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**UNIVERSITY OF DHAKA**

*Department of Computer Science & Engineering*

Course Name: *E-Commerce & Web Engineering Lab*

Assignment Title:

**Software Requirement Specification of** **Intra-University Online Educational Resource Sharing and Open Discussion Forum**

SUBMITTED BY:

*NAME: Md. Saiful Islam (Roll-29)*

SUBMITTED TO:

*Prof. Dr. Mohammad Mustafizur Rahman*

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**1. Introduction**

This SRS describes the software functional and nonfunctional requirements for first time of the CSEDU Discussion Forum. This document is intended to be used by the students and teachers of Computer Science and Engineering, University of Dhaka and the members of the project team that will implement and verify the correct functioning of the system.

**1.1 Scope**

The discussion forum will be used by the current and ex students and honorable teachers of Computer Science and Engineering department. They will discuss about their courses. There will be open questions and answers asked and answered by students and teachers.

**1.2 Definitions, Acronyms and Abbreviations**

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| Apache | Web server |
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| IDE | **Integrated Development Environment** |
|  | - consists of a source code |
|  | editor, debugger etc for help |
| GUI | **Graphical User Interface** –allows user |
|  | to interact with electronic devices |
|  | using images rather than text |
|  | commands |
| UI | **User Interface** - space where |
|  | interaction between humans and |
|  | machines occurs |
| OS | **Operating Systems** |
|  |  |
| PHP | **Personal Home Page -** language |
|  | designed for Web development to |
|  | produce dynamic Web pages |
| MYSQL | **Standard Query Language** - open |
|  | source relational database |
|  | management system |

**1.3 Overview**

Student often waste time to search their lesson on internet or resources related to that. Every year the same things are being searched. If we could share all of these resources in a categorized platform, then it would be easier to find out those resources. Even facing problem to understand those resources can easily be solved by having some discussion forum where any newbie can ask open questions and experts will give the answer.

**2. The Overall Description**

The product described in this document is CSEDU Discussion Forum. This section describes all general factors of the product and its requirements. It does not state specific requirements. Instead, it provides a background for those requirements, which are described in section 3.

**2.1 Product Perspective**

This software is self-contained. The application which will be developed will not be part of any existing system. But, it is not independent. It will require access (read and write) to the central database of CSEDU - all information about students, faculty, and courses offered.

**2.1.1. System Interfaces**

1. The proposed architecture will be implemented using PHP language.
2. Database will be used MySQL.
3. The IDE used for development is Sublime Text

**2.1.2. User Interfaces**

There will be some sort of category to ask a question. There will be hash tag for the related category. User will sign up in the forum. After logging in the forum they can ask question, answer a question, and rate a comment and vote any user. User can use Bengali to ask or answer a question.

**2.1.3. Hardware Interfaces**

2.1.3.1 Client Side:

Client can communicate with our server using https enabled network system.

2.1.3.2 Server Side:

The PHP scripts will be hosted on a remote server in the LAN, and will connect to a MySQL server on the same machine. The web server (Apache) will be listening on the standard port 80.

**2.1.4. Software Interfaces**

2.1.4.1 Client Side:

The application is designed for the browsers that can read html and php scripts. So any browser that supports these languages can be used like Mozilla Firefox, Google Chrome etc.

2.1.4.2 Server Side:

An Apache web server will accept all requests from the client. A development database will be hosted locally (MySQL) and the production database is hosted centrally (MySQL).

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| **Apache server** - required to host a HTTP web server |
| **MySQL server** - required to host MySQL database server |
| **PHP** - required to communicate with database |

**2.1.5. Operations**

2.1.5.1 Data security: Username and password provided to application is not sent as plain text. Password is encrypted before sending authentication request to server.

2.1.5.2 Backup and recovery: Procedures for data backup and recovery are already in place. Since we are using an existing database, the application need not worry about data backup or recovery.

**2.2 Product Functions (USE CASE)**

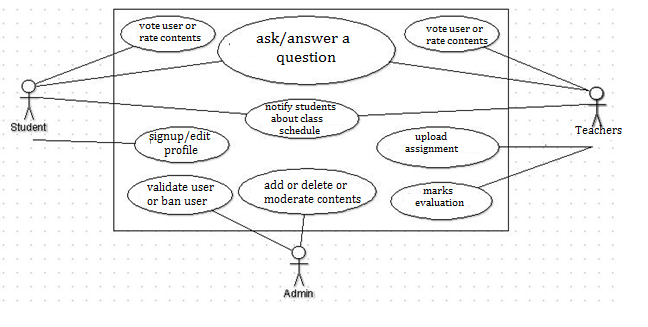


Figure: Rough use case diagram of requirements

**2.2.1 Student Role:**

* Can see teachers’ sent notifications
* Can send messages to teachers

**2.2.2 Teachers’ Role:**

* View list of students registered for their courses
* Send notification to students
* Quick messages

**2.2.3 Common Roles for Student/Teacher**

* Ask/answer questions
* Cab rate contents and vote user
* Edit personal details

**2.2.4 Administrator Role**

* Message broadcast by administrator:
* Reset password for users
* Register courses for faculty

**2.3 Constraints**

The following are constraints for developers.

**2.3.1 Parallel operation:**

UI must not be blocked when network operation is taking place. Hence, threading must be done to parallelize network operation and UI.

**2.3.2 Reliability:**

To make sure application does not crash; two things must be looked at - network operation and graphics/animation. The lesser the animation/graphics, the lesser the probability of crashing (because of low RAM). Also, it must be made sure that the network thread does not infinity wait for response for server.

**2.3.3 Safety and security:**

Password provided by user must not be sent in plaintext format to the web server – encryption (SH1) must be done before transmission to avoid intruders. Also, session information must be deleted if user has logged out.

**2.4 Assumptions and Dependencies**

* The correct functioning of the system will partly be dependent on the correctness of the data stored and managed as part of the existing web-based system.
* Also, the server crashing (or down for maintenance) will make the application temporarily unavailable.

**3. Specific Requirements**

The following section describes the requirements in detail. This section is meant for the designers and developers of the system.

**3.1 Functional Requirements**

1. This software provides a registration form for both teachers and students so that they can register themselves into the website in order to log into the site.
2. After registration they will be provided a user id and a password using which they can log into the site to access the features of the sites.
3. Home page will contain the groups he/she attached to and latest news feeds of the groups.
4. A user can search the information of courses, resources, previously asked questions etc.
5. Another expert user can answer the questions asked, add resources etc.
6. Teacher can upload assignments to do, share resources.

**3.2 Non-Functional Requirements**

All these are assumptions; not tested

1. **Performance**: This software is able to serve multiple customers simultaneously. It is able to process 95% transaction in 1 second and system down will be less than 1 minute per day.
2. **Security**: All type of possible security issues will be provided.
3. **Portability**: This software will be portable.
4. **Maintainability**: It will ensure user friendly interfaces which are easy to understand and use.
5. **Scalability**: This application will be able to serve more than 1000 users simultaneously without slowing down the process.

**4. Conclusions**

In this document we have introduced the application and its general features available for the end users who are the students and teachers. It also gives detailed technical aspects and requirements of the application for the developers.

The application has intense usage and with minor modifications, its use can be extended to various ecosystems like corporate, banks, multinationals, and various other management and technical sectors.