



Social Bookmarking in the Enterprise

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Background

Introduction

Findability on enterprise intranets has become an increasingly critical issue with the growth in both size and complexity of these information environments. The bottom-up distributed classification – collaborative “tagging” – systems that have emerged from popular web sites such as del.icio.us and flickr.com present a novel approach. These applications explicitly leverage user participation and social network effects to create intriguing semantic spaces.

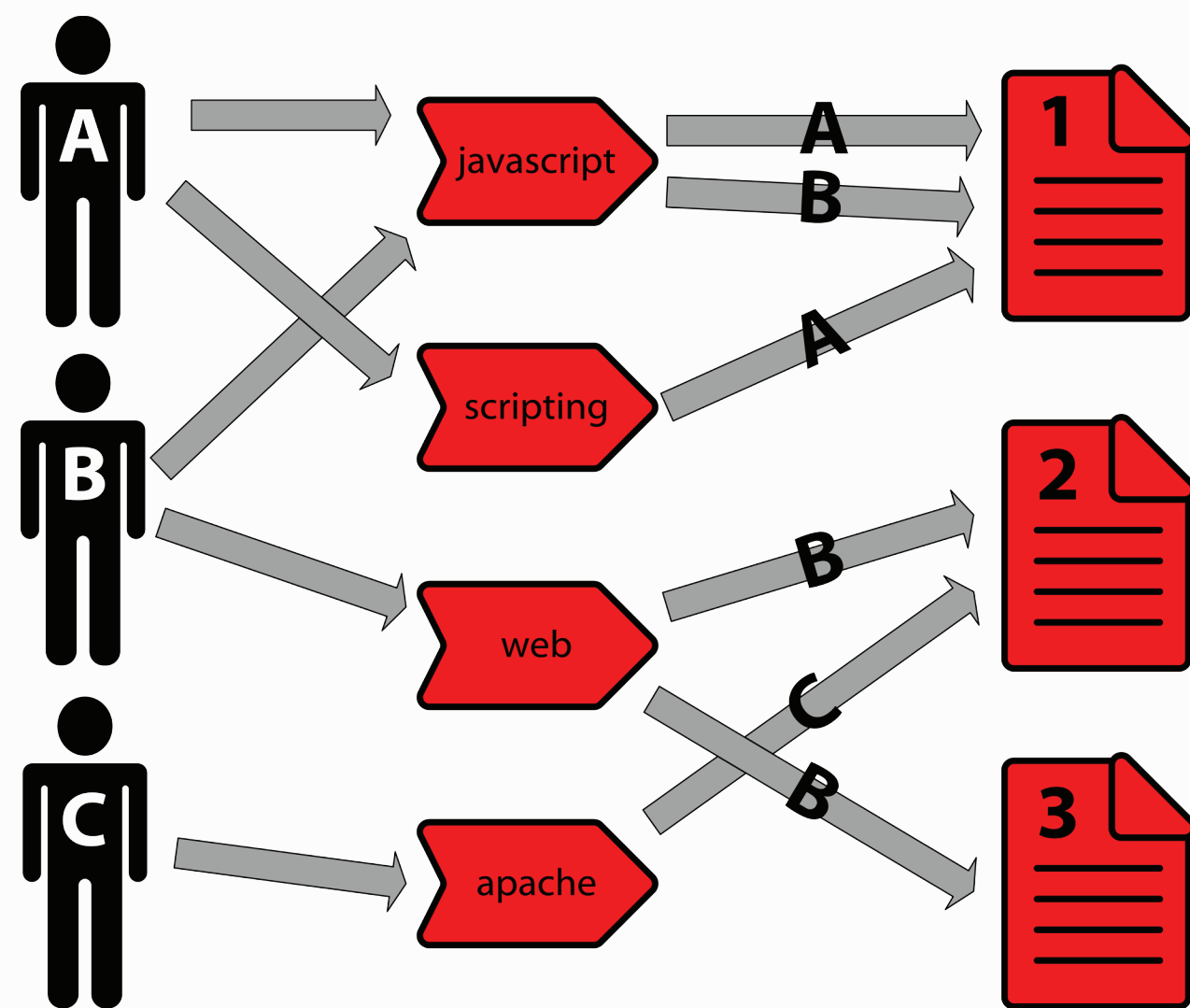
In this project, we investigated some of the issues of introducing a collaborative bookmarking system into an enterprise. Of particular interest was how can the distributed classification concept be made both understandable and attractive to corporate stakeholders?

A Definition

Social Bookmarking Systems (SBS) are collaborative applications that allow users to save, access, share and describe shortcuts to web resources. Initially conceived as personal information management tools, they were designed to function as centralized storage repositories to simplify the collection of bookmarks for users who browse the Internet with more than one machine in different locations. Later, systems such as the now archetypical del.icio.us added two key features: 1) description of bookmarks with arbitrary free keywords (“tagging”), and 2) sharing of bookmarks and tags across users.

Social Bookmarking Systems Inside the Firewall

User identity - Inside an enterprise it is possible to leverage identity services like LDAP to determine a user’s role, physical location and project responsibilities. This creates an opportunity for much richer applications including expertise discovery and organic communities of practice.



Findability infrastructure - Enterprise information environments often contain sophisticated findability mechanisms such as taxonomies and full-text retrieval systems. Analysis of SBS data can reveal patterns of tag use that may suggest novel terms, semantic relationships that could augment existing controlled vocabularies, and heavily bookmarked resources.

Assessing User Readiness

User Research

At the beginning of the project, we had an existing pre-prototype bookmarking system. Our goal was to develop a set of recommendations for improving the user interface and functionality of the existing system. We began with a user research phase to gauge user perceptions of the problems with findability on the corporate intranet as well as user familiarity with bookmarking systems.

User Surveys

- Conducted 35 on-line surveys.
- Sample was self-selected from a pool of 110 users via an internal distribution email list.
- Survey consisted of 23 multiple choice and free response questions.

Among the key findings were:

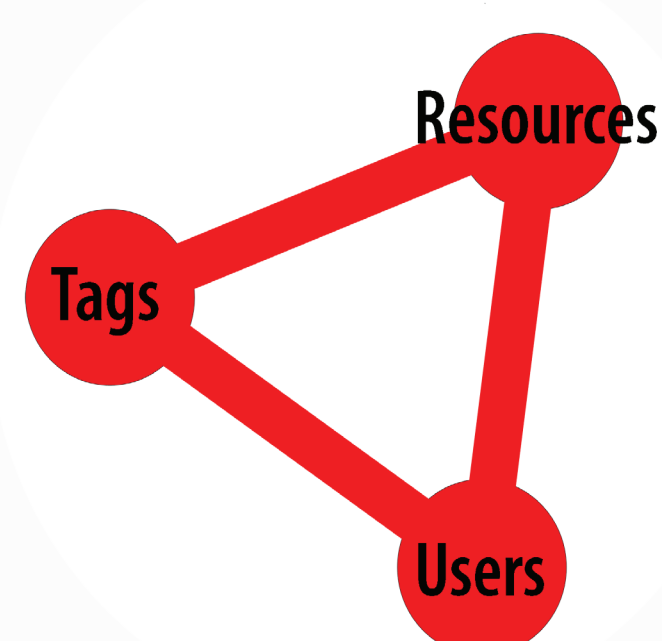
- Internal search is not effective. (85.7% were unsuccessful in their use of the system most of the time)
- Bookmarking in a browser is an important but problematic refindability strategy. (85.2% have bookmarks on more than one machine)
- Users are become aware of social bookmarking. (77.1% are familiar with social bookmarking services; 57% are registered users)

User Interviews

- Gathered more detailed qualitative information through 4 one-hour, semi-structured telephone interviews
- Conducted with people selected from the survey pool who self-identified as SBS users
- Showed users engaging in a complex set of different bookmarking behaviors
- 3 of our 4 interviewees did not understand that bookmarks and tags are public, or that tags are shared across users and resources

Conceptual Gap

We were surprised to find that our users lacked much of the basic context to give us meaningful feedback on the design of the system. Even those who were actively using systems such as del.icio.us did not seem to understand the relationship between tags, resources and users - the core elements of an SBS.



What strategy could we employ to educate users about complex tagging concepts?

Communicating Concepts

Reducing Complexity With Comics

The goal at the beginning of a design exercise is to reach common understanding of key concepts. Where systems are novel, traditional design artifacts such as use cases can increase ambiguity. Cheng and Jao (2006) suggest that comics may be an effective mechanism for engaging users in conceptually unfamiliar systems, while diverting attention away from distracting design details such as user interface. We developed a process to integrate comics into the project:

Main Concepts

We compared the results from our user research with the central concepts of SBSs to identify gaps.

Scenarios

Using the list of gaps, we authored scenario descriptions of typical activities and workflow that exemplified each of the concepts.

Story Boards

We translated the scenarios into draft scripts for the graphic artist. We also used some simple design tools to storyboard initial ideas.

Comics

The artist then created the first three comics.

- Jane tags a vacation form
- Jane find the vacation form
- Jane shares the vacation form

Jane tags a vacation form



Future Work

Project Plan

The project is now on-going with some established short, medium and long-term milestones.

Short Term

- Launch end-user communication plan to develop critical mass
- Create Easy Tag Firefox Plug-in
- Revise prototype application UI
- Define and create additional comic concepts

Medium Term

- Begin manual integration of tag data into internal search tool
- Deploy workbench for statistical analysis
- Launch internal developer program

Long Term

- Enable automated integration of tag data into search
- Incorporate clustering and automated hierarchy algorithms

Future Research

The project has raised some research questions both for the company internally as well as for the broader academic research community.

- What are metrics that can be used to determine whether the system is producing useful tagging data?
- How will different iterations of the user interface(s) effect the way people interact with the system and the quality and quantity of their tagging?
- How do we identify and weight attributes of an organization to indicate the likely success or failure of tagging within the given enterprise?
- How effective are comics at communicating complex concepts versus more traditional design methodologies such as wireframing?
- Within an enterprise context, how does the relative fixity of user identity effect tagging behavior?

References

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- Millen, David, et al. “Social bookmarking in the enterprise.” ACM Queue. 3.9 (2005): 28-35.
- Most references and resources used for this project are available on the web at <<http://www.enterprisetagging.org>>