Online Examination System

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Abstract. Online Examination System is an on-line test simulator to take an examination test in an efficient manner and no time wasting for checking of the test paper. The main objective of this web based Online Examination System is efficiently evaluate the student through the fully automated system. It will save lot of time. Online Examination System provides accurate results for the exams. The student can attend their exam according to their time convenience from any location using internet and time. Instead of using pen and paper, we can use this Online Examination System for examination. This Online Examination System will help students to attend the exam for quick and easy way to appear for the exam. The results provided by the Online Examination System should be fast and accuracy. Only the registered candidates can attend the exam using their unique username and password that will allow the candidate to attend the exam. This exam contains multiple-choice questions and contains appropriate options to those questions. There is no limitations on number of options available in the questions. We can add much number of questions and answers in any exam. More than one options can be incorrect and the user can choose only one correct answer. In addition, the exam has the time limit to display the single question and the user need to answer the questions according to their time limit. This project will help the student to attend the exam from far distance and the students can gain a lot by attending their exam through online mode. This project helps the students to improve their knowledge of the computer technology.

Keywords: Examination System, Online test, Virtual test, Online Assessment

1. Introduction

The Online Examination System is an electronic application. This will conduct the exam as effortless and save the time. The flexibility provided by the Online Examination System will reduce the exam pressure for the exam taken candidates. [1][3] This will help the candidates to attend the exam at any time at the particular exam day. Cheating among the test-takers in the examination hall is one of the major drawbacks of pen paper-based assessment. [2][4] Online examination management System avoids the possibilities of secretly using unfair means to get the right answers. This framework will help the college to assess have different options with one right answer. The college can directly announce the online examination report in a couple of times. The examination officer (i.e., admin) is in charge of the creating the different question paper and it would be totally secure and confidential. Online Examination framework give remotely access to understudies. It assists the inspector with reducing the work of leading exam, checking answer sheets and producing result. [[5][7] Safe and secure data have enabled the assessment conducting agencies to manage the crucial data related to examination questions and test-takers safely. Reduce administrative burden oorganizing and running exams online not only reduces an organization's administrative burden but also saves cost and time. Online examination with its objective to make evaluation massive but simple, cost effective. [6][8]

2. Objective

The project is aimed in developing an ONLINE EXAMINATION SYSTEM for Colleges and school. The purpose of the system is to completely automate the old manual procedure of conducting exam to a computerized system. The system consists of separate logic for administrator and students. The login id and unique password should be provided to every student. [9] [10] The main objective of the Online Examination System is to help educational institutions at time, in an automated manner. It reduces the time consumption and workload that exist in the current system of examination. It also helps in store up the records of each examination and the results are stored in the system. This makes the search of the records easier than the existing system. The project Online Examination System has been developed using the HTML, CSS and PHP as a Front End and then MYSQL, PHP is used as a Back End. [11] [14]

3. Existing System

The existing system of examination is a power for invigilation and evaluationprocess. Existing system is a manual one in which users are maintaining books to store the information like Student Details, Instructor Details, Schedule Details and feed backs about students who attempted exam as per schedule. It is very difficult to maintain historical data. The existing system are highly time consuming. It is difficult to analyze the exam manually. [12] [13] Results are not precise as calculation and evaluations are done manually. Result processing after summation of exam takes more times as it is done manually.

4. Proposed System

The proposed system will overcome all this issue in the existing system provide an alternative for conducting the exam through online mode. The system is very secure as there are no chances for leakage of question paperas it is dependent on the administrator only. In comparison to the present system, the proposed system will be less timeconsuming and is more efficient. Results will be very precise and confidential. [15] [17] It will not loss the confidentiality of the question paper. Administrator, the only one person can have the rights to access and manage thequestion paper. Results will be accurate and declared in a short span of time, because calculationsand evaluations are done by the itself. It is economically feasibility. The online examination system is time flexibility. It is technical feasibility. User-friendly interface. Eco friendly system. Remote proctoring technology is a system that allows an administrator to see analog of the student or candidate's screen during an exam. [16] [18]

5. Modules

- ➢ User Module
- ➢ Admin Module
- ➢ User Login
- ➢ Admin login
- ➢ Course Details
- ➢ Create Exam
- ➢ Question Details
- ➢ Submit Answer
- ➢ View Result
- ➢ Feedback Details

User Module: The user module allows users to register, log in, and log out. Users benefit from being able to sign on because this associates content they create with their account and allows various permissions to be set for their roles. The user module supports user roles, which can be set up with fine-grained permissions allowing each role to do only what the administrator permits. Each user is assigned one or more roles.

Admin Module: An admin panel enables administrators of an application, website, or IT system to manage its configurations, settings, content, and features and carry out oversight functions critical to the

examination. It allows them to view the state of the platform and take any action in the performance of their duties.

User Login: User can login using their unique mail id and their unique password and then they can only login using the registered mail id. Once the user login using their mail id the user can attend the exam, which the course the examinee has enrolled.

Admin Login: Admin can also have the unique registered email id and unique password for the administrations login page. The admin has the rights to handle all the examinee details and admin will create all the examination questions and options. In that the admin will set the correct options also while creating the questions itself.

Course Details: The course details contain all kind of course information. The admin will create all separate course for every student. Then he will set timing for every single course. Course contains related questions and list of options are available.

Create Exam: The admin will create the entire exam and then he will create courses according their students' classes. Then the admin has the only rights to create the courses. After the permission has given to student they will login and attend their exam.

Question Details: The admin can create this question according to their every student. The questions can be created according to their subject vice. Creating the questions and create four options in that the correct answer we want to find and click submit options.

Submit Answer: once the user has completed the exam he wants to submit the answer after that, the results will be displayed immediately. The student wants to first submit the answer.

View Result: The result board will display the student marks and how many percentages they have got and who have got the first mark the result table will clearly display the details.

Add Feedback: The user will have the options to add feedback about the exam. If any unwanted things happen in the exam the examinee can add their personal feedback about the exam. The admin will view all the feedback about the exam.

6. Data Flow Diagram

Figure 1 represents the level 0 DFD which shows the complete flow of data through the proposed system
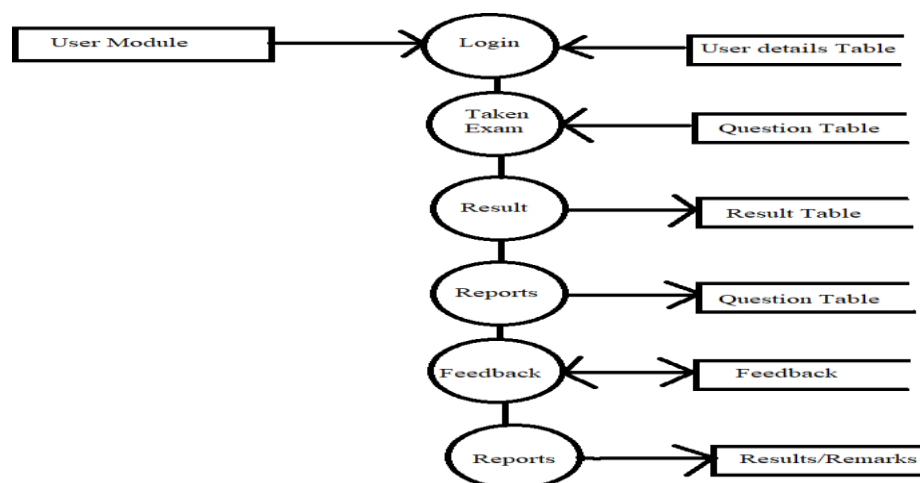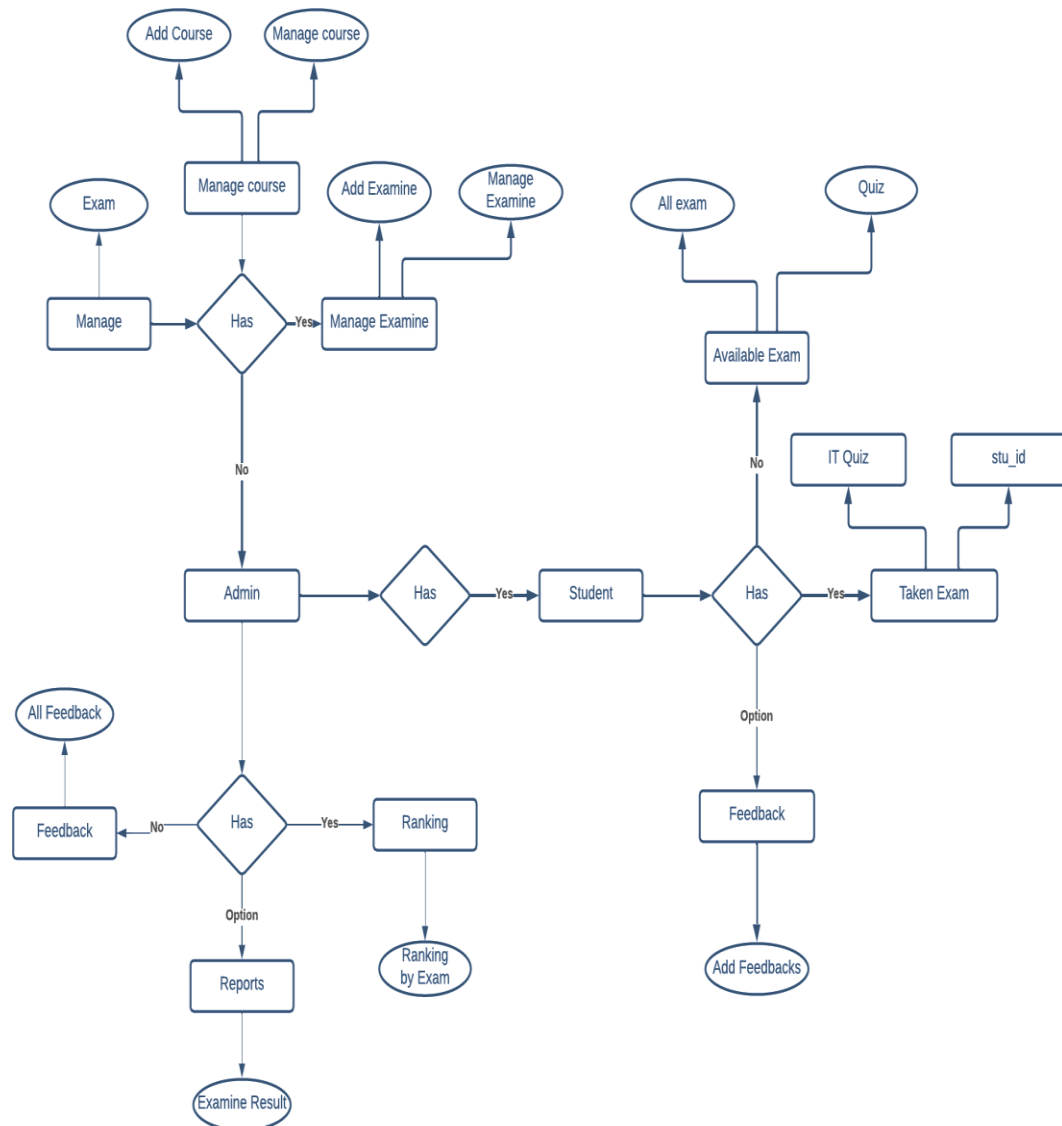

Figure 1: Level 0 – DFD

7.ERR Diagram

In software engineering, an entity–relationship model (ER model) is a data model for describing the data or information aspects of a business domain or its process requirements, in an abstract way that lends itself to ultimately being implemented in a database such as a relational database. The main components of ER models are entities (things) and the relationships that can exist among them. Figure 2 represents the ER diagram of the Student form and its links. [19] [20]

Figure 2: ER Diagram

8. Database Design

Database Design is a collection of processes that facilitate the designing, development, implementation and maintenance of enterprise data management systems. Properly designed database are easy to

maintain, improves data consistency and are cost effective in terms of disk storage space. The database designer decides how the data elements correlate and what data must be stored.

Table 1: Admin account

S.NO	NAME	TYPE	OUTPUT
1	Admin id	int (11)	1
2	Admin user	varchar(1000)	admin@username
3	Admin pass	varchar(1000)	admin@password

Table 1 details: TABLE NAME: Admin accountPrimary key: admin id

Table 2: Course table

S.NO	NAME	TYPE	OUTPUT
1	Course id	int(11)	22
2	Course name	varchar(1000)	Biology
3	Course created	timestamp	2022-11-2709:23:08

Table 2 details: TABLE NAME: Course table   PRIMARY KEY: Course id

Table 3: Examinee table

S.NO	NAME	TYPE	OUTPUT
1	Exmne id	int(11)	2
2	Exmne fullname	varchar(1000)	akashavani
3	Exmne course	varchar(1000)	22
4	Exmne gender	varchar(1000)	Male/female
5	Exmne birthdate	varchar(1000)	2000-02-23
6	Exmne year level	varchar(1000)	Third year
7	Exmne mail	varchar(1000)	gayu@gmail.com
8	Exmne password	varchar(1000)	gayu
9	Exmne status	varchar(1000)	active

Table 3 details: TABLE NAME: Examinee tablePRIMARY KEY: Examinee id

Table 4: Exam answer

S.NO	NAME	TYPE	OUTPUT
1	Exans id	int(11)	234
2	Axmne id	int(11)	2
3	Exam id	int(11)	23
4	Ques id	int(11)	11
5	Exans answer	varchar(1000)	Diode,inverted
6	Exans status	varchar(1000)	old
7	Exans created	timestamp	2022-12-23 12:23:12

Table 4 details: TABLE NAME: Exam answerPRIMARY KEY: Exans id

Table 5: Exam attempts

S.NO	NAME	TYPE	OUTPUT
1	Examat id	int(11)	10
2	Exmne id	int(11)	12
3	Exam id	int(11)	23
4	Examat status	Varchar(1000)	used

Table 5 details: TABLE NAME: Exam attemptsPRIMARY KEY: Examat id

Table 6: Exam question table

S.NO	NAME	TYPE	OUTPUT
1	Eqt id	int(11)	2
2	Exam id	int(11)	12
3	Exam question	varchar(1000)	What is data?
4	Exam_ch1	varchar(1000)	order
5	Exam_ch2	varchar(1000)	data
6	Exam_ch3	varchar(1000)	analysis
7	Exam_ch4	varchar(1000)	science
8	Exam answer	varchar(1000)	database
9	Exam status	varchar(1000)	active

Table 6 details: Table Name : Exam question table   Primary Key :Eqt id

Table 7: Exam table

S.NO	NAME	TYPE	OUTPUT
1	Ex id	int(11)	11
2	Cou id	int(11)	23
3	Ex title	varchar(1000)	science
4	Ex time limit	varchar(1000)	2
5	Ex questionlimmit display	varchar(1000)	3
6	Ex description	varchar(1000)	hello
7	Ex created	timestamp	2022-12-22 12:03:21

Table 7 details: TABLE NAME: Exam tablePRIMARY KEY: Ex id

Table 8: Feedback table

S.NO	NAME	TYPE	OUTPUT
1	Fb id	int(11)	6
2	Exmne id	int(11)	8
3	Fb exmne as	varchar(1000)	gayu
4	Fb feedbacks	varchar(1000)	Something
5	Fb date	varchar(1000)	Dec 12, 2022

Table 8 details: TABLE NAME: Feedback tablePRIMARY KEY: Fb id

9.   Test Case

Table 9, 10, 11, 12 represents the test cases of various forms like Login form, Students details form, User login and Exam results form. It includes details like test condition, test data, actual result, expected result and final result.

Table 9: Login Form Validation

Test condition	Test data	Actual result	Excepted result	Final result
Username can be in alphabets and numbers, and it is in case sensitive.	admin	System Accepts the username	Accept the user data	Pass

Username can be in alphabets and numbers. It is case sensitive.	ADMIN	System does not accept data because of capital letters.	Accept the data	Fail
Password can be in alphabets and numbers. It is case sensitive.	ADMIN	System does not accept it because the original data is not entered.	System accept the data	Fail
Password can be in alphabets and numbers. It is case sensitive.	admin	System Accepts.	System accept the data	Pass

Table 10: Student Details Form Validation

Test Condition	Test Data	Actual Result	Excepted Result	Final Result
Student name can begin with alphabets, it is case sensitive, and it is mandatory field.	Akash	System acceptthe data.	System accept the data	pass
Any type of course can be added.	B.Sc. Science	System acceptthe data	System accept the data	Pass
Gender should not be empty and it is selected by drop down menu.	Male	System accept the data	System accept the data	Pass
Birth date should be entered. Does not accept alphabets.	23/05/2000	System accept the data	System accept the data	Pass

Table 11: User Login Validation

Test Condition	Test Data	Actual Result	Excepted result	Final Result
Email ID should be in format [_____ @.com],and the textbox should not be empty.	anu@gmail.com	System Accepts.	System Accept the data.	Pass
Password should be unique. Accepts all data	AxETccdss 23.	System Accepts	System acceptthe password.	Pass

Table 12: Exam Marks Form Validation

Test condition	Test data	Actual Result	Excepted Result	Final Result
Exam Name should not be empty. Accepts alphabets.	KAVIN.R	System Accepts.	System Accepts.	Pass
Subject can be in alphabets and the text box should not be empty	Science	System accepts the data.	System accept the data.	Pass

The database design containing the inner design of the Online Examination System. The database design will build the project outlook and we can create the better outlook by using the database of the projects. Database design contains the table and modules used in the Online Examination System. The main modules are used in this project are user module and the admin module and then the admin can manage all the details of the candidates. The candidate's details are maintained by admin module and contains the class of the student, and what kind of course the student might have enrolled, and arranging the details in ranking, managing all the

details only by the admin. Without any authority the user can't access the student question paper and answer key and then details of the students. The user module can access the course only by enrolling them with their registered unique email id and the password for every single student. The database design, admin account, Course table, Examinee table, Exam attempts, Exam Question Table, Exam table, Feedback table. Input design is the process of converting a user-oriented description of the input into a computer- based system. This design is important to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system. Design inputs are the physical and performance characteristics of a device that are used as a basis for device design. Establish and maintain procedures for Design Input: – Ensure requirements are appropriate by addressing user needs and intended use in terms that are measurable. The user can create n numbers of user and courses for the examinee person. The user only has the rights to attend the exam and then the examinee can view their result pages. The score will be displayed once the student has done the examinations. The Ranking method will display the 1st person in that Rank board. The user can only edit and modify the user's details. If the

student have done their current studies and going to next level of their education we can edit the details of the students and update the details of the students. So, it's very easy to update the student details.

10. Conclusion

The project entitled "ONLINE EXAMINATION SYSTEM" is developed to maintain the exam through the online mode. This will help the student to attend the exam where ever they want. It saves lot of time for the faculty member to maintain the exam hall. Student don't want to come to college to write the exam. There is no need ofpen and paper for exam. We can access it instantly from where we are with a user friendly system that has security, integrity and the database is neither is consistent nor redundant.

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