Project Deliverable

Entrepreneurial skills
for young social innovators
in an open digital world

DOIT-Europe.Net

DELIVERABLE 3.1

DOIT CO-CREATIVE OPEN PLATFORM REQUIREMENTS SPECIFICATION REPORT

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 770063

CC BY

“DOIT – Entrepreneurial skills for young social innovators in an open digital world”
A HORIZON 2020 INNOVATION ACTION

Consortium: Salzburg Research Forschungsgesellschaft m.b.H. (AT, co-ordinator), Stichting Waag Society (NL), Lappeenranta University of Technology (FI), Zentrum für Soziale Innovation (AT), mediale pfade.org - Verein für Medienbildung e.V. (DE), eduCentrum (BE), ZAVOD Kersnikova (SI), Polyhedra d.o.o. (RS), Capital of Children A/S (DK), University of Zagreb (HR), Institut d'Arquitectura Avançada de Catalunya (FabLab Barcelona, ES), European Social Entrepreneurship and Innovative Studies Institute (LT), and YouthProAktiv (BE)

Webpage: http://DOIT-Europe.net
Duration: 10/2017-09/2020
Grant: H2020-770063 (Call H2020-SC6-CO-CREATION-2017)

Contact (co-ordinator):
Dr. Sandra Schön
Salzburg Research Forschungsgesellschaft m.b.H.
E-mail: info@DOIT-Europe.net

Disclaimer: This document’s contents are not intended to replace consultation of any applicable legal sources or the necessary advice of a legal expert, where appropriate. All information in this document is provided "as is" and no guarantee or warranty is given that the information is fit for any particular purpose. The user, therefore, uses the information at its sole risk and liability. For the avoidance of all doubts, the European Commission has no liability in respect of this document, which is merely representing the authors' view.

Description of the Deliverable

Overview	**Details**
Authors	Jari Porras, Lappeenranta University of Technology (Finland) Olli Kousa, Lappeenranta University of Technology (Finland) Roman Teplov, Lappeenranta University of Technology (Finland)
Reviewers	Christian Voigt, Zentrum für soziale Innovationen (Vienna, Austria) Pam de Sterke, Waag Society (Amsterdam, Netherlands)
Number of Deliverable	3.1
Title of Deliverable	DOIT co-creative open platform requirements specification report
License	CC BY 4.0, see https://creativecommons.org/licenses/by/4.0/
Attribution	CC BY 4.0 DOIT, http://DOIT-Europe.net, H2020-770063
Dissemination Level	Public
Contractual delivery date	2017-11-30
Actual delivery date	2017-11-30 ver0.1
To be cited as	Porras, Jari; Kousa, Olli & Teplov, Roman (2017, draft). DOIT co-creative open platform requirements specification report ver0.1, deliverable (3.1) of the Horizon 2020 project DOIT, EC grant agreement no 770063, Salzburg, Austria: Salzburg Research.

Summary

This deliverable presents the requirements for DOIT collaborative open platform (WP3). Platform objectives are to provide a common space for sharing ideas, experiences, supporting co-design and facilitating open innovation between social innovators as well as of entrepreneurship education. The platform will serve also as a repository for the documents and toolboxes created during the project and will facilitate the pilots implementation (WP4) and specifically an online pilot (T4.2). The deliverable therefore describes the initial stages of platform development.

The requirements collection of this ver0.1 document was organized in three stages:

1) Initial set of requirements collected from the DOIT proposal
2) Online survey among partners to collect non-functional requirements and prospective use-cases
3) Workshop during the project kick-off meeting (30.10.2017)

These stages provided a set of mixed data that was analysed. The results of the analysis are presented in this report. It should be noted that this is the first phase of collaborative requirements collection and other stakeholders than DOIT researchers will be engaged in next phases.

The platform stakeholders consist of actual users such as children, their parents, facilitators (teachers, trainers), external stakeholders, admins and moderators and researchers but also from organizations who serves as an umbrella for activities within a group of stakeholders. Each group of stakeholders have their specific use cases such as browsing and creating the content, creating the group and organizing activities, but also giving the permissions (e.g. in case of parents).

The platform functionality divided into three levels:

- **User level** constructs are related to the management of users and their grouping into (static or dynamic) groups. Even though anonymous usage of public content and events is possible, each actively participating user needs to have an account.
- **Activity level** constructs are divided into activities and a collection of activities i.e. events. Activities or events can be created by any user and these activities can reside in public domain or within organizations or groups.
- **Content level** consist of content construct representing any kind of content to be published within DOIT platform. Content can be created and created by a single user (ownership of the content) or a group of users (group/organization).

Actual platform requirements were divided into two groups: functional and non-functional requirements. In the accordance with different levels of functionality **functional requirements** determine the functionality of account and users, groups, activities and content as well as general functions such as logging. In the report the tables with a detailed description of specific functions related to each group and their interdependence are provided. **Non-functional requirements** on the other hand consist of quality requirements such as security, privacy, cross-platform support. Although these requirements do not constitute actual functions, they can be seen as essential enablers for use case realization. The preliminary prioritization of requirements accomplished with MoSCoW method.

Content

Summary 4

Content 5

List of abbreviations and terms 6

1. Introduction 7

1.1 Purpose 7

1.2 Materials, Methods and Process 7

2. Overall description of the DOIT platform 8

2.1 The platform: Sharing ideas, experiences, supporting co-design and open innovation 8

2.2 Stakeholders 9

2.3 Use cases 10

2.4 General view of DOIT platform functionality 11

User level constructs and functionality 11

Activity level constructs and functionality 12

Content level constructs and functionality 12

3. Requirements for the DOIT platform 12

3.1 Functional requirements 13

General functionality 13

Account related functionality 14

Group related functionality 15

Activity related functionality 16

Content related functionality 17

3.2 Non-functional requirements 18

4. Prioritization, engagement of stakeholders and further steps 20

4.1 Prioritization and engagement of stakeholders 20

4.2 Further steps 20

Literature and sources 21

List of abbreviations and terms

API	application programming interface
EC	European Commission
LUT	Lapeenranta University of Technology
MOOC	massive open online course
MoSCoW	“Must have, Should have, Could have, and Won't have” (Method for Prioritization)
NA	not applicable
OER	open educational resources
SUS	system usability scale
UI	user interface
UX	user experience
WCAG	Web Content Accessibility Guidelines
WP	work package

1. Introduction

The main objective of the deliverable is to present the requirements for DOIT co-creative open platform. The collection of the requirements is the essential first step in the platform design. The deliverable therefore will serve as a background of all consecutive actions of the WP3.

The platform aims to serve for various stakeholders (i.e. users) all of which have different needs. The platform also aims to support the maker-communities across Europe. Therefore, the platform users are people of different ages and backgrounds (such as children but also adults, in particular, teachers/facilitators as well as parents). Therefore, the important objective is to enable the usability and functionality appropriate for such diverse groups of potential users. Additionally, the platform will support other project activities implementation (in particular pilot activities from WP4) and serve as a repository of related documents and toolboxes[1].

Considering the importance of the role the platform plays in the overall project the systematic and transparent development process have been applied. In practice that means that each stage of platform development will be carefully documented and reported. The first stage presented in the following report deals with initial requirements collection and analysing.

1.1 Purpose

The purpose of this document is to give a detailed description of the requirements for the DOIT platform. This requirements documentation is a **dynamic document** in which the requirements are described and managed during the project. As such this document is versioned and updated during the project within the process of engaging various stakeholders. The first version of the document based on DOIT project application and later on perceptions of various stakeholders are added in forms of requirements and design choices.

1.2 Materials, Methods and Process

The initial requirements collection process have been implemented in three stages. The first stage consisted from a careful analysis of the proposal text to gather the initial set of requirement. Next, the online survey among partners was implemented. The respondents were asked to list non-functional requirements (such as the language, types of documents/materials which need to be supported by the platform) and describe the potential use cases for the platform in order to collect functional requirements. During the third stage partners participated in the workshop organized at DOIT'S kick-off meeting (30.10.2017). The objective of the workshop was to discuss the survey results, compare them with the initial platform concept described in the project proposal and systematize the requirements.

The collected inputs was further processed by LUT research team and are presented in this report ver0.1 in a systematic way. The following chapters first provide the general overview of the platform, next proceed with the identification of stakeholders, description of potential use cases and overall platform functionality. The next step is the presentation of the actual requirements which are grouped in functional and non-functional requirements.

The preliminary prioritization of requirements accomplished with MoSCoW method. The requirements elicitation work continues by engaging various stakeholders in the subsequent requirements specification and design phase. In the next phase children and facilitators are involved in bringing in their perception to the DOIT platform. The rationale is

[1] What the 'toolboxes' are and consist of will be created in WP 2.

to enable **co-creative design** with most important users (in particular, kids). The involvement will be accomplished in form of small workshops organized with the help of LUT associated partner LUMA. During the workshops children (i.e. potential users of the platform) will be asked to take designers and developers along in their user story. . The workshop will be organized in a game-like manner. For kids from various age group the different levels of precision and difficulty will be used. LUT team will translate these into requirements. At this stage also other stakeholders will be involved in forms of interviews/surveys and dedicated workshops.

After further clarification of requirements will be implemented comparative analysis of existing platforms to identify a unique value proposition for DOIT platform. In design phase, some more abstract requirements are transformed and divided into ones that can be tested better. Relevant experts are consulted when necessary (for example in the gamification part). The important issue is tackling the design questions (the input will be gathered from previous stage workshops and existing literature on the topic as well as experts opinions).

The actual platform release schedule is based on requirements prioritization. Such an iterative approach enables rapid delivery of the working prototype of the platform (with the most essential features) but also relaxes dependencies from other WPs (in particular WP2 which defines the DOIT toolbox content). Iterative platform development provides enough time for finalizing elements of platform further content.

2. Overall description of the DOIT platform

2.1 The platform: Sharing ideas, experiences, supporting co-design and open innovation

One of the important DOIT project objective is to establish an open platform for sharing ideas, experiences, supporting co-design and facilitating open innovation between social innovators as well as of entrepreneurship education. This Web platform will be the **main repository for educational and support materials and content as well as the place for a discussion of the digital social innovations delivered by children in makerspace settings European wide**. From project's start future maintenance as well as potential surplus values of this new platform will be part of considerations as well implementation.

DOIT's open platform will be the central hub for exchanging experiences and all resources. This complex website will offer several possibilities for people to share their experiences and to build their competences. The primary purpose of the Web platform is to facilitate the engagement of children and young people in innovative activities and support them with web-based tools for collaboration. The platform adopts state-of-the-art engagement methods such as social collaboration features to first engage the users and then support them once an initial community has been established. It will be designed with the latest cross-platform web technologies in order to ensure accessibility and usability across a wide range of end user devices, including mobile devices, Netbooks and personal computers. The stakeholders (children, teachers, parents) will be involved in the design process to ensure the platform meets the actual users' needs.

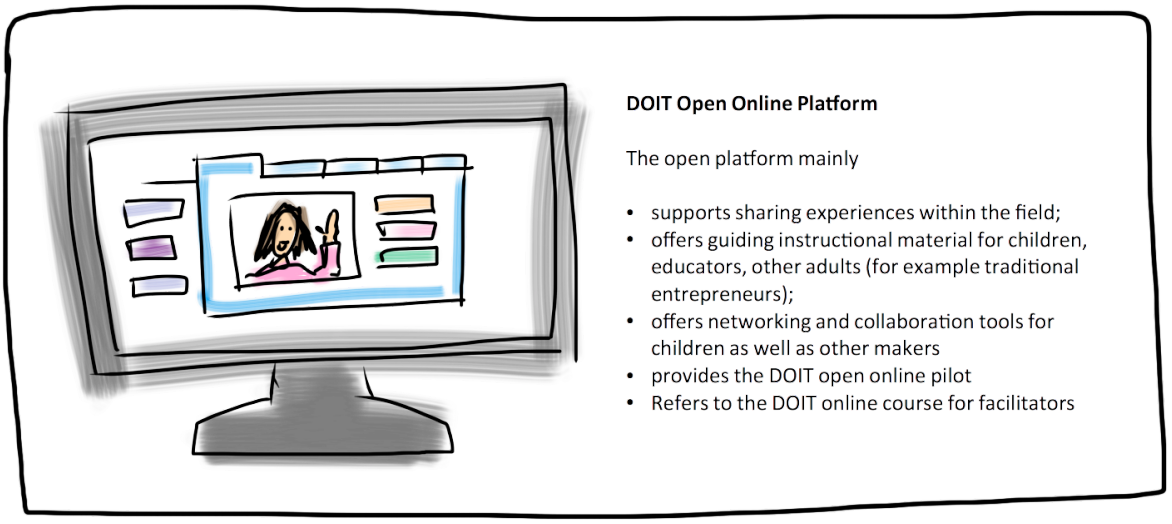

Figure 1. DOIT platform description from the project proposal

2.2 Stakeholders

The DOIT project and platform combines various stakeholders and consider the following stakeholders as the users of the system:

- **Children 6-16 years old** - DOIT platform is mainly targeted for the activities of children. The large variance in age sets some special requirements for the platform.
- **Parents of the children** - As DOIT project is working with under aged children their parents are linked to the activities within DOIT platform.
- **Teachers, mentors and other facilitators** - Teachers, mentors and other facilitators form a third important group of stakeholders as they manage and partly control the activities within DOIT platform. They can be representatives (i.e. moderators of a given organization).
- **External stakeholders** - DOIT project and platform also aims to engage various external stakeholders such as:
    - Industry (will be specified at a later stage)
    - Entrepreneurs (especially young entrepreneurs)
    - Public organizations
    - Policy makers
- **Researchers** - DOIT platform provides valuable data for the research purposes for various researchers. These researchers might include researchers:
    - of DOIT project
    - External
- **Developers and Administration** - Developers and administration of the DOIT platform take care that the platform is operational and fulfills the platform requirements.

In addition to the actual stakeholders (i.e. users) their organizations (e.g. school, maker space, etc.) are represented through them as presented in Figure 2.

- **Organizations** - Organization form an umbrella for activities within a group of stakeholders. Organizations are represented by the moderators (e.g. teachers) of the organization.

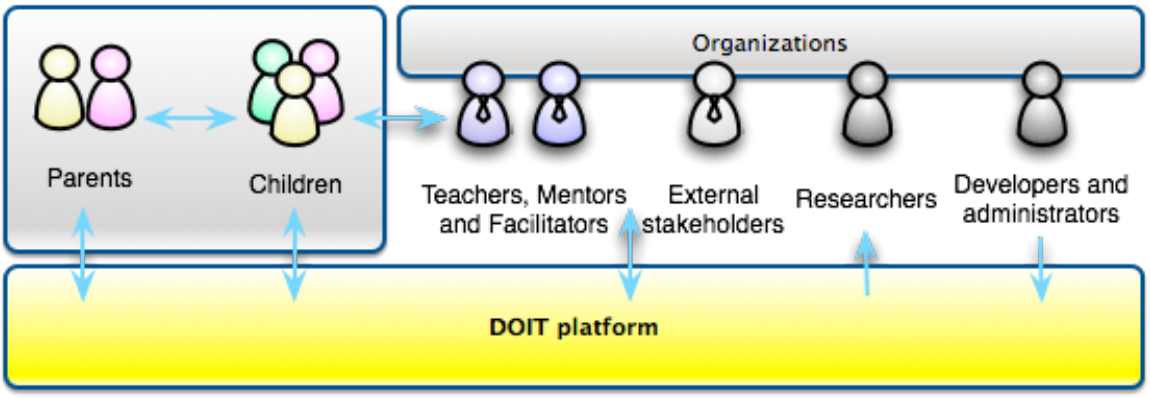

Figure 2. Stakeholders of the DOIT platform.

2.3 Use cases

Children can browse public content and events of other users of the platform and they can contribute by participating in collaborative activities and by publishing their own content. They can also create their own activities.

- *Browse, participate in, create and publish content, create groups and activities*
- *Emphasis on: Browsing and Collaboration in events and activities*

Parents can browse public content and events as well as their own child's public content and activities (if allowed). They can contribute to projects by commenting them (if allowed). Parents are involved in giving necessary permissions.

- *Browse, contribute,*
- *Give permissions (informed consent) for activities of their children.*
- *Emphasis on: Participation of child's activities*

Teachers, mentors and other facilitators can browse existing content (e.g.. teaching material) and events as well as ongoing activities of their children and groups. They can create new content (e.g. teaching material), events, activities and groups. They can also act as moderators within their organizations (i.e. represent their organization).

- *Browse existing content, events and activities, Create, publish and manage events, activities and groups, Create and publish content*
- *Emphasis on: Management of events and activities within their organization*

Researchers can browse public events and contents as well as collaborate with other stakeholders (e.g. teachers) in collecting some research data. Proper permissions need to be applied. Researcher provide valuable data to the external stakeholders, especially for public bodies and policy makers, of the impact of DOIT activities.

- *Browse and analyze existing public events and content, Collaboration with other stakeholders (e.g. teachers)*
- *Emphasis on: Increasing of knowledge and understanding of the forms of collaboration and impacts of those.*

External stakeholders aim at increasing the value of the DOIT platform by collaborating with other stakeholders, especially teachers, mentors and facilitators and providing them new knowledge. External stakeholders and also use DOIT platform for browsing public content and events.

- *Browse public content and events, Create new content in collaboration with other teachers, mentors and facilitators.*
- *Emphasis on: Increasing the value of DOIT platform through collaboration with other stakeholders*

Developers and administrators aim at developing and maintaining the platform based on the needs of the other stakeholders. As DOIT platform development follows the continuous agile development approach, the features of the DOIT platform are introduced through various releases (as presented later in prioritization and release plan section).

2.4 General view of DOIT platform functionality

Based on the DOIT project proposal, survey on DOIT requirements and a workshop arranged in the DOIT kickoff the initial functionality of the DOIT platform has been divided in the following three levels (also shown in figure 3) with a set of constructs and functionality:

- User level
- Activity level
- Content level

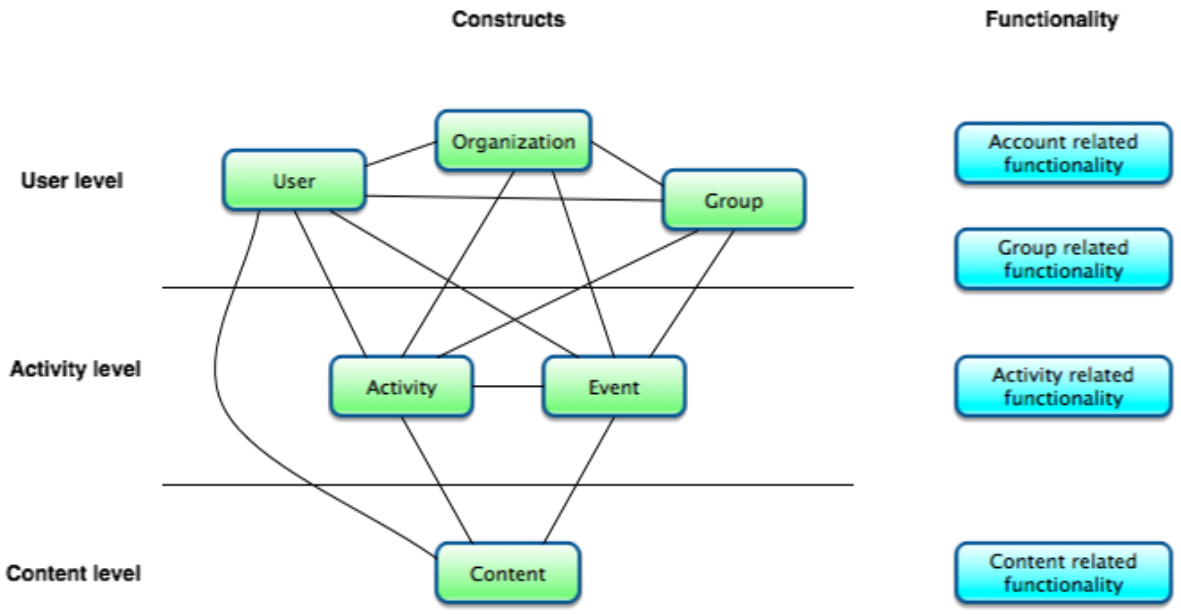

Figure 3. DOIT platform constructs and functionality

User level constructs and functionality

User level constructs are related to the management of users and their grouping into (static or dynamic) groups. Even though anonymous usage of public content and events is possible, each **actively participating** user needs to have an account. Each user is identified by the account and has a profile linked to the account. Account can be created by using DOIT registration or through 3rd party registration functionalities. Account can also be deleted, or it deletes

automatically after certain inactivity period. Every activity within DOIT platform is always linked to the user due to liability and responsibility reasons .

Users can create static or dynamic groups. Static groups represent **organizations** such as schools and fablabs or makerspaces while **groups** are more dynamic constructs for collaborative purposes. Representatives of the organizations act as the moderators within the organization and manage users and activities within the organization. Groups are collaborative efforts of all its members.

The functionality on user level is related to the user accounts and group related functionality.

Activity level constructs and functionality

Activity level constructs are divided into **activities** and a collection of activities i.e. **events**. Activities can be created by any user and these activities can reside in public domain (open) or within organizations or groups (limited access). They can also have deadlines (scheduled activities) or they can be continuous. Events (e.g. competitions) are typically a collection of activities with a pre-defined settings.. Completion of an activity or an event can be acknowledged for each user completing them.

The functionality on activities level is related to the management of events and activities.

Content level constructs and functionality

Content level consist of content construct representing any kind of content to be published within DOIT platform. Content can be created and created by a single user (ownership of the content) or a group of users (group/organization). Content can be a result of activity or an event or direct contribution of the user to the platform. Content can be set public in various levels (group, organization, public domain) or private with given settings.

The functionality of content level is related to the management of content creation and publishing as well as reactions, comments or feedbacks within activities and groups.

3. Requirements for the DOIT platform

This section contains the initial functional and non-functional requirements of the DOIT platform. These requirements give a description of the DOIT platform and its features. These requirements will be managed through this document and DOIT internal wiki.

Requirements are categorized with MoSCoW method (Clegg & Barker, 2004). In this document they are marked as must have (red), should have (orange) and could have (green). These are mainly indicating the priority and importance of requirements. Goal is to implement all these requirements in the final product, but the must have category has a priority and the product cannot be considered fulfilling the needs before they are implemented. Should have category includes requirements that are important to the platform's usability. Could have category has less important requirements that should be considered, but they have a lower impact on the final product.

3.1 Functional requirements

General functionality

ID	Title	Description	Assessment	Dependency
G1	Logging	DOIT platform has internal logging of activities within DOIT platform.	Administrators see the series of actions done in the DOIT platform.	A7
G2	Version history	DOIT platform aims at having content backups i.e. version history for rollback purposes.	Owners of the content as well as moderators and administrators can rollback the DOIT platform or a part of it to a previous version.	A7
G3	Dashboard	Dashboard functionality allows users to set and see their data. Dashboard is the interface to a user, activity and content levels. Users have a dashboard “main page”, which contains information about their groups, organizations, content and public DOIT content.	Users can use dashboard to browse data related to them in various levels.	A3, O1, O8
G4	Credibility	DOIT platform computes credibility for users, organizations and groups based on the activities and content contributed.	Administrators can see the credibility of various users, organizations and groups. Moderators can see the credibility of the groups.	A3, O1, O8
G5	Badging	Any kind of activity within DOIT platform can provide badges for the users (and through users to organizations and levels).	Badges are visible of all users, organizations and groups that have fulfilled the requirements for the badge.	A3
G6	Create badge	Users can create badge for various activities. Typically users create badges for various activities.	New badge is created.	A3
G7	Manage badge	Creator of the badge may change the badge setting before publishing it.	Badge setting are changed to defined settings.	G6
G8	Publish badge	Badge need to be linked to an activity and badge categories defined by DOIT platform. Publishing badge makes it available in the defined name-space (i.e. school may define their own badges that are	Badges are visible in the set name-space.	G6

		not visible to the other users than users of that organization).		
G7	Gamification via badges	Gamification mechanism is based on the use of badges. Initial set of badges and badge categories will be set for users.	Available badges will be visible for the users.	A3
G8	Manage badges	Administrators have the possibility to develop new badge categories and badges as such. Badge visibility will be set by administrators.	New settings of badges will be visible for the users.	A3
G9	External links	External links allow DOIT platform to link with the external systems.	External systems are visible to DOIT users.	A3

Account related functionality

ID	Title	Description	Assessment	Dependency
A1	Registration	User can registrate to the system.	Successful registration creates a new user to the platform. If failed user is given proper information.	
A1.1	External registration	Users can registrate using external services (eduID)	Registration is linked to external credentials and no new credentials are made or need.	A1
A1.2	Internal registration	User can registrate without external credentials.	User is able to registrate without any existing credentials.	A1
A2	Account deletion	All users have the possibility to unregister themselves from the platform. Unregistration will require email/3rd party based deletion. Service could opt-in automatic unregistration of users after a certain time of inactivity. Account deletion will cause a time delay for a new registration.	Account information is deleted and data provided by the user will be marked anonymous.	A1
A3	Login	**Active usage** (commenting, participation) needs login. Login should be available through system credentials or 3rd party credentials. Password reset is allowed.	Content available for registered and logged users will be available after successfull login. User will be notified of unsuccessful login.	A1
A4	Logout	Users may want to logout from the system (timed/keep me logged in).	Content available for registered and logged in users will be denied.	A3

		Logout is opt-in, user needs to request “keep me logged in” if necessary. Timed logout in any case.	Use of browser controls (e.g. back button) to be denied.	
A5	Profile setup	Each registered user has a profile with basic settings. Each registered user may set parameters seen important (privacy etc.).	After saving the profile the platform remembers the selections of the registered and logged in user.	A3
A6	Language selection	English as main language but language selection shows localized menus. Each user (registered/anonymous) can set the preferred language that changes menus but not necessarily the contents.	Selection of the language will change the language of menus and emphasize content in selected language.	A3, A5, A8
A7	User role	Users can be given various roles - User, Moderator, Administrator. Each user has a basic role of user. Some users can represent the organizations and as such become moderators. Administrators take care of the platform.	User is given rights of the proper role. Administrators have all rights in all name-spaces while moderators only in their own name-space. Depending on the role the users have different rights in the name-space.	A5
A8	Anonymous usage	User can browse public content without registration or login.	Anonymous users have limited access to the content.	NA

Group related functionality

ID	Title	Description	Assessment	Dependency
O1	Creation of organization	User can create a more static group i.e. organization. Organization is always represented by its users and some users (i.e. moderators) are responsible of the activities within this organization.	Registration of an organization creates a new name-space under which moderators (creator + other moderators) have broader rights.	A3
O2	Manage organization	Moderators can manage of the organization settings (invitations for group members, acknowledgement of join requests, Moderators can invite users to organization.	Invited user gets notification of invite.	O1
O3	Delete organization	Deletion of organization is performed by administration	Organization and all its contents and groups are removed.	A3, A7

		through a request.		
O4	Join organization	Users can join organization through invitation or by request. Users of the organization remain basic users unless given moderator rights.	Organization is shown to the user.	A3
O5	Leave organization	Users can leave an organization.	Left organization is not shown to user anymore.	A3
O6	Creation of group	User can create a group with the defined visibility. Group can be created on public space or under organization. Visibility of the group can be defined separately (i.e. public parts visible to all or only to organization). Groups can be open or closed. Anybody within visibility range can join open groups.	Group is created with the defined visibility. If created under organization only members of organizations can see the public parts unless visibility of public parts is set to public to all.	A3
O7	Manage group	Management of the group settings (visibility level and open/closed), invitations for group members, acknowledgement of join requests.	Changing the settings of the group are shown in group parameters. Invitations reach the recipient and they are able to join, acceptance of join requests will add users to the group.	O6
O8	Join group	Users may join open groups. Joining to closed groups happen through invitation or request.	Joined groups are shown to the user. Open groups are joined immediately. Closed groups after acceptance or immediately through invitation.	A3
O9	Leave group	User may leave group.	Group is removed from the user's group list.	A3
O10	Delete group	Groups cannot be deleted but group will be removed after all users of the group have left the group.	When the last user has left the group, it will start a timer and when the timer is done, the group is deleted.	O9

Activity related functionality

ID	Title	Description	Assessment	Dependency
E1	Create activity	Activity is a pre-defined task for some action. Activity can be created to any name-space based on the rights of the user. User who creates the activity will gain moderator	Activity is created in the selected name-space with the defined settings.	A3

		rights to the activity. Initial settings of the activity will be set by this functionality.		
E2	Manage activity	Moderator of the activity may change the settings of the activity through this functionality.	The settings of the activity will be set to the changed values.	E1
E3	Publish activity	Activity will be opened and published for the users in the target name-space.	Activity will be seen by the users of the target name-space.	E1
E4	Create event	Event is a set of activities. Event allows a structure for various activities and their relations. User who creates the event will gain moderator rights to the event. Initial settings of the event will be set by this functionality.	Event is created in the selected name-space with the defined settings.	A3
E5	Manage event	Moderator of the event may change the settings of the event through this functionality.	The settings of the event will be set to the changed values.	E4
E6	Publish event	Event will be opened and published for the users in the target name-space.	Event will be seen by the users of the target name-space.	E4

Content related functionality

ID	Title	Description	Assessment	Dependency
C1	Add content	Submission of any kind of content to the platform. Each user have the possibility to add content to the system in different forms. Content can be linked to user level and activity level.	New content will be published in the selected location/name-space and will be visible for other users.	A3
C1.1	Static content	Various parts of the system allow users to submit static content (stories, blueprints, ...). Content is "owned" by the user submitting it. Static content cannot be changed but can be discussed (forum).	New content will be visible to the other users.	A3
C1.2	Dynamic content	Various parts of the system enable users to submit dynamic content. Dynamic content is for collaboration	New content will be visible for other users. Other users may edit the contents.	A3

		and is owned by all contributors. All contributors of the content are stored. Content is versioned.		
C2	Manage content	Owner of the content can change visibility of the content (private, group, organization).	Content is visible according to the settings.	C1
C3	Remove content	Owner of the content (or moderator or administrator) can remove static content due to various reasons (e.g. unsuitable material).	Removed content will not be visible for the users and administrators can search for the history of content (for responsibility reasons) before the content is destroyed.	C1
C4	Search for content	Users can search for content that are visible for them.	All visible content is shown for the user with matching keywords.	C1
C5	Modify content	Dynamic content can be updated by the users participating in the creation.	New version of the content is shown to users.	C1.2
C6	Translate content	Both for dynamic and static content a translation functionality is provided for users. If a user wants to translate some content for other language a parallel (but linked) version of the content is created (owned by the user doing the translation).	Translate content creates parallel and linked line of a document. Allowed for any user.	C1
C7	Use content - offline	Offline usage is meant for static content and can be applied if selected.	Static content can be downloaded for offline usage.	C1.1
C8	Discuss content	Discussion element can be linked to any content element.	Discussion element allows forum type of discussion of the element (if enabled)	C1
C9	Flag content	Users can report inappropriate content.	Moderator or admin receives a notification of inappropriate content.	C1
C10	Like content	Users can acknowledge and support without commenting.	Viewers of the material can see likes linked with content.	C1

3.2 Non-functional requirements

ID	Title	Description	Assessment	Dependency
N1	Cross-platform	DOIT platform is a web-based system with possible optimization for mobile devices. Mobile device functionality might be limited.	DOIT platform is implemented in a way that it is usable through a web interface or mobiles.	NA
N2	Extensible (API compatibility)	DOIT platform enables technical extensibility to various external systems.	DOIT platform provides open interfaces for other systems.	G9
N3	Interactive	DOIT platform gives feedback on a consistent way for the users for every action.	Each interaction is timed and followed.	A3
N4	User-friendly	Users find platform easy to use. It is intuitive and consistent. UX is ensured by co-design of the platform. User profile and dashboard allows users to set their preferences.	System usability scale (SUS) results are in good level.	A3, A8
N5	Safe	Content should be safe for users (no explicit content or harassment).	Users have a possibility to flag inappropriate content and administrators have a possibility to remove it. Responsibility is on user's side as every user is responsible of his/her actions.	C9
N6	Secure	Communication regarding registration and login need are implemented through a secure channel. Secure communication is used whenever appropriate.	Administrators take care of all possible security measures and update the DOIT platform accordingly.	NA
N7	Private	In addition to user information (login, profile) only user generated content is to be stored. User can remove the account and it will be removed. User created content will remain as anonymous data in the system. Inactive accounts will be automatically removed.	Users are visible only in the name-spaces they wish to be visible. Anonymity in public space does not remove responsibility of the user of their actions.	A3
N8	Multilingual	DOIT platform provides language selection for menus. Language versions of content is provided by crowd sourced activity.	Menus are updated by administrators. Content can be translated and submitted by anybody (crowd sourced approach). New content becomes dynamic content.	C6
N9	Performance	System performs even under heavy	System can handle 5.000 users	NA

		usage.	without a drop in performance.	
N10	Engaging	Platform has engaging elements (like gamification via badges).	Users spend time and come back.	G7
N11	Accessible	People with disabilities are able to use the platform.	Platform complies with WCAG (see Web Accessibility Initiative, 2017).	NA

4. Prioritization, engagement of stakeholders and further steps

In software development processes prioritization is used for selecting the priorities of the requirements for implementation as all requirements cannot be implemented at once. As DOIT project utilizes agile development approach and co-design with stakeholders, the release plan at this phase emphasizes the basic elements of the DOIT platform.

4.1 Prioritization and engagement of stakeholders

In DOIT project the initial requirements setting is done by the project members based on the application, survey and workshop held in DOIT kickoff. The collected high level requirements are presented in this document. These initial requirements are followed by a design phase as well an engagement of the stakeholders.

In design phase the collected requirements are compared to existing solutions and the development approach for the DOIT platform is selected. The design phase also contains initial design of UI's for the use of the platform. In the design of user interfaces the children associated to the DOIT project can be used as co-designers. This type of participatory design has been used in former FP7 project UMSIC and it has been shown to be efficient for both designing UI's and collecting new requirements for the DOIT platform (Mazzone, 2012; Mazzone et al., 2012). Teachers can be engaged to the requirements elicitation at the same time. Other stakeholders will be engaged later on as first versions of the DOIT platform have been published.

4.2 Further steps

In the following stages, initial requirements will be refined through participative co-creation workshops with key users (especially with children). Next, updated requirements will form the framework for comparative analysis existing platforms to find unique value proposition. Following, design stage will be implemented in several iterations (according to requirements prioritization). In the first stage the essential functionality will be implemented enabling launching the platform. A next release will be synchronized with other WP activities that the DOIT platform will support (in particular pilots in WP4 and roll-out activities in WP5). Incremental approach enables cost-efficient development addressing relevant project objectives and reserve necessary time for accomplishing connected project activities (in particular activities under WP2).

Literature and sources

- Clegg, Dai & Barker, Richard (2004). Case Method Fast-Track: A RAD Approach. Addison-Wesley. ISBN 978-0-201-62432-8.
- Mazzone, E. (2012). Designing with Children: Reflections on Effective Involvement of Children in the Interaction Design Process, Ph.D. Thesis, University of Central Lancashire, UK.
- Mazzone, E., Tikkanen, R., Read, J.C., Iivari, N., & Beale, R. (2012). Integrating Children’s Contributions in the Interaction Design Process. In: International Journal of art and Technology, Vol. 5, Nos. 2/3/4, pp. 319–346.
- UMSIC, FP7 project, URL: http://www.umsic.org/ (not available anymore)
- Web Accessibility Initiative (2017). Web Content Accessibility Guidelines. URL: https://www.w3.org/WAI/intro/wcag (2017-11-16)

Project consortium

salzburgresearch

waag society

Open your mind. LUT.
Lappeenranta University of Technology

ZENTRUM FÜR SOZIALE INNOVATION
CENTRE FOR SOCIAL INNOVATION
ZSI

Capital of Children

POLYHEDRA
DESIGNED TO CREATE

YouthProAktiv

educentrum

kersnikova

mediale pfade.org
Verein für Medienbildung

EUROPEAN SOCIAL ENTREPRENEURSHIP AND INNOVATIVE STUDIES INSTITUTE

Af
Sveučilište u Zagrebu
Arhitektonski fakultet
University of Zagreb
Faculty of Architecture

Iaac
Institute for advanced architecture of Catalonia