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Platform development and maintenance

Report of the evaluation and graphical user interface of the platform

D6.3

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Deliverable leader:	Alexander Gesinn
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History

Version	Date	Description	Revised by
1.0.0	2020-06-30	First draft	Marc van Hoof
1.0.0	2020-09-09	Second draft	Marc van Hoof, Natalie Evans

List of contributors

- Alexander GESINN
- Sebastian SCHMID
- Natalie Evans
- Marc van Hoof

This project has received funding from the European Union's Horizon 2020 research programme under grant agreement N 741782.

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Background

About EnTIRE

The areas of Research Ethics and Research Integrity (RE+RI) are rapidly evolving. In the EU and internationally, new legislation, codes of conduct and good practices are constantly being developed. New technologies, complex statistical methods, pressure to publish and obtain grants, and growing emphasis on stakeholder driven science increase the complexity of conducting science. In this complex and dynamic environment, it is not easy to identify the correct rules and best tools for responsible conduct of research.

The EnTIRE project aims to create an online platform (The Embassy of Good Science) that makes RE+RI information easily accessible to the research community. The platform will foster uptake of ethical standards and responsible conduct of research, and ultimately support research excellence and strengthen society's confidence in research and its findings. Our vision is to create a dynamic online Wiki-platform, owned by the RE+RI community, that will make the normative framework governing RE+RI accessible. The platform will adopt open source and open data approaches. By applying novel techniques for data collection, presentation, and comparison, users will navigate quickly and intuitively to appropriate content.

The Wiki approach for the platform software

The Wikimedia Foundation, Inc. (WMF) is a non-profit organization founded in 2003 by Jimmy Wales. It hosts sites such as Wikipedia. Wikipedia is an international online project which attempts to create free encyclopedias in multiple languages. The operation of Wikimedia depends on MediaWiki, a free and open-source wiki software platform.

Semantic MediaWiki (SMW) is a free, open-source extension to MediaWiki. Semantic MediaWiki can turn a wiki into a powerful and flexible knowledge management system. All data created within SMW can easily be published via the Semantic Web, allowing other systems to use this data seamlessly[1]. Adapting the Semantic MediaWiki platform using expertise of the stakeholders will result in a dynamic platform which will contain numerous resources for the RE+RI community. The ability of linking related articles together will allow the novice to quickly find key information with minimal effort – including information which he might not have been aware of to be of relevance in the first place.

[1] https://www.semantic-mediawiki.org/wiki/Semantic_MediaWiki

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About Work Package 6 "Platform development and maintenance"

Work package 6 is responsible for meeting overall objective 3: to develop a user-friendly platform, including a website and online resources, to facilitate access to RE+RI knowledge and experience and support application in research and evaluation, thus fostering uptake of ethical standards and responsible conduct of research.

This work package is responsible for meeting overall objective 3: to develop a user-friendly platform, including a website and online resources, to facilitate access to RE+RI knowledge and experience and support application in research and evaluation, thus fostering uptake of ethical standards and responsible conduct of research.

WP sub-objectives include to:

1. Develop and employ the platform.
2. Evaluate and adapt the platform together with stakeholders.
3. Develop the tools for performing data mining and semantic analysis on the full information content.

List of Deliverables

	Title	Due date	Delivery date
D6.1	**EnTIRE platform**	M12	2018-04-30
The creation of the software stack for the back-end of the platform.			
D6.2	**Publication of the adapted platform software in a public open source software repository**	M12	2018-04-30
The publication of the software stack for the back-end of the platform. The software stack is available via https://github.com/the-embassy-of-good-science.			
D6.3	**Report of the evaluation and graphical user interface of the platform**	M23	2020-09-30
Report of the evaluation and graphical user interface of the platform making use of an evaluation of all WPs.			
D6.4	**Publication of the extensions to the platform in a public open source software repository**	M40	2020-09-30
Publication of the extensions to the platform in a public open source software repository.			
D6.5	**Report of the efficiency evaluation of the platform**	M42	
Report of the efficiency evaluation of the platform.			

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List of Tasks

	Title	Timeline	
T6.1	**Development of the platform**	M1	M12
1. Initiate a non-profit organisation and register the applicable domain name (OpenEthics.eu) in its name.			
2. Host and deploy the adapted Wiki-platform once the project starts.			
3. Provide documentation of the hosting, deployment and software development to ensure transferability.			
4. Develop a custom graphical user interface aimed at maximizing ease of use.			
5. Adapt the platform to allow for online focus groups on the platform.			
T6.2	**Content structure and organisation of the platform**	M12	M48
6. Support the consultation of stakeholders in achieving the appropriate information content structure (e.g. database and data models) for the website.			
7. Design the platform structure in line with the normative framework developed as developed in WP 2.			
8. Make the platform the primary place to create, edit and review the content on the platform.			
9. Establish a system where different types of users gain appropriate types of permissions (to create, to edit, to review and to curate information content) on the platform.			
10. EUREC will find assist in finding a way for the ENTIRE platform to be technologically linked with the ENERI platform			
T6.3	**Publish open source software modification on online repositories**	M12	M48
11. Publish and make freely available all adaptations and developments made to the platform freely available, in an open source repository, for future (e.g. EU funded) projects to benefit from. Push back all relevant modifications to the platform to (Semantic) MediaWiki.			
T6.4	**Platform adaptation to the feedback**	M30	M36
12. Adapt the custom graphical user interface to maximize ease of use based upon the evaluation from stakeholders.			
T6.5	**Develop and employ a tool to search in and compare relevant topics across countries on the platform**	M30	M48
13. Develop an extension to the platform to search through all content available on the platform.			
14. Develop an extension to the platform to perform data mining and/or semantic analysis on the content of the platform.			
15. Develop a 'bird's-eye view' styled dashboard where relevant RE+RI topics can be compared across Europe and where content can easily be extracted by users live on the platform. This ensures open access to data.			

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Evaluation Process

Approach

The review was conducted following the principles of agile software development and Scrum[2]. Agile software development ensures that development projects are simple, unbureaucratic and iterative. Agile methods and processes like the Scrum framework save time and costs.

The Scrum framework enables teams to self-organize by encouraging physical co-location or close online collaboration of all team members, as well as regular face-to-face communication among all team members and disciplines involved.

In the meantime Scrum is also used for other processes outside of pure software development[3]. Due to the previous experiences of the involved Work Packages with Scrum, this approach also fits seamlessly for the Evaluation.

The basis of Scrum is a product vision of the stakeholders, all further activities are based on this vision. Based on the product vision, the product owner (Marc van Hoof) works closely with the stakeholders to find out what the desired product could look like and what the most valuable features are for the stakeholders. The Product Owner describes the functionalities to be developed in the Product Backlog. This is a clearly prioritized worklist for the development team and is consistently processed by them in the specified order.

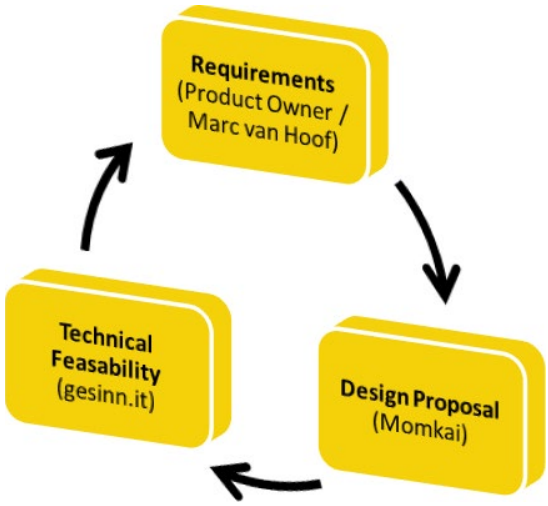

Figure 1: Evaluation through iterative approach

[2] https://en.wikipedia.org/wiki/Scrum_(software_development)
[3] https://www.agilealliance.org/resources/experience-reports/lessons-learned-using-scrum-in-non-technical-teams/

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At the beginning of a sprint, the sprint planning takes place. The product owner presents the prioritized product backlog to the development team. The development team decides independently how many of the highest prioritized requirements it can implement in the upcoming sprint, transfers them to the sprint backlog and plans the activities in the sprint.

	What	**When**
Sprint 1	Development of the back-end	April 2018
Sprint 2	Design of the user interface	May 2019
Sprint 3	Development of wiki functionalities in the user interface	Oktober 2019
Sprint 4	Implementation of easy navigation and ORCID login	February 2020
Sprint 5	Adding smart filtering & advanced sorting functionalities	June 2020
Sprint 6	Improving and enabling the platform for community use	September 2020

Table 1. An overview of the development sprint during the project lifetime

The Sprint Backlog provides a largely stable workload for the length of the sprint, while the Product Backlog catches the dynamics of the environment and thus keeps them temporarily away from the development team. The Product Backlog can be changed at any time by the Product Owner.

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Technically, the product backlog was organized with the software Jira[4]. Jira provides the Product Owner, the development teams and other interested parties to track all issues (tasks) within the Backlog as well as organizing the issues in sprints.

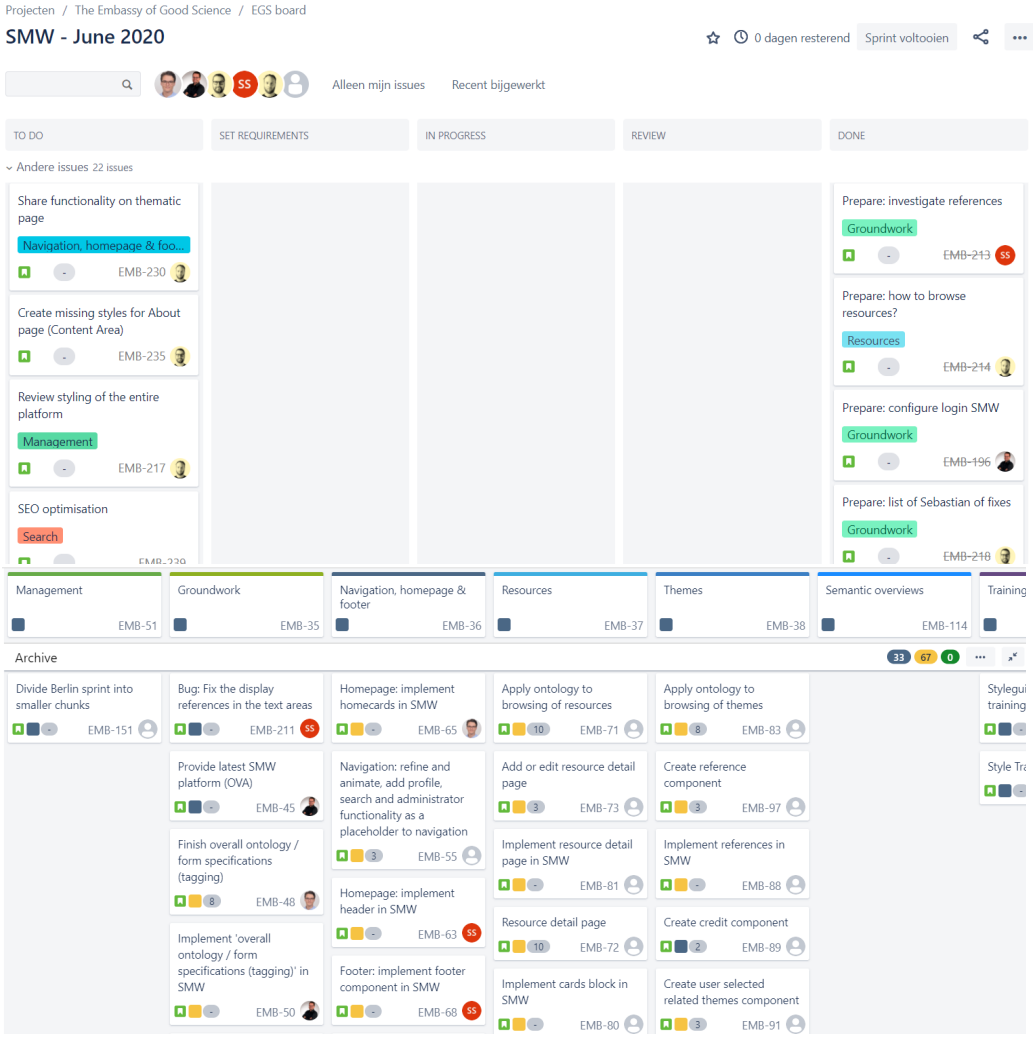

Figure 2: An example of the management of the development progress. In the top image, it is shown how tasks are handled in the Jira Software – by setting their requirements and by reviewing their result.

[4] https://www.atlassian.com/software/jira

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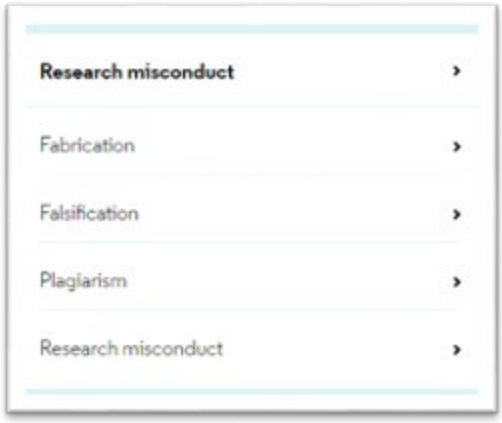
Phase 1) Technical Development and Evaluation

The Embassy Core Components

Masonry Columns

Design Proposal:
https://components.embassy.science/components/masonry-columns/



Screenshot 1 – Masonry Columns (Design)

Issues:

Key	Summary	Reporter	Created	Epic Name
EMB-205	Thematic overview: design a solution for the 'no value' parents in the thematic overview page	Marc van Hoof	19/May/20 11:49 AM	Themes
EMB-104	Implement columns layout in SMW	Rúben Nascimento	02/Aug/19 4:05 PM	Themes
EMB-206	Thematic overview: style the masonry layout	Marc van Hoof	19/May/20 11:50 AM	Themes
EMB-156	UX: sketch browsing themes	Rúben Nascimento	01/Nov/19 10:46 AM	Themes
EMB-106	Implement columns/masonry component in SMW	Rúben Nascimento	02/Aug/19 4:05 PM	Themes
EMB-92	Create columns layout and masonry component	Rúben Nascimento	02/Aug/19 3:31 PM	Themes
EMB-83	Apply ontology to browsing of themes	Stefan Veen	02/Aug/19 3:06 PM	Themes

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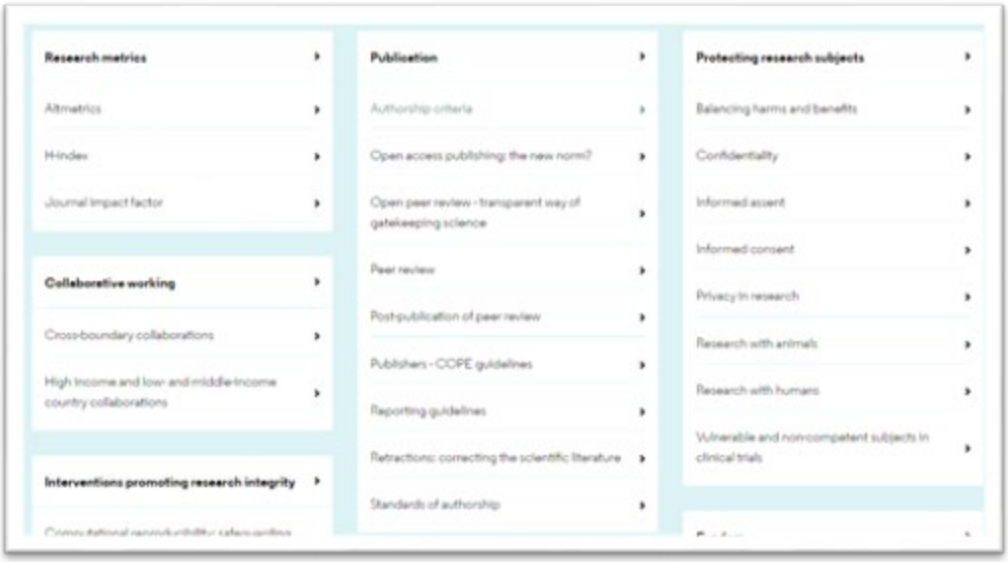
Implementation:
https://staging.embassy.science/wiki-wiki/index.php/Special:BrowseData/Theme



Screenshot 2 - Masonry Columns (Implementation)

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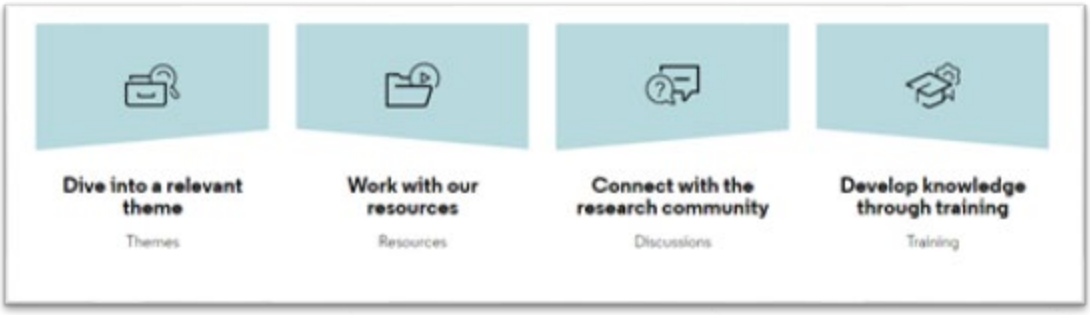
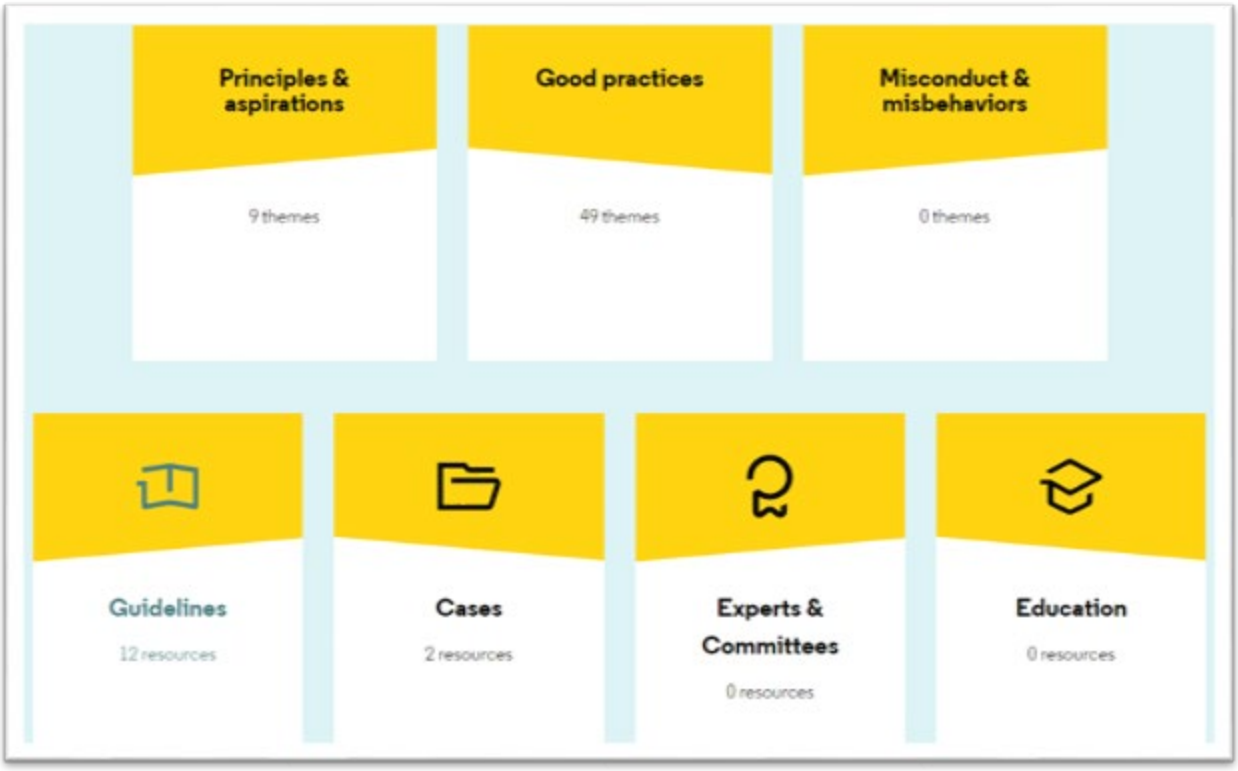
Cards

Design Proposal:
https://components.embassy.science/components/card/
https://components.embassy.science/pages/themes/
https://components.embassy.science/components/homeblock/



Screenshot 3 – Cards on Homepage (Design)



Screenshot 4 – Cards on Themes/Resources (Design)

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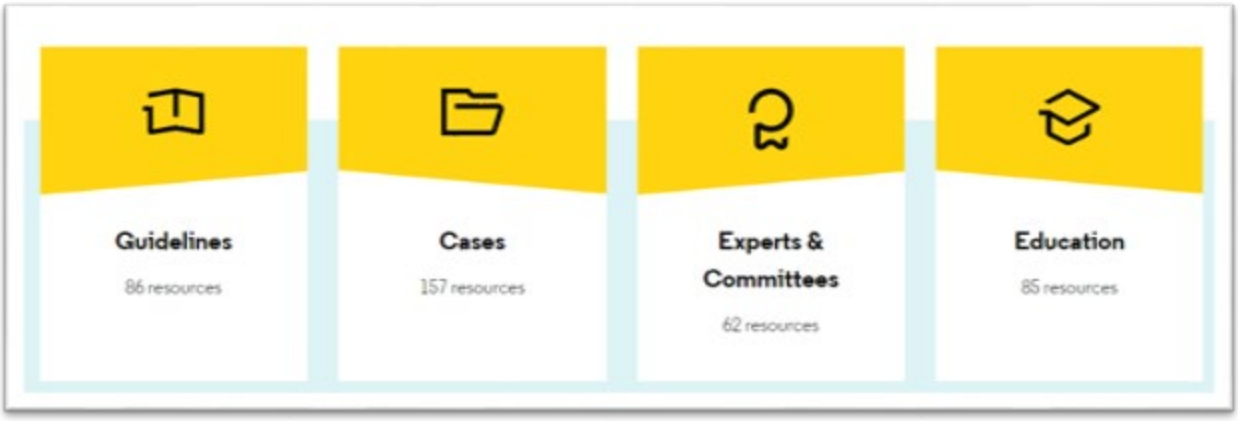
Issues:

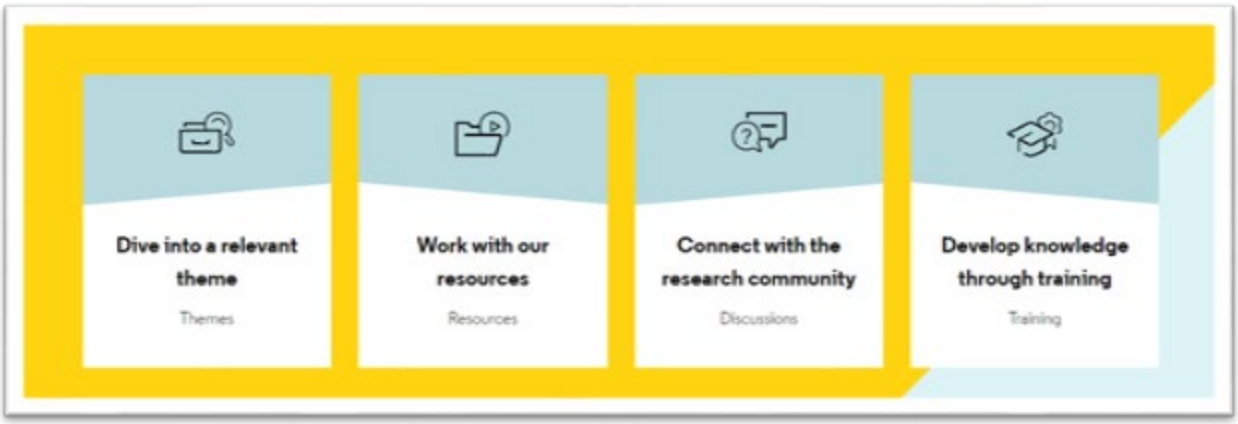
Key	Summary	Reporter	Created	Epic Name
EMB-61	Homepage: create homecards component	Stefan Veen	02/Aug/19 2:18 PM	Navigation, homepage & footer
EMB-80	Implement cards block in SMW	Stefan Veen	02/Aug/19 3:04 PM	Resources
EMB-70	Create cards block component	Stefan Veen	02/Aug/19 2:42 PM	Resources
EMB-65	Homepage: implement homecards in SMW	Stefan Veen	02/Aug/19 2:22 PM	Navigation, homepage & footer

Implementation:

https://staging.embassy.science/wiki/Main_Page#help
https://staging.embassy.science/wiki/Themes
https://staging.embassy.science/wiki/Resources



Screenshot 5 – Resource Cards (Implementation)



Screenshot 6 – Homepage Cards (Implementation)

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Home Block

Design Proposal:
https://components.embassy.science/components/homeblock/
https://components.embassy.science/pages/home/

Screenshot 7 – Home Block (Design)

Screenshot 8 – Home Block (Design)

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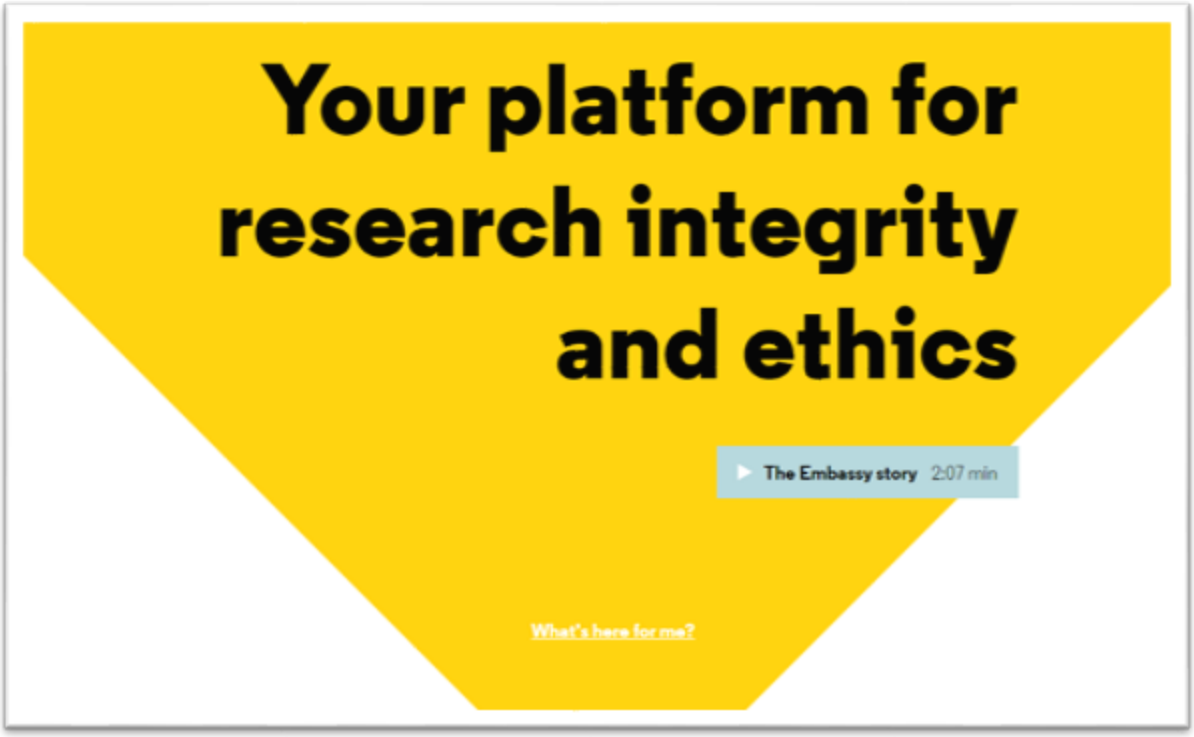
Issues:

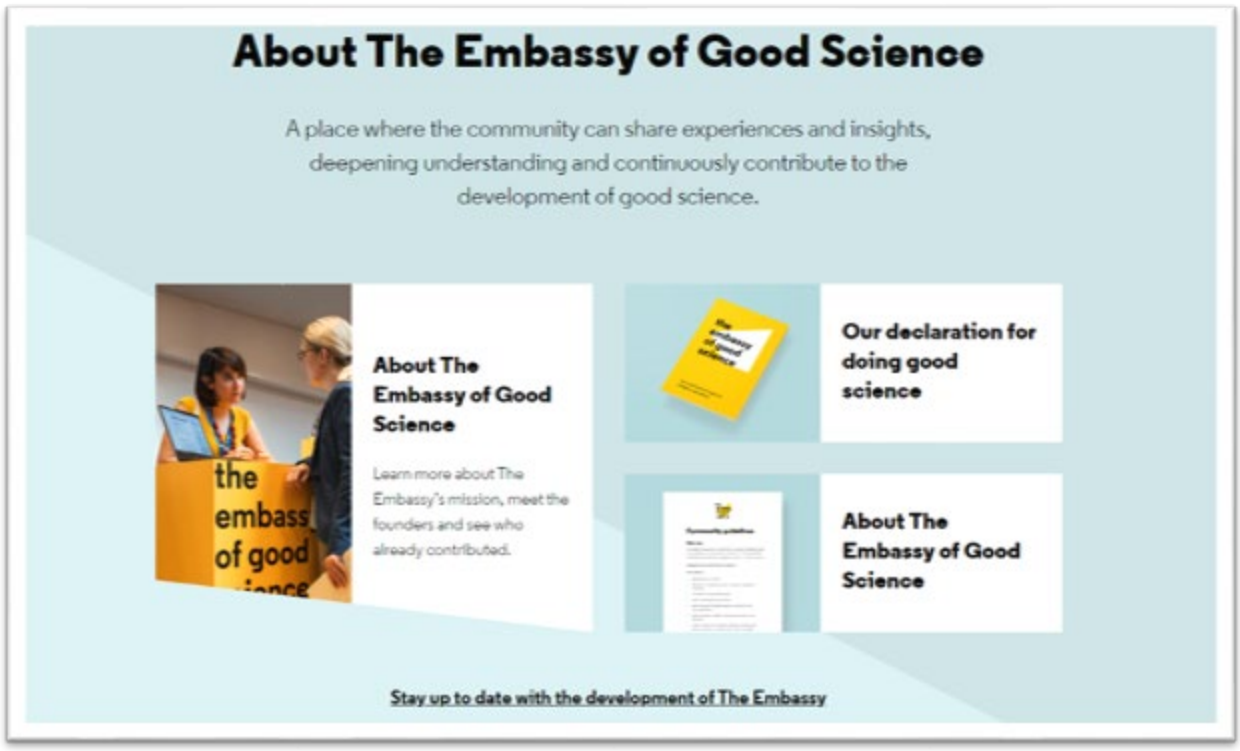
Key	Summary	Reporter	Created	Epic Name
EMB-153	Homepage: Define breakpoints for responsive design	Sebastian Schmid	19/Sep/19 12:27 PM	Navigation, homepage & footer
EMB-66	Homepage: implement homeblock in SMW	Stefan Veen	02/Aug/19 2:23 PM	Navigation, homepage & footer
EMB-62	Homepage: create homeblock component	Stefan Veen	02/Aug/19 2:18 PM	Navigation, homepage & footer
EMB-60	Homepage: create video button and modal component	Stefan Veen	02/Aug/19 2:17 PM	Navigation, homepage & footer

Implementation:
https://staging.embassy.science/wiki/Main_Page



Screenshot 9 – Home Block (Implementation)

This project has received funding from the European Union's Horizon 2020 research programme under grant agreement N 741782.



Screenshot 10 – Home Block (Design)

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Navigation

Design Proposal:
https://components.embassy.science/pages/home/
https://components.embassy.science/components/navigation/

Screenshot 11 – Navigation Homepage (Design)

Screenshot 12 – Navigation (Design)

Issues:

Key	Summary	Reporter	Created	Epic Link
EMB-57	Navigation: create logo component	Stefan Veen	02/Aug/19 1:56 PM	Navigation, homepage & footer
EMB-56	Navigation: create navigation component	Stefan Veen	02/Aug/19 1:56 PM	Navigation, homepage & footer
EMB-10	FE: Create navigation	Rúben Nascimento	18/Apr/19 10:06 AM	

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Implementation:
https://staging.embassy.science/wiki/Main_Page
https://staging.embassy.science/wiki/Themes

Screenshot 13 – Navigation Homepage (Implementation)

Screenshot 14 – Navigation (Implementation)

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Page Header

Design Proposal:
https://components.embassy.science/components/pageheader/
https://components.embassy.science/pages/themes/

Screenshot 15 – Page Header without icon (Design)

Screenshot 16 – Page Header with icon (Design)

Screenshot 17 – Page Header on Themes Page (Design)

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Issues:

Key	Summary	Reporter	Created	Epic Name
EMB-79	Implement page header in SMW	Stefan Veen	02/Aug/19 3:04 PM	Resources
EMB-69	Create page header component	Stefan Veen	02/Aug/19 2:41 PM	Resources
EMB-63	Homepage: implement header in SMW	Stefan Veen	02/Aug/19 2:22 PM	Navigation, homepage & footer
EMB-59	Homepage: create header component	Stefan Veen	02/Aug/19 2:16 PM	Navigation, homepage & footer

Implementation:
https://staging.embassy.science/wiki/Themes
https://staging.embassy.science/wiki-wiki/index.php/Special:BrowseData/Theme

Screenshot 18 – Page Header on Themes Page (Implementation)

Screenshot 19 – Page Header on Themes Overview (Implementation)

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Footer

Design Proposal:
https://components.embassy.science/components/footer/

Screenshot 20 – Footer (Design)

Issues:

Key	Summary	Reporter	Created	Epic Name
EMB-158	Footer: add newsletter form	Stefan Veen	08/Nov/19 3:30 PM	Navigation, homepage & footer
EMB-68	Footer: implement footer component in SMW	Stefan Veen	02/Aug/19 2:25 PM	Navigation, homepage & footer
EMB-67	Footer: create footer component	Stefan Veen	02/Aug/19 2:25 PM	Navigation, homepage & footer

Implementation:
https://staging.embassy.science/wiki/Main_Page

Screenshot 21 – Footer (Implementation)

This project has received funding from the European Union's Horizon 2020 research programme under grant agreement N 741782.

Video Button

Design Proposal:
https://components.embassy.science/pages/home/

Screenshot 22 – Video Button (Design)

Issues:

Key	Summary	Reporter	Created	Epic Name
EMB-64	Homepage: implement video button and modal in SMW	Stefan Veen	02/Aug/19 2:22 PM	Navigation, homepage & footer
EMB-60	Homepage: create video button and modal component	Stefan Veen	02/Aug/19 2:17 PM	Navigation, homepage & footer

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Implementation:
https://staging.embassy.science/wiki/Main_Page

Screenshot 23 – Video Button (Implementation)

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Profile

Design Proposal:
https://components.embassy.science/components/profile/
https://components.embassy.science/pages/home/

Screenshot 24 – Profile Homepage (Design)

Screenshot 25 – Profile (Design)

Issues:

Key	Summary	Reporter	Created	Epic Link
EMB-203	Header: remove link to user page in dropdown menu	Marc van Hoof	19/May/20 11:44 AM	Profile
EMB-123	Create account with ORCID and OpenID	Stefan Veen	02/Aug/19 4:33 PM	Profile

Implementation:
https://staging.embassy.science/wiki/Main_Page

Screenshot 25 – Profile Homepage (Implementation)

This project has received funding from the European Union's Horizon 2020 research programme under grant agreement N 741782.

Resource Block

https://components.embassy.science/components/resource-block/
https://components.embassy.science/pages/resources/

Design Proposal:

Screenshot 26 – Resource Block (Design)

Issues:

Key	Summary	Reporter	Created	Epic Link
EMB-215	Resource overview: Implement new browsing design	Marc van Hoof	19/May/20 12:22 PM	Resources
EMB-214	Prepare: how to browse resources?	Marc van Hoof	19/May/20 12:19 PM	Resources
EMB-82	Implement resource block component in SMW	Rúben Nascimento	02/Aug/19 3:04 PM	Resources
EMB-81	Implement resource detail page in SMW	Rúben Nascimento	02/Aug/19 3:04 PM	Resources
EMB-78	Create resource block component	Stefan Veen	02/Aug/19 3:01 PM	Resources
EMB-73	Add or edit resource detail page	Stefan Veen	02/Aug/19 2:48 PM	Resources
EMB-72	Resource detail page	Stefan Veen	02/Aug/19 2:46 PM	Resources
EMB-71	Apply ontology to browsing of resources	Stefan Veen	02/Aug/19 2:45 PM	Resources

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Implementation:
https://staging.embassy.science/wiki-wiki/index.php/Special:BrowseData/Resource

Screenshot 27 – Resource Block (Implementation)

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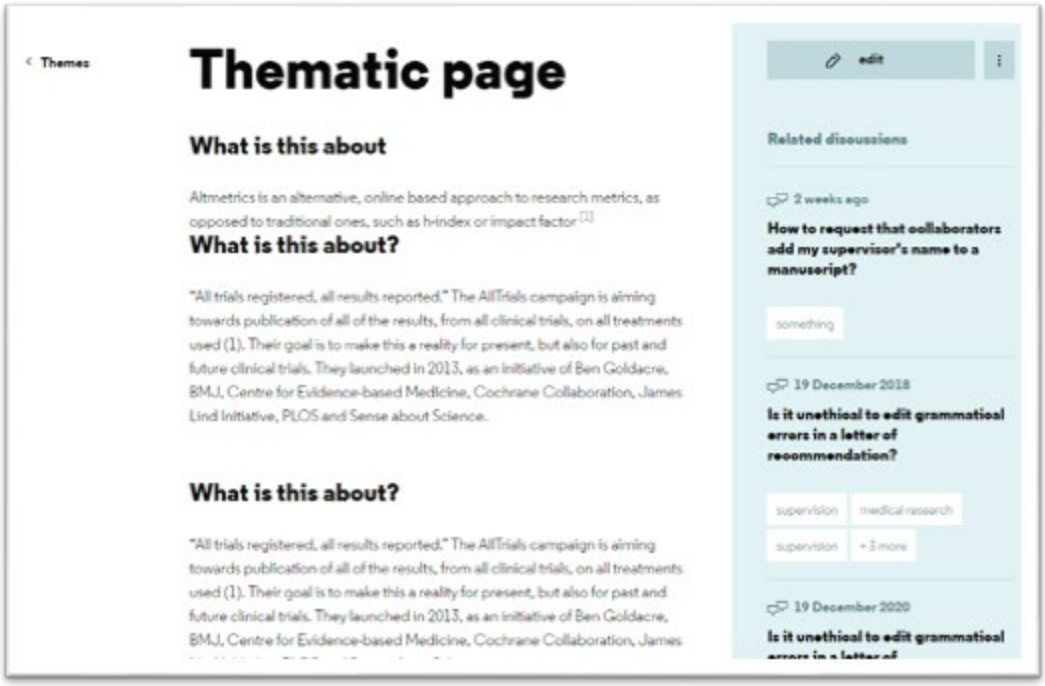
Thematic Page

Design Proposal:

https://components.embassy.science/pages/theme/



Screenshot 28 – Thematic Page (Design)

Issues:

EMB-231	Bug: Overlapping tags in 'other informations'	Sebastian Schmid	29/May/20 2:53 PM	Themes
EMB-230	Share functionality on thematic page	Sebastian Schmid	29/May/20 2:52 PM	Navigation, homepage & footer
EMB-221	Discussions: Implement component for 'Related discussions'	Marc van Hoof	25/May/20 10:11 AM	Navigation, homepage & footer
EMB-209	Discussions: Design component for 'Related discussions' with static element	Marc van Hoof	19/May/20 12:11 PM	Navigation, homepage & footer
EMB-110	Implement related discussions placeholder component in SMW	Stefan Veen	02/Aug/19 4:06 PM	Themes
EMB-109	Implement sidebar layout in SMW	Rúben Nascimento	02/Aug/19 4:06 PM	Themes
EMB-108	Implement related tags component in SMW	Stefan Veen	02/Aug/19 4:06 PM	Themes

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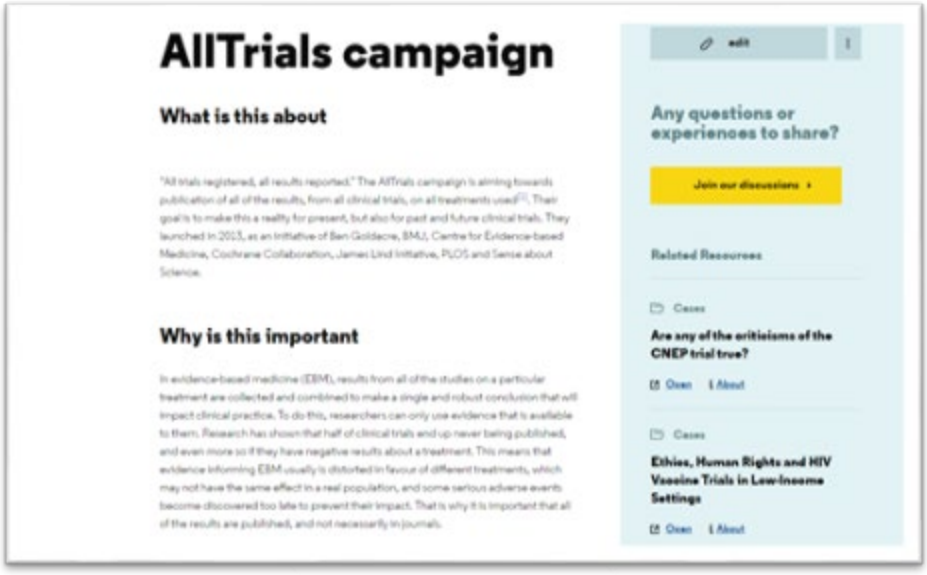
EMB-107	Implement user selected related themes component in SMW	Stefan Veen	02/Aug/19 4:05 PM	Themes
EMB-105	Implement user selected related resources component in SMW	Stefan Veen	02/Aug/19 4:05 PM	Themes
EMB-103	Implement credit component in SMW	Stefan Veen	02/Aug/19 4:05 PM	Themes
EMB-94	Create related discussions placeholder component	Stefan Veen	02/Aug/19 3:33 PM	Themes
EMB-93	Create related tags component	Stefan Veen	02/Aug/19 3:31 PM	Themes
EMB-91	Create user selected related themes component	Stefan Veen	02/Aug/19 3:30 PM	Themes
EMB-90	Create user selected related resources component	Stefan Veen	02/Aug/19 3:30 PM	Themes
EMB-89	Create edit component	Stefan Veen	02/Aug/19 3:26 PM	Themes
EMB-86	Create sidebar layout	Stefan Veen	02/Aug/19 3:23 PM	Themes

Implementation:
https://staging.embassy.science/wiki/Theme:0bb5e4f7-9336-4ca8-92e3-c506413d1450



Screenshot 29 – Thematic Page (Implementation)

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Phase 2) Evaluation by individuals associated to EnTIRE

Reviewers

A total of 10 reviewers have been invited to provide reviews on the platform user friendliness. These reviewers are not paid members of the EnTIRE project, but are associated to the project. For example, they serve in the advisory board. Their names and source documents can be gained by consulting the author of this document.

Summary of the qualitative review

Before the new version of the platform goes live in Q3 of 2020, the review was aimed at finding points for improvement in the latest development sprint (Sprint 6, see Table 1). Three reviewers have provided a rating from 1-5 on the user friendliness of the platform, their scores were: 3.5, 4, 4. The comments are summarised in Table 2.

Review implications

The feedback from the reviewers will be taken into account and existing features will be optimised and missing features developed during quarter 3 of 2020.

Phase 3) External evaluation

Future reviews

After this internal review an external review by the community of users will be implemented and embedded on the platform (embassy.science/evaluate) for future developments.

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Aspects	Positive	Negative
General	• The design is modern and clear • Professional • The look and feel of the platform is excellent • Nice site, beautiful, clear	• The default setting for the font in the text is too small • Twitter account is not visible • Video can be improved with keywords • Do not only rely on ORCID for logging in
Navigation	• Main navigation is easy • Information can be easily found • Straightforward	• Two of the major menus ("Themes" and "Instructions") aren't good choices of words. Suggestion to use 'Topics' and 'Training'. • Training on deeper levels is inconsistent and cluttered. • Searching a specific case or guideline is difficult and exhausting. • Additional smart search tools are needed
Homepage	• Front page should give more of a clue of content	• Requirement to scroll down to view all parts
Themes		• Distinction between categories is dependent on context of the audience
Resources		• No indication of what is contained in the specific resource – apart from the title • A function added to 'remove all filters' so that you don't have to remove these one by one?
Discussions		• Unclear what is anonymous and what is not
Instructions / Training	• Excellent	• Subdivide and should consider that courses can have different elements

Table 2. Compilation and summary of qualitative review of 10 reviewers.

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