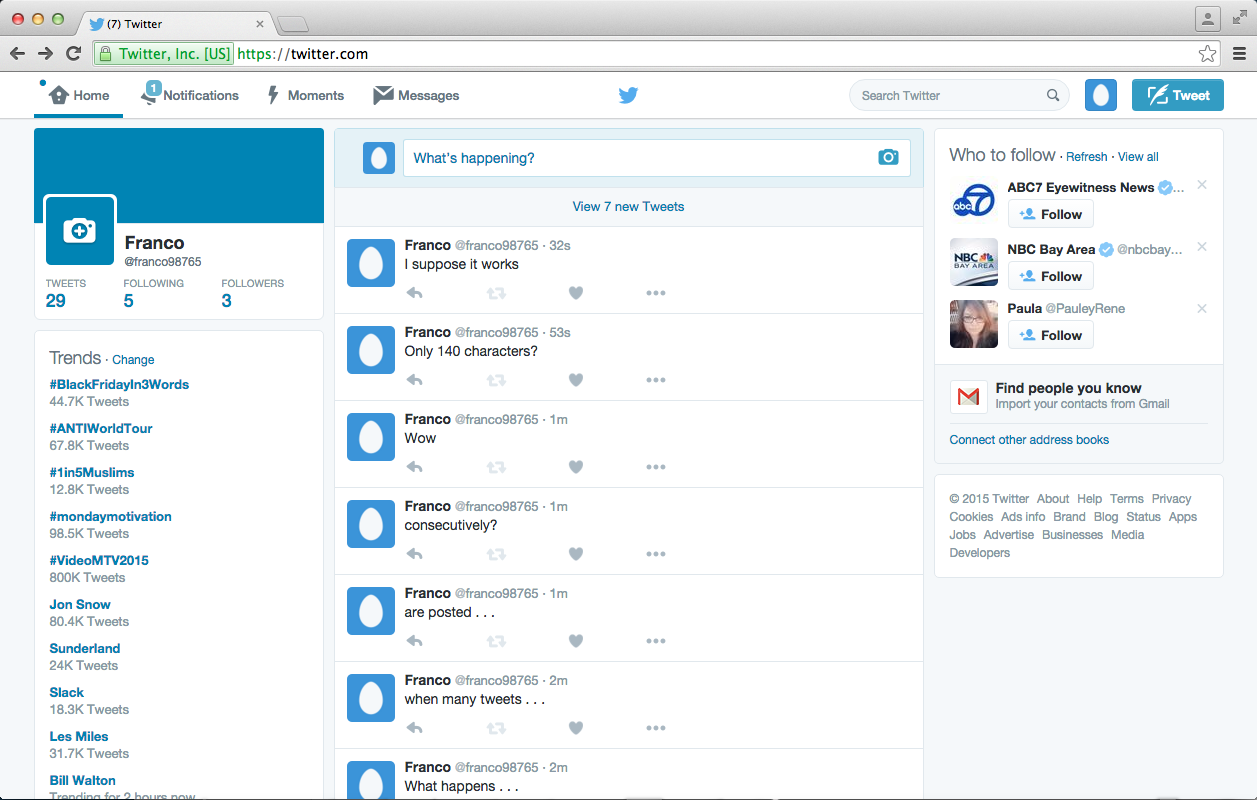
Twitter Dream-Design

1. Description of System

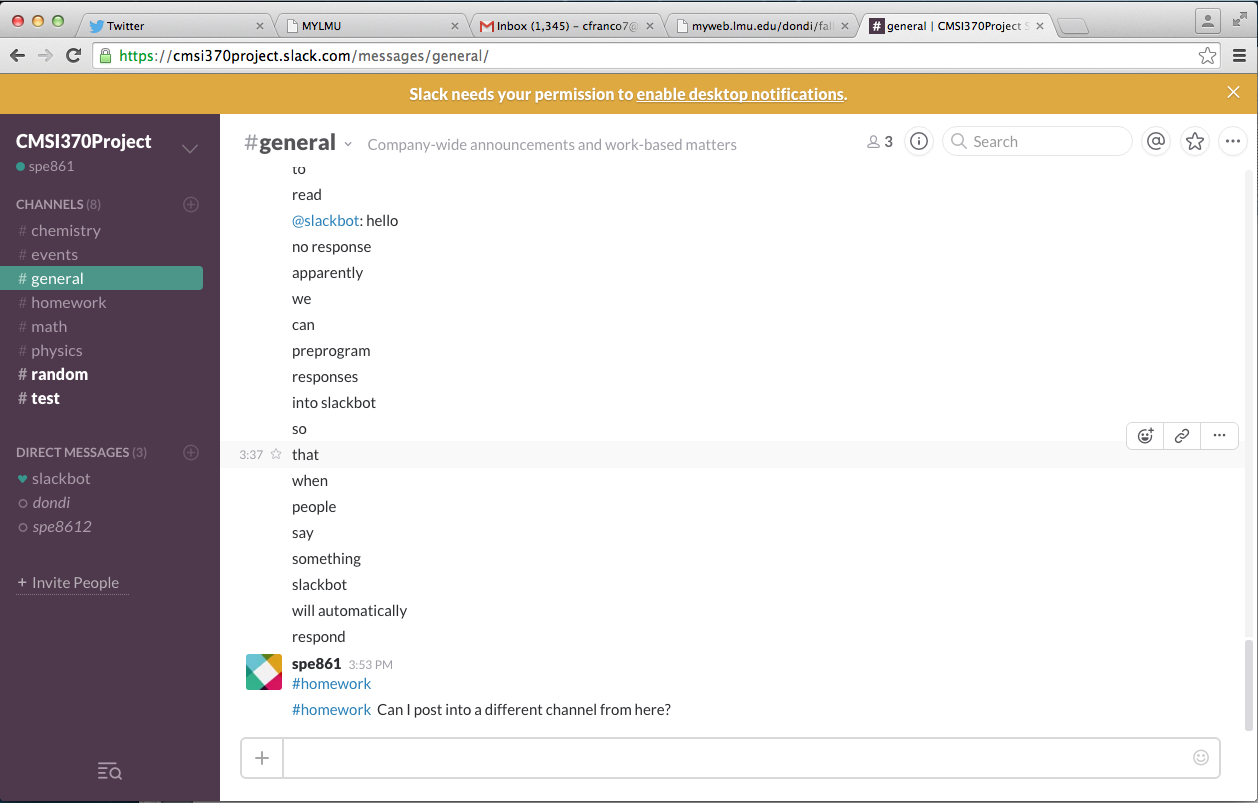
Twitter provides a social networking service in which the main form of communication between users is 140 character “tweets.” Users are able to follow each other to send and receive messages, and whoever is following a given user sees their tweets when they are posted. Networks of users can be even more creative with their tweets by using hashtags (“#” with a word attached) to make any tweets in which it is contained indexed and easily searchable by followers and even users outside of that particular network (e.g. “#food”). The same can also be said for when users perform “mentions,” or tweets meant for other specific users, by typing the “@” with the other’s username attached (e.g. “@franco98765”). This is often used to direct a message that is still viewable to everyone in the network. The mention will appear in the other user’s feed as well. Of course, users can also send private direct messages to people they follow. Twitter also has an app, which helps it to be more effective in facilitating real-time communication and increasing access to a broader population, especially people in countries without widely-available desktop computers or laptops.

Compared to messaging applications like Slack, Twitter’s interface seems to be slightly more cluttered, with several different features being squeezed into small areas.

Twitter

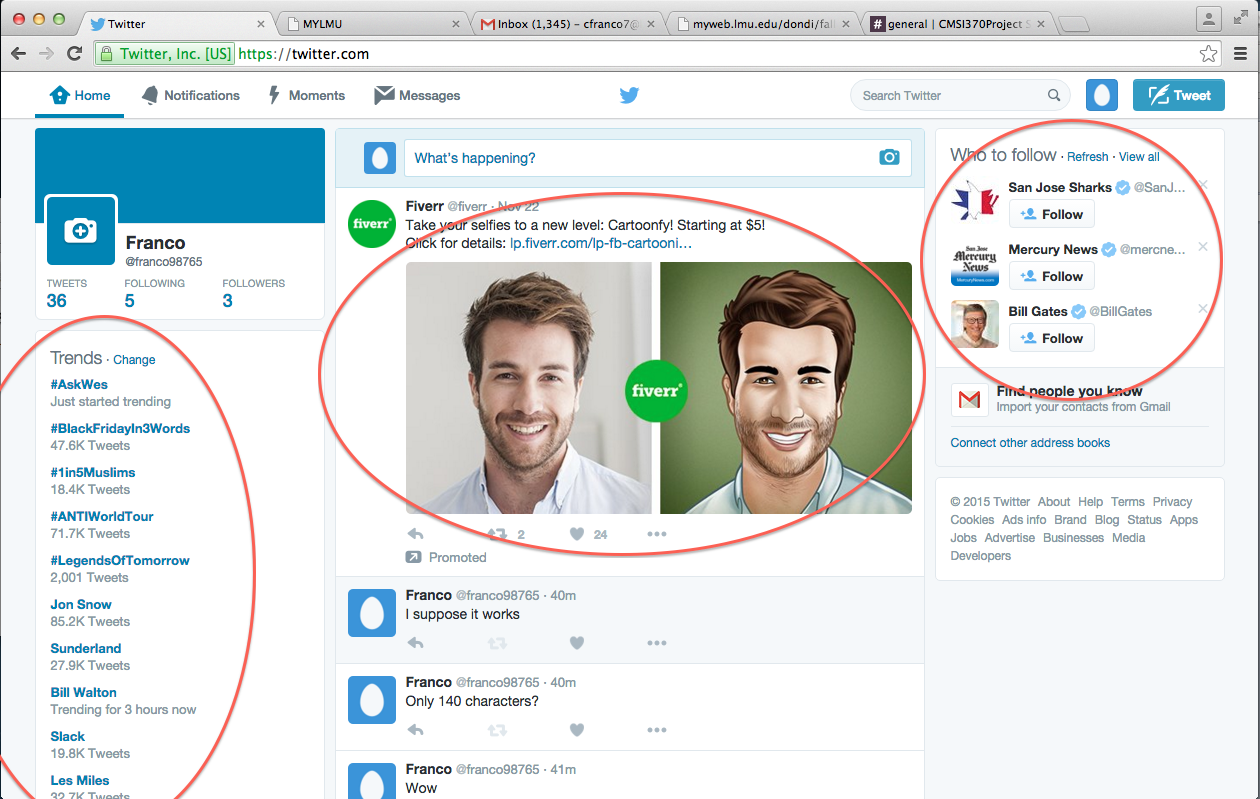


Slack



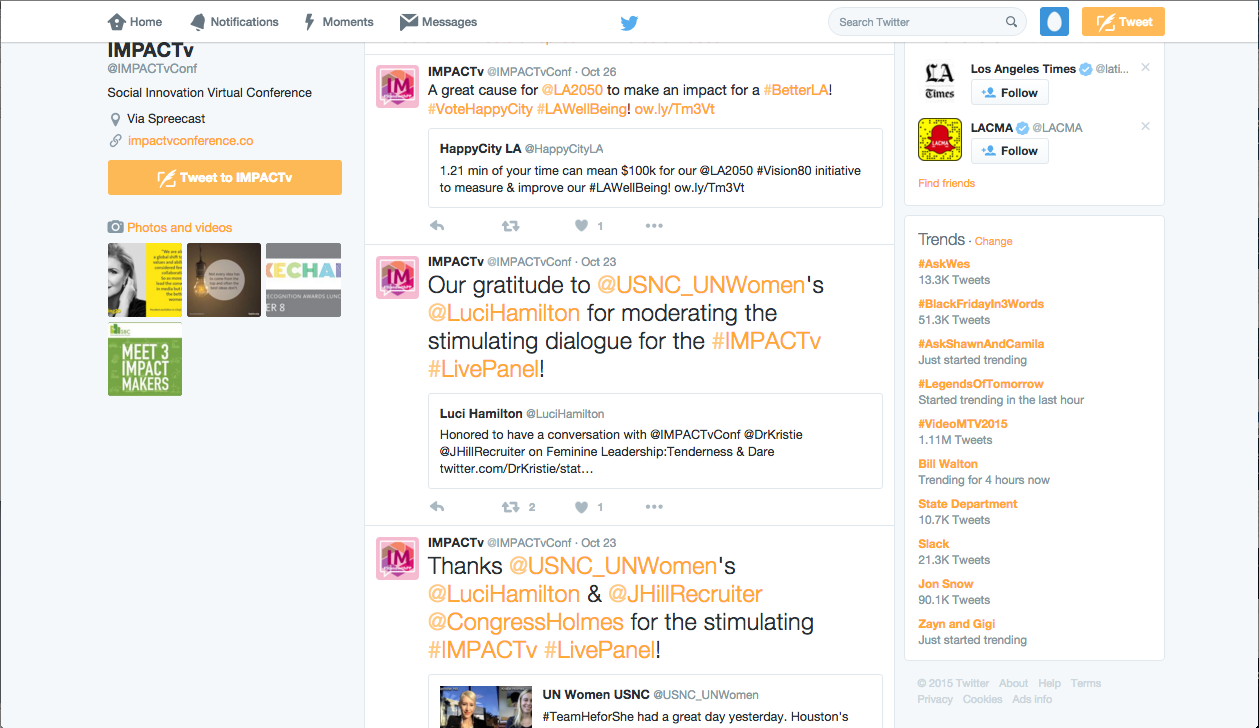
Given that this is my first time using Twitter in 1.5 years and that the last time I used it was only for a few minutes a week, it was interesting to explore and evaluate Twitter’s interface from a Learnability standpoint. For example, finding specific people to follow using the search bar was slightly difficult given that there are so many people with the same first and last name. However, there is a handy way to import your gmail contacts into twitter to instantly find people. It also took a few seconds to figure out where the *user settings* were. It turned out to be the egg icon next to the tweet button and was not the first place I looked.

Also, when first opening Twitter, it was slightly confusing to see random people and trends on the side menus as well as getting random tweets in the feed from people and organizations I had never contacted. This is mostly what adds to the clutter in my opinion.

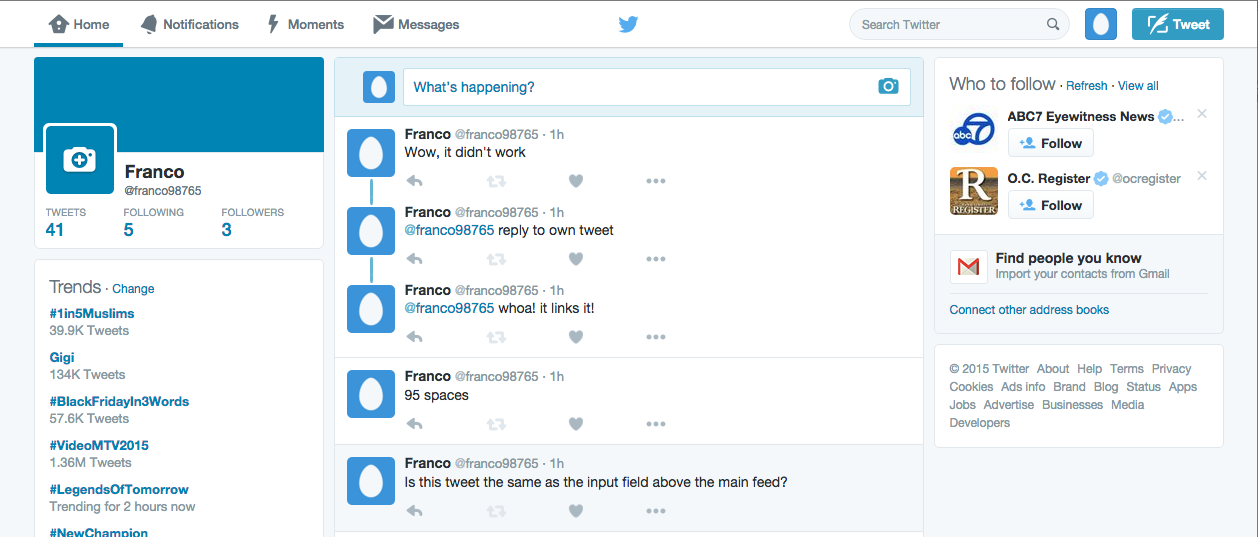


Another area for improvement is the actual display of the messags on Twitter. Although the 140 character limit may be an effective business strategy for bandwidth, creativity, efficiency, and the like, it can at times be difficult to decipher the meanings, contexts, and intentions of certain groups of messages. Often this is due to how people send messages, but there are also other times when the arrangement of the messages themselves adds time figuring out what is being said (as opposed to in Slack, where the use of empty space allows users to quickly locate and interpret elements of the page).

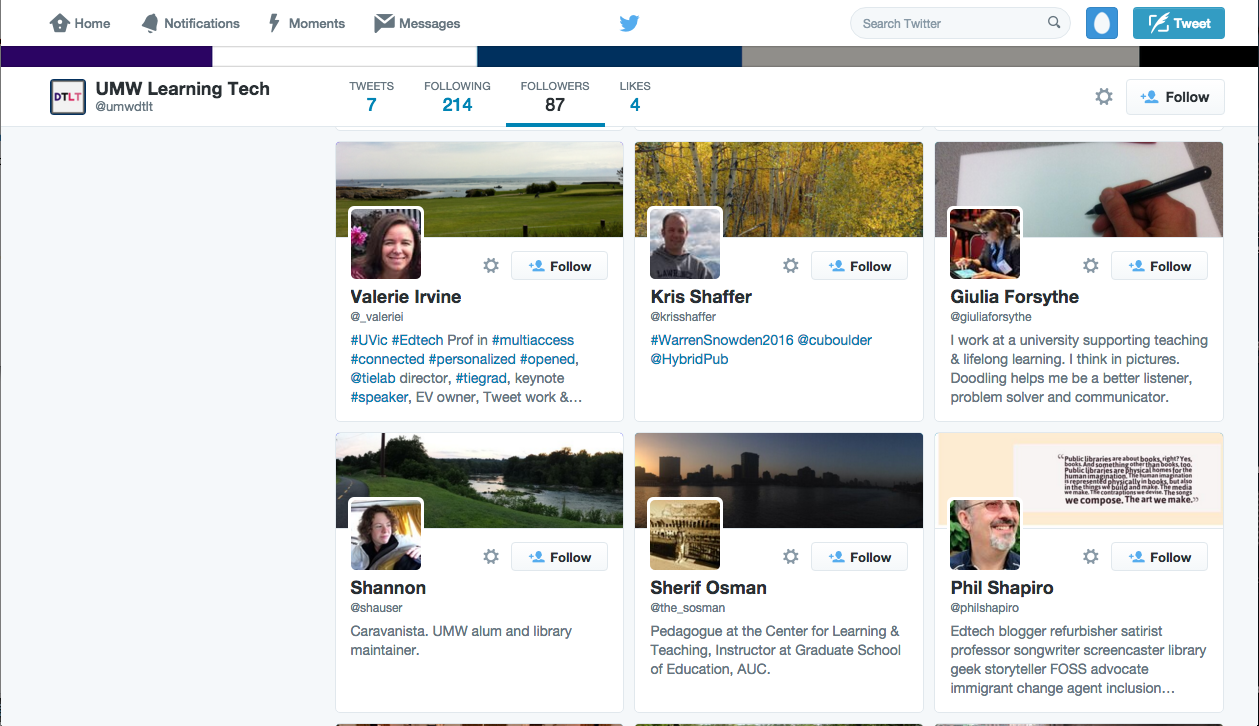
Lots going on here.

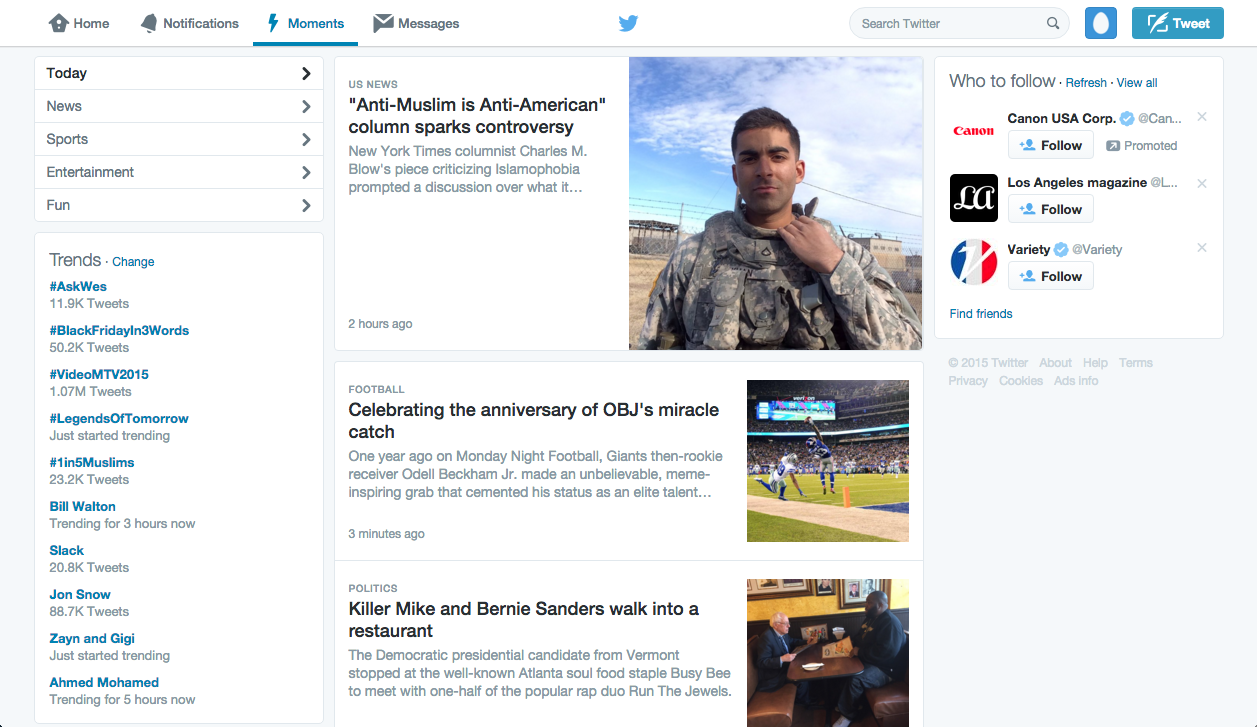


There are also some confusing aspects about replies to tweets. In the image below, the “Wow, it didn’t work” tweet refers to the “95 spaces” tweet (Twitter didn’t post a tweet with 95 spaces), yet when there are replies to the first, they extend below the original tweet and separate the two tweets from their temporal arrangement. That is, it no longer appears as though the “Wow, it didn’t work” tweet was posted immediately after the “95 spaces” tweet.



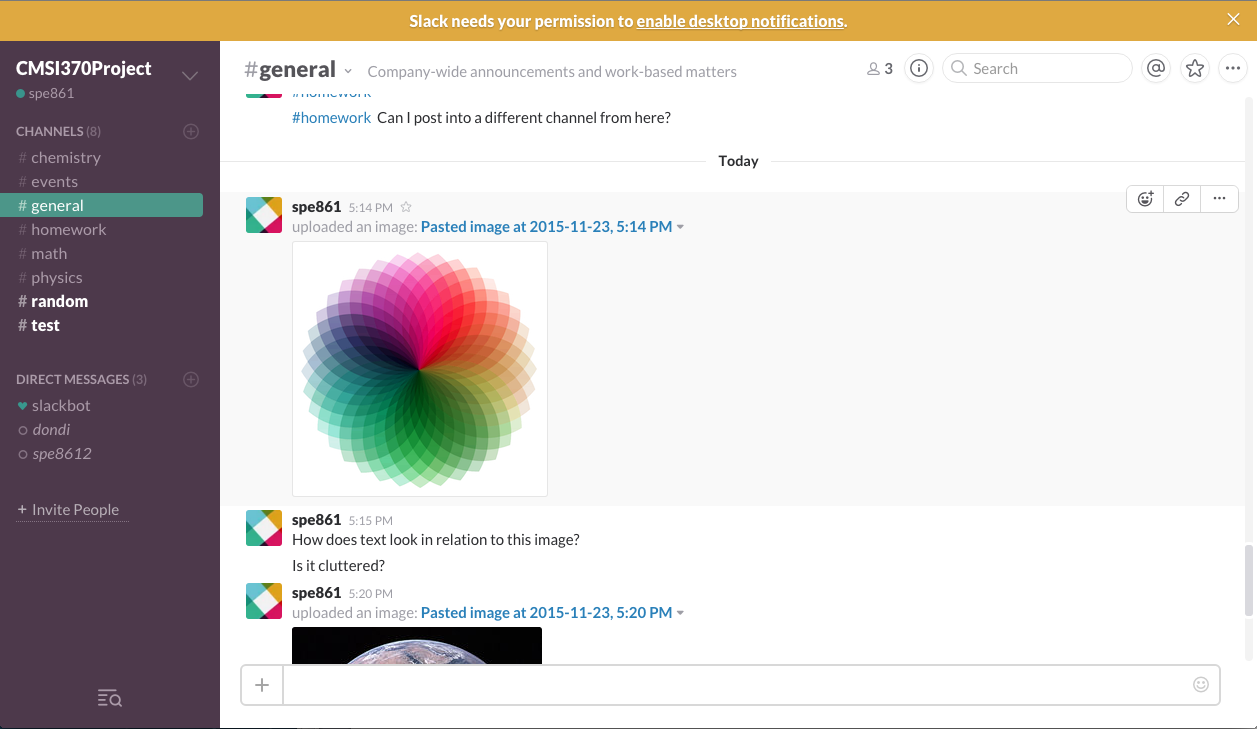
Other cases like the Followers page and Twitter’s Moments page have a mix of text and images that also make the interface pretty complex pretty quickly, thus adding more “reading time” for the user to locate specific information.





(From standstill images, this may look quite “readable,” but add a little motion and scrolling to these images and suddenly Twitter’s layout with the mix of photos and text becomes complex.)

Slack, on the other hand, utilizes spacing to keep its interface uncluttered despite a mix of images and text.

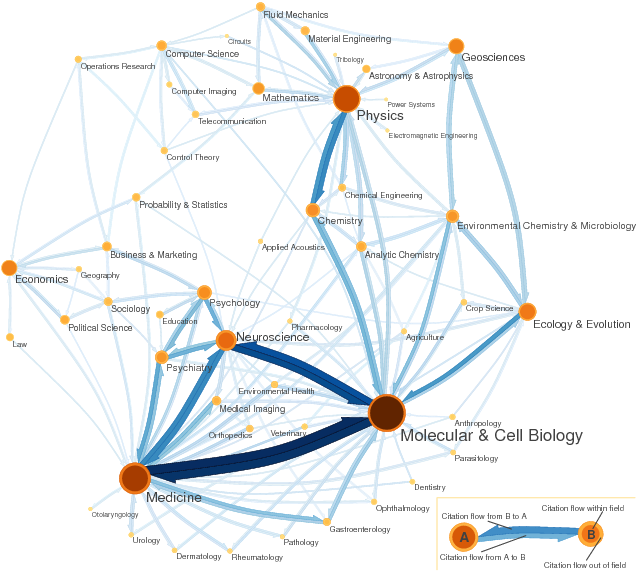


2. Top-Level Design/Layout

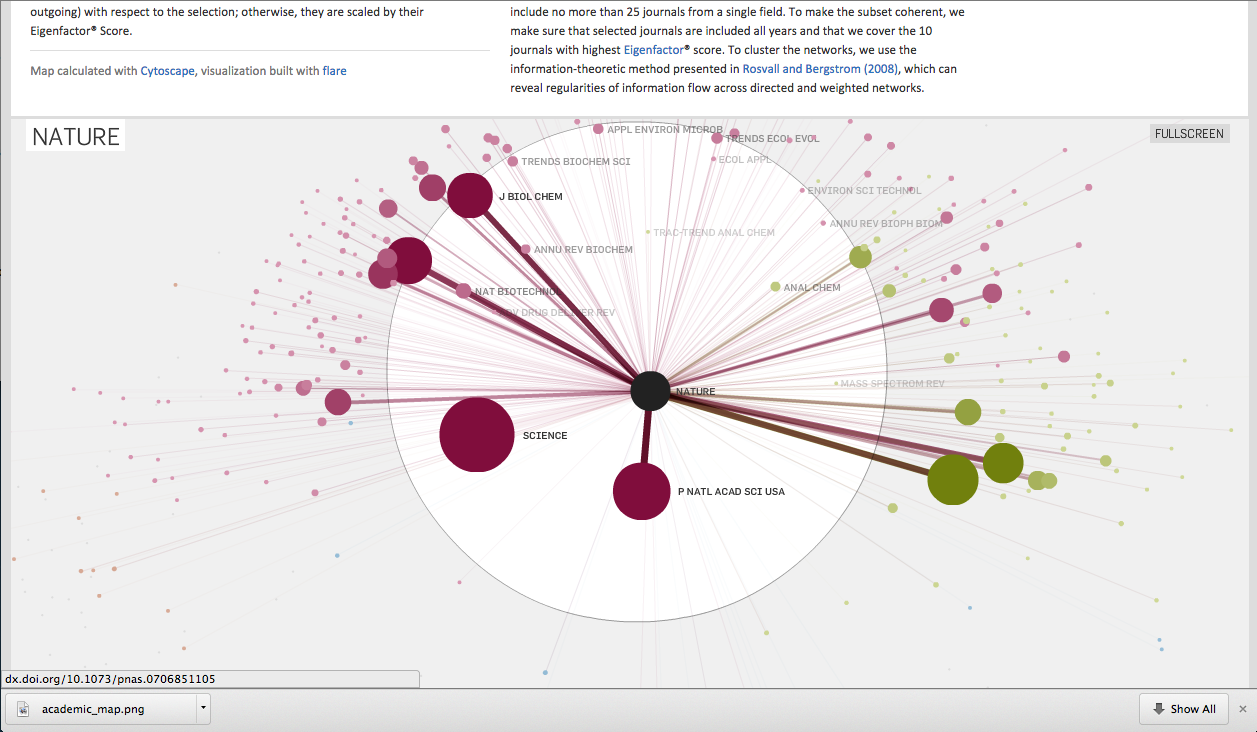
An alternative design may increase the “reading efficiency” of Twitter’s layout for human readers. I am proposing a new interface design that can not only accomplish this, but it can also help reveal further value in the network interactions and dynamics of Twitter data. This new interface would involve spatial animations of 2.5D “graphs,” or mappings, of hashtag and user tweets.

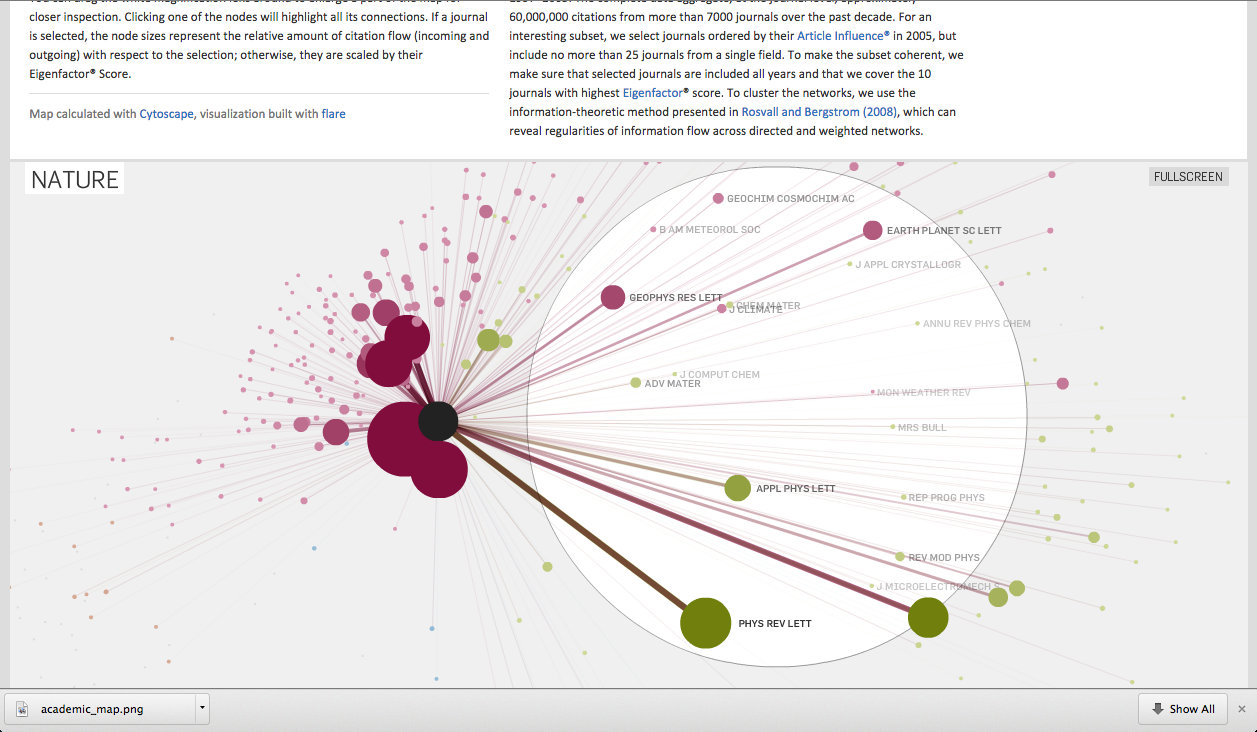
Users would be able to fly to twitter feeds and see them being updated in real-time. It would be analagous to a combination of RealTimeBoard and Prezi’s 2.5D interfaces and the mappings from Eigenfactor.org (an organization that maps academic citations across and between disciplines) and Cytoscape.org.

Eigenfactor’s mapping of cross-disciplinary citations in the Sciences alone



Eigenfactor’s Dynamic Map of citations between academic journals



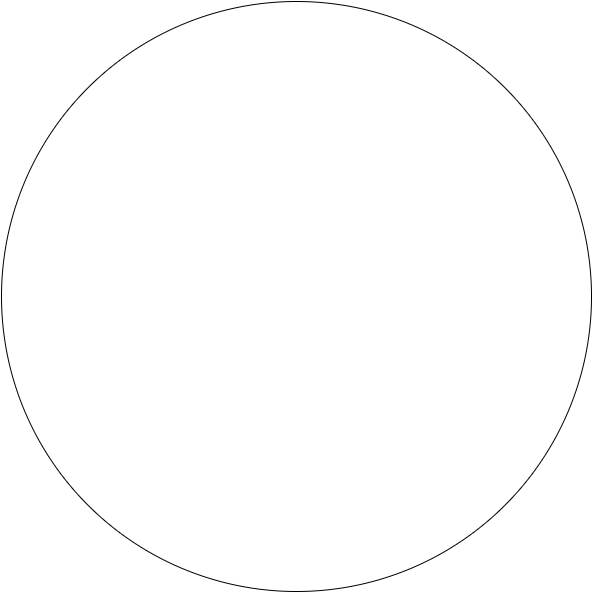
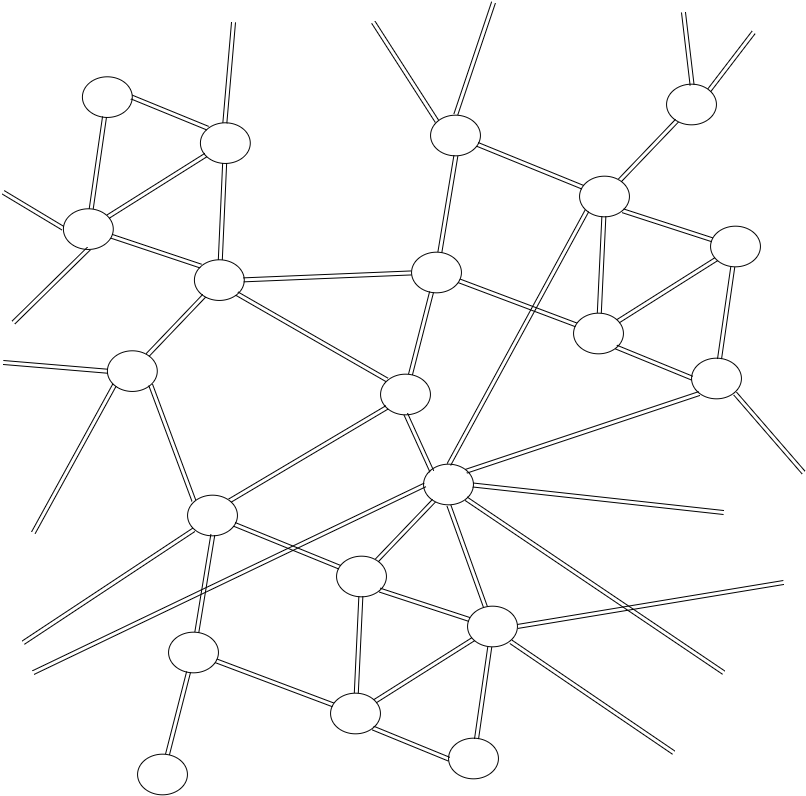
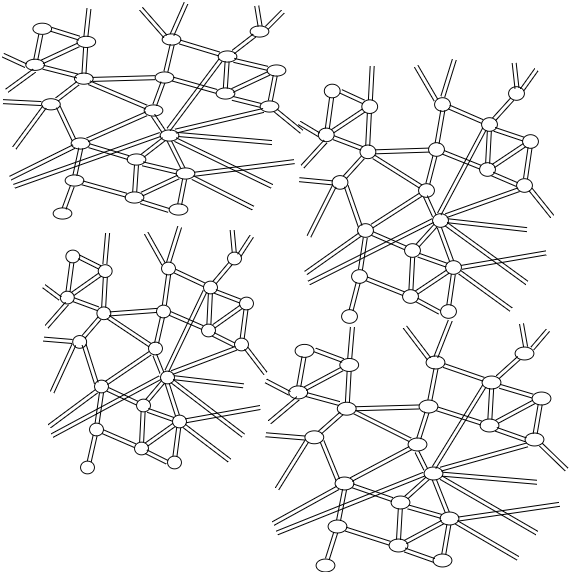


Attempt at illustrating the new Twitter interface

[photo of drawing]

Each node is a hashtag page/feed, and each connection between nodes represents tweets that share hashtags. The deepness of the node border color indicates how many tweets the hashtag is receiving in short periods, and the thickness of the connection represents how often hashtags are included in the same post. All nodes are of equal size and do not grow or shrink in any way. When the mouse pointer hovers over a node or connection, they are each highlighted to indicate they are clickable. Hovering over a node also highlights its connections, but hovering over a connection only highlights the nodes at the end of On hover, the node will also display the tweet frequency. Connections will display the number of shared tweets.

Macro Meso Micro



Users can select a feed to focus on, but the selected feed does not necessarily have to be the center/pivot of the graph. (There is option for that to work, however.) Once selected, the display on the left transitions to the new feed. On the graph that particular node is bordered by a distinct color, and its connections also transition to that color. The other nodes at the ends of those connections do not change color, but their sizes are slightly increased to make them stand out in the network.

The graph/map would be constantly reshaping itself based on the dynamics and interactions of the networks, and users would be able to see this in real-time. Nodes would be appearing and disappearing based on the activity and also from Twitter deleting older feeds and tweets. The same would also be happening with the connections between the nodes. Because this interface would incorporate 2.5D software from RealtimeBoard and Prezi, users would be able to zoom in and out of different scales of the networks. From the user’s perspective, they would have their individual feed and settings move with them as they change their camera angle and zoom to fly through the network. Of course, there are map settings on the bottom right to help with navigating such as a “Jump to” search bar and a micro/meso/macro slider for viewing different scales of the graph.

A filter mechanism would also be a useful feature for the graph. Users would be able to view excusively the nodes, connections, and frequencies of certain key words and hashtags. They would even be able to have multiple filters to compare networks. There is also a slider at the top of the interface for users to revert the network to past instances and potentially track how those networks developed over time.

Users can also choose to view a static graph such that only specific instances of the graph are displayed in a given moment, and then the graph would update every few seconds or whenever it is refreshed to show how it has been restructured. Hashtag feeds would only load into the animation when a user is within a certain zooming distance from the node (so that the system isn’t overloaded with trying to display all of Twitter all at the same time).

Users still have all of the original capabilities from Twitter’s service, just with a new way of displaying that information to more efficiently visualize the extent of certain topics and networks.

3. Usage scenarios

Suppose a natural disaster was occurring in a country with poor telecommunications infrastructure. That is, the electricity is down. There is no wifi. The landlines are down. How would people in emergency situations contact others for help? Fortunately, smart phones are becoming a cheap and efficient means to connect digitally to the rest of the world, and research has shown that They also happen to use satellites. Twitter has already proven to be an effective instrument in connecting missing people to their loved ones and providing aid to specific areas in a distaster. What if humanitarian aid workers could get a better sense of which areas were in the most dire need? They could use the filters, or lenses, to search key words or hashtags, and the graph would highlight the nodes, connections, and frequency of tweets for those terms. Instead of having to sort through a long list with tweets and hashtags, humanitarian organizations would be viewing a graph that automically reveals the intensity of certain feeds, thus reducing the number of feeds they actually have to read through before finding more dire situations.

[photo]

Another example of how this interface might be helpful is for research. Suppose a researcher wanted to see how the Arab Spring was related to other social movements occurring at the same time in a different part of the world. The researcher would be able to search keywords related to a few of the movements being investigated and see their corresponding networks. This would be valuable for seeing where those networks converged and diverged. Using the time slider, the researcher would be able to see when certain trends appeared in the networks and track the development of the connections over time.

[photo of filter]

[photo of time filter]

4. Rationale

Adding two more dimensions to the Twitter interface allows the service to provide a broader set of valuable information to users by having more indicators, or means of indicating, at its disposal. For example, this new interface eliminates the tedious clutter of random trends and random people on the side columns of the original interface and instead allows users to simply see which trends are more active at multiple scales simultaneously. No more scrolling or clicking through feeds to see how everything connects. The graph already *shows* how everything connects.

This interface also keeps the important personal twitter feed that was in the center of the screen intact. By extracting the trends and their connections, the user’s info and settings can be isolated to better facilitate the user’s mental model of organizing the content of what they are seeing in their mind. Eliminating the side boxes also allows for a larger feed in general, which means larger font and room for photos.

5. Usability Metrics

Twitter Display Requirements

<https://about.twitter.com/company/display-requirements>

Eigenfactor.org

<http://eigenfactor.org/>