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EXAM PAPER GENERATING SYSTEM:

Automated exam system

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Abstract—
Today education has become part of life. In academics, level of understanding is mostly determined by how well the learner performs in their examinations. Making examination to be a very import part of the learning system. Examination prepare students in their quest for knowledge. Therefore, having an up to standard examination paper and format is very important. With the way examinations are prepared it becomes difficult to eliminate all malpractices and inefficiency.

I therefore propose an automated process of question p a p e r Generation, which is fast, randomized, streamlined and secure. Every task performed by this system is automated so that storage space, bias and security is not a concern anymore. This system can be helpful to many educational institutes.

Keywords—*examination; automated; generation; randomised; secure.*

INTRODUCTION

Technology today has become the driving force for everything. Governments invite a lot of money in institutions to update and improve the technological world, the major contributors of this technology movement are educational institutions. Education has become the key to national development. Universities and colleges are being opened and established in all parts of the country, with this number of new universities the critical question remains to be what is the quality of students being produced at these universities. The most traditional way of determining students understanding has been examinations. Examinations play a very important role in the evaluation of students and determining students' progress. Therefore, the quality of examination is the key to the credibility of the institution. The traditional way of preparing exams has always been that the lecturers, professors, instructors, set the question paper and them submits it for review by the examining board or senate. This method introduces a lot of human errors and high possibility of paper leakages. Since the papers are done in hard copy, storage also becomes a problem to those institutions wishing to maintain a a data base for past examination papers.

To eliminate all the above problems, I therefore suggest an automated exam paper

generating system. This system uses a randomized algorithm and is very secure and fast. Different sets of question papers can be generated without repetition of questions. You can enter unlimited questions over a period depending upon the system storage, capacity and as per the requirement.

CURRENT METHOD

A. *current zambian method.*

Currently in Zambia, all government intuitions and most private intuitions use the manual way of examination paper preparation. The professors and lecturers are asked to prepare the examination questions then submit to an examinations board or department. The process requires a lot of time and the paper setters need to divide the time between lecturing/teaching and setting examinations. This compromises the quality of the paper due to human errors and the many stages and number of officers involved in the preparation of the paper, the risk of leakages are increased.

B. *The proposed system.*

The exam generation system, will eliminate all the short comings of the generic system. In this system the instructors and professors will be asked to upload as many questions to the system database as possible. The questions will have specific information such as the syllabus units and question weights and marks. This will be done during the instructors' own convenience time and can be collected over a long period. Hence the examination preparation will not affect the productive lecturing time. The system administrator will have access to the questions being uploaded by the various lecturers and professors so that he maintains the quality and standards. The examiners can then use the system paper generation interface to specify the paper. The examiner can choose the number of sections, questions per sections, and the unity weight of each question paper and title. Then the system using a randomized algorithm to generate the question paper will generate the finals paper with full instructions in any text file format required by the institution ready to be printed or sent to mail.

Advantages of the system

- reduced leakage possibility. Since the lecturers and professors will have no idea of which questions the system will put up together the paper will have no risk of leaking.
- Time efficiency. By using an automated system, the paper can be generated just a few minutes before the examinations and will still be up to standards
- Fairly distributed questions. The system will only generate question according to the topic weights of that subject syllabus.
- Easy storage. The generated question paper can then be stored in the system database as a past examination paper.
- Multiple paper generation.one subject can have as many examination papers at the same time without question repetition but still maintain the same standard and level of difficulty.

Disavantages of the system

- The system will require all users to be trained on how to use the system
- It will require a big server space for the database
- The system will be limited to the imports, garbage in garbage out.
- The system will not be able to mark the examinations.

SYSTEM MODULES

The systems will have different modules according to the structure of the institution using it. But the four main modules will be. Administrator, lecturer/teacher, student, question insertion. All modules will be separate and will have specific login credentials and functionalities.

- Administrator: every intuition using the system will have the administrator. The administrator will be responsible for registering stuff and hence proving them

with the login credentials. The administrator will also be in charge of generating the final examination paper by specifying the paper format, question weights and all paper perimeters.

- Lecturer/teacher. The lecturer/teachers are the main users of the system and will also determine the efficiency of the system. The lecturer and teacher will upload questions to the system. First, they register with

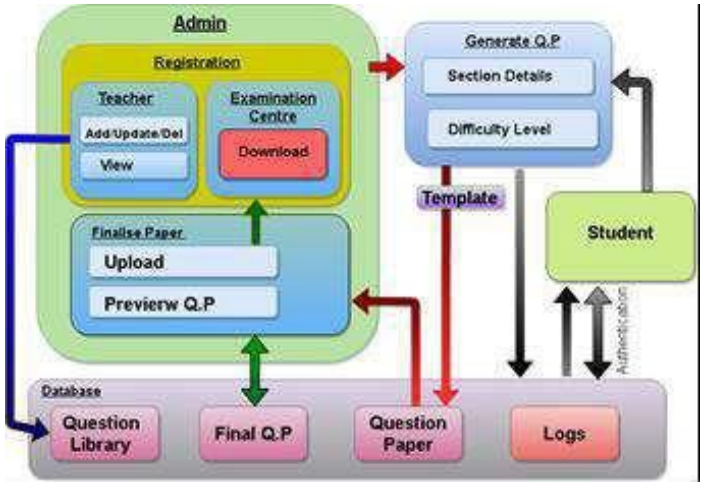
the administrator. After getting the logging credentials, the teachers' can now upload the questions. Each question will have specific information. The teacher needs to upload as many questions as possible.

- Student: the students registered to the system can carry out a self-text exam. The system will allow students to be able to generate question papers for revision and practice. Also depending on the school policy, students can access the past question papers.

- Question insertion: the questions inserted in the system will follow particular standards and will have specific information.

- Fig.1 show all the modules and the relations and functionality.

Fig.1



Question information

Each question inserted will carry all of the following question information.

i. The course name

ii. The topic or syllabus

iii. Level of difficulty

iv. Marks allocate

Question paper generation

When generating the question paper the admin will have to specify the subject, level, and all the above question information. The admin will select the number of question for each section, number of questions from each level of difficulty, the total marks for the paper and the duration of the paper.

The system will then randomly put questions together according the admin specification. The automated cover page carrying the school name and logo, department, course name, level, date, time allocation, and the specific instructions will be attached to the question paper.

The review will show the paper generated and ready to be printed or to be sent.

CONCLUSION

The exam generating system, can be used by any institutions to improve on efficiency of the examination and quality. It will greatly help to reduce leakages and question repetition. It can be managed by one examination body and have institutions subscribing t it. Or it can be managed by the institutions.

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