**[ONLINE EXAM PROJECT REPORT](https://sites.google.com/site/ignoubcafinalyearprojects/project-report/entrance-examination-system-project-documentation/ONLINE%20ENTRANCE%20EXAM%20PROJECT%20REPORT.doc?attredirects=0&d=1" \t "_blank)**

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**1. INTRODUCTION**

**1.1**           **Background problem**

                               The whole process of assigning test and evaluating their scores after the test, was done manually till date. It is very time consuming . Also it is difficult to keep  the answer sheets being generated as well as the maintenance of the record of each examination. The chance of loss of records is high and record searching is difficult. Result processing takes more time and the presence of more invigilators is a must if there are more number of students to write the exam.

**2. SYSTEM ANALYSIS**

**2.1 Existing system - ONLINE ENTRANCE EXAM PROJECT**

TheExisting system of conducting examination process is manual. It  has so many problems. So we introduce a new system, which is fully computerized. Existing system is a large man power process and is difficult to implement. Working of existing system is given below: -

                                                      Student Registration is the first process . As the part of the registration, the student has to enter his name, address etc into the registration form. After the registration,  make  the question papers  and it will give to the prospective student. The question papers contain total mark, subject, duration, question paper    etc. A group of person does evaluation of answer sheet. After the evaluation of the Answer sheet , the result is published. And also make the mark list.

**2.2 Proposed system - ONLINE ENTRANCE EXAM PROJECT**

                                            The main objective of the online examination system is that it helps companies/institutions to conduct exams to any number of candidates at a time, in an automated manner. It  reduces  the time consumption and workload that exist in the current system of examination. It  also helps in storing the record of each examination and the results are also stored in the system. This makes the searching of the records easier than the existing system.

**2.3 Objectives of the proposed system**

                             The main purpose of the system is to efficiently evaluate the candidate thoroughly through a fully automated system that not only saves a lot of time but also gives fast results. It is a cost-effective and popular means of mass- evaluation system.

                                    The administrator of the system prepares the tests and questions for each exam. The candidates can login through the client computers with their register number given to them and can take the exam. The questions are shuffled in a random order so that possibilities for getting questions in the same order for the students who are sitting near, is very less. A timer will monitor the time and after the time limit the system itself submit the test. If it is before time, candidates can submit it to view their result. The result analysis is very easy as it is done by the system. So it saves a lot of time since no manual correction is needed in the system. No restriction  is there that the invigilator has to be present when the students take the test.

**2.4 Feasibility study - ONLINE ENTRANCE EXAM PROJECT**

                                                                  Feasibility is a measure of how beneficial the development of the information system will be to an organization. This is done by investigating the existing system in the area under investigation or generally ideas about a new system. It is a test of a system proposal according to its workability, impact on the organization, ability to meet user needs, and effective use of resources.

Three key considerations are involved in the feasibility analysis: economic, technical, and legal.

**Economic feasibility - ONLINE ENTRANCE EXAM PROJECT**

Economic analysis is the most frequently used method for evaluating the effectiveness of a proposed system. It is more commonly known as cost benefit analysis, the procedure to determine the benefits and saving that are expected from a candidate system and compare them with costs. If the benefits outweigh costs then a decision is made to design and implement the system. Otherwise make alterations in the proposed system.  
  
                    The innovation of the new system has much influence on the economical side of the company. Manuel system is highly cost driven due to the high labor costs. So if a company registers with the Online\_Examination site, they can automate their day-to-day activities. Thus the system is economically feasible.

**Technical feasibility - ONLINE ENTRANCE EXAM PROJECT**

In examining Technical feasibility of the system, more importance is given to the hardware interaction part of the system. The assessments of technical feasibility centers on the existing system and to what extent it can support the proposed addition. This was based on an outline design of system requirements in turns of inputs, files, programs, procedures, and staff. It involves financial considerations to accommodate technical enhancements. Online\_Examinationbeing a web based application, it uses .Net framework, 800MHZ computer, 20 GB Hard disk.

**Legal feasibility - ONLINE ENTRANCE EXAM PROJECT**

                    People are inherently resistant to change, and computers have been known to facilitate change. An estimate should be made about the reaction of the user staff towards the development of a computerized system. Computer installations have something to do with turnover, transfers and changes in job status. The introduction of a candidate system requires special effort to educate, sell and train the staff for conducting the business.

                   The system is designed such that even a computer ignorant person can interact with the system freely. So the system requires not much effort to train and educate people, the system is that much legally feasible.

**3. SOFTWARE REQUIREMENT SPECIFICATION - ONLINE ENTRANCE EXAM PROJECT**

**3.1 Specific Requirements**

Since the Administrator  and the student/user are the main target group of our software, we will only concern about some important functions for the admin and the user.

**Administrator:-**

        The administrator is the one who manipulates and maintains the system. He can enter into the system by entering login name and password

        That is, he is  responsible for creating exams that include subject selection and assigning scores etc.

         Again, he can add questions to the database

         add new user to the database and issue a valid ID for the user.

        He is also responsible for sending the result to the email id provided by the user at the start of his registration.

**Students/Users:-**

        Can do the member registration

        After the registration , he will be issued with valid ID by the Administrator. The user can log into the system with this  ID .

        After successfully login into the system,  the user moves to the instruction web page where he will get instruction about the examination process.

        Then after clicking the start button the exam starts and timer also starts .In this manner, the user can take up the test and  on clicking the submit button , he will get the result of that section immediately.

        He must get the test result to his email id provided at the start of the registration

        During the exam, he is allowed to go to the prevoious  questions using a “previous” button. At the end system displays the initial web page.

**3.2 External Interface Requirements**

It include the following interfaces

        User Interfaces

        Software Interfaces

        Hardware Interfaces

**User Interfaces:-**

The interface must be easy to understand. The user interface includes

* **screen formats/organization**: The introductory screen will be the first to be displayed which will allow the users to do the member registration.
* **window format/organization**: When the user chooses some other option, then the information pertaining to that choice will be displayed in a new window which ensures multiple windows to be visible on the screen and the users can switch between them.
* **data format**: The data entered by the users will be alpha numeric.
* **end messages**: When there are some exceptions raising error like entering invalid details, then error messages will be displayed prompting the users to re-enter the details.

**Hardware Interfaces:-**

**Server side hardware**

Hardware recommended by all the software needed.

Communication hardware to serve client requests

**Client side hardware**

Hardware recommended by respective client’s operating system and      web browser.

Communication hardware to communicate the server.

**Software Interfaces:-**

**Server side software**

Web server software, IIS

Server side scripting tools: C#

Database tools: SQL server 2005.

Compatible operating system: Windows XP

**Client side software**

Web browser supporting JavaScript, refer Browser Compatibility

**Communications Interfaces:-**

http**-** Hypertext Transfer Protocol is a transaction oriented client/server protocol between web browser & a Web Server.

tcp/ip**:**Transmission Control Protocol/Internet Protocol, the suite of communication protocols used to connect hosts on the Internet. TCP/IP uses several protocols, the two main ones being TCP and IP.

**3.3 Hardware Requirements**

Processor    :        Pentium iv

Ram            :        256 mb

Hdd            :        2 gb

Monitor        :       svga color

Key board   :        normal

Mouse         :        normal

**3.4 Software Requirements**

Operating System       :     Windows XP   
Front End                    :     C#, ASP.Net 2005(frame work 2.0), HTML   
Back End                    :      SQL server 2005

Web server                :    IIS

Browser                    :    Internet Explorer

**3.5 Performance Requirements**

System should be able handle multiple users

Database updating should follow transaction processing to avoid data

inconsistency.

**4. SYSTEM DESIGN - ONLINE ENTRANCE EXAM PROJECT**

**4.1 Data Design**

       Data design creates a model of data and or information that is represented at a high level of abstraction. The structure of data has always been an important part of software design. The data design activity translates these elements of requirement model into data structure at the software component level. In actuality, the design of data begins during the creation of the analysis model. The database modeling involves Normalization of the database structure so as to avoid data redundancy. The different levels of normalization are first level, second level and third level. Normally normalization up to 3rd level is followed. But in certain cases we normalize up to fourth level is called Boyce code normal form. In this project we have normalized up to second level. Also we have added a bit of re-normalization into the databases for easy generation of reports in the future.

**Data structure Description:-**

Data structures that are passed among components, Data structured that are available to major portions of the architecture, Files created for interim use are described.

**Database description**

**SQL Server**

SQL Server is a relational database management system (RDBMS) that uses Transact SQL to send request between a client and SQL Server.SQL Server is designed to be a client/server system. Client/Server systems are constructed so that the database can reside on a central computer, known

as server, and be shared among several users. When users want to access data on the SQL Server, they run an application on their local computer, known as a client that connects over a network to the server running SQL Server.

The following are the factors for which I have chosen SQL Server as the back end tool:

**Advantages of using SQL Server:**

1.     Multi-user database

2.     Supports RDBMS

3.     It’s very fast.

4.     It’s relatively easy to use.

5.     It’s widely used

6.     More secure

**4.2 Architectural and component-level Design**

Design is the first step in the development phase for any engineered product or system. The design is the transition form the user oriented view to the programmer view. Design phase act as an edge between the software specification phase and the software development phase which satisfies the requirements. The system transforms a logical representation of what a given system is required to be, into the physical specification. Design starts with the requirement specification and converts it into physical specification.

System design is a creative art of inventing and developing inputs, databases, offline files, methods and procedures, for processing data to get meaningful output that satisfy the organization objectives. Through the design phase consideration to the human factors, i.e., the inputs to the users will have on the system.

Some of the main factors that have to be noted using the design of the system are:

        Practicability

System must be capable of being operated over a long period of time and must have ease of use.

        Efficiency

Should make better use of resources available. Efficiency involves

Accuracy, timeliness and comprehensiveness of system output.

        Cost  :      Aim of minimum cost and better results

        Security  : Physical security of data

**Program Structure**

Top-down programming is the opposite of bottom-up programming. It refers to a style of programming where an application is constructed starting with a high-level description of what it is supposed to do, and breaking the specification down into simpler and simpler pieces, until a level has been reached that corresponds to the primitives of the programming language to be used. Top-down programming tends to generate modules that are based on functionality, usually in the form of functions or procedures. Typically, the high-level specification of the system states functionality. This high-level description is then refined to be a sequence or a loop of simpler functions or procedures, that are then themselves refined, etc. In this style of programming,

there is a great risk that implementation details of many data structures have to be shared between modules, and thus globally exposed. This in turn makes it tempting for other modules to use these implementation details, thereby creating unwanted dependencies .

**Description for Components**

There are four types of the modules

      1:  Student Module

      2:  Course Module

      3:  Exam Module

      4:  Administrator module

1. Student Module: - The student module contain another module

 1.1 Registration Module: - Each of the students must first register    with     the software. For the registration part of the student will have to enter his details like name, address etc. and get a User Id from the software. Once the student register with software they are able to give the exam.

 2. Course Module: - The course module contain another three module

2.1.Course Registration: -This modules contain all the information about different courses.

2.2.Question Entry: - This module contains all the question   of different subjects. The questions are multiple types.

2.3.Mark Entry: - This module contains the mark details of different subjects.

3. Exam Module: - This module is used for performing examination process. Time  slot is allotted for exam. Two hour for each exam. Copy writing not possible in    the exam. Result generation is also the part of this module. As the part of the result generation make the mark list. The mark list contains Register number, name, course, subject, semester, mark, etc.

4. Administrators Module: - The module protected by user id and password.This is encrypted format. So Ordinary users of the software will not be permitted to enter this area of the software. The module will be focusing on the maintenance like Master Data entry operation.

**4.3 Software Interface Description**

**ASP.Net**

ASP.NET has many advantages over other platforms when it comes to creating Web applications. Probably the most significant advantage is its integration with the Windows server and programming tools. Web applications created with ASP.NET are easier to create, debug, and deploy because those tasks can all be performed within a single development environment—c# .NET.

**4.4 User Interface Design**

System needs mainly following forms: a login form with security features, registration form for membership

**5. TESTING**

  System testing is the stage of implementation, which is aimed at ensuring that the system works accurately and efficiently before live operation commences. Testing is vital to the success of the system. Testing is the process of executing a program with the explicit intention of finding errors that is making the program fail. The tester may analysts, programmer or a specialist trained for software testing, is actually trying to make the program fail. Analysts know that an effective testing program does not guarantee system reliability. Therefore reliability must be designed into the system.

**Unit Testing**

           In unit testing we have to test the programs making up the system. For this reason unit testing is sometimes called as the Program testing. The software units in a system are modules and routines that are assembled and integrated to perform a specific function.

 Unit testing focuses first on modules, independently of one another, to locate errors. This enables, to detect errors in coding and logic that are contained with in the module alone. Unit testing can   be performed from the bottom up, starting with the lowest level modules and proceeding one at a time. Unit testing is done for each module in Online\_Examination. This ensures that the value we enter match with the data type and within the specified limits.

**Integration Testing**

           Data can be lost across any interface, one module can have an adverse effect on another, sub functions when combined, may not produce the desired major functions. Integration testing is a systematic testing for conducting tests to uncover errors associated within the

interface. The objective is to take unit tested modules and build a program structure. All the modules are combined and tested as a whole. Here correction is difficult because the vast expenses of the entire program complicate the isolation of causes. Thus in the integration testing step, all the errors are corrected for the next testing steps. In Online\_Examination each module is integrated and tested. This testing provides the assurance that the application is well integrated functional unit with smooth transition of data.

**Validation Testing**

          At the culmination of integration testing, software is completely assembled as a package; interfacing errors have been recovered and

corrected and a final series of a software tests-validation tests begin.

Validation testing can be defined in many ways but a simple definition is that validation succeeds when the software functions in a manner that can be reasonably expected by the customer.

       In validation testing if user wants to enter the numeric value he can only enter the numeric value not the text value. For e.g.: in phone number field user can only enter numeric value to it. The system is user friendly with user guide and messages to explain further procedures. An attempt has been made to perfect the process by incorporating validation at each level.

**6. IMPLEMENTATION**

Implementation is the stage in the project where the theoretical design is turned into a working system and is giving confidence on the new system for the users that it will work efficiently and effectively. It involves careful planning, investigation of the current system and its constraints on implementation, design of methods to achieve the change over, an evaluation, of change over methods. Apart from planning major task of preparing the implementation are education and training of users. The more complex system being implemented, the more involved will be the system analysis and the design effort required just for implementation.

       An implementation co-ordination committee based on policies of individual organization has been appointed. The implementation process begins with preparing a plan for the implementation of the system. According to this plan, the activities are to be carried out, discussions are made regarding the equipment and resources and the additional equipment has to be acquired to implement the new system.

       Implementation is the final and important phase. This is the most critical stage in achieving a successful new system and in giving the users confidence that the new system will work is effective. The system can be implemented only after thorough testing. This method also offers the greatest security since the old system can take over if the errors are found or inability to handle certain type of transactions while using the new system.

**7. CONCLUSION & SCOPE FOR FURTHER DEVELOPMENT**

 Online\_Examination has been developed and the system was tested with proper data. The system results in regular timing preparation of the required output. In  comparison with the manual system, the benefit under a computer system considerable in to saving of manpower, working hour and efforts.

               It can observe 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 operate the system easily. Online massage has been provided to help the user to take necessary, correct action while using the system. Various validation techniques have been used to implement accuracy of data in all formats of input. The system has produced all the report required by the management .

 This software can be used by any institute as it can be modified easily; additional features can be added without interrupting the normal functioning of the system.

**B. Tables**

1).**Member registration**

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Length** |
| Regno(PK) | int | 9 |
| fname | nvarchar | 50 |
| lname | nvarchar | 50 |
| currentaddress | nvarchar | 50 |
| permaddress | nvarchar | 50 |
| contactno | nvarchar | 9 |
| age | int | 9 |
| gender | nvarchar | 50 |
| emailid | nvarchar | 50 |
| username | nvarchr | 50 |
| password | nvarchar | 50 |
| confrmpassword | nvarchar | 50 |

**2)add course**

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Length** |
| Courseid(PK) | int | 9 |
| coursename | nvarchar | 50 |
| courseduration | int | 9 |
| coursefee | int | 9 |

**3)add semester**

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Length** |
| Semid(PK) | int | 9 |
| courseid | int | 9 |
| semname | nvarchar | 50 |

**4)add subject**

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Length** |
| Subid(PK) | int | 9 |
| courseid | int | 9 |
| semid | int | 9 |
| subjname | nvarchar | 50 |

**5)add question**

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Length** |
| questionid(PK) | int | 9 |
| courseid | nvarchar | 50 |
| semid | int | 9 |
| subid | int | 9 |
| question | nvarchar | 50 |
| Option1 | nvarchar | 50 |
| Option2 | nvarchar | 50 |
| Option3 | nvarchar | 50 |
| Option4 | nvarchar | 50 |
| answer | nvarchar | 50 |
| mark | int | 9 |

**6)login table**

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Length** |
| username | nvarchar | 50 |
| password | nvarchar | 50 |

**7)enroll student**

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Length** |
| Regno(PK) | int | 9 |
| course | int | 9 |
| amountpaid | int | 9 |

**8)publish date**

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Length** |
| examid(PK) | int | 9 |
| courseid | int | 9 |
| semid | int | 9 |
| examdate | Datetime | 10 |

**9)temp mark table**

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Length** |
| questionid | int | 9 |
| username | nvarchar | 50 |
| [select] | nvarchar | 50 |
| noofrightquestion | int | 9 |
| noofwrongquestion | int | 9 |
| totalmark | int | 9 |

**10)marks**

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Length** |
| slno(PK) | int | 9 |
| username | nvarchar | 50 |
| totalmark | int | 9 |
| percentage | int | 9 |
| noofright | int | 9 |
| noofwrong | int | 9 |
| status | nvarchar | 50 |
| date | datetime | 10 |