# Software Requirement Specification

## (1) Preface:

This document has been written to apply a new version of SRS Software Requirements Specification depends on IEEE-STD-830-1998 standard. So, you must compare this document with this standard.

This is the first version for ***On-Line Exam*** system.

This document is the basic intended for any individual user, developer, tester, project manager or documentation writer that needs to understand the basic system architecture and its specifications. [1]

## (2) Introduction:

The purpose of this SRS document is to write the functional and non functional user or system requirements that represent the characteristics of ***On-Line Exam System***.

The scope and limitation of this system is:

* The on-line exam system design to educational institutes.
* Hold all operation and generate reports to student, teachers and administrator.
* Support multiple choices questions.
* Allow the student to prochoice the answer and to see his mark.
* Verify a security, authority and safty.

## (3) Glossary:

|  |  |  |
| --- | --- | --- |
|  | Short name | description |
| 1 | OES | On-line Exam System |
| 2 | On-line Exam | An exam written on a web site and solves the questions, also on the same web site from any place by entered user name and password. |
| 3 | Administrator | Who is responsible to create a new course, delete course, add member or delete it, i.e.: the person who control the system |
| 4 | Faculty member | A teacher in the faculty |

## (4) User Requirements Definition:

The user requirement for this system is to make the system fast, flexible, less prone to error, reduce expenses and save the time.

* Time can be saved by scheduling the exams, if it is available a question bank to store questions for different subjects.
* A system can be given a mark by checking the students answers, and give the result as soon as students finish his exam.
* A facility to generate a result chart as pre required without manual interface.
* The system should have records of students and faculty that can be access to the system which can be used only for the authorized person.
* The system should be more secure for management user records and more reliable to work at any conditions.

### (4.1)The products and process features:

This system must be designed as user required. So, the complete requirement must be found:

* **Quick scheduling:**

The system helps the faculty member to generate an automatic exam instead of using papers. Which save a time for writing, checking and for input marks. Also, student can see the exam when he login as an individual to the system.

* **Immediate results and solutions:**

When the student finishes his exam, the system checks her answers and compared with the correct answer. And the system saves the incorrect and correct answers and calculates the mark of correct answers. Then give the total mark. And send a report for student to see where he is fault.

* **Easy to store and retrieve information:**

Rather to save the information on a papers or in separate sheets. There are a data base management to store and retrieve the information needed by the administrator or Faculty member or student according a report generated by the system.

## (5) System Architecture:

Web Browser

Login

Role checking

Form & Menu Manager

Data Validation

Security Manager

OES Appointment Manager

Data Import & Export

Report Generation

Transaction Management for OES Database

Figure (2.1): system architecture for OES

## (6) System Requirement Specification:

### (6.1) Functional System Requirement:

This section gives a functional requirement that applicable to the On-Line Exam system.

There are three sub modules in this phase.

* Candidate module.
* Examiner module.
* Administrator module.

**The functionality of each module is as follows:**

* **Candidate module**: The candidate will logon to the software and take his examination. He can also check his previous examinations marks and his details. The candidate will get result immediately after the completion of the examination.
* **Examiner module:** The database is prepared & loaded into the software. Selection for examination can be done language wise by the examiner. The results will be displayed immediately after completion of the examination.
* **Administrator module:** The administrator collects all the results after successful completion of the examination and sends to the head quarters as and when required.

**The features that are available to the Administrator are:**

* The administrator has the full fledged rights over the OES.
* Can create/delete an account.
* Can view the accounts.
* Can change the password.
* Can hide any kind of features from the both of users.
* Insert/delete/edit the information of available on OES.
* Can access all the accounts of the faculty members/students.

**The features available to the Students are:**

* Can view the different categories of Test available in their account.
* Can change password.
* Can view their marks.
* Can view the various reading material.
* Can view and modify its profile but can modify it to some limited range.

**The features available to the Examiner are:**

* Can view the different categories of Test conducted by users.
* Can change password.
* Can view their marks.
* Can view and modify Results.

### (6.2) Non-Functional System Requirements:

#### 6.2.1) Performance Requirements

Some Performance requirements identified is listed below:

* The database shall be able to accommodate a minimum of 10,000 records of students.
* The software shall support use of multiple users at a time.
* There are no other specific performance requirements that will affect development.

#### 6.2.2) Safety Requirements

The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup.

#### 6.2.3) Security Requirements

Some of the factors that are identified to protect the software from accidental or malicious access, use, modification, destruction, or disclosure are described below. Keep specific log or history data sets

* Assign certain functions to different modules
* Restrict communications between some areas of the program
* Check data integrity for critical variables
* Later version of the software will incorporate encryption techniques in the user/license authentication process.

1. Communication needs to be restricted when the application is validating the user or license. (i.e., using https).

### 6.4) Software Quality Attributes

The Quality of the System is maintained in such a way so that it can be very user friendly to all the users.

The software quality attributes are assumed as under:

* Accurate and hence reliable.
* Secured.
* Fast speed.
* Compatibility.

### (6.3) System Interfaces:

This section describes how the software interfaces with other software products or users for input or output.

#### 6.3.1) User Interface

Application will be accessed through a Browser Interface. The interface would be viewed best using 1024 x 768 and 800 x 600 pixels resolution setting. The software would be fully compatible with Microsoft Internet Explorer for version 6 and above. No user would be able to access any part of the application without logging on to the system.

#### 6.3.2) Hardware Interfaces

**Server Side:**

* Operating System: Windows 9x/xp ,Windows ME
* Processor: Pentium 3.0 GHz or higher
* RAM: 256 Mb or more
* Hard Drive: 10 GB or more

**Client side:**

* Operating System: Windows 9x or above, MAC or UNIX.
* Processor: Pentium III or 2.0 GHz or higher.
* RAM: 256 Mb or more

#### 6.3.3) Software Interfaces

* **Client Side:** .HTML, Web Browser, Windows XP/2000/Vista
* **Web Server:** .HTML, Windows XP/2000/Vista

#### 6.3.4) Communications Interfaces

The Customer must connect to the Internet to access the Website:

* Dialup Modem of 52 kbps
* Broadband Internet
* Dialup or Broadband Connection with a Internet Provider.

## (7) System Models:

In this system we are use waterfall model to apply these ideas. Which is help us to separate each step and when we finish a one phase the output of it is the input to the next phase. Also, we can backwards if there is a new requirement or to apply any update.

## (8) System Evolution:

* **Including image support:**

Allow to adding students, faculty members and administrator images to the system. Which available for student to ensure that exam for his teacher. Also, the teacher can see his student's image.

* **Flags:**

Allow the student to put a symbol near the question that helps the student to return and review the questions and change them accordingly.

* **Enable and disable exam:**

Allow the faculty member to control for enable or disable the exam for his students.

* **Allow to transfer exam from one subject to another:**

So, that saves the time to rewrite the questions for future course.

* **Allow to upload the exam from word or excel file:**

So, that saves the time to enter a question in the on-line system, if the teacher needs not the direct answers.

* **Enhanced the questions to be appear as random for each student:**

Make the order of questions as random, or select random questions from a set of questions.

## (9) Appendices:

**Definition of online examination system:**

**Introduction:**

Online Examination System is a software application which allows a particular company or institute to arrange, conduct and manage any objective examination via online.

**Purpose:**

The purpose of this application is to conduct and process various types of certificate/non-certificate exams at different centers across any country via online.

**Features:**

* Any institute or company can register their various types of certificate/non-certificate programs and conduct an online examination for the same.
* Just register the programs, their fees (if paid) and the centers (where the exam will be conducted) in order to start the examination process.
* Questions and answers would be objective type and the format would be as per the company’s choice.
* User can select the company, its program, exam schedule and pay fees online in order to give his exam at the selected center.

**Advantages:**

* Today, most of the companies or institutes are conducting their exams online to be a part of this fastest growing world.
* Online Examination System covers almost all type of problems faced by a company or institute while conducting online examinations.
* User can give any available exam at any available center as per his/her choice.
* The results of the online exam will help a company or institute to list out the outstanding exam takers all over the country.