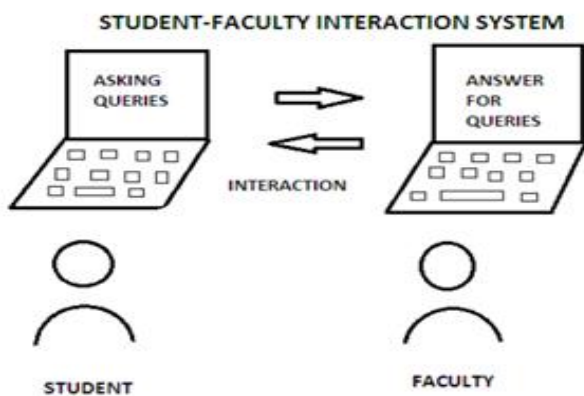


Fig: 1. Student-Faculty Interaction System

### 2. TECHNOLOGIES USED:

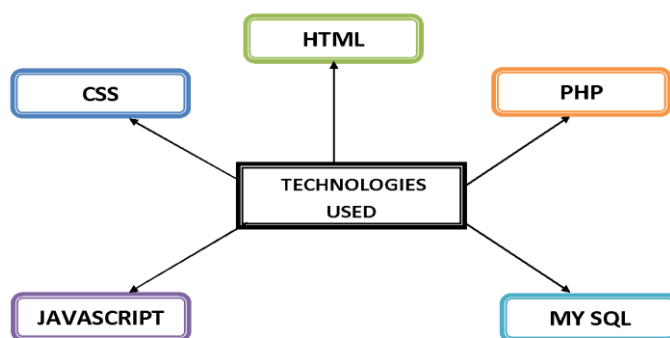


Fig: 2.Technologies used

#### 2.1. HTML:

HTML stands for hyper text markup language. It is a form of programming language. It is the language where we are able to create web pages. HTML is supported by all browsers [Fig: 2]. It is easy to use and easily understand to the users. Here we can display web pages using ordinary text. It contains the opening and closing tag [Fig: 3]. We write the content in that tags which we want to display in the

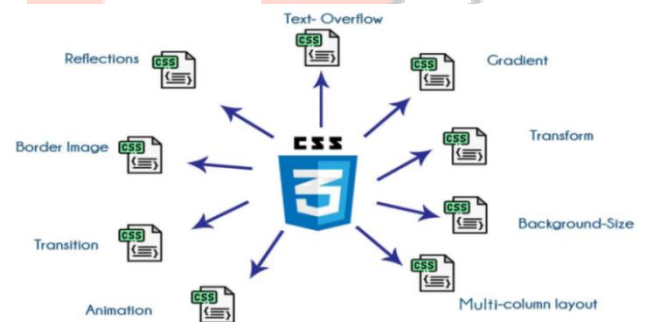


Fig: 4. CSS

#### 2.3. JAVASCRIPT:

JAVASCRIPT is a client scripting language. It is used for creating web pages. JAVASCRIPT is used when we want to make our web page as dynamic and here we can able to add the effects and graphics to our pages [fig: 5].JAVASCRIPT is used to validate the registration and login forms helpful to further modifications. It is used in web pages and gives control on the web pages to the user. It gives the interactive experience for those who are using this.

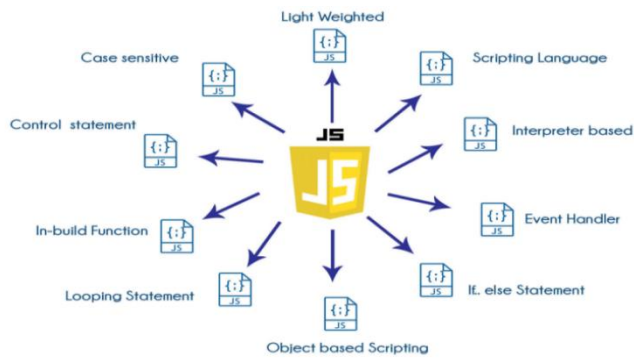


Fig: 5. JavaScript

2.4. MYSQL:

MYSQL stands for structured Query Language. MYSQL contains three parts: DDL, DML, and DCL. It runs on various platforms UNIX, LINUX, Windows etc., MYSQL provides basic and advanced concepts. It is used to manage the database systems [fig: 6]. Here we can retrieve and manipulate the data from database.

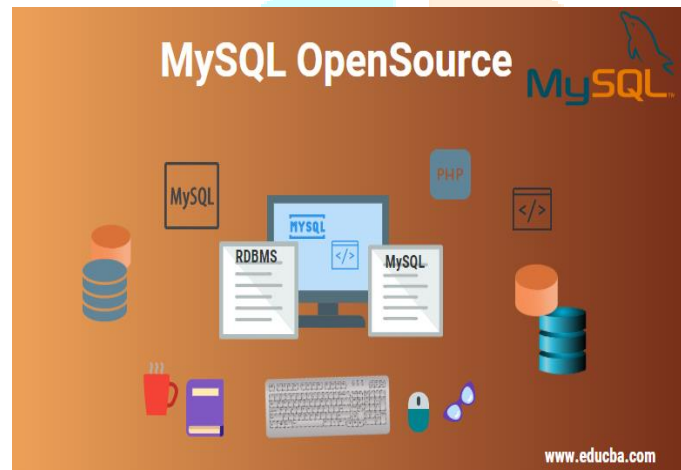


Fig: 6. MYSQL

2.5. PHP:

PHP stands for Hypertext Preprocessor. It is server-side scripting language. Before going to web browser it executed on the server. PHP is a general purpose programming language, used to fetch data from the database. It is used to develop static, dynamic web sites and web applications [fig: 7]. It contains the features like simple, faster, case-sensitive etc.; the main advantage of PHP is it is open source.

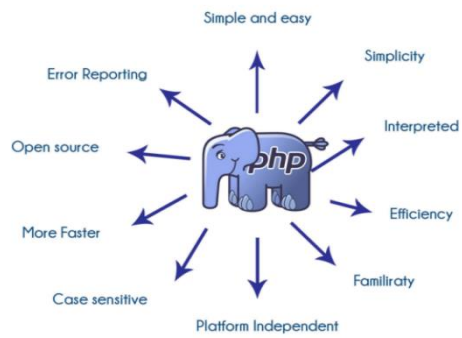


Fig: 7.PHP

3. SOFTWARE REQUIREMENTS SPECIFICATION:

SRS is a captures complete description about how the system is expected to perform. It is usually signed off at the end of requirements engineering phase[fig:8].It defines how software system will interact with all internal modules ,hardware, communication with each other programs and human user interactions with a wide range of real like scenarios.

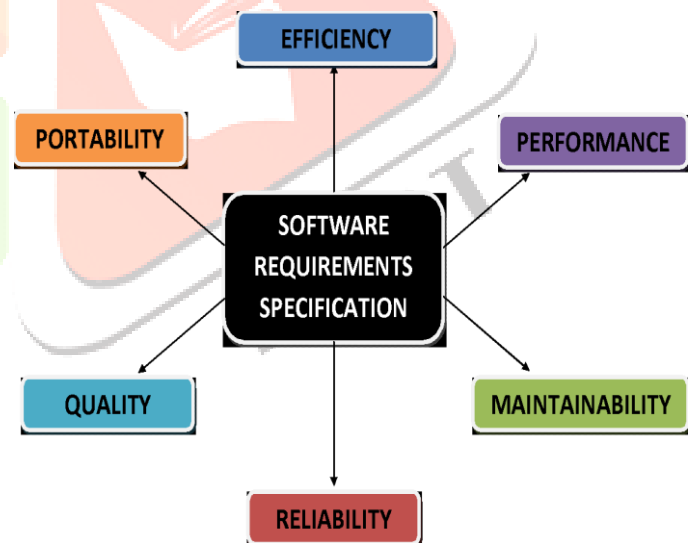


Fig: 8. SRS

**1. Reliability:** It would be more reliable and keeps the updated information in web application up to date. Once we logged into our web application it hides our username and password and it does not show to others.

**2. Quality:** The quality of this project is more and student/faculty/admin can access from anywhere using internet.

**3. Maintainability:** Maintenance of software would be clean done by administrator keeps the information safe without any failure.

**4. Efficiency:** It would be more efficient for students to download the content and asking queries, faculty can also upload the files.

**5. Portability:** It would be portable on any system and free to operand in any browser.

**6. Performance:** Performance is more because it would have done a good work to both students and faculty.

#### 4. EXISTING SYSTEM:

Existing system contains login page for user and admin. For student, asking queries, download the content, participate in group discussion. For faculty, answer the queries, upload the notes, and conduct the group discussion.

This study found that student-faculty interaction related to greater levels of classroom engagement, which in turn facilitates students cognitive skills development and that students academic self-challenge and sense of belonging mediate the relationship between faculty interaction and classroom engagement [14]. For Effective answers, Before the login into the web page before you create an account in registration page that contains Username, Password, mobile no, Email id, college name, branch, year of passing, semester, name, DOB, course for students and title bit of change in faculty registration form, faculty registration form from username, password, name, DOB, phone no, email id, college name, branch, designation, experience. The results provided support for the importance of student-faculty interaction on the intellectual and personal/social outcomes of college and students satisfaction with their educational experience [9].

##### 4.1. STUDENT LOGIN:

It allows a person to login with a valid username and password into this web application if he/she or not registered or not enter a valid user name and password it shows error[fig:9].

Once logged in it moves to home page it contains

**a. Edit profile:** It allows a person to modify his/her details if any change wants to be done.

**b. Asking questions:** It enables the student to ask queries to faculty by typing in a text box later send to faculty by choosing a faculty name.

**c. Study Materials:**It displays the study materials, lectures notes, documents PDF's, PPT's, etc... are uploaded faculty.

**d. Answers:**It shows the answers for student queries by faculty.

**e. Discussion forms:**Every time faculty/admin can conduct group discussions in chat with on a specific topic that is announced before. It helps students to improve the knowledge. Students can see the effective answers to this end by group of students.

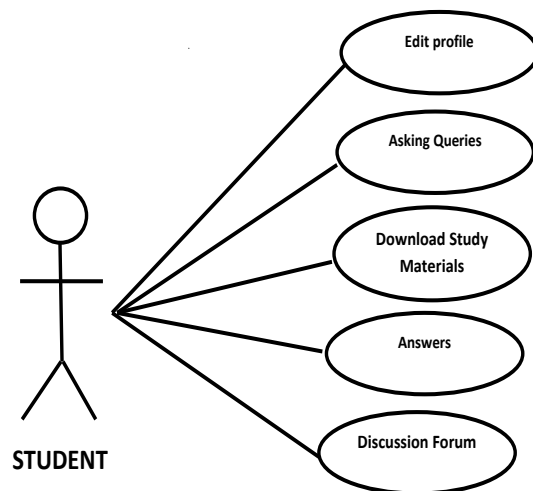


FIG: 9. Student Login

##### 4.2. FACULTY LOGIN:

It allows a person to login with a valid username and password into this web application if he/she is not registered or not enter a valid username and password it shows an error [Fig: 10].

**a. Edit profile:** It allows a person to modify his/her details if any changes need to be done.

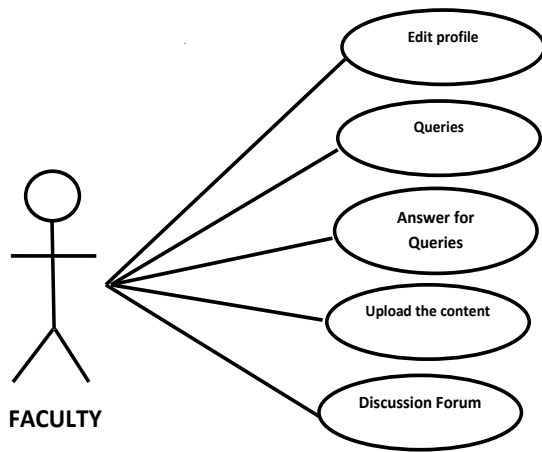
**b. Queries:** It shows the queries sent by the students.

**c. Answer for queries:** Faculty can send answers to the queries.

**d. Upload the content:** It allows the faculty to upload the student materials, lecture notes, documents, PDF's, PPT's.

**e. Discussion forum:** It allows the faculty to conduct the discussions to students and correct the mistakes if students done in a group discussion.





**Fig: 10.** Faculty Login

#### 4.3. ADMINISTRATOR LOGIN:

The administrator plays a key role in the whole system. He is the controller to this web application. Admin can also create an account to rule the system. It allows the admin to login into a page with a valid username and password if admin cannot register or not entered a valid username and password it shows an error [Fig: 11].

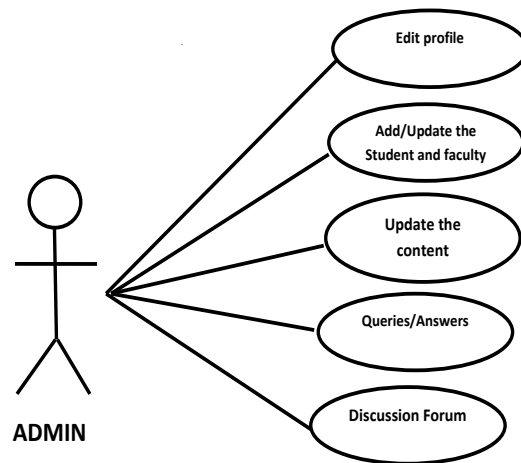
**a. Edit profile:** It allows the admin to edit his/her profile.

**b. Add/update the student and faculty:** Admin can add and update the students and faculty and display the list of students and faculty.

**c. Update the content:** It allows the admin to upload the document type content which helpful to students.

**d. Queries/answers:** It displays the queries and answers send by faculty and students.

**e. Discussion forum:** It allows the admin to conduct group discussions to students. It helps the students to improve their knowledge in students .It conducts on specified topic in a specified time that would be announced before. It really helps to students and it leads to e-learning. Now-a-days students show a special interest in e-learning. It helps to interact the faculty to students outside the class, clarify the doubts related to academic or non-academic.



**FIG: 11.** Admin Login

The problem that we observed in student-faculty Interactive system is students could ask questions to faculty to clarify their doubts and learn from PDF's ,PPT's, Downloads whatever faculty can upload, participation in discussion form should learn more effective answers in a single topic. All the above features are helpful to students to learn new things to enhance your skills. But they didn't test their skills. They just learning from faculty from this website.

#### 5. PROPOSED SYSTEM:

In student-faculty interaction system there are some modules. They are Student/Faculty/Admin login, asking queries, Answer for queries, upload PDF's, PPT's, lecture notes, download the notes, and participate in discussion forum, now what we propose new in this web application is Faculty can conduct mock tests related to either subject or General knowledge. Admin can also be responsible to conduct mock tests related to aptitude and reasoning, general knowledge related, interview queries, tricky questions, current affairs etc. Group discussion is also conducted by faculty/admin.

They conduct on different topics frequently it would be announced before the exam. It loads to gain more knowledge to students; they may also show interest to learn something new. Winners of the tests shows more interest for participation of students.

#### 5.1. ADVANTAGES OF PROPOSED SYSTEM:

##### 1. User Login/Registration:

The user can create an account before login into this web application. The registration page contains the information related to the users. The users in this web application are Admin, Student and Faculty. Then the users can login into with a valid username and password. Next username and passwords are checked against the database to ensure valid users are only allowed to access the further programs.

## 2. Upload files:

Faculty may upload documents of subject syllabus, timetable, academic schedule etc. And lecture notes related to subject may upload files by faculty members lecture notes should be more helpful to learn in an easy manner to students, Faculty may also upload PDF'S, PPT'S, reference links to subjects. This may lead to e-learning to students, students show a special interest to learn by E-learning.

## 3. Download content:

Students can download document type of subject syllabus, timetable, academic schedule, PDF'S, PPT'S, lecture notes etc., whatever faculty can upload. It would be more beneficial to students.

## 4. Participation in discussion forum:

Faculty and admin both can conduct discussion on a particular topic to students that would be announced before Faculty can correct the mistake if students can done in discussion forum, They also give answers to student questions in the forum. It leads to gain more knowledge.

## 5. Asking queries:

Students can ask queries related to either academic or non-academic to faculty by choosing respective faculty member. Due to this, they may clear about doubts and free from tensions.

## 6. Answer for queries:

Faculty can send effective answers for the questions asked by the students and faculty can send reference links related to questions for more learning to students.

## 7. Mock tests:

Admin and faculty both can conduct mock tests related to academic and non-academic to improve the skills in students. With these mock tests, students know their skills and step on into the right side world.

## 6. SYSTEM ARCHITECTURE:

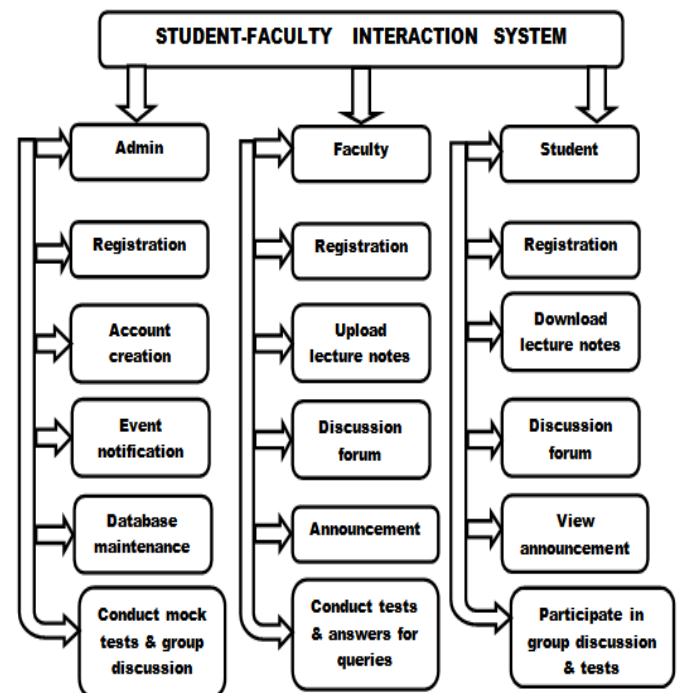


Fig: 12. System architecture

## 7. FUTURE SCOPE:

In future, the student-faculty interaction system may contain LIVE SESSIONS between student & faculty members, student can directly interact the faculty, It helps more to students to clarify the doubts in a clear cut manner at outside of the class.

## 8. CONCLUSION:

This web application student-faculty interaction would definitely give a good result; it saves time to students to interact the faculty physically or directly. Student can freely approach faculty without any fear to ask and clarify the doubts up to date. By using this system, Students can gain knowledge related to academic and non-academic without in the educational institution. It also provides the right career to students while they are participating in discussion forums and tests. Therefore, the main objective of the system to improve the skills in students. This study provides some evidence that student-faculty interactions outside classrooms are significantly associated with student's academically achievements [4].

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