CROWD SOURCE QUESTION BANK

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Abstract: The traditional method of setting a question paper by a particular person teaching in the university. This method is limited in terms of number of questions, the difficulty of the question paper, and the experience of the lecturers. Generating large question banks can aid in generating a question paper with a random difficulty level. This can be useful for schools, colleges, autonomous Institutes, and Universities. We propose, designing a portal that allows the lecturers from various institutes to login and submit the questions to the board and another login for the board or the administrators who can check all the questions and validate the questions so that the question paper or a question bank can be, generated automatically by the system.

Key-Words:- **:** Crowd Creation, Large-Scale exam development

I. INTRODUCTION

Exams are stressful for everyone. If parents and students focus on the writing part, teachers are responsible for setting the ‘right’ exam paper. Various elements come into play at this stage. Setting the exam paper is a strenuous and time-consuming task for teachers. They have to be thorough and ensure that the exam paper aligns with the purpose/ reason for testing the students. Luckily, advancements in technology and EdTech tools help teachers set the exam paper in less time. The process of generating and distributing question papers for exams is a critical part of the assessment process, and it requires careful planning and coordination to ensure that students have access to the materials they need to succeed.However, in today’s digital age, the question paper generation and distribution process is faced with a number of challenges, including security concerns, difficulties in creating and distributing printed materials, and the need to accommodate a variety of learning styles and preferences.

II. PROBLEM FORMULATION

Existing portals do not provide teachers with relevant resources and information according to their respective organization. As a result, teachers have difficulty in setting a question paper for the assessments.
Thus, the system implemented has the following objectives :

Objective 1: To be able to graduate to objective type questions for one semester of online board exams, a question bank of at least 5000 questions will be required for each subject.

Objective 2: Setting question papers for the exams is a complicated task. Can you think of a Crowd Sourcing model where questions are set by a large number of anonymous stakeholders thereby creating a large question bank? These questions can be vetted by experts before freezing the same in the question bank. The actual question paper can be set through an automated system.

III. LITERATURE REVIEW

Problems Addressed:

There are different methods, which are proposed for generating question papers, but unfortunately, Institutes or Universities rarely use them because of their complexities. So they are forced to stick to the traditional methods of setting the question paper i.e., lecturers setting the paper manually. However, the problem with this traditional method is it has a lot of disadvantages.

Advantages:

1. It reduces the cost and time of the institute and requires less human involvement.
2. Chances of question paper leaked reduced as the question paper generated a little while before exam.
3. Question paper generated by the system is unpredictable since it is randomly picked by the system.
4. Presence of a large question bank to select a wide range of questions.
5. Large variety of questions available since knowledge is not depended on single individual

Disadvantages:

1. It is more time consuming as the lecturer has to set them manually.
2. Selecting different questions can be a tedious task as there is no specific question bank to choose questions.
3. Difficulty of the question paper can be predicted easily, as well as questions.

4. There are less variety of questions because the question paper is set by the knowledge of one or two individuals.
5. It also has huge risks of paper leaking before examination.

Reference link:http://www.ijetsr.com/images/short_pdf/1525366525_40-44-118-_CROWD_SOURCING_MODEL_FOR_GENERATING_QUESTION_BANKS_AND_QUESTION_PAPERS.pdf

IV. METHODOLOGY

The system provides two kinds of login, one for the user (i.e., the lecturer) and one for the administrator. Before being able to login, the users have to register themselves. At the time of registration, the users have to specify their full name and the organization that they are working in. After successful registration, Users can login and perform actions such as submitting the questions they have, view their submitted questions, generate question papers, preview question paper etc.

Following modules are being used in our project:

A. User Authentication System:

JSON Web Tokens (JWT): According to JWT web site: "JSON Web Token (JWT) is an open standard (RFC 7519) that defines a compact and self-contained way for securely transmitting information between parties as a JSON object." Simply JSON Web Token (JWT) is encoded string to pass information between parties with secured way.

bcrypt's hash(): bcrypt's hash() function is how to create a secure hash of a password. It takes two parameters: the password and the number of *salt rounds*. Increasing the number of salt rounds makes bcrypt.hash() slower, which makes your passwords harder to brute force.

B. Dashboard Modules :

- Add question
- View question

- Select question to generate question paper
- Preview question paper
- Generate question paper

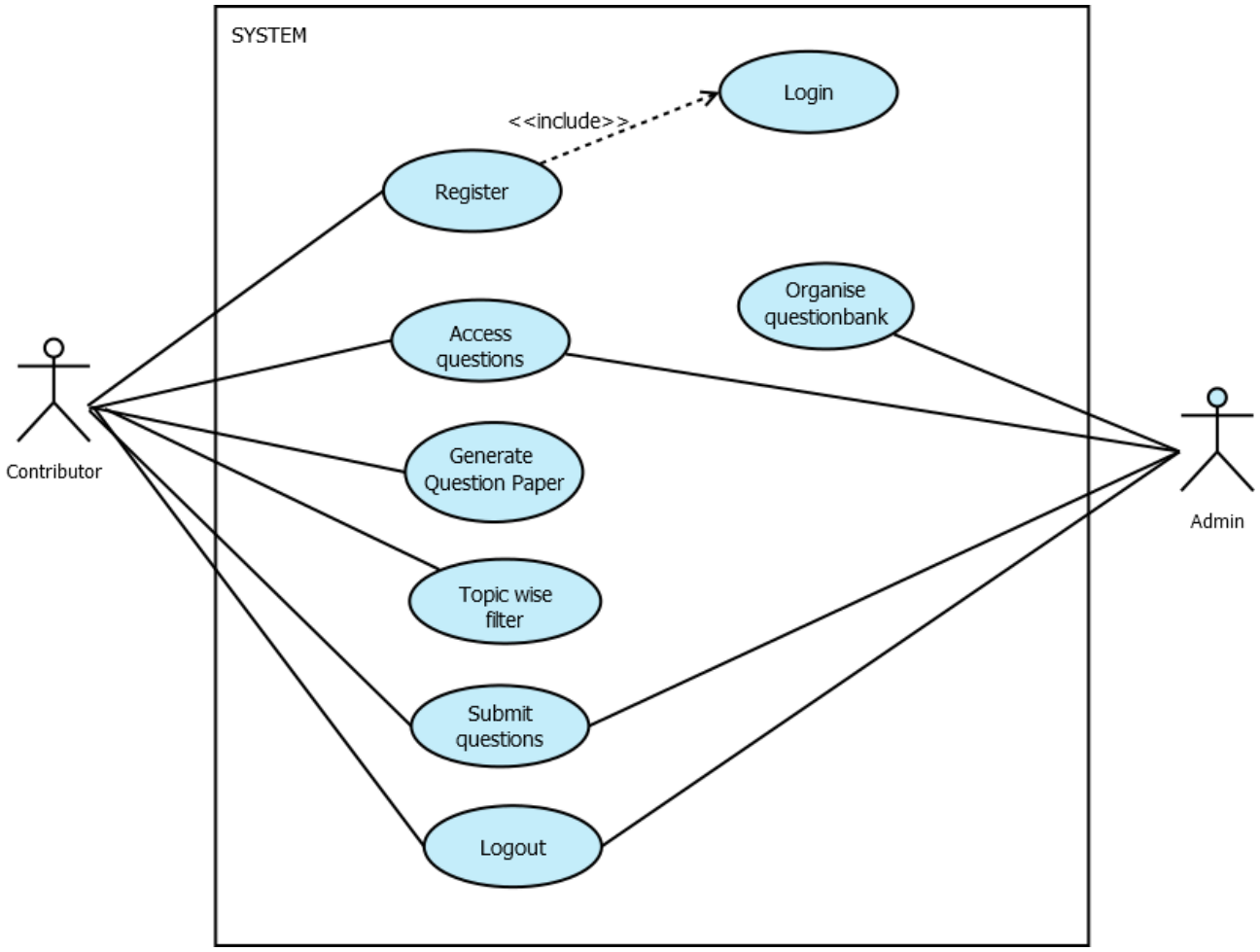

Figure 1. UseCase Diagram

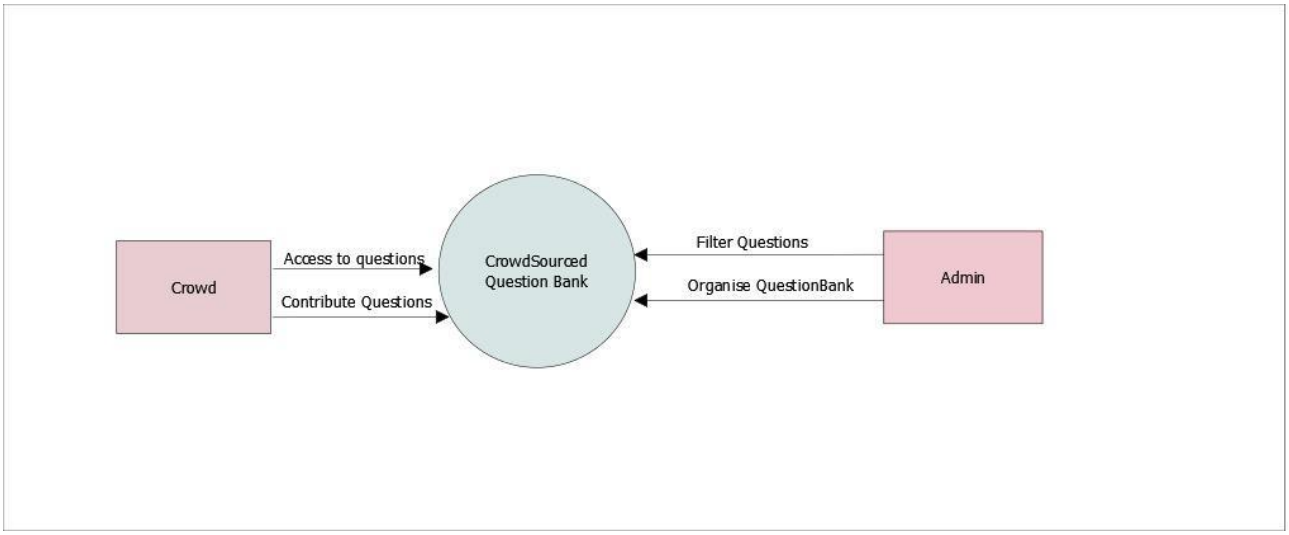

Figure 2.1. Level 0 Data Flow Diagram

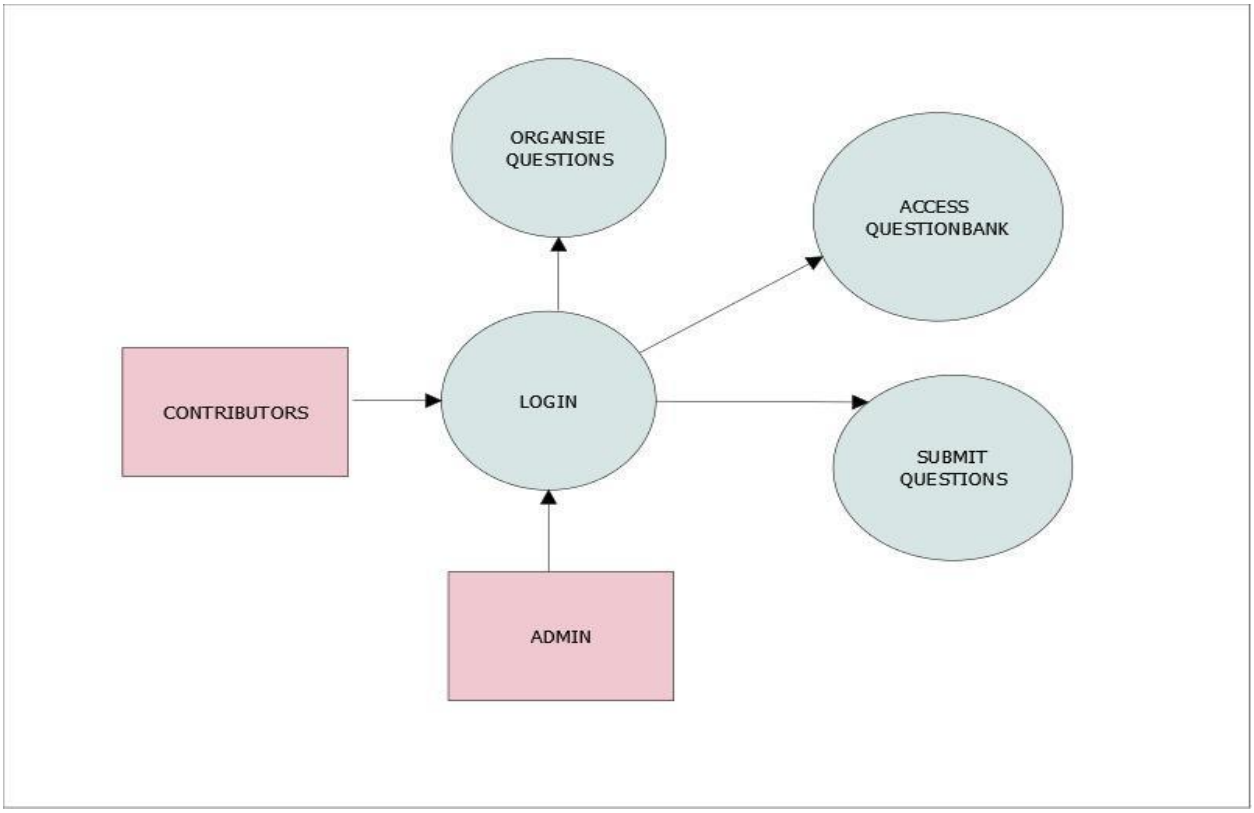

Figure 2.2. Level 1 Data Flow Diagram

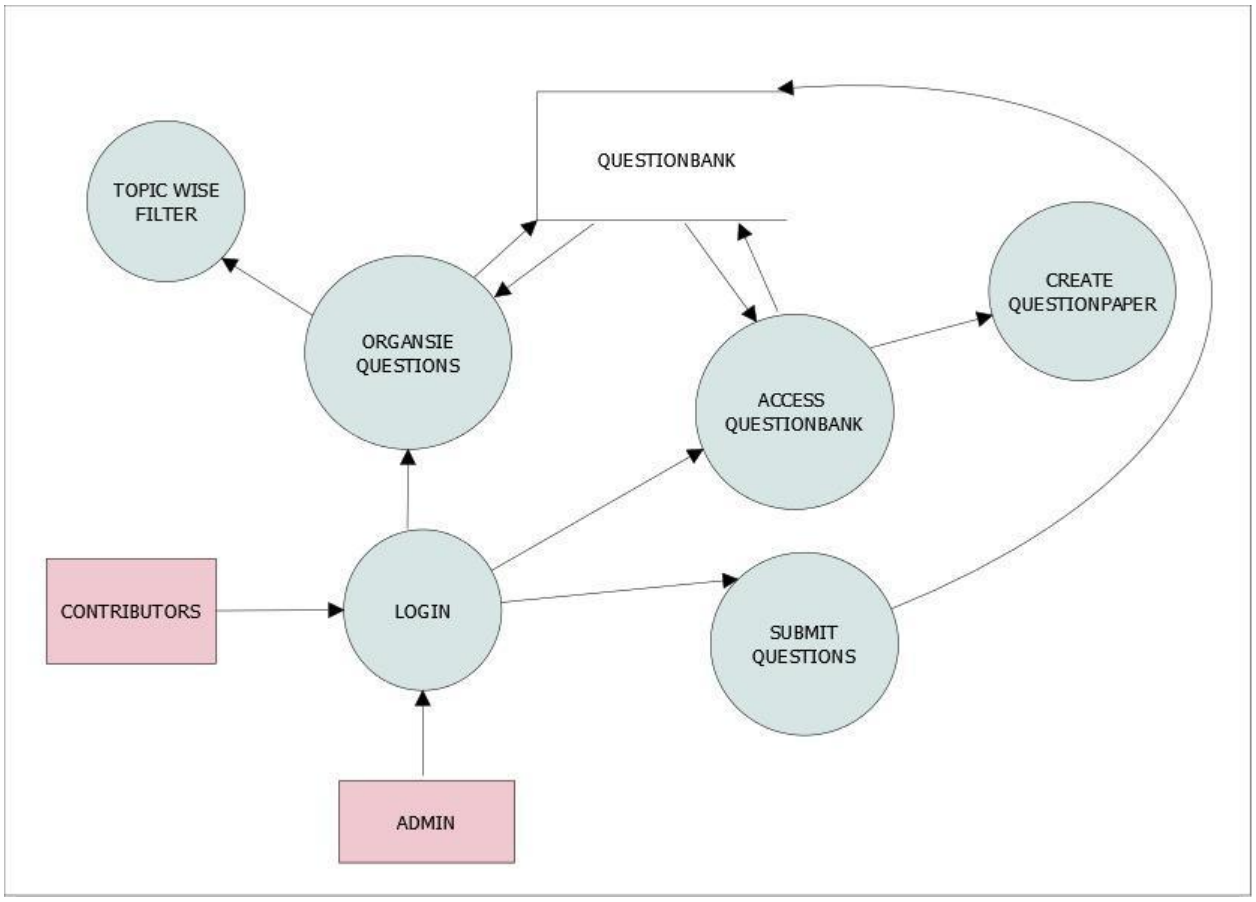

Figure 2.3. Level 2 Data Flow Diagram

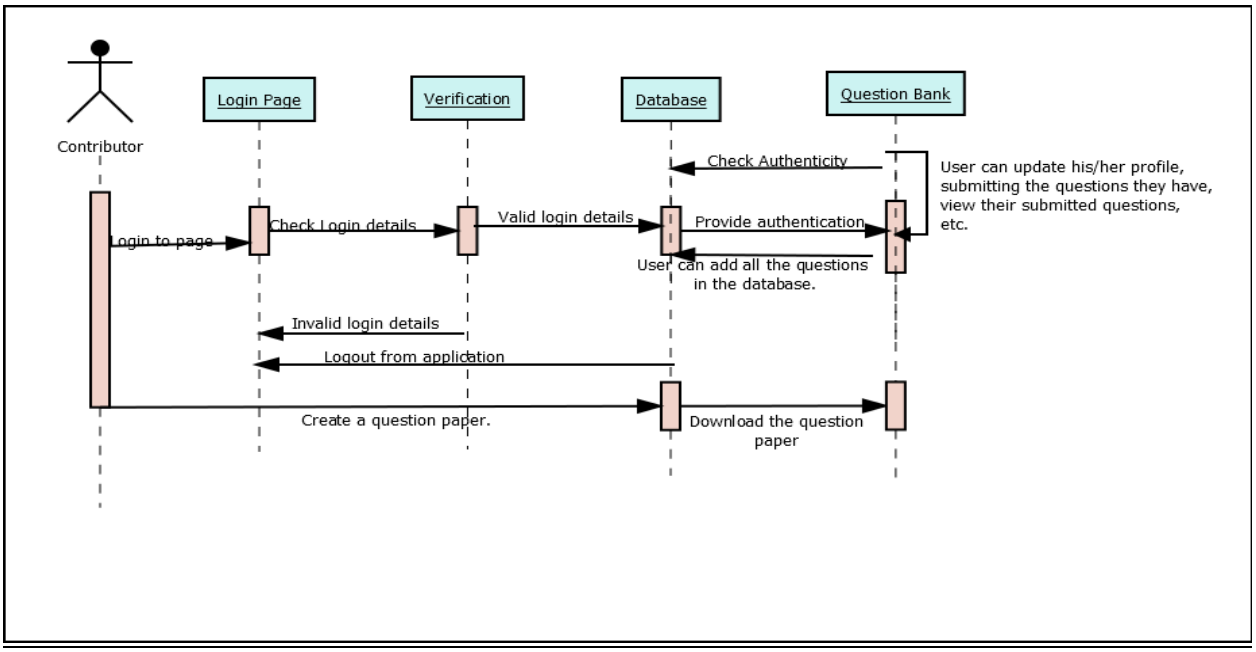

Figure 3. Sequence Diagram

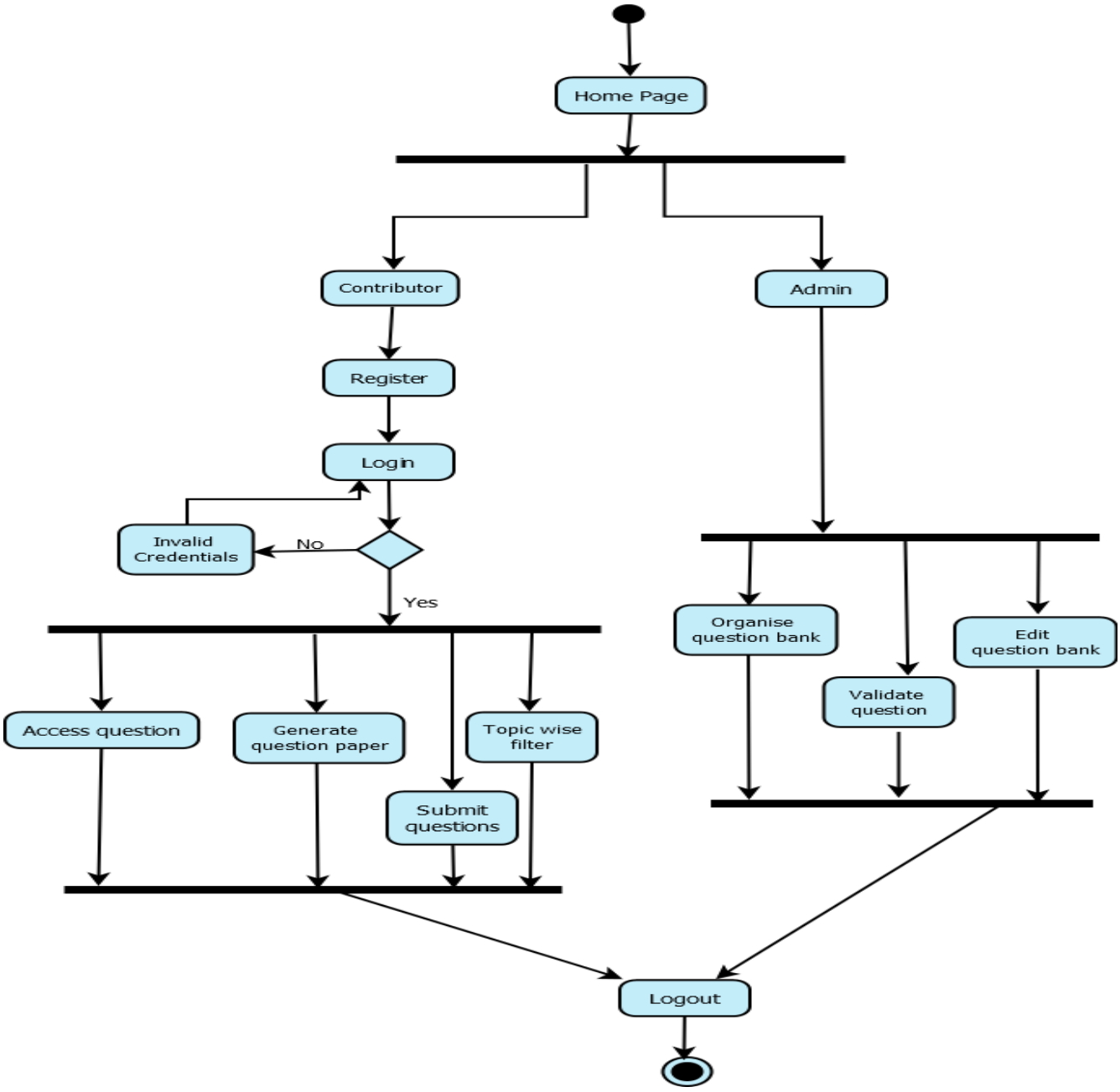

Figure 4. Activity Diagram

V. RESULT DISCUSSION

Contributors from different domains can contribute to the question bank anonymously. Large variety and volume of questions could be accessed from one platform without any hassle. It will help teachers and professors to set specific exam papers for their institutes. Also students can get a variety of questions for practice purposes. This question bank can hold a large number of questions.

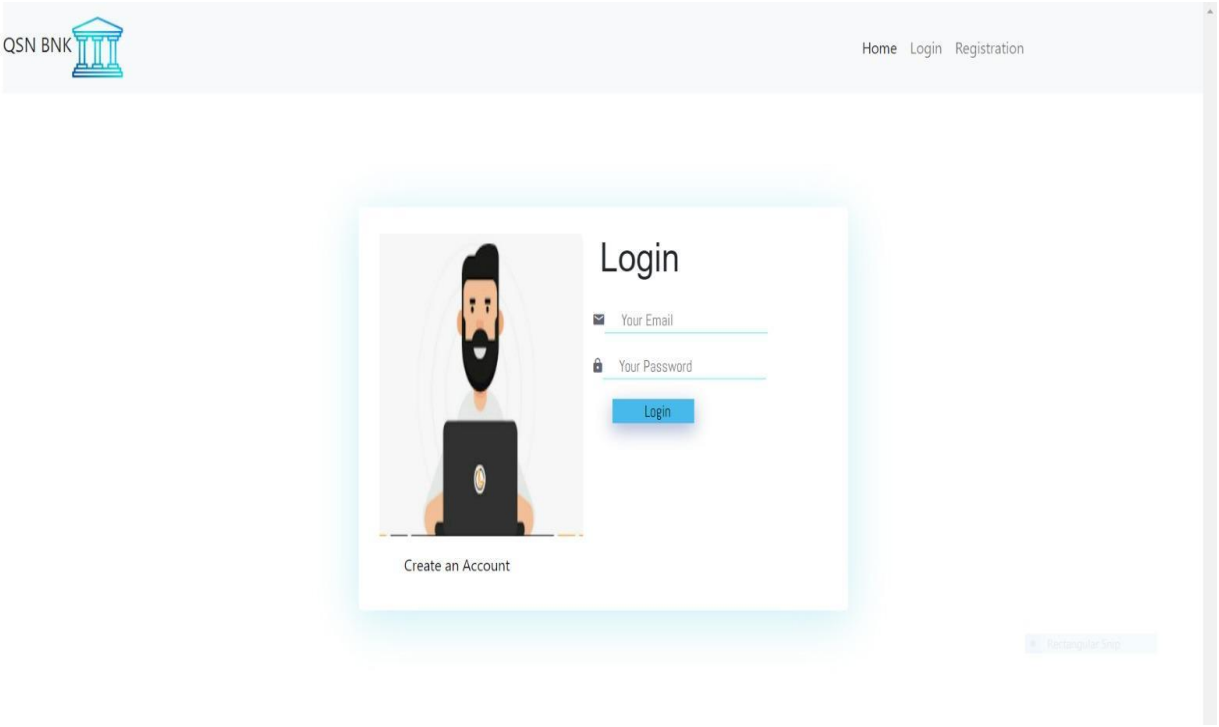

Figure 5. Login Page

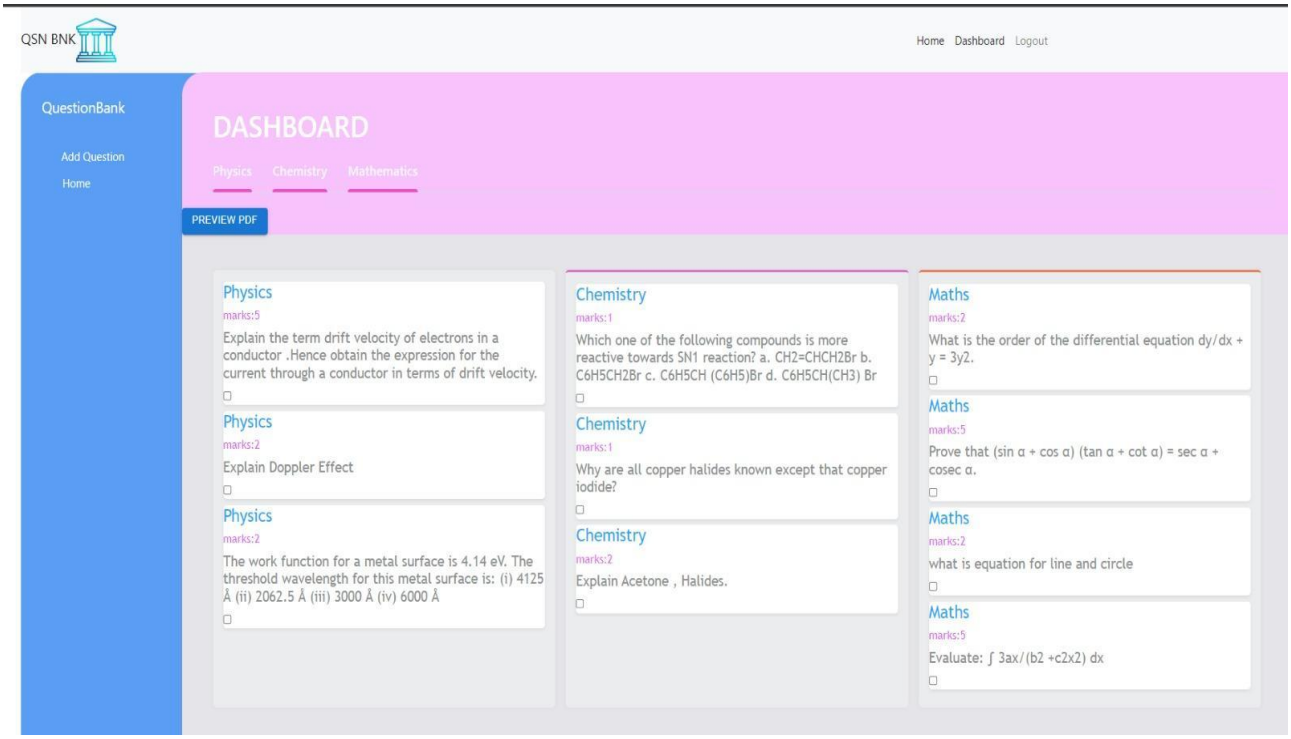

Figure 6. Dashboard

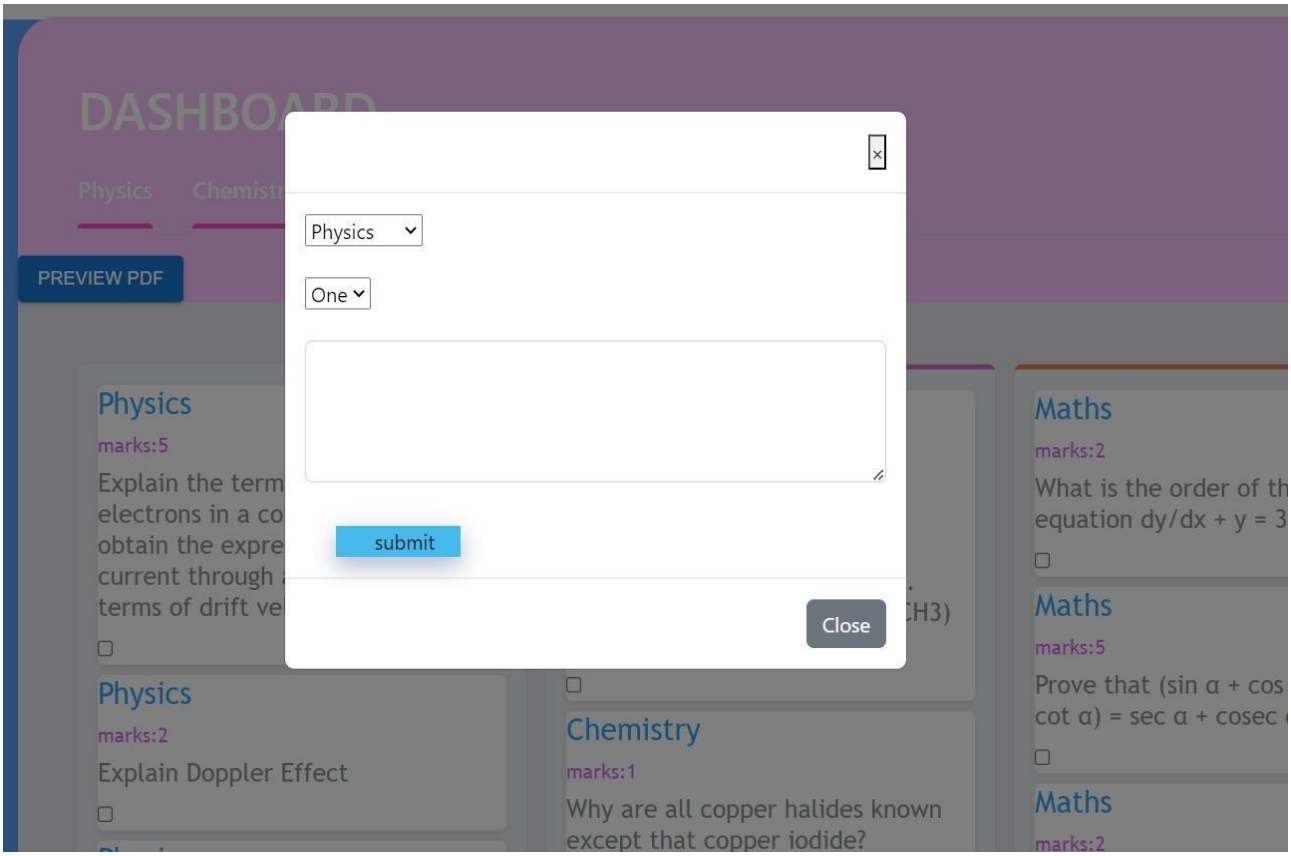

Figure 7. Question Form

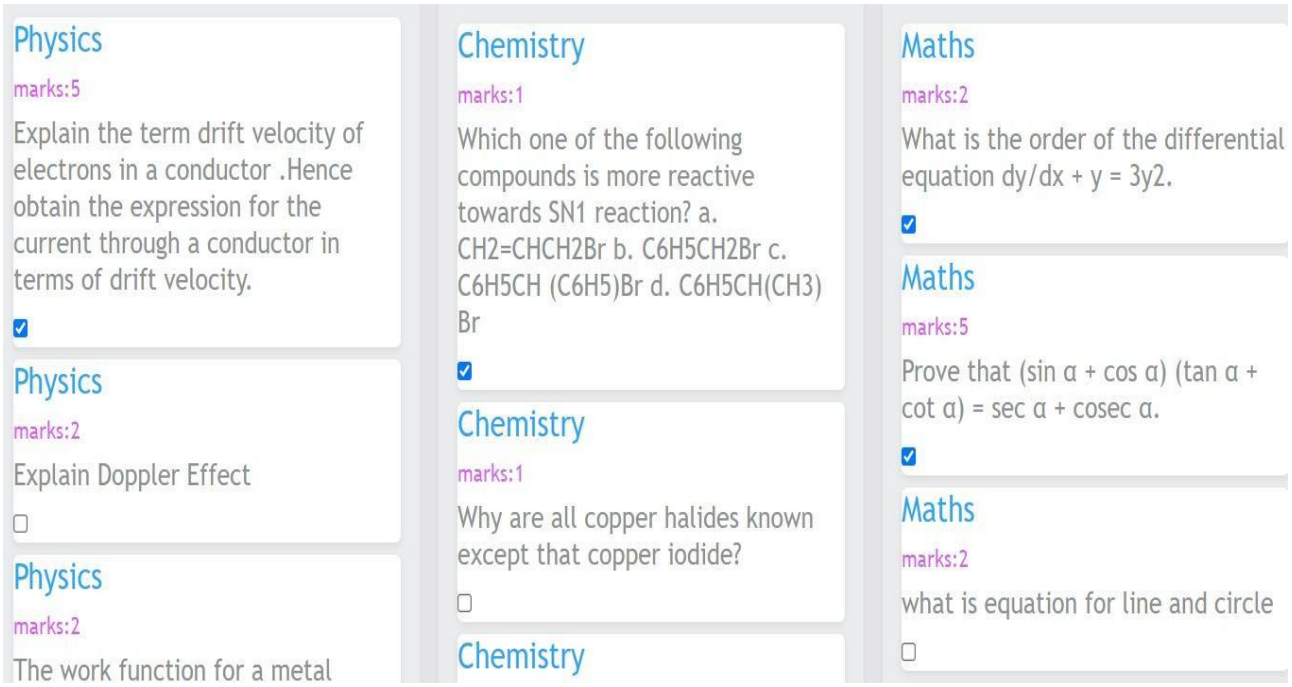

Figure 8. Question selection

Figure 9. Preview question paper

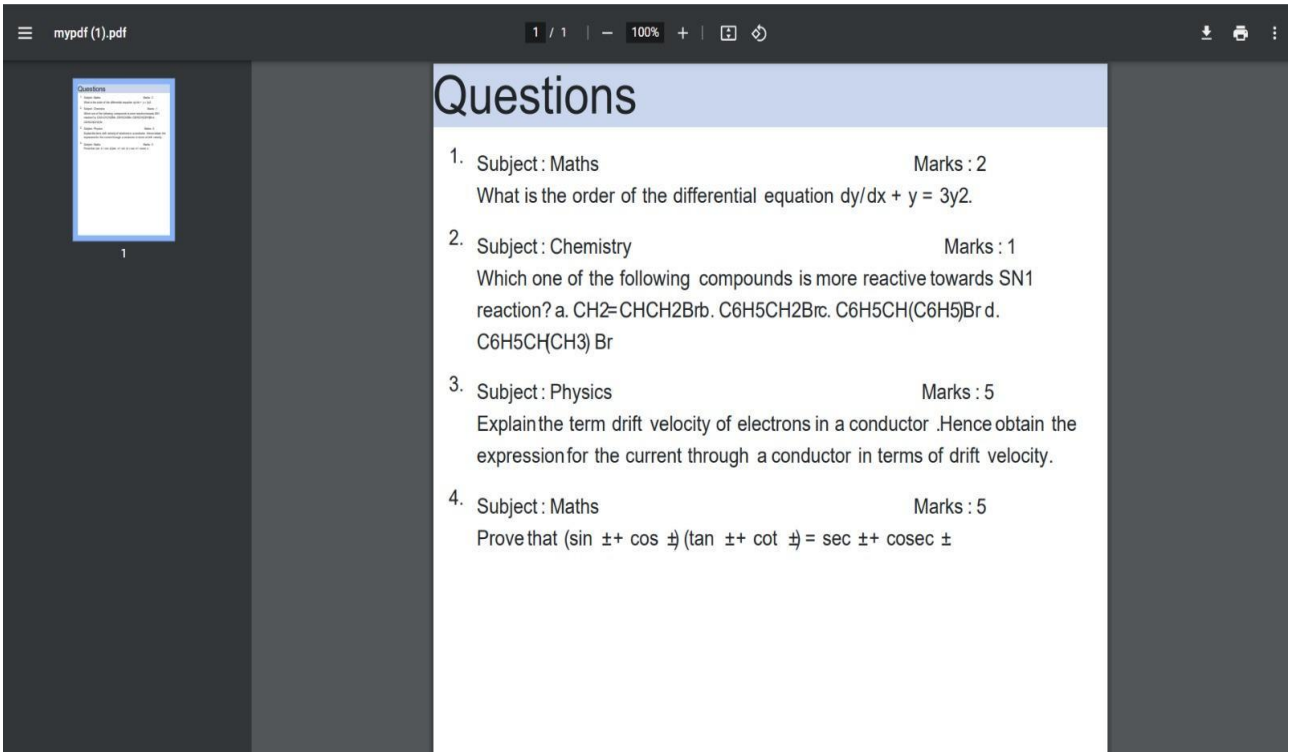

Figure 10. Generate question paper

VI. CONCLUSION

Using crowdsourcing techniques in the development of exams can help in increasing the quantity and the quality of exam questions given the large number of contributors and evaluators.This system aids in decreasing cost, time and effort required to gather questions and generate question papers. In addition, it ensures that the source of questions in the question bank is authentic and generates question papers avoiding security problems.

VII. ACKNOWLEDGMENT

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