

DESIGN REQUIREMENTS SPECIFICATION FOR TEACHHUB

ISEC-ADE

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DESIGN REQUIREMENTS SPECIFICATION FOR TEACHHUB WEB APPLICATION

Result 2: E hub for education and sharing open educational recourses

Accessible digital education for learners with autism and intellectual disabilities: innovating solutions and enhancing educators' competences (ISEC ADE)

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Center for special
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"D-r Peter Beron"

1. Introduction and purpose

The TeachHub application emerges as a transformative educational platform, epitomizing a paradigm shift in the provision of instructional resources for learners with autism. Contextualized within the Digital Education Action Plan (2021-2027, EC), this application endeavors to transcend conventional boundaries by fostering a collaborative environment among educators, therapists, and learners. Its pivotal objective is to cultivate a dynamic hub wherein teachers can seamlessly exchange, adapt, and create open educational resources (OER) tailored to the distinctive needs of autism learners. The platform's architectural design integrates user-friendly features, accentuating its accessibility and facilitating the streamlined publishing and sharing of digital materials. Aligned with the ethos of open access, the TeachHub embodies the principles of inclusivity and community-driven knowledge dissemination, augmenting the collective capacity of educators to provide high-quality digital education.

TeachHub aims to create an ecosystem that seamlessly integrates with the TeachSpace web app, emphasizing resource exchange, community building, and professional development for educators. It also promotes open licensing, continuous feedback, and global collaboration.

2. Scope

TeachHub's scope includes integration with TeachSpace, resource exchange, community building, a review and rating system, user-friendly interface, incentive structures, integration with the European Framework for Digital Competence, professional development hub, open licensing promotion, continuous feedback loop, and search and filtering functionality. A Design Requirements Specification (DRS) for TeachHub provides detailed specifications on how the system should be designed and implemented.

Within the framework of the Software Development Life Cycle (SDLC), the TeachHub application progresses through meticulously defined stages. Commencing with a thorough Planning and Requirement Analysis phase, the development process delves into the specific needs and motivations of educators, substantiated by a comprehensive desk research protocol and focus group interviews. The subsequent stages encompass the articulation of software requirements (SRS), architectural design formulation (DRS), and culminate in a rigorous testing and piloting phase, ensuring the robustness and efficacy of the e-hub. By orchestrating these strategic phases, TeachHub aspires to transcend the conventional realms of educational technology, offering a holistic and innovative solution that empowers educators and supports the fundamental right to quality and inclusive education for learners with autism.

3. Target audience

The target audience for TeachHub primarily includes educators and professionals working in the field of autism and intellectual disabilities. This encompasses a diverse group of individuals who are involved in teaching, supporting, and enhancing the learning experiences of individuals with autism. The specific target audience can be further detailed as follows:

Special Education Teachers, Teachers with a focus on autism and intellectual disabilities, Inclusive Education Teachers, School-Based Therapists (Occupational Therapists, Speech-Language Pathologists, Behavioral Therapists, Special Education Professionals), Educational Support Staff, Resource Room Teachers etc.

4. User Classes and Characteristics

In TeachHub, there is a singular user class, meaning that all users, regardless of their specific role in education, fall under the same category. This design choice is intentional and emphasizes a sense of equality and inclusivity within the platform. Here are the characteristics of the user class in TeachHub:

All users within TeachHub have equal access to the platform's features and functionalities. There are no hierarchical role differentiations such as educators, administrators, or contributors. Each user has the same level of access, fostering a collaborative and community-driven approach.

5. Functional requirements and desired set of features

5.1 Use cases

5.1.1 Use case: profile

Users will be able to manage the information on their profile via TeachSpace.

5.1.2 Use case: Publishing

Users will publish directly from TeachSpace.

Keywords, type and subject are required before publishing.

5.1.3 Use case: Searching

Users will be able to search resources by keyword, subject, and type

5.1.4 Use case: importing resources

Users will be able to import/appropriate resources from TeachHub to their TeachSpace account, by clicking a single button.

Users need to publish at least one set of their own work, to be able to import.

5.1.5 Use case: Versioning and Updates:

Implement versioning for resources to inform users about modifications or additions using timestamps to clearly communicate updates.

5.1.6 Use case: Review and comment on resources

Users will be able to rate resources

5.1.7 Use case: Resource analysis

Users will be able to search resources by popularity.

Analytics tools to track resource usage will be implemented. This data can provide insights into which resources are most popular, helping educators and platform administrators make informed decisions.

Users will be able to see the number of imports for each resource and its rating .

5.1.9 Use case: professional development

Users will be able to access professional development resources on a dedicated site

5.1.10 Use case: Feedback

Users will be able to continuously leave feedback directly on the hub.

5.1.11 Certificates and badges

Users will be able to receive non-monetary incentives such as community recognition, badges, and/or certifications to encourage active participation and resource contribution.

Proficiency/competence stages¹

Newcomer (A1)

Awareness & basic use of the TeachSpace digital tool for empowering learners using accessible digital resources

Explorer (A2)

Exploring TeachSpace & TeachHub accessible digital resources & learner-centred strategies

Integrator (B1)

Integrated & creative use of the TeachSpace & TeachHub digital tools for learner empowerment & fitting digital resources to the learning context

Expert (B2)

Strategical use of TeachSpace & TeachHub interactive and accessible resources to empower learners

Leader (C1)

Comprehensive and advanced use of TeachSpace & TeachHub interactive and accessible resources & strategies to holistically empower learners

Pioneer (C2)

Promoting the use of TeachSpace & TeachHub interactive and accessible digital resources, innovating learner involvement

5.1.12 Use case: licensing agreement

Users will be able to read and agree to the terms of use and licensing agreement for the published resources.

6. Conclusion:

In conclusion, this Design Requirements Specification (DRS) serves as a comprehensive blueprint for the development of TeachHub, an innovative online platform dedicated to serving educators and professionals in the field of autism and intellectual disabilities. The outlined functional and non-functional requirements, coupled with detailed use cases, provide a clear roadmap for the development team.

The design specifications emphasize user-friendly interfaces, robust security measures, and scalability to accommodate a growing user base. The gamification elements, such as badges and

¹ Based on Punie, Y., editor(s), Redecker, C., European Framework for the Digital Competence of Educators: DigCompEdu , EUR 28775 EN, Publications Office of the European Union, Luxembourg, 2017, ISBN 978-92-79-73718-3 (print),978-92-79-73494-6 (pdf), doi:10.2760/178382 (print),10.2760/159770 (online), JRC107466.

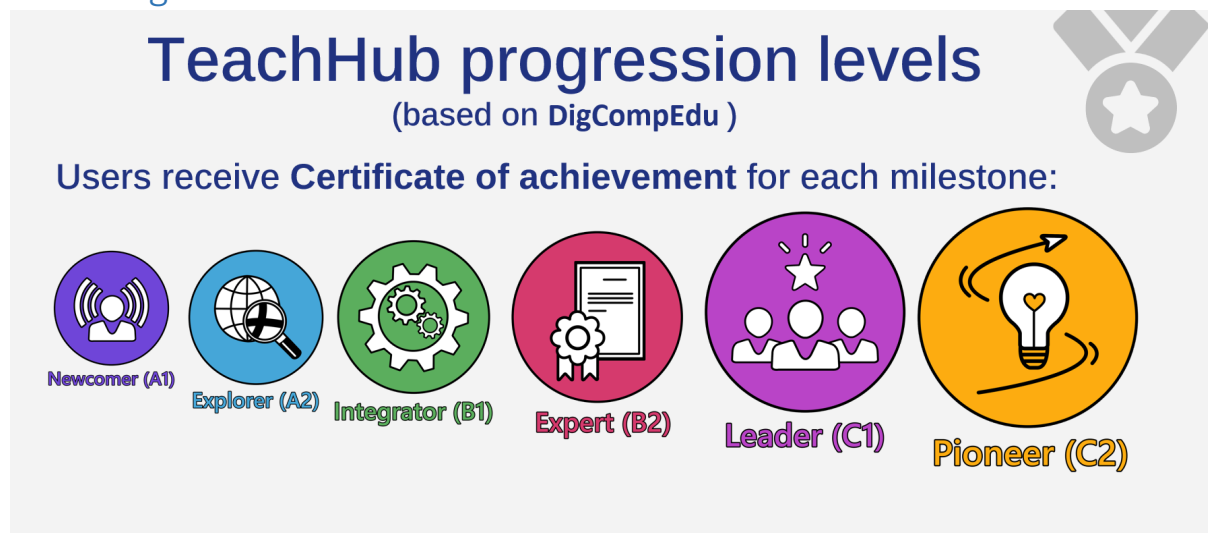
certifications, contribute to a motivational and rewarding experience for contributors, promoting active participation within the TeachHub community.

Furthermore, the report delves into specific use cases, addressing key functionalities like resource publishing, searching, reviewing, and importing. It also highlights the importance of legal and ethical considerations, responsive design, and regular maintenance for the sustained success of the platform.

As TeachHub moves from conceptualization to implementation, this DSR stands as a crucial document guiding the development team in creating a platform that aligns seamlessly with the vision of providing quality education for learners with autism and ID. The successful realization of these specifications is anticipated to make TeachHub a valuable resource hub, fostering collaboration, innovation, and excellence in the field of accessible digital education.

7. Visual materials

7.1. Badges



TeachHub progression levels
(based on DigCompEdu)

Users receive **Certificate of achievement** for each milestone:

- Newcomer (A1)**: Icon of a person with signal waves.
- Explorer (A2)**: Icon of a globe with a magnifying glass.
- Integrator (B1)**: Icon of interlocking gears.
- Expert (B2)**: Icon of a document with a ribbon seal.
- Leader (C1)**: Icon of three people with a star above them.
- Pioneer (C2)**: Icon of a lightbulb with an arrow pointing upwards.

7.2. Certificates



CERTIFICATE OF ACHIEVEMENT

THIS CERTIFICATE IS AWARDED TO:

PROFICIENCY LEVEL: NEWCOMER (A1)

Awareness & basic use of the TeachSpace & TeachHub digital tools for empowering learners using accessible digital resources

TeachSpace
TeachHub

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CERTIFICATE OF ACHIEVEMENT

THIS CERTIFICATE IS AWARDED TO:



Explorer (A2)

PROFICIENCY LEVEL: EXPLORER (A2)

Exploring TeachSpace & TeachHub accessible digital resources & learner-centred strategies



CERTIFICATE OF ACHIEVEMENT

THIS CERTIFICATE IS AWARDED TO:



Integrator (B1)

PROFICIENCY LEVEL: INTEGRATOR (B1)

Integrated & creative use of the TeachSpace & TeachHub digital tools fitted to the learning context



CERTIFICATE OF ACHIEVEMENT

THIS CERTIFICATE IS AWARDED TO:



Expert (B2)

PROFICIENCY LEVEL: EXPERT (B2)

Strategical use of TeachSpace & TeachHub interactive and accessible resources to empower learners



CERTIFICATE OF ACHIEVEMENT

THIS CERTIFICATE IS AWARDED TO:



PROFICIENCY LEVEL: LEADER (C1)

Comprehensive and advanced use of TeachSpace & TeachHub interactive and accessible resources & strategies to holistically empower learners



CERTIFICATE OF ACHIEVEMENT

THIS CERTIFICATE IS AWARDED TO:



PROFICIENCY LEVEL: PIONEER (C2)

Promoting the use of TeachSpace & TeachHub interactive and accessible digital resources, innovating learner involvement

