Software requirements specification

For

“Online Proctored Examination”

**Prepared By**

**Kiran Kedari Patil**

**Reg. No: 211070904**

**Instructor: Dr. B. B. Meshram**

**VJTI,**

**Mumbai**

**Table of Contents**

[Table of content i](#_TOC_250032)i

[Revision History ii](#_TOC_250032)i

1. [Introduction 2](#_TOC_250031)
   1. [Purpose 4](#_TOC_250030)
   2. [Project Scope 4](#_TOC_250027)
   3. [Document Conventions 4](#_TOC_250029)
   4. [Intended Audience 5](#_TOC_250028)
   5. [Additional information 5](#_TOC_250026)
   6. [References 5](#_TOC_250026)
2. [Overall Description](#_TOC_250025) 6
   1. [Product Perspective 6](#_TOC_250024)
   2. [Product Functions 6](#_TOC_250023)
   3. [User Classes and Characteristics](#_TOC_250022) 7
   4. [Operating Environment](#_TOC_250021) 8
   5. [User Documentation 8](#_TOC_250019)
   6. [Design and Implementation Constraints 9](#_TOC_250020)
3. [External Interface Requirements](#_TOC_250017) 10
   1. [User Interfaces](#_TOC_250016) 12
   2. [Hardware Interfaces](#_TOC_250015) 13
   3. [Software Interfaces](#_TOC_250014) 15
   4. [Communications Interfaces](#_TOC_250013) 15
4. [System Features](#_TOC_250012) 16
   1. [Patient Appointment Management](#_TOC_250011) 16
   2. [Doctors appointment scheduling](#_TOC_250010) 16
   3. [Identify and maintain patient records](#_TOC_250010) 16
   4. [Manage patient medical history](#_TOC_250010) 17
   5. [Doctor’s Profile Management](#_TOC_250010) 17
   6. [Appointments reminder management](#_TOC_250010) 17
5. [Other Nonfunctional Requirements](#_TOC_250009) 18
   1. [Performance Requirements](#_TOC_250008) 18
   2. [Safety Requirements](#_TOC_250007) 18
   3. [Security Requirements](#_TOC_250006) 19
   4. [Software Quality Attributes](#_TOC_250005) 19
6. [Other Requirements](#_TOC_250003) 20
   1. [Maintenance and support](#_TOC_250004) 20

# Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason for Changes** | **Version** |
|  |  |  |  |

**1. Introduction**

An online proctored examination project is a software-based solution aimed at facilitating remote, secure, and monitored exams. This project aims to provide a platform for educational institutions, corporates, and certification bodies to conduct exams online with a high level of confidence in the authenticity of the results. The project involves the development of a system that integrates various technologies such as webcams, screen sharing, and remote proctoring software to create a secure environment for the examination. The project's goal is to provide a flexible and cost-effective alternative to traditional in-person exams while maintaining the integrity and fairness of the testing process.

Additionally, the online proctored examination project also focuses on delivering a seamless user experience to the candidates. The system should be user-friendly, easy to access and navigate, and allow candidates to take the exam from the comfort of their own homes. It also includes features such as real-time monitoring, automated proctoring, and immediate result reporting. The project should also adhere to strict security and privacy standards to protect the personal information of candidates and ensure the confidentiality of exam results. Overall, the online proctored examination project aims to provide a reliable and efficient way to conduct exams while ensuring the validity and fairness of the results.

**1.1 Purpose:**

The purpose of the online proctored examination project is to provide a secure, efficient, and cost-effective way to conduct exams remotely. This project aims to address the challenges posed by traditional in-person exams, such as scheduling difficulties, limited availability of testing locations, and the need for physical proctors.

The primary objective of the online proctored examination project is to ensure the authenticity and integrity of the exam-taking process. This is achieved by using technology to monitor and record the candidate's activities during the exam, preventing cheating and misconduct.

The project also aims to make exams more accessible to a wider audience by allowing candidates to take the exam from any location with a stable internet connection. This eliminates the need for candidates to travel to a physical testing center, reducing the cost and inconvenience associated with in-person exams.

Overall, the purpose of the online proctored examination project is to provide a reliable, secure, and convenient way to conduct exams, while maintaining the fairness and validity of the results.

Top of Form

**1. 2 Project Scope:**

The scope of the online proctored examination project includes the development and implementation of a system for conducting secure, remote exams. The following are the key components of the project scope:

1. System Development: The project will include the development of a software platform that integrates various technologies, such as webcams, screen sharing, and remote proctoring software, to provide a secure environment for the examination.
2. User-Friendly Interface: The platform should be user-friendly and easy to access, with a simple and intuitive interface that makes it easy for candidates to take the exam.
3. Real-Time Monitoring: The system will include real-time monitoring capabilities to detect and prevent cheating and misconduct during the exam.
4. Automated Proctoring: The project will include the implementation of automated proctoring algorithms to monitor the candidate's activities and ensure the validity of the exam.
5. Result Reporting: The system will provide immediate and accurate results, allowing organizations to make quick and informed decisions.
6. Security and Privacy: The project will adhere to strict security and privacy standards to protect the personal information of candidates and ensure the confidentiality of exam results.
7. Technical Support: The project will include technical support services to assist candidates with any technical issues they may encounter during the exam.

Overall, the scope of the online proctored examination project includes the development and implementation of a secure, efficient, and user-friendly platform for conducting remote exams.

**1.3 Document Conventions:**

The document is prepared using Ms office 2016 and has used type 'Times Now Roman! The fixed Font Size that has been used to type this document is 14pt and for the headings 18p with 1.5-linespacing. It has used. bold property to set the headings. All pages except the appear page. cover page are numbered, the number on the lower right-hand corner of every

**1.4 Intended audience.**

The intended audience of this document would be the client specific employees like Manager and consultants, project team with the objective to refer and analyse the information.

This document be used in any care can regarding the requirements of the project and the solutions that have been taken. The document would finally provide an idea about the system that is building.

**1.5 Additional information**

An online proctored examination is a secure, convenient and cost-effective way to conduct an exam over the internet. It uses technology to monitor and record the candidate's activities during the exam to ensure the authenticity and integrity of the test-taking process. SRS (System Requirements Specification) is a document that describes the functional and non-functional requirements for a system. An online proctored examination for SRS may assess a candidate's understanding of SRS documentation, techniques and tools used in requirements gathering and analysis, and the ability to write clear, concise, and complete requirements.

**1.6 References**

IEEE SRS document

[https://www.ibm.com/support/pages/detailed-system-requirements-web-applications-components-connection-manager-manager-and-service-interface-v113-ibm%C2%AE-infosphere%C2%AE-optim%E2%84%A2-solutions#hardware](https://www.ibm.com/support/pages/detailed-system-requirements-web-applications-components-connection-manager-manager-and-service-interface-v113-ibm%C2%AE-infosphere%C2%AE-optim%E2%84%A2-solutions%23hardware)

**2. Overall Description.**

An online proctored examination project is a software-based solution aimed at facilitating remote, secure, and monitored exams. This project aims to provide a platform for educational institutions, corporates, and certification bodies to conduct exams online with a high level of confidence in the authenticity of the results. The project involves the development of a system that integrates various technologies such as webcams, screen sharing, and remote proctoring software to create a secure environment for the examination. The project's goal is to provide a flexible and cost-effective alternative to traditional in-person exams while maintaining the integrity and fairness of the testing process.

**2.1 Product Perspective**

The purpose of the online proctored examination project is to provide a secure, efficient, and cost-effective way to conduct exams remotely. This project aims to address the challenges posed by traditional in-person exams, such as scheduling difficulties, limited availability of testing locations, and the need for physical proctors.

Online Remote Proctoring Software to the help, and Restored Educational Institutions, To ensure curriculum continuity during the pandemic.

Preference for this software increased the demand for the same and increased the number of online remote proctoring software providers. The availability of many providers kind of caused a dilemma amongst the universities, schools, and coaching centers, resulting in them falling into the trap of complex software.

Remote Proctoring Software had emerged as a technological advancement to enable proctors to conduct several tests without compromising exam security but, in turn, caused inconvenience.

**2.2 Functionality of the product.**

In the online proctored examination portal, the student will get an environment where they have to register First then they can begin with. The username and password.

Then on the other side there is a Admin Login panel from which teacher/Admin has to login with their credentials and they can set and schedule the test

**2.3 User Classes and Characteristics:**

The system will be used by all over the students and teachers. And quiz companions, Also some by the institutions and certification websites.

**2.4 Operating Environment.**

The Application will operate on any Android or iOS devices, operating Environment and also contains a user interface where user can login with their credential it can operate on any device connected to internet.

The server-side components of the software system must operate within a Linux/Windows operating system environment.

The client-side components of the software system must operate within common web browser environments using Secure Sockets Layer (SSL) / Transport Layer Security (TLS)

cryptographic protocols at a minimum encryption level of 128 bits. The minimum set of browsers that must be supported is:

* Apple Safari 7+
* Google Chrome 44+
* Microsoft Internet Explorer 10+
* Mozilla Firefox 40+

**2.5 Design and Implementation Constraints**

* Anticipate difficulties and limitations regarding system upgrade and improvements due to coordination required to stop. Clinical system that requires continuity of operation.
* Be able to handle significant number of transfections at any time.
* Support high rate of concurrent electronic requests
* Always log all requests and communication to know what happened this allowing to
* replay events, understanding bugs and ensuring the integrity of information.
* Always ensure integrity of information even in document consultation.

**3. External Interface Requirements**

**3.1 User Interfaces:**

Describes logical characteristics of the interface between the software product and the users. This may include sample screen images, any GUI standards or product family style guide are to be followed Screen layout, constraints, standards button and functions, keyboard, error messages, display standards and so on. includes us for Student module and Admin / Teacher module

**3.2 Hardware Interface.**

This may include webcam; All server-side components must execute on server-class computers. All client-side components must execute on workstation-class and personal-class computers.

**3.3 Software Interfaces**

database purpose 1 For database then. connection management software’s like Microsoft Azure, or google cloud, Aws or Mongo atlas. Here we will be using the phpMyAdmin.

**3.4 Communication Interfaces**

The communication architecture must follow the client-server model. Communication between the client and server should utilize a REST-compliant web service and must be served over HTTP Secure (HTTPS). The client-server communication must be stateless. A uniform interface must separate the client roles from the server roles. Communication over the VDS must conform to a reference on database schema. Communication over the server must provide the user with the option of formatted ASCII CSV, JSON, or XML structured with a reference MT Connect data schema.

**4. System features:**

After extensive research had been carried out on Online examination portal will be having the following features.

**4.1 Student Module**

Student’s Module will have the following features

* Login
* Give test
* View Marks
* View Rank

**4.2 Admin Module**

Teacher’s module will have following features:

* Doctor today's appointments schedule
* Doctors’ tomorrow appointments detail
* Cancel appointment
* SMS text detail about tomorrow appointments to doctor
* total examined appointments

**4.3 Calculate the results**

Identify and maintain patient record’s section will have following features:

* Search patient
* Patient total visit to a particular doctor
* Patient personal detail
* Edit patient personal detail
* Add new patient
* Assigning Medical registration number (MRNO) to each patient.
* Generating patient MRNO card

**4.4 Manage student record**

Manage patient medical history such as reports, prescriptions, laboratory tests, etc. This section will have following features:

* Patient recent prescription
* Patient old prescriptions
* Order laboratory for particular ABC test of a patient

**4.5 Calculate Rank**

This section will have following features:

* Add doctor
* Delete Doctor
* Update doctor
* Doctor registration number (DRNO) management

**4.6 Schedule the exam**

This section will have following features:

* Patient appointments reminder management
* SMS based appointments reminder for patient
* Doctor appointments reminder
* Add reminder for particular time
* SMS based appointments reminder for doctor

**5. Other Non- Functional Requirements.**

**5.1 Performance Requirements**

**Response Time**: The system shall responses within I second after checking the patient’s information. For small size users, a small delay can be acceptable but when number of users are very large, the system should be very fast to prevent queue.

**Load Balancing:** A backup server or servers will be provided to handle the traffic coming as multiple requests may come. This willfulfil the Availability of service so that patients request can be handled in proper way.

**Throughput**: As Throughput is the measurement of how much data is exchanged between the user and the server, over a given period. Although optimizing for throughput is the right call, the website will be able to control bandwidth and latency

**5.2 Safety Requirements.**

A proper place will be maintained to save database servers and handle natural disasters. The system should be able to service even if there some problems like earthquake or rain etc.

**Humidity controlling:**

The database server will be placed in a room and the humidity of the room will be controlled, also humidity readings will be noted from time to time to know at which time humidity is high and the environment will be designed accordingly so that humidity will be

controlled automatically by dehumidifiers.

**Backup database in case of Fire Earthquake damage:**

If suppose because of some issue database server is facing some problem, then the backup database server will be created before facing this situation and it will be updated from time to time. Backup databases will be maintained at different places. Also, a Safety alarm system will be created for fire handling.

**6. Other Requirements**

**6.1 Maintenance & Support**

We will correct any bugs or problems that may come up during this period in our delivered product. Addition of the new features and changes in the functionality are done at an additional cost unless the effort and time required is minimal.