Software Requirements Specification

for

<EXAMINATION SYSTEM>

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

This SRS document describes the requirements, functions, constraints of our Exam-cell system. It also explains the hardware and software interfaces used by us to develop this Web App. This SRS is intended for our customer (Exam-cell of our NIIT University) and the users(Students and staff of our university).

1.2 Document Conventions

In this document, we are using the Calibri font and heading is of size 18,sub heading is of size 14 and the remaining text size is 12.We used Underline, Italic and bold where ever we require.

1.3 Intended Audience and Reading Suggestions

This document can be read by anyone but our intended audience are exam cell, students, faculty of our university.

1.4 Product Scope

The primary purpose of our web app is to make the work of exam cell easier by generating an automatic exam schedule, seating allotment, invigilation schedule and the secondary purpose is to
Send emails to the students, faculty, staff their individual exam schedule, seating allotment ,invigilation schedule respectively.
Our database will be able to access the data from the Faculty and students ERP and admin will be able to add the schedule-time and available class rooms. Basically we want to decrease the burden of our Exam cell and also to give user friendly output to students and faculty.

1.5 References

The reference used was the **IEEE Std 830-1998 IEEE Recommended Practice** for Software Requirements Specifications and also we used **Krazytech SRS documents.**

2. Overall Description

2.1 Product Perspective

Our Examination-cell system is a new, independent self-contained product .As our University's Exam-cell is making Examination schedule, Invigilation schedule, seating allotment manually with lots of effort. But the output they are giving to faculty and students is not user friendly and also they are not able to add more features to it. So our web app is very helpful for the Exam cell as It automatically generates the Exam schedule, Invigilation schedule, Seating allotment and this web app will automatically send the students, faculty and staff regarding their exam schedule invigilation schedule, seating allotment through university mail.

2.2 Product Functions

Major functions performed by our web app:

1.Automatically generates the Examination schedule and every student or Faculty will be able to see their respective Exam timetable through their University mail.

2.Automatically generates the Invigilation schedule and every faculty or staff will be able to see their respective Invigilation schedule through their University mail.

3.Automatically generates the seating allotment and every student will be able to see their respective seating allotment through their University mail.

4.Automatically generates the attendance sheet of students who are allotted in respective class room.

Additional features of our app:
1.Online exam will be held before pen-paper.
2.Students who are having less than 75% attendance in particular subject will not be to see the seating allotment of that respective exam.
3.Faculty and staff who are on leave on a particular day will not be allotted for invigilation duty.

2.3 User Classes and Characteristics

Our Web App has 4 defined User classes:

1. Exam-cell(Admin):

Although, the database of our web app get all the information about students and faculty through
Faculty and Student ERP, Admin should add the schedule date and time, class rooms, IT labs available for the purpose of Examination.
They are the primary users of our Web app.

2.4 Operating Environment

As our system is a Web application, it will be operated in any operating system including windows, Linux, ios , android and will be compatible for all web browsers of all versions which supports CGI,Asp.net, php, HTML, angular JS.

Software components:
IDE: Visual studio 2015 enterprise
Cloud server: Microsoft Azure cloud
Database: Microsoft Azure storage explorer.

2.5 Design and Implementation Constraints

Some implementation and design constraints of our system are:

1.There is a time limit constraint as we have to submit our project with in 2 months from now.

2.There are no memory constraints.

3.There can be a security constraint but we are trying to overcome this by using an hashing algorithm to encrypt the user data.

2.6 User Documentation

We will provide the online as well as hard copy of the user manual to our customer which includes the instructions of how to use our web app.

2.7 Assumptions and Dependencies

Assumptions:

1.As the app will directly get the details of attendance of an individual student from the Nucleus of our University,we assume that a student who has less than 75% attendance will be debarred and will not be allowed to write the Examination.But he/she may get permission from the dean academics later to write the exam.But our app will not send an email about that particular particular exam seating allotment to that student.

2.We also assume that a particular faculty will inform when they want to take a leave.But in emergency,they may not inform.In such case,our web app will allot invigilation duty for that
Particular faculty or staff.

Dependencies:

1.Our web app is dependent on our University Nucleus so, If the database our app will not fetch the correct data from the nucleus, our app does not work.

2.If something goes wrong in our shuffling algorithm, our app will not be able to give the correct output.

3. External Interface Requirements

3.1 User Interfaces

1. The admin should login

2.He will be able to see all the features of our app like generating exam schedule, seating allotment, invigilation schedule, attendance chart .

3.He will be asked the details of the time and date for the exam scheduling, available classrooms for seating allotment.

4.Accordingly our app will generates the exam schedule, seating allotment, invigilation schedule.

5. We plan to use the following for our software:

- **IDE: Visual studio 2015 enterprise.**
- **Back end software: Microsoft azure storage explorer.**
- **Cloud platform: Microsoft azure.**
- **Algorithm: Shuffling algorithm.**

3.2 Hardware Interfaces

Our product will run in any Operating system which have 2 GB memory and in any browser which supports HTML, CSS,Java script,CGI,ASp.net.

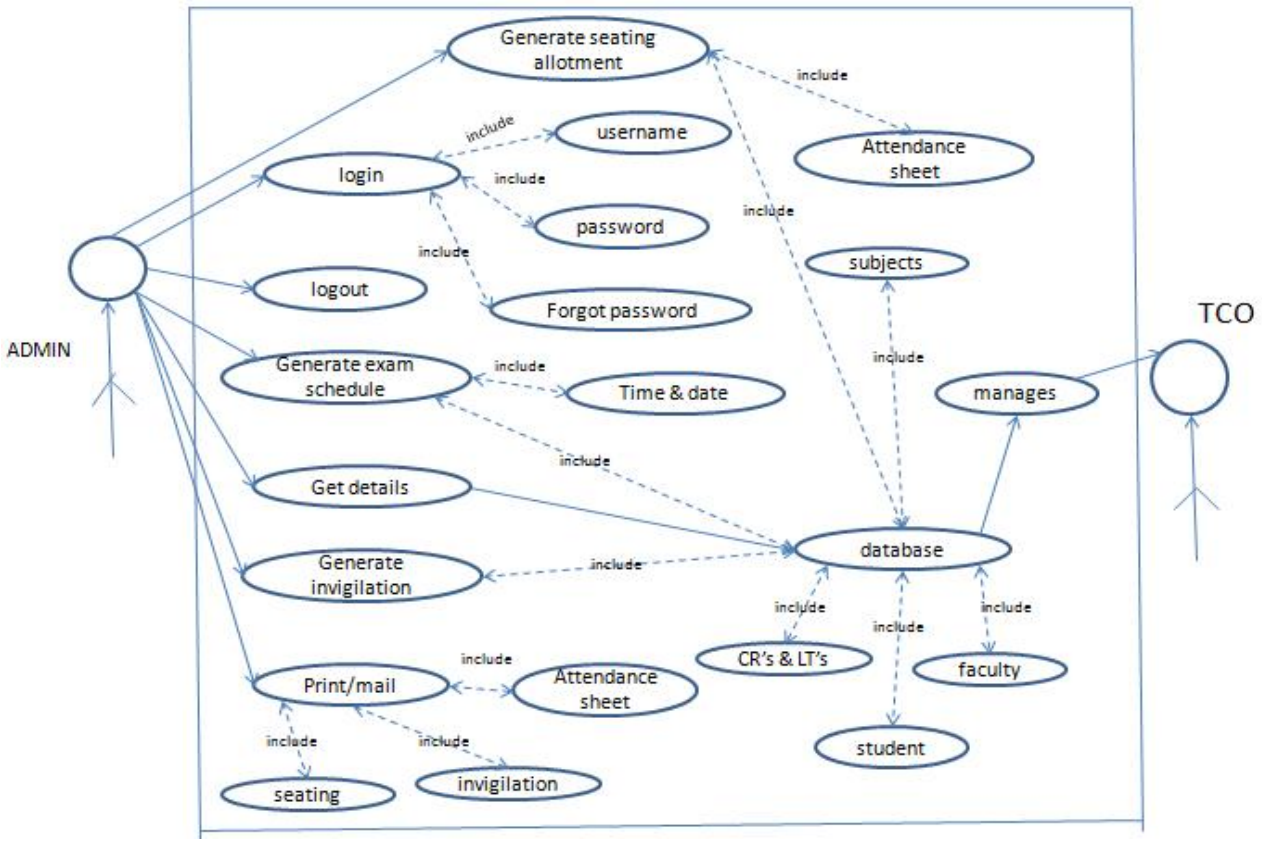
3.3 Software Interfaces

Database	Microsoft azure storage explorer as it is easy to create database and also compatible to connect with Microsoft azure cloud server.
Asp.net	It is an open source web framework for building modern web applications and services and another reason for choosing this is we use more tools from Microsoft for this software.
HTML5 and CSS	We use this two common languages to develop the front end and styling for the web app.
Algorithm	Shuffling algorithm is used to make seating allotment for the students and invigilation duty for the faculties.

3.4 Communications Interfaces

We are using http standards for communication. The app will be fetching the data from the various databases and will uses the data for creating various charts. Moreover there will be an encryption of the passwords and our app will be supported by all the browsers.

4. System Features



System Feature 1:

1.Generating an Exam schedule:

4.1.1 Description and Priority

Our web app will automatically generates the exam schedule .This feature is having highest priority as this is one of the primary features wanted by our customer.

4.1.2 Stimulus/Response Sequences:

Stimulus: Admin will login using his her Username and password.

Response: Our web app will display a page where various features of our app are displayed.

Stimulus: admin selects an option called Exam-schedule

Response: Our web app will ask admin to enter the date and time.

Stimulus: shuffling algorithm of our app generates an exam schedule .

4.1.3 Functional Requirements:

TBD.

4.1 System Feature 2

2. Generating seating allotment:

4.2.1 Description and priority

Our web app will automatically generates the seating allotment .This feature is having highest priority as this is one of the primary features wanted by our customer.

4.2.2 Stimulus/Response Sequences:

Stimulus: Admin will login using his or her Username and password.

Response: Our web app will display a page where various features of our app are displayed.

Stimulus: Admin will click seating allotment option.

Response: It will ask to enter the available CR's and LT's.

Stimulus: Admin will enter the details of available class rooms.

Response: Our web app will generate seating allotment.

4.2 System Feature 3

3. Generating invigilation schedule:

4.2.1 Description and priority

Our web app will automatically generates the invigilation schedule .This feature is having highest priority as this is one of the primary features wanted by our customer.

4.2.2 Stimulus/Response Sequences:

Stimulus: Admin will login using his her Username and password.

Response: Our web app will display a page where various features of our app are displayed.

Stimulus: Admin will click invigilation schedule option.

Response: It will get the information about available staff/faculty from the ERP and generates an invigilation schedule.

4.3 System Feature 4

4. Generating invigilation schedule:

4.4.1 Description and priority

Our web app will automatically generates the invigilation schedule .This feature is having less priority as this is one of the optional features wanted by our customer.

4.4.2 Stimulus/Response Sequences:

Stimulus: Admin will login using his her Username and password.

Response: Our web app will display a page where various features of our app are displayed.

Stimulus: Admin will click Generate attendance sheet option.

Response: It will get the information of the seating allotment and then generates the attendance sheet.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

We are basically making a web app which will save the time of Exam cell in making Exam schedule, seating allotment, invigilation schedule and we are adding the additional features to it where those features are difficult to implement manually. Within the fraction of seconds, Exam cell can get all the requirements it wants.

5.2 Safety Requirements

As our web app is totally dependent on the NIIT faculty and student ERP. so, If the data is lost or if the data is incorrect in the ERP, our web app will generate errors and cannot perform efficiently and if admin enters any inappropriate data, there is a chance of crash of our system and we may lose all the data. To avoid this, we use Microsoft azure which provides a backup option.

5.3 Security Requirements

As admin is having the right to access our web app, if his user name and password .To make the log in secure, we will use a best hashing algorithm and try to encrypt the details of the log in of the admin.

5.4 Software Quality Attributes

1.Robustness: If the admin gives inappropriate data, then our system will be able to handle that situation. Even if it gets crashed, we provide a backup option.so that there will be no loss of data.
2.Reusability: Admin will able to reuse the data
3.Reliability: Our web app will be reliable.

5.5 Business Rules

Only admin will have the access to the database and students, faculty will get their individual exam schedule, seating allotment, invigilation schedule through their mails.

6. Other Requirements

TBD

Appendix C: To Be Determined List

1.some of the functional requirements have to be discussed
2.Other Requirements also have to be discussed.