Software Requirements Specification for

EDUSAT

Submitted to,

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In partial fulfillment of the award of the degree of

MASTER OF COMPUTER APPLICATIONS

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1. Introduction

EDUSAT (Educational Development Unit for Science Arts & Technology) is a comprehensive tool providing information to students those who were studying in Schools, Colleges. This is a totally web based search engine, its main aim is that provide all education services to students. As the idea of online education is getting more popular day by day and is growing dramatically so the opportunities for studying online make easier in this site with the help of online teachers. The portal provides detailed information about latest news, exam notifications, syllabus, textbooks, ppts, pdfs, ebooks, seminar reports….etc and all those information needed for students. This SRS describes the software requirement specifications for the project named "**EDUSAT**".

The User has to get registered to enjoy all the facilities in the portal. The registered member can be student or any teaching faculty or anyone who is in need of the information. The registration process in this site was entirely different from other sites. There is a ranking process based on the skills of each student. For this there is a aptitude test is conducted for each user. After this process mark of student is calculated and ranked the student. Based on this ranking we provide study materials, ppts, pdf notes to student. Study materials are provided on their ranks. Teaching faculty can also register to this site by provide mail address and they can provide their skills in teaching field.The system is recommended to have a unique username and password so that nobody can misuse it. This system must be right protected and rights of every category of user must be clearly described so that limits for every user access are defined.

Administrator is a person who administers the portal. He updates the details of the educational services provided by the website. He adds edits and deletes the wanted information in the website. The admin has the full control over the website he can upload, edit, delete details in the website. The student & teaching faculty can also upload the informative stuff to this site by approval of admin.

Online chat facility is available to the registered users and they can chat in the chat room and they can ask doubts or needed things like ppts pdf notes…..etc to the chat members and to admin.

1.1Purpose

At present time schools, colleges is running various programs as full time courses. The students who can study as full time students can facilitate from these education programs. The timings make it difficult to study for students who are doing some jobs or are unable to attend regular classes due to any other reason. Because of current economic crisis in the country most of the parents are unable to afford the expenditures of higher education so many students especially the ones belonging to lower or middle class. The online education program would help such students and students who are not allowed to attend classes. There were different skills for different students some of them are not good in their studies. Some of them are not interested preparing notes, seminars.. etc

All those students which are not able to acquire education due to financial problems, or not good in studies, or a chance of cause diseases are unable to attend regular classes. Some of due to their jobs or any other reason will surely be interested in this sort of learning. This education portal will strengthen and will promote ease of seeking education for students.

1.2 Document Conventions

The document Conventions followed in this Software Requirement Specification Document are listed below.

Particulars	Details
Paper size	US letter (8.5"x11")
Margins: Top	.6cms
Margin: Bottom	.5cms
Margin :Left	.6cms
Margin: Right	.75cms
Margin :Header	.3cms
Margin: Footer	.3cms
Font Face	Times New Roman
Font Size, Main Headings	16 pt. Bold
Font Size ,Sub Heading	14 pt. Bold
Font Size, Contents	12 pt.
Line Spacing	1.5cms
Document Standard	IEEE Standard SRS Format

1.3 Intended Audience and Reading Suggestions

The intended audiences for this document are: Students, Faculties

This document is reviewed frequently by the above audiences to check if the project follows the requirements. This Software Requirements Specification (SRS), provide a detailed description of how to implement this. It will explain the purposes and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate. This SRS provides the foundation for the system. From this SRS, system will be developed and tested.

1.4 Definitions, acronyms, and abbreviations

EDUSAT	Educational Development Unit for Science Arts &Technology
Admin	He is the person who is authorized to maintain the site and View reports
User	User can upload , search, manage and download files
ASP .NET	Active server Page
IEEE	Institute of Electrical and Electronic Engineers
Database	Collection of all the information monitored by this system.
SQL	Structured Query Language
GIS	Geographic information system
RAM	Random Access Memory
Stakeholder	Any person with an interest in the project who is not a developer.
SRS	Software Requirement Specification

Software Requirement Specification	A document that completely describes all of the functions of a proposed system and the constraints under which it must operate. For example, this document.

1.5 Product Scope

The main goal of the website is providing information to students those who were studying in Schools, Colleges. This is a totally web based search engine, its main aim is that provide all education services to students. And it will help to identify the different students based on their studying skills. By checking the aptitude test result the admin can point out the standard of the student and admin can provide quality education to students. The Admin is responsible for clarification, where necessary, and will not make any alterations . When mistakes are made or changes or corrections are needed, often a manual transaction must be completely redone rather than just updated. With manual or partially automated systems information often has to be written down and copied or entered more than once. Systemization can reduce the amount of duplication of data entry. Reporting and checking is often an area where significant money can be saved by automation. The main objective of this project is to create software for the effective management of the data collected. There is no need of collecting survey. The main benefits of this website are:

- Reducing the duplication of details
- Duplication of effort is eliminated with a centralized solution repository.
- Effective sharing of knowledge improves overall .
- Build your own knowledge base easily.

1.6 References and Acknowledgements

- Software Engineering, A practitioner's Approach by Roger S. Pressman, McGraw Hill International Edition, 6th Edition
- Software Engineering by Sommerville, Pearson Education, 7th edition.
- www.google.com

2. Overall Description

2.1 Product Perspective

Existing and need for new system:

In the existing system there were no idea for students when they are not in classes. And there is no accurate notes for students who are not punctual in class. There is no ranking facility is provided and students in all categories are considered as same skill group. That make change in the mind set of students and there is quality education for students in low mark category. In existing system they don't know about the abilities and skills of students and they just pointed out for cash.

This project aims at creating a education portal for students. This allows registered users of the site to saw the notes,ppts,pdf text books available in the site and access the materials published for the course. People can register themselves as students of a course or faculty. When a person registers himself as a Faculty, an approval mechanism should be send through an email to the Administrator for approving the person. The approval mechanism for student is based on test. It has an announcement section which contains the latest announcements, and also a course content section which gives the links for the material available for the course .The administrator will be maintaining some FAQ's. For faculty members also will be having a seperate link for uploading the course content. There is chat section is offered for the registered users that's helps the students to ask their doubts to admin and teacher. All those students which are not able to acquire education due to financial problems, or not good in studies, or a chance of cause diseases are unable to attend regular classes. Some of due to their jobs or any other reason will surely be interested in this sort of

learning. This education portal will strengthen and will promote ease of seeking education for students. The functions that have to be performed by the proposed system are listed below:

The Proposed system must provide user-friendly interface.

- The system must be able to store entire details of the all the users permanently after their registration process.
- Care must be taken not to provide the details of the user to other users who are logged in.
- The system must provide easy navigation through available services.
- The system should perform all the operations perfectly without any problem.

The basic functionality to be provided by proposed system is that it should be able to overcome the deficits of the existing system.

2.2 Product Functions

The following list offers a brief outline and description of the main features and functionalities of the EDUSAT website. The features are split into two major categories: core features and additional features. Core features are essential to the application's operation; whereas additional features simply add new functionalities. The latter features will only be implemented as time permits.

Core Features

1. **Registration and Welcome**
   - Appears only once(the first when the website is open)
   - Allows all the users who registered in EDUSAT
2. **Login and Registration**
   - Users and Admin can login to their account
   - Allows the users to register in the EDUSAT
   - Can view the registered users in the system

3. **View and Edit Profile**
    - By logging on the site users can view the uploaded notes
    - Can edit/Update their details.
4. **Admin**
    - Can view the summary reports of all users registered
    - Can manage the accounts.
    - Can Manage uploaded files by the user

Optional Features

5. **Chat Option**
    - Allows chat for users with admin and faculty
6. **SMS Alerts**
    - Alerts to the new updates to the registered users
    - Updates about latest programs

2.3 User Classes and Characteristic

The given project is divided into four scenarios or modules where each module is implemented separately.

Scenario 1: Administrator

Scenario 2: Student

Scenario 3: Faculty

Scenario 4: Chat

Scenario 1:

Name: Administrator

Description: The objective of this module is to maintain all the information related with the website. Administrator is the person who adds new courses,syllabus,notes,seminars approves the student by conducting test, gives any announcements to the students and faculty and also approves leave to the faculty. The administrator also views the uploaded documents provided by the students and verified them. Administrator has own login id and password through which it logs into the administrator home page and carries on different functionalities.

Scenario 2:

Name: Student

Description: Student is the one who selects the course and learns online. At first a person registers himself as a student for a course by filling registration form, In the process of registration there is conducting an aptitude test for students and based on the rank the notes are provided to students. Every student has own login id and password through which the student can login into the student homepage directly. Any student has certain functionalities such as he can view the course material, give feedback about the courses, view the announcements from the administrator. Every student has to undergo tests, which are conducted online. Student interacts with the faculty and clarifies his doubts through participating in chat boards. All the data related with the student is stored in the database and retrieved accordingly.

Scenario 3:

Name: Faculty

Description: Every course has an appointed instructor for successful completion of the courses selected by the students. First a person registers himself as a faculty; then he/she can uploads any types of note and valuble information to student . Teachers can help students when they are asking about doubts in chat section

Scenario 4:

Name: Chat Section

Description: Chat Section is the place where the students,admin and the faculty members interact together. Students place a doubt and either faculty or fellow student clarifies the doubts. All the responses related to the doubt are maintained in a block and every time a new response is posted a new thread is added.

2.4 Operating Environment

HARDWARE REQUIREMENT

CPU type: Intel Pentium 4

Clock speed: 3.0 GHz

Ram size: 512 MB

Hard disk capacity: 40 GB

Monitor type: 15 Inch color monitor

Keyboard type: keyboard

SOFTWARE REQUIREMENT

Operating System: LINUX/ Windows

Front End: Asp.net

Back End: SQL

Documentation: MS-Office Word

2.5 Design and Implementation Constraints

The website is intended for common users. In order to Login the website EDUSAT will provide some the feature to register an account using user id and password and personal details Creating a user interface which is both effective and easily navigable will pose a difficult challenge. EDUSAT is meant to be quick and responsive, even when dealing with large numbers of users, so each feature must be designed and implemented with efficiency in mind

2.6 Assumption Dependencies

As mentioned previously, the features of EDUSAT are divided into two groups: core features and additional features. Core features are crucial to the basic functionality of the EDUSAT web application. These features must all be implemented in order for the application to be useful.

Optional features, however, are not critical to the function of the application. They are usability improvements and convenience enhancements that may be added after the application has been developed. Thus, the implementation of these features is entirely dependent upon the time spent designing and implementing the core features. The final decision on whether or not to implement these features will be made during the later stages of the design phase.

3. External and Interface Requirements

3.1.1 User Interfaces

User interfaces should be logical, easy to understand and to be used. All the insertion, updation facilities in the database are done with the help of forms. There will be options for entering a unique ID in this form which will help to retrieve all the information related to a person. Source data are input into the system using input media and devices. The controls that are used in the forms are textbox, password, selectbox, submit button etc. There will be buttons help to select the options like insertion, updation, dynamic retrieval of data etc.

3.1.2 Hardware Interfaces

Standard system requirements are used. No additional hardware is needed.

3.1.3 Software Interfaces

This website is developed using Asp.net, and MySQL. The website will provide the registered user details to these two systems. If there is any updation to the user details the system can notify it to the website and later after validation process the user details is updated.

4. System Features

4.1 Registration and Welcome

When the website is opened the each user is presented with a welcome screen and links register the details in the site. Each user will have ID and Password provided from EDUSAT using which they can logon to website and register the details.

4.1.1 User Requirements

1. Valid Identification Number

Each user should enter a valid identification number after the verification.They can use their email id or phone number for the verification purpose.

2. User Details

Users should enter their personal details

4.1.2 System Requirements

SECURE DATABASE SYSTEM

The application must insure that the user's information is encrypted and safely stored.

4.2 Login and Registration

The users can logon in their respective account and can upload or download their files in the website

4.2.1User Requirements

1. Valid ID and Password

4.3View and Edit Profile

The website provide options to view the registered user profiles and also options to edit their details

4.4Admin

This is the administrator login option. Here the administrator can view all the registered users profile and he also gets the consolidated reports of the registered

4.5 Search option

Searching facility is provided for both Admin and user

5. Other Non-functional Requirements

5.1 Performance Requirements

Performance should not be an issue because all of our server queries involve small pieces of data. Changing screens will require very little computation and thus will occur very quickly. Since the queries works only on a small dataset it will give a quick response.

5.2 Safety Requirements

The commonly available all securities are also applicable to the website. The users can safely logon and can register their details. Their data is protected using encryption techniques.

5.3 Security Requirements

The security is ensured since the encrypted data is only stored in the database. The files uploaded by the user is encrypted by using stegenography method.

5.4 Software Quality Attributes

The graphical user interface of OSCloud is to be designed with usability as the first priority. The website will be presented and organized in a manner that is both visually appealing and easy for the user to navigate. Overall, the website balances both the ease of use and the ease of learning. The layout and UI of the app will be simple enough that users will take no time to learn its features and navigate through it with little difficulty.

Appendix A: Glossary

SQL SERVER

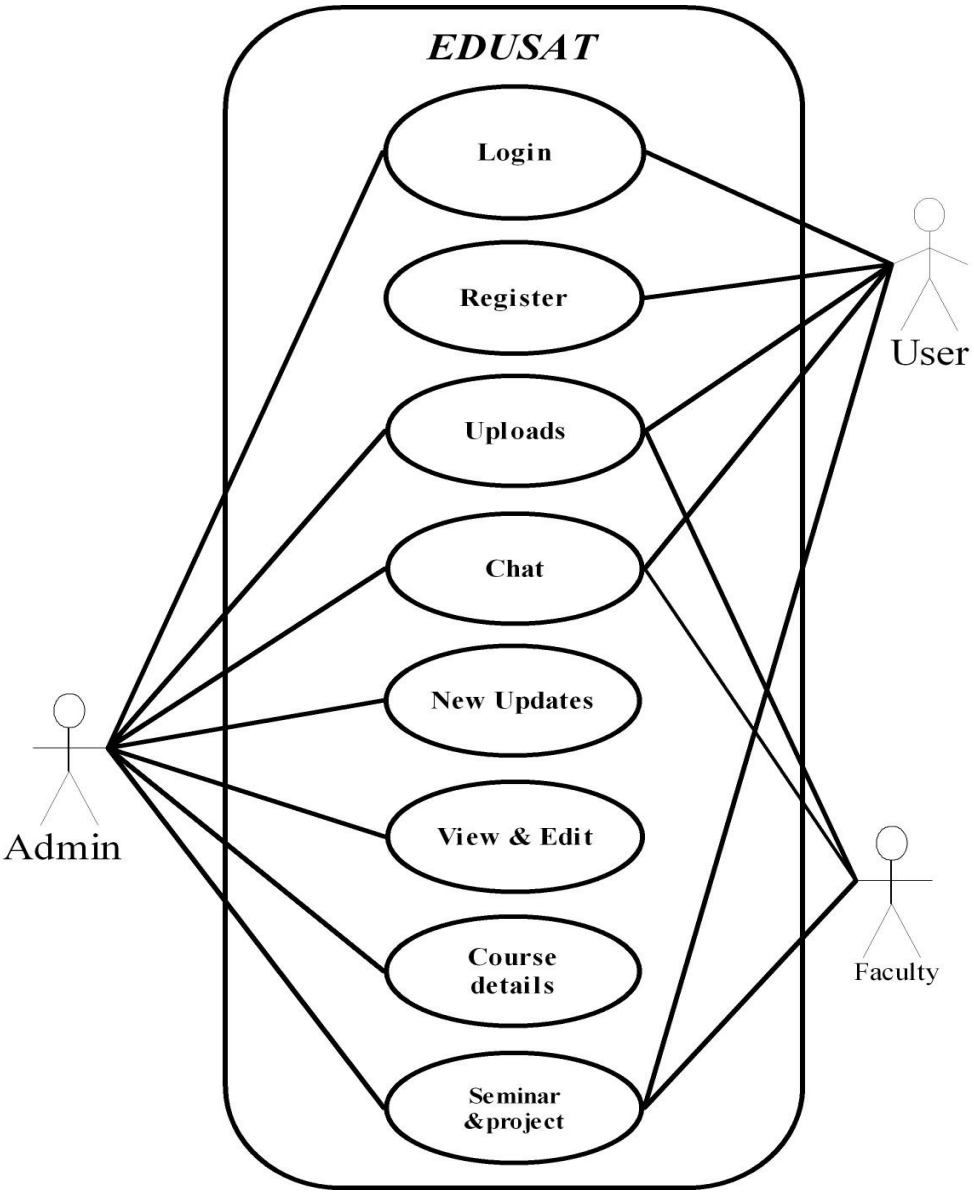
Microsoft SQL Server is an enterprise database server that is the cornerstone of modern business applications and is in the canter of the business processes of many leading organizations. The latest release of Microsoft SQL Server, SQL Server 2012, has many new features. These new features of SQL Server 2012 let you design, build, and deploy high-performance OLTP applications. Especially, the new in-memory technology of SQL Server 2012 helps you to design and implement high-performance OLTP applications. According to Microsoft, in some situations, implementing the new SQL Server 2012 in-memory technology for existing OLTP applications can improve the performance of these applications by 10 times. This book will provide you with all the skills you need to successfully design, build, and deploy databases using SQL Server 2012. Database design is one of the most important tasks in the **Systems Development Life Cycle (SDLC), also referred to as Application Development Life Cycle (ADLC). That's because**databases are essential for all businesses, and good design is crucial to any business-critical, high-performance application. Poor database design results in wasted time during the development process and often leads to unusual databases that are unfit for use.

Database design

The database design process consists of a number of steps. The general aim of a database design process is to develop an efficient, high-quality database that meets the needs and demands of the application and business stakeholders. Once you have a solid design, you can build the database quickly. In most organizations, database architects and database administrators (DBAs) are responsible for designing a database. Their responsibility is to understand the business and operational requirements of an organization, model the database based on these requirements, and establish who will use the database and how. They simply take the lead on the database design project and are responsible for the management and control of the overall database design process.

Appendix B: Analysis Models

- **Use case Diagrams**



Appendix C: Development Tools

Front-End (Microsoft Visual Studio 2012)

The Visual Studio 2012 environment is fully integrated and support all phase of Windows Software Development Life Cycle from design to development to deployment. Visual Studio 2012 is a member of Microsoft Visual studio, which is fully integrated suite of Visual, tools that all the same look and feel. Visual Studio 2012 is the newest suite of visual tool that all the same look and language. It allows us to quickly and easily develop Windows applications. Visual Studio 2012 is specially designed to utilize the internet.

Visual Studio 2012 together with other member of the Visual Studio represents a major training point in the Microsoft's approach to database fronted development. The most common components use dares forms, controls, classes and procedures. Forms are the windows upon which you build your user interface, and controls also called active controls are interface tools, such as labels, text boxes and command buttons, that you use to display information to the user, gather information from the user and respond to user actions. Classes are templates from which you can create your own object.

C#.NET

C# is a multi-paradigm programming language encompassing strong typing, imperative, declarative, functional, generic, object-oriented (class-based), and component-oriented programming disciplines. It was developed by Microsoft within its .NET initiative and later approved as a standard by Ecma (ECMA-334) and ISO (ISO/IEC 23270:2006). C# is one of the programming languages designed for the Common Language Infrastructure. The C# language is intended to be a simple, modern, general-purpose, object-oriented programming language. The language, and implementations thereof, should provide support for software engineering principles.

Back-End (SQL Server 2008)

Microsoft SQL Server is a relational database management system developed by Microsoft. As a database server, it is a software product with the primary function of storing and retrieving data as requested by other software applications which may run either on the same computer or on another computer across a network (including the Internet).

Microsoft markets at least a dozen different editions of Microsoft SQL Server, aimed at different audiences and for workloads ranging from small single-machine applications to large Internet-facing applications with many concurrent users.

SQL Server 2008 includes better compression features than the previous versions, which also helps in improving scalability. It enhanced the indexing algorithms and introduced the notion of filtered indexes. It also includes Resource Governor that allows reserving resources for certain users or workflows. It also includes capabilities for transparent encryption of data (TDE) as well as compression of backups.

SQL Server 2008 supports the ADO.NET Entity Framework and the reporting tools, replication, and data definition will be built around the Entity Data Model. SQL Server Reporting Services will gain charting capabilities from the integration of the data visualization products from Dundas Data Visualization, Inc., which was acquired by Microsoft. On the management side, SQL Server 2008 includes the *Declarative Management Framework* which allows configuring policies and constraints, on the entire database or certain tables, declaratively. The version of SQL Server Management Studio included with SQL Server 2008 supports IntelliSense for SQL queries against a SQL Server 2008 Database Engine.SQL Server 2008 also makes the databases available via Windows PowerShell providers and management functionality available as Cmdlets, so that the server and all the running instances can be managed from Windows PowerShell. The final SQL Server 2008 service pack (10.00.6000, Service Pack 4) was released on September 30, 2014.