

Using Rapid Prototyping to Design a Smoking Cessation Website with End-Users

Charlene RONQUILLO,^{1a} Leanne CURRIE,^a Derek ROWSELL^b, J. Craig PHILLIPS^b
^a*School of Nursing, University of British Columbia, Canada,* ^b*School of Nursing,
University of Ottawa, Canada*

Abstract Rapid prototyping is an iterative approach to design involving cycles of prototype building, review by end-users and refinement, and can be a valuable tool in user-centered website design. Informed by various user-centered approaches, we used rapid prototyping as a tool to collaborate with users in building a peer-support focused smoking-cessation website for gay men living with HIV. Rapid prototyping was effective in eliciting feedback on the needs of this group of potential end-users from a smoking cessation website.

Keywords. rapid prototyping, website development, participatory approaches

1. Introduction

This study employed rapid prototyping as a tool to facilitate user-centered design - "a philosophy based on the needs and interests of the user...on making products usable and understandable" (p. 188) [1], and concepts of user sensitive inclusive design, which emphasizes incorporation of empathy and relationship-building between researchers/developers and users as a key component of the design process [2]. This poster presents one component of a larger study aiming to build a peer-support, smoking-cessation website with gay men living with HIV.

2. Methods

One aim of the study was to explore rapid prototyping as a user-centered approach to design and data collection. We conducted two participatory website design sessions with potential end-users (n=9; n=15). Promoting user-centered and user sensitive inclusive design approaches, researcher-participants began with naming the website as *Pierre Support*. They were then presented with an initial website design mockup created by the research team with Balsamiq wireframing software. Through various iterations, researcher-participants were guided to provide feedback on specific features of the website mockups. After the first cycle of feedback, minimally functioning website mockups were created using Axure RP Pro 7.0 to allow users to interact with website features, run through use cases, and provide feedback. Data were collected via observation of participants, various versions of the website mock ups, and field notes gathered by the research team.

¹ Corresponding author: Charlene Ronquillo, University of British Columbia School of Nursing, T201-2211 Wesbrook Mall, Vancouver BC, Canada, V6T 2B5, cronquillo@alumni.ubc.ca.

3. Results

Qualitative feedback from participants revealed that the ability to see and interact with various iterations of the website, and almost instantaneously refine the website according to feedback were viewed positively. The participants' perceived needs from a peer-support smoking cessation website led to the preliminary website design.

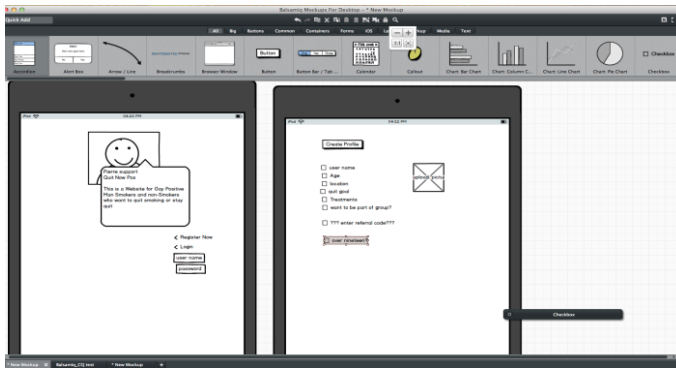


Figure 1. Pierre Support website landing and signup page wireframe in Balsamiq.

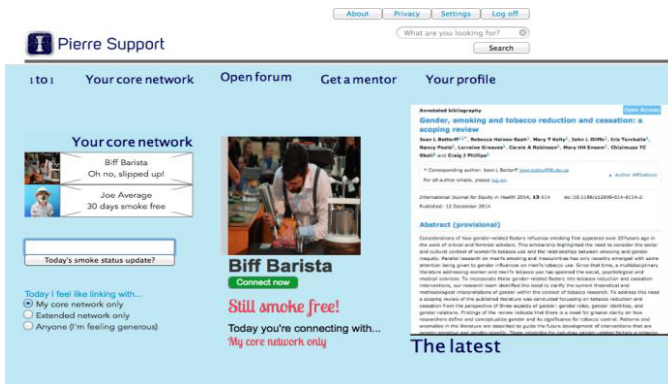


Figure 2. Pierre Support website minimally functioning profile page mockup in Axure.

4. Discussion

This study illustrated the potential advantages of using a prevalent approach in user-centered design - rapid prototyping - in health care, an area where it has not previously been explored [3]. Rapid prototyping was effective in engaging participants in collaborative design because it provided tangible opportunities for participants to see and interact with a prototype as part of the design process, providing rich information and highlighting the practical needs of potential end-users.

References

- [1] D.A. Norman, *The design of everyday things*, Basic Books, New York, NY, 1988.
- [2] A.F. Newell, P. Gregor, M. Morgan, G. Pullin, C. Macaulay, User-sensitive inclusive design, *Universal Access in the Information Society*, **10**(3): 235-243, 2011.
- [3] HIMSS Usability Task Force, Promoting Usability in Health Organizations: initial steps and progress toward a healthcare usability maturity model, *Health Information and Management Systems Society*, 2011.