**VIRTUAL LEARNING ENVIRONMENT**

**REQUIREMENTS GATHERING**

**AND**

**PROBLEM DESCRIPTION**

**FOR**

**VIRTUAL LEARNING**

**ENVIRONMENT**

**Software Requirement Specification For Virtual Learning Environment (VLE)**

**INTRODUCTION**

**FOR**

**VIRTUAL LEARNING ENVIRONMENT**

1. **Introduction**
   1. **Purpose**
   2. **Scope**
   3. **Definitions, acronyms and abbrevations**
   4. **References**
   5. **Document overview**

**Introduction:**

A **virtual learning environment** (**VLE**) is a Web-based platform for the digital aspects of courses of study, usually within educational institutions.

* 1. **Purpose**

VLE is a safe and secure environment that is reliable, available online and accessible to a wide user base. A user should be able to move between learning platforms throughout their life with no loss of access to their personal data. The concept of a learning platform accommodates a continuously evolving description of functionality changing to meet the needs of the user.

* 1. **Scope**

We describe what features are in the scope of the software and what are not in

the scope of the software to be developed.

**In Scope:**

1. Information regarding the course syllabus, course duration and so on.

2. Giving alerts regarding the submission of assignments.

3. Their performance should be mailed after every exam.

4. Giving alerts to the user regarding if any new video is uploaded regarding his course.

5. user authentication.

**Out Scope:**

1. Never describes about their last login.
2. Never describes about the amount of time used.
3. Videos cannot be downloaded.
   1. **Definitions, Acronyms And Abbreviations**:

Definitions

a. Virtual: virtual means not physically existing as such but made by software to appear to do so

b. Security: A set of all transactions pertaining to a company share or a bank account.

c. Users: Student,faculty,Management,Admin.

d. Admin: Application administrator responsible for application management.

e. Management: Registered users which manage the entire working of Virtual Classroom.

f. Faculty: Registered teachers of VCS to teach the students studying in VCS.

g. Students: Registered users of VCS as the students of the classroom.

h. Lecture: A Video/PowerPoint Presentation/Notes on any subject/topic related to any course.

i. Discussion Time: A scheduled time slot during which a faculty will be available (online) for discussion with students and their doubt clearance.

j. Assignment: Two types of assignments :

Self-Practice --> The one's those are not to be submitted and will just work as practice exercises.

Submission Assignments -->These are to be submitted within a given a deadline.

k. Examination: Test conducted to evaluate the performance of a student in a particular subject/course.

l. Attendance: Statistical report of a student showing the number of classes attended by him/her in comparison to total classes being held.

m. Progress Report: Report showing the progress of a student after the examination is being conducted.It will be a cumulative course report.

Acronyms and abbreviations

VLE :Virtual Learning Environment

HTML: Hypertext Markup Language.

EJB: Enterprise Java Beans.

J2EE: Java 2 Enterprise Edition

HTTP: Hypertext Transfer Protocol

HTTPS: Secure Hypertext Transfer Protocol

PHP: Hypertext Pre-processor

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|  |

* 1. **References:**

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Books referred:

1. Ugrasen Suman
2. Pressman

**1.5 Overview of the document**

The rest of this SRS is organized as follows: Section 2 gives an overall description of the software. It gives what level of proficiency is expected of the user, some general constraints while making the software and some assumptions and dependencies that are assumed. Section 3 gives specific requirements which the software is expected to deliver. Functional requirements are given by various use cases. Some performance requirements and design constraints are also given. Section 4 gives some possible future extensions of the system. Finally the appendices in Section 5 describes the list of references.

**GENERAL DESCRIPTION**

**FOR**

**VIRTUAL LEARNING ENVIRONMENT**

1. **General description**
   1. **Product Perspective**
   2. **Product Functions**
   3. **User Characteristics**
   4. **General Constraints**
   5. **Assumptions and Dependencies**

**2.1 Product Perspective**

Virtual learning environment should enable the users to develop a rich multimedia presentation combining presentation slide, video and images. This software can be used for developing courses that can later be released on the Internet or delivered in some other electronic medium.

**2.2 Product Functions**

VLE should support the following use cases:

|  |  |  |
| --- | --- | --- |
| **Class of use cases** | **Use cases** | **Description of use cases** |
| Use case related to Domain Name. | Domain name | User initiates domain name of the website. |
| Use cases related to  system authorization. | |  | | --- | | Login | | Change Password | | |  | | --- | | Login into VLE. | | Change VLE password. | |
| Use case related to Update Profile. | View Profile | User can View and update self profile. |
| Use case related to Search Course. | Search Course | User searches for a course. |
| Use case related to Course Registeration. | Course Registeration | User register for a course. |
| Use case related to Syllabus. | View Syllabus | User Can view the syllabus pertaining to the registered course. |
| Use case related to Discussion. | View Discussion time | User can view the discussion time scheduled by various faculties. |
| Use case related to Notices. | View Notices | User can view the files consisting assignments etc. |
| Use case related to Taking Test. | Appear for test | User can appear for test for registered subject. |
| Use case related to Generating Report. | View Report | User can view his report for taken test. |

**2.3 User Characteristics**

1. The user should be familiar with the particular course he/she want to undertake.

2. The user must require basic internet skills.

**2.4 Principal Actors**

The principal actors are User, Parents, Faculty.

**2.5 General Constraints**

1.To access VLE the system requires internet connection.

**2.6 Assumptions and dependencies**

a. Full working of VLE is dependent on the availability of Internet connection.

**SPECIFIC REQUIREMENTS FOR**

**VIRTUAL LEARNING ENVIRONMENT**

1. **Specific Requirements**
   1. **Functional requirements**
      1. **Functional requirement 1**
         1. Introduction
         2. Input
         3. Processing
         4. Output
      2. **Functional requirement 8**
   2. **External interface requirements**
   3. **Performance requirements**
   4. **Design constraints**
   5. **Security requirements**
   6. **Maintainability requirements**
   7. **Reliability requirements**
   8. **Availability requirements**
   9. **Database requirements**
   10. **Documentation requirements**
   11. Operational requirements
   12. **Site adaption constraints**

**3. Specific Requirements**

**3.1 Functional Requirements:**

**3.1.1 Functional requirement 1:**

Course Registration

***3.1.1.1 Introduction:***

User has to register for a particular course inorder to view the course syllabus, course details, appear for test and to view the results.

***3.1.1.2 Input:***

The user has to fill all the details of the user in the registration form. The necessary fields are contact number, Aadhaar no, phone number, E-mail id and so on.

***3.1.1.3 Processing:***

Validations checks are performed on the input data by the user/administrator like:

* Mandatory fields should not be kept empty.
* All the entries in database should be as per syntax.

After entering the details the user clicks on submit button, then the information is stored in database.

***3.1.1.4 Output:***

A dialog box containing “Registration Sucessful” will be displayed, otherwise displays an error message.

**3. Specific Requirements**

**3.1 Functional Requirements**

*Use case related to domain name:*

**Use Case 1:** domain name

*Primary Actor*: User

*Pre Condition*: Internet connection available.

*Main Scenario* :

1. User initiates domain name of the website.
2. Initially home page of the website should be displayed. User is also asked for the initial login and password.
3. User specifies the home directory and login/password.
4. If the user is new registration is available at the home page. System creates the working files in the specified home directory. Working files contain:
   1. Authorization information.

*Alternate Scenario*:

5(a). Network failure.

5(a)1. If the domain name is wrong another webpage is displayed.

*Use cases related to system authorization:*

**Use Case 2**: Login

*Primary Actor*: User

*Pre Condition*: User must be registered first.

*Main Scenario* :

1. Start the application. User prompted for login and password.
2. User gives the login and password.
3. System does authentication.
4. Main screen is displayed.

*Alternate Scenario* :

4(a). Authorization fails

4(a)1. Prompt the user that he typed the wrong.

4(a)2. Allow him to re-enter the password.

**Use Case 3:** Change Password

*Primary Actor*: User

*Pre Condition*: User logged in

*Main Scenario* :

1. User initiates the password change command.

2. User is prompted for old password, new password and confirm new password.

3. User gives the old password, new password and confirm new password.

4. System does authentication.

5. New password is registered with the system.

*Alternate Scenario* :

4(a). Authorization fails

4(a)1. Prompt the user that he typed the wrong password

4(a)2. Allow him to re- enter the password.

4(b). New password and confirm new password do not match.

4(b)1. Allow him to re-enter the attributes.

**Use Case 4:** View/Update Profile

*Primary Actor*: User

*Pre Condition*: User should register to the page.

*Main Scenario* :

1. User can View and update self profile ( Password, Name, Date of Birth, Address, Email Ids, Contact Numbers etc.).

*Alternate Scenario:*

1. User cannot view if he/she is not registered.

**Use Case 5:** Search Course

*Primary Actor*: User

*Pre Condition*: User logged in

*Main Scenario* :

1. User searches for a course.
2. User gets basic knowledge about the selected course.

*Alternate Scenario* :

1. Webpage cannot be displayed if the selected course is not present.

**Use Case 6:** Course Registration

*Primary Actor*: User

*Pre Condition*: User should register to the page.

*Main Scenario* :

1. User selects course to be registered.
2. User can get full knowledge about the selected course.
3. Details about the course should be sent with an E-mail to a respective person.

*Alternate Scenario* :

1. Course registration is not possible if user did not register to the page.

**Use Case 7:** View Syllabus

*Primary Actor*: User

*Pre Condition*: User should register to the page.

*Main Scenario* :

1. User Can view the syllabus pertaining to the registered course.

*Alternate Scenario:*

1. User cannot view if he/she is not registered.

**Use Case 8:** View Discussion time

*Primary Actor*: User

*Pre Condition*: User should register to the page.

*Main Scenario* :

1. User can view the discussion time scheduled by various faculties .
2. User can view their test schedules.

*Alternate Scenario:*

1. User cannot view if he/she is not registered.

**Use Case 9:** View notices

*Primary Actor*: User

*Pre Condition*: User should register to the page.

*Main Scenario* :

1.User can view the files consisting assignments etc.

1. User can read notices uploaded by higher authorities.

*Alternate Scenario:*

1. User cannot view if he/she is not registered.

**Use Case 10:** Appear for test

*Primary Actor*: User

*Pre Condition*: User should register to the subject.

*Main Scenario* :

1. User who completes his part of the syllabus of a particular subject/course and have done a particular set of assignments related to that subject/course can appear for the test.

*Alternate Scenario:*

1. User cannot view if he/she is not registered.

**Use Case 11:** View Report

*Primary Actor*: User

*Pre Condition*: User should take a test.

*Main Scenario* :

1. User can View his/her progress report.

*Alternate Scenario:*

1. User cannot view his/her report if he/she did not appear for the test.

**3.2 External Interface Requirements**

The user screen is split vertically into two panes. The left pane contains the List of courses, which expands and contracts as per user action. The right pane displays the notifications regarding the user logged in.

**3.3 Performance Requirements**

1. The system should be easy to handle.

2. System should give expected performance results.

3. The response time should be small.

**3.5 Security Requirements**

1. We are going to develop a secured database.

2. Depending upon the category of user the access rights are decided.

**3.6 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.

**5.Appendix**

Appendix A:

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