Background

This study focuses on the fire fighter health and safety peer production website called FireCrowd. FireCrowd is a site designed by Eleanor R. Burgess for the fire fighter community. The goal of the site is to peer produce best practice SOPs (Standard Operating Procedures) and SOGs (Standard Operating Guidelines). The following description from the first page of FireCrowd.com describes SOPs and why they are important resources for fire fighters:

SOPs play extremely important roles in our society, such as saving lives, reducing injuries, and further highlighting the need for a streamlined and simple workflow. Other suggestions included enhancing FireCrowd’s design, security, and user experience with solutions ranging from small fixes to major system overhauls. Through the research process, important features recognized as necessary by all users included a searchable database of SOGs and including more than one SOP for each topic.

Results

1. Usability studies suggested several important technical site changes. As a result of the non-user domain evaluation, these main bug fixes were identified: (1) The tab name “Resources” should be changed to “Resources,” they can search through the huge SOG binder in the fire station, they can pull up the non-keyword searchable SOG database on the firehouse computers, in some cases the officer in the fire truck (called “the rig”) by the fire fighters can access them on the rig computer. All of these methods take a considerable amount of time, and are not readily accessible out in the field. Also, fire fighters are very proud of the SOGs they create for their department, and once their Chiefs final approval, the SOG is set into practice and becomes the standard for the entire department.

Objectives and Methodology

This study used several Human-Computer Interaction (HCI) techniques to analyze and offer areas of improvement for the FireCrowd system prototype:

1. Conducted several focus groups with participating users.
2. Conducted two Contextual Inquiry sessions.
   a. One at the Fire Headquarters.
   b. One over the phone to an outstanding department on the east coast.
3. Gathered site evaluations from several levels of users.
4. Facilitated conversation within a 33-member fire fighter focus group.

Notes: There was limited access to the fire fighters from the department while on the job. The SOG Committee met once a month, therefore it was the perfect opportunity to conduct a focus group with the most knowledgeable SOG producers.

Discussion

The FireCrowd website focuses on “commons-based peer production,” coined by Harvard Law School professor and faculty co-director of the Berkman Center for Internet & Society, Yochai Benkler. The site uses the combined knowledge of the fire fighter community to create and continually refine information in the form of SOPs. In his book, The Wealth of Networks (2006), Benkler speaks to the possibilities of the information economy age that we live in, where “technology creates feasible spaces for social practice.” Firecrowd creates a space for fire fighters nationwide to share their experiences, creating common knowledge relevant to all members. Individuals from all over the United States are brought together to create a social good for all users – a best practice SOP. Community peer production systems such as Wikipedia are commonly used for producing large quantities of information, and FireCrowd uses a similar technical system to produce health and safety information within the domain-specific user base of fire fighters. There are no current widely used systems to peer-produce fire fighter SOPs, therefore, the development of FireCrowd should meet an important need in the fire service.

Conclusions

FireCrowd was ultimately considered by both non-domain and domain users as a useful tool to create, refine, and review SOPs. The usability review process provided much-needed information in order to continue to iterate and improve the site and its functionalities. While some suggestions were too large to quickly iterate, a large volume of information was generated which may provide a sufficient starting point for an entire redesign. FireCrowd was initially designed in isolation from its primary user population, and because of that isolation, the needs and understandings of current fire fighters were not incorporated into the first prototype. In the future, FireCrowd will be redesigned with those needs as key structuring guidelines.

References


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