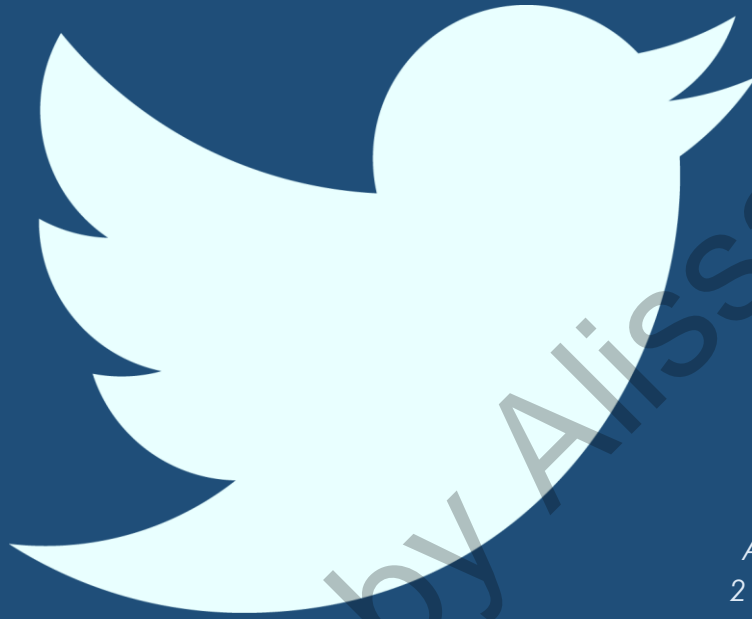


twitter



Alissa Chan
21 April 2015

Twitter is a widely popular social media website in which users engage in “microblogging,” or a form of blogging where users can share simple text updates, article links, pictures, GIFs, and videos, which are accessible to their followers through SMS, email, or web. This is called “tweeting,” and each post, or “tweet,” must contain less than 140 characters. As a whole, Twitter is an enormous database of these tweets written by the common Internet user, businesses, developers, and media (About Twitter).

Before the Ringbearer project, I didn’t know much about Twitter. This is mostly because I’ve never seen a need to use it; most of my friends don’t use Twitter, and I primarily

read news on a separate app on my phone. I only knew Twitter was as popular as Facebook, so I decided to explore the site and find out what made it so appealing.

In this report, I will focus on Twitter’s privacy settings and information filtering techniques. Most of my site interactions will be with public accounts rather than within my own social circles since I have few friends on Twitter. (Refer to Appendix for additional screenshots.) After evaluating the site, I think there are still some significant improvements that could be made to its privacy settings and filtering methods, but now I understand why the microblogging platform has become so popular.

Privacy

Unprotected Tweets

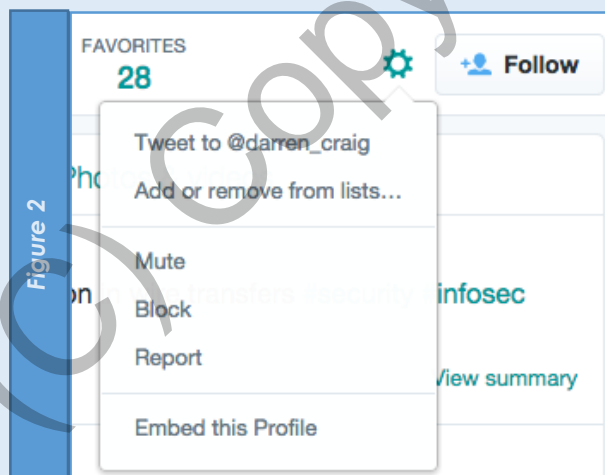
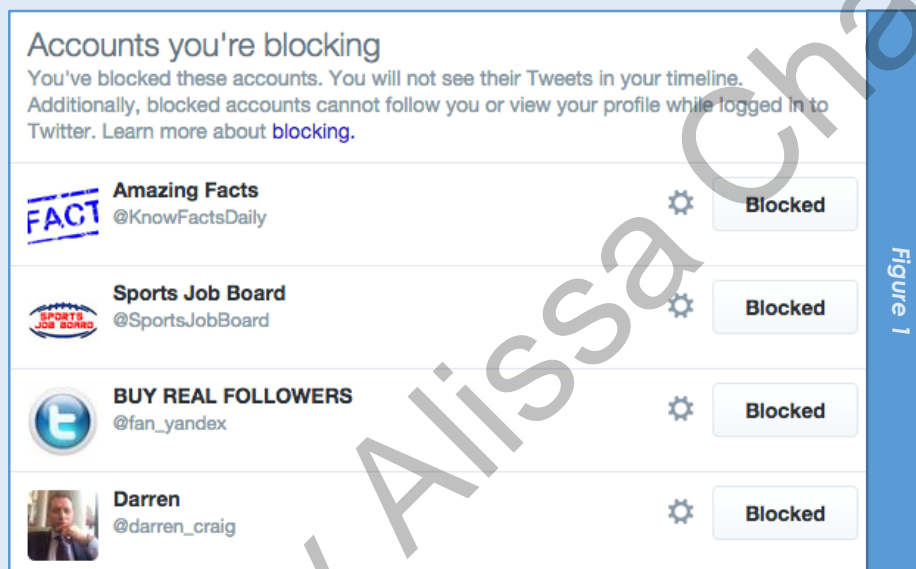
When I first signed up for a Twitter account, I had some new followers within an hour of signing up and following other accounts of my own. One of my anonymous followers was a mysterious Darren Craig whose bio reads “Serial Entrepreneur, blogger, investor and mentor @VirginStartUp.” This means he followed me based on our mutual interest in tech-news accounts like CNet and Engadget, most likely due to one of Twitter’s algorithms that “suggest[s] your account for others to follow based on public information” (About Twitter’s suggestions for who to follow).

I’m not surprised about Twitter also using location information, and email address/phone contacts in order to suggest people to follow. Most websites that provide services for its users, like those that Facebook, Amazon, and Google offer, use algorithms as a way of filtering forward information and making suggestions for their users’ convenience (Mackie-Mason, 16 Feb 2015). Twitter is no different, and I expected the site to collect my information to better personalize my Twitter experience.

What concerned me was that Twitter’s default privacy setting is “public.” According to Humphreys, Gill, and Krishnamurthy, “Twitterers do not include identifiable information such as phone numbers, email and home addresses... [but] a quarter of tweets do include information regarding when people are engaging in activities and where they are.” Those “unprotected tweets” can be seen by anyone whether or not they have a Twitter account (About public and protected Tweets).

The implications of strangers being able to read my tweets sharing an article with the hashtag #sil10 are somewhat terrifying, as it would be exceedingly easy to find out more about me and by looking at other users who used the hashtag #sil10.

A few hours after going to Darren’s profile and blocking him from seeing my tweets and from my seeing his tweets, I gained more followers from a spambot “BUY REAL FOLLOWERS” and two other strangers. I also blocked them and decided to see if there was a way to stop people from following me unless I allowed them to.



WHAT IS MQUEST?

This was a 3-day campus scavenger hunt event starting on April 1st. Conducted exclusively through Twitter, @UMInvolvement tweeted three clues each day about a particular place on campus. If you went there within 1 hour of when the tweet was first posted, you'd get free prizes. If you couldn't make it there, you could tweet a picture with #MQuestAway in it and Campus Involvement would favorite your tweet acknowledging they'd seen it. You would then be entered into the raffle for a prize at the end of each day.

Protected Tweets

This is when I learned that you can protect your tweets, in which case people must request to follow me in order to see any of my tweets. However, my profile picture and header are still public. Once I block someone from following me, they cannot follow me again unless I unblock them, and then they must request to follow me once again.

During @UMInvolvement's MQuest scavenger hunt conducted through Twitter, I discovered that if your account is private, other accounts cannot see your tweets unless they're following you. This is one of my biggest complaints about Twitter's privacy settings options. You can either go completely public, or you can protect your tweets, in which case only your approved followers will be able to see your tweets. The only way for non-followers to see your tweets is if you mention or reply to them using the format @username in your tweet. Mentioning and replying to someone in a tweet using that @username will tag them in that post, and it will show up in their notifications timeline.

In my case, I had to email Campus Involvement my Twitter handle (@alissach18) so that they could request to follow me. This is the problem with nonmutual following requests, especially since users doesn't necessarily request to follow the followers back. Twitter also doesn't let protected Twitter users Direct Message ("DM") non-followers, so it also makes it difficult to request that users follow you. For @UMInvolvement, I had to email them asking them to follow me, which is as uncomfortable and awkward as messaging someone on Facebook telling them to accept your friend request. It's an unwritten, universal rule in social media etiquette to not do that, even if someone asks you to do so (see right).

This nonmutual following and lack of DMing between protected users and non-followers also takes away the utility of Twitter as a customer service tool. For example, I wanted to compliment Michigan Dining for a delicious dish of theirs, but since they weren't following me back, my Tweet @MichiganDining wouldn't show up on their default notifications timeline, which is defaulted as "People you follow" (refer to Appendix Caption C).



Figure 4



I tested this by tweeting from my main, protected account (@alissach18) to my separate, public Twitter account (@ravenclaw563), and finding that I had to click "All" to see all tweets to @ravenclaw563 (refer to Figure 5 & Appendix). This means that my compliment to @MichiganDining was likely not received, since MichiganDining probably doesn't look at all of their numerous notifications. I couldn't even DM Michigan Dining either, so there's no guaranteed way to communicate with public Twitter accounts that aren't following you if your account's tweets are protected. In this sense, I felt like an outsider because it seemed like a one-way communication.

It is also worth noting that in 2010, Twitter still had a security flaw in which public users could retweet/quote protected tweets. A study conducted by

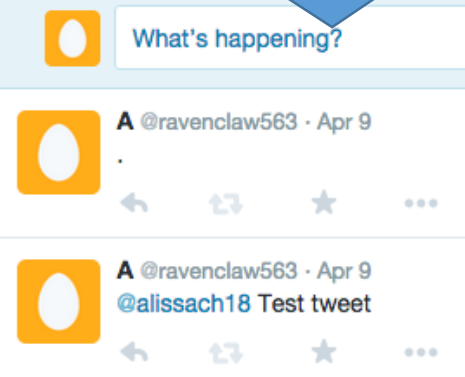
researchers at Carnegie Mellon University found that in their dataset examining 2.7 billion messages, over 4.42 million tweets exposed protected information (Meeder, Tam, Kelley, & Cranor, 2010). I tested this feature by using my public @ravenclaw563 account and attempting to retweet/quote one of my @alissach's protected tweets, but that major security flaw has thankfully been fixed since 2010. However, there is no way to prevent people from taking a screenshot of protected tweets and posting them publicly, or from just copying and pasting the content of a tweet and reposting. Thus, this shifts the burden of tweet content from the limits of technological capabilities to the person who's using that technology (Mackie-Mason, 6 Apr 2015). While this privacy issue is hardly new to the Internet or social media, it's something that many Twitter users may not be aware of (Meeder et al., 2010).

In short, I learned about Twitter's privacy settings by first following a number of accounts, then being followed by strangers who shared the same interests and followers. I had expected the privacy settings to be similar to those of Facebook's, where friending is mutual and both users must approve friend requests, but I've realized Twitter's settings are drastically different from those of Facebook's. Twitter's privacy settings land on two ends of the spectrum - you can let any strangers follow you and see all of your tweets, or you can let only your approved followers see your tweets. I wish there was a way to adjust the visibility of each tweet, just like you can with each Facebook post, because making my account "public" is out of the question.

Figure 5. My main account @alissach18 is protected, indicated by the lock symbol. This is the test tweet from my @alissach18 account @ravenclaw563.



This is the home timeline of my @ravenclaw563 account. My tweet from @alissach18 at ravenclaw563, above, did not appear in my @ravenclaw563 timeline, as shown, unless I filtered results by "All" tags rather than simply "People you follow."





Information Overload

Too Many Updates

When I first signed up on Twitter, I immediately thought of following news accounts in my timeline to use Twitter as my news aggregator, because that's the most common use of Twitter that I'd heard of. So I followed trustworthy news accounts like BBC Breaking News, BBC News (World), The New York Times, CNN, CNN Breaking News, NPR News, et cetera, because I thought the more news sources I had, the better my home timeline would be since I wanted news updates.

Unfortunately, after following all those news outlets I found my entire home timeline flooded with constant updates - often about the same kinds of information, often from the same news organizations. The majority of were actually "retweets," or taking someone else's tweet and "retweeting" it on your own feed. Retweeting something only requires one click, which could explain the extremely frequent news updates.

Thankfully, Twitter has an option to turn off retweets (and of course, to unfollow Twitter accounts altogether) if a user doesn't like these numerous, sometimes repetitive posts in the home timeline. What's interesting is that these options don't filter forward information by "select[ing] results and bring[ing] them to the front" chronologically (Mackie-Mason, 14 Jan 2015), which is how many digital information streams like Google search results are organized. Instead, Twitter filters out from your home timeline so you no longer see those retweets at all. They are still searchable and retrievable, however, so in a broader sense Twitter is filtering forward its tweets.

I acknowledge that following that many news-related Twitter accounts was not exactly the smartest decision, but once I learned to monitor the flood of information in my timeline, I've found Twitter rather useful in terms of reading 140-character news updates. Most, if not all, of these tweets by CNN, BBC, etc., include URL's, but I rarely click on them to read more unless the story sounds interesting. Now I've realized that I only need to follow the "Breaking News" accounts for important news, as those accounts tend to skip tweeting about entertainment, gossip, and fun reads.

Figure 6



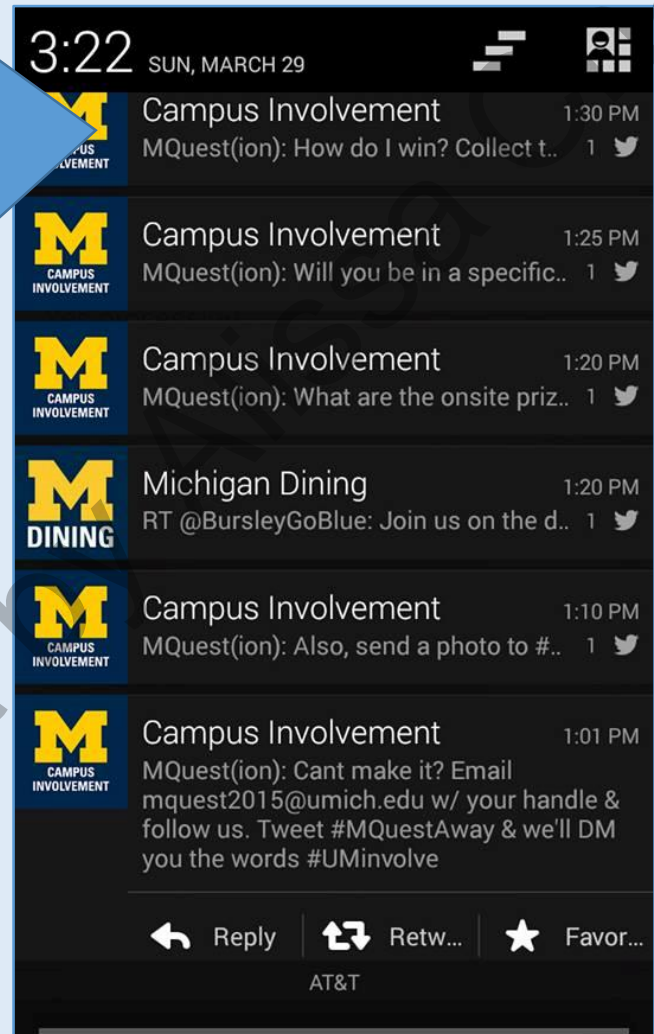
Mobile Notifications

News accounts aren't the only ones with an enormous influx of information. I also followed a few Michigan related profiles like Campus Involvement (@UMInvolvement) and @MichiganDining, and chose to get mobile notifications for both. This way, I would receive notifications whenever a new tweet is posted on those accounts, which is what I wanted for Campus Involvement's MQuest Scavenger Hunt event.

Figure 7. While these mobile notifications are great for getting tweets the second they're posted, especially for something as time sensitive as the MQuest Scavenger Hunt, it was overwhelming to find so many Twitter updates from the same account flooding my phone's notification bar. Why does any user need to create multiple posts a few minutes apart from each other? (Note the time stamps on the right of each notification.)

However, I would often receive dozens of notifications within a few minutes of each other from the account, but unlike the news profiles which retweeted extremely often, @UMInvolvement's weren't retweets. Thus I couldn't solve the problem of too many notifications by simply turning off retweets.

I'm also not the only one who complains about getting too many updates; in a report by Nielsen Norman Group about the best company practices for using social media, it's mentioned that "Sending too many messages can not only annoy recipients, but can also make them decide to no longer receive updates" (Estes, Schade, & Nielsen, 2009). They also quote study participants saying that "[companies] are sending too many notifications" and "I purposely don't follow too many organizations, because I don't want to be involved in a tsunami of tweets." On Twitter, unfollowing users like Campus Involvement is not a solution because I do want to receive those mobile notifications for some of the tweets. Unfortunately, there's no limit to how frequently one is allowed to tweet.



Search Engine Features

A feature Twitter gets right in mitigating information overload is its search engine. Unlike a regular Internet search engine like Google, you can save your searches and view them in the search bar. This is useful because people repeat Twitter queries to monitor content and to find temporally relevant information and information related to people (Teevan, Ramage, & Morris, 2011). For example, if I wanted to keep tabs on the hashtag #si110, I can save the search and keep searching it whenever I want to get updates with that hashtag.

Within the results received for a certain hashtag, you can filter them by “Top” tweets or “All” tweets. Top tweets are those organized by most retweets or favorites, and “All” tweets are sorted in chronological order with most recent tweets at the top.

I also discovered some news by clicking on the curiously trending hashtag #Chipotle and found that Clinton went to an Ohio Chipotle unrecognized, so trending hashtags are also a way of discovering news.

Figure 8. This is the #si110 hashtag feed, found by typing “#si110” into the search bar.



Conclusion

Overall, Twitter is extremely useful for getting news updates about things I care about, such as following Campus Involvement and finding interesting articles to retweet, favorite, and share. However, I dislike the limited privacy settings Twitter offers that require users to sacrifice their privacy in order to take advantage of using Twitter for customer service or private-to-public user interaction, because businesses, celebrities, and other famous Twitter accounts are unlikely to check all of their mentions and attempt to respond to them when necessary. Additionally, although Twitter does offer some extremely useful filtering features like searching for tweets and topics using hashtags, it's still largely the user's responsibility to mitigate information overload in one's newsfeed based on who one follows.



Appendix

My Tweets

Here I have compiled a few screenshots of select tweets displayed on my profile page.

B. This is my user bio, which is limited to 160 characters.

A. This is my Twitter profile. Here you can view how many tweets I have, who I'm following, who's following me, my favorites, and my lists.

Alissa C @alissach18
University of Michigan Class of 2018!
12 Photos and videos

Who to follow · Refresh · View all

- National Geographic @natgeo Follow
- UMMA @ummamuseum Followed by Michigan Dining... Follow
- Gizmodo @Gizmodo Follow

Popular accounts · Find friends

Trends · Change

- #RecordStoreDay
- #NBAPlayoffs
- #RelationshipRulesIn5Words
- Star Wars
- #MTNRadioAwards
- #CHEMUN
- Chris Sale
- Hazard
- Arsenal

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TWEETS 58 FOLLOWING 56 FOLLOWERS 7 FAVORITES 136 LISTS 4 Edit profile

Tweets Tweets & replies Photos & videos

Alissa C @alissach18 · Apr 16
Best of Tumblr heidilyn.net/blog/the-best-...

Alissa C @alissach18 · Apr 14
Such a privilege to perform Saint Saens Symphony No.3 with the organ in Hill Auditorium!

Alissa C @alissach18 · Apr 9
The panic attack you get when you realize you only have 3 weeks of school left... and how much work you'll have to do in those 3 weeks.

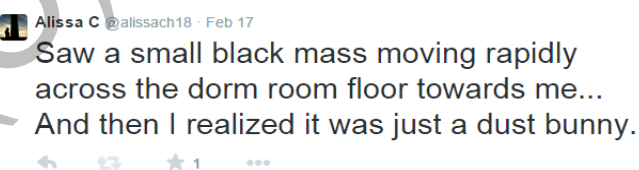
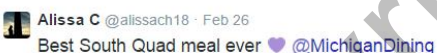
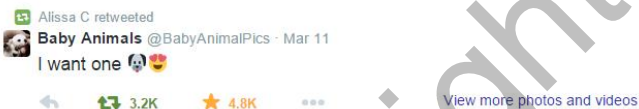
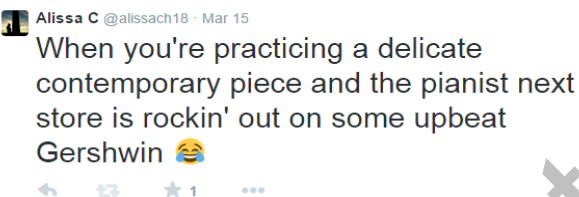
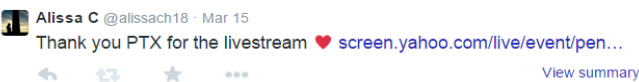
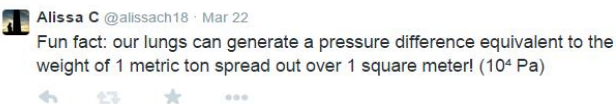
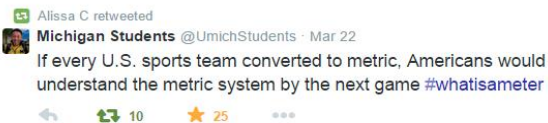
Alissa C retweeted Engadget @engadget · Apr 9
IBM starts testing AI software that mimics the human brain engt.co/1lvwcTA

Alissa C retweeted Google Chrome @googlechrome · Apr 1
Re-rethink how you browse the web with Chromebook's new self-browsing feature. Just click to watch the future unfold: goo.gl/TWMjUp

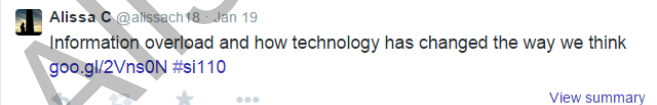
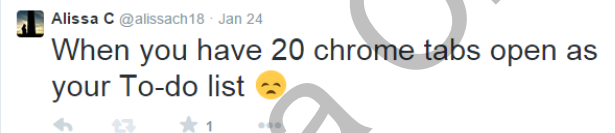
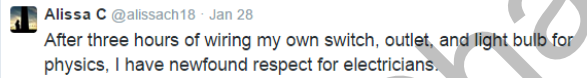
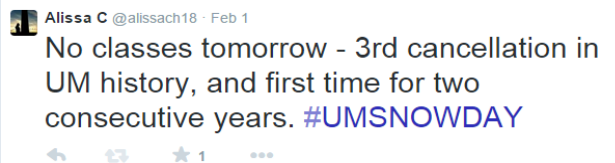
Alissa C @alissach18 · Apr 1
Science!
#mquestaway

View more photos and videos

MARCH



FEBRUARY



JANUARY

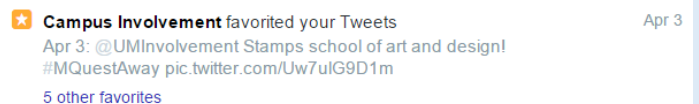
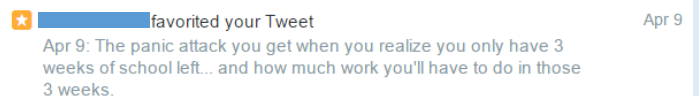
Notifications Timeline

This is the notifications timeline where one can view user interactions with others. For anonymity I have blocked out the profile pictures and usernames of my friends whose accounts are private.

C. You can filter notifications to view "All" mentions or replies using your Twitter handle, including those tweets from non-followers, or you can view tweets from "People you follow," which is the default filter when you click to see your notifications timeline.

Notifications






All / People you follow










FEBRUARY










Notifications Timeline (continued)



**Campus Involvement** @UMInvolvement · Apr 2
@alissach18 good guess!! Think something a little more north
    [View conversation](#)






**Michigan Dining** favored a Tweet you were mentioned in Apr 1
Apr 1: @alissach18 you got it! We've already had one winner so far... Who will be the next?




**Campus Involvement** @UMInvolvement · Apr 1
@alissach18 you got it! We've already had one winner so far... Who will be the next?
   1  [View conversation](#)



**Campus Involvement** favored your Tweets Apr 1
Apr 1: @UMInvolvement student theatre arts complex?
Apr 1: Science!
#mquestaway pic.twitter.com/UKfQuaRz8A
[Hide other favorites](#)



**Campus Involvement** @UMInvolvement · Apr 1
@alissach18 not quite... But here is a hint

    [View photo](#)


**[User]** favored your Tweet Mar 15
Mar 15: When you're practicing a delicate contemporary piece and the pianist next store is rockin' out on some upbeat Gershwin 🎹



**[User]** · Mar 15
@alissach18 the one looking right at me is Sam Mikulak
    [View conversation](#)


**[User]** favored your Tweet Feb 17
Feb 17: Saw a small black mass moving rapidly across the dorm room floor towards me... And then I realized it was just a dust bunny.




**[User]** retweeted your Retweet Feb 14
Feb 4: dont drink and drive! 🚗🚫🍷 pic.twitter.com/G6n3k0oHKS


**[User]** favored your Tweet Feb 12
Feb 6: I finally caught up with my generation and watched Mean Girls...


**[User]** favored your Tweets Feb 6
Feb 6: I finally caught up with my generation and watched Mean Girls...
Feb 1: [User] you pushed a car out of the snow??
Feb 1: No classes tomorrow - 3rd cancellation in UM history, and first time for two consecutive years. #UMSNOWDAY
Jan 24: When you have 20 chrome tabs open as your To-do list 😩
[Hide other favorites](#)

**[User]** favored your Tweets Feb 1
Feb 1: [User] you pushed a car out of the snow??
Feb 1: No classes tomorrow - 3rd cancellation in UM history, and first time for two consecutive years. #UMSNOWDAY
Jan 24: When you have 20 chrome tabs open as your To-do list 😩
[Hide other favorites](#)

**[User]** favored your Tweets Feb 1
Feb 1: No classes tomorrow - 3rd cancellation in UM history, and first time for two consecutive years. #UMSNOWDAY
Jan 24: When you have 20 chrome tabs open as your To-do list 😩
[Hide other favorites](#)

**[User]** favored your Tweet Jan 24
Jan 24: When you have 20 chrome tabs open as your To-do list 😩






References

About Twitter. (2015). Retrieved March 26, 2015.

This source come from the Twitter website; since they are primarily informative in terms of explaining how certain features of Twitter work, it is presumably reliable.

About public and protected Tweets. (2015). Retrieved March 26, 2015.

See first source for information credibility statement.

About Twitter's suggestions for who to follow. (2015). Retrieved March 26, 2015.

See first source for information credibility statement.

Estes, J., Schade, A., & Nielsen, J. (2009). Social Media User Experience. Nielsen Norman Group.

This source was found using Google Scholar and it is from Nielsen Norman Group, which publishes official reports backed by research about user experience for other companies/businesses to use. Nielsen Norman Group's tagline is "Evidence-Based User Experience Research, Training, and Consulting," and the company is very reliable and well-established. The authors of this particular report are the director, president, and a senior user experience specialist, of Nielsen Norman Group.

Humphreys, L., Gill, P., & Krishnamurthy, B. (2010, June). How much is too much? Privacy issues on Twitter. In Conference of International Communication Association, Singapore.

This source is a research paper published by AT&T Labs Research about privacy on Twitter, and has six pages of references and citations. The authors all have Ph.D.'s and are from Cornell University, University of Toronto, and AT&T Labs Research.

Mackie-Mason, J. (2015, Apr 6). Is privacy dead? SI 110 class lecture. University of Michigan, Ann Arbor MI.

Mackie-Mason, J. (2015, Feb 16). Keep your hands off my newsfeed! SI 110 class lecture. University of Michigan, Ann Arbor MI.

Mackie-Mason, J. (2015, Jan 14). Too much information? SI 110 class lecture. University of Michigan, Ann Arbor MI.

Meeder, B., Tam, J., Kelley, P., & Cranor, L. (2010). RT @IWantPrivacy: Widespread Violation of Privacy Settings in the Twitter Social Network.

This is a research study conducted by professors at the School of Computer Science at Carnegie Mellon University. It also lists nineteen references.

Teevan, J., Ramage, D., & Morris, M. R. (2011, February). #TwitterSearch: a comparison of microblog search and web search." *Proceedings of the fourth ACM international conference on Web search and data mining*. ACM, 2011.

This is a research study published by Association for Computing Machinery and it was written by authors from Stanford University and Microsoft Research. It also lists thirty-three references.