

How to create user-descriptions and scenarios to design a knowledge-base for RiverCare research?

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Conclusion

Based on the interviews, we consider two types of users: 1) researchers and technical-driven experts; and 2) experiential and management-driven practitioners. From the usability test it appeared that Alex' profile is not detailing enough to make decisions. The role of user descriptions helped as driving force to the design process and to evaluate the developed prototypes.

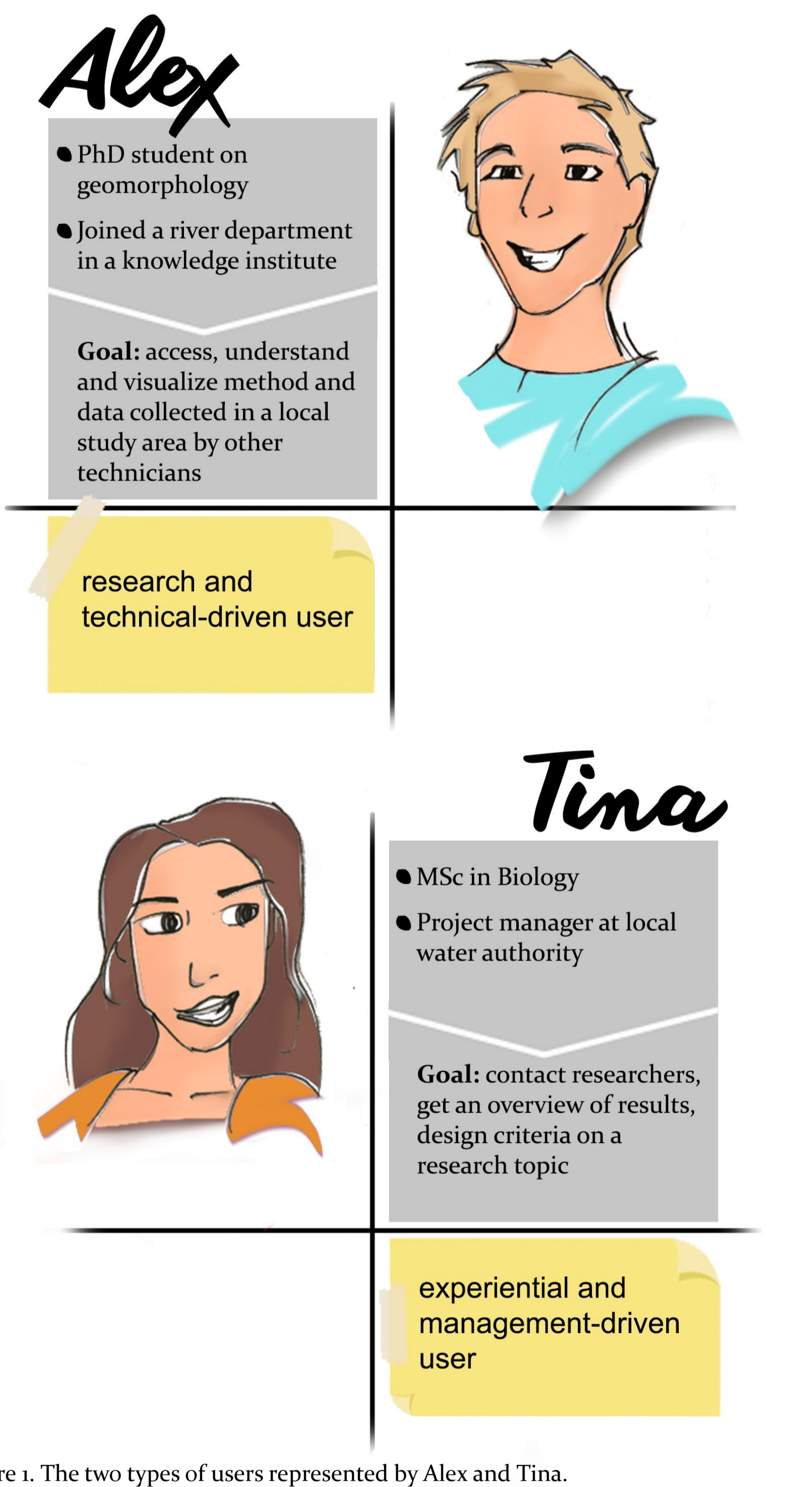


Figure 1. The two types of users represented by Alex and Tina.

Introduction

- Increasingly, online knowledge platforms are being designed in river management to communicate river research to a diverse group of researchers and practitioners [1].
- Users have preferences for different data types, information means, and needs for understanding [2].
- Therefore, users groups may benefit from having multiple and complementary options for interaction to understand water systems [3].

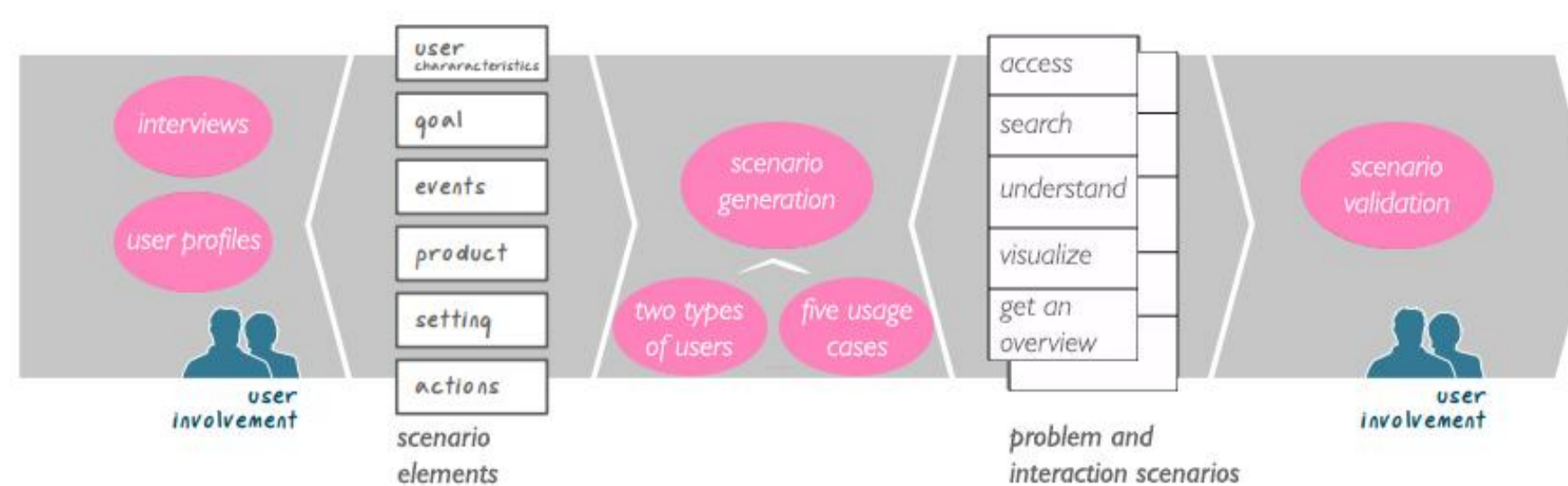


Figure 2. This indirect participatory scenario approach used in the design process.

Aim

The RiverCare programme is designing a web-based knowledge-base (KB) as part of the communication strategy. The KB is designed to provide [4]:

- easy access, search and overview of research programs such as RiverCare;
- ease of understanding by explaining results from a river management perspective via storylines;
- get feedback about the potential interest in and use of the results.

This study focuses on how to present the website content following the development of web technologies and scenario definition.

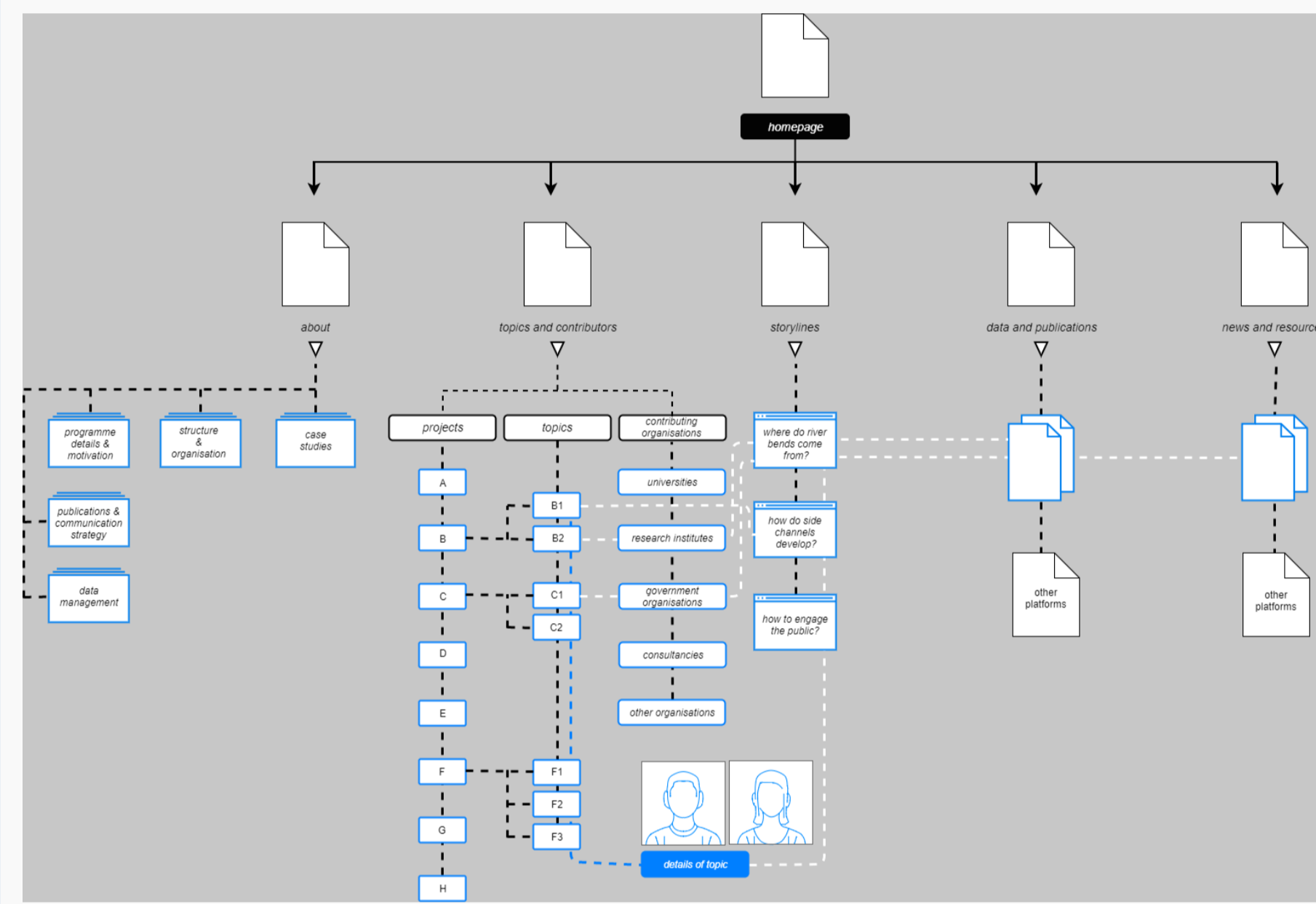


Figure 3. The information architecture of the website prototype.

Method

Following Scenario Based Design [5], the KB is developed iteratively with both NCR and RiverCare stakeholders through several user tests and feedback sessions. Based on the type of knowledge Tina and Alex want to access, search, understand, visualize and data information type, scenarios are generated. In the evaluation phase, the scenarios needed to be validated to verify whether the elements were realistically integrated. The first prototype was tested through an experimental set up in real use. During the experiment, the test persons represented either Alex or Tina and validated their respective user profiles.

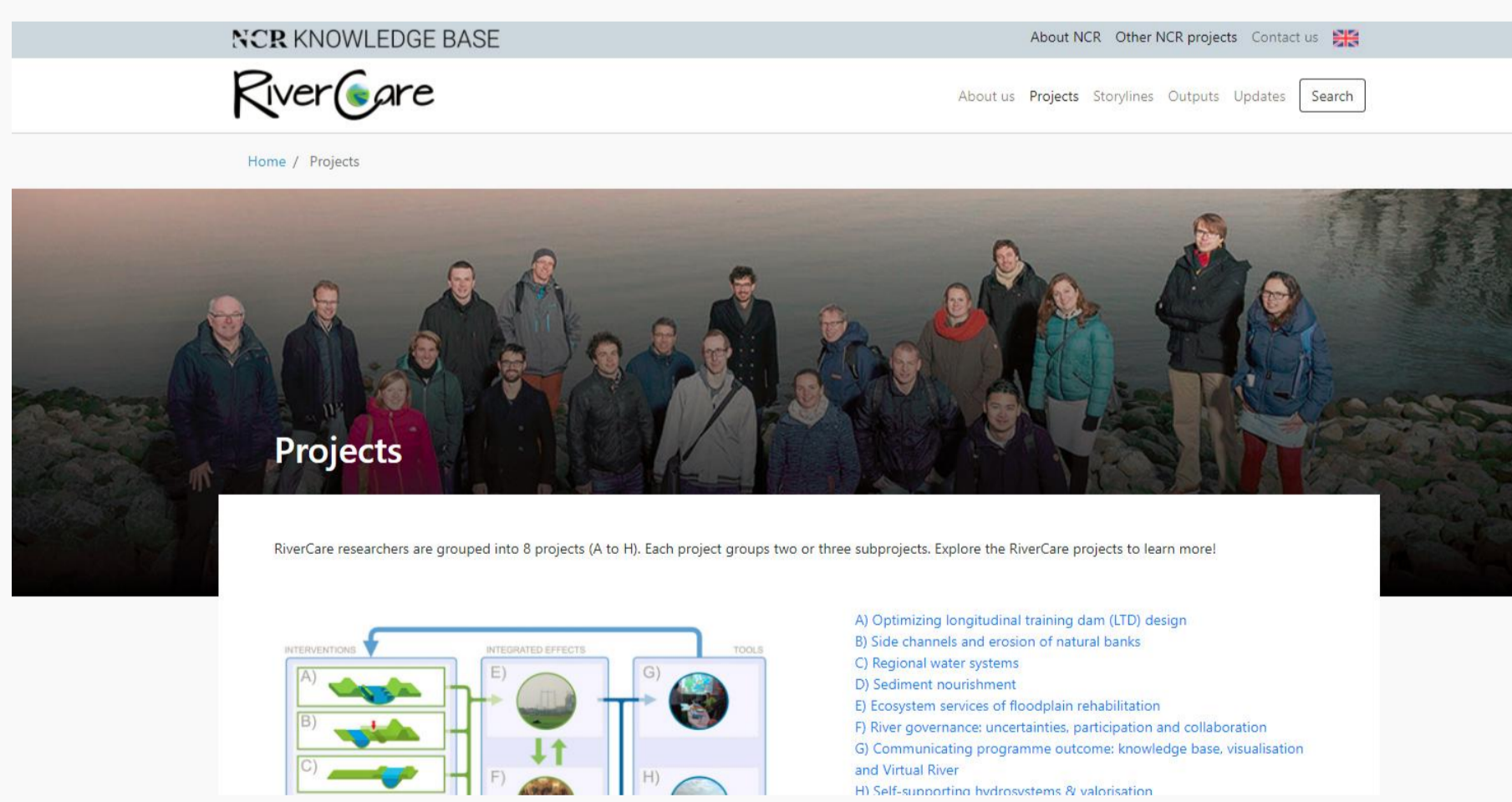


Figure 4. The project page of the first website's prototype.

This usability test covered the three usability issues:

- Effectiveness** Do users find the answer they need (or not)?
- Efficiency** Find the answer to a question in as little time and with as little effort as possible.
- Satisfaction** How does the user feel about the tasks he/she had to complete? Was the person stressed or confident, and would the user recommend the knowledge base to a colleague?

Results

To identify the usability issues, indicators are defined as guidelines to improve the prototype and to increase its usability further. The results show some overlap between two usability issues. Thus, a more clear distinction between indicators is needed to get usability issues fixed.

	Accuracy	Representativeness	Timeliness	Relevance	Completeness	Time on task	Lossness	Simplicity	Number of Control actions	Responsiveness	Comfort	Positive attitude
Effectiveness	7	11	2	6	7	3	2	2				
Efficiency	1	2	1			8	9	10	5	2		
Satisfaction											9	5

Figure 5. An overview of the usability issues according to the list of indicators.

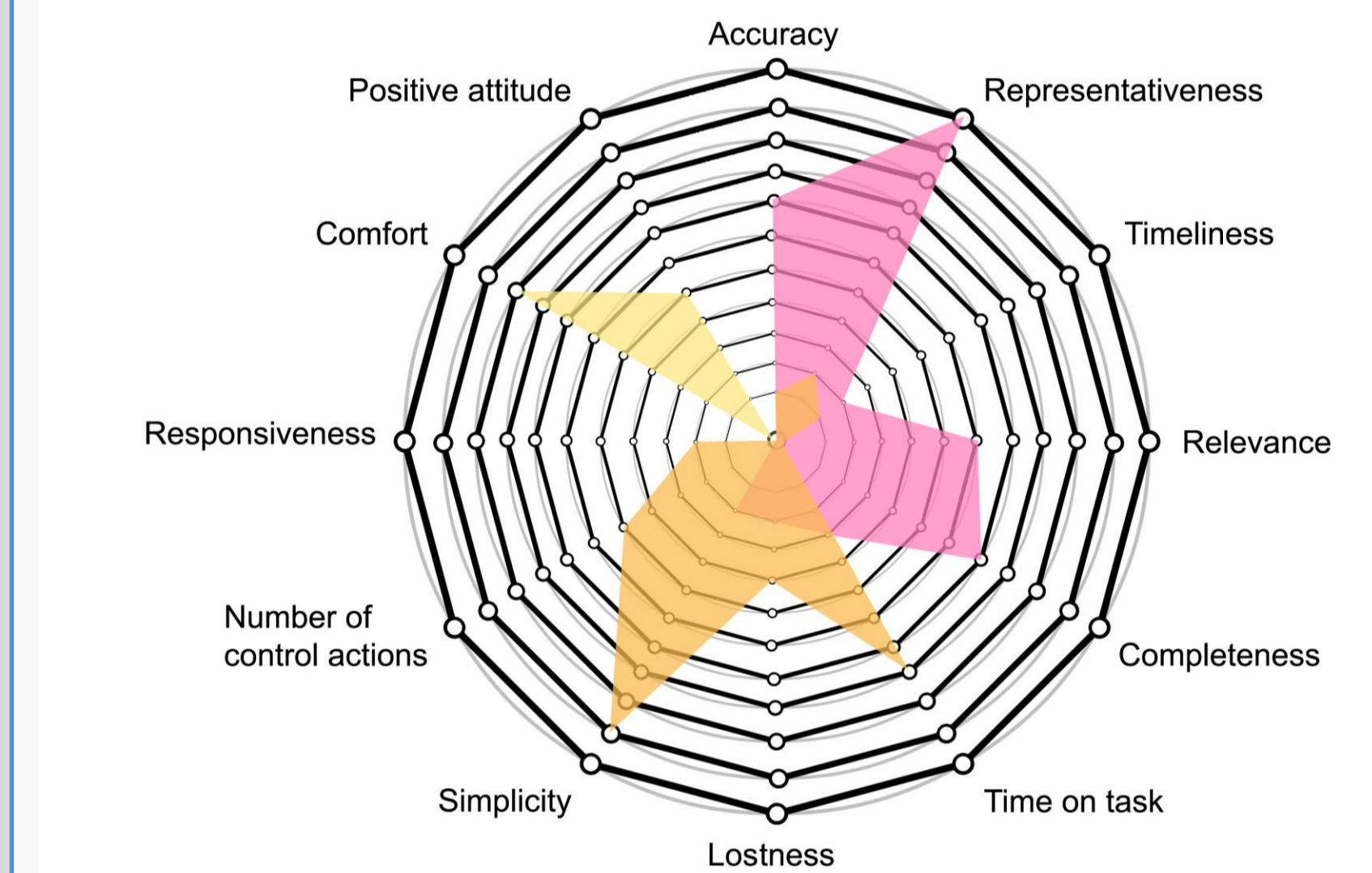


Figure 6. A matrix of tactics for getting usability issues fixed.

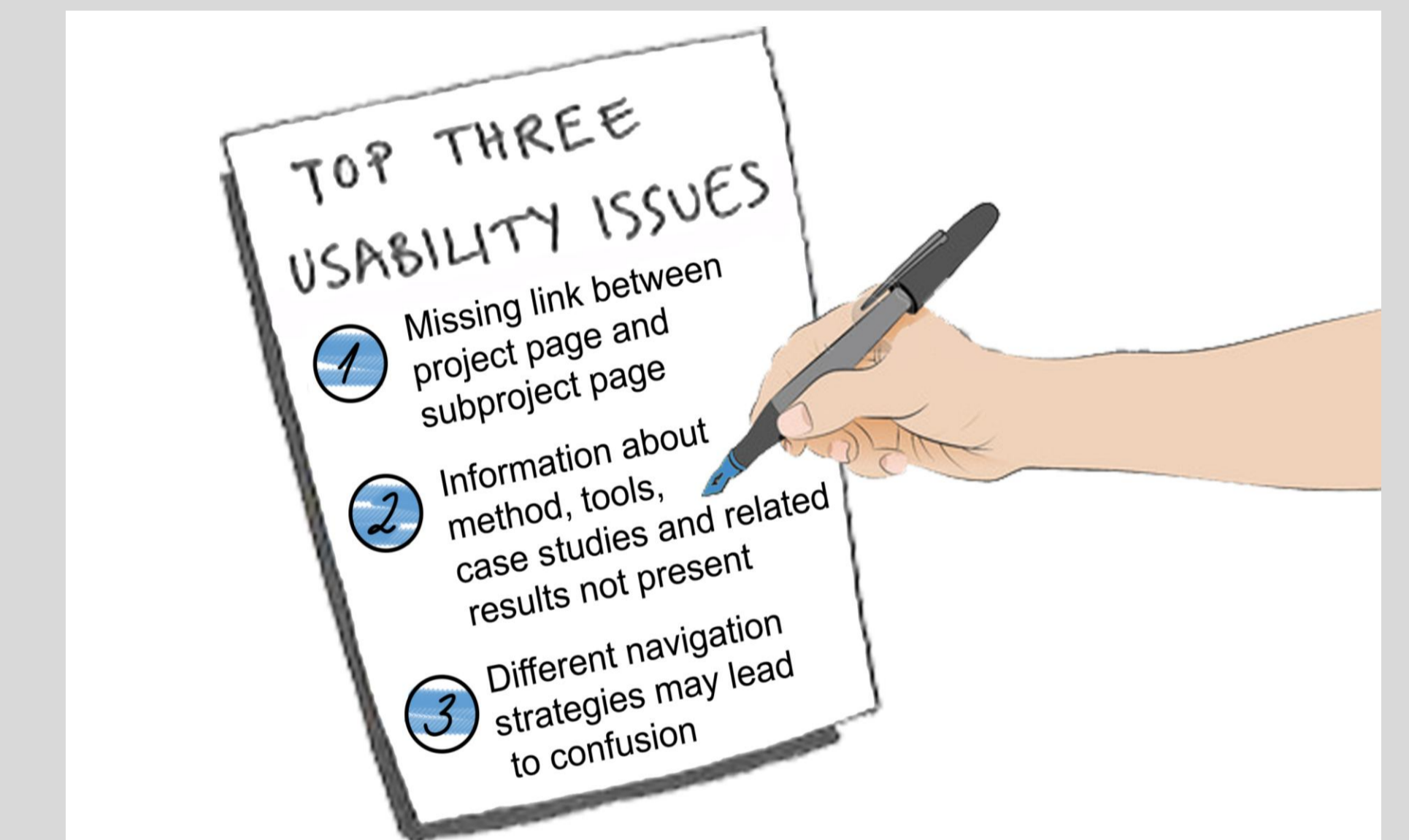


Figure 7. The top three self-experienced usability issues.

Next steps

- Mar/18:** Participatory evaluation session with RiverCare researchers to test the new KB prototype on the NCR days

References

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