tApp: A Tumblr Analytics System

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Abstract
In this paper we present the Tumblr analytics system, tApp. tApp is designed based on findings from a prior study we completed on Tumblr and fandoms [2,3]. Within, we describe an overview of seven sections of the system, reasoning behind the design, current prototype screen shots, one use case and proposed future work.

Author Keywords
tumblr; social networking; analytics; fandoms; tvx

ACM Classification Keywords
H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction
Tumblr is a blogging site where users post content in the form of text, links, photos, audio or video. Users can then search, re-blog, like and/or follow other users. Fandoms are a community of users that surrounds a television show, movie or book. These users have become key contributors to Tumblr [2]. We studied the culture and community of fandoms on Tumblr [2,3] and use these findings to inform the design of a new system, tApp. tApp is designed to allow a business or the Tumblr end user, to analyze Tumblr user behaviours and facilitate interactions with other Tumblr users.
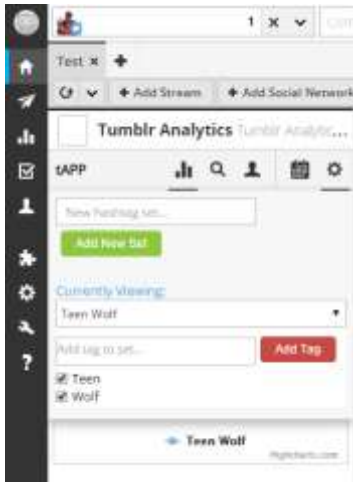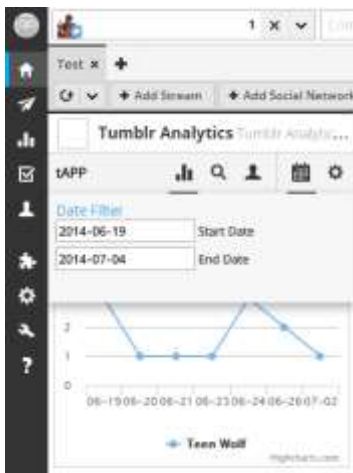
Figure 1. Tag Settings Section

Figure 2. Trending Section

Design Rationale

Below we present the key design implications identified during our three month study [2,3]. This is described in two sections, 1) a system for large companies with stakes in media represented in fandoms—such as CBS Interactive—or the Tumblr end user and 2) a comprehensive online learning portal to educate these companies on Tumblr culture—such as jargon, and best practices.

Users generate a large amount of valuable data.
Tumblr fandoms emerge from users' changing day-to-day interests and activities, unlike for example Facebook usage, which revolves around pre-existing offline relationships, and static one-time 'likes' to express interest [2]. Tumblr fandom users are also actively extending original content just like traditional fan works have done in the past [2]. Further, fandom users have been known to watch TV shows by binge-watching a season or series [2]. Data about how fandom users watch TV shows is presented in Tumblr through backchannel conversations—chatter related to live entertainment on micro-blogging sites [1], as well as legacy conversations (after the show has been aired).

We also saw fandom users as a unique and valuable user base that are passionate and can provide qualitative feedback [2]. These fandom users are partially motivated by official show recognition [2], thus we believe media companies are missing an opportunity to engage with these users. Further, as Tumblr users' often find new shows to watch by evaluating the TV show's fandom or cross-pollination on the Tumblr system [2], fostering Tumblr fandoms could attract more viewers.

Generally, this data is difficult for television broadcasters to track as it occurs through downloaded content or the use of DVDs (which may be shared by friends or rented). Thus, this user data is not being utilized by companies; however, it could be easily mined and presented as additional sources of knowledge about fan reactions to shows and to extend traditional metrics on gauging TV show viewership and to supply both quantitative and qualitative data for missed viewership data around pirated torrents and DVDs. For example, our past study showed that users leave fandoms when they no longer agree with the direction of the show [2]. Discussions about disagreement with show directions are posted by fandom users on Tumblr and can be analyzed by media companies with large stakes in the show's success.

Users have distinct language, media use & culture. Fandom users have a distinct set of vocabulary that they use to talk about shows and characters within the shows [3]. These users also use media in the form of animated GIFs in distinct ways [2]. This culture can be difficult for outsiders to understand, unless the concepts and culture are explained or taught to them. We believe companies could find great value in documentation of these practices, explain how fandom users' participate in Tumblr and understanding specific jargon. This could allow marketers, designers, actors, producers etc. to 'talk-the-talk' and more accurately follow viewership reactions to TV shows.

Design Sketch Synopsis

This section outlines a design sketch we used to incorporate these findings into an application in partnership with the social media mangement platform
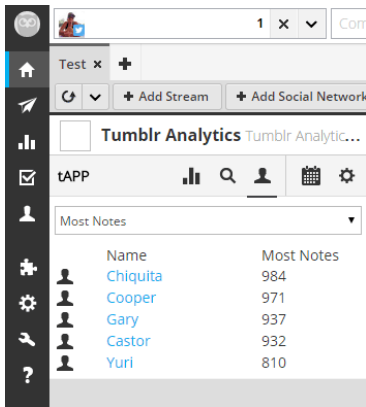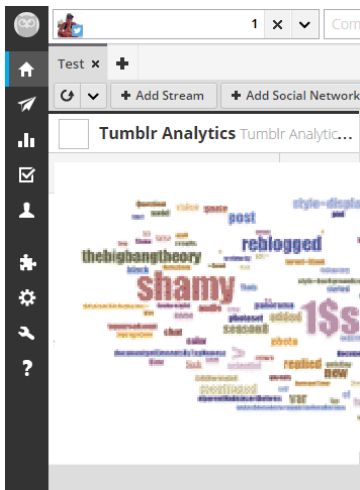
Figure 3. Key Contributors Section

Figure 4. Explore Hashtags Section

Hootsuite Media Inc. The system is designed to allow companies, such as CBS Interactive, to track real-time and legacy TV show feedback based on user participation in fandoms on Tumblr (although, as mentioned earlier, we suspect use of the system would reach beyond this specific market to the Tumblr end user). Users of the system would be able to analyze TV show viewership and both qualitative and quantitative data could be tracked and visualized. The system includes seven main sections:

Tag Setting Section. (Figure 1) Here users can either create new hashtag sets or edit existing hashtag sets. Hashtag sets are a user defined set of hashtags. These sets include like hashtags that represent a key metric. For example, if you wanted to track the trending popularity of a particular character on the show you would create a hashtag set that included all the hashtags that represented this character (e.g., all the doctors from Dr. Who: #William Hartnell, #Patrick Troughton, #Jon Pertwee, #Tom Baker, #Peter Davison, #Colin Baker, #Sylvester McCoy, #Paul McGann, #Christopher Eccleston, #David Tennant, #Matt Smith).

Trending Section. (Figure 2) The trending section is designed to provide trending data on key performance metrics (e.g., number of mentions and popular posts specific to hashtags or hashtag sets).

The trending section displays hashtag sets defined in the settings tab (Figure 1). After you define a hashtag set you can add it to the trending graph. When you select the checkbox all the hashtags within the tab are plotted on the graph. Users can also set the date range in the bottom right hand corner.

Key Contributors Section. (Figure 3) In *this section users can view any of the following types of metrics:*
- Top followed users for the date range and based on the key set,
- Top contributing users for the date range and based on the key set,
- Top re-blogged posts (link to original post/user) for the date range and key set,
- Top liked posts (linked to the original post/user) for the date range and key set,

These would be valuable to identify popular conversations taking place around the tApp user's identified hashtag sets, as well as provide quick access to the actual posts for follow-up.

Explore Hashtags Section. (Figure 4) This section displays a word cloud of the key contributors posted content excluding current hashtags already identified by the tApp user. This visualization shows the tApp user possible hashtags they could add to a hashtag set which they might have missed or just started trending.

Real-time Section. The real-time page is designed to provide real-time management of an administrator's Tumblr account. In this section you can see live streams of your hashtag sets, and your Tumblr dashboard. The real-time view lets you see a live stream of all selected hashtag sets. From this section you can re-blog, like, and share posts.

GIF Tool Section. Our study showed GIFs are an important part to fandom user motivation and engagement. Being able to easily create GIF sets and share to the fandom will help engage the fandom user base [2]. Therefore the GIF tool section was designed to allow the tApp user the ability to quickly create and edit GIFs.

Translator Section. To help understand the unique Tumblr culture, the translator section provides a dictionary for Tumblr jargon as well as Tumblr fandom best practices. The dictionary could include jargon such as: ships, otps, alksjdf;lksfd, and endgame. We visualize this as a live document (Wiki); while the "how-to" could include directions on how to produce a live Q&A session.

Use Case Scenario

To provide more context around use, in this section we describe a use case scenario around a fictional persona, John. We present that John is a CBS Interactive employee, responsible for Tumblr content for the TV show Shameless. While the blog and user responses are real, the rest of the story is fictional.

Shameless has been testing out how to engage with their Tumblr audience recently and are looking to get real-time feedback on the blog: http://shameless.Tumblr.com/private-gallagher

John has been instructed to publish blog posts after each new episode airs. First he defines his hashtag set, and identifies the keywords he should tag his blog post with by using the "Explore Hashtags" word cloud (Figure 4), ensuring he gets quality distribution and buy-in from the fandom.

John now gets ready to publish his first blog post on Sunday night after the show airs. Right after he publishes the blog post he uses the main navigation to go to the page titled "Real-Time". Here he sees streams of content focused around his hashtag set. Right away he notices users commenting on the posts not being on "canon" and starts to see negative user feedback (see Figure 5). He realizes he needs to brush-up on his writing or the campaign could do more damage than good. But he also notices that when he posts with the hashtags the fandom itself uses has had a positive response. Specifically, a Tumblr user expresses this in the post around the excitement of his use of the tags "Gallavich" and "IanxMickey" - some of the fandoms most widely adopted tags (see Figure 6).

This is one use case scenario. Further scenarios could include tApp users identifying and interacting with top contributors, and viewing trending data around live show popularity and specific topics.

Future Work

We currently have completed development on the Tag Setting, Trending, Key Contributors and Explore Hashtags sections of the system. Now we are looking to test the application with users and further development of the other three sections. Beyond this, we are hopeful that tApp can also be useful as a data collection and analysis tool for future studies on Tumblr.

References

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IM LAUGHING SO HARD can showtime please hire an actual writer because this private gallagher thing sucks ass doesn't seem like something ian would say or think AT ALL f@cking hilarious

Figure 5. Negative user post commenting on John's post

They tagged it with "Gallavich" and "IanxMickey" !!!

Figure 6: Tumblr blog post showing excitement that an official blog used fandom specific hashtags