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Online Examination System

A Report for the Evaluation 3 Project 2

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Of

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BONAFIDE CERTIFICATE

This is to Certify that “**Nitin Kumar Saxena**” and “**Shivangi Raghav**” form **Galgotias University, Greater nodia** has carried out the research work presented in this report entitled “**Online Examination System**” for the award of degree in Master of Computer Application form galgotias university, under my supervision. The report embodies result of original work and studies carried out by student himself and the contents of the report do not form the basic award of any other degree to the candidate or to anybody else. This work has also been checked for plagiarized text and the student takes full responsibility of the write up.

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TABLE OF CONTENTS

1. Abstract
2. Introduction
3. Existing System
4. Proposed system
5. Implementation or architecture diagrams
6. Output/result/ Screenshot
7. Conclusion / future Enhancement
8. References

ABSTRACT

Online Examination System is a web based system where exams are conducted by the process of e-education i.e. conducted by the help of internet. Online examination is the system which involves three main elements i.e. the admin, invigilator & the student. Through a particular center via internet service. The main goal of this online system is to effectively evaluate the student as well as invigilator through a totally automatic system which will show the exact condition of the student, invigilator as well of the examination center directly at the main controlling center as the examination will be under the observation of web camera. The web camera will observe the complete Online Examination System based on php language. this paper proposes an Online Examination System that addresses all the elected features to facilitate adopting online examination. Online Examination System is based on spiral model and TCP-IP student/server networking and implemented using Php programming language and Derby database. Finally, a comparison of the proposed Online Examination System versus other related works to distinguish its unique features, an finally monitoring and reporting mechanisms for the entire system. Online Examination Conducting System is very useful for Educational Institute's to prepare an entire exam, safe the time that will take to check the paper and prepare mark sheets. E-Examination system will help to the educational Institute to test students and development their skilled.

Keywords: Examination system, PhP language, web cam, e-education, Genetic algorithm.

1. INTRODUCTION

OBJECTIVE

As the time has changed and getting change day by day; technologies are introduced and in comparison to the technical world; In education, the concept of E-Learning (Electronic Learning) has grown rapidly from distance learning to virtual class are as towards the online courses and online examinations. An association is trying to move from a paper-based environment to a paperless environment. Community today through big and small tests, with test having become frequently faced issue in addition, the testing system merits at being fair and open. With the increasing of Internet applications area, computer net-assisted teaching is becoming a focus of current educational reform. An Online Examination System became of its easy to use time-intensive, forms and other features have more attention, man-power is less. In present time Online Examination System has become a fast growing method of examination due to improve the standards of student's examination whereas in the traditional examination systems pen and paper are used which require more creation on the part of students and mentor. Online examinations were considers an important source for university exam and college exam. Likewise, the development of network technologies has given the possibility to deliver the exams online. Thus education can assist from these services are many promote for adopting Online Examination System, some of essential but not exhausted,

It involve E-Learning remote exam Digital evolution, Utilize available resources, Supplementary and helpful for disabled people, Clarity and credibility of check and grading, Time saving especially in case of huge number of students & the beneficial effect of the E-Learning that made students break the hurdle of the distance learning and expensive courses. The process of switching from paper based work to a fully computerized work is not without difficulties. As the result many systems have been developed in the recent years. The purpose of Online Examination Systems is to take online exams in an energetic manner and save time consuming in checking marking. The main objective of Online Examination Systems is to efficiently evaluate the candidate enough through a fully automated system. This system is not only saves a lot of time but also

gives swift results beside the honesty and probability that Online Examination System provides.

Even there are valuable Online Examination Systems. These systems have vital demerits which a little bit attention is given in the literature for addressing the power failure and network failure and physical computer failure cases during the exam & the randomness of the questions and their corresponding choices. Online Examination System is the time saving way of exams according to today's requirement. The online exams are mainly base on PHP language which is a scripting language for the web development programmer. In this the Online Examination System which is based on php language we have used the wamp server and apache server which are considered as the web development platforms; both servers are used for creating an environment to run the PHP language. In this system the student's get their id which will be Known as the user and password with their admit card/ hall ticket. This feature means that the Online Examination System can run on cross platform pattern (i.e. in any operating system and hardware). The Online Examination System consists of a server part and a student part. The server part is where the exams are organize & assigned. While the student part where the examinees take the exam. This part of Online Examination System could be constructed as web-based or application-based. In some cases a hybrid technique used to build the Online Examination System for example, the server part are application-based and the student part is web-based the following subsectors discuss portability in both of application-based and web-based.

Aim of the project work:

In present time Online Examination System is a kind of system which cannot be replaced by other method due to the less man power. In present time we need more time saving and more accurate examination system as the competition among the people is increasing day by day; and as the number of candidates are increasing day by day the examination need more attention and for save attention an invigilator is needed the online examinations system.

The basic objective of developing this project is:

- Provides complete E-learn, including registration, tests, storing of results. Complete web based administration.
- The Online Examination System can consequently add the marks allocated in each question to determine the total mark for the test.
- Using this feature the questions can be selected from the Query, and also the appearance of questions in the Random Order.
- Additional to the already available questions in the Query, the Administrator has the ability to add more questions as per the subject.
- The Administrator also has the ability to modify the User-defined Questions and not the already Available Questions in the Query.
- Complete web based system no installation required to run the application in student system.
- In our project coordinator can take the test of student, insert the question set, and provide the login for student after student registration.
- Student and member result must be saved and can be retrieving later on.
- Question must provide answer type like multiple choice answer selection and one right answer selection.
- System must able to calculate the examination marks and display the result quickly after completing the exam; student must view the correct answer of the question after completing the test.
- System has powerful logical access management in place, each user must be identified by user email id and password authentication policy is applied to secure the examination system.
- the e-examination system Generate number of reports for administration like, Total students/members registered for examination, no of available examination, test given by the student.

LITERATURE SURVEY Review

A variety of research focuses on the subject of an online test system, these actions can be demonstrated as: SIETTE: Gujman and Conejo(2005) presented an Online Examination System called System of Intelligent Evaluation using Test for Tele-education (SIETTE).SIETTE is a internet based environment to generate and construct adaptive tests. They provide online test system in the universities. This is a internet based system developed in PHP and MySQL. The test consists of multiple choice questions of different types. Selecting question in view the appropriate importance for different subject is randomized. Answers are evaluated and scores obtained in a database along with the answer given by the student. The

examiner can get immediate result in different form-common markers, detailed general mark lists. Where marks obtained by student in each subject of the subject as well as answer sheets of each student are shown. PHP and MYSQL 1 'Online Examination System can be modified and adapted to suit the needs of any educational institutions, primary and secondary schools, colleges and professional institutions. This software is suitable specifically for conducting competitive exams such as recruitment tests.

Existing Examination System:-

We have study XYZ College or university and find existing system is human entry and keeping of the details of the student who are registered already & it is very difficult for each student to come in the exam center to give there exam. It is very problematic to the students from afar distance to reach the exam center. This system is required to prepare registration form, application form and question paper for the students and required to print a lot of number manual calculate how many students registered and verification of details of the students in a month by hand is very difficult. This requires quite a lot of time and wastage of money as it requires quite lot of manpower to do that another factor that takes into accounts that is the possibility of errors. The existing system is that all cannot be used for personal and quick reference. Even the other staff teacher can make quick entries than it responsible person is not present.

- Time Consuming for creating question paper
- Time to check right and wrong answers
- Calculation of Marks
- Limitation of number of student can give examination on time
- Require teacher to monitor exam center
- Student needs to come exam center

Proposed System

The modern automated system is developed with the aim to overcome the drawbacks of existing manual system. We have study manual examination system

of XYZ college and identify possible automation. The proposed system has got many advantages were People from different parts of the world can register very easily. The new system is more automated. It is made in such a manner that the entire new student can understand all the options in it very easily. It is made in a quick and easy referential manner. Access to all important matters were not always locked and can be opened easily at the time of urgency. The advantages of proposed system were that security is maintained in the new system. Securities for all necessary data are maintained off the record as it is easily understandable and user friendly, quick entries can be made in this system provides complete online web based solution, including student registration, tests, storing of results.

- Complete web based administrator can manage examination & question bank from web interface.
- No geographical boundary
- Student can deliver examination from anywhere of the world.
- 100% accuracy in result calculation
- Randomization of question set

Designing and implementing on online examination system

A design and application of online exam system is carried out in this paper. E-examination exam technique is a student's diversion and encouragement loss that is led by the questions with quite lower hardness level than his/her efficiency is prevented in addition, negative effects of questions requiring higher knowledge than his/her proficiency over a student's self confidence and morale are dismissed. Since questions remain specialized so that they can allow making clear reasoning about student's gains and they are able to detect student competencies more effectively.

To establish a robust and a flexible system is to development strategy must be taken which wrap up the process. This strategy is usually referred to as a process model. A process model for Online Examination System is chosen based on the spiral model and socket TCP/IP protocol. The spiral model is followed for the proposed Online Examination System. The spiral model is a software process model which links the iterative nature of prototyping with the systematic and

controlled aspects of the waterfall model. It gives the potential for rapid development of increasingly more complete versions of software. During early iterations the release might be a model and prototype. Through later iterations, gradually more complete versions of the system are realized. As the Online Examination System is a network based system, the development of Online Examination System involved socket. Socket enable communications between the students and server, and could be either connection oriented which is TCP or connectionless which is Universal Datagram Protocol (UDP).

System implementing

- Examination Area Assignment and Seating layout:

The examination area assignment project is developed by following goal is to choose the area for each subject acquiesce to the examination style the area capacity, the relationship in the midst of subjects in the same area and the availability of the area. The area capacity is the maximum number of students per subject that can be filled in the area such that the students from the same subject should not be seated next to each other & the area availability must be considered because each area may be scheduled for other events during the examination time. The algorithm to be used in this module is the greedy algorithm with a simple precedence function. The precedence function is based on That is, all subjects are sorted according to the number of students in the subject from large class size to small class size the algorithm will assign areas for each day by separating morning sector and afternoon sector. At each sector of each day, all subjects of that time are sorted according to their class size from large to small size.

The algorithm will search and assign the next subject to the area until the area is filled. Then, the algorithm moves to the next area and performs the same steps. The algorithm stops when there is no subject left to be assigned or there is number seat available. Either case, the algorithm will report to the user & Once, the area assignment is done the seating layout of each area must be originated. All results are stored in the database so that they can be edited or retrieved later by the authorized users.

B. Genetic Algorithm for time table generation system

The Timetabling Genetic Algorithm is the major component of our application and project which produces the timetable for even / odd semester as the output. The Timetable generation system takes various inputs from the end-user such as department, semester, roll no etc. This all are as a input for timetable generation, we designed the timetabling generating genetic algorithm reduces time consumption and he pain in framing the timetable manually. Fig 2. It shown

Date	Start time	End time	ID	Subject	Sec	num Students	Room	Sign
01-03-2012	09.00	12.00	236-210	PRINCIPLES OF ENG GEOLOGY	01	57	S817	X
01-03-2012	09.00	12.00	230-342	CHEMICAL ENGINEERING LAB I	01	43	S817	O

~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
~	~	~	~	~	~	X	O	X	O	X
X	O	X	O	X	O	X	O	X	O	X
X	O	X	O	X	O	X	O	X	O	X
X	O	X	O	X	O	X	O	X	O	X
X	O	X	O	X	O	X	O	X	O	X
X	O	X	O	X	O	X	O	X	O	X

Fig2. Result of S817 Area

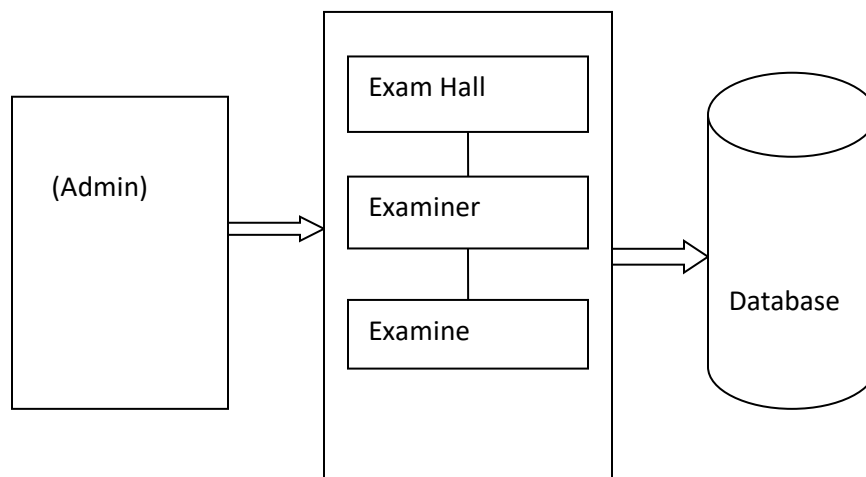
Features of Online Examination System:

- The login systems should be there & secured by the prefect password.
- Should have the ability to save the answer given by the student along with the question.
- Availability of answer checking system.
- Updated profile.
- Log out after the completion
- Admin panel.

Overview of the Used language & sever –

- **Front End:**
 - a) HTML: Hyper text markup language which is used to create & save the web documents like – notepad.

- b) CSS: Cascading Style Sheets used to create attractive layout.
- c) Java-Script: A programming language which is commonly used with web browsers.
- **Back End:**
 - a) PHP: Hyper text preprocessor (PHP) a scripting language which is used to create a dynamic web page in HTML, XML or other document types as per the demand of the student. It is open source software.
 - b) MySQL: MySQL is a database which is mainly used for accessing querying, updating and managing data in databases.
- **Software Used / Servers used:**
 - a) WAMP: A software stack for the Microsoft windows operating system consisting of the Apache web server and this server works as the platform for the web development and web data-base. Creates an environment to run the php language.



Architecture Structure of Online Examination System

In the examination system web browser is considered as the admin/main controlling unit; java server page as the business logic tier to achieve its function & database system as the database layer.

In the examination system the data tier was realized with database which was used to store the business data such as questions & papers MS-ACCESS was used to achieve the data tier.

Function Module diagram of Online Examination System:

Fig 2. was the function module diagram of Online Examination System; consisting of three modules in the system including monitoring, question paper generation and examine.

- Monitoring – the function of this module was to monitor the examination hall along with the examiner & examine.
- Paper generation – the function of this module was to generate the paper according to the specified requirements. It was the basic function of the Online Examination System.
- Online test – User could use the function of online test to randomly select a paper and login to the system at a given time the campus network.

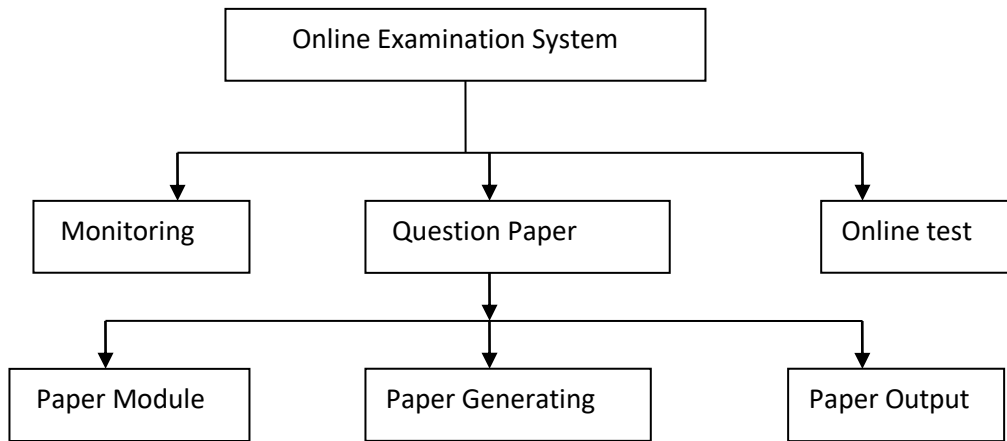


Fig.2 Online Examination System

Data table:

Administrator table:

S.No	Filed name	Data type	Description
1	User name	Text	Store user name for checking correct username
2	Password	Text	store password corresponding to user
3	User type	Text	User type Administrator

Teacher table:

S.No	Filed name	Data type	Description
1	Teacher id	Number	Unique key for every teacher
2	Teacher name	Text	Name of teacher

Student table:

S.No	Filed name	Data type	Description
1	Student id	Number	Unique key for every student
2	Student name	Text	Name of the student
3	Course id	Number	Unique code for subject
4	Course name	Text	Name of the subject
5	Result	Text	Evaluation of the data

ONLINE EXAMINATION SYSTEM Planning

it is necessary to plan the design and selection of modules to be involved in the development as the E-learning requires software applied to works over a network in order to serve the function of remote exam the Online Examination System consists of hardware and software pre-requisites. The Examination Phase is Managed Locally by the Student, all Questions, and Answers are Stored in the Temporary and Redundant Storage to Facilitate the Resumption Capability.

A facility value is appoint to the each question according to a determined fixed scale (e.g. 0-100 & 0-10). For the question selection, binary-tree technique algorithm is Student.

This algorithm works in the way below:

1- Among the questions in the applicable subject a question with medium level difficulty is asked first (e.g. if scope of 0-100 is used in question with 40 difficulty score). If student answers the question correctly, higher difficulty bracket (40-100 scope) is share equally to determine the difficulty level of the following question in our process the question with level of 75 is asked. If the

student answers the question crudely, the lower difficulty bracket (0-50 scope) is shared equally and a question with 15 difficulty level is asked.

2- In the consecutive questions the difficulty score of the next question is determined by sharing equally the upscale or downscale entrance value scope due to the difficulty level of the latest question.

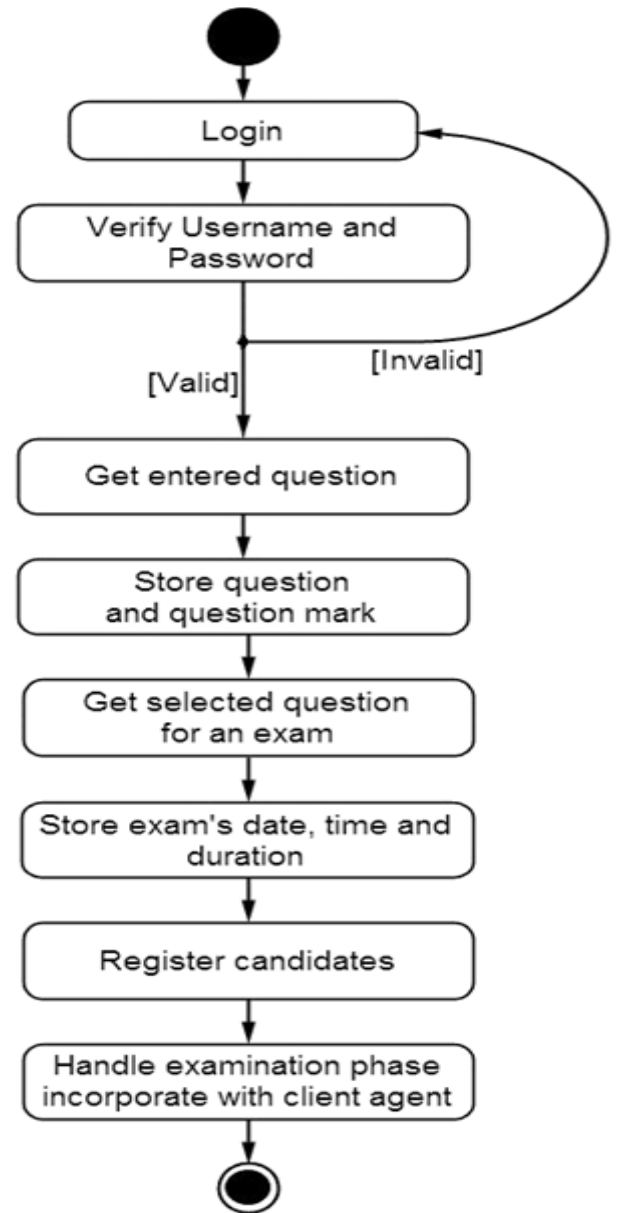
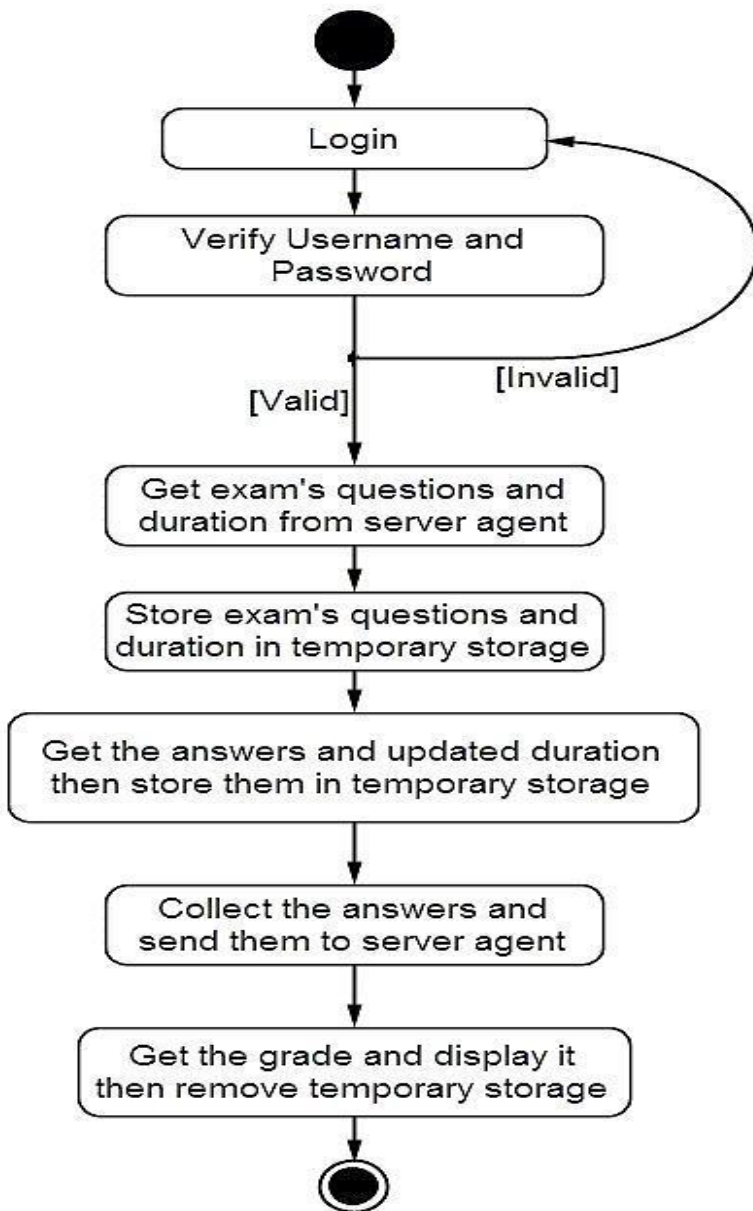
3- There are essential entrance values required to be used in the algorithm such as:

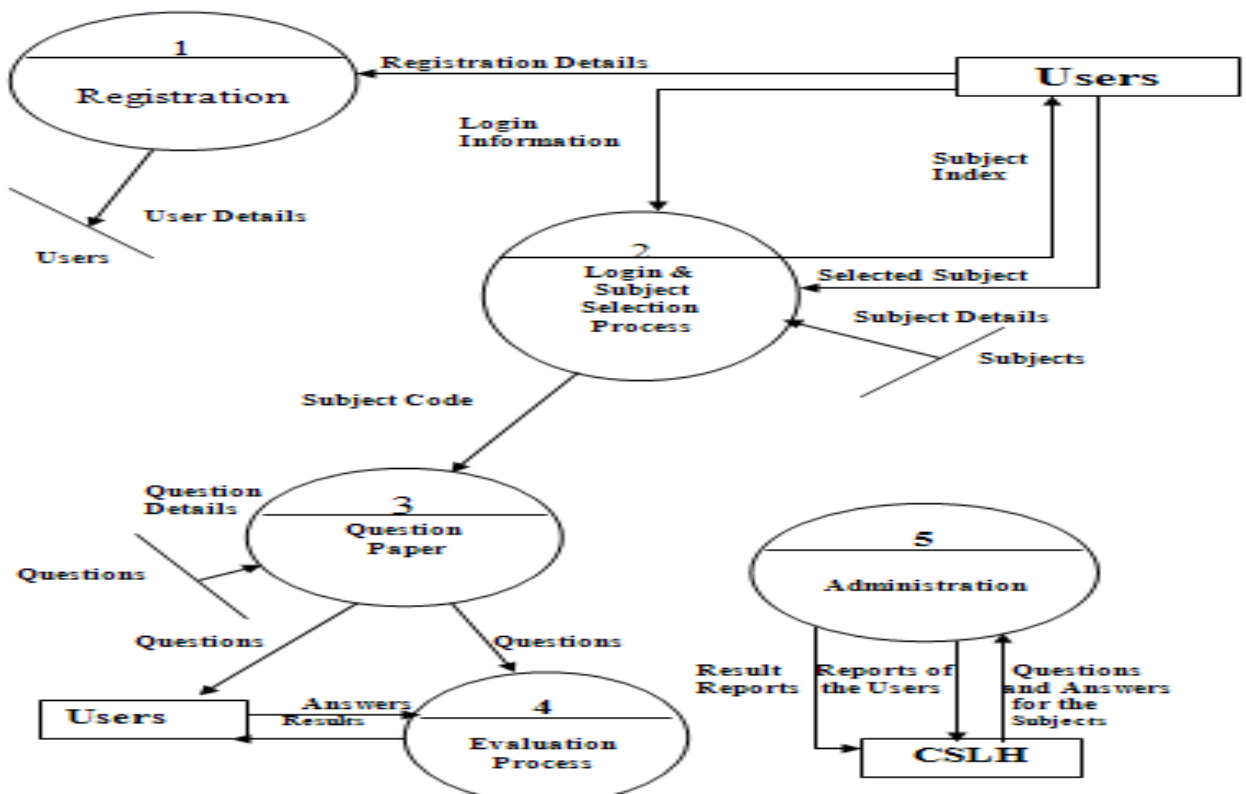
- The maximum amount of question,
- The minimum amount of question,
- The largest difficulty score difference to let us consider the waving has slowed down,
- The number of questions needed to be asked to students to finish the test after the slowdown of the waving.
- The inauguration strategy followed after the algorithm stopped (directly related to the entrance specified above).

4- There must be an acceptable amount of questions (on the same difficulty level) prepared to reduce the probability of the face same question to the acceptable level.

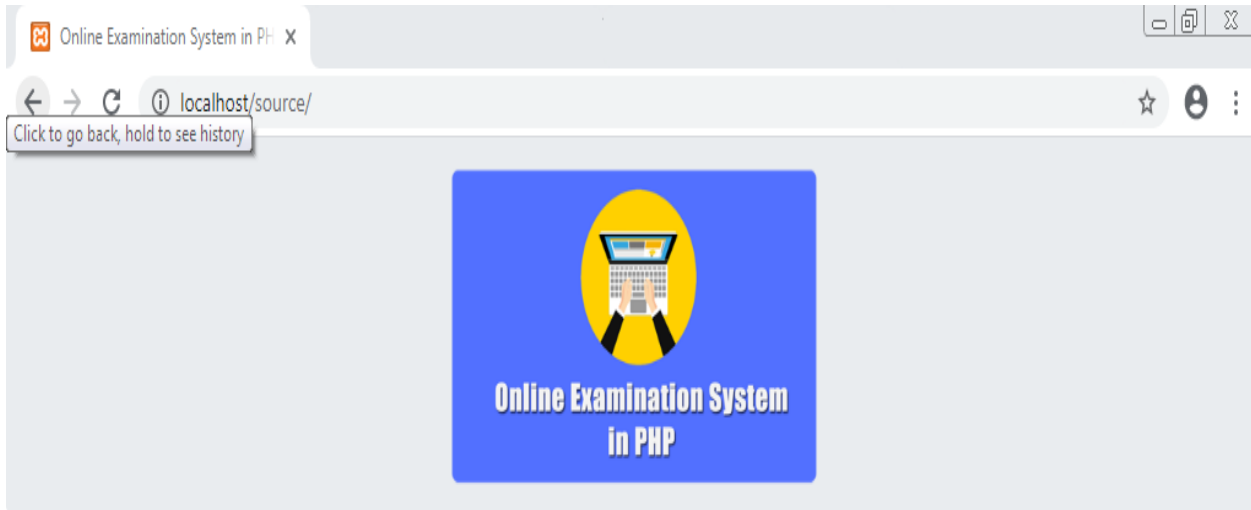
The expert system, searching for how well the computers get human conducted jobs done, is one of sub-branches of artificial intelligence programming science. An expert system is computer software relying on knowledge and deduction to perform a hard task which is supposed to be undertaken by expert people. It has a database consisting of information specialized in a proficiency subject as it is similar to the expertise of a person in a specialization area such as logically.

Data Flow Chart:-





Screenshot:-



Register

Login



User Registration

Enter Email Address

Enter Password

Enter Confirm Password

Enter Name

Test Your Skill

Netcamp

Home History Ranking Signout Enter tag Search

S.N.	Topic	Total question	Marks	Time limit	
1	Test	5	5	1 min	Start
2	Maths & logical	5	10	10 min	Start
3	Analyzing Arguments	5	10	10 min	Start
4	Networking	2	4	5 min	Start
5	C++	2	4	5 min	Start
6	Data structure	2	4	5 min	Start

Test Your Skill

Rank	Name	Gender	College	Score
1	Ram	M	Akg College	9
2	Shyam	M	GLA University	8
3	Mohan	M	NIT College	4
4	Harsh	M	Doon College	1

References

- [1] *LIU Yang, GAO Lian-sheng and WANG Bin*, (Apr. 2007) “Study and implement of distribution system based on J2EE and MVC design pattern” *Computer engineering and Design (in Chinese)*. vol. 28, pp.1655–1658
- [2] “JSP Architecture, JSP Model 1 architecture, JSP Model 2 architecture”<http://www.roseindia.net/tutorial/jsp/jsparchitecture.html>
- [3] *FAN Ming-hu, SUN Bin* , (May. 2007)“Design and implementation of general test questions library management system” *Computer engineering and Design(in Chinese)*. vol. 28, pp.2185–2188
- [4] *LIU Li-ping, WANG Wen-jie*, (Apr. 2006), “Design of Web-Based Exam-question with Self-study and Adaptive Adjusting” *Computer System and Applications(in Chinese)*,pp.45–47
- [5] www.wikipedia.org
- [6] *IJCSI International Journal of Computer Science Issues*, Vol. 10, Issue 1, No 1, January 2013 ISSN (Print): 1694-0784 ISSN (Online): 1694-0814 www.IJCSI.org
- [7] *S. Chao and Y. B. Reddy*, (April 2008) “Online Examination”, *Proceedings of the 5th IEEE International Conference on Information Technology*, pp. 1266-1267.
- [8] 5th World Conference on Educational Sciences - WCES 2013
- [9] *Karal, H. & Çebi, A.* (2011).The evaluation of student performance via the fuzzy logic approach, *IETC, Proceedings Book Vol 2*, 1445-1451.
- [10] *S Weaver, D.*, et al. (2005). *Evaluation: WebCT and the student experience* *Evaluations and Assessment Conference*.
- [11] www.php.net