Rating, Voting & Ranking: Designing for Collaboration & Consensus

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Abstract

The OpenChoice system, currently in development, is an open source, open access community rating and filtering service that would improve upon the utility of currently available Web content filters. The goal of OpenChoice is to encourage community involvement in making filtering classification more accurate and to increase awareness in the current approaches to content filtering. The design challenge for OpenChoice is to find the best interfaces for encouraging easy participation amongst a community of users, be it for voting, rating or discussing Web page content. This work in progress reviews some initial designs while reviewing best practices and designs from popular Web portals and community sites.

ACM Classification Keywords

H.5.2. Information interfaces: Graphical User Interfaces GUIs) system.

Introduction

Almost four years ago Tim O'Reilly proposed the phrase "architecture of participation" to describe participatory Web sites and applications that encourage user-driven content, open source contribution models and simple access via APIs. So why are so many of these sites and applications under-designed at the interface and interaction level, not to mention having vaguely architected overall structure? Many of these sites are relying on the (initial) enthusiasm of users or their compelling features to keep and encourage participation. However more attractive and functional interfaces with clear labels, (usability) tested interfaces, finely crafted workflows and consistent interaction models would both keep early adopters involved and allow for easy bootstrapping for late-comers. When designing participatory, community-oriented sites, designers shouldn't have to re-invent everything from scratch. This paper briefly reviews the goals of the OpenChoice Web page content filter, some best practice designs from similar popular Web sites and finally some early design prototypes. The goal of this paper is to propose and confirm some design guidelines for any community oriented site by focusing on clear, usable interfaces and participatory tasks that keep a

communities' interaction vibrant and growing around a common goal.

The OpenChoice system

The OpenChoice Web page classification and filtering system, currently in development, will provide an open source filtering system to allow organizations to configure and tune for their own Web information filtering requirements.[1] Using webs of trust and open source statistical modeling software, OpenChoice is intended to further the open source community's efforts to be independent from commercial software vendors. OpenChoice attempts to re-imagine content filtering as a form of collection development to be practiced by system administrators and information professionals working in diverse environments. From a more philosophical perspective, OpenChoice would assuage the concern among many that commercial filtering products rely on proprietary databases and algorithms that are considered trade secrets.[2] Because current commercial software Web filtering companies withhold the contents of their databases of "offensive" materials, it is arguable that users do not have a fair stake in the use of something as important to using the Web as filtering information. Some evidence also suggests that the keyword-based algorithms used by many filters erroneously prohibit access to harmless material (especially health information) and also do not keep up with the dynamically changing Web.[3] Therefore, it is becoming increasingly important to design a system that relies on end-user participation in the rating and filtering process for both increased control over the filters, but to be involved in verifying, training and tuning openly available algorithms to deal with the expanding content on the Web.

Unlike proprietary, commercial filters, OpenChoice will rely on transparent technologies. It will employ a database of objectionable material that will be readable and configurable by anyone. The core OpenChoice system will include a proxy server filtering information on-site (e.g. for schools, libraries or corporations) that connects to a central server for downloading updates to blacklists, whitelists and analysis applications. To coincide with these servers, there will also be a community portal to allow expertise exchange about crafting appropriate "block lists", voting on the accuracy of the system's classifications, suggesting pages to filter and discussing issues related to specific Web page or the OpenChoice system in general.

This community portal site therefore must provide a set of tasks, interfaces and controls that are intuitive to encourage as much community participation as possible. Early as this in the design of the system, additional research is ongoing to examine the best interfaces for rating and voting mechanisms. Questions regarding the proper interface controls (*checks*, *stars*, thumbs up or down), what the rating scale should be (*1-5, 1-10*, *yes/no*) and even how many votes should be used to help classify a specific Web page are in play. These issues have not been well researched in the past and the search for a set of solutions begins by examining current popular portal or community sites.

Some community rating sites support a wide variety of rating and use interfaces. Youtube.com [4] allows for interactive rating (1-5 stars), views, comments and rating information as well as task-based functionality such as sharing or adding to groups.
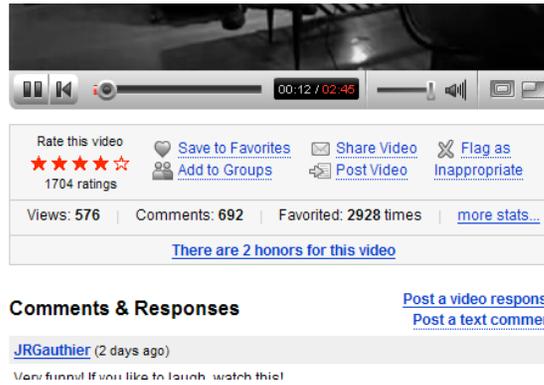
Figure 1: Youtube.com rating and sharing interface

Digg.com [5], another popular community site, focuses on simple "thumbs-up" or "thumbs-down" ratings for sites, but also shows the quantity of discussion (comments) and the proposed category of the Web page being rated. The interface is simple and the number of possible actions (for registered users) is kept to a minimum to enable easy, multiple ratings during a visit to the site.

Figure 2: Digg.com status and rating for a Web page

The Internet Movie Database [6] supplies a set of status displays that show detailed statistics for movie ratings, including demographics, overall rating and the user's own vote. It also encourages voting foremost by placing the drop-down voting box at the top of the display. Explanation of the voting statistics are also given and the scale of vote ratings are shown.
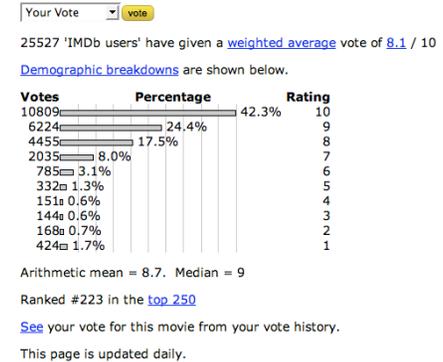
Figure 3: Internet Movie Database voting and ratings information display

Netflix.com [7] shows some of the same movie-related information, such as the title of the movie, but simplifies the interaction to include a graphic of the movie poster a simple 5-star rating interface. Tool tips are used when the cursor hovers over each star to show what the star rating means (e.g. "Hated It").
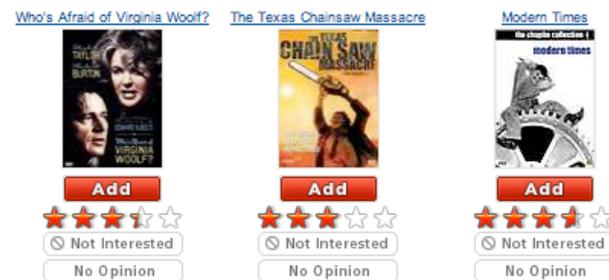
Figure 4: Netflix movie rating display with thumbnails and interactive buttons.

The Netflix queue also shows ratings for several movies at a glance, provides a ranking mechanism for renting, allows for changing ratings and lists the genre category for each movie.

32	The Wild Blue Yonder	★★☆☆☆	NR	Independent	Now
33	Hannah and Her Sisters	★★★★☆	PG-13	Comedy	Now
34	Giuliani Time	★★★★☆	NR	Documentary	Releases on DVD Jan 30, 2007

Figure 5: Netflix with rating and category display

Most of these interfaces from popular community sites feature common interface elements and functionality:

- Overall voting and rank status easy to read
- Dynamically updated interaction
- Thumbnail, abstract or actual content of item on same page as voting interface
- Rating information for community at large for the item
- Suggestions or lists for additional items to rate
- Textual description of (proposed) item category with link to category
- Links to related and relevant discussions about item (or item category)
- Standard interface objects (where appropriate) to leverage existing Web interaction (e.g. purple & blue links colors, tabbed navigation metaphor, drop-down lists)
- Show history of ratings or queue of items to vote on
- Aggregate main page or display element that shows overall community ratings (to encourage virtuous competition for most ratings)
- Task flow for voting or rating clear with additional interactions not required (e.g. following links)
- Simple rating scales: up/down, 1-5 stars, numerical ranking.

These design best practices seem appropriate for the OpenChoice community portal, but additional feedback and design critiques are welcomed.

OpenChoice Prototypes

OpenChoice is predicated on the idea that a judicious combination of automated filtering and human judgment will lead to a superior filter and a feeling of investment on the part of those interested. To foster these goals, volunteers will contribute to the performance of OpenChoice by voting on the appropriateness of the system's newly-acquired questionable URLs. The goal of the portal is to encourage everyone to take an active role in crafting OpenChoice's configuration. Users of the portal will participate by creating personal system accounts. When a user logs into the system, he or she will see a ranked list of those resources most in need of human review (i.e. those that the learning algorithm is least confident about). The user will then "vote" on as many of these URLs as he or she desires. Once the votes on a particular URL reach a critical mass of consensus, that URL is added to the canonical OpenChoice blacklist. All additions are subject to future review at the suggestion of any community member. A potential objection to this vetting process is that the blacklist's quality might be open to sabotage from the volunteer editing process. To obviate this problem, the system will rely on a trust model such as those used by contributor-run digital libraries. Under models of trust, each volunteer's contributions are implicitly judged by the community as a whole.[8] New users enter the system with very little "clout"; their votes are considered provisional, pending review by established users. As a user participates in the system over time, however, his or her clout increases if his or her votes are frequently in agreement with the mainstream of

OpenChoice volunteers. Such models have shown been to organize information effectively and fairly. Systems based on so-called webs of trust have two distinct advantages. First, they use the collective efforts of a user community to improve the community's control over information. Second, they provide an incentive for members of the community to participate in the system's improvement by allocating social capital to those community members who participate meaningfully. These goals are then paired with the interface design best practices detailed previously.

Initially, the OpenChoice portal will show current top voting users, aggregate recently votes Web pages and current discussions topics. Users are encouraged to register or sign up as appropriate. The design is meant to look professional and friendly to convey a sense of purpose and identity.

Figure 6: The OpenChoice Main Portal Interface

One issue currently under consideration is showing how each user compares in his voting and rating with other users. This feature could server to make participants feel more involved in the community but also to unduly bias their future ratings to either contrast or agree with others.

Figure 8: Individual ratings in a community context

Other designs include showing interactive status bars as pages are rated, to give users an idea of how many votes are needed to confirm a rating. Again, this status information may influence users to vote. (Note: a thumbnail of the Web page is included to the left of the status bar.)
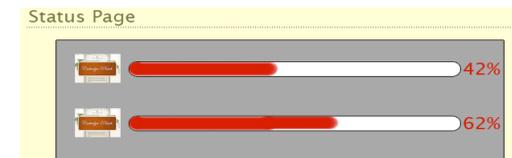

Figure 9: Voting progress status bars

In addition to dynamic voting status, there is some consideration of simplifying the voting to include "allow" vs. "block" ratings only. Design issues such as

the colors of the buttons may also overly influence certain votes.

Figure 10: Basic Voting Interface and Voting History

As part of each user's own customized portal page, a history of recent votes is prototyped to give users the ability to remember their past votes and see the status of pending items in consideration. Another issue being debated is whether or not to allow users to change previous votes. The concern is that many would adjust votes to agree or "push over" contentious items.

Conclusion

As discussed and shown, there are a great deal of unresolved design issues in the creation of a community portal. The OpenChoice system design seeks to build upon known best practices, but also to build a fair, open, participatory portal for people concerned with rating and filtering Web page content.

References

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