An Integrated Platform for Knowledge Sharing

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Abstract: The issue of what content to be written in exams is generally faced by most of the students. It may happen that a student understands the concept but isn't able to represent it in a way that examiner can understand. Therefore, we intend to build a community source platform that will assist students in preparing for their exams and also for learning a proper skillset.

Academics are an important part of student life and getting high scores in exams is equally important as it is considered the primary criteria for hiring of a candidate by majority of organizations. In order to score high, studying from quality study material is a must. But it is observed that not all students get access to such quality study material while preparing for their exams and finally they tend to go for local publications available in market and rote learn them to anyhow clear the exams without taking care about whether the content they are referring is trustworthy. With the help of this project, we aim to provide a solution to this problem by building a web-based platform where the students sharing the same academic domain can come together, share the study material, collaborate with each other, help other students to expand their knowledge and at the same time gain the benefits from content already provided by other users which they were searching for. This platform will have a Rich User Interface and easy navigation where the study material will be categorized into branch, subject, module and finally into topics. Such a platform can help a large number of students by guiding them to prepare for their exams with confidence.

Index Terms: Academics, Students, Skillset, Exams, Community, Web-based platform, Rich User Interface, Interactive, Collaborative, Study material, E-learning, Knowledge

I. INTRODUCTION

Examinations play an important role in students' lives and so do the scores achieved in those exams. In order to score high grades, students require quality study material by referring which they can be confident of performing well in their exams. The problem that arises is not all students have access to such quality study material and so they decide to refer local publications which are easily available in market and rote learn them to somehow clear this exam without thinking about whether the material they are reading is of relevance and is trustworthy. During our research, we searched for resources that are already available to solve this problem, and found that there are several websites that have taken steps to reduce this but most of them are limited to providing solutions to questions that are previously asked in exams but what about some important topics that have not appeared in exams but is important and also there are no resources available that provide material according to the syllabus prescribed by university. With the help of our project, we intend to provide a solution to this problem in the form of a web-based platform where the users sharing the same domain can come together and collaborate on study material. This platform will have the content categorized into branch, subject, modules, and topics in accordance to the syllabus prescribed by the university, which will make it easier for the user to navigate through the platform and quickly access the topic they were searching for. The platform will have a Rich User Interface with other interactive features to help students prepare better for their exams.

II. PURPOSE OF THIS MODEL

What:

The motive behind this is to build a network that will help teachers and students of a university to collaborate together to share their knowledge and learn with each other.

Why:

The problem that comes is there is no single book, portal, website where students of a university can get relevant content for learning of the courses in that particular university. This causes the students to read from various unreliable sources and understanding of the subject is unclear at the end and that leads to less understanding and low score in examinations.

How:

The process is simple with the following four steps to make it easier to use for it's users.

Step 1:

Register: The user will first have to register to the site to create his/her own identity to browse through the entire site

Step 2:

Learn: After the sign in, the user will be able to start the process of acquiring new, or modifying existing, knowledge, behaviors, skills, values

Step 3:

Teach: If the user has better skills, he can show enthusiasm towards the course materials and students can create a positive learning experience.

Step 4:

Grow: Keep exploring the content to enhance your skill set and boost your knowledge through flexible and collaborative learning
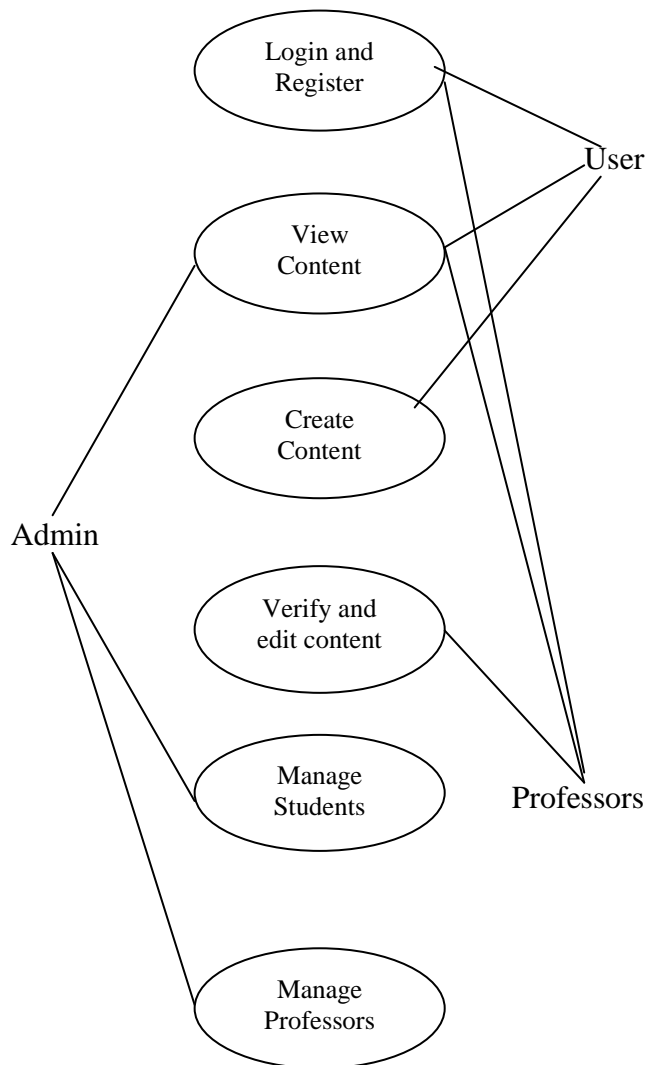
Who:

Fig.1 User Case Diagram

WHY IS THIS AN IMPORTANT MODEL:

- Every student is unique in their own way and one cannot grasp the content as efficiently as others. Combining education with social media may have a positive impact and boost student's learning experience

- Due to rapidly developing technology and new inventions, it is difficult for an individual to catch up with updated content in a shorter time span, we are trying to bridge the gap between today's education and technology in real world.

- Being a part of community, it not only motivates you, but also helps development of overall community to create something new.

III. METHODS FOR IMPLEMENTATION

- Rich UI/UX with a 'Three-click rule'

- The study material is to be categorized into branch, semester, subject, modules and topics.

- Evaluation and verification shall only be done by professors.

- The question-answers can be automatically generated and evaluated through the system.

- A feature where user inputs exam dates and gets a personalized schedule for exam preparation.

- Automated mind-map using tree generation algorithms for revision.

- Infinitely scrollable content with cards so the user can keep reading a plethora of content.

- Difficult terms will display their meaning by hovering over them so that user need not leave the content they are reading.

- Get recommendations to read articles of your liking as you explore the feed.

- Picks up rich keywords to generate automated questions from the text itself for creating a quiz to test yourself.

- Track your progress with progress bar on each module. Cloud based storage for database.

- Real time data analytics using visualizations (RethinkDB)

- Gamify the contributions and learning to attach the user to the site.

- Single sign-on (SSO) such as Google or Facebook for hassle-free access to the site.

- Build confidence for test day by planning, curating, learning and evaluating yourself.

IV. CONCLUSION

In this paper, the importance of Quality study material for a student is discussed and the methods by which this can be achieved. The solution is provided by means of building a website where students of a particular university will be able to collaborate on making a rich source of study material and the quality of which can be ensured by Professors. However, According to the research, it is also important to provide a rich
user interface and quality user experience, otherwise the material will lose their value users will not be able to easily access them. Also, along with study materials like mind maps, automatic question generation, automatic mind map generation can be implemented.

V. FUTURE SCOPE

As a future scope of this project, surveys can be conducted after the implementation regarding whether the users found it useful in their exams and the scores of students, previously who did not used this platform, can be compared with the current batch who have prepared for their exams using this platform. Also, a mobile app for the same can be developed which will enable students to use it anywhere and anytime.

VI. REFERENCES

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Table 1. Literature Review

Author Name	Methodology	Merits
[1] Blanka Frydrychova Klimova, Petra Poulova, Michal Slama	Finding out the kind of study material students prefer, with the help of Online Questionnaire survey of 2449 respondents.	With the help of survey conducted, it was easier to identify and adjust the preferred study materials as required.
[2] Ivana Simonova, Petra Poulava	With the help of a five level likert scale, the satisfaction of students with the study materials was found out.	It was found out that approximate 80% would take other courses within their university study, i.e. they would prefer online learning to traditional face-to-face approach.
[3] Sucheta Kolekar, Radhika M. Pai, Manohara Pai M.M.	The conceptual architecture is provided that deals with adaptive e-learning apllications based on user requirement and deployed it on hybrid cloud.	Understanding learning styles improves learnability and improves efficiency of e-learning applications.
[4] Rolysent K. Paredes, Alexander A. Hernandez	Two websites were considered and an online questionnaire was prepared to get the user rating for the user experience of website in terms of attractiveness, perspicuity, dependability, stimulation, efficiency and novelty.	The finding of this study can be used by web developers as a reference as to what aspects to focus on more, while developing their website.
[5] Mahesh S. Patil, Meenaxi M Raikar, Padmashree Desai	Several students were told to register on a MOOC based on UX and were given a project in which the learned concepts were to be applied.	By going through the courses, the students were able to find out more requirements from their mobile app project, other than those mentioned by the company.
[6] Dr.P Pabitha, M.Mohana, S.Suganthi, B.Sivanandhini	A model is proposed where automatic questions were generated from the text using several processes like stemming, key phrase extraction, phrase mapping, summarizing, Noun filtering, Question generation. It's implantation was done ising Eclipse Kepler.	Automating question generation process can reduce human efforts if it was to be included in a website that consists of huge content and preparing so many questions manually can prove to be a hectic task.