Quality Question Paper Generator on Role Based Hierarchy model

Ashna Shaikh[1], Ashwini Handore[2], Prof. Priti Kudal[3]
Computer Engineering Department[1,2,3], Guru Gobind Singh Polytechnic[1,2,3]
Email: ashnashaikh1999.com[1], handoreashwini@gmail.com[2],preeti.kudal@ggsf.edu.in

Abstract: This is a challenging era where education is most important way of achieving success. When we discuss education, test and examination play a vital role in testing student's performance. Hence it is important to have smart development question model for growth of student as well as to test their learning skill to check student performance. The traditional method i.e. Bloom's Taxonomy in which the questions or topics are characterized with different levels which are as R(Remember), k(Knowledge), U(Understand), A(Application, Analysis, Apply), E(Evaluate), C(Create).So the paper setter has to do all the manual work which very tedious and challenging. Hence we present the solution in form of Quality Question Paper Generator System.

Index Terms- Bloom's taxonomy, Curriculum, Examination, MSBTE, Quality Question paper.

1. INTRODUCTION

In today's age, time is major concern. To reduce time and power consumption we are presenting a Quality Question Paper Generator System. The resultant formatted system for Question Paper Generation provides improvement in the terms of controlled access to the resources, generation of quality question paper and a secure platform. We have proposed a system that stores questions as per course and its syllabus and curriculum. We have implemented role based hierarchy which restricts access to the user. The system also deploys security mechanism that avoids duplication of questions in question paper. There is provision to enter and edit data suitable to any educational organization for specific courses, semesters, syllabus and pattern. This enables an educational institute to generate question paper during security and non-repetitiveness of questions. And as per level defined by Bloom's taxonomy question paper is generated with maintaining its quality. Consider an example: "What are the features of java?" Students will get confused to answer this question. Instead of this, if we can write it as: "List the features of java." OR "Explain any four features of java." Then Students will get exact idea to answer this type of questions.

2. EXISTING SYSTEM

We are discussing about technical education. In Diploma the curriculum i.e. the syllabus is designed by MSBTE (Maharashtra State Board of Technical Education). Every curriculum has head, in that TH (Theory), PR (Practical), TW(Term Work), OR(Oral). In every Subject, there is weight age for each chapter and from this total become 100. So the Question Paper for the particular subject is created or set with 'WH'

Questions. In that they use the basic concept i.e. Bloom's Taxonomy in which the questions or topics are characterized with different levels which are as R (Remember), k(Knowledge), U(Understand), A(Application, Analysis, Apply), E(Evaluate), C(Create). So the paper setter has to do all the manual work. And it is a very hectic or tedious work so to overcome this we are creating the Quality Question Paper Generator.
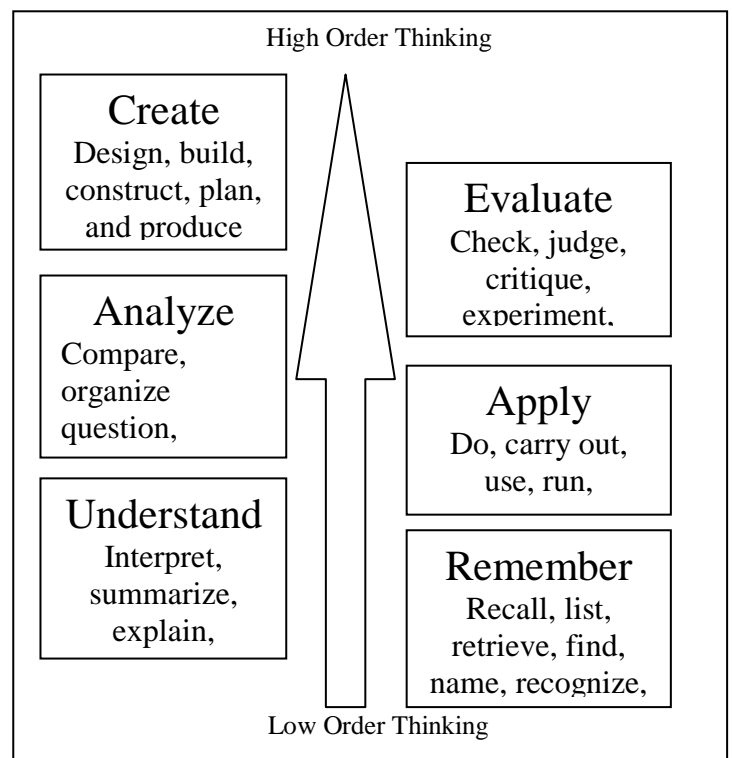

Fig1: Blooms Taxonomy

International Journal of Research in Advent Technology, Vol.5, No.2, February 2017
E-ISSN: 2321-9637
Available online at www.ijrat.org

Some existing systems are as follow:

Moodle:
Moodle was originally developed by Martin Dougiamas to help educators to create online courses with a focus on interaction and collaborative construction of content and it is in continual evolution. Moodle was learning platform can enhance existing learning environments. As E-learning tool, Moodle has wide range of standard and innovative features such as calendar and gradebook. Moodle is a leading virtual learning environment such as education, training and development.

Fig 2: Moodle Logo

Disadvantages of using Moodle: The first issue is the fact that Moodle is not fully developed to cope with big projects. While it may be useful for colleges or universities of small to medium size, the system might not work efficiently with larger schools or serve as a great way to conduct all classes in a city. In addition to the lack of complete development, Moodle users frequently complain about the troubles they experience with customizations.

Cloze Question Generation (CQG):
Cloze question are questions containing sentences with one or more blanks and multiple choices listed to pick an answer from. In this work, system presents an automatic Cloze Question Generation (CQG) system that generates a list of important cloze questions gives an English article. The system is divided into three modules: sentence selection, keyword selection, distractor selection.

Disadvantages of CQG: The face validity is low because there are many blanks. If the isolated words are difficult, the test takers concentrate their mind in guessing the vocabulary instead of comprehending the test.

3. PROPOSED SYSTEM
We have proposed a system for Automatic Quality Question Paper Generation which is based on Role-based Hierarchy model. This model allows the tasks to be divided among a number of users depending upon their roles. A central administrator will have complete authority over all users and tasks. The interface is provided using ASP.net and MySQL database is used to store questions and related data. Syllabus and pattern of any course is considered while generating question papers. Also, the system is fully modifiable according to any educational institute and course schemes.

A. Role-based Hierarchy:
In our system, there are basically three types of entities-that are Administrator, Data Entry User and Paper Generator. A Data Entry User can only access the modules pertaining to data entry while Paper Generator generates question paper whenever required. Administrator is authorized to perform all the tasks and have control over the all the user.

B. General working:
Courses, syllabus, patterns, questions can be entered and are stored in database. Data Entry User does data entry and it is in the form of syllabus or specification table in which all questions are defined as per Bloom's taxonomy. Administrator validate the data entry user and it request for question paper to Paper Generator. Paper Generator extracts the questions from database in some particular manner using proposed algorithm and generate quality question paper. The system also avoids duplication of questions in question paper. This enables an educational institute to generate question paper during security and non-repetitiveness of questions. And as per level defined by Bloom's taxonomy question paper is generated with maintaining its quality.
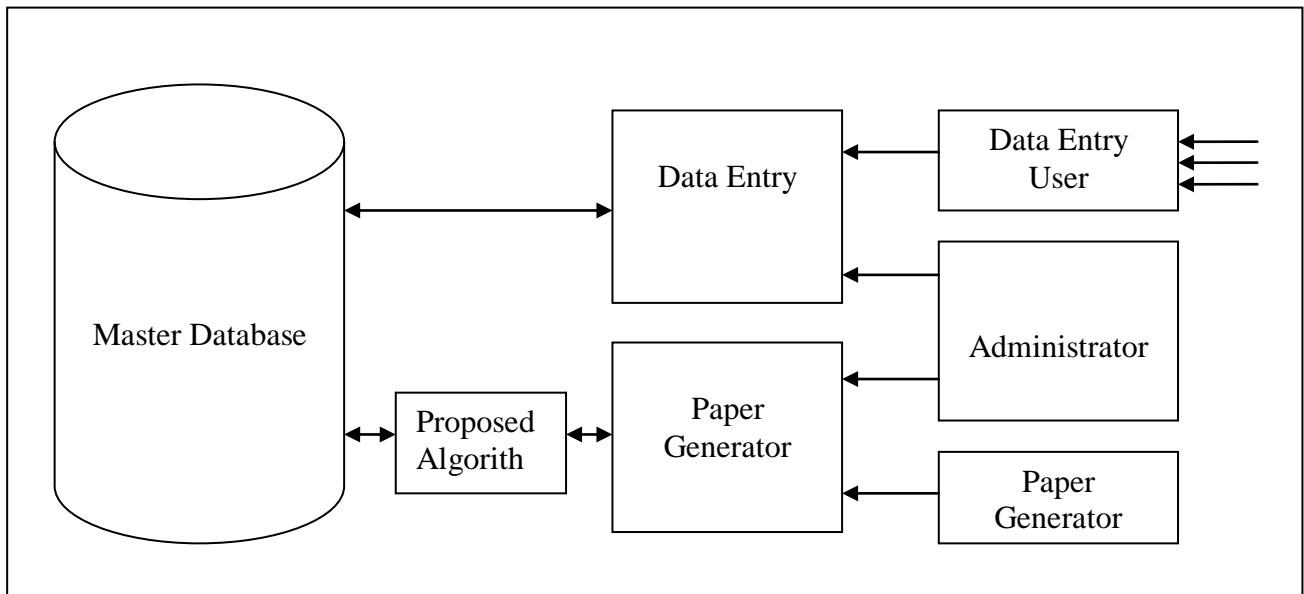
International Journal of Research in Advent Technology, Vol.5, No.2, February 2017
E-ISSN: 2321-9637
Available online at www.ijrat.org

Fig3: Block Diagram

4. APPLICATION

It is used for educational purpose such as
a) Schools
b) Colleges
c) Universities.

The revised Automatic Quality Question Paper Generation System is accessible on personal computer and laptop.

5. FEATURES AND BENEFITS

Following are some of the features of the Question Paper Generation System:-

- Simple interface which enhances the ease of updating data.
- Generates and prepares the Question Paper in a matter of seconds.
- Question Type can be Knowledge-based, Logic-based, Memory-based and Application-based.
- Question can be easily edited.
- Question Type can be depend on Blooms taxonomy

6. CONCLUSION

The proposed work describes a Quality Question Paper Generator System that progress from traditional method of paper generation to an automated process. Our system has deployed an efficient algorithm which generates question paper for particular course by following particular pattern and avoids repetition of question to maintain its quality of produced question paper.

In the proposed system, the levels of Bloom's Taxonomy are predefined whereas in future proposed system levels can be defined by us.

REFERENCES

[1] SurbhiChoudhary,AbdualRaisAbdulWaheed,Shr utikaGawandi and KavitaJoshi,"Question Paper Generation System",International journal of Computer Science Trends and Technology,vol 3, issue 5,sept-oct 2015.

[2] PritaPatil and kavitashirsath,"An Integrated Automated Paperless Academic Module for Educational Institutes" International Journal of

Engineering Science Invention Research and development,vol, I,issueIX,March 2013.

[3]Ashok Immanuel and Tulasi.B, "Framework for Automatic Examination Paper Generation System," International Journal of Computer Science Trends and Technology, vol. 6, issue 1, Jan - March 2015.

[4]KapilNaik, ShreyasSule, ShrutiJadhav and Surya Pandey, "Automatic Question Paper Generation using Randomization Algorithm," International Journal of Engineering and Technical Research, vol. 2, issue 12, December 2014.