

Methodological Reflections on Early-Stage Requirement Gathering and Prioritization For Immersive Extended Reality Applications

Elias Blanckaert
imec-SMIT, Vrije Universiteit Brussel
Brussels, Belgium
elias.blanckaert@vub.be

Louise Hallström
imec-SMIT, Vrije Universiteit Brussel
Brussels, Belgium
louise.hallstrom@vub.be

Fariba Mostajeran
Human-Computer Interaction, University of Hamburg
Hamburg, Germany
fariba.mostajeran.gourtani@uni-hamburg.de

Iris Jennes
imec-SMIT, Vrije Universiteit Brussel
Brussels, Belgium
iris.jennes@vub.be

Abstract

The development of immersive media applications depends on structured processes early on to gather and prioritise user requirements. The processes for complex research projects with multiple partners often take place through internal co-creation sessions with consortium members rather than direct contact with end users. The effectiveness of these initial processes remains crucial as they drive the refinement of the application that will later be tested by end-users, developers and professional stakeholders. This paper examines the methodological challenges that arose during the collection of qualitative requirements and quantitative prioritisation within the PRESENCE project, a European project focusing on developing extended reality (XR) technologies to improve immersive communication. Combining action research with reflective analysis, this paper reveals several key challenges, including (1) difficulties in designing realistic yet visionary personas and aligning stakeholder interpretations, (2) translation issues from open-ended feedback to concrete and actionable requirements, and (3) cognitive overload and reduced engagement during the quantitative prioritisation of a large set of requirements. The research findings fit into general evaluation approaches for immersive media projects and provide recommendations to improve early-stage processes, which will benefit future interaction and storytelling design.

CCS Concepts

• **Human-centered computing** → **Human computer interaction (HCI); HCI design and evaluation methods; Collaborative and social computing; Mixed / augmented reality.**

Keywords

Extended Reality (XR), User and Technical Requirements, Co-creation, Storytelling in XR, Stakeholder Engagement

How to cite this paper:

Elias Blanckaert, Fariba Mostajeran, Louise Hallström, and Iris Jennes. 2025. Methodological Reflections on Early-Stage Requirement Gathering and Prioritization For Immersive Extended Reality Applications. In *Proceedings of ACM IMX Workshops, June 3 - 6, 2025*. SBC, PortoAlegre/RS, Brazil, 7 pages. <https://doi.org/10.5753/imxw.2025.7940>

1 Introduction

Immersive media technologies including real-time 3D reconstruction, volumetric video, spatial audio, and multisensory feedback offer transformative potential for storytelling, collaboration, and remote presence [19]. However, their successful development relies on early-stage processes that align user needs, technological capabilities, and creative vision [22]. In collaborative projects, co-creation workshops with stakeholders are often used to gather requirements through tools such as personas, scenarios, and use cases [17]. This paper examines an extended reality (XR) project, PRESENCE, focused on enhancing virtual human interaction in contexts such as professional collaboration, healthcare, manufacturing, and cultural heritage. A mixed-methods approach was used, involving co-creation sessions with project partners to refine personas, and scenarios, and gather initial requirements. Scenarios were used as storytelling tools to explore potential applications, while the resulting requirements were prioritized using a weighted scoring model [8]. Internal reflection and action research highlighted several challenges throughout the process. While existing literature discusses requirements gathering and prioritisation (e.g. [8], [16], [1]), less attention is given to their evaluation in early, partner-driven contexts with limited end-user input. This paper addresses that gap by reflecting on the methodological challenges encountered and suggesting improvements to early-stage collaborative processes that support both application refinement and compelling interaction design in immersive media.

2 Literature review

The development of immersive media applications, including XR, requires careful analysis of both user and technical requirements. As Radianti et al. [16] argue, this process is essential because of rapid technological developments and the central role of user experience. In multi-stakeholder projects, where technical, business,



This work is licensed under a Creative Commons Attribution 4.0 International License.
ACM IMX Workshops, June 3 - 6, 2025.
© 2025 Copyright held by the author(s).
<https://doi.org/10.5753/imxw.2025.7940>

and creative objectives overlap, it is crucial to align interests early on [22]. Often, initial requirements are not set directly by end users, but by project partners such as developers or researchers. While this indirect approach is pragmatic, it raises questions about the representativeness and applicability of the data collected [17]. For immersive applications, factors such as presence, emotional impact, and narrative quality are as important as technical feasibility [19], underscoring the need for a comprehensive, integrative approach to requirements development. One method for achieving this integration involves the use of personas and scenarios, which are widely used in user-centred design (UCD) to translate abstract insights into specific design decisions [15]. They help prevent designers' assumptions from being projected onto users and act as a means of communication across disciplinary boundaries [5]. Scenarios, in turn, are narrative and design tools that shape abstract ideas by placing them in concrete contexts of use [2]. In multi-stakeholder innovation projects, scenarios help facilitate shared reflection, align priorities, and stimulate creative exploration [17]. In the HRADIO project, personas and scenarios supported structured discussions and prioritization among experts with different backgrounds [10]. Moreover, they link qualitative insights to evaluation methods, while use cases provide technically structured representations of interactions between the system and the user [4]. However, gathering qualitative requirements involves methodological complexity, especially in early project phases. Personas and scenarios are often developed before empirical data are available and instead rely on assumptions from project proposals or input from partners [10]. If these assumptions persist, they can steer the design in unintended directions. Discrepancies in partners' perspectives also necessitate ongoing negotiation and alignment [20]. These misalignments can also affect stakeholder motivation and participation. As Palomares et al. [14] noted, stakeholders are often unclear about their role or the purpose of their input, which can lead to limited engagement during the preparation and implementation of requirements gathering. In multi-use case projects, repeated requests for input, because of the multiple use cases, can contribute to fatigue and reduced quality of feedback over time [14]. Once feedback is collected, additional challenges arise when analyzing it. As Sanders and Stappers [17] argue, open feedback is prone to misinterpretation and fragmentation as its unstructured and ambiguous nature often makes it difficult to extract clear, actionable insights. Moreover, the distinction between technical requirements such as functional and non-functional, is often blurred, as stakeholder statements can contain multiple levels of meaning [7], [23]. To support structured decision-making, quantitative methods such as the weighted scoring model are often used [8]. These models can help promote transparency, but the literature also points to challenges such as data overload, conceptual ambiguity, and unclear ownership of requirements [1], [9]. Dalsgaard [7] emphasizes that such models are not neutral, as they determine how design teams interpret information and can reinforce dominant perspectives. Thus, as Svensson and Torkar [21] note, prioritization is not a purely objective process, but a negotiation shaped by disciplinary viewpoints. Given the complexity of immersive media projects, mixed methods are widely recognized for their value in early-stage XR design. Creswell and Plano Clark [6] highlight the potential of mixed methods to combine qualitative and quantitative insights, enabling a more comprehensive understanding of

complex design challenges. Within this domain, living labs and action research have emerged as effective frameworks for iterative, hands-on experimentation and stakeholder engagement [11]. These methods help different disciplines work together continuously and combine user insights from real-world contexts with structured ways to evaluate them.

3 Methodology

3.1 Gathering requirements

Initial user and technical requirements were gathered via online co-creation workshops. These sessions were attended by consortium partners from research (4) and academic (2) institutions, a hybrid academic-research institution, technical organizations (7) and SMEs (3). Together, they refined personas, and scenarios and defined relevant solutions, reflecting on user needs and challenges related to holoportation, haptics and virtual humans. In breakout groups, the participants were asked to identify user problems, desired results and potential system solutions (see Figure 1), which was followed by plenary sessions to share insights. The sessions were recorded via Zoom, transcribed using tools such as Scribewave and GoodTape, and thematically analysed in MAXQDA using inductive coding [3]. Insights were subsequently translated into structured user, and technical (functional and non-functional) requirements, mapped to use cases and technical components, forming a clear, traceable basis for further design and implementation.



Figure 1: Miro board used to elicit discussion on user perspective and PRESENCE solutions.

3.2 Prioritising requirements

Given the volume of the requirements, a structured quantitative prioritisation process was introduced to evaluate the requirements post-workshop. A Weighted Scoring Method ensured a consistent, transparent assessment based on four criteria defined and weighted by the consortium through an internal survey: technical feasibility (36%), reflecting how achievable the requirement is from a technical perspective, impact (24%), assessing the extent to which the requirement would benefit users or enhance outcomes, urgency

(21%), indicating how time-sensitive or critical the implementation is and cost (19%), representing the estimated resource intensity (human or financial). Each partner was then asked to rate a list of requirements for each criterion on a scale of 0 to 10. The weighted composite score was calculated for each requirement by taking the average of the partners' scores, multiplied by the weighting values of the criteria. Requirements were then grouped into eight lists: three for technical pillars (holoportation, haptics and intelligent virtual agents), four for use cases without direct technical links (professional collaboration, manufacturing training, health and cultural heritage), and one general list. To reduce cognitive overload and prevent fatigue among the partners, each partner was only tasked with assessing the list of requirements that corresponded to their area of expertise. In addition to scoring, partners identified responsible implementers and shared qualitative reflections via a discussion box for each requirement, allowing them to highlight uncertainties, difficulties or further considerations. Appendix A contains the full prioritisation template used for all lists.

3.3 Identifying challenges

Challenges in the PRESENCE project were identified using a combination of action research and structured brainstorming [12], [24]. This approach facilitated both reflection and practical insight. As workshop facilitators and active participants, we gained deep insight into the dynamics of the project, enabling us to assess the challenges from both an insider and an analytical perspective. Wilson's [24] two-phase method surfaced a wide range of challenges in the divergent phase, which were then grouped and refined in the convergent phase into key challenges for further analysis and publication. To clarify the major steps of the methodology as implemented in the PRESENCE project, Figure 2 provides a visual overview.

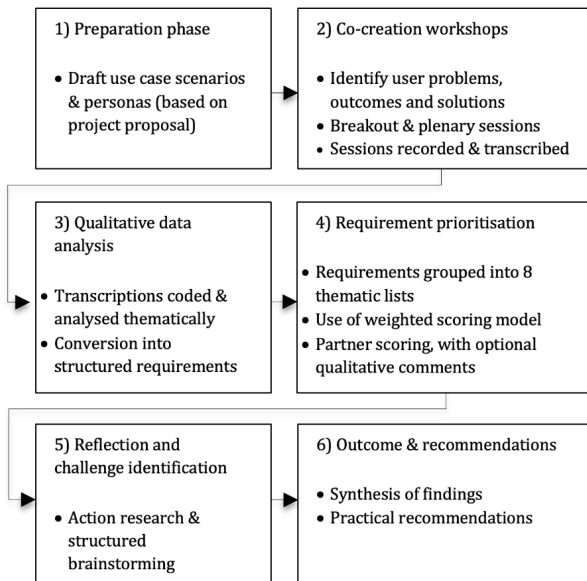


Figure 2: Overview of methodology steps in the PRESENCE project.

The next section discusses the challenges we encountered during the collection of qualitative requirements and quantitative prioritisation within the PRESENCE project.

4 Results

4.1 Challenges in preparing and executing requirements gathering

Prior to the co-creation workshops, we developed detailed use case scenarios and personas based on limited information from the project proposal, which only provided a broad scope. The lack of detail made it difficult to pin down specific goals or solutions for each scenario. To remedy this, we reviewed additional documents shared asynchronously by partners and created scenarios and personas that aligned with both project descriptions and partner expertise, trying to meet all the set goals. Each persona had the following information: name, age, occupation, type (primary, secondary user), role, profile picture, a quote that characterizes the persona in one sentence, a short biography, motivations, goals, pain points, and behaviors. Figure 3 shows an exemplary persona, created for the Professional Collaboration use case.



Figure 3: Persona Hanna developed for professional collaboration use case.

However, refining personas and scenarios revealed ambiguity around roles and assumptions about the use of the system. For example, developers were initially portrayed as internal employees, not the intended external users integrating our tools. This became clear when a partner remarked: "So I was more assuming that we will have or develop this for developers who at the end then just can use our APIs in their system and integrate them rather than actually improving our provided solutions." (Speaker 6, break out group for end-user personas, professional collaboration use case)

This reflects the core of the co-creation process, namely aligning the use case with the technical partners to clarify what can and cannot be realistically delivered. Similarly, visionary ideas – such as full-body avatar control and multimodal integration – often clashed with current technological limitations. Partners recognized that subtleties such as 'raising an eyebrow' were technically infeasible. Managing such expectations was essential to basing personas and scenarios on what was technically feasible. Expectations around user capabilities also varied, especially with regard to professional users such as project managers. For example, the persona 'Hanna'

(see Figure 3) was described as someone who facilitated XR-based meetings, but some partners doubted whether these users could handle the technical installation themselves. One partner commented: *“I would assume that she is not, like, actually setting up the XR meetings, but that somebody else, like a technician, would do this.”* (Speaker 5, break out group for end-user personas, professional collaboration use case) While others emphasized the need for *“a more user-friendly process, that can be done by nontechnical people.”* (Speaker 6, break out group for end-user personas, professional collaboration use case)

These different visions shaped both the persona design and the system functions built around them. Overall, developing realistic and useful personas and user scenarios required navigating stakeholders’ visionary ambitions, technological limitations and the project scope – making these challenges essential steps to a meaningful and effective co-creation process.

4.2 Challenges in qualitative data analysis

The workshops generated extensive qualitative input – such as open feedback, reflections, and context-specific ideas. Although insightful, the varied and ambiguous nature of this input made it difficult to define clear, actionable requirements. To manage this, researchers divided tasks by expertise (user- vs. technical requirements), which initially balanced the workload, but also caused fragmentation. Misalignment emerged when mapping user- to technical requirements, prompting several meetings to harmonise their interpretations and better align. This process proved quite time-consuming. Further complexity arose as technical requirements had to be detailed further into functional and non-functional requirements. For instance: *“The system shall be able to capture volumetric scenes using light-field techniques to achieve photorealistic representations”* includes both functional (recording process) and non-functional aspects (photorealism). Moreover, when technical partners became involved, they sometimes had difficulty interpreting earlier requirements, which were often too general or not clear enough, such as *“The system must be user-friendly”* or *“The system must be well optimized even with limited hardware resources”*, underscoring the need for more precise and focused wording. Refinement was especially difficult when requirements involved technologies outside our own expertise, making feasibility difficult to assess. In hindsight, instead of two partners taking on the full responsibility of translating user requirements into technical ones, this process would have benefited from closer and earlier involvement of domain-specific technical partners to better help define clear and feasible requirements. Table 1 shows a summary of the challenges we faced in the gathering of requirements.

4.3 Challenges in preparing and executing the quantitative prioritisation process

The main challenge in preparing the prioritisation process was managing the large number of requirements (487). To support the partners, we divided them into eight lists, which eased their workload and allowed the tasks to be tailored to their expertise. Despite this categorisation, the volume of requirements remained considerable. The eight categories were: holoportation, haptics, intelligent virtual agents, general, professional collaboration, manufacturing

training, health, and cultural heritage. In addition, some requirements were relevant to multiple lists but were only included in one list, leading to duplication of work and inconsistencies in partner evaluations. Some partners reported encountering the same requirement multiple times under different labels. These duplicates had to be removed so that they were only listed once. Table 2 shows the total number of requirements grouped by list.

The large number of requirements made it difficult to prioritise, which led to multiple deadline extensions as partners requested more time. The workload often affected their motivation and in some cases partners seemed to copy each other’s scores, probably due to fatigue or unfamiliarity. This points to two major problems: on the one hand, the survey format made it difficult to clearly convey complex requirements, and on the other hand, the subjective nature of the prioritisation may have reduced the reliability of the results.

4.4 Challenges in analysing the quantitative prioritisation process

The evaluation of the quantitative prioritisation process revealed several challenges that affected clarity and efficiency. Managing the large number of requirements was logistically and analytically demanding, especially when calculating the total scores for all partners. Many requirements were too vague, requiring additional discussion before they could be prioritised. Although a discussion section was available for clarification, these were rarely used, which limited transparency. As a result, it was not always clear why a requirement had received a particularly high or low score, making it difficult to validate or review decisions later in the process. Another problem was the unclear assignment of stakeholders. For example, partners often referred to entire work packages instead of specific roles or organisations, which caused confusion and required further clarification. Misplaced requirements and overlapping responsibilities on multiple lists also complicated matters. These problems reduced accessibility and coordination, suggesting the need to revise the list structure for greater clarity and usability. Table 3 shows a summary of the challenges we faced in the prioritisation of requirements.

4.5 Reflections on the mixed-methods approach

The mixed-method approach effectively supported the early design of XR by combining narrative exploration with structured, empirical instruments. This allowed stakeholder input to guide the development of personas, the collection of requirements and their prioritisation. It facilitated interdisciplinary dialogue and revealed different perspectives and hidden conflicts. However, translating rich qualitative input into standardised formats sometimes led to a loss of context. Nevertheless, the method helped identify shared priorities and align expectations among stakeholders. It confirmed key findings and deepened the team’s understanding and refined personas and scenarios for future design phases. Ultimately, the approach provided both analytical insights and a structured way to merge creative and technical goals, which played a crucial role in shaping XR technology and its requirements, despite its complexity. Table 4 shows a summary of the challenges we faced in the use of a mixed method.

Table 1: Summary of challenges in requirement gathering

Challenge	Description
Misaligned or unrealistic personas	Personas were based on internal views, not real users; roles were unclear.
Vision vs. feasibility tension	Ideas exceeded current tech capabilities.
Vague or overlapping requirements	Blurred lines between user, technical, functional, and non-functional items.
Lack of empirical grounding	No direct end-user data; relied on input from partners.

Table 2: Number of requirements per list

List	Number of requirements
Holoportation	45
Haptics	51
Intelligent Virtual Agents	112
General	116
Professional Collaboration	46
Manufacturing Training	31
Health	47
Cultural Heritage	39

Table 3: Summary table of challenges in requirement prioritisation

Challenge	Description
Volume overload	Despite categorisation, 487 requirements proved difficult to manage.
Evaluation fatigue	Partners copied scores or skipped inputs due to time pressure.
Poor traceability	Ownership was often assigned to broad groups, not specific roles.
Underused clarification tools	Discussion boxes weren't used sufficiently, reducing transparency.

Table 4: Summary table of challenges in mixed-methods use

Challenge	Description
Context loss in scoring	Converting rich feedback into numbers resulted in a loss of nuance and intent.
Integration challenges	Aligning qualitative findings with quantitative results proved difficult.
Communication gaps	Explaining prioritisation outcomes was hard across diverse teams.

5 Discussion and outlook

5.1 Discussion

This study emphasises the significant methodological challenges, both theoretical and practical, in gathering and prioritising requirements during early XR development. Although tools such as personas, scenarios and weighted scoring models are intended to structure the process, they often led to ambiguity, misalignment and inconsistent stakeholder engagement. These problems are in line with literature that notes that qualitative methods at an early stage often rely on assumptions rather than data, increasing the risk of deception [17], [10]. Personas were undermined by role confusion and different stakeholder perspectives, making it difficult to align users. As Steen et al. [20] and Cooper [5] argue, personas require shared understanding and negotiation. Scenarios, although useful for communication and creativity [22], [2], were shaped by assumptions and unrealistic expectations. Translating qualitative

input into clear requirements proved difficult, which reaffirmed concerns about ambiguity and fragmented data [17]. Functional and non-functional requirements often overlapped, which complicated the analysis, as noted by Dalsgaard [7] and Wiegers and Beatty [23]. Prioritisation was complicated by an overload of data, vague formulations of requirements and unclear ownership. Although quantitative instruments provide structure [8], they can also reinforce dominant views and subjectivity [21]. Despite these problems, the mixed-method approach uncovered hidden assumptions and strengthened the interdisciplinary dialogue. As Creswell and Plano Clark [6] point out, such methods are essential in complex XR projects for integrating diverse input. This research emphasises the need for clearer roles, phased prioritisation and structured collaboration to improve XR design and reduce stakeholder fatigue [14].

5.2 Practical implications

The challenges identified in this research show that requirements processes in early stage XR projects with multiple stakeholders need better coordination and clearer and more scalable processes. We recommend 4 practical interventions to solve these problems. To align ambitious visions with technical feasibility, teams can use a structured dual-track model that defines both ideal future use cases and current technological limitations per persona. This helps ensure that design decisions remain both inspiring and feasible. To improve the outcome of co-creation sessions, teams should implement structured follow-up processes that translate discussions into clear, actionable requirements. This includes establishing shared terminology and collaboration methods to refine the results. Strengthening collaboration and accountability can be achieved by using dynamic responsibility dashboards, designed as cooperative analytical tools [18] which make ownership and division of tasks transparent. Similar dashboards have improved involvement and decision-making in smart city projects [13]. To manage large amounts of requirements sustainably, teams can implement a phased prioritisation approach with regular alignment checkpoints. This method supports continuous reflection, reduces fatigue and helps maintain motivation throughout the project life cycle [21].

5.3 Limitations

End-users were not involved in the first requirement gathering and prioritising phase, which caused the requirements collected to reflect the internal views of partners which may not fully reflect the actual needs of users. In addition, partners' views may have been influenced by institutional priorities, which may have affected the development and prioritisation of requirements. Finally, although a discussion column was provided during the quantitative prioritisation stage to allow questions or comments, they were used only occasionally, limiting the depth of interpretation in some areas.

5.4 Future research directions

Future studies should explore how AI-based clustering and complexity management tools can assist in large-scale requirements processes, especially in multi-stakeholder environments. Furthermore, research comparing requirements gathering methods between partner-driven and end-user-driven approaches in immersive media projects would provide useful information about their advantages and disadvantages. The development of specific evaluation metrics to measure the quality and effectiveness of early-stage design decisions should also be a future research direction. Finally, methods to maintain partner engagement and motivation over multiple design cycles that extend over time should be explored.

Acknowledgments

This work has been funded by the European Union's Horizon Europe Programme under Grant Agreement No. 101135025 – PRESENCE. The PRESENCE project develops a toolset for hyper-realistic XR-based human-human and human-machine interactions, advancing technologies in holoportation, haptics, and intelligent virtual humans.

References

- [1] Patrik Berander and Anneliese Andrews. 2005. Requirements prioritization. In *Engineering and managing software requirements*. Springer, 69–94.
- [2] Susanne Bodker. 1999. Scenarios in user-centred design-setting the stage for reflection and action. In *Proceedings of the 32nd Annual Hawaii International Conference on Systems Sciences*. 1999. HICSS-32. Abstracts and CD-ROM of Full Papers. IEEE, 11–pp.
- [3] Victoria Clarke and Virginia Braun. 2017. Thematic analysis. *The journal of positive psychology* 12, 3 (2017), 297–298.
- [4] A Cockburn. 2000. Writing Effective Use Cases Addison. Addison-Wesley Professional (2000).
- [5] Alan Cooper. 1999. *The inmates are running the asylum*. Springer.
- [6] John W Creswell and Vicki L Plano Clark. 2017. *Designing and conducting mixed methods research*. Sage publications.
- [7] Peter Dalsgaard. 2017. Instruments of Inquiry: Understanding the Nature and Role of Design Tools. *International journal of design* 11, 1 (2017), 21–33.
- [8] A Griffith and JD Headley. 1997. Using a weighted score model as an aid to selecting procurement methods for small building works. *Construction Management & Economics* 15, 4 (1997), 341–348.
- [9] Philipp Haindl and Reinhold Plösch. 2022. Tailoring stakeholder interests to task-oriented functional requirements. *arXiv preprint arXiv:2201.06567* (2022).
- [10] Iris Jennes, Markus Friedrich, Jaco Van der Bank, Wendy Van den Broeck, André Ebert, and Michelle Boonen. 2020. The benefits of interdisciplinary scenario-building for hybrid radio applications. *Telematics and Informatics* 54 (2020), 101455.
- [11] Seppo Leminen. 2013. Coordination and participation in living lab networks. *Technology Innovation Management Review* 3, 11 (2013).
- [12] Sara Logghe and Dimitri Schuurman. 2017. Action research as a framework to evaluate the operations of a living lab. *Technology Innovation Management Review* 7, 2 (2017).
- [13] Ricardo Matheus, Marijn Janssen, and Devender Maheshwari. 2020. Data science empowering the public: Data-driven dashboards for transparent and accountable decision-making in smart cities. *Government Information Quarterly* 37, 3 (2020), 101284.
- [14] Cristina Palomares, Xavier Franch, Carme Quer, Panagiota Chatzipetrou, Lidia López, and Tony Gorschek. 2021. The state-of-practice in requirements elicitation: an extended interview study at 12 companies. *Requirements engineering* 26 (2021), 273–299.
- [15] John Pruitt and Tamara Adlin. 2010. *The persona lifecycle: keeping people in mind throughout product design*. Elsevier.
- [16] Ziazi Radianti, Tim A Majchrzak, Jennifer Fromm, and Isabell Wohlgenannt. 2020. A systematic review of immersive virtual reality applications for higher education: Design elements, lessons learned, and research agenda. *Computers & education* 147 (2020), 103778.
- [17] Elizabeth B-N Sanders and Pieter Jan Stappers. 2014. Probes, toolkits and prototypes: three approaches to making in codesigning. *CoDesign* 10, 1 (2014), 5–14.
- [18] Vidya Setlur, Michael Correll, Arvind Satyanarayan, and Melanie Tory. 2023. Heuristics for supporting cooperative dashboard design. *IEEE transactions on visualization and Computer Graphics* 30, 1 (2023), 370–380.
- [19] Mel Slater and Maria V Sanchez-Vives. 2016. Enhancing our lives with immersive virtual reality. *Frontiers in Robotics and AI* 3 (2016), 74.
- [20] Marc Steen, Menno Manschot, and Nicole De Koning. 2011. Benefits of co-design in service design projects. *International journal of design* 5, 2 (2011).
- [21] Richard Berntsson Svensson and Richard Torkar. 2024. Not all requirements prioritization criteria are equal at all times: A quantitative analysis. *Journal of Systems and Software* 209 (2024), 111909.
- [22] Arnold POS Vermeeren, Virpi Roto, and Kaisa Väänänen. 2016. Design-inclusive UX research: design as a part of doing user experience research. *Behaviour & Information Technology* 35, 1 (2016), 21–37.
- [23] Karl E Wieggers and Joy Beatty. 2013. *Software requirements*. Pearson Education.
- [24] Chauncey Wilson. 2013. *Brainstorming and beyond: a user-centered design method*. Newnes.

A Requirements sheet template

List
ID
Code
User/Technical
Functional/Non-Functional/NA
Version
Link TR/UR
Technical pillar
Use case
Category
Requirement
Specification on requirement (if needed)
Responsible partner(s)
Execution date
Technical feasibility
Overall prioritisation score
Type of user
Origin
Average score on impact
Average score on urgency
Average score on cost
Average score on technical feasibility
Scope
Milestone
Linked WP/Task
Means of validation
Discussion