MindMargin: Capturing Reader Engagement with an Article-Adjacent Commenting Platform

1st Author Name
Affiliation
Address
e-mail address
Optional phone number

2nd Author Name
Affiliation
Address
e-mail address
Optional phone number

3rd Author Name
Affiliation
Address
e-mail address
Optional phone number

ABSTRACT

Author Keywords
Guides; instructions; author's kit; conference publications; keywords should be separated by a semi-colon. Mandatory section to be included in your final version.

ACM Classification Keywords
H.5.m. Information Interfaces and Presentation (e.g. HCI): Miscellaneous

See: `http://www.acm.org/about/class/1998/` for more information and the full list of ACM classifiers and descriptors. Mandatory section to be included in your final version. On the submission page only the classifiers' letter-number combination will need to be entered.

INTRODUCTION

Motivation
Many websites support the ability to give content-related feedback in the form of comments. Such websites include news pages, media sites, online shops, blogs and social networks. Both reading and adding comments can engage the user in information exchange, personal reflection and lively discussion. In addition, such engagement can impact real world actions like voting, purchasing a product, making choices or participating in a cause.

Traditional commenting systems are featured at the bottom of the content which impedes the reader's ability to view comments alongside the reference media. They also lack a mechanism to reference sections of the original media. Furthermore, it is common to up-vote popular comments to enhance their visibility but this risks suppressing newer, but less popular, comments.

Approach
We explore how different commenting models encourage and facilitate engagement by proposing a new system. As opposed to traditional systems, our system **MindMargin** displays comments in a horizontal infinite scroll alongside the reference media. We compare the two systems by quantifying the quality of readers' comments and their follow-up actions. We take into account the ratio of substantial responses to overall responses, instances of referencing the text correctly/incorrectly, and follow-up actions.

We have several hypotheses regarding the comparison of these two interfaces:

1. Readers will generate more substantial comments using MindMargin
2. MindMargin reduces instances of misquoting and confusion by referring directly to the reference media
3. MindMargin increases user engagement with the reference media and motivates follow-up action

Contributions
This project includes the following novel contributions:

- a horizontally structured user interface for anchored comments on websites
- a metric to ensure newer comments are still visible beside popular comments while non-constructive comments are less visible
- insights how comments can enhance user engagement regarding
    1. online discussions
    2. resulting actions (ideally in offline scenarios)

RELATED WORK
Previous research has analyzed how different user interfaces facilitate information gathering and digestion of articles. The *Brussell* system uses a semantic model to provide references across news articles [8]. The user can request further background information from different sources by interacting with passages in the original article. Focusing on passages of a larger articles is also the main purpose of *NB* - a tool for collaborative document annotation within academic institutions [10]. The authors report how students' comments in the NB system have impacted teaching style adaptation. One of the key features of NB is the geographic locality of annotations next to the article. This optimization of screen real-estate through a horizontal layout was also studied in connection with user engagement [9]. Students were found to reflect more critically on articles when comments were anchored on the side. This is similar to our plans of a horizontal

arrangement of comments regarding reference media. Another new interface for comments was proposed as *Opinion Space* [2]. The authors developed a visualization technique focusing on a diversity of comments rather than only popular ones. We address this issue with MindMargin as well – while maintaining comments in traditional textual form to reduce disturbance.

It is important to consider the distinction between engagement and such disturbance. When applied to designing user interfaces, active pop-up comments have been found to be highly useful to designers, but also somewhat disruptive to their concentration [1]. An interface that has too many moving elements may disturb the reader's focus more than engage them or supplement the material. However, some degree of disturbance is necessary for visibility. the active decision of commenting is a secondary task to the user's main goal of passively reading the article. Users are more likely to engage in a secondary task if the threshold of engaging with that task is low. However, methods that lower barriers to the task most effectively, like pop-ups, are also highly disruptive [4]. Improving comments must thus optimize for minimal disruption and maximal engagement. Other studies have looked into ways to complement commenting systems. *Reflect* is a platform that enables users to summarize each others comments in order to enhance comprehension and provide feedback on comments [5]. *Balancer* is a complementary widget that provides information on how politically skewed a user's aggregate source of news is [7]. These studies reveal that there exists a need in current commenting platforms to enhance engagement so that users better comprehend the reference media and consider the views of others.

PLAN

- **Milestone 1 (10/31/2013)**
  - Complete relevant literature review research
  - Explore other methods for measuring engagement (in addition to sharing articles)
  - Design experiment and identify method of targeting participants (Question to be answered: how will we get people to participate?)
  - Compile a summary of existing commenting platforms and their features (http://www.hongkiat.com/blog/3rdparty-comment-discuss-systems-reviewed/)
- **Milestone 2 (11/05/2013)**
  - Prepare working prototype
  - Two different commenting systems – identify which features are constant
    - Vertical (existing)
    - Horizontal (novel)
  - Complete relevant literature review research
  - Explore other methods for measuring engagement (in addition to sharing articles)
  - Design experiment and identify method of targeting participants (Question to be answered: how will we get people to participate?)
  - Compile a summary of existing commenting platforms and their features (http://www.hongkiat.com/blog/3rdparty-comment-discuss-systems-reviewed/)
- **Milestone 3 (11/12/2013**
  - Describe, design and execute experiment
  - Begin data collection
- **Milestone 4 (11/19/2013**
  - Organize preliminary results
  - Analyze data and compare with hypotheses
  - Draw conclusions
- **Milestone 5 (11/26/2013**
  - Revise all sections for final review

REFERENCES

1. Ericsson, M., Baurén, M., Löwgren, J., and Waern, Y. A study of commenting agents as design support. In *CHI 98 Cconference Summary on Human Factors in Computing Systems*, CHI '98, ACM (New York, NY, USA, 1998), 225–226.
2. Faridani, S., Bitton, E., Ryokai, K., and Goldberg, K. Opinion space: a scalable tool for browsing online comments. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI '10, ACM (New York, NY, USA, 2010), 1175–1184.
3. Hoffmann, R., Amershi, S., Patel, K., Wu, F., Fogarty, J., and Weld, D. S. Amplifying community content creation with mixed initiative information extraction. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI '09, ACM (New York, NY, USA, 2009), 1849–1858.
4. Kriplean, T., Toomim, M., Morgan, J., Borning, A., and Ko, A. Is this what you meant?: promoting listening on the web with reflect. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI '12, ACM (New York, NY, USA, 2012), 1559–1568.
5. Munson, S. A., Lee, S. Y., and Resnick, P. Encouraging reading of diverse political viewpoints with a browser widget. In *ICWSM* (2013).
6. Wagner, E. J., Liu, J., Birnbaum, L., and Forbus, K. D. Rich interfaces for reading news on the web. In *Proceedings of the 14th international conference on Intelligent user interfaces*, IUI '09, ACM (New York, NY, USA, 2009), 27–36.
7. Wolfe, J. Annotations and the collaborative digital library: Effects of an aligned annotation interface on student argumentation and reading strategies. *I. J. Computer-Supported Collaborative Learning 3*, 2 (2008), 141–164.

8. Zyto, S., Karger, D., Ackerman, M., and Mahajan, S. Successful classroom deployment of a social document annotation system. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI '12, ACM (New York, NY, USA, 2012), 1883–1892.