ONLINE WEB APPLICATION FOR CREATING AND SHARING INTERACTIVE TEXTBOOKS

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Abstract - *Access to quality education is still a bottleneck in many developing countries. Since the dawn of internet / online education, there has been a boom in e-learning. Though there are online recorded classes hosted enabling distance education, the students get easily bored or get out of the teacher's contact. The process of learning becomes monotonous which may result in a gradual loss of interest in learning. We believe learning should be made as fun and interactive as possible. To make online learning effective there are some critical factors such as the student teacher interaction should be easy and smooth. Access to textbooks or courses should not be complicated. Students and teachers should equip themselves with internet technology and tools like emails, presentations etc. Our Web-application aims to make learning engaging through interactive textbooks with images and video embedding. For testing purposes students can attempt quizzes and give online exams from the comfort of their home. Overall learning model if it is self-paced will be really compatible for students - they can learn and grow at their own pace.*

*Key Words***: e-learning**, **online learning**, **easy access**, **interactive learning, textbook creation**.

1. INTRODUCTION

Nowadays, everything is becoming digital, even education. Online education indeed provides ample benefits to young learners. Due to so many resources & information available on the internet, students may find it difficult to find proper solutions to their queries as there is not always structured information. This is why we will be designing and developing an e-learning system for creating and sharing notes along with content to be more engaging and interactive. Just taking in information makes no sense until it's properly understood and applied. So information that you can interact with and apply will make learning interesting and meaningful. It is recognized that even if students are getting an education online but there is always confusion created due to the notes available on different sites. This is because every site has its way of explaining the content and it might be different from what we want. Thus, making Online Web Application for Creating and Sharing Interactive Textbooks will help students to find all the required information on a single platform in a structured way from authors all over the world. When compared to already existing e-learning platforms, we are planning to make a good User Interface with dynamic features which will make it easier for students to understand information through videos, images, codes, paragraphs, quizzes, etc. along with easy navigation to related topics.

2. LITERATURE SURVEY

College students attend stay lectures, there are real-time interactions between educators and beginners, and there's the chance of brief remarks all through a synchronous mastering environment, however asynchronous studying settings are not easy. Getting to know content isn't to be had inside the form of stay lectures or publications in this type of getting to know environment; rather, it is to be had through various studying systems and forums. In such an surroundings, instant remarks and immediate reaction are not possible.[1]

In keeping with the examination, students aren't appropriately ready to stabilize their duty, circle of relatives, and social lives with their studies in a web mastering environment. college students were found to be underprepared for an expansion of e-getting to know and educational-type abilities. further, students have an occasional degree of preparation while it entails using studying control systems.[2]

Few studies indicated an interplay among studying mastering fashion and attitude towards generation. in keeping with Reiff and Powell (1992), their reflective commentary topics had a poor mindset in the direction of computer systems. They counseled that for college students whose planning to know patterns are concrete and experimentation-pastime oriented, computer-assisted schooling could be the appropriate alternative, at the same time as whilst reflective freshmen are delivered to this technique of practice, they'll additionally experience discomfort and frustration. Further, a locating through way of Enochs, Handley, and Wollengerg (1984) found that "... college students with extra interest in objects or things (concrete revel in) and some distance less interest in running with people realized higher the employment of computer-assisted training.".[3]

3. METHODOLOGY

3.1 Research

This take a look at followed a quest layout that includes a looking method for figuring out the articles to be reviewed for fixing a particular research hassle.

We reviewed many existing online learning systems and located out the critical factors for online learning, they're as follows:

1. Technology : easy availability of navigation, interface design and level of interaction.

2. Student-teacher attitude and communication interaction.

3. Previous use of technology from a scholar's angle.

A. Teacher Characteristic Factors

The recommendations that have emerged from the teacher characteristics analysis are:

- To keep students motivated, teachers must be passionate about teaching online learning courses.

- Teachers should be easily ready to handle the technological tools like creation of content, email, e-discussion through doubt section and website maintenance.

- Teachers should show real interest level within the students by allowing them to actively contribute to the course content and replying to their emails promptly.

- Teachers can depend on tools like posting e-announcements, taking online quizzes and attract the scholars to depend upon e-learning tools embedded within the course.

This means that the teacher is the core key to a success on-line-studying guides in schooling establishments from the perspective of the student.

B. Student Characteristic Factors

The recommendations that have emerged from the student characteristics analysis are:

- Students must get an upgrade in all through an excessive level of computing competency. They ought to master abilities like presentation and communication, electricity, e-mail and each one the software program applications needed to reinforce the e-gaining knowledge of method.

- Students should take into account of the variations among learning by absorption and gaining knowledge of via creation so on cost of the e-mastering equipment.

- Students must rely on various tools embedded in e-learning net-application, like e-mail, doubt section, interactive textbooks, collaboration and energetic role in school.

3.2 Proposed System

Our Project will have two main users:

1. Students (View Mode)
2. Authorized Faculty (Create Mode)
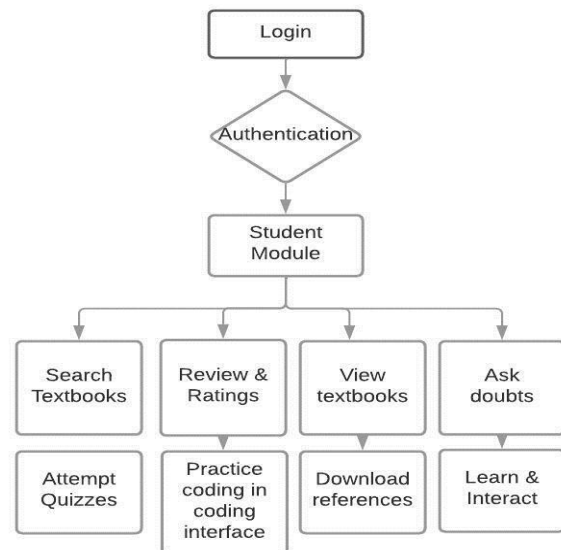
A. Student module - View Mode

Fig 3.1: Student Module

Students cannot create or edit textbooks but can only view it. Students are free to navigate through the website follow the work of different authors and find reference materials. They can rate and review articles published. Participate in quizzes and exams. Interact with the faculty through the comment section.
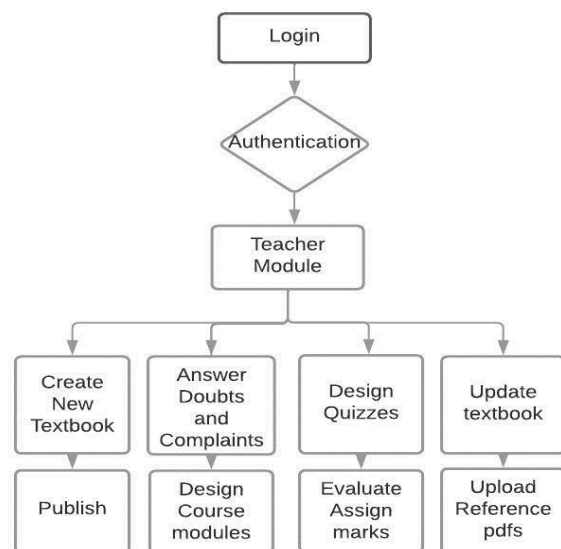
B. Teacher module – Create Mode

Fig 3.2: Teacher Module

Authorized Faculty will be able to publish notes.

There will be a specific Format that will be followed to design a textbook page.

Features will include:

i. Images and Videos embedding,

ii. Paragraph block,

iii. Text Highlighting,

iv. Title(size, font style),

v. Code snippet block,

vi. Other related links.

Teachers have full control to publish, edit, update, delete textbooks. Teachers can view and answer to doubts of students.

3.3 System Architecture

The overall system consists of 3-tiers:

Tier 1: User /Client side:

This will include all user devices namely: student, author and admin which will access the application through their respective logins.

Tier 2: Web application will act as the interface between the client and the server side. Web-application will be secured and selectively show only particular client related information to the corresponding user, based on the level of privileges assigned.

Tier 3: The database server will form the server-side where data management, fetching and other queries coming through the web application will be handled.
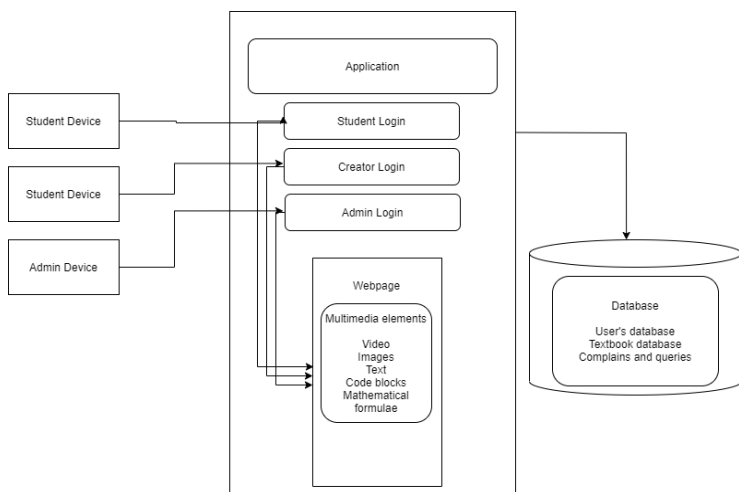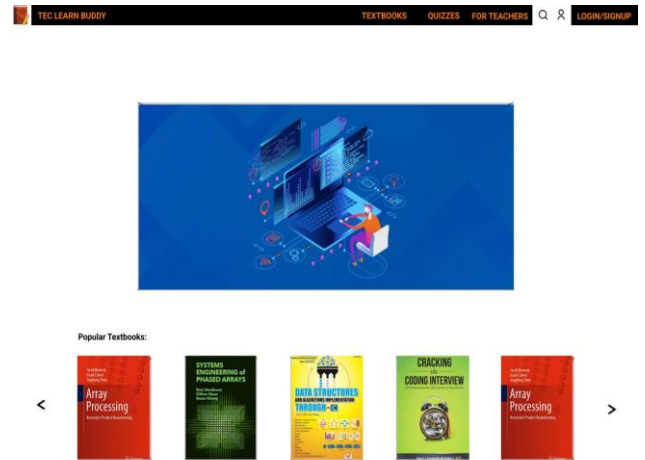

Fig 3.3: System Architecture

4. RESULT

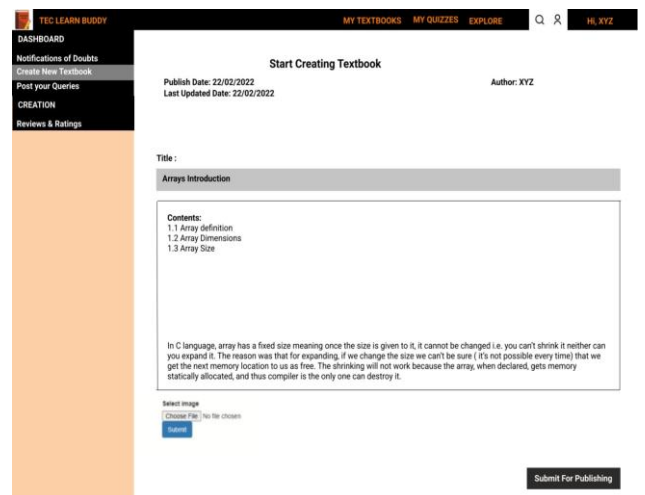**Fig 4.1**: Homepage of e-learning web application

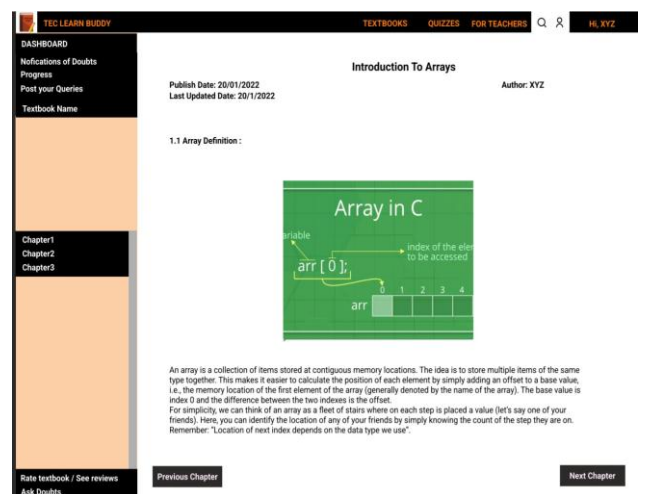**Fig 4.2**: Teacher login - Content Creation CMS tool

Fig 4.3: Student login - Textbook Viewing window
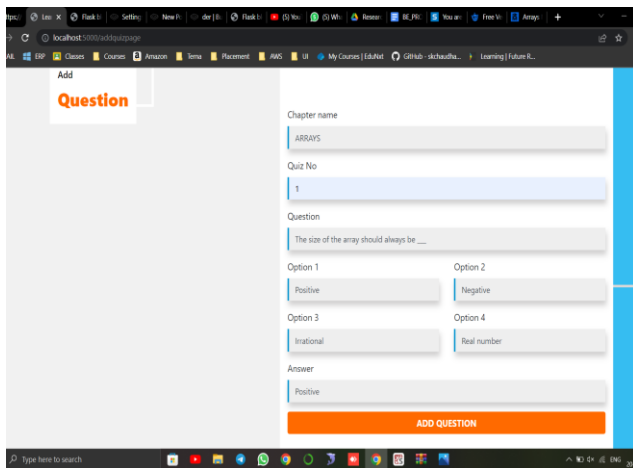
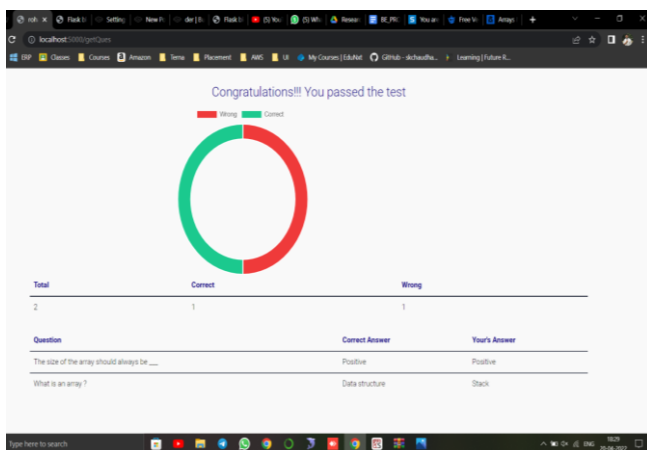**Fig 4.4**: Teacher login – Quiz Creation page

Fig 4.5: Student login – Quiz Result page

5. CONCLUSION AND FUTURE SCOPE

We suggested that this sort of data gain is very important in everyone's life. As we all know most are unable to buy hardcopy of a selected subject, also it takes time to seek out the specified information on the net as many related links popup on the screen. Also sometimes it happens that the content that's needed gets hidden all told the chaos of the random popups. Hence this interactive and shared textbooks are greatly helpful to students. We even know that several students cannot afford to get textbooks which in any case is useful for them to saveup. To make it even more fun to be told we've embedded images together with the content and videos of the teachers teaching. We've also concluded that online learning is boring occasionally by watching the content provided by the professors or simply reading the content provided by them. Hence, we've also added up a quiz section in it for college kids to grasp their progress. Students can ask questions/ doubts which makes the session more interactive and enjoyable.

Future scope:

Online learning is enhanced greatly if we include in our application learning paths designed specifically to master a particular domain. By using AI and Machine learning using student data we are able to design specific learning paths for people. Much of the content on the web site can give multiple perspectives of the identical topic specified. We are able to have a reservoir of foreign digital content.

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