**Learning Hub Web Application**

**Software Requirements Specification**

Version 3.0

**Information Technology Institute- ITI**

**Software Testing and Quality Assurance**

**Smart Village**

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# **Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Description** | **Author** | **Comments** |
| 19/2/2023 | Version 1 | Alaa | Initial Draft |
| 24/2/2023 | Version 2 | Hasnaa | No Comments |
| 2/03/2023 | Version 3 | Moataz Ashraf | New version is added as per coach Comments (see Appendix for the **Review Comments Document** link) |
|  |  |  |  |

# **Document Approval**

The following Software Requirements Specification has been accepted and approved by the following:

|  |  |  |
| --- | --- | --- |
| **Printed Name** | **Role** | **Date** |
| Moataz | Tester, Developer | 2/3/2023 |
|  |  |  |
|  |  |  |

# **1. Introduction**

Learning Hub Web Application is a e-Learning project aims to create an engaging and informative online articles, videos, and records. that helps learners achieve the desired learning outcomes, but this is from the macro perspective. This release will have limited features. Over a period of time, new and new functionalities will be added to the site.

Learning hub is a web platform that will act as an online free encyclopaedia hosting tons of information so the users can explore and receive knowledge in different life domain and to be part of the community to contribute and share their knowledge.

## **1.1 Purpose**

*The Purpose of this document is to outline the requirements for the learning hub web application to be developed for Tech.*

*This document provides a detailed description of a software development project. The SRS outlines the technical requirements of the proposed system, defines the purpose of the system and its components, and includes sufficient detail for technical teams to build the system. The SRS should provide a complete overview of the project and will be used by everyone involved in the project to aid in its successful completion. Once the SRS is complete, a PPD would be produced that summarizes the findings of the SRS. The PPD would be presented to the customer for approval.*

*This document will be used by all stakeholders including developers and testers.*

## **1.2 References**

***1.4.1*** *Customer requirements specification.*

***1.4.2*** *Sample in Question (SIQ).*

# **2. Specific Requirements**

The Learning Hub will have 2 roles.

1. Admin
2. User

Following features will be available to these 2 different roles.

|  |  |
| --- | --- |
| Admin | User |
| Register | **Register** |
| Login | **Login** |
| Navigate | **Navigate** |
| Notification | **Notification** |
| Add | **Add** |
| Edit | **Edit** |
| Delete | **Delete** |
| Logout | **Add User** |
|  | **Delete User** |
|  | **Logout** |

**Description of the features**

|  |  |  |
| --- | --- | --- |
| **Feature Name** | **Applicable**  **Roles** | **Description** |
| **Register** | Admin  User | **Admin:** Admin can create new account using email, unique username, Strong password.  **User:** User can create new account using email, unique username, Strong password. |
| **Login** | Admin  User | **Admin:** Admin can login using unique admin username and password.  **User:** User can login with unique username and the strong password. |
| **Navigate** | Admin  User | **Admin and User** can Navigate from Home page to Categories page |
| **Notification** | Admin  User | Followed Categories send notification when articles added.  **Admin and User** can get notification whenever a new article is added. |
| **Add** | Admin  User | **Admin and User** can add articles, videos, recordings. |
| **Edit** | Admin | **Admin:** Admin can edit all articles, videos, and recordings. |
| User | **User:** User can edit his own articles, videos, and recordings. |
| **Delete** | Admin | **Admin:** Admin can delete all articles, videos, and recordings. |
| User | **User:** User can delete his own articles, videos, and recordings. |
| **Add User** | Admin | **Admin:** Admin can add new User. |
| **Delete User** | Admin | **Admin:** Admin can delete an existing User. |
| **Logout** | Admin  User | **Admin and User** can logout. |

## **2.1 External Interface Requirements**

These requirements include user interfaces (interaction logic between software and user), screen layouts, buttons, functions on every screen, hardware interfaces (here a team describes what devices the software is created for), and other relevant particularities.

### **2.1.1 User Interfaces**

* Register Screen
* Login Screen
* Home Page
* Navigation Bar
* Profile Screen
* Categories Screen

### **2.1.2 Hardware Interfaces**

* Keyboard
* Mic / Sound System
* Mouse

### **2.1.3 Software Interfaces**

* Database
* Server
* Operating System

### **2.1.4 Communications Interfaces**

* Web browser
* Communication Standards (HTTP, HTTPS, FTP)
* Message Formatting (Video, Image, Record)
* End-to-End Encryption

## **2.2 Design and Implementation Constraints**

* Web-based system/pc based.
* Unique user-ID
* Admin features needed.

## **2.3 Operating Environment**

* Operating system: Windows.
* platform: HTML, CSS, java script.

# **3. System Features**

## **3.1 Front End Details**

This section describes the Front end of Learning Hub Web Application.

It also lists a few use cases to describe the functioning of the system.

Following is a list of features wise fields.

**Register**

* Email
* Username
* Password
* Confirm Password
* Register
* Reset

**Login**

* Username
* Password
* Login

**Navigate**

* Navigation Bar (Categories)
* Back

**Notification**

* Name of Publisher
* Category
* Post Format (Article, Video, Record)
* Date

**Add**

* Dropdown menu (Article, video, record)
* Upload
* Publish
* Cancel

**Edit**

* Dropdown menu (Article, video, record)
* Date
* Save
* Cancel

**Delete**

* Confirm Message
* Delete
* Cancel

**Add User**

* Username
* Password
* Confirm Password
* Email
* Add
* Cancel

**Delete User**

* Username
* Email
* Confirm Message
* Delete
* Cancel

**Logout**

* Confirm Message
* Yes
* Cancel

## **3.2 Technical Requirements**

### **3.2.1 Registration feature**

**Description**

Users must have an account in order to be able to view the home page. Users who don’t have an account will not be able to view any of the website articles. Users' accounts will hold information about their first name, last name, email, password, confirm password, phone number and address. Users can view and login to their accounts anytime in the future after their registration.

**Response Sequences**

In the login page, users can login if they already have an account and if not, there would be a sign-up button to register his/her information. Upon matching the required criteria, the account will let the user log in to his/her account and the home page is displayed.

**Functional Requirements**

**SRS-Regs-001:** The user shall enter first name in the first name field.

**SRS-Regs-002:** The user shall enter Last name in the last name field.

**SRS-Regs-003:** The user shall enter only valid format email that does not already

exist in the database ex: email@gmail.com.

**SRS-Regs-004:** The user shall enter password. The password field can’t be blank and must be more than 8 characters.

**SRS-Regs-005:** The user shall confirm password. The password should match the previously entered password in SRS-Regs-004.

**SRS-Regs-006**: The mobile number mustn’t be blank.

**SRS-Regs-007**: The mobile number must contain digits only.

**SRS-Regs-008:** The address must not be blank.

**SRS-Regs-009:** The user shall be able to press on the register button.

**SRS-Regs-006:** If any of the entered data in requirements (SRS-Regs-001,

SRS-Regs-002, SRS-Regs-003, SRS-Regs-004, SRS-Regs-005, SRS-Regs-006, SRS-Regs-007, SRS-Regs-008) is incorrect an error message shall appear.

**SRS-Regs-007:** If all entered data in requirements (SRS-Regs-001, SRS-Regs-002, SRS-Regs-003, SRS-Regs-004) is correct the system will confirm registration and a unique username will be generated then transfer the user to the home page.

**Feature Validation**

**SRS-VAL-Regs-001:** If email is not valid, system displays an error.

**SRS-VAL-Regs-002:** If username is used before, system displays an error.

**SRS-VAL-Regs-003:** If password is not valid, system displays an error.

### **3.2.2 Login Feature:**

**Description**

Login feature will help in authentication of user and admin accounts. Users who have valid email and password can only login into their accounts. After that users will be able to navigate to the home page successfully.

**Response Sequences**

In the login page, users and admins can login, if they already have an account. Upon matching the required criteria, the account will let the user log in to his/her account and the home page is displayed. For the users who don’t have a registered account, there would be a sign-up button to register his information.

**Functional Requirements:**

**SRS\_Log\_001:** user/admin must enter a valid mail and password that match the existed data in database.

**SRS\_Log\_002:** Users/admins must enter their emails in the right email format (ex: “[abc@mail.com](mailto:abc@mail.com)”).

**SRS\_Log\_003**: If the mail or the password are in-valid (see requirements 001 & 002), it’s an error that must be reported to the user/admin and this message should appear “the mail or password isn’t correct”.

**SRS\_Log\_004**: If the mail and password exist in the database, the system should log you in and navigate you to the “home page”.

**SRS\_Log\_005**: If either of the text fields is left blank, it is an error that must be reported to the user/admin and those two messages should appear “Password is required” and “mail is required”.

**Feature Validation**

User

**SRS-VAL-Login-001:** If username is not existed in database, system displays an error.

**SRS-VAL-Login-002:** If the password is not correct, system displays an error.

Admin

**SRS-VAL-Login-003:** If admin username is not existed in database, system displays an error.

**SRS-VAL-Login-004:** F7. If admin password is not correct, system displays an error.

### **3.2.3 Navigation feature**

**Description**

Customers can navigate between the various learning categories located in the system database. Users can navigate through a dropdown list which upon selection, page of the selected category will load containing various articles and videos related to that category.

**Stimulus/Response Sequences**

In the home page, users and admins can navigate by two dropdown lists to choose from the available learning categories.

**Functional Requirements**

**SRS\_nav\_001:** the user should click on the dropdown list to choose from choose from the available learning categories.

**SRS\_nav\_002:** Categories are Available and Clickable to navigate to Intended Category page.

**SRS\_nav\_003:** Add Categories not allowed.

**SRS\_nav\_004:** Delete Categories not allowed.

**SRS\_nav\_005:** user can click on back to navigate to home page**.**

**Feature Validation**

**SRS-VAL-NAV-001:** F8. If user navigate not existed page, system displays an error.

**SRS-VAL-NAV-002:** If admin navigate not existed page, system displays an error.

**SRS-VAL-NAV-003:** If user navigate to a deleted page, system displays an error.

**SRS-VAL-NAV-004:** If admin navigate to a deleted page, system displays an error.

### **3.2.4 Add Feature**

**Description**

User can navigate to certain category and click on add button and then will be redirected to add page to create an article, upload video, and upload record.

**Response Sequences**

Users have to login first to be navigated to home page and choose category, in add page there would be a add button so users can add different articles, records, videos.

**Functional Requirements**

**SRS-ADD-001:**  **user can publish an article; article should not exceed 300 character maximum.**

**SRS-ADD-002:** Article should not be blank.

**SRS-ADD-003:** Article should be related to category.

**SRS-ADD-004:**  **user can upload a video; video should not exceed 3 to 4 minute maximum.**

**SRS-ADD-005:** Video should not be blank.

**SRS-ADD-006:** Video should be related to category.

**SRS-ADD-007:**  **user can upload a record; record should not exceed 3 to 4 minutes maximum.**

**SRS-ADD-008:** Record should not be blank.

**SRS-ADD-009:** Record should be related to category.

**SRS-ADD-010:** Categories page must be existed and can be reached.

**SRS-ADD-011:** Add button must be existed.

**Feature Validation**

**SRS-VAL-ADD-001:**  If the article is not in a pdf form, system displays an error.

**SRS-VAL-ADD-002:**  If the user loses his internet connection while adding a document, system displays an error.

### **3.2.5 Edit Feature**

**Description**

User can navigate to certain category and choose certain article, video, record then click on Edit button and then will be redirected to Edit page to Edit them.

**Response Sequences**

Users have to login first to be navigated to home page and choose category, in Edit page there would be an Edit button so users can Edit different articles, records, videos.

**Functional Requirements**

**SRS-EDIT-001:**  **user can Edit his published articles only; article should not exceed 300 character maximum.**

**SRS-EDIT-002:**  **user can Edit his uploaded video; video should not exceed 3 to 4 minute maximum.**

**SRS-EDIT-003:**  **user can edit his uploaded record; record should not exceed 3 to 4 minutes maximum.**

**SRS-EDIT-004:** Categories page must be existed and can be reached.

**SRS-EDIT-005:** Edit button must be existed.

**SRS-EDIT-006:** the old version of the edited document must be removed from the website.

**Feature Validation**

**SRS-VAL-EDIT-001:**  If a normal user tries to edit another user’s document, the system will display an error message.

**SRS-VAL-EDIT-002:**  If the user loses his internet connection while editing a document, the system displays an error.

### **3.2.6 Delete Feature**

**Description**

User can navigate to certain category and select certain article or video or record and click delete to delete it.

**Response Sequences**

Users have to login first to be navigated to home page and choose category, in category page there would be a delete button to every article, video, record. users can Delete different articles, records, videos.

**Functional Requirements**

**SRS-DELETE -001:**  **user can delete his published articles only.**

**SRS-DELETE -002:**  **user can delete his uploaded video.**

**SRS-DELETE-003:**  **user can delete his uploaded record.**

**SRS-DELETE-004:** Categories page must be existed and can be reached.

**SRS-DELETE-005:** delete button must be existed.

**SRS-DELETE-006:** the old version of the edited document must be removed from the website.

**SRS-DELETE-007:** Delete feature can be implemented by user to his articles only.

**SRS-DELETE-008:** Delete feature can be implemented by admin to any article on the website.

**SRS-DELETE-009:** Deleted document must be removed from the website for all users and admins.

**Feature Validation**

**SRS-VAL-DELETE-001:**  If a normal user tries to delete another user’s document, the system will display an error message.

**SRS-VAL-DELETE-002:**  If the user loses his internet connection while deleting a document, the system displays an error.

### **3.2.7 Notification Feature**

**Description**

User should get a notification when a new article or video or record is added to categories he follows.

**Response Sequences**

Users have to login first to access notifications, in home page there would be a notification button to view notification from different categories. When users press on notification will be redirected to category page.

**Functional Requirements**

**SRS-NOTIFI-001:**  **Users can view notifications from different categories.**

**SRS-NOTIFI-002:**  **User get Notification when new article Added.**

**SRS-NOTIFI-003:**  **User get Notification when new video Added.**

**SRS-NOTIFI-004:**  **User get Notification when new Record Added.**

**Feature Validation**

**SRS-VAL-NOTIFI -001:**  If notification for Article Deleted, system displays an error.

**SRS-VAL-NOTIFI -002:**  If notification for Video Deleted, system displays an error.

**SRS-VAL-NOTIFI -003:**  If notification for Record Deleted, system displays an error.

### **3.2.8 Add User**

**Description**

Admin should be able to add new user to the database system

**Response Sequences**

Admin have to login first with valid admin account to be able to access add new user button, when admin clicks on add user button the system redirect to the form and after filling all required fields and pressing submit, the new user is added successfully to the database

**Functional Requirements**

**SRS-ADD-USR-001** Username field Numbers are not allowed

**SRS-ADD-USR-002** Username field Special characters are not allowed

**SRS-ADD-USR-003** Username field must not be blank.

**SRS-ADD-USR-004** Username field First character cannot have space

**SRS-ADD-USR-005** Email field must not be blank

**SRS-ADD-USR-006** Email must be valid

**SRS-ADD-USR-007** Email field First character cannot have space.

**SRS-ADD-USR-008** Password field must not be blank

**SRS-ADD-USR-009** Password must have least one numeric value.

**SRS-ADD-USR-010** Password must have least one special character

**SRS-ADD-USR-011** Password field must be difficult Password

**SRS-ADD-USR-012** Confirm password field must not be blank

**SRS-ADD-USR-013** Confirm password must match the password in password field

**Feature Validation**

**SRS-VAL-ADD-USR-001**If username is already existed in database, system displays an error.

**SRS-VAL-ADD-USR-002** ‎: If the password is not valid, system displays an error.‎

**SRS-VAL-ADD-USR-003** If email is not valid, system displays an error.‎

### **3.2.9 Delete User**

**Description**

Admin should be able to delete an exist user from the database system

**Response Sequences**

Admin have to login first with valid admin account to be able to access delete user button, when admin clicks on delete user button the system redirect to the form and after filling all required fields , A confirmation message should appear before deleting the user and then press delete, the user is deleted successfully from the database

**Functional Requirements**

**SRS-DEL-USR-001** Username field Numbers are not allowed

**SRS- DEL -USR-002** Username field Special characters are not allowed

**SRS- DEL -USR-003** Username field must not be blank.

**SRS- DEL -USR-004** Username field First character cannot have space

**SRS- DEL -USR-005** Email field must not be blank

**SRS- DEL -USR-006** Email must be valid

**SRS- DEL -USR-007** Email field First character cannot have space.

**Feature Validation**

**SRS-VAL- DEL -USR-001**If username is not existed in database, system displays an error.

**SRS-VAL- DEL -USR-002** ‎: If email is not valid, system displays an error.‎

.‎

### **3.2.10 Logout**

**Description**

Admin and user should be able to logout from the system by pressing on logout button and then the system redirect them to the home page of the system with no authorizations to the system functions.

**Response Sequences**

Admin and user must be logged in first to be able to logout from the system by pressing on logout button and then the system redirect them to the main home page of the system with no authorizations to the system functions.

**Functional Requirements**

**SRS-LOGOUT-001** Pressing logout button the system must redirect to the main home page

## **3.3 Classes / Objects**

### **3.3.1. Attributes**

Nil

### **3.3.2 Functions**

Nil

## **3.4 Non-Functional Requirements**

### **3.4.1 Performance Requirements**

* After writing the correct username and password the login process should
* take only 10 seconds,
* While in Register it should only take few seconds to make sure that the
* email isn’t already existed before.
* The system shall take no more than 10 seconds to respond to the user.
* System should upload 1000 pictures per second.

### **3.4.2 Security Requirements**

* The access permissions for system data may only be changed by the
* system’s data administrator.
* All system data must be backed up every 24 hours and the Backup copies.
* stored in a secure location which is not in the same building as the system.
* All Admin and users Data must be encrypted.

### **3.4.3 Software Quality Attributes**

1. Usability

* Well-structured user manuals.
* Informative error messages.
* Help facilities.
* Well-formed graphical user interfaces

1. Reliability

* The system's downtime should not be more than 60 minutes per month.

1. Portability

* The system should support almost all the browsers due to it is Web application (Internet Explorer, Safari, Chrome, and Firefox).

1. Compatibility

* The system should support almost all the operating systems due to it is PC based.

1. Availability

* The Encyclopaedia System should be available 98% at 24 hours per day.

## **3.5 Legal Requirements**

Inappropriate content violates the system rules. Therefore, it will be deleted immediately by the admin and the user will be notified.

## **3.6 Design Constraints**

Nil

## **3.7 Logical Database Requirements**

Nil

# **4. Analysis Models**

## **4.1 Use Case Diagram (UML)**

Diagram

Description automatically generated

# **5. Change Management Process**

Changes to the SRS either from the development, testing team or the client side will be communicated to the project sponsor.

Any change made to the SRS will require a sign off from the Development lead, QA lead and the client.

Once approved changed will be made to the SRS and the new SRS will be circulated to all stakeholders

# **A. Appendix**

*Nil*