

# **A new approach to conceive user-focused services and solutions**

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## **Keywords**

Design Thinking, ICT services, R&E community, Graduate Programs, Agile methodologies.

## **Abstract**

The Brazilian National Research and Education Network (NREN), RNP, is promoting an innovative initiative through a pilot project offering a new perspective of how NRENs can increase user participation in service strategy and design in order to deliver value to the R&E community using Service Design Thinking approach. This presentation aims to introduce the pilot project, the results achieved so far and the results we expect for the first half of 2018.

## **Introduction**

As in most things in the world, ICT services are changing rapidly and developing at an increasing rate. At the same pace, user demands are becoming more diverse and complex. However, there is a gap between the users and the NRENs as service providers.

The users are not always aware of the potential services provided by NRENs and the NRENs are not always aware of the needs of large groups of researchers. Clearly, there is a lot of work to be done in bridging this gap. To deliver value and design sustainable services, the NRENs must find out what the users really want and work collaboratively with them. Above all, NRENs need to put users back on the radar screen and be agile to foster a better internet for research and education.

## **The scenario**

Brazil has more than 4.000 Graduate Programs acknowledged by the Brazilian Federal Agency for Support and Assessment of Post-graduate Education (CAPES), and involving about 72.000 professors and over 346.000 students. To conduct research activities R&E community demands remote communication and collaboration, storage of large amounts of data, and integrate repositories online services.

In the context of the cooperation with CAPES, RNP started an Initiative to understand the needs of end-users (researchers, students and professors from Graduate Programs, and ICT managers) in terms of information and communications technologies. The core

objective of the Initiative is to co-create, implement and promote new ICT services and solutions with these same users. In April 2017, was set up a pilot project with six Graduate Programs from three Federal Higher Education Institutions. To get on with the goal was adopted Design Thinking approach [1] and other Agile methodologies such as Lean [2] and Agile UX [3].

### **The Design Thinking approach**

Design Thinking is a human-centered approach to innovation based on a creative problem solving process. By using design elements, such as empathy, collaboration and experimentation is possible create or improve services and products to make them more useful, usable and desirable from the user's point of view.

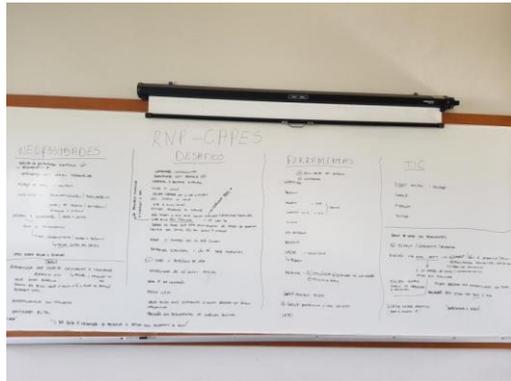
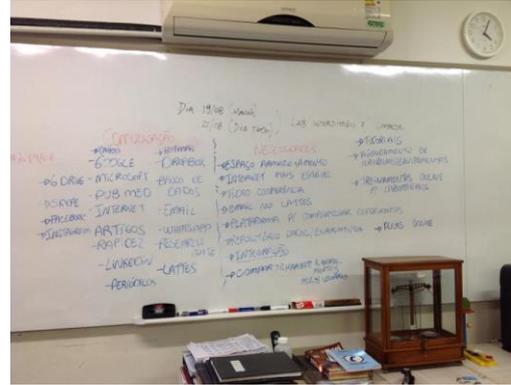
It is an iterative and flexible process and its starts by identifying the problem and gathering a deep understanding of the situation from the users' perspective. It is all about defining the right question instead of trying to find the solution immediately. Once frame the fundamental design challenge, is possible co-create, prototype, test and iterate the solutions that would solve your main problem.

To achieve holistic and sustainable solutions it is crucial to work with interdisciplinary teams that include end-users and other stakeholders involved. In this collaborative process, trial and error is essential to improve and refine ideas. In the context of that Initiative, RNP are using this approach to co-create ICT services and solutions with ours end-users: researchers, students and professors from Graduate Programs.

### **Results and next steps**

The main results from the pilot project are:

- Phase 1: discovering what users really need. The project started by listening and understanding the needs of end-users in terms of communication, collaboration and ICT services. There were used ethnographic and qualitative approaches, such as field visits and in-depth interviews. More than 60 in-depth interviews with researchers (students and professors) and IT Directors from the selected Graduate Programs were conducted. Besides, a lot of desk researches and benchmark analysis has been done. In these findings, were gained insights from different user perspectives and were able to recognize archetypes, representing particular groups based on their shared interests. As another result from phase 1, were developed guidelines to orientate the creation of new ICT services and solutions based on usability, scale and sustainability.

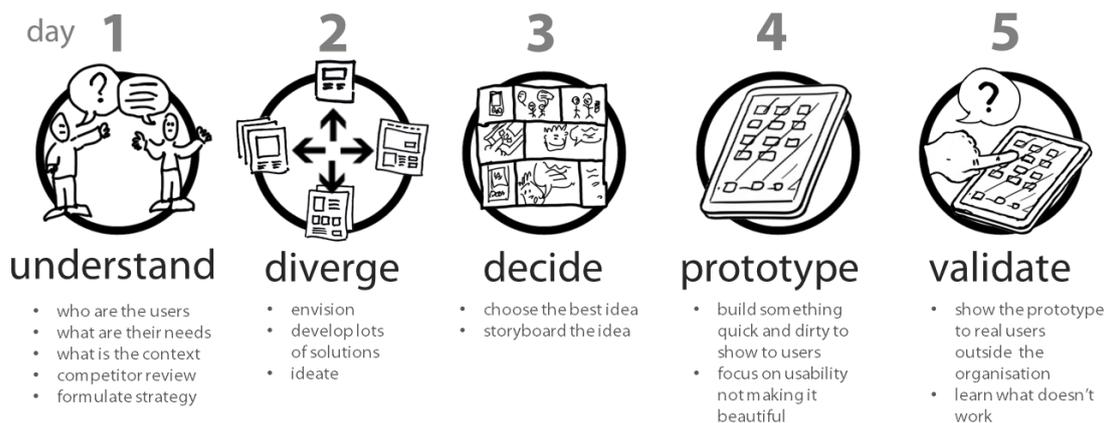


Phase 1: Immersion in campus.

- Phase 2: co-creating new ICT services and solutions. Once we have slipped into the user's shoes and understood their needs, it was possible co-designed these services and solution with those end-users and other stakeholders involved in the process, such as IT Directors, RNP, CAPES and UX designers. Therefore, the Design Sprint framework was used, created by Google Ventures [4] to conduct the co-creation process. Based on the Design Thinking approach and Agile Methodologies, Design Sprint is a five-day process for creating services or solutions through design, prototyping, testing and iterating ideas. Two Design Sprints were conducted with end-users and others stakeholders involved. By the end, were co-created ten ideas of new ICT services and solutions based on user's needs in terms of technology, collaboration and communication. After this divergence phase of generating ideas, were conducted another Design Sprint to prioritize and decide what ICT solution we would actually implement in the selected Graduate Programs from the pilot project. We also spent some time reflecting about this service's role in the organization's business model. The picture bellow [4] summarizes the main activities conducted during the Design Sprints.



## Phase 2: Design Sprints.



### The Design Sprint process.

In the context of the pilot project, the results expected for the first half of 2018:

- **Implementation phase:** putting ideas into action. In this stage, prototyping and testing is extremely important. The core objective is to develop a minimum viable product (MVP). The idea is to build the most basic version of the concept as possible, test it with users and iterate the service quickly. In this phase, Lean UX and the Agile development method will be used to focus on the actual experience that is being designed, rather than deliverables. As well, indicators will be developed to enable monitor the implementation phase, the use of the service and its impact on user's activities as researcher.
- **Promotion phase:** spread the word about the service. Throughout the project, discovered that end users do not have acknowledgement about the services RNP provide for the R&E community. In this sense, an essential part of this pilot

project is to discover how to communicate with those users, that is, co-create with the selected Institutions an effective communication plan that can reach ours end-users.

## Conclusion

Co-create ICT services and solutions to deliver value to end-users is the core objective of this Initiative. In order to build a better internet for research and education is necessary to deliver services and solutions that reflect ours users' needs in a timely manner overcoming the challenges of scale, sustainability and exponential growth.

In addition, the native features of new services, expected by end-users, which will be build: quality based on usability and functionality, security and reliability.

## References

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## Authors Biography

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