
Collaborative Appropriation: The Emergence of Breaking News Collaborations on reddit.com

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Abstract

When online communities and social networks increase in scale, how do individuals and groups coordinate and collaborate to curate information in impromptu, ad hoc, high-tempo situations? My research evaluates how volunteer information aggregators, crowd voting behaviors, and attention-driven algorithms intersect to produce emergent breaking news practices on social media. I use the case study of reddit.com – employing a mixed method (ethnographic and computational social scientific) approach – to examine crowd collaborations, gatekeeping discourses, and emergent information practices in event-driven news production.

Author Keywords

Breaking news, peer production, reddit, crowds, social media, algorithms, attention, mixed methods

ACM Classification Keywords

K4.3. Computers and Society: Organizational Impacts, Computer-supported collaborative work

Introduction

With the proliferation of social media use in the past decade, people increasingly use online social platforms for news. Pew Research recently reported, for instance,

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that two-thirds of American adults use Facebook, and half of them use the platform to get their news [18]. Beyond the consumption of news content, though, people increasingly use social media platforms to *create* news. There are now numerous instances of breaking news reported on platforms such as Twitter, for example in disasters and crisis situations, that are faster than traditional journalistic enterprises [12].

Context

My dissertation examines the intersection of algorithms [7], attention [11], and collaborative participation [13] in the reporting of breaking news events within sociotechnical systems. Specifically, I use the case study of reddit.com, a popular social news site (where users contribute content that can be voted upon by the community in topical forums, or subreddits), to investigate individual and group information practices situated within the crowd-driven and algorithmic curation of information and production of attention. The core research question seeks to ask: How do various actors in a sociotechnical system collaborate to aggregate information about breaking news content? This project provides evidence and case studies about emergent collaboration and methods of appropriation of reddit's platform, as users work together implicitly or directly coordinate to aggregate and share information in fast-moving situations.

Using the literature on peer production [3, 5], I situate impromptu news collaborations on reddit within the research on online community dynamics [8], technical affordances [10, 15], and online collaboration [14]. I frame this analysis with networked gatekeeping theory [19, 2, 17], to look further at the relationships between contributors, viewers, crowd voters, moderators,

administrators, and algorithms and to investigate how they control information in specific ways to design a distributed form of news curation. The rise of so-called "citizen journalism" [16] has challenged both the methods of journalism practice [9, 1] and how we think about the production of news publics [4, 6]. While specific examples from reddit have been touted as different futures of journalism (e.g., the Aurora theater shooting or the Boston Marathon Bombing), the kinds of emergent collaborations for news aggregation on reddit are much less about journalistic witnessing through new media technologies and more about coordination of critical information practices for a large imagined audience.

Method & Data

To look at these actors, practices, and systems, I employ a mixed methods approach, drawing from a combination of interviews, participant observation, statistical content analysis, and computational social science techniques (web scraping, database management, natural language processing, and machine learning). I have conducted more than 50 interviews with reddit contributors, commenters, moderators, and administrators who updated information during a breaking news event by continuously updating a reddit comment, participating in a "live thread," or contributing to or moderating a news-related subreddit. In addition to these interviews, I have also conducted informal participant observation on reddit's various communities for over four years. Finally, I am analyzing a historical corpus of more than 2 billion public submissions and comments posted to the platform since 2006.

Emergence of Crowd Work & Collaboration

Emergent aggregation and information practices on reddit revolve heavily around appropriation. Reddit as a platform allows individuals to contribute URLs or text posts, which others users can up- or downvote to provide (or hide) visibility. However, breaking news events involve participants adapting the platform to meet their own perceived information sharing needs: over the past 5 years, many users have adapted submission and comment features to continually update over the course of hours or even days. Further, some users have created specific subreddits to follow longer news events (bounded events like Hurricane Sandy and dynamic events like the Ukrainian crisis), where even thousands of users can fashion together an evolving set of information norms to report on and discuss transforming news events. A couple years ago, reddit also developed a novel feature called a “live thread” that allowed small groups to more-easily update on breaking news events, which some users have adapted with varying success.

This research contributes to this workshop on emergent, appropriative collaboration because it provides empirical findings about impromptu crowd-driven collaborations, from individuals to thousands of participants within and across subreddit communities. Below, I discuss three themes related to how these collaborations occur and how they relate to a larger discussion about emergent information practices.

Reddit as a Platform with Anticipated Crowd Potential
Reddit as a platform connects thousands of participants – and potentially millions of views – together across a network of thousands of topical communities. Its popularity over the past few years has allowed anyone

to participate in any conversation, as long as they see it and are willing to participate. Nearly all of my participants stated that they “happened to be there” at the right time when the news was breaking and when they were free (downtime at work, in between class, before going to bed, etc.). In a sense, they appropriated their own time on reddit to refocus on participating in a task that could be worthwhile to the larger reddit network. While these participants sometimes spent more than a quarter of a full day (for some, even stretching to a few days) watching and updating a comment or “live thread” on the site, this participation was usually supported by another person who had time and interest who offered their support (more on these emergent collaborations below).

Further, the imagined audience – for reddit, a networked crowd of thousands of people – plays an important role not only in motivating this kind of work but also in realizing it. Interview participants frequently stated that they did this work because they were doing it for themselves, so they might as well share it with a potential audience that could find it useful. While they aggregated information, though, many participants (only excluding those who updated on small, local events) also encountered a few or even dozens of people sending them private messages through reddit’s interface with additional links and information they might have missed.

Coordination is Lacking but Collaboration is Emergent
Surprisingly, while news curation and aggregation on reddit can formally involve up to dozens (and informally up to hundreds, in live threads, or thousands, in subreddits) of people, frequently interview participants cited a lack of coordination in their activities. While

collaboration played a big role in aggregation, especially in cases where tracking many news sources required a larger group, where working long hours meant an individual had to leave the task, or where following an event required switching between members across time zones, coordination was fairly non-existent. In only a few cases, participants coordinated activities with other reddit users, either through private messages, Skype, or IRC.

More frequently, participants explained that their coordination was much more spontaneous, drawing from an awareness model of what other people seemed to be doing. Especially in cases where many people were updating a live thread at the same time, and information was posted a few times (or more) per minute, participants figured out on their own what role they thought they should occupy instead of coordinating the tasks formally with the others in the group.

Frequent collaboration either happened between a few individuals switching off between major portions of tasks (e.g., one person updates a thread, has to leave, and hands it off to another individual) or operated in an emergent network fashion, where viewers following the update threads would send new information or corrections to the participants through private messages on the site (or in comments, which would also send PMs to the contributing user). Just as an audience was anticipated, collaborative contributions from the reddit network were expected and seen as a benefit of the platform's popularity.

The Flexible Roles and Needs of Networked Gatekeepers in Crowd Labor

Even gatekeepers were flexibly responsive to perceived information tasks during breaking news events. In these situations, moderators have to pay attention to both the tasks they ordinarily complete as community leaders (like deleting bad comments) and also the evolving practices that come along with impromptu participation (like watching which one of several threads becomes popular and filtering out the many extras to avoid splitting discussions). While the everyday tasks of moderators tend to revolve around individual chores, breaking news events justify more coordinated activities between moderators

Moderators also take the time to appropriate other features of reddit's platform in unexpected ways. For instance, in the /r/worldnews subreddit, because so many articles get posted but many of the popular ones revolve around a subset of topics, the moderators have edited the CSS of the subreddit to allow for automated filters to temporarily remove content for viewers that feel inundated by the types of content upvoted by the wider crowd network.

Conclusion

Reddit's evolution of breaking news practices provides an investigation into appropriative practices at different scales, from local situations to global crises. Reddit's administrators have stated in public interviews that the site is not meant for news reporting, though over time it has accumulated enough value as a space for critical news that groups appropriate it for their information needs.

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