MINI PROJECT OR INTERNSHIP ASSESSMENT

ON

"ONLINE EXAMINITION SYSTEM"

AT

KSS PVT. LTD.

Submitted in partial fulfillment of the requirements

For the award of degree of

Bachelor of Technology

In

Computer Science and Engineering

Submitted to:

Assit. Prof. Mr. Satyam Singh

(CSE Dept)

Submitted by:

Jyoti Yadav

(2101440109004)



PRASAD INSTITUTE OF TECHNOLOGY, JAUNPUR

Affiliated To

Dr. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY, LUCKNOW

Dec-2022

CERTIFICATE



DECLARATION

I hereby declare that the Mini Project Report entitled "Online Examination System" is an authentic record of my own work as requirements of one month Internship Assessment during the period from 18 May 2022 to 17 July 2022 for the award of degree of B.Tech. (Computer Science & Engineering), PIT-Jaunpur, under the guidance of Mr. Satyam Mishra.

Jyoti Yadav (2101440109004)

Date:		
Dait.		

Certified that the above statement made by the student is correct to the best of our knowledge and belief.

Examined by:

Head of Department (CSE) PIT JAUNPUR

ACKNOWLEDGEMENT

The successful completion of this project mark the beginning of an ever - going learning experience of converting ideas and concepts into real life, practical system. This project was a quite a learning experience for me at each and every step. At the same time it has given me confidence to work in professional setup. I feel the experience gained during the project will lead me to gain the bright prospect in the future. First of all I would like to give thanks to Head, Education and Training, Mr. Satyam Mishra, for giving me the opportunity to work in this esteemed organization, which not only has increased our awareness about latest fields but also taught me the importance of team building. With the deep sense of gratitude, I express my sincere thanks to Mr. Shubham Mishra, for her active support and continuous guidance without which it would have been difficult for me to complete this project. I will also like to the other working staff teachers at KSS PVT. LTD. for taking keen interest in my project and giving valuable suggestions and helping me directly or indirectly to complete this project.

Jyoti Yadav (2101440109004) B.Tech(CSE) 3rd Year

ABOUT COMPANY

Kamadgiri Software Solutions (KSS) is a fastest growing **ISO 9001:2015 Certified Company.** It is a next-generation global technology company that helps enterprises reimagine their businesses for the digital age. KSS is started by two young professionals. Er. S Mishra, An expert from IT Industry, and Er. Shubham Mishra, B.Tech in Information Technology from Mahatma Gandhi University.

KSS is an IT company incorporated with Ministry of Corporate Affairs - Government of India; to facilitate software development and IT training in India. We work for domestic as well as international clients. KSS is headquartered in a religious city- Chitrakoot (UP). We offer an integrated portfolio of products, solutions, services, and IP through our Mode 1-2-3-4 strategy built around Digital, IoT, Cloud, Automation, Cybersecurity, Analytics, Infrastructure Management and Engineering Services, amongst others, to help enterprises reimagine their businesses for the digital age.

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CHAPTER - 1

INTRODUCTION

The Online Examination System is an electronic application. It is an on-line test simulator is to take online examination, test in an efficient manner and no time wasting for manually checking of the test paper. The main objective of this web based online examination system is to efficiently evaluate the student thoroughly through a fully automated system that not only saves lot of time but also gives fast and accurate results. For students they give papers according to their convenience from any location by using internet and time and there is no need of using extra thing like paper, pen etc.

Online examination system helps students to offer a quick and easy way to appear for the test. It also provides the results immediately after the examination with 100% accuracy and security. Student can enter to perform exam only with their valid username and password. This examination contains multiple choice questions and appropriate number of options. There are no limitations on number of options and it can be randomized so same set of question will not appear to all student so it prevent manipulation. More than one option can be correct but the user can select only one option. This provides time limit. The user can see their results after completing the exam.

.1.1 About Project: -

The Online Examination System is an electronic application. It is an on-line test simulator is to take online examination, test in an efficient manner and no time wasting for manually checking of the test paper. The main objective of this web based online examination system is to efficiently evaluate the student thoroughly through a fully automated system that not only saves lot of time but also gives fast and accurate results. For students they give papers according to their convenience from any location by using internet and time and there is no need of using extra thing like paper, pen etc.

Online examination system helps students to offer a quick and easy way to appear for the test. It also provides the results immediately after the examination with 100%

accuracy and security. Student can enter to perform exam only with their valid username and password. This examination contains multiple choice questions and appropriate number of options. There are no limitations on number of options and it can be randomized so same set of question will not appear to all student so it prevent manipulation. More than one option can be correct but the user can select only one option. This provides time limit. The user can see their results after completing the exam. This helps the students to write the exam from far distance and which can provide security and simplicity and other beneficial features to the user.

The project mainly intends to provide the insight of the functionality and behaviour of the Online Examination System. This project integrates computer and Internet technologies for the purpose of student assessment. It provides the options of the examinations available on the system according to the user privilege. Based on the choice of the user, the system provides the questions related to that area. Mostly the questions are in the form of multiple-choice question, they can also be filling in the blanks, matching and essay questions. At the end of the questions, the user will be given the options to report or cancel the scores.

1.2 Advantages of Online Examination System

- The result is declared immediately.
- Chances of Cheating are negligible.
- Chances of Question Paper Leakage minimized as there is no hard copy, which passes
- Through a number of Hands before Exam.
- No Hard Copy Answer Sheet is required, No tampering of Answer Sheet.
- N Number of Candidate can appear in the exam.
- 100% Accurate
- 100% Transparent
- Highly Economical
- Time-Saving
- Secure
- Paper-Saving

1.3 Disadvantages of Online Examination System

- Cheating problem by opening another sites.
- Everyone is not having computer knowledge.
- Wi-Fi Connectivity issues.
- Electricity Problem.

1.4 Objective of Project:

- Study different types of Online Examination System installed and working in different academic institutions of MP.
- To study the barriers of Online Examination System working in different Academic Institution of UP.
- To Develop and design Online Examination System for Faculty of Engineering and Technology, MGCGV.
- To test and validate the developed Online Examination System.

CHAPTER-2

TOOLS AND TECHNOLOGY

2.1 Hardware Requirement (Minimum): -

Server Side:

- Xeon based or higher end Server
- 4 GB RAM
- 200 GB DISK SPACE

Client Side:

- Internet explorer 8, Chrome or any supported browser
- Pentium
- 256 MB RAM
- 1 GB HDD

Development (Coder) Side:

- Processor Pentium IV 2.0 or above.
- RAM 2 GB
- Disk space 10 GB
- Graphics Card 1 GB

2.2 Software Requirements (Minimum): -

Server Side:

- Operating System Windows Server 2008 or above
- Database Server SQL Server Management Studio 2008
- Web Server –IIS Server
- Web browser Google Chrome

Client Side:

- Operating System Windows 8 or above
- Web browser Google Chrome

Development (Coder) Side:

- Operating System Windows 8 or above
- Database Server SQL Server Management Studio 2008
- Web Server IIS Server
- Web browser Google Chrome
- Framework ASP .Net Web Application(.Net Framework)

• IDE – Visual Studio of Microsoft

2.3 Technologies used: -

Front-end

- Designing HTML, CSS, Bootstrap & Media Query
- Client-Side Programming language Java Script, jQuery

Back-end

- Database MSSQL
- Programming Language .NET With MVC- C#

2.4 Steps of SDLC:



Figure (3.9.1): SDLC

To solve an actual problems in an industry, software developer or a team of developers must integrate with a development strategy that include the process, methods and tools layer and generic phases. This strategy is often referred to a process model or a software developing paradigm. Our project follows the waterfall model.

Waterfall Model (steps):

- Requirement Definition
- System and Software Design
- Implementation
- Integration and System Testing
- Operation and Maintenance

2.5 System Design: -

Design Strategy -In software engineering, multi-tier architecture is a client –server architecture in which presentation, application processing, and data management functions are logically separated. For example, an application that uses middleware to service data requests between a user and a database employs multi-tier architecture. The most widespread use of multi-tier architecture is the three-tier architecture.

Three-Tier Architecture -

THREE-TIER ARCHITECTURE

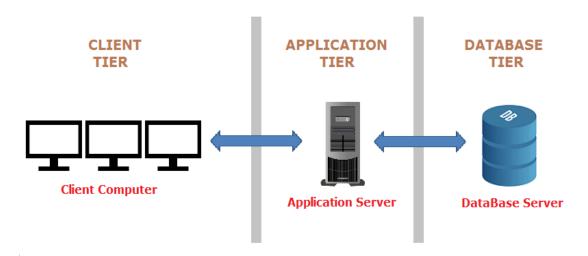


Figure (3.12.1): Three-Tier Architecture

Three-tier architecture is a client – server architecture in which the user interface, functional process logic ("business rules"), computer data storage and data access are developed and maintained as independent modules, most often on separate platforms. The three-tier model is a software architecture pattern. Apart from the usual advantages of modular software with well-defined interfaces, the three-tier architecture is intended to allow any of the three tiers to be upgraded or replaced independently in response to changes in requirements or technology. For example, a change of operating system in the presentation tier would only affect the user interface code. Typically, the user interface runs on a desktop PC or work station and uses a standard graphical user interface, functional process logic that may consist of one or more separate modules running on a workstation or application server, and an RDBMS on a database server or mainframe that contains the computer data storage logic. The middle tier may be multi-tiered itself (in which case the overall architecture

is called an "n-tier architecture"). By introducing the middle layer, the client is only handling presentation logic. This means that only little communication is needed between the client and the middle tier making the client "thin" or "thinner". An example of a thin client is an Internet browser that allows you to see and provide information fast and almost with no delay. Three-tier architecture has the following three tiers:

Presentation Tier - This is the topmost level of the application. The presentation tier displays information related to such services as browsing merchandise, purchasing and shopping cart contents. It communicates with other tiers by outputting results to the browser/client tier and all other tiers in the network. (In simple terms it's a layer which users can access directly such as a webpage, or an operating systems GUI)

Application Tier – It is also called as business logic, logic tier, data access tier, or middle tier. The logical tier is pulled out from the presentation tier and, as its own layer, it controls an

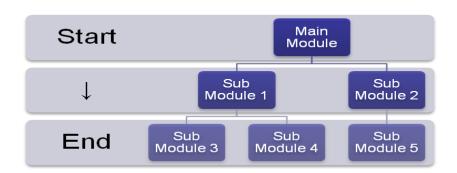
application's functionality by performing detailed processing.

Data Tier - This tier consists of database servers. Here information is stored and retrieved. This tier keeps data neutral and independent from application servers or business logic. Giving data its own tier also improves scalability and performance. As more users access the system a three-tier solution is more scalable than the other solutions because you can add as many middle tiers (running on each own server) as needed to ensure good performance (N-tier or multiple-tier). Security is also the best in the three-tier architecture because the middle layer protects the database tier. There is one major drawback to the N-tier architecture and that is that the additional tiers increase the complexity and cost of the installation.

System Design Approach:

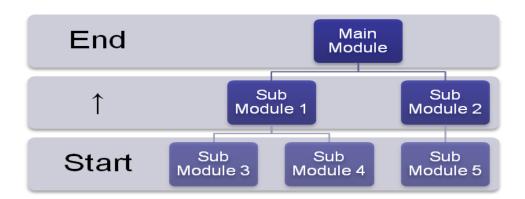
In this project we have used the two modular approaches. These approaches we have used in the development and the implementation. These approaches are described below.

Top Down Approach:-Top down approach is the approach in modular programming that we have used in the development. In this approach we divide the module into the sub module and then again we divide these sub modules into small module till the end. Each module treated as a module and then we solve the each module separately.



Bottom up approach:-

Bottom approach we have used in the implementation of the project. In the bottom up approach we integrate the separated modules in a single module as a whole. We start from the bottom and go to up of the system that means each sub modules integrated and we get a module and again this process will go till the end and we get finally the main module.

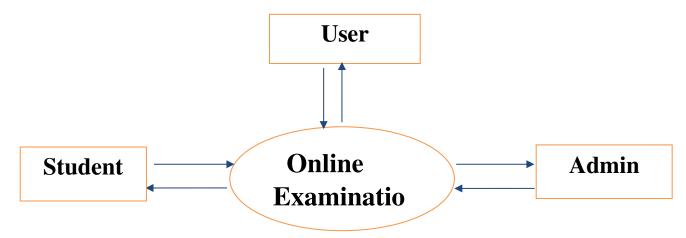


Approach we are following:-

In this project we are following **Mixed Approach** i.e. A combination of top – down and bottom – up. We are developing some of the components using top – down designing approach (e.g. the Web Pages)and the some components in bottom – up designing approach (e.g. the middle tier classes).

2.6 Data Flow Diagram: -

ZERO LEVEL DFD:



FIRST LEVEL DFD:

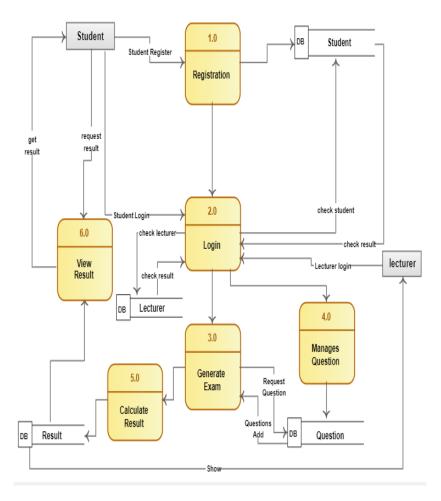


Figure (3.15.1): Data Flow Diagram

2.7 MODULES DESCRIPTION:-

Modules' Description: There are 15main modules in the system which can be sequentially listed as given blew-

- 1. Candidate's Registration
- 2. Candidates Login & Authentication
- 3. Enquiry Management
- 4. News & Updates Management
- 5. SMS API Integration
- 6. Google Map Integration
- 7. Live chat API Integration
- 8. Admin Login & Authentication
- 9. Candidate's Profile Management
- 10. Cryptography
- 11. Human Detection by using Captcha Code
- 12. Forget Password Management
- 13. Question Paper Management
- 14. Result Management
- 15. Expert Searching

2.8 Database Design

Database design is actually the designing of the database that means it is responsible for designing all the data and records in such a manner so that they can easily access and if they require any changes it can be done. The database design refers to the creating the database means the designing the structure of the database this all included in the database design. The database design can be done in different ways.

Conceptual Database Design:

Identified Entities Definition:

An entity is a grouping of things with rules or data in common. An entity often represents a group of people (e.g. children, applicants, stakeholders) but it can also represent a group of objects (e.g. textbooks), activities (e.g. assignments) or concepts (e.g. school terms).

By defining entities, the same set of rules can be used for multiple instances of the same type, and rules can be written which relate to all of those instances. e.g. the following table show the information related Course entity in an Institute Management System.

Relationship among entities:

Relationship is an association among the instances of one or more entity types that is of interest to the organization. A relationship type is a meaningful association between entity types. Relationships are classified in terms of degree, connectivity, cardinality, and existence. There are three degrees of relations - unary, binary and nary.

Unary relationships are relationships between the instances of single entity types. The business model chosen does not contain any unary relationship.

Binary relationships are relationships between instances of two entity types. There can be three types of binary relationships – one to one, one to many and many to many categorized on the basis of cardinalities and participation.

Cardinality specifies the number of instances of one entity that can be associated with each instance of another entity. *Participation* is the minimum cardinality of a relationship.

Entity Relationship Model (E-R Diagram):

The **entity-relationship** (**E-R**) data model perceives the real world as consisting of basic objects, called *entities*, and *relationships* among these objects. It was developed to facilitate database design by allowing specification of an *enterprise schema*, which represents the overall logical structure of a database. The E-R data model is one of several semantic data models; the semantic aspect of the model lies in its representation of the meaning of the data.

Such a diagram consists of the following major components:

- **Rectangles**: which represent entity sets.
- Ellipses: which represent attributes.
- **Diamonds:** which represent relationship sets.
- Lines: which link attributes to entity sets and entity sets to relationship sets.

- **Double ellipses**: which represent multivalve attributes.
- Dashed ellipses: which denote derived attributes.
- Double lines: which indicate total participation of an entity in a relationship set.
- Double rectangles: which represent weak entity sets.

About Database Server:-

SQL Server Management Studio (SSMS):-

MS SQL Server Management Studio is a workstation or a client tool which is used to connect to and manage your SQL ServerSQL Server Management Studio (SSMS) is a windows software or a client tool used to connect and work with our SQL Server from a graphical interface instead of using the command line. Microsoft SQL Server 2005 launched the management studio to work with <u>SQL Server</u> and Azure SQL databases.It allows DBAs and database developers to configure, manage, and administer all components within SQL Server. Its main functionality is to create databases and tables, execute SQL queries for inserting, updating, and deleting data, creating and managing stored procedures, triggers, views, and cursors. It also enables us to set privileges (securities) on databases and their objects.SSMS also includes tools for deployment, database health monitoring, and reporting. It includes SQL Profiler, which allows us to examine the performance of our SQL databases. It's also possible to use it to schedule background work. If we want to connect to a remote SQL Server instance, we'll need this GUI tool or similar software. It is used by Administrators, Developers, Testers, etc. The latest version of SQL Server Management Studio is SSMS 18.8 RC. If we have installed a previous version, we just need to install SSMS 18.8 upgrades.

How MSSQL works:-

A SQL Database is comprised of one or more data files (.mdf/.ndf) and one transaction log file (.ldf). Data files contain schema and data, and the Log file contains recent changes or adds. Data is organized by pages (like a book), each page is 8KB.

CHAPTER -3 <u>RESULT</u>

3.1 Snapshots:-

Table No: 1

Table Name: Registration

	Column Name	Data Type
₽₽	EnrollmentNo	int
	Name	varchar(50)
	Father_Name	varchar(50)
	Gender	varchar(10)
	Course	varchar(50)
	Semester	int
	EmailId	varchar(100)
	MobNo	varchar(15)
	PicName	varchar(200)
	Address	varchar(300)
	Reg_Dt	datetime

Table No: 2

Table Name: TestQuestion

	Column Name	Data Type
₽₽	Qno	int
	Test_id	int
	Question	varchar(MAX)
	Option1	varchar(300)
	Option2	varchar(300)
	Option3	varchar(300)
	Option4	varchar(300)
	CorrectOp	int

Table No: 3

Table Name: - TestResult

	Column Name	Data Type
₽₽	Result_id	int
	Test_id	int
	User_id	int
	Total_marks	int
	Obtained_marks	int
	Percentage	float
	Test_attempted_on	datetime

Table No: 4

Table Name: - Enquiry

	Column Name	Data Type
8	EnquiryId	int
	Name	varchar(50)
	EmailId	varchar(100)
	MobNo	varchar(15)
	Message	varchar(500)
	Enquriy_Dt	datetime

Table No: 5

Table Name: - UserFeedback

	Column Name	Data Typ
₽₽	Feedback_Id	int
	UserId	int
	Topic	varchar(100)
	Message	varchar(MAX)
	Feedback_Dt	datetime

Table No: 6

Table Name: - Notification

	Column Name	Data Type
₽8	Nid	int
	Msg	varchar(300)
	N_Dt	datetime

Table No: 7

Table Name:- login

	Column Name	Data Type
ÞŶ	UserId	int
	Pass	varchar(50)
	Utype	varchar(20)

Table No: 8

Table Name: - TestManager

	Column Name	Data Type
₽₽	Test_id	int
	Subject_name	varchar(50)
	Total_questions	int
	Marks_per_ques	int
	Alloted_hours	int
	Alloted_minutes	int
	Added_on	datetime
	Status	bit

User Interface

Home: This image tell about first Home page interface of project OES.



Vision & Mission

+ Enquiry

We used a combination of surveys, focus groups, and one-on-one interviews to gather information from patients, faculty, and from key personnel at MGCGV University. After gathering requirements we have decided the following aims and objectives of Online Examination System portal:

- 1) To provide anytime Online Access.
- 2) Knowledge sharing to students.
- 3) To validate the timing of test.
- 4) To provide the exam details.5) Easy for students to use and customize.
- 6) Event Notification to students.
- 7) To provide best online exam experience in lowest cost.
- 8) Easily accessible from any corner of the world if you have internet connection.
- 9) To calculate result of exams automatically.



About Us: This page tell about institute.

About Us

Mahatma Gandhi Chitrakoot Gramoday Vishwavidyalaya (MGCGV) is a first rural university at Chitrakoot, <a href="Lindings-India-Ith-I

Gramodaya University's activities in education, research and extension focus on rural development. The university creates human resources, develops appropriate technologies, conducts research and extension in sustainable agricultural techniques for rural livelihood and proper management of rural resources. It also imparts mass education for the awareness of the rural population including women, and supports the exploration of alternative sources of energy.

An online examination system for students of MGCGV is a web application that establishes a network between the organization and applicants. The organization enters on the site the questions they want in the exam. These questions are displayed as a test to the eligible students. The answers inputted by the applicants are then evaluated and their score is calculated and saved. This score then can be accessed by the Admin to determine the passes students or to evaluate their performance.

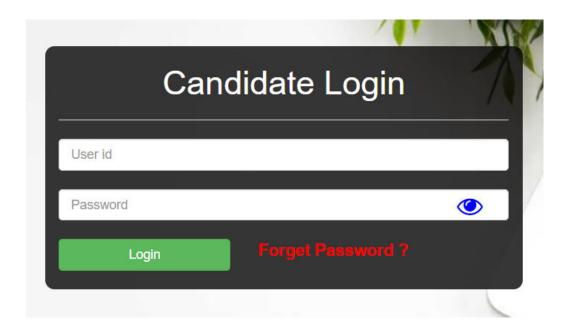
The purpose of on-line test simulator is to take online test in an efficient manner and no time wasting for checking the paper. The main objective of on-line test simulator is to efficiently evaluate the candidate thoroughly through a fully automated system that not only saves lot of time but also gives fast results.

For students they give papers according to their convenience and time and there is no need of using extra thing like paper, pen etc.

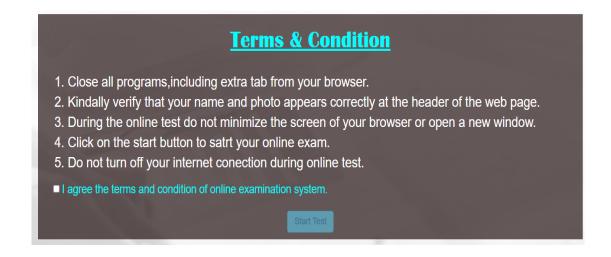
Contact Us: This Part tells about institute contact information and address.



Login: This is login interface to student.



Terms & Conditions: This part is tells terms and condition for before starting exam.

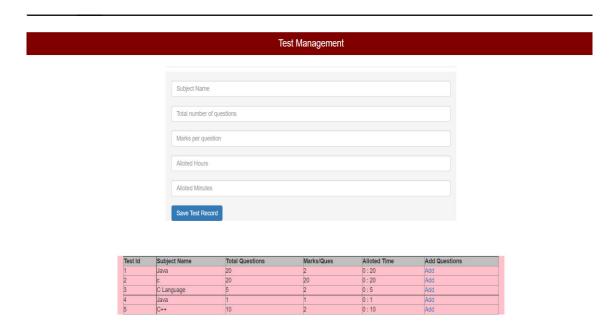


Admin Zone

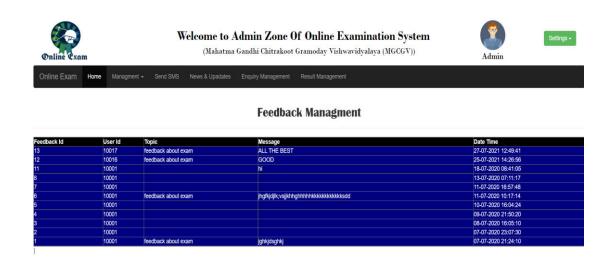
Admin Login This interface tell about admin login page.



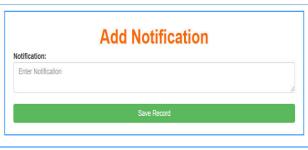
Upload Question Paper: Here admin upload question paper.



Feedback Management: Here collect all feedback.

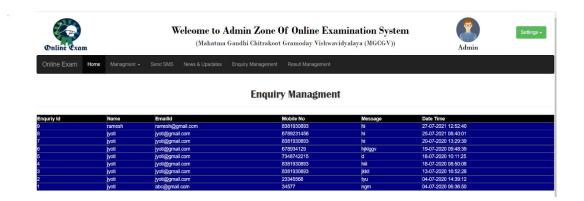


News & Update: Here we can add notification about exam.



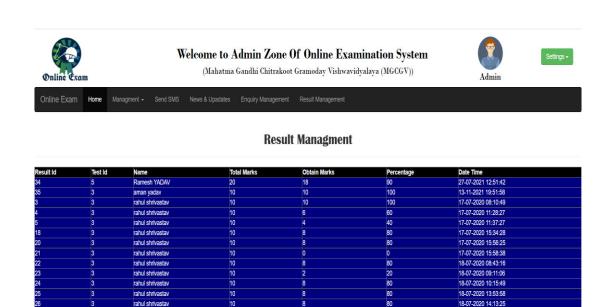


Manage Enquiry: All enquiry information are stored.



Result Management: Here all result are stored.

rahul shrivastav



18-07-2020 15:00:40 19-07-2020 08:38:57 19-07-2020 09:50:32

3.2 Coding:-

```
Class No: 1
Class Name :- EncryptMyData.cs:
/*
* To change this template file, choose Tools | Templates
* and open the template in the editor.
*/
using System;
using System.Collections.Generic;
using System.Ling;
using System.Web;
namespace OnlineExam.Controllers
{
  public class EncryptionManager
  {
    public string EncryptMyData(string PlainText)
     {
       string EncryptedText = "";
       int ASCII_Value;
       foreach (char ch in PlainText)
       {
         if (ch \ge 65 \&\& ch \le 90)
            ASCII_Value = 90 - ch + 65;
         else if (ch \geq 97 && ch \leq 122)
            ASCII_Value = ch + 2;
         else if (ch \geq 48 && ch \leq 57)
            ASCII_Value = 57 - ch + 48;
         else
            ASCII_Value = ch;
         EncryptedText = EncryptedText + (char)ASCII_Value;
       }
```

```
return EncryptedText;
    }
  }
}
Class No: 2
Class Name:- HomeController.cs:
* To change this template file, choose Tools | Templates
* and open the template in the editor.
*/
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Mvc;
using OnlineExam.Models;
using System.IO;
namespace OnlineExam.Controllers
  public class HomeController: Controller
    onlineexamdbEntities db = new onlineexamdbEntities();
    CaptchaGenreter cg = new CaptchaGenreter();
    EncryptionManager em = new EncryptionManager();
    static string[] CodeAndImage = new string[2];
    // GET: Home
    List<Notification> GetTop5Notification()
 Class No: 3
Class Name :- CaptchaGenreter.cs:
* To change this template file, choose Tools | Templates
```

```
* and open the template in the editor.
*/
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Drawing;
using System.IO;
using System.Drawing.Imaging;
namespace OnlineExam.Controllers
  public class CaptchaGenreter
  {
   public string GetRandomCode()
    {
       string code = "";
       char ch;
       Random r = new Random();
       ch = (char)r.Next(65, 90);
       code = code + ch;
       ch = (char)r.Next(97, 110);
       code = code + ch;
       ch = (char)r.Next(100, 122);
       code = code + ch;
       ch = (char)r.Next(70, 85);
       code = code + ch;
       ch = (char)r.Next(49, 57);
       code = code + ch;
       ch = (char)r.Next(70, 90);
       code = code + ch;
       return code;
```

CHAPTER - 4

FUTURE SCOPE

To modify the Online Examination System project to .Net platform to take the advantage of geographical remote area. By shifting the project to the Dot Net platform the project can be made into a Mobile Accessible Application by which the restrictions of the software & hardware requirements can be scaled down, which is not possible using ASP.

we can even apply the unique identity of the user by keeping certain formalities which must be answered by the user while entering the test (like the user need to answer again the questions which he did while registering himself for the test) the questions selected will be in random order from his personal data only (like the mole present on the user, etc ...) so that we it may confirm that the user itself is writing the test.

We can even use the thumb mark of the users to confirm their identities.

We can even add the photos of the users in this to confirm the user Identity. Thus by applying these steps we can make sure that the user itself is writing the exam not the others.

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- [6] IEEE Recommended Practice for Software Requirements Specifications, Software Engineering Standards Committee of the IEEE Computer Society. 1998
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