Software Requirements Specification

1.0 Introduction:

This Software Requirements Specification provides a complete description of all the functions and specifications of VIRTUAL CLASSROOM WEB APPICATION.

1.1 Purpose:

The purpose of the virtual classroom system is to integrate the benefits of a physical classroom with the convenience of a “no-physical-bar” virtual learning environment. It will usher in the immense flexibility and sophistication in the existing learning platform structures, with the perfect blend of synchronous and asynchronous interaction. It provides a means of collaborative learning for the students.

1.2 Scope:

This project has a lot of scope for future development. Developing a virtual classroom system to promote a greater count of students to splurge into the field of Education.

1.3 Definitions, Acronyms, and Abbreviations:

• HTML (Hyper Text Markup Language): It is used to create static web pages.

• JSP (Java Server Pages): It is used to create dynamic web content.

* Java: It is used for programming language.

• HTTP (Hyper Text Transfer Protocol): It is a transaction-oriented client/ server protocol

between a web browser and a web server.

• My Sql: It is a database management system that provides a flexible and

efficient database platform to raise a strong "on demand" business applications.

1.4 References:

<https://fdocuments.in/document/srs-for-virtual-eucation.html>

<http://en.wikipedia.org/wiki/History_of_virtual_learning_environments/>

<https://www.slideshare.net/susheel2658/srs-for-virtual-eucation>

1.5 Technologies to be used:

• Java: Application Architecture

• My Sql: It is a database management system that provides a flexible and

efficient database platform to raise a strong "on demand" business applications.

1.6 Overview:

Overall Description:

Developing a virtual classroom system to promote a greater count of students to splurge into the field of Education. It integrates the benefits of a physical classroom with the convenience of a ‘no-physical-bar’ virtual learning environment, minus the commuting hazards and expenses. It will usher in the immense flexibility and sophistication in the existing learning platform structures, with the perfect blend of synchronous and asynchronous interaction. It provides a means of collaborative learning for the students.

Users of the System:

1. Students

Students can view the courses and join in the respective courses. They can view the lectures and ask any questions in need.

1. Faculties

Faculties can take lectures, attach documents, attach voice clips and also respond to the queries asked by a student.

1. Administrator

Admin can view logs and manage the users.

Layout:

Login: The user can login to the platform using username and password given.

Student: He/she can enrols in the course by clicking on the course list. She can hear the lectures, ask any queries.

Faculty: Faculty can attach the documents, videos and voice clips for the respective student course.

Admin: Checks the log list and manages the user list.

2.0 Overall Description

2.1 Product Perspective:

The virtual classroom system promotes a greater count of students and minus the communicating hazards and expenses.

2.2 Product Function:

Only Registered users can access the courses. Users must have valid User id and Password to access the system. In this system students can choose their courses and view their Attendance Record and assignments. Faculty can upload the syllabus, lesson plan, session plan, class notes and question bank for the courses. Administrator can generate reports or recovery of data at anytime. System provides 24x7 availability.

2.3 User class and Characteristics:

Each User has a valid passwd, User id, which department he/she belongs etc.

2.4 Operating Environment:

It should be possible for e-learning tool to be implemented in both Windows and Linux.

2.5 Design and Implementation Constraints:

Hardware Constraints:

The system requires a database in order to store persistent data. The database should have backup capabilities.

Software Constraints:

The development of the system will be constrained by the availability of required software such as web servers, database and development tools.

2.6 Assumptions and Dependencies:

Although basic password authentication and role-based security mechanisms will be used to protect OPMS from unauthorised access; functionality such as email notifications are assumed to be sufficiently protected under the existing security policies applied by the University network team. Redundant Database is setup as the role of backup Database Server when primary database is failure.

3. External Interface Requirements

3.1 User Interface

Virtual classroom software enables instructors to moderate student participation

display learning materials in the form of documents, slide decks, or multimedia files.

3.2 Software Interface:

It should be possible for E-learning tool to be implemented in both Windows and Linux Operating System environments. The GUI and other parts of the E-learning tool software are to be done in JAVA and J2EE.The output of this software will need a web browser for viewing it.

3.3Hardware Interface**:**

Monitor screen **–** the software shall display information to the user via the monitor screen

Mouse– the software shall interact with the movement of the mouse and the mouse buttons. The mouse shall activate areas for data input, command buttons and select options from menus.

Keyboard **–** the software shall interact with the keystrokes of the keyboard. The keyboard will input data into the active area of the database.

4.0 System Features

**Administrator:** Responsible for managing all the three types of users, viewing logs and managing standard groups of the system.

• Manage System users: The Administrator will provide the system students, faculties and dean the authentication to use the site.

• View Logs: Responsible for checking the logs of different system user for auditing and maintaining the integrity of the system.

• System Reports: The Administrator is responsible to generate the system reports for the future reference.

• View All Details: View the user’s details, Chatting Details, forum details and mark records.

• Back Up Data: The Administrator is responsible to back up all the data at a particular time everyday.

**Students:**

• Students can choose courses, attend lectures, view their attendance records, as per their convenience.

• There can be forums to discuss various queries and to put up suggestions posted both by students and teachers.

**Faculties:**

• Faculties can take lectures, upload assignments, announcements, evaluate answer sheets and also can upload lectures and other discussions in various formats as in videos, power point presentation etc.

• There can be forums to discuss various queries and to put up suggestions posted both by students and teachers.

5.1 Performance Requirements

It requires an internet access, 256 MB of memory, and the system requires a google chrome or Firefox. System may require users to download updates to become compatible and compliant with the system.

5.2 Safety & Security Requirements  
The user is responsible for content uploaded. Users may not use the system to upload or post data which is discriminatory in regards to race, caste or religion.

5.3 Software Quality attributes

The performance depends on the availability of the bandwidth. The portal may be periodically unavailable due to maintains upgrades.

6.0 Other Requirements

6.1 Glossary

