

# The n00b Wikipedia Editing Experience

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## ABSTRACT

Wikipedia is one of the largest online collaborative projects. At present the multi-lingual encyclopedia is the fifth most popular website and contains more than 13 million articles in 271 languages. The technical barriers to contribution, however, remain quite high. This paper describes the qualitative research and design methods used in our efforts to identify and reduce those barriers to participation for non-editors and measurably increase their ability to contribute to the project.

## General Terms

Design, Experimentation, Human Factors, Verification.

## Keywords

Computer supported collaborative work, wiki, Mediawiki, interface design, user experience, usability

## 1. INTRODUCTION

Over the last 10 years the Wikipedia project has experienced a great amount of success. Wikipedia pages are read by a quarter billion people worldwide every month [7], with 364,719 unique visitors in January 2010 representing 31.8% of the Internet audience [6]. Of those readers, it is estimated that less than 0.05% are actively contributing to its content [3][6]. In 2008 the Collaborative Creativity Group at UNU-Merit conducted the first large-scale survey of Wikipedia [2]. Their results from over 125,000 respondents using over 20 language versions tell us that there is a significant difference in both the age and gender composition of readers and contributors with the average respondent's age being 25.8 years. Of the respondents, readers were 68% male and 31% female and contributors were 87% male and 13% female. Suh, Convertin, Chi, and Pirulli would also warn us that the growth of this editor population, presently dominated by younger males, is waning [5].

Mediawiki, the authoring software that is used to create Wikipedia's content was created in 2002. An open source application, it has been developed largely by Brion Vibber and

volunteer developers. As a volunteer project, subject to biases of self-selection and subjective experience design and development, MediaWiki was not designed with systematic user experience research and user testing. There have been few organized efforts to conduct usability studies [4], but their focus was limited and the implementation of changes did not follow. Additionally, there exist an unknown number of extensions, user scripts and gadgets aimed at user experience and usability improvement, but without validation research and a robust code review process, integration into MediaWiki also proves difficult.

In 2009 the Wikimedia Foundation, which currently oversees the management and maintenance of the MediaWiki software, was given funding to employ dedicated research, design, and development staff to implement changes to MediaWiki to increase the usability of Wikipedia's editing tools and to verify the efficacy of these changes using qualitative research methods. This scope of this one-year pilot project was limited to changes in the user interface to help authors using English Wikipedia in performing basic editing tasks. Using an agile and iterative process involving the volunteer community, we have researched, designed, and implemented a series of changes to the editing interface.

## 2. APPROACH

Over fifteen months, we have conducted three user studies – one initial exploration study at the beginning of the project, one progress study in the middle of the project, and one evaluation at the completion of the project. In the course of this time, we have continuously created and tested prototypes based on this research and have deployed the most successful prototyped features in three major releases to Wikipedia users.

### 2.1 User Experience and Usability Study I

Our initial study consisted of 15 one-on-one interviews, each lasting between 45-60 minutes. 10 of these interviews were conducted in person and 5 were conducted remotely with participants located across the United States. All of them were conducted in English using the English (EN) Wikipedia. Using Ethnio<sup>1</sup>, we recruited visitors directly from the EN Wikipedia site. From over 2,500 respondents, we selected a majority of readers that had not contributed but were willing to, and an equal minority of users that had not edited and were not willing to and users that were novice but not entirely new editors with less than 5 contributions. We maintained a gender and age neutral target audience so that our research would give us insight into the widest spectrum of new potential editors. We recruited for an equal

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WikiSym'10, July 7–9, 2010, Gdansk, Poland.

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<sup>1</sup> <http://www.ethnio.com>

number of Mac, PC, and Linux users, however our study and interviews were conducted on Mac and PC platforms only.

In each interview, participants were asked to attempt and reflect upon a collection of tasks and objectives that novice Wikipedia contributors frequently encounter in their editing process. These included, but were not limited to finding and using the various edit modes, fixing a typo, adding new content to an existing page, formatting content (bold, italics, headers, tables), finding and understanding discussion pages, adding content from an external source (website, paper, etc), adding a link to an external source, linking to another Wikipedia article, editing an article that uses a template, creating a new article, and finding and using help documents.

### 2.1.1 Findings

Newbies typically enter Wikipedia with a goal to obtain information, not share it – they are consumers not contributors as found by Bryant et al [1]. They quickly gravitate to fixing mistakes, updating pages of topical interest, or contributing to domains that they feel comfortable or competent in – their hometown, the topic of their studies, or an article relating to their hobbies. In addition to content inhibitions, before hitting the “edit” button, the majority of participants voiced concerns about the rules, proper etiquette and formatting, and were conscientious of and inhibited by their (lack of) adherence to community expectations. Not knowing what they could or should add and edit and the correct way to approach this was a major barrier to participant’s willingness to edit.

Upon entering the editing environment, most subjects came with expectations of word processing, blog, and other publishing platforms and commented on the illegibility of the hybrid article content and wiki syntax, calling it “code”, “gobbledy-gook”, “computer lingo”, and mistaking it for html. One 28-year-old male participant explained, “In many websites, you kind of see the screen the way you see the article...In blogs, it’s easier to add stuff – you don’t go into programming mode.” In small doses, as with character, header, and link formatting, this syntax proved easy to navigate around. The ease of editing around wiki syntax drastically decreased as the complexity of the article increased and included infoboxes and other syntax heavy elements – “This is where I’d give up,” and “Let someone else do it (waves hands).”

When participants successfully performed editing tasks, they often resorted to copying and pasting from existing examples or to experimentation – previewing and saving their results in trial and error. “I can guess on how to do things based on what’s already in this page.” And “I’m just going to try and type what I see, just as a test.” Learning by example and by trial and error proved a far more valuable and effective learning tool than any help documents. Despite reaching the desired outcome, participants rarely felt they had performed their task correctly and often attributed their success to just trial and error or chance – “What I did was a hack, I’m not actually using the site”.

Each of our 15 participants failed to get a basic grasp on the editing interface. Despite their often enthusiastic interest in Wikipedia and their willingness to spend up to an hour on the site with their limited technical expertise – “This may take the whole night” and “If I really wanted to put it on there, I’d find a way to do it.” -- they largely failed to make edits without repeated

attempts and efforts. Participants consistently remarked they had “no idea” or “no clue” what they were looking for or how to accomplish the task and hand and ended the hour feeling overwhelmed or made to feel stupid by the anonymous “it” or “they” of Wikipedia.

## 2.2 Prototyping and Deployment

We took the results of our exploratory research and prototyped a variety of solutions that could make a high impact and be developed with nimble design and development resources. The features (see Figure 1) include an enhanced toolbar that defaults to a limited display of tools based on most frequent usage in Wikipedia articles, wizards that take the burden of knowing wiki syntax off the user, a cleaner and more intuitive navigation structure between articles, edit pages, and discussion pages, simplified search, the collapsing of complex wiki syntax, and an updated skin that simplifies some of the graphic and textual clutter. These features were staged on populated clones of Wikipedia in 8 representative languages<sup>2</sup> - including German (for long words), Japanese (for 16 bit glyph languages), and Arabic (for Cyrillic languages) where they received community feedback and were tested. After testing, features were deployed to “beta” users on production Wikipedia.

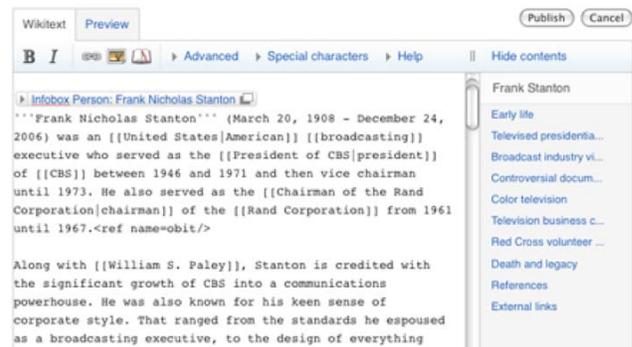


Figure 1. Screenshot of selected prototyped features.

## 3. EVALUATION AND FUTURE WORK

At the time of writing, we are in the process of conducting our evaluative study to measure the successes and failures of our research and releases. The set of features that have proved effective in reducing barriers to contribution will become part of the default Wikipedia experience for all non-logged in and logged in users pending the results of this study [8].

With the success of this pilot program, this research driven design and development work will be institutionalized into the core of the Wikimedia Foundation’s efforts. In the future we hope to address the larger breadth of issues this research has surfaced, incorporating data mining and qualitative research methods into our process, and to continually improve the channels for our community of volunteers and users to participate in our process. We will continue to develop the editing tools that impose a high threshold for new contributors, but will also be expanding the focus of our research and development to address the social, psychological, quality, reach, and trust barriers that affect the diversity of contributor participating in the Wikipedia project.

<sup>2</sup> <http://usability.wikimedia.org/wiki/Prototype>

#### 4. ACKNOWLEDGMENTS

This work was made possible by a generous grant from the Stanton Foundation. We thank Frank Stanton, Elizabeth Allison, and the other members of the Wikimedia Staff that developed and helped execute this grant and its work.

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