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An Investigation of Design Parameters for Constructive Online Discussion Environment

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Abstract. Exchanges of viewpoints are an is omnipresent aspects in online interactions, increasingly in the form of commenting on digital media. The ubiquity of such discussions does not mean they are of good quality, or equitable, or inclusive. This Human-Computer Interaction (HCI) thesis will address the potential of interaction design to construct an environment that will encourage people to contribute constructively to discussions. It will explore how people can engage with each other through commenting around contentious sociopolitical topics, such as the content of political speeches or televised debates. The aim of the research is to explore the relationship between user experience in contentious debates and modes of commenting, including issues of temporal reference and identity.

Introduction

The propagation of new online media has been accompanied by new opportunities for others to read comments amongst users around them, the demand of interactive activities between users has corresponding increased. Social media researches have long been interested in the potential influence of user-generated contents such as blogs, discussion forums, online videos and pure SNSs like Facebook and Twitter (Maruyama et al., 2014). The discussion and exchanging opinions is becoming omnipresent in online interactions. In contrast to offline media (i.e. newspapers, magazines, broadcast TV and radio), online news media allows their users to engage with the news by various interactions

such as rating the quality of the material, expressing their own thoughts. Users are empowered to take greater control to judge the quality of their news (Ksiazek et al., 2016). Some of them can also help the journalists to shape the news content (Nielsen, 2013). In any discussion, no matter online or offline, people could discover new ideas from others' conversations. However, comments would not be always written in constructive, equitable or inclusive ways because of the free online context, also it is difficult to define what kind of comment will be constructive for different users. For both the author and the reader of new media, there are significant challenges associated with various interaction objectives.

Problems related to constructive comments online could be usually found with news articles, especially those concerning about political speeches or televised debates. People usually have their bias about politics or they are forced to choose a side during a debate. Therefore, it is relatively clear to see both for and against comments and behaviours online and offline when they refer to political news. Despite the considerable body of prior work, studies in CSCW have yet to focus on online behaviours of users around political news media and how to create a better area for public debate online. In a recent study about shaping pro and anti-social behaviour on Twitch streaming through moderation, Seering et al. tried to actively ban undesired content and encouraging users to behave "positively" toward each other (2017). They also suggested the streamer could affect chat behaviours by several rewards and penalties to their viewers. However, there is an uncertain relationship between positively and constructiveness in political exchanges. I is not sure in a debate that if a positive comment would also be a constructive one since there is no absolute answer in debates. Another research revealed that evaluation mechanisms (liking a post or voting on comments) used in some social media systems especially negative feedback leads to changes in the author's behaviour (Cheng et al., 2014). Therefore, it is very important to understand how the users would understand the nature of discussion online. It is necessary to consider how individuals can learn to think and behave in ways that may be construed as constructive and help contributing online.

My doctoral research will address the potential of interaction design to construct an environment that will encourage people to contribute constructively to discussions. It will explore how people recognize "constructivity" in contention and how they can engage with each other through commenting around contentious sociopolitical topics, such as the content of political speeches or televised debates.

Research Questions and Methods

The work I aim to report in my thesis is directed by the following research questions:

RQ1. How do people construe comments on online news media as 'constructive'?

RQ2. How can ‘constructive comments’ influence people’s online behaviour?
RQ3a. By what process do people become active contributors of constructive comments to news media?
RQ3b. What aspects of collaborative tools and technologies could facilitate the contribution of constructive comments?
RQ4. How could factors associated with constructive commenting help in the design of technologies to encourage people to contribute constructively?

RQ1 and RQ2 are motivated by the need to study how people understand comments online generally. Some research on social influence has established that it is challenging for people to treat criticisms positively other than thinking they were being treated unfairly even though critique unnecessary part of debates (Nguyen et al., 2017). The reader-to-leader framework (Preece & Schneiderman, 2009) suggest that social participation begins with reading online contents that could create a rough map of exchange practice. This could moderate beliefs about fairness if addressed by design.

RQ3a and 3b are derived from my main interest in factors associated with commenting behaviour online and which of them is associated with constructive contributions. According to my literature review, commenting improperly may cause negative reactions to feedback or reduced interests for further engagements (Nguyen et al., 2017). The reader-to-leader framework (Preece & Schneiderman, 2009) may be extended to incorporate experiences while becoming a constructive contributor.

RQ4 would bring the methodological finding before back to the practical design ideas, also to establish some desires about which context would benefit from constructive discussion environments.

Dissertation Status and Next Steps

According to the research question in the previous section, my work currently focuses on factors associated with constructive comments. Studies about how users understand comments would be helpful to understand the concepts of comments in different contexts. Therefore, user experiments with same content between different contexts could be studied at this stage. This planned work will build on an earlier comparative experiment that focused on user interaction and engagement with two designs for presenting comments on dynamic media: Adjacent Scrollable (AS) and ‘danmaku’ (Ma & Cao, 2017) Synchronous Overlay (SO) (Yu & Watts, 2017). Our findings suggest that the design model for commenting is highly likely to influence user control behavior, including the use of pause and rewind during watching and checking back afterward. Our findings for memorability and attentional demand appear to be contradictory: SO was described as confusing but the memory for video content appears similar as the AS player. We suggest that a sense of collective engagement may have increased viewers' level of arousal so that they could compensate for the higher

concentration required by SO. Further research is required to determine how social engagement and concentration may work together or act in opposition and how they relate to beliefs about the constructiveness of comments. Then after having a clear understanding of users view of comments, we can try to summarize different factors associated with constructive comments and try to prototype and conclude in some design ideas.

Expected Contributions

I expect my thesis to result in more complete understandings of factors associated with user commenting behaviors online and which of them help in the design of technologies to encourage people to contribute constructively. My work will extend to consider how findings from the sociology literature can be applied to the context of CSCW. This contribution is made practical through user experience studies with political speeches or televised debates. It will also provide a methodological contribution in the sense that the wider community can implement the empirical framework I have developed. Through considering how group of users learn to contribute to online discussions, I hope it could suggest some design space that considers constructive discussion web sphere while also keep encouraging people to engage actively in the collaborative work.

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