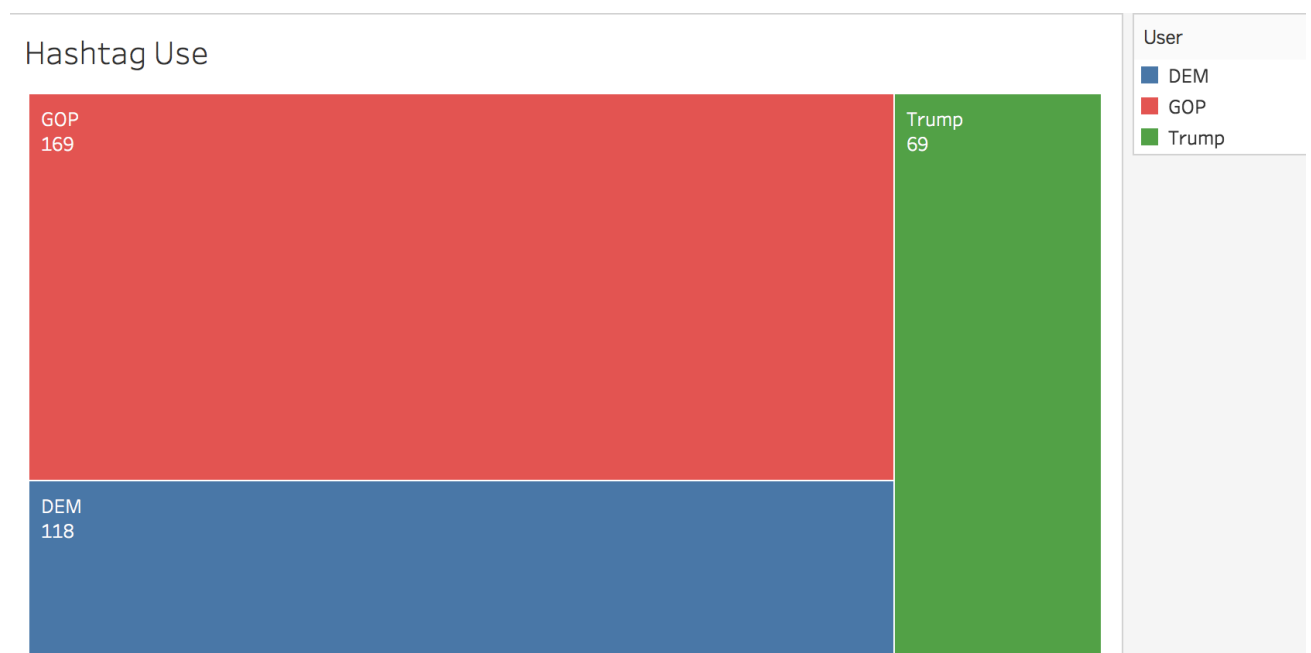


# Notebook 3 - Twitter API

*By Michael Carlin and Brock Ogle*

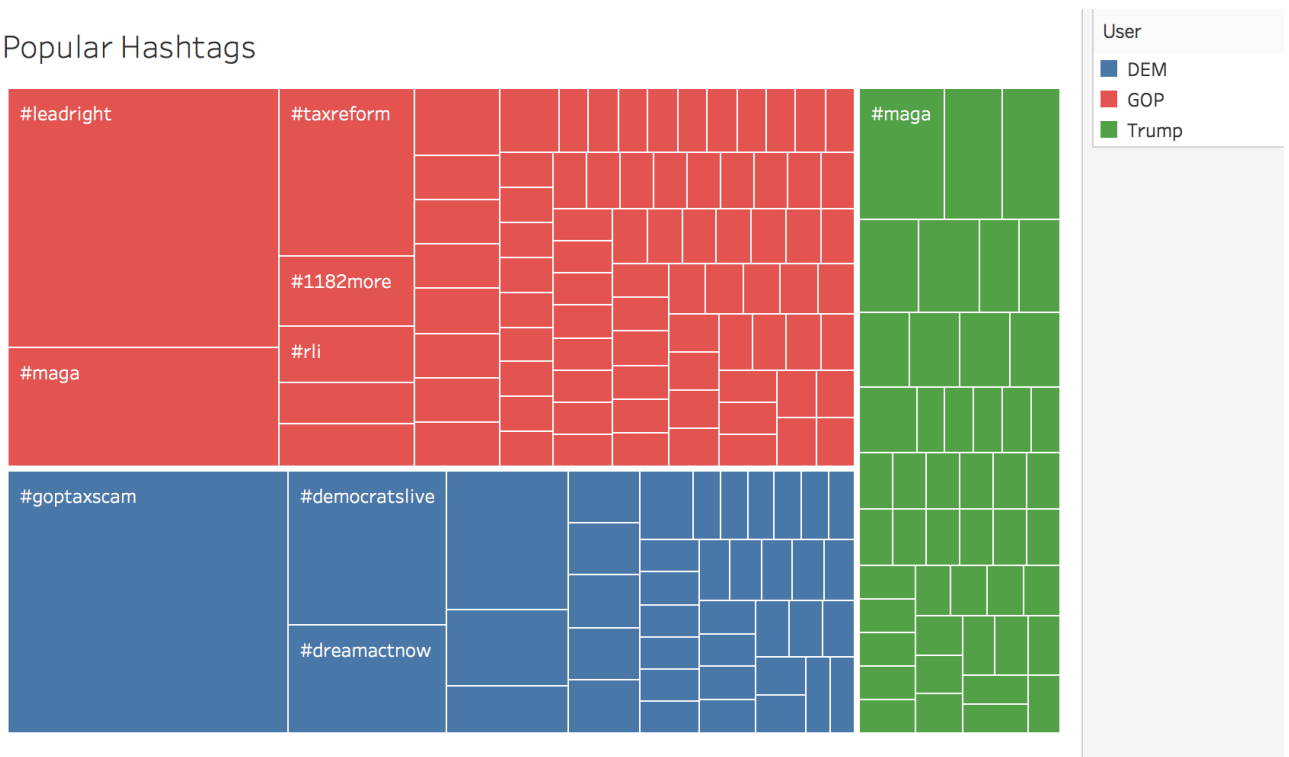
When we started thinking about this project we originally decided that we wanted to use both Instagram's and Twitter's RESTful APIs for our research. We found out through trial, error, and research that new Instagram APIs are created in 'Sandbox Mode', meaning that anyone who uses the API only has access to the information of themselves or the owner of the API. In order to widen the scope of the API there is a process requiring approval from Instagram before the API goes public. It was due to this fact that we decided to focus solely on the Twitter API. Twitter uses OAuth1 authorization for their RESTful API, which is a slightly different dance than the OAuth2 protocol we worked with in class. We wanted to take a look at the major political parties in the United States and analyze their use of social media by examining word frequencies, hashtag use, and the popularity of their original content. After gathering data on the Democratic and Republican parties we wanted to analyze how our President, Donald Trump, uses social media and see how popular he is on Twitter with favorited tweets and retweets. We wanted to see how Trump's use of Twitter differed from each of the major American political parties. Please note that the Twitter API limits queries to the 3,200 most recent tweets of each user. It is also important to know that GOP stands for "Grand Old Party", and is a common moniker for the Republican Party.

What we decided to look at first was the use of hashtags by President Trump and the major American political parties.



From the graph we can tell that the Republican party has been the most active in the use of hashtags, while President Trump is the least active. Although the Republican party (GOP) is the most active in using hashtags, because the past 3,200 tweets of each user are included in our research, our most decisive conclusion is that major political parties in the United States stay away from hashtag use. It is possible that the owners of these accounts would consider using more hashtags in the future in order to capitalize on trending stories to increase their social media presence in today's day and age. We then wanted to see what each party was saying in their tweets to see if there were any words or phrases that were used a lot.

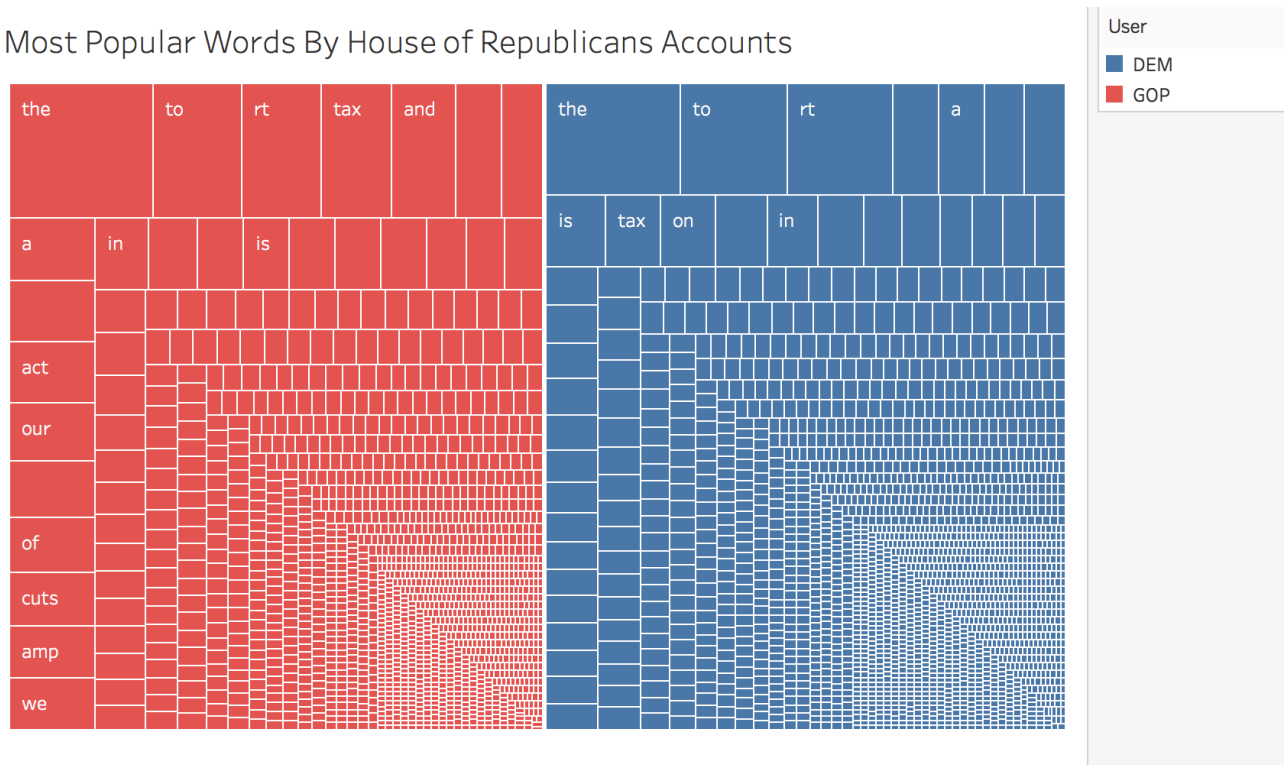
### Popular Hashtags



We were able to see that there were definitely some hashtags that were used much more than others. It was no surprise to see that Trump's top use of hashtag was #maga which stands for Make American Great Again, and #MakeAmericaGreatAgain is his 3rd most common tag. This was his slogan throughout his Presidential campaign so it would make sense that he would use his slogan in his hashtags. We were also able to tell that there were some similarities between Democrats and Republicans with their hashtag use. Of their most frequent hashtags both of them mentioned something about tax. This is obviously an important topic in the news as tax bill was recently introduced so it also makes sense that the parties are tweeting about this and using it in their hashtags.

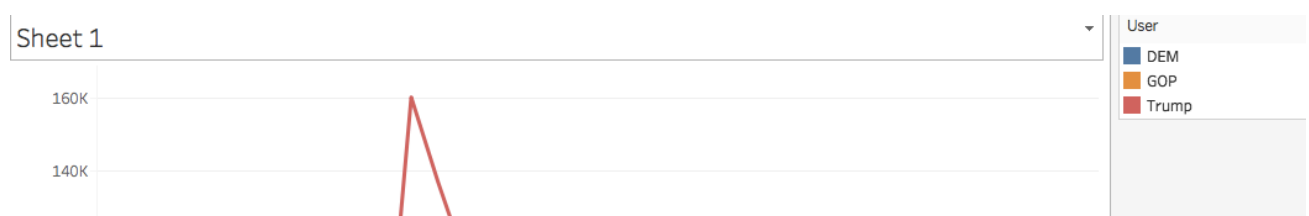
Next we wanted to see just the political parties alone and not include Trump. We narrowed our scope to the twitter accounts for each party's House of Republican members and analyzed the frequency of their word choice.

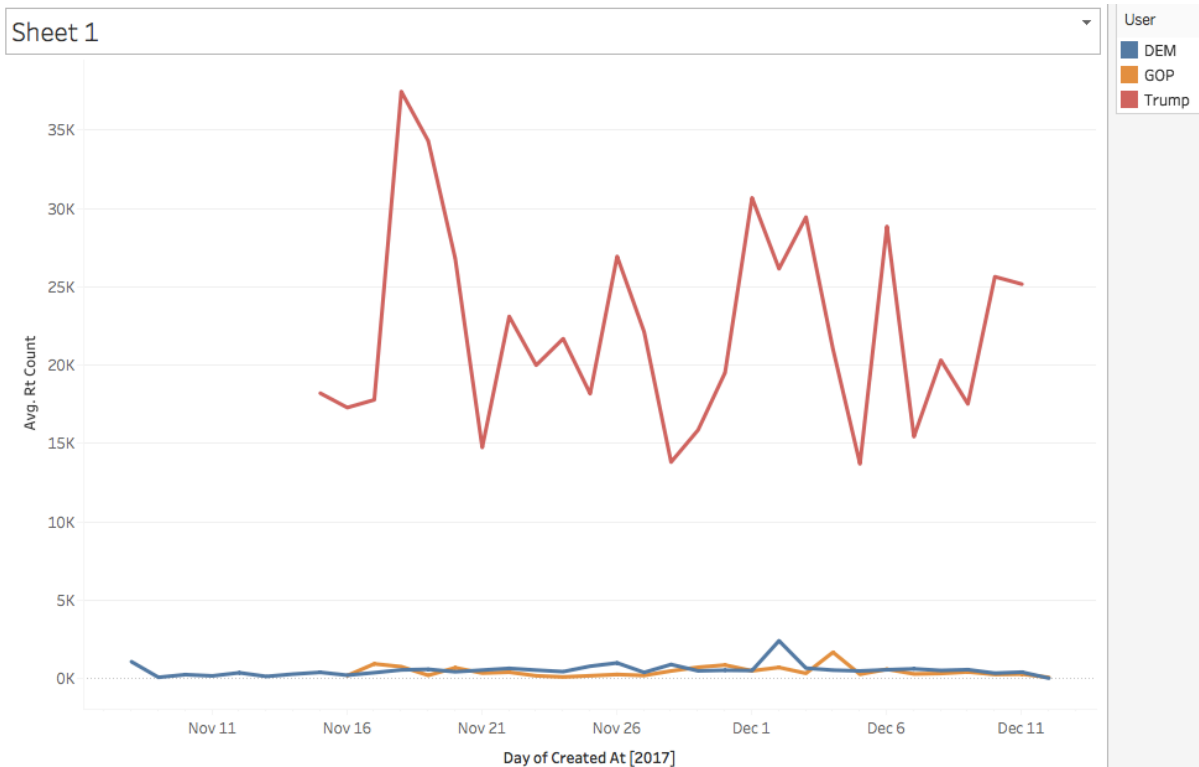
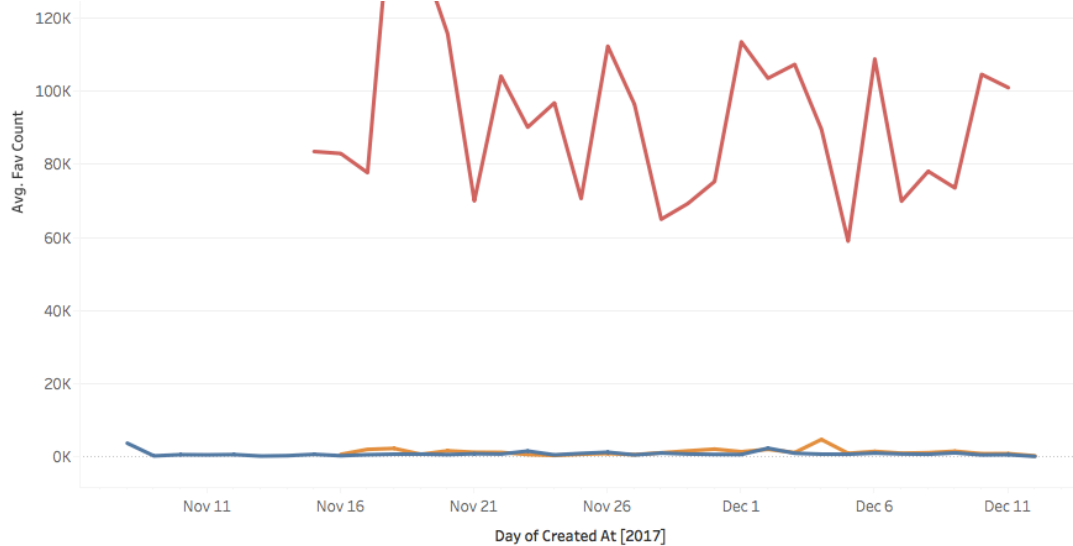
Most Popular Words By House of Republicans Accounts



Again we were able to see that 'tax' is one of the most prominent words used by each political party. In analyzing the difference in both twitter feeds, we see that one of the more common words used by Democrats is 'tax', while Republicans often use both 'tax' and 'cuts'. To put this in perspective of current events, the Republic party just passed an aggressive tax bill through the Senate floor by a vote of 51 to 49. Democrats highly contested this bill and this can shows in their word choice. The word 'tax' is a buzzword in today's society, and one with a negative connotation. But on the contrary 'tax cuts' is a much more popular phrase for Americans. This shows how each Twitter feed uses social media in order to create a public perception about a current event that favors the views of their party. However, after this the variety of words used on twitter limited the impact of our analysis.

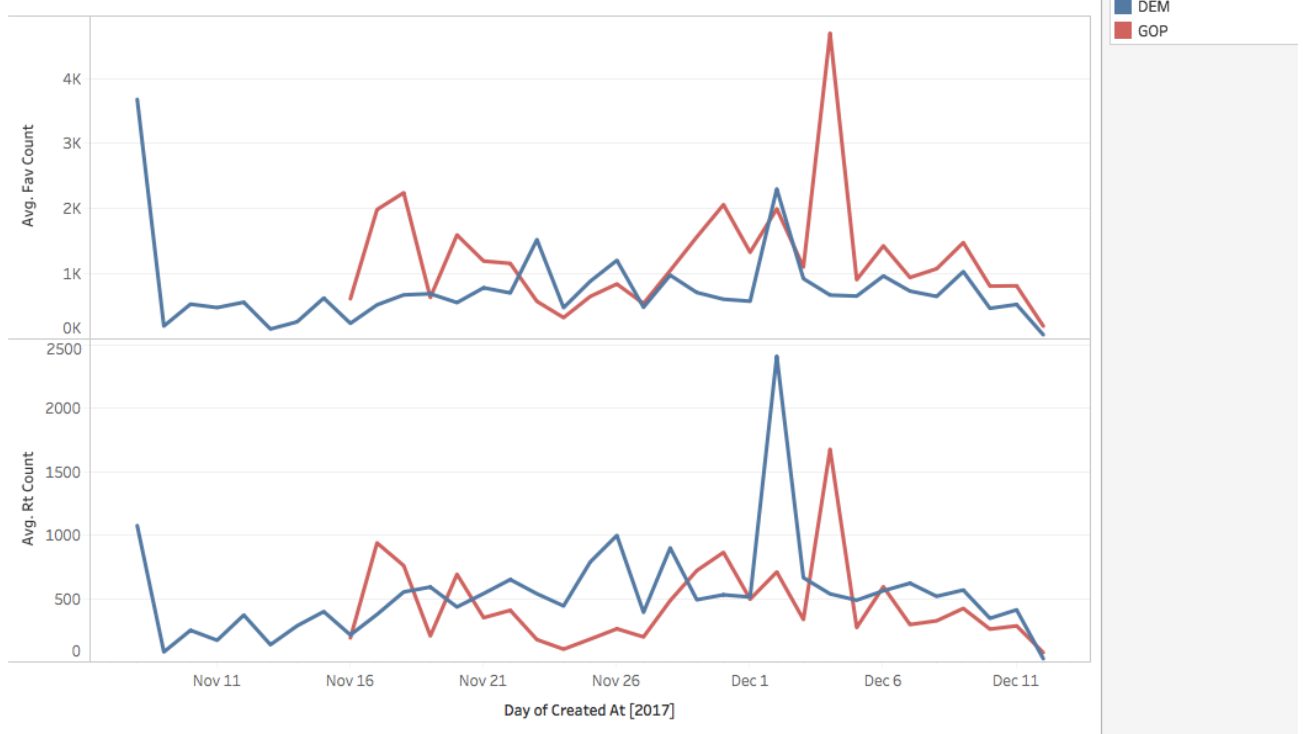
We then wanted to look at the popularity of the political parties alone and compared with Trump. We wanted to analyze the amount of favorites each tweet got and the amount of re tweet.





We limited our queries to the last 200 tweets from each party to put our data in perspective of the recent tax bill. From the previous two graphs it is very clear how much media presence Donald Trump has. His retweets and his favorites are far greater than the amount of either of the political parties. When he posts something many more people are likely to see what he is saying and it is clear how much power he has in media. Since it was so clear how much presence Trump has we wanted to take him out of the graph and just analyze the Republican and Democratic Party.

Sheet 1



From the graph we can see that the Republicans and the Democrats are fairly similar with their favorites and their retweets. In general the Republicans tend to have a littiel more favorties and the Demorcats tend to have a little more re tweets. We are led to believe the spikes in the graphs just after December 1st are due to the passing of the tax bill, and the political fallout from such a high contested decision.

We felt that an important take away from our analysis is that major American political parties could do more to connect with the people by utilizing social media. The abismal retweet and favorite levels for the Democratic and Republican parties show that they are failing to utilize a powerful tool. Twitter especially, with it's direct to consumer approach to news, could be a platform in which political parties educate the public about their stance and communicate their views in ways that will persuade voters to cast favorable ballots. With voter turnouts being reported at 58% for the 2016 Presidential Election, a 20-year low according to CNN, shows that people do not feel the level of support necessary to take the time out of their day to cast a ballot. Although it is the responsibilty of the voter to go to the polls and cast an educated ballot, the major political parties of the United States must still feel some responsibility to galvanize a sense of patriotism in the American people.

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