SOFTWARE REQUIREMENTS SPECIFICATION FOR TEACHHUB WEB APPLICATION

ISEC-ADE

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1. Introduction & Purpose

TeachHub is an online platform designed to serve educators and professionals working in the field of autism and intellectual disabilities (ID). The platform aims to facilitate the sharing, discovery, and collaboration of open educational resources (OER) tailored to the unique needs of learners with autism. This Software Requirements Specification (SRS) document outlines the functional and non functional requirements essential for the development of TeachHub.

TeachHub aims to specialize in supporting educators, including teachers and school based therapists, with a focus on open instructional materials and resources tailored for learners with autism. The purpose of TeachHub is to provide a centralized hub for educators to access, share, and collaborate on teaching resources. The platform emphasizes open access, community building, and the promotion of best practices in teaching learners with autism.

2. Scope

The scope of TeachHub encompasses the following key features:

- Integration with TeachSpace Web App (R1): The E hub is designed to be connected with TeachSpace web app (R1), creating a seamless ecosystem for educators to access resources, collaborate, and contribute to the platform.
- Resource Exchange: The platform facilitates the exchange and adaptation of open educational resources, allowing educators to save time, support learners with autism, and learn from each other.
- Review and Rating OER: Implement a robust review and rating mechanism to ensure the quality and effectiveness of shared resources, fostering a culture of excellence within the platform.
- User Friendly Interface: Design an intuitive and user friendly interface to enhance the overall user experience, emphasizing ease of navigation and resource discovery.
- Professional Development Hub: Include a dedicated section for professional development resources, providing guidance and insights on effective teaching strategies and inclusive practices.
- Incentive Structures: Develop non monetary incentive structures, such as badges, certifications, or acknowledgment, to motivate and recognize contributors within the TeachHub community.
- Integrate the **DigCompEdu:** monitoring different levels of teacher engagement, and awarding certificates in accordance with the European Framework for the Digital Competence of Educators.
- Open Licensing Promotion: Actively encourage the use of open licenses, fostering a culture of open sharing and collaboration while respecting intellectual property rights.
- Continuous Feedback Loop: Establish a mechanism for continuous feedback from users to inform iterative improvements and ensure the platform's continual evolution.
- Search and Filtering Functionality: TeachHub incorporates a centralized search function to filter and organize educational materials based on areas and topics, enhancing the discoverability of resources.
- Multilingual site: Incorporate multilingual sites to ensure inclusivity and accessibility for educators from diverse linguistic backgrounds.

- Innovation in Education: The platform promotes innovative teaching practices by leveraging the benefits of OER, adaptability of materials, expanded access to learning and support for different learning styles.

3. Environmental Characteristics

3.1 Hardware

Server Side:

• Cloud based server, with basic configuration for running web application such as NGINX server is necessary for deploying and testing of this system.

Client Side:

• Computer with speaker, microphone and webcam facility.

3.2 Software

Server:

• Operational system: Unix/Linux

Web Server:

• NGINX

Programming language:

• PHP

Database:

• MySQL

Operational system:

• Unix/Linux /Windows

Software:

• Any kind of web browser with JavaScript and HTML 5.0 support

4. Functional Requirements

4.1 User Authentication and Authorization:

4.1.1 User Registration:

Users should be able to use the created accounts at TeachSpace

Accounts should be authenticated via email verification, on the TeachSpace side.

4.1.2 User Login:

Authenticated users should be able to log in securely.

4.1.3 User Roles:

In the context of TeachHub, a simplified user structure is envisioned with a single user class. All users, regardless of their specific role in education, will be categorized under a unified user class. The design does not introduce a hierarchical role system with distinct roles such as educators, administrators, or contributors. Instead, users will have equal access and functionality within the platform, fostering a sense of equality and inclusivity.

The decision to maintain a singular user class aligns with the principles of collaboration and open sharing promoted by TeachHub. By eliminating role based differentiations, the platform encourages active participation and contribution from all users, emphasizing a collective and community driven approach to resource sharing and collaboration.

4.2 Resource Sharing:

4.2.1 Publish Resources:

Educators should be able to publish TeachSpace sets on the Teachhub

Educators **must provide keywords, type of resource, and subject area** before publishing resources to enable search function

Educators **must edit** imported sets before publishing them on TeachHub

4.2.2 Resource Discovery:

Users should be able to search for sets based on **subject, resource type and keywords.**

4.2.3 Resource Sourcing:

Users should be able **to freely import resources from TeachHub their TeachSpace account**.

Importing is synonymous to saving or adding to their own sets in their TeachSpace account library.

4.2.4 Resource Curation:

By assigning appropriate keywords to resources, educators and contributors are actively curating the content, making it more accessible and valuable for the teaching community.

4.3 Review and Rating System:

4.3.1 Resource Reviews:

Users should be able to review the resources.

4.3.2 Rating System:

Implement a 5 star rating system for resources.

4.4 User Friendly Interface:

4.4.1 Intuitive Design:

Design an intuitive and visually appealing interface.

4.4.2 Navigation:

Ensure easy navigation for users to explore and contribute resources.

4.5 Incentive Structures:

4.5.1 Contributor Recognition:

Implement features such as badges, certifications, or acknowledgment to recognize and motivate contributors.

4.5.2 Automated Certificate Distribution:

Automated certificates should be generated and sent to contributors via email using a third party application. Integration with an email service provider, such as SendGrid or Mailchimp, can facilitate the automated distribution of certificates.

Suggested Implementation:

Integrate with a third party email service API to trigger certificate emails.

Upon reaching a milestone or contributing valuable resources, contributors receive an automated email containing a digitally signed certificate.

The certificate should include details such as the contributor's name, the type of contribution, and any relevant achievement details.

Benefits:

Ensures seamless and immediate recognition for contributors.

Adds a personalized touch by delivering certificates directly to contributors' email inboxes.

Facilitates a sense of achievement and motivation among contributors.

4.6 Global Collaboration:

4.6.1 Multilingual Support:

Provide multilingual support for a global audience.

4.7 Professional Development Hub:

4.7.1 Blog Posts:

Users can engage in writing blog posts, sharing insights and thoughts on specific topics. Blog post need to be reviewed after submission on the platform. Administrators will have the possibility for review and publishing the content.

4.7.3 Dedicated Professional Development Section/ Resource Repository for Professional Development:

Include a dedicated section where educators can access a repository of professional development resources.

Resources may include training materials, webinars, and guides aimed at enhancing teaching skills.

Provide expert guidance and insights on effective teaching strategies and inclusive practices.

Offer a platform for experienced educators to share their knowledge and mentor others in the community.

4.8 Open Licensing Promotion:

4.8.1 Licensing Information:

Contributors are encouraged to specify licensing information for resources they share on TeachHub.

TeachHub exclusively adopts the Creative Commons (CC) BY-NC-SA (Attribution-NonCommercial-ShareAlike) license.

Description:

Users have the freedom to remix, tweak, and build upon the shared work under the condition that:

It is done non-commercially.

The original author is credited for their work.

The new creations are licensed under identical terms (CC BY-NC-SA).

Permissions:

Remixing, tweaking, and building upon the work are allowed for non-commercial purposes.

Conditions:

Users must provide appropriate attribution to the original author.

The new creations must be licensed under the same terms (CC BY-NC-SA).

Note: This specific license aligns with TeachHub's commitment to fostering non-commercial collaboration, proper attribution, and open sharing of educational resources.

4.9 Continuous Feedback Loop:

4.9.1 Feedback Mechanism:

Implement a user friendly mechanism for users to provide continuous feedback.

Contact form.

5. Non Functional Requirements

5.1 Performance:

The platform should support a large number of concurrent users.

Response times should be optimized for resource intensive tasks.

5.2 Security:

Implement robust security measures to protect user data.

Use encryption for data transmission.

5.3 Reliability:

Ensure high availability with minimal downtime.

Implement regular backups to prevent data loss.

5.4 Scalability:

Design the platform to scale seamlessly as the user base grows.

Consider potential future enhancements and expansions.

5.5 Usability:

Conduct usability testing to ensure a positive and efficient user experience.

Gather user feedback for continuous improvements.

5.6 Compatibility:

Ensure compatibility with a variety of browsers and devices.

Support both desktop and mobile platforms.

6. Conclusion

This Software Requirements Specification (SRS) serves as a comprehensive guide for the development of TeachHub, outlining the essential features, functionalities, and considerations necessary to create a dynamic and inclusive platform for educators in the field of autism and intellectual disabilities. The successful implementation of these requirements will contribute to the realization of TeachHub's vision as a collaborative and resource rich hub for the global autism education community.