

Intranet Exam Engine

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Abstract: *This Intranet Exam Engine is a software solution, which allows any industry or institute to arrange, conduct and manage examinations via an offline environment. It can be done through the Intranet and Local Area Network environments. Some of the problems faced during manual examination systems are the delays occurred in result processing, filing poses a problem, filtering of records is difficult. Maintenance of the system is also very easy and save lot of time and effort. Offline examination is one of the crucial parts for offline education system. It is efficient, fast enough and reduces the large amount of material resource. An intranet exam engine is based on the web-portal. This project describes the principle of the system, presents the main functions of the system, analyses the auto-generating test paper algorithm, and discusses the security of the system.*

Keywords: *Intranet, LAN, offline education*

I. Introduction

Intranet Exam Engine is an educational portal to computer based exams. It will create and conduct computer based offline examination from anywhere and also it is a powerful test engine for certificate exams. The term intranet was originally coined to refer to the infrastructure of a network. For example, the intranet is that portion of the network on which data packets are exchanged using some protocols. It can also be said to include private network infrastructures that use some set of protocols, but not interconnect with the public Internet. An engine is a type of software that generates source code or mark up and produces elements that begin another process, allowing real-time maintenance of software requirements. In computer programming, an engine is a program that performs a core or essential function for other programs. Engines are used in operating systems, subsystems or application programs to coordinate the overall operation of other programs.

With the help of 'GRID' Hardware the server will transmit the data from one place to another. It is a private network that is contained with an enterprise. It may consist of many interlinked local area network and also used leased lines in the wide area network. Typically, an intranet includes connection through one or more gateway computers to outside internet. We are going to work on the intranet exam engine to make the online exam accessible without internet for the area where internet is not available. We can conduct computer based exams in those areas where internet is not available. Example: Rural areas, remote areas, villages etc. The requirement for the online examination system is of computer device examination authorities to have easy allocation of assessments. Even the candidates who are registered form different courses can easily take test using these offline platforms simultaneously.

Furthermore, using the offline examination system (Intranet exam engine), the pain of examiner will be reduced up to a considerable extend. They can present a paper in multiple languages, shuffle, and randomize the sequence of the questions to prepare different sets of same question paper in order to avoid cheating among the candidates. Time management: making the use of computer devices in the offline examination system will contribute in saving time steady availability of computers and sound the initial process of registration, enrolment, admit-card distribution, examination and finally the announcement of results have been synthesized and shortened. Moreover the process of creating question papers, registering candidates for examination, answer sheet evaluation is even easier on this system. Each of the student gets a fair chance to perform a showcase subjected knowledge and conceptual clarity.

II. Literature Review

The research paper [1] proposed to evaluate student performance in different exam modes and acceptance of computer-based exams, computer-based examining was implemented in a Biopsychology course, which is part of the undergraduate psychology program. Assessment of the Biopsychology course consisted of

two exams receiving equal weight in grading, and was both high stakes proctored exams. Since the computer-based exam facilities could not facilitate the whole group of students, half of the students were randomly assigned to make the midterm exam by computer, and the other half of the students were assigned to make the final exam by computer.

The research paper [2] is proposed to concern with computer based examination system. It focused on trends in online computer based examination and carried out a critical review of current computer based test system employ in Cisco Training Centre of Prof. Iya Abubakar CRC. An alternative system to provide solutions to the current challenges identified in the existing system was then proposed. The system was designed using the object OOAD methodology and implemented using rapid PHP IDE on a Windows 10 system, using PHP, HTML, CSS and MySQL technologies and Apache server as the application server with multifactor authentication.

The research paper [3] proposed that Offline examiner is a real time project, the project will be implemented using VB. The aim of the project is to allow teachers to conduct examinations to the students. There are many unique features in the project. The students are not allowed to go back to the previous question once they click the next question. This option is up to the teachers to decide the teachers can either enable such an option or disable the option. The teachers are also given option to set the time limit of the exam. When the students start their exam, after the allotted time, the exam automatically ends and a grade sheet is printed to the students. The exams can be of single choice or multiple choices and this also the teachers can make the decision.

The research paper [4] given that the system used in this study had a number of useful attributes. The open source operating system on a live CD (and subsequently converted to bootable partitioned USB drives) provided a holistic examination environment which students could use to practice personal skills at home without copyright infringement. It also allowed examinations to be supervised by invigilators without specialist information 520 Australasian Journal of educational technology skills by using a unique desktop background image for security. Examinations can be easily constructed for a range of software environments, with candidates working on isolated workstations to 'open book' contexts with full internet connectivity. The use of the live CD allows candidates to use their personal laptop for the examination without gaining advantage because local disk access can be blocked. Future developments will focus on transfer to USB drives to improve operational speed, facilitate the collection of completed scripts and permit cross-platform compatibility (Intel based Macs and PCs). Although the cost of USB drives is higher than the 50 cents per CD, they can be re-used many times.

In the research paper [5] the findings showed that the CBT mode was more stable and consistent in terms of internal and external validity because no testing effects were found in intrinsic and extrinsic testing motivation, except for the work avoidance dimension. Work avoidance was defined as participants' dislike for aspects of the testing task and avoidance of the task. The finding suggests that in establishing the CBT, the test items must be clearly stated and avoidance of complexity, that is, complex items should be excluded in the test, as this would help reduce work avoidance in test takers.

The Research paper [6] gives the standards for developing computerized-assessment required equivalent test scores to be established for the paper- based test (PBT) and computer-based test (CBT) modes. However, in most studies, the two modes were nearly identical, yet significant differences of test scores were observed. Therefore the validity of replacing PBT with CBT in educational assessment was questioned. This study employed an achievement test, a psychological test and a motivation questionnaire in a Solomon four-group design to examine validity of the CBT and its effects on test performance and motivation. The findings of this study provide evidences for the issue of CBT's validity in educational and psychological assessment.

The Research paper [7] students can sit at individual terminals and login to write the exam in the provided duration. The questions have to be given to the students. This web application will perform correction, display the result instantly as well as store it in database. This web application gives the administrator with a facility to add new exams. This application provides the Instructor to add questions to the exam test paper, modify questions in the exam in a particular exam test paper. This web application takes care of authentication of the administrator, Instructor and the student. People from various area of the world can register very easily. The new system is more personalized. It is tangle in such a way that all the new users can understand all the options in it very easily. It is made in a quick and easy referential style. The vantages of proposed system are that safety is carry in the new system. As it is easily intelligible and user friendly, fast entries can be made in this system.

The Research paper [8] proposed the web based exam management system has been developed to support automatic grading, exam archiving, and exam administration using the WWW as a delivery vehicle. In most of them, the widely used questions are correspondence to Intended Learning Outcome (4) (ILO) for the courses, and it should be easily judged and evaluated online by comparing with the correct answers. The typical questions include yes/no questions, multiple-choice/single-answer questions, multiple-choice/ multiple-answer

questions, matching questions, numeric questions, and essay questions. This system is built based on open source technology.

The Research paper [9] proposed this module describes about the functionalities of the administrator in our application. Administrator has the functionalities such as adding proctor, adding students, adding subject, adding the set of questions and answers option and maintaining all these information in database .so this module is very important and plays important role to operate the application.

III. Proposed Method

The Working Of The Exam Module Can Be Broadly Divided Into Two Parts:

1. EXAM PANEL
2. ADMIN

Work module:

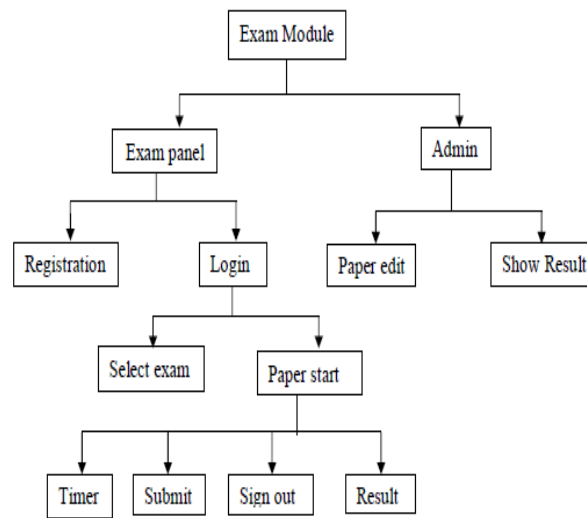


Figure 1:- Exam Module

1. Exam Panel:

Exam panel is based on the four areas which contain student registration, login, exam paper, result. Student registration is a process which is primarily used to register students for an exam. Login generally requires the user to enter two pieces of information, first a username and then a password.

Exam paper is an examination questions printed on it, set to test the knowledge of examination candidates. Result is expected information in form of output which shows appeared candidate is pass or fail.

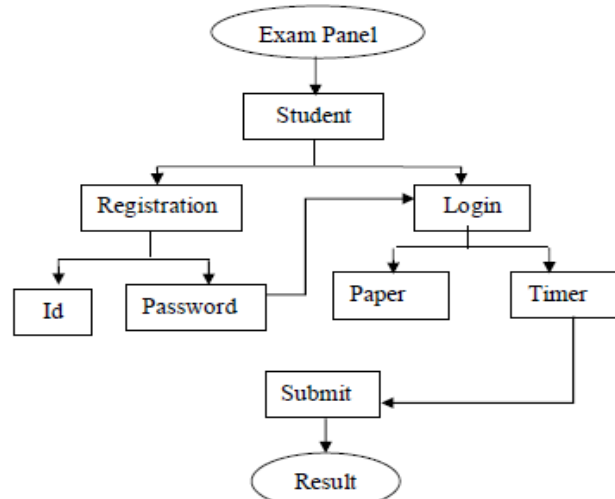


Figure 2:-Flow Chart of Exam Panel

2. Admin:

Admin panel is based on the four areas which contain paper modification, exam pattern, topics, all set ups. Paper modification is a process of making changes in the paper set. Exam pattern is a set of paper patterns which is handled by admin panel only. Topics should be given to examination candidates who will show their choice of interest. All setups are handled and managed by admin panel.

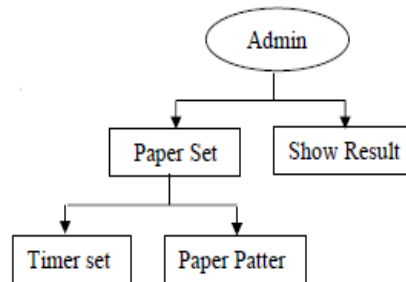


Figure 3:-Flow Chart of Admin

IV. Conclusion

With the use of this system, we can conclude that: it can help any educational institution to conduct online exam without internet in offline environment like rural areas, remote areas, villages etc. with the help of 'GRID' we can transfer data within 20km to 30km without internet access, we provide the web portal that help to conduct exam and it is user friendly.

V. Future Scope

Scope of this project is very wide in the terms of other manually exam paper, this can be used not only in educational institution but also private institute, No limitation that examiner has to be available when student takes the test. They have been known to occur. For instance when computer crashes voided the efforts of so many students, There are also cases in which correction software has corrupted score, Student can view their past exam history, they can apply for practice paper

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