

## Online Examination System

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**Abstract**— This document will propose all features and procedures to develop the system. This paper describes details about objectives, future aspects and its limitations, process-model, minimal requirements, team development, possible risk factors, schedule; and finally, monitoring and reporting mechanisms. On-line Exam System is handful for Institutes to conduct exam, less consuming time that will bring to evaluate the answers and prepare mark sheets. It will help the Institute to testing of students and develop their skills. The effective use of "On-line Exam System", any Educational Organization or training center can use it to edit their features for letting the exams, and for getting better output in less time. This book is for software developers who want to understand why C# is designed the way it is and how to use it Effectively [1]. It doesn't take long to realize how extremely productive you can be with Visual Studio LightSwitch, regardless of your programming skills [2].

**Keywords**—Online Examination, Online Evaluation, ASP.NET Project, C#

### I. INTRODUCTION

Main objective of the project "Online Examination System" is to ease the burden of the students by allowing them to give the exam for the particular institute (Theta Institute) at the comfort of their home. Students are supposed to give the exam for a particular course (Java-can only be given once). Student can also view their scorecard from the comfort of their home and print it as well.

There are administrators (4 in our case) who can view Student database, Student scorecard & can delete data of any particular student.

The tests are taken to develop the project in the labs of Ardent Computech Pvt. Ltd. for the preparation of this paper. Section I contains the introduction; Section II contains the business context; Section III contains the perspective, function of the product and characteristics of users; Section IV contains minimum hardware and software requirements to carry out the project; section V contains the architecture and essential data-flow-diagram and explain the methodology with class diagram and describes result table structure; Section VI tells about futuristic approaches and its limitation; Section VII concludes research work; Section VIII is our thanks and regards towards our mentor and supporters and Section IX contains the bibliography.

### SCOPE:

- On-line Exam system is architected for Educational Institutes (like schools, versities, training centers).
- The system compiles all the operations and creates

reports immediately after the test is finished, that includes name, mark, time taken to solve the exam.

- Allow students to compare his/her answers after the exam is over.
- The questions are only multiple choice or true and false.

### II. BUSINESS CONTEXT

A product catalog rarely exists by itself; it is usually a part of a larger e-commerce system, which has to support all CRUD operations not only for products, but also for customers, suppliers, shipping companies, orders, and more [3].

- Corporate between the data stored in the server of the Institution and our On-line Exam system. To deal with On-line System easily and efficiently. (connection process)
- Create secure and secret database to prevent any outside or inside attacks.
- Specify a privilege to each examinee to use this system to create his/her own exam. And have a complete control over his exam.
- Allow each examinee to sit more than one exam with many a different way to create variant questions.

### III. GENERAL DESCRIPTION

#### 3.1) PRODUCT PERSPECTIVE:

The system will be developed using the following technology:

- 1) DOT.NET [4][5]

- 2) VISUAL STUDIO 2012 ULTIMATE [6]
- 3) ASPX PAGE
- 4) HTML
- 5) C# [7]
- 6) AJAX EXTENDED TOOLKIT

### 3.2) PRODUCT FUNCTION:

The product developed will provide easy access to exams provided by a particular Institution. Students can give exams from the comfort of their home. The major functions of the system are:

- 1) Provide online exams for students
- 2) Results when uploaded can be viewed online.

### 3.3) USER CHARACTERISTICS:

- a. Educational level: Users should be comfortable with the English language.
- b. Experience: Users should have prior information regarding the online examinations.
- c. Skills: Users should have basic knowledge and should be comfortable using general purpose applications on computer.

### 3.4) ASSUMPTIONS

1. The system will run on any known operating system platform.
2. The processor must be at least 1GHz with 256 Mb RAM.
3. The hardware for the client must be provided by the client.
4. The web browser can be any known web-browser.
5. The user should have an Internet Connection of at least 256 kbps.

## IV. SYSTEM REQUIREMENTS SPECIFICATIONS

### 4.1) FUNCTIONAL REQUIREMENTS:

*Description:* The online examination system is developed for handling the activities of various users such as student & Administrator. The user should be able to give his exam online through the designed website and receive confirmation on completing the exam.

#### 4.1.1) Login by student:

Students must be able to login to their respective portals using their username and password, which is created Only if they register for the examination.

#### 4.1.2) Answering their exam:

The system should allow students to give their respective online exam using their username.

The system should be able to verify each user with their unique username and allow them to proceed for the test.

#### 4.1.3) Evaluation

The student would be awarded +1 for correct answer

No marks would be deducted for every wrong answer.

Whereas no marks would be deducted for a not attempted

question.

#### 4.1.2.1) Inputs:

Students' username and password.  
Other details of student.

#### 4.1.2.3) Processing:

On receiving the correct username and password, the system should first verify the user and a conformation should allow them to sit for the online test. The system should provide selected questions and should terminate once the user logs out. Product will work on client-server architecture.

#### 4.1.2.4) Outputs:

On completion of the test, the system should send a confirmation message to the student or may display the result.

### 4.2) INTERFACE REQUIREMENTS:

#### 4.2.1) User interface-

On opening the examination portal, it will display the home screen which will give a general information about the exam, institute or company conducting the exam, catalog, help option. It would also contain a login button for registered students and a button for sign up for new students.

4.2.1.2) On clicking the login button that student will be redirected to the login screen, which will ask for student username and password.

4.2.1.3) Also on clicking Sign up button on the main screen a student will be able to create his own username for registration.

4.2.1.4) After logging in the student will be directed to the APPEAR FOR EXAMINATION Screen where they can give their exam and on completion display a confirmation message.

#### 4.2.2) HARDWARE REQ:

1. The application demands that all the PC's must be present in the internet.

2. PC should be sufficiently fast with adequate memory of at least 64 MB RAM and 2 GB hard disk space is required to run this application.

3. Screen resolution of at least 800\*600 required to properly view the screen.

#### 4.2.3) SOFTWARE REQ:

1. Any windows operating system would work.

2. The Visual studio must be installed.

4. The final application must be packaged in a set up program, so that the products can be easily installed in the client's machine.

#### 4.2.4) Communication interface:

The system should be able to communicate with the institute

to retrieve answers and to update the results.

**4.3) PERFORMANCE REQUIREMENTS:**

This subsection catalogues numerical needs put on the software or on the human interaction with the software as a whole.

Numerical requirements will include:

1. 300 terminals will be supported at a time
2. Only text information will be supported (HTTP)
3. All the transactions will be processed within seconds.

**4.4.1 Standard Compliance:**

The IEEE-STD 830-1993 format is used for the technical documentation specification in this document

**4.5.1 Database:**

Microsoft Sql Server 2010

**4.5.1.1**

The database tables will be kept for storing and further usability and verification of data.

**4.5.2. Security:**

Only authorized users will be able to access the website by entering the correct login name and corresponding password.

**4.5.3 Audit Trail**

Audit Trail process would run throughout the life of the system and the system would check for updates every year in March or on the change of Questions

**4.5.4 Recovery:**

When there is any system failure, then the system will recover and will resume from the same instance from where it got interrupted so that there is no loss of time and for convenient.

**4.5.5 Maintainability:**

The website can be maintained in present or future. It will be easy to incorporate new requirements in the individual modules.

**4.5.6 System Availability:**

The system will be available for 24X7, but the examination will be available for the particular mentioned time in which the exam will be held.

**4.5.7 Performance:**

The performance will be very high so that there is no interruption or inconvenience during the exam.

**4.5.8 Capacity:**

The capacity will be very higher and will depend on the no of examiners at a time.

**4.5.9. Portability:**

As the website is online so will be easily portable on various systems.

**V. SYSTEM DESIGN**

**DATA FLOW DIAGRAM:**

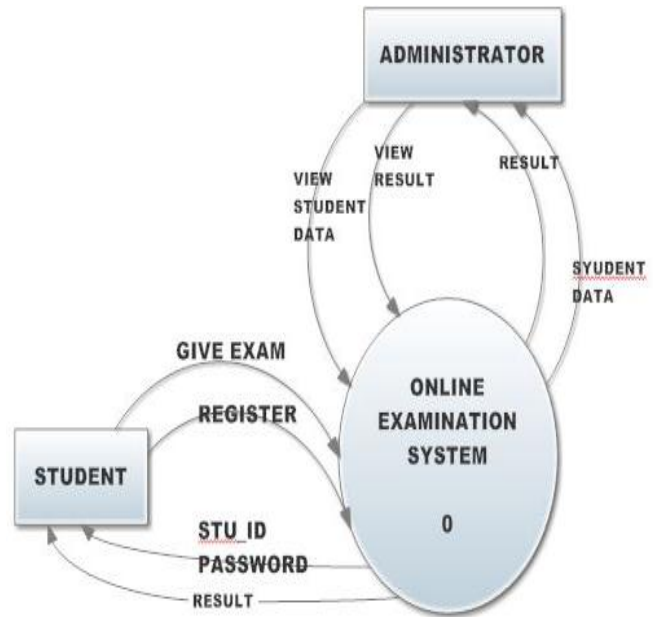


Figure 1. LEVEL 0: DFD

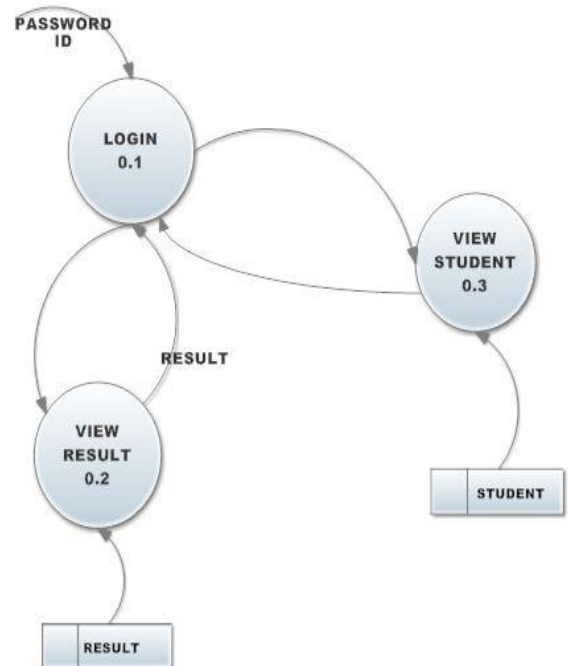


Figure 2. LEVEL 1: DFD (ADMINISTRATOR)

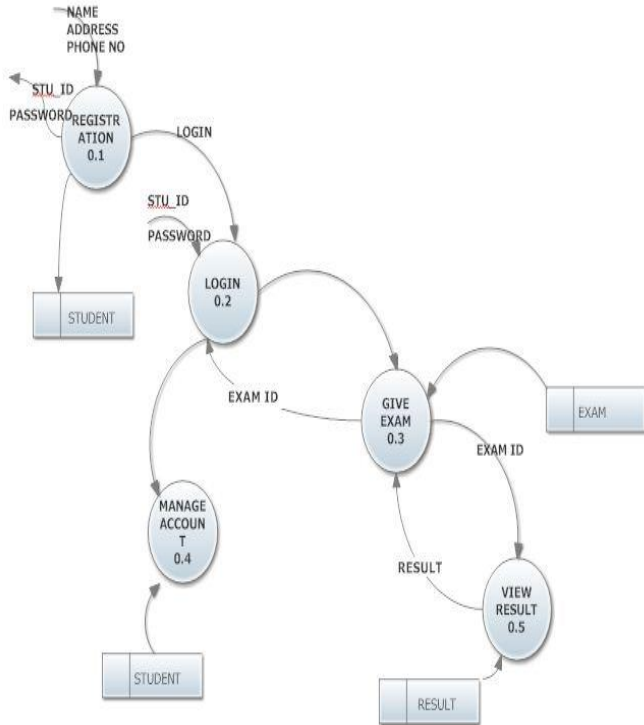


Figure 3. LEVEL 1: DFD (STUDENT)

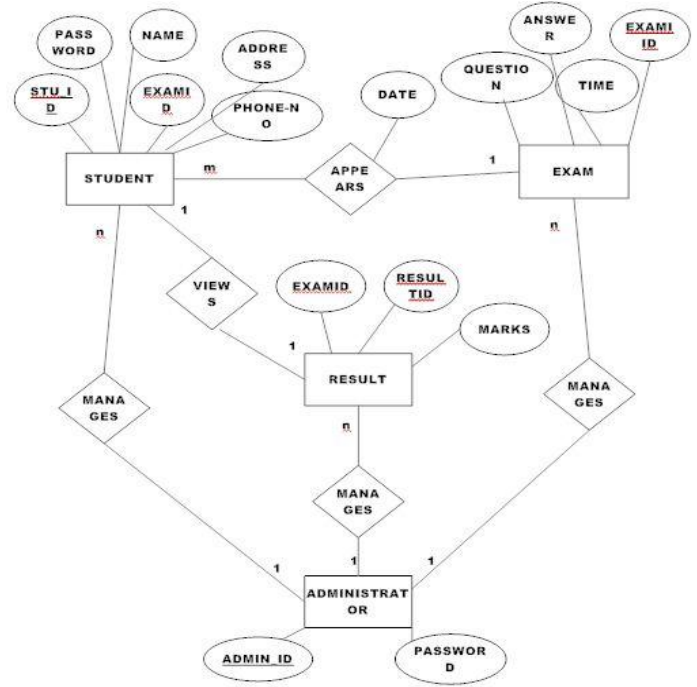
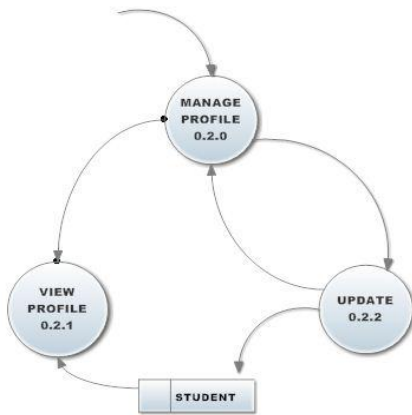


Figure 4. LEVEL 2: DFD ENTITY RELATIONSHIP DIAGRAM (ER DIAGRAM)



**CLASS DIAGRAM:**

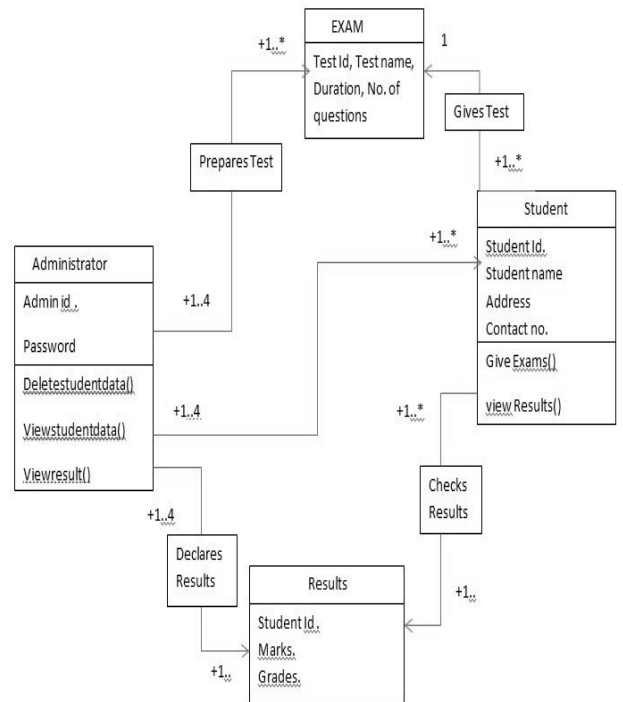


Figure 5. CLASS DIAGRAM

**TABLE STRUCTURE:**

Name	Data Type	Allow Nulls	Default
mail	varchar(50)	<input type="checkbox"/>	
subject	varchar(50)	<input type="checkbox"/>	
marks	varchar(50)	<input type="checkbox"/>	

**Result Table**

Name	Data Type	Allow Nulls	Default
admin	varchar(50)	<input type="checkbox"/>	
password	varchar(50)	<input type="checkbox"/>	

**Administrator Table**

Name	Data Type	Allow Nulls
name	varchar(50)	<input type="checkbox"/>
sex	varchar(50)	<input type="checkbox"/>
address	varchar(50)	<input type="checkbox"/>
phone no	varchar(50)	<input type="checkbox"/>
mail	varchar(50)	<input type="checkbox"/>
password	varchar(50)	<input type="checkbox"/>

**VI. FUTURE SCOPES & LIMITATIONS****FUTURE SCOPES:**

- Student should be able to download their Score Card.
- System can calculate a percentile of every student [8].
- Add videos of lectures and Study material for the subject in context.
- Student can communicate with other student on the system via chat and mail [9].
- Viewing information of various exams and their scheduled date.

**LIMITATIONS:**

- Cookies have not been used
- Answer selection is not done via radio button.
- Student cannot download his scorecard.
- Student cannot view answers.
- Answers cannot be generated randomly from a database.

**VII. CONCLUSION**

The project was a stepping stone for our career. We have come across a useful technology that has enhanced our ability to develop a web application with apt functionalities. We would like to add more functionality to our project in future.

**VIII. ACKNOWLEDGMENT**

We have taken effort in this project. However, it would not have been possible without the kind support and help of individuals and our training institute. We would like to

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