Software Requirements Specification

for

Article Publisher

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Revision History

Name	Date	Reason For Changes	Version

1.   Introduction

The Software Requirements Specification is designed to document and describe the agreement between the customer and the developer regarding the specification of the software product requested. Its primary purpose is to provide a clear and descriptive "statement of user requirements" that can be used as a reference in further development of the software system. This document is broken into a number of sections used to logically separate the software requirements into easily referenced parts.
This Software Requirements Specification aims to describe the Functionality, External Interfaces, Attributes and Design Constraints imposed on Implementation of the software system described throughout the rest of the document. Throughout the description of the software system, the language and terminology used should unambiguous and consistent throughout the document.

1.1   Purpose

Defining and describing the functions and specifications of the Article Collection Website is the primary goal of this Software Requirements Specification (SRS). This Software Requirements Specification illustrates, in clear terms, the system's primary uses and required functionality as specified by our customer. This document is primarily intended to be proposed to a customer for its approval and a reference for developing the first version of the system for the development team.

The purpose of this project is to provide a platform for students to share their knowledge in their field of interest and to showcase their research in a particular field. Students here can upload their papers of research so that it can help others who want to gain knowledge in that field. The students can interact to make the topic even more interesting and share their knowledge.

1.2   Intended Audience and Reading Suggestions

This document is meant for the developers. The developers can look into this document to get a clear cut idea about what to develop for this particular website. Also Customer can verify their requirements . The sequence of reading the document is as stated in the 'content' section of this document.

1.3   Product Scope

The "Article Collection" is a web-based application. This application can be used by the University to manage the Articles by Students and other faculties. Students and faculty require a

platform to view all the articles published by others from the university and also to make their articles available for reading .This application serves the same purpose.

This software system mainly focuses the requests from two main users of the system.
The users are Registered users and Audience.

Registered user : Registered user is the one who uses our system to add new articles by providing the details of articles such as title,description , pdf file etc . Our system provides following basic options .
1. Add new Article
2. View the response to the added articles
3. To view other users' articles

Audience: Audience are provided with option only viewing the articles and their authors profile , The Audience are also provided with an option to search for a particular or desired article or author.

Furthermore, the software needs both Internet connection to fetch and display Articles. All system information is maintained in a database, which is located on a web-server. The application also has the capability of representing both summary and detailed information about the database to the System Admin.

Benefits: The students can collaborate and understand each other's work on a specific topic or field of their interest

Objectives: The main objective of the website or the project is to develop an interest among students to various topics and to expose them to a topics which might interest them. This gives a platform for those students who have begin their exploration in any particular field.

1.4   Overview

 The remainder of this document includes three chapters . The second one provides an overview of the system functionality and system interaction with other systems. This chapter also introduces different types of stakeholders and their interaction with the system. Further, the chapter also mentions the system constraints and assumptions about the product.
The third chapter provides the requirements specification in detailed terms and a description of the different system interfaces. Different specification techniques are used in order to specify the requirements more precisely for different audiences.
The fourth chapter deals with the prioritization of the requirements. It includes a motivation for the chosen prioritization methods and discusses why other alternatives were not chosen.

2.   Overall Description

2.1   Product Perspective

Product will be deployed to web site and all users of the product will access by use of the website. Website will be main user interface where users can operate all the provided functionality. There will be cloud server where all the user data is kept and all the execution is done. Website will only be the interface for the user data and the execution of provided functionalities.
Since this software is a data-centric product it will need somewhere to store the data. for that, a database will be used.
when every there occurs a data request, the data is retrieved from the database.

This project aims at providing a platform for students to share their work on a specific topic. So this is a new self-contained project

Users can just view the articles and author profiles .But to add article or like comment on article they have to register to the application.Once they register they can login to their account and start managing their articles.

2.2   Product Functions

Login and Registration: The system allows the new users to register and old or already registered users to create a new account by allowing them to login.

Upload and Download: This is for the students so that they upload their work and if they like the work of other students then they can download that article so that they can refer to it later offline without logging in again.

Like and Comment: When a student refers or uses the work of another student then he can share his ideas on that topic by Commenting on the article in the comment section.
If a student likes the work of another student then he can press the like button so that when another user searches for any similar work the article with most likes pops first.

Search: Users can search for desired article using keywords. they can also search for other users.

2.3   Operating Environment

As this is a website there is no different classification of the devices on which this will work. This website runs on all systems, browsers.

2.4 Design and Implementation Constraints

The Internet connection is also a constraint for the application. Since the application fetches data from the database over the Internet, it is crucial that there is an Internet connection for the application to function.

The software will be constrained by the capacity of the database. Since all users access the same database, the database may be forced to queue incoming requests and therefore increase the time it takes to fetch data.

2.5 User Documentation

As the website is simple to use the website interfaces are self explainable. All the icons and buttons clearly show their purpose.

2.6 Assumptions and Dependencies

The website that we are going to build does not depend on any third party applications and it is fully independent.

3. External Interface Requirements

This section provides a detailed description of all inputs into and outputs from the system. It also gives a description of the hardware, software and communication interfaces and provides basic prototypes of the user interface.

3.1 User Interfaces

When a user logs in to the web application he sees the home page where there are options for logging the user in and registering him.

On the homepage, the user is given the right to access the search bar which displays various articles based on the input and filters provided in the search box. The user can then view the articles in the pdf format.
There are options for the user to like and comment which can only be done when the user signs up to the web application, till then he is just provided with view access.
Once the user logs in , he is provided with the options to update and edit his profile on his dashboard. He can also upload files if any and can see various comments on the files he has uploaded and the likes he has gained on his article.

The user can then log out of his dashboard once finishing his activities.

3.2 Hardware Interfaces

Since the web application doesn't have any designated hardware no hardware interfaces are needed. The hardware connection to the database server is managed by the underlying operating system on the desktop and the web server.

3.3 Software Interfaces

The web application communicates with the database in order to get the articles specified by the user . Then these articles are listed out and clicking, these articles are streamed to the user as pdf files. The user also can update and fill his details which are communicated with the database through the web server.

3.4 Communications Interfaces

The communication between the different parts of the system is important since they depend on each other. However, in what way the communication is achieved is not important for the system and is therefore handled by the underlying operating systems for both the web application and the server. The application will use the HTTP protocol for communication over the internet and for the intranet communication will be through TCP/IP protocol suite.

4. System Features

4.1 Search, Like and Comment feature

4.1.1 Description and Priority

This feature enables the user to search a given article of his choice by providing the keyword or the name of the article. This feature is of topmost priority as this forms the crux of the web application.

4.1.2 Stimulus/Response Sequences

Stimulus 1: The user enters the keyword in the search box.

Response 1: Articles pertaining to the search are displayed.

Stimulus 2: The user likes given article.

Response 2: The like flag of the given article is set to 1.

Stimulus 3: the user provides the comment for the article

Response 3: The comments are stored for the given article.

4.1.3 Functional Requirements

REQ-1:
TITLE: Search the Article.
DESC: The article is searched based on the input provided and various filters can also be added for the searches made.
REASON: To search article and to read about it.

REQ-2:

TITLE: Like the article.
DESC: If an user likes a given article he can like it as a token of appreciation to the author.
REASON: To show appreciation on a given article.

REQ-3:

TITLE: Comment on the article.
DESC: The user who reads the article can comment on the article either for improvisation or sharing his views towards the article .
REASON: To express one's views about the article.

4.2   Upload and Download Of File

4.2.1 Description and Priority
        This feature gives the user access to upload his articles on his profile which will   be stored in the database and other user's can view and download the article that he feels he would require it offline.

4.4.2 Stimulus/Responses Sequences

Stimulus 1: Press the Upload button and choose the file to be uploaded (must be a PDF file)

Response 1: The article will be stored in the database with the author name as the name of the user who has uploaded the article

Stimulus 2: Press the Download button

Response 2: The article will be downloaded in the path chosen by the user.

4.2.3 Functional Requirements

 REQ-1

TITLE: Uploading the file
DESC: The user can upload the file only after he/she has signed in.
REASON: If the user is given the authority to upload the files then some unrelated files could be uploaded and the uploaded files need some author and an admin to it.

REQ-2

TITLE: Downloading the file
DESC: The user can download the file/article uploaded by another user.
REASON: The reason to make this feature available is that if an user wants to access the article offline and quickly then he prefers to keep the file downloaded in his device.

4.3   Edit and Update User Details

4.3.1   Description and Priority

The User once he logs in is provided with the user dashboard which has features to edit and update his details which includes his name, age and other personal and professional details. This feature is important as it identifies an user.

4.3.2   Stimulus/Response Sequences

Stimulus 1: The user enters his details for the first time.
Response 1: The details of the user is stored in the database.
Stimulus 2: The user changes his details .
Response 2: The details of the user is updated in the database.

4.3.3 Functional Requirements

REQ-1:

TITLE: Post the details.
DESC: The user posts his details for the first time by filling a form which gets stored in the database.
REASON: These details help in personal identification of the user based on the details provided.

REQ-2:

TITLE: Update the details.
DESC: The user has the authority to update his details once he logs in to the account .
REASON: To constantly update his details and to stay up to date.

4.4   User Login and Signup

4.4.1   Description and Priority

The user must register to the web application and then he must login to use specific functionalities of the application. This feature is a must to ensure the security of the user.

4.4.2   Stimulus/Response Sequences

Stimulus 1: The user signs up by providing his username and password for his personal identification.
Response 1: A document of username and password is created in the database.
Stimulus 2: The user logs in by using the username and password generated.
Response 2: The user is directed to his dashboard once he is correctly logged in.

4.4.3 Functional Requirements

REQ-1:

TITLE: Sign-up.
DESC: The user must sign up for accessing privileges to upload a file and other things.
REASON: These details help in personal identification of the user based on the authentication details provided.

REQ-2:

TITLE: Log-in.
DESC: The user must login before using specific functionalities
REASON: The user can use other functionalities of the application.

5.   Other Nonfunctional Requirements

5.1   Performance Requirements

The website that we are going to build must be interactive and the delays in each and every action response process must be as minimal as possible. In case of opening forms, showing error messages, making changes in the sessions or changing the settings must not take more than 3 to 4 seconds. While interactions which involve the databases operations such as making a request for an article, viewing your profile , opening a new pdf file etc will take a very less amount of time. Whereas the delays in connecting to the server is almost negligible in this case because both the server and the client are on the same system.

5.2   Safety Requirements

The information passed from the forms are sent using the post method so that the passwords and other information are not visible and not trackable. The data of the user's stored in the database can not be damaged or deleted by any external source. These data can be manipulated only by the admin of the website and to a few extent the users of the website.

5.3   Security Requirements

The major security issue in this website is to avoid or prevent one user from accessing another user's information and avoid him from changing any information of the user. These activities can be avoided if we manage sessions. A session is typically the one which holds all the required details of the user who has logged in. S this can prevent a user from accessing or changing any information of any other user.

5.4   Software Quality Attributes

Availability:
        If there is an disruption in the internet access while uploading a file then the user has to re-upload the file. The status of the upload will not be stored anywhere. So the user has to re upload the file once he/she gets back the internet access.

Security:
        The main security concern in this website is to avoid one user from logging in the account of another user. So each and every student or a teacher is given a separate user id and password which can be changed at any moment.

Usability:
        As the system is easy to handle and navigates in the most expected way with no delays. In that case the system program reacts accordingly and transverses quickly between its states. There is no place for ambiguity in this website.

6.   Other Requirements

<Define any other requirements not covered elsewhere in the SRS. This might include database requirements, internationalization requirements, legal requirements, reuse objectives for the project, and so on. Add any new sections that are pertinent to the project.>

Database Requirements:
        The database must hold the all the details of the users. It must also hold the name of all the articles they have uploaded along with the names of the co-authors. It must store the names

of all the articles, their category separately so that it will be easy to show the results when an user searches for an article.

Appendix A: Glossary

There are no abbreviations used in this SRS document. All the terms used are explained in their respective usage place.

Appendix B: Analysis Models

<Optionally, include any pertinent analysis models, such as data flow diagrams, class diagrams, state-transition diagrams, or entity-relationship diagrams.>

Appendix C: To Be Determined List

<Collect a numbered list of the TBD (to be determined) references that remain in the SRS so they can be tracked to closure.>