A

Project Report on

"Exam Management System"

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SVERI'S COLLEGE OF ENGINEERING, PANDHARPUR

CERTIFICATE

This is to certify that the project report entitled "Exam management System" is submitted for partial fulfilment of Bachelor Degree in Computer Science and Engineering as per requirement of Punyashlok Ahilyadevi Holkar Solapur University, Solapur for the academic year 2021-2022.

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Content	Page No.
Title Page	1
Certificate	2
Acknowledgement	3
Synopsis	5
Table of Contents	17
List of figures	18
Abbreviations	19

A

Synopsis On

"Exam Management System"

Abstract:-

The purpose of Examination Management System is to automate the existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

Examination Management System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus, it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information.

The aim is to automate its existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically, the project describes how to manage for good performance and better services for the clients.

Introduction:-

Presently, if the teachers conduct any examination, they have to check the answer sheets manually which is time consuming and the Dde33

generation of results manually might result in errors.

Online examination helps students of schools/ College/ Institutes is to offer a quick and easy way to appear for the exam. It also provides the results immediately after the exam. The students have to enter valid user id and password to attend the exam. This examination project provides time limit to finish the exam. The user can see their results after completing the exam.

Overview:

The purpose of this project is to develop Online Examination System. This is a web based Online Examination System which will help in conducting the Online Examination. The Online Examination System project provides a web application which will considerably reduce the time required to give the exam and know the results. This project will provide an efficient platform both for the students and the teachers, by enabling examinations to be taken online.

An Online Examination System is a special type of web-based application where examinations of the students can be taken in a correct and efficient manner. Online Examination System consists of some pages of questions and the student has to write answers or they have to select the correct answers of those questions by selecting appropriate choice.

Problem Statement:-

To reduce the manual work load by automating the whole process of examination and record all the activities (such as class tests, scores, etc.) to reduce paperwork as well as results will be calculated instantly

Objectives:

The main objective of the Project on Examination Management System is to manage the details of Examination, Students, Courses, Session. It manages all the information about Examination, Branch, Session, Examination. The project is totally built at administrative end and thus only the administrator is guaranteed the access. The purpose of the project is to build an application program to reduce the manual work for managing the Examination, Students, Branch, Marks. It tracks all the details about the Marks, Courses, Session.

Functionalities provided by Examination Management System are as follows:

Provides the searching facilities based on various factors. Such as Examination, Marks, Courses, Session

Examination Management System also manage the Branch details online for Courses details, Session details, Examination.

The main purpose of designing the Online Examination System is to reduce the time of taking examinations of the students manually. There are some advantages factors of this system which are given below:

- 1. The Online Examination System reduces time of taking manual examination of students.
- 2. This system will work efficiently and correctly as far as computer technology is concerned.
- 3. This system will provide better security and transparency in the examination.
- 4. It tracks all the information of Students, Branch, Courses etc.,
- 5. Manage the information of Students.

- 6. Shows the information and description of the Examination, Marks.
- 7. To increase efficiency of managing the Examination, Students.
- 8. It deals with monitoring the information and transactions of Courses.
- 9. Manage the information of Examination.
- 10. Editing, adding and updating of Records is improved which results in proper resource management of Examination data.

Methodology:-

- Prepare system flowcharts.
- Enumerate potential proposed system.
- Define and identify characteristics of proposed system.
- Determine and evaluate performance and cost effective of each proposed system.
- Weight system performance and cost data.
- Select the best-proposed system.
- Prepare and report final project directive to management.

Front-end and back-end selection

An important issue for the development of a project is the selection of suitable front-end and back-end. When we decided to develop the project, we went through an extensive study to determine the most suitable platform that suits the needs of the organization as well as helps in development of the project.

The aspects of our study included the following factors.

Front-end selection:

- 1. It must have a GUI that assists employees that are not from IT background.
- 2. Scalability and extensibility.
- 3. Flexibility.
- 4. Robustness.
- 5. According to the organization requirement and the culture.
- 6. Must provide excellent reporting features with good printing support.
- 7. Platform independent.
- 8. Easy to debug and maintain.
- 9. Event driven programming facility.

10. Front end must support some popular back end like Ms Access.

According to the above stated features we selected PHP as the frontend for developing our project.

Back-end Selection:

- 1. Multiple user support.
- 2. Efficient data handling.

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- 3. Provide inherent features for security.
- 4. Efficient data retrieval and maintenance.
- 5. Stored procedures.
- 6. Popularity.
- 7. Operating System compatible.
- 8. Easy to install.
- 9. Various drivers must be available.
- 10. Easy to implant with the Front-end.

According to above stated features we selected MySQL as the backend.

The technical feasibility is frequently the most difficult area encountered at this stage. It is essential that the process of analysis and definition be conducted in parallel with an assessment to technical feasibility. It centers on the existing computer system and to what extent it can support the proposed system.

In "Online Exam System" a person can use this application on online mode without any difficulty.. All the entries are checked by the DATABASE which has already all information about the user. By using that ID and PASSWORD he\she can give his/her test. If conditions are wrong then that entry will be discarded. The details filled in the form are checked with valid details obtained from the departments and preloaded in the database.

If a match is found then username will be the matriculation number while the password will be created by the user to execute his/her franchise. Otherwise, the transaction is discarded. The users in this project include users, hosts and Administrators handling the system. By using information technology, it is believed that the proposed system will enable exams to be set and evaluate with higher convenience, efficiency, improved performance and security. Hopefully, it will thus simplify the electoral process while easing the work pressure of manually maintaining details and consequently reduce the mistake rate of an exam hall.

Advantages:

- Provides complete online web-based solution, including student registration, giving tests, storing of results.
- Complete web-based administration, the administrator can manage examination and question bank from a web interface.
- No geographical boundary.
- Students can give examinations from anywhere in the world by 24X7.
- 100% accuracy in result calculation.
- Randomization of question set.

Table of Contents

SR. No	Name	Page
		No.
1.	INTRODUCTION	
1.1	Introduction	15
1.2	Significance of the project	16
1.3	Problem Background	17
1.4	Problem statement	17
1.5	Research Objective	18
1.6	Benefits of online exam system	18
1.7	Scope and limitations of Project	19
1.8	Scope of Project	19
1.9	Advantage	20
2.	LITERATURE SURVEY	
2.1	Existing System	21
2.2	Online exam system	23
2.3	Discussion	27
3.	SYSTEM ANALYSIS AND	
	DESIGN	
3.1	Non-Functional Requirements	29
3.2	Functional Requirements	30
3.3	Experimental Result	31
4.	CONCLUSION	42
	References	42

List of Figures

Sr. No	Name	Page no
1.	Flowchart 1	31
2.	Flowchart 2	32
3.	Use Case Diagram for Teacher	33
4.	Use Case Diagram for Student	34
5.	Admin 1	35
6.	Admin-Subject Table	36
7.	Admin-Student Table	37
8.	Admin-Exam Table	38
9.	Student-Tabletable	39
10.	Student-Tabletable of particular subject	40
11.	Student-Exam button active at specified	40
	time	
12.	Student- Exam Page	41

Abbreviation

- CSS Cascading Style Sheets
- DFD Data Flow Diagram
- DBMS Database Management System
- ER Entity Relationship
- HTTP Hyper Text Transfer Protocol
- HTML Hypertext Markup Language
- RDBMS Relational Database Management System
- SQL Structured Query Language
- URL Uniform Resource Locator
- WWW World Wide Web
- UML Unified Modeling Language

CHAPTER 1 INTRODUCTION

1.1 Introduction:

This proposal will propose all features and procedures to develop the system. This proposal specially containing details about objectives, scope and limitation, operating environment, data gathering methodology, the definition, acronym and abbreviation words use in the propose and finally list of reference or resources use in the proposal. On-line examinations contents providers to focus on creating effective assessment questions and focusing on exam's feedback delivery to students. In the paper we present techniques that are pertinent to the elements of assessment process: answers submission, computerized grading, and feedback after submission. The administrators, instructor (examiner) and Students who are attending for online examination can communicate with the system through these facilitating effective implementation projects, thus monitoring of various activities of Online Examinations like conducting Exams as per scheduled basis and delivering result to that particular use or student. And the details of students who attempted Online Examination are maintained at administration.

1.2 Significance of the project

The general significance of the project can be defined as follows

- To avoids wastage of time.
- To minimizing number of examiner.
- To give speed and time save service for examinee.
- To update the exam easily.
- To maintain the data security.
- To control errors in data processing.

Organization significance

- It helps to get simple service to update the exam.
- It helps to control the time of the examinee and stop the exam automatically
- It helps to get better security of data.
- It helps to minimizing wastage of time.

1.3 Problem Background:

The background of the system is explained the past execution of the system as will as the existing system of the exam. To give the exam in the governmental institution such as in the school and University as will as in the non-governmental collages, it is examinee difficult manage to the (students). But governmental as will as the non-governmental institutions still it gives the exam in the form of manually (paper based). This kinds of exam is affects the organization economy in terms of many, the power of employee, the time to give the exam for the student. The proposed system is created the exam is given for the examinee or the student in online examination system. So this new created system is solve the existing problem easily and functionally.

1.4 Problem Statement:

The statement of the problem is defines in the following two things 1. Existing System The following drawbacks of existing system emphasize the need for computerization: 1. A lot of copies of question papers have to be made 2. a lot of correction work hence delays in giving the results 3. a lot of tabulation work for each subject results 2. Proposed System: This application is used to conduct online examination. The students can sit at individual terminals and login to write the exam in the given duration. The questions have to be given to the students. This application will

perform correction, display the result immediately and also store it in database. This application provides the administrator with a facility to add new exams. This application provides the Instructor add questions to the exam, modify questions in the exam in a particular exam. This application takes care of authentication of the administrator, Instructor as well as the student.

Solution:

The solution is to provide an efficient and secured online exam system which is easier to use and more user friendly to all students.

1.5 Research Objective:

General Objectives:

The general objective of the project is to develop the manual existing system of the student exam in to on-line exam system.

Specific Objective:

The specific objective of the Online Examination System is:This application will perform correction. Display the result immediately and also store it in database. This application provides the administrator with a facility to add new exams. This application provides the Instructor add questions to the exam, Modify questions in the exam in a particular exam. This application takes care of authentication of the administrator, Instructor as well as the student.

1.6 Benefits of online exam system:

Automation is procedure of converting a traditional System into a computer organization. To overcome the defects of the existing, manual exam system, automation was introduced by the computerization of organization we get many benefits.

1.7 Proposed System:

To solve the inconveniences as mentioned above, an Online Exam System is proposed by using token which is provided by host to each voter containing all the details of the voter.

1.8 Scope and limitations of Project: Limitations:

- Allow students to see or display his answers after the exam is finish.
- The type of questions is only multiple choice or true and false.

Scope:

- On-line Exam system is designed for Educational Institutes (like schools, universities, training centers).
- The system handles all the operations, and generates reports as soon as the test is finish, that includes name, mark, time spent to solve the exam.
- The system handles all the operations, and generates reports as soon as the test is finish, that includes name, mark, time spent to solve the exam.

1.9 Advantages:

- Less human error
- Strength and strain of manual labour can be reduced
- High security
- Data redundancy can be avoided to some extent
- Data consistency
- Easy to handle
- Easy data updating
- Easy record keeping
- Backup data can be easily generated
- Environment Friendly

CHAPTER 2

LITERATURE SURVEY

2.1 Existing System:

Offline exams which are conducted in the classroom under the supervision of an invigilator are somewhat different than the online exams in which the candidates appear for the exams from their home with the help of electronic devices.

The offline exams cannot be conducted in the absence of classrooms. Thus, the educational institutes need to find a proper examination hall or centre to conduct offline exams. These exam centers must be well-equipped with all the facilities needed by the students and invigilating faculty while conducting offline exams.

The educational institute is responsible for providing question paper copies and answer sheets and supplements to every student. Thus, they need to make arrangements for the transportations of question papers and answer sheets to the exam centre. They also need to make arrangements for transporting the answer sheets to the storage location.

The candidates appearing for the exam and the invigilators

need to travel to the exam venue every day. Thus, they need to spend money on travelling or even on accommodation if they exam venue is located in another city or state.

Thus, offline exams certainly require a huge amount of investment or expenses spent on infrastructure and logistics.

The question papers and answer sheets need to be carefully transported to the destination as even a tiny glitch in the transportation, either to the exam hall or from the exam hall, could cause huge loss to the institution.

The chances of leakage of question papers or damage to the answer sheets are high during the transportation. Losing or causing any damage to the question papers or answer sheets can not only the scar image of the institute but also can affect the future of the candidate.

The identification process is manual in case of offline exams. The candidates need to carry their hall ticket and identity proofs everyday to the exam center.

The supervisors need to check the identity proof of every candidate individually before allowing them to start the exam.

The candidate who forgets the hall ticket or identity proof does not get to write the exam.

The modification of identity proofs is not very difficult. Changing the names, photographs, and signatures or creating fake documents has become easy due to technology. Thus, the process of identity verification is time consuming and not very reliable.

2.2 Online exam system:

In the world of internet, all task has been done through internet, so we have decide why Exam has not conducted through internet. For convert current exam system into digital exam system, we have build this small Online Exam system project. If this system has build in professional level then it will automate our existing examination system into digitize exam system. In this system it will required less labor force for execute system and it will be more accurate and less time consuming and at the same time we can conduct more person exam at the same time and it will publish result in a very short time. Below you can find benefits of Online Examination System. If this system has been implemented then examination will not limited in to four wall of class room, but student can part into exam from any place.

Location and time:

Independence on location and time are some of the crucial advantages provided by the online exams for both the educational institutions and the students. The online exams are created especially for home based education which is not restricted to any particular location.

The candidates can appear for exam from any location of their choice by using any electronic device such as mobile phones, computer, laptops, etc. The time of the exams can also be adjusted as the standard time of that geographical region. The candidates can decide the date and time to appear for the exam at their own convenience.

This approach has helped the candidates to apply for any institute located anywhere in the world, apply for any courses of their choice and attend the classes and exams as per their convenience.

Exam Security:

The online examination platforms provided a variety of security features for supervising the candidates during online exams. These features are developed using the best security protocols and advanced algorithms. These features are designed in a way to stop the students from cheating or carrying out any sort of malpractice in any way possible. Due to the presence of

different types of remote proctoring mechanisms such as image based, audio based and video based proctoring, it becomes impossible for the candidates to cheat during online exam.

Other features such as secure browser, suspicious object detection, audit logging, Chatbots, etc. also provide additional security which helps the educational institution conducting the online exams to rely and trust the online platforms more.

User-friendly and error free:

Now a days, the tools which are available online for conducting online exams are extremely uncomplicated and can be used by anyone. These tools are tested so as to make them usable for any person belonging to any age group.

The online exams are very easy to conduct and to appear for. Even the candidates or teachers who are not much techno savvy can operate the software and can appear or evaluate the online exams quiet easily.

As these tools are developed by some brilliant brains and are technologically advanced, they are tried and tested many times for any sort of discrepancies. These tools are thoroughly checked for any errors.

Question Bank Management:

One of the most important and useful features of online exams, is the presence of question bank. A question bank is a virtual space where questions are created, saved and edited by an examiner, paper setter or subject matter expert.

Only a few selected people have access to this question bank. The questions created and saved in the question bank are further added in the question paper during the exam.

The question bank is protected by password and the access to it is provided based on the role. Thus, the issue related to leakage of question paper is completely eliminated.

Onscreen Evaluation System:

Just as the candidates can appear for the exam from anywhere, the examiners can evaluate the answers from any location. A special tool known as Onscreen Evaluation System is developed to make the process of answer sheet checking absolutely simple for the examiners.

Onscreen Evaluation system offers numerous different options to check answers, allot marks, mark blank pages, add remarks and comments, etc. The identity of the candidate is also masked.

All the options are visible to the examiners once they log into the system with their unique credentials which make their work easier and faster. They are now able to evaluate the answer sheets from anywhere, any time as per their convenience.

Cost Effective:

Adopting online exams can be the best alternative for those institutions which are in search of ways to reduce their cost investments. Online classes and exams help the institutions to cut down the costs spent on infrastructure such as classrooms, question papers, answer sheets, exam invigilators, etc.

The costs spent on logistics such as storage of answer sheets, carrying of question paper and answer sheets to and fro from the exam centre, etc. is also saved. The risk related to damaging if the question papers and answer sheets during transportation is also saved.

The candidates and the supervising faculty do not need to travel to the exam center which again helps in saving their expenditure. Thus, online exams are cost effective in many ways.

Performance analysis:

After every exam, the schools/colleges need to analyse the performance of every candidate who appeared for the exam. This sort of performance analysis is made quiet easy with the help of

online exam platforms.

The online platforms offer some tools which can be used to collect the data, perform some calculations, analyse the results and also generate the report. Such reports can be used by the teachers or management to compare the performance of the candidates.

The tool can itself help to generate reports based on different filters showing different results. It can also make use historic data to predict future performances.

Performance analysis would consume a lot of time if done manually. But with the help of online tools, performance analysis has become efficient and less time consuming.

2.3 Discussion:

When 2019 was heading towards its completion, and everyone was busy planning for their New Year resolutions, then came the unwelcomed pandemic, which is now popular with the name of Covid-19.

By its high blow, the pandemic affected almost every age group and most prominently, the upcoming generation, i.e., Students which nearly involved around 500 million. Everyone thought that the pandemic would last soon but this thought converted into an unsuccessful wish.

The education system all across the world has gone through a paradigm shift, not just in terms of resources and content but also in terms of mode, when the world was entirely under lockdown for almost six months.

Since the rise of the pandemic, teaching moved online and that too at a considerably high degree both in schools and universities worldwide. Now 'online teaching and examinations' have become a new normal. In this lockdown, Information Technology has emerged as a superhero.

When things are taught, then it also becomes necessary to take assessments. Hence, the need for online examination arises.

Some Benefits of the online Examination System are:

- Online Exam System will Save Organization and Student Money.
- Online Exam System will Securely Store Exam Question Paper and it will directly visible to Student who has take part in Exam.
- Online Exam System will Save the Cost of Paper, because Exam will be conduct online.
- Online Exam System will reduce the cost of logistic for deliver question paper on examination center.

- Online Exam System will save the time of both Institution who has conduct examination and student who has take part in Exam.
- Online Exam System will provide Remote Supervision by using security feature of this system.
- Online Exam System will reduce the time of publish exam result with Ranking, because in single click result will be generated.
- Online Exam System will give us history of old examination in a single click.
- Online Exam System has provide all student information in single platform.
- Online Exam System has provide facility to use to take part by using any electronic device in which internet access facility available.

CHAPTER 3

SYSTEM ANALYSIS AND DESIGN

System analysis is the process of gathering and interpreting facts, diagnosing problems and using the information to recommend improvements on the system. System analysis is a problem-solving activity that requires intensive communication between the system users and system developers.

System analysis or study is an important phase of any system development process. The system is viewed as a whole, the inputs are identified and the system is subjected to close study to identify the problem areas. The solutions are given as a proposal. The proposal is reviewed on user request and suitable changes are made. This loop ends as soon as the user is satisfied with the proposal.

3.1 Non-Functional Requirements:

i. Efficiency Requirements

When an online Examination system is implemented, each and every student can appear for their exam in an efficient manner.

ii. Reliability Requirements

The system should provide a reliable environment to both

Students and Teachers. All work must be done in proper manner without any error.

iii. Usability Requirements

The website is designed for user friendly environment and ease of use.

3.2 Functional Requirements:

R1: Registration

R1.2: Registration for a student

Description: A student registers into the system through teacher in order to take exam.

Input: student details such as name, age, registered email ID and contact number, profile photo.

Output: Details verified then student successfully registered or if not, then student details not matched.

R2: Login

Description: Admin have many rights like schedule an exam, add students, add classes and Student who are registered by teacher can take exam after login.

R2.1: Login as teacher

Description: An teacher manages the results of exam, displays result, update or delete students.

Input: Enter username and password

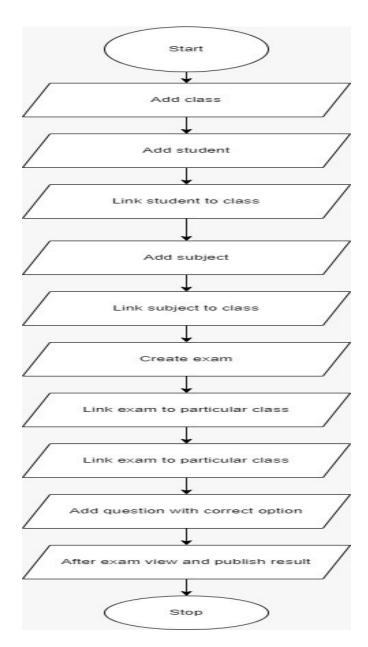
Output: Admin Control Panel

R2.1.1: Calculate result

Description: An teacher can check and display results.

Input: Result should be published

Flowchart:



Flowchart 2:

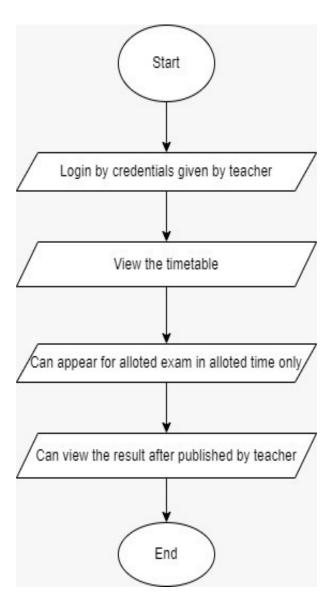


Fig 3.1: Flowchart 2

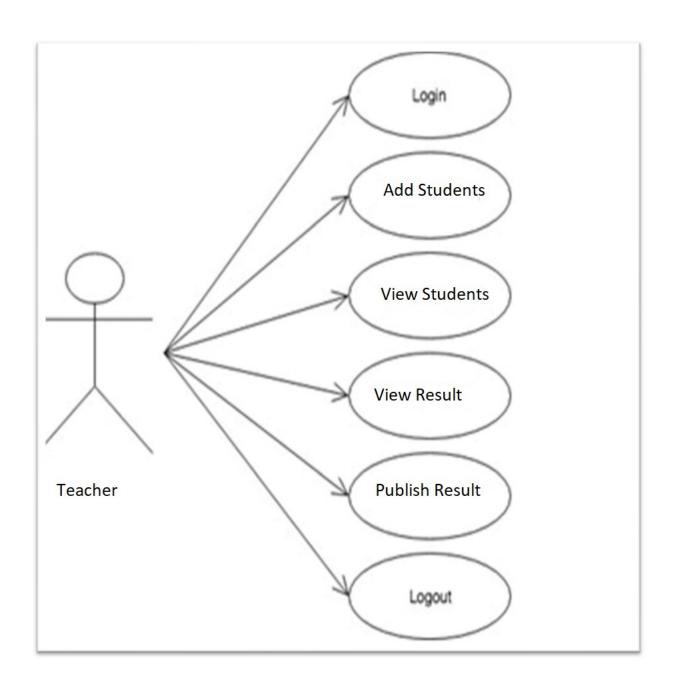


Fig 3.3: Use case diagram for teacher

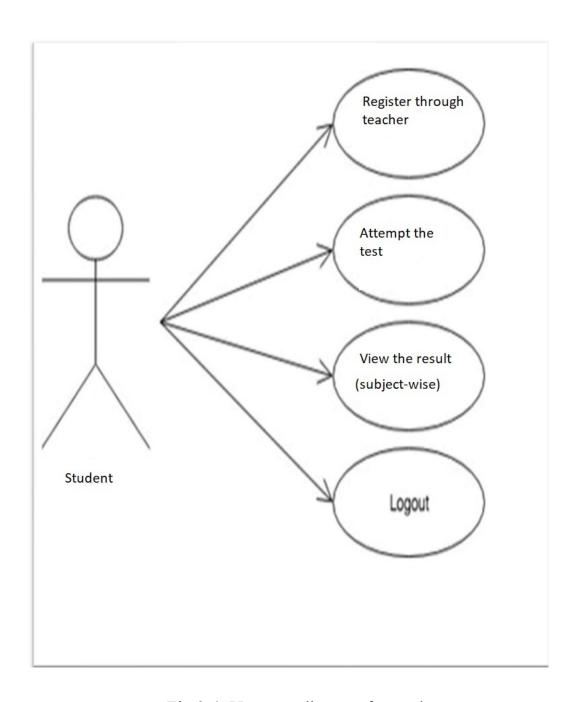


Fig 3.4: Use case diagram for student

3.3 Experimental Outcomes:

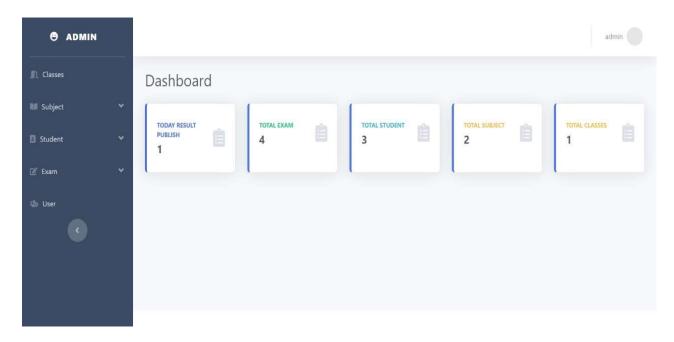


Fig 3.5: Admin dashboard

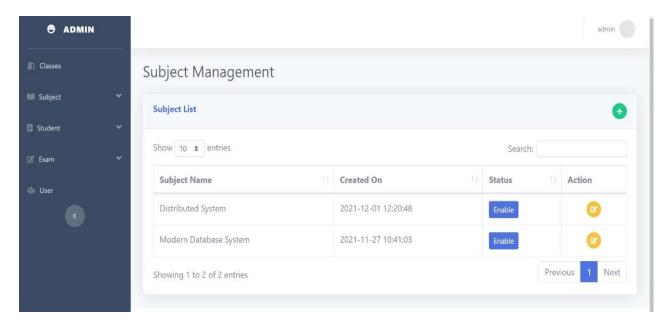


Fig 3.6: Admin-Subject Table

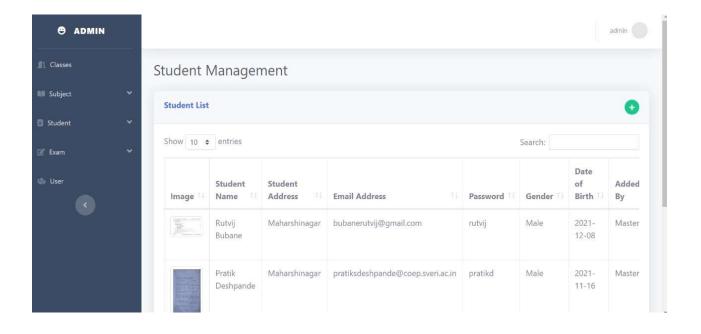


Fig 3.7: Admin-Student Table

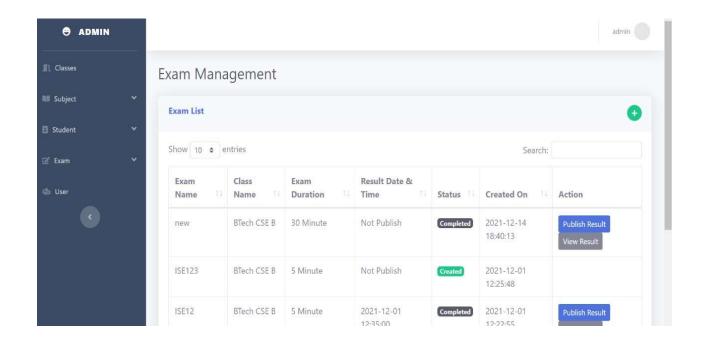


Fig 3.8: Admin-Exam Table

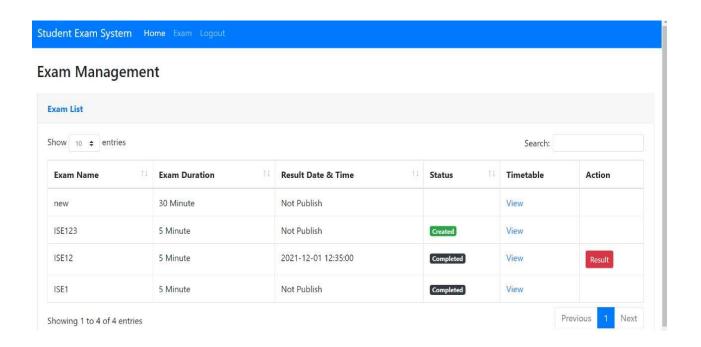


Fig 3.9: Student-Tabletable

Exam Schedule Details

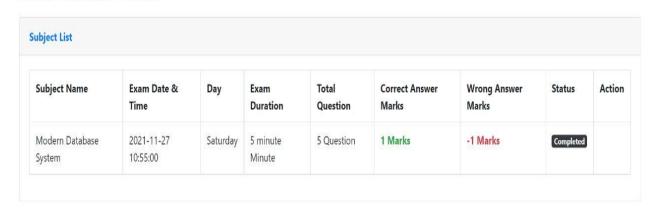


Fig 3.10: Student-Tabletable of particular subject

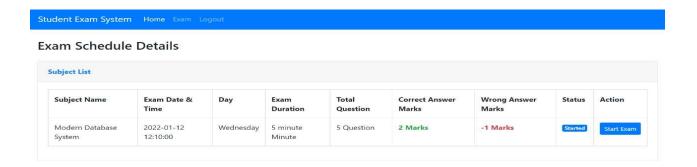


Fig 3.11: Student-Exam button active at specified time

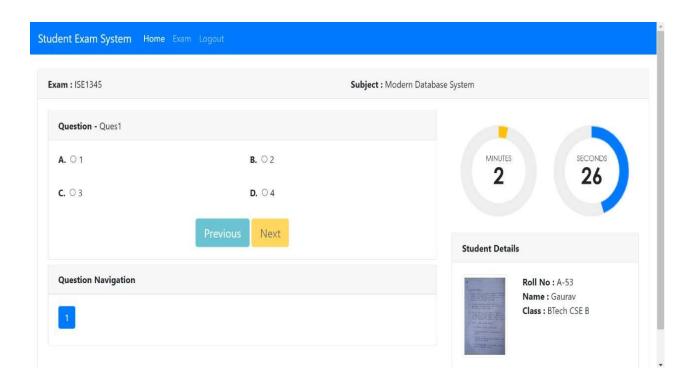


Fig 3.12: Student- Exam Page

CHAPTER 4

CONCLUSION

Online Examination System is a web application. The key concept is to minimize the amount of paper and convert all forms of documentation to digital form. It can be observed that the information required can be obtained with ease and accuracy in the computerized system. The user with minimum knowledge about computer can be able to operate the system easily. The system also produces brief result required by the management.

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THANKYOU!