
Watchboard: Curated Microblogging for the Enterprise

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Abstract

Traditional microblogging in the enterprise is known to increase work environment awareness, but is also coupled with information overload and privacy issues. We address these challenges by introducing the concept of *curated microblogging*, which proposes the addition of social curation and access control to such platforms. We also present Watchboard, a prototype tool incorporating these ideas, and discuss highlights of a preliminary user study delineating crucial factors of the proposed concept.

Author Keywords

Microblogging; Social Curation; Enterprise

ACM Classification Keywords

H.4.3 [Information System Applications]: Communication Applications; H.5.2 [Information Interfaces and Presentation]: User Interfaces

Introduction

Microblogging has emerged as a versatile and serendipitous social tool for lightweight communication, information sharing, and awareness [4]. In order to seize its benefits in the workplace, several corporate solutions were created in the molds of Twitter. Nonetheless, studies on practices, requirements, and usage of these tools reveal specific needs when compared to non-corporate settings.

These results motivate the development of novel specially tailored features, and therefore we believe that corporate microblogging should be investigated as a new and relevant object of study by its own.

Out of the most important aspects of corporate microblogging, we can emphasize *privacy* and *information management*. Controlled content publishing is critical in limited-access environments where distinct work roles and confidentiality restrictions apply. Simultaneously, the focus on technical assistance and conversations rather than status updates [2, 9] leads to a need for mechanisms that enable efficient search, grouping, and filtering of large amounts of content [7, 10]. These observations point to a trend of *content-driven experience*, in which people can call for help, broadcast expertise, and acquire useful knowledge to assist with their daily work. Social curation, an emerging research topic, shows great promise in assisting with this problem by leveraging knowledge and expertise of human curators [1, 11]. Ultimately, efficient content management also benefits awareness and the feeling of connectedness in the workplace, which in turn can help promote expertise-based reputation (an important motivator for corporate microblogging usage [2, 7]).

In this work, we introduce the concept of *curated microblogging* – the inherent lightweight communication style of microblogging allied to flexible content management tools encompassing curation and access control – and explore its application to the enterprise. We present *Watchboard*, a prototype tool implementing these ideas, and discuss results of a preliminary user study carried out in a corporate environment to evaluate the concept's usefulness and to identify key design factors.

Related Work

On enterprise microblogging, Ehrlich *et al.* [2] show that the produced content is more focused on conversations and technical discussions, while non-corporate microblogging is more related to status updates and sharing of general information. Zhao *et al.* [10] investigate informal microblogging communications at work and identify several design issues for these tools, such as privacy and information overload. Schöndienst *et al.* [7] derive an adoption model describing user intention for contributing and following microblog content at the enterprise, highlighting important factors such as privacy concerns and signal-to-noise ratio (*i.e.*, the difficulty of finding relevant information in a large collection of unrelated posts).

Social curation has been explored in diverse forms, with platforms such as Storify (for storytelling), Pinterest (for images), and Delicious (for bookmarks). Zhong *et al.* [11] look at structured (*e.g.*, tags) and unstructured (*e.g.*, likes) curation in Pinterest and last.fm, indicating that curation contributes to a synchronized community, despite the main motivation behind curation activities being personal. Millen *et al.* [5] present Dogear, a social bookmarking tool for the enterprise that covers corporate aspects such as access control. In curation for microblogging, Twitter recently introduced custom timelines [8], allowing for individual posts to be added to a manually curated stream. Before this, Duh *et al.* [1] were already looking into curated lists in Togetter – an earlier curation tool for custom Twitter timelines – and their varied purposes. Automated curation assistance through recommender systems is also explored by Greene *et al.* [3] on identifying relevant users to add to Twitter lists and by Saaya *et al.* [6] on finding related content to aid curation activities on Scoop.it.

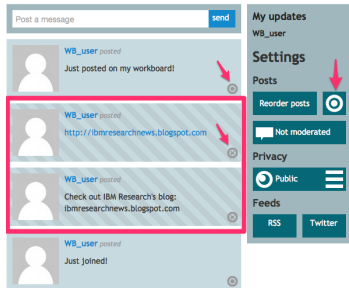


Figure 1: Posts can be hidden by clicking on the “hide” icons, and later displayed to the owner only (see hatched posts) from the collection’s settings menu.



Figure 3: WB users found by search can be followed from their public profile view.

Watchboard

To investigate the concepts of curated microblogging within a corporate environment, we created Watchboard (WB), a prototype tool featuring content organization, curation, and access control. WB content management builds on top of posts (text-only, unlimited size) and two types of containers: *collections* and *boards*.

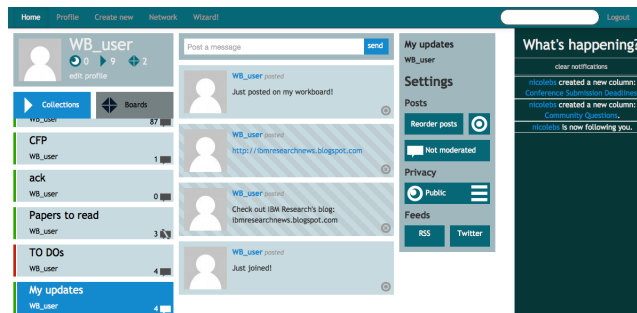


Figure 2: Watchboard home screen. From left to right: list of collections and boards; posts pertaining to the selected collection; collection settings; “What’s happening?” column.

Collections can be arbitrarily created by the user and are used to aggregate posts, much like the custom timelines recently introduced by Twitter [8]. WB, however, allows users to freely hide (Fig. 1) and rearrange messages in their collections by drag & drop, changing the default chronological order. Reordering is one of the means for content curation. Collections can also import RSS feeds and tweets associated to search terms.

Boards are used to aggregate collections (up to 4, to avoid clutter) and are meant to simultaneously display their content in a way that is optimized for full-screen layouts (Fig. 4). Boards provide a second degree of content arrangement for the curator.

WB’s home screen (Fig. 2) contains its main management features. A box on the upper right corner enables users to search and eventually follow others by name (Fig. 3). Collections and boards from the user and the people she follows are presented on the lists at the left-most column, with elements that were updated more recently appearing on top. The “What’s happening?” column shows event notifications on new followers and new collections/boards by followed users.

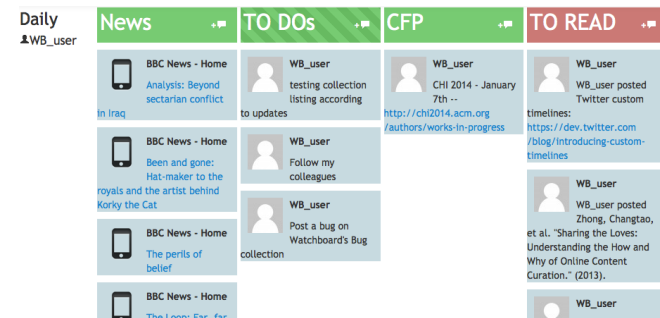


Figure 4: Board fullscreen view.

The second and third columns of the home screen allow users to curate their posts, collections, and boards, as well as to configure access control to collections. Collections feature both reading permissions (*public* or *private*) and writing permissions (*moderated* or *non-moderated*) (Fig. 5), configurable from the settings menu (Fig. 6). Private collections are seen only by users specified by the owner, while public collections can be seen by everyone following their owners. Followers can post in any collection to which they have access, but their messages will only be made available in moderated collections if the owner decides to have them published; in non-moderated collections, posts appear immediately.

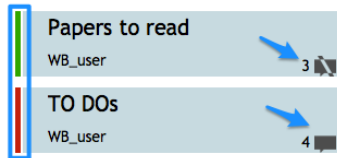


Figure 5: On the left, public collections are shown green, and private collections red. On the right, icons for moderated (top) and non-moderated (bottom) collections are shown with the number of posts.

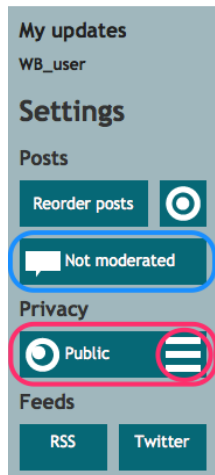


Figure 6: Settings to configure collections. Access control is set by the highlighted toggle buttons.

Preliminary Evaluation

In order to validate the concept of curated microblogging and assess its usefulness in a corporate environment, we deployed WB within an industrial research lab of a multinational IT products & services company. The platform was made available to all researchers and office workers in that group and two tutorial sessions were conducted to have its features demonstrated. After a trial period, 6 volunteers (3 female) were recruited for a week-long experiment as “serious users” based on their engagement with the tool, interest, and availability. They were requested to access WB twice a day, and employ the tool to its full extent in any way useful and convenient to them; the instructions were intentionally open-ended to allow for spontaneous experimentation. Little content was made available beforehand, with the exception of public collections for questions, bug reporting, and suggestions. We also encouraged users to follow each other in the tool, and we ourselves followed them and their public content.

Following, a focus group session was held with the participants to collaboratively discuss aspects of content management, access control, and perceived value. The user group encompassed 4 researchers in Computer Science, 1 Design/HCI researcher and 1 Marketing intern, ages from 21 to 38 years old (average 30.66), all possessing overall familiarity with social networks. Although some do not frequently work together, they knew each other to some extent. Following, we summarize our discussion into several themes.

Flexible Usage: We asked the participants to define how they perceived WB and what they used it for. Although there were no unforeseen uses, there was little consensus; some highlighted the curation aspect (e.g., “content organization tool featuring collaboration tools”,

“microblogging with control over posts”, and “series of posts I want to follow and store, depending on my interests”), while others emphasized the collaboration aspect (“collaborative tool for content sharing”, “space for shared ideas”, and “a communication tool”). We observed that the social aspect is focused on content rather than on people, *i.e.*, social tools are used to aid information consumption and dissemination. Both individual usages (e.g., self-organization, to-do lists) and social usages (e.g., threaded discussions) were reported. Previous studies have observed that traditional microblogging affords multiple purposes [4] (hence showcasing its versatility), and we observed this behavior in curated microblogging as well. Additionally, users reported little conflicts between individual and social usage modes, adding that it is useful to aggregate everything in a single tool. Some even added that, if possible, they would maintain both corporate and non-corporate usage of WB, signaling that its features would be useful in varied contexts. Other cited application scenarios such as project management, marketing, and threaded conversations (e.g., forum).

Consuming Content: Users have access to external content (that is, content not generated by themselves) by importing web content (RSS feeds or Twitter posts) and by following other users. While the earlier provides content mostly for individual consumption, it is through the latter that one get access to original, curated material (which was most of the content produced in the study). Thus, follow mechanisms were seen as the principal means to get access to content of interest, further demonstrating how content-driven social relations are strong in this context. Participants said they would rather follow collections and boards than people, as often many collections from a given user were not of their interest. Moreover, they mentioned that difficulties in keeping track

of their favorite collections increased as they followed more users. Follows were also seen as a type of unstructured curation [11], with high counts potentially indicating interestingness. Additionally, content-driven search (e.g., similarity and tag-based search) was suggested to complement people search.

Keeping Awareness: Maintaining awareness was another recurrent topic, closely related to content organization and notifications. Participants wanted to be informed about relevant content updates – such as when someone posted on their followed content, or when someone replied to a comment of theirs. Participants also had a hard time finding their own content in the list of collections, an issue that boards could have been used to address but were not. We partially attribute this to usability issues, as some users could not properly differentiate boards from collections; boards were said to be “hard to find”, and their view to be “indistinguishable from the collections’ view”. Nonetheless, the collection-grouping concept was still deemed relevant as affirmed by some of the same people who struggled with the function. One of the users wondered why boards’ capacity was limited to 4 collections; he suggested unlimited capacity, as well as having a user’s “main” board, always appearing first at login. Overall, content organization and filtering tools, although somewhat lacking in the prototype, were among the most commended features in the system, remarking the importance of these elements for content management and awareness.

Generating, Curating, and Presenting Content: WB provides resources for grouping related information together through collections and boards, as well as organizing posts in any desired order for publishing. However, little edition tools were provided and, by design,

content could neither be edited (just like Twitter) nor deleted (only hidden from view). Participants disapproved the absence of these capabilities, and when inquired on deletion permissions, they wished full control of their owned collections/posts. We remark that, in this aspect, the usage would diverge from microblogging to curation practices, and while this makes sense from a curation point of view, it could also allow for arbitrary and irresponsible content manipulation. Another suggested feature was the ability to drag & drop posts from one collection to another, which would also bring up ownership issues when collections do not belong to the same person. Conversely, one could consider that the community itself would play a part in moderating extreme behavior (e.g., by unfollowing irresponsible content managers), and thus reinforcing balance. As of now, the trade-off between transparency and control is an open question to us, but it is clear that greater curation control is needed, as these functions were considered to be distinguished, unique, and enabling features of the system.

Controlling Access: Participants reported little usage of such resources. While some used private collections for self-organization, none reported using moderation. One of them stated she saw no need to “moderate” content, since they were in a controlled environment, with little users and trustworthy individuals – a potential bias of this study. Usability issues also impacted usage, as many claimed having a hard time finding the features (e.g., icons and buttons for hiding posts and making a collection private were not intuitive). However, they agreed on the usefulness of these functionalities on a real scenario not only for restricting unauthorized access, but also for filtering out users who would not be truly interested in a certain topic (e.g., work-related collections are irrelevant for friends and family), or for defining personal facets

(corporate and personal content can be different). Participants also suggested more granular access control, allowing for individual posts in a collection to be made restricted. Such a feature can be seen as an additional curation filter that benefits content organization and reduces clutter for non-related users.

Conclusions and Future Directions

In this work, we present and discuss our initial exploration in *curated microblogging* for the enterprise. From our preliminary studies, we highlight the following lessons:

- Focus on content; corporate social relations are content-centric.
- Strike the balance between user control and responsible content management.
- Allow for scalable organization and filtering to favor content awareness.
- Actively contribute to awareness by pointing out relevant content updates.
- Consider usage flexibility by taking into account non-corporate and individual activities.

In future work we will seek to further improve the major points highlighted in this initial study, namely focus on *awareness, content management control*, and, in particular, *filtering and organization tools* [6, 3].

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