

# SMaPP Lab Data Report: Ukraine Protests 2013-2014

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Preliminary Results, February 28, 2014

In November of 2013, protests erupted in Ukraine on the main square in Kiev. Organized in response to a decision on the part of the Ukrainian government to move towards closer ties with Russia, and away from strengthening the relationship with the European Union, the protests were the largest in Ukraine since the Orange Revolution in 2004. We began collecting Twitter data using the main protest hashtags starting on November 25th only a few days after the beginning of the protests. Almost three months into ongoing protests, our dataset now contains more than 3.6 million tweets. What can we learn from the Ukrainian case about the use of social media in protest? How are the dynamics of this case similar or different from previous protests that utilized social media?

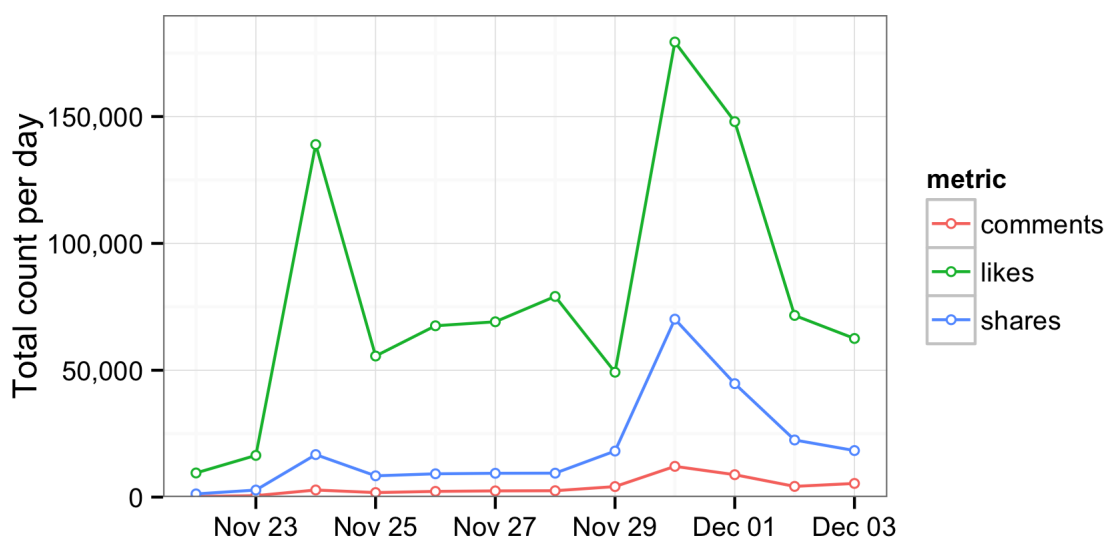
Early on in the protests, we observed that Facebook was much more actively used to talk about the protests than Twitter. Within the first 2 weeks of the protests, the main Facebook page had been liked more than 125,000 times. Information on Facebook was mostly in Ukrainian. We also found that the page served a dual purpose of providing information and news-like content and of helping to coordinate efforts on the ground. There were, for example, posts with maps of places to get free tea and access to warm spaces, advice on how to avoid being provoked by government agents, flyers to print and distribute around the city, as well as information on where protesters would be gathering. Further, it was clear

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\*Data analysis in this report was performed by Megan Metzger and Pablo Barberá, Graduate Research Associates of the SMaPP lab, with assistance from Duncan Penfold-Brown, Data Scientist, SMaPP lab, under the direction of Professor Joshua Tucker, Co-Director of the SMaPP lab. Information in this report previously appeared in blog posts on *The Monkey Cage* and *The Huffington Post*.

that people were interacting with this information, and not simply passively consuming it. The page's content had been shared hundreds of thousands of times, and liked over a million times. Figure 1 below shows Facebook activity during the early days of the protest.

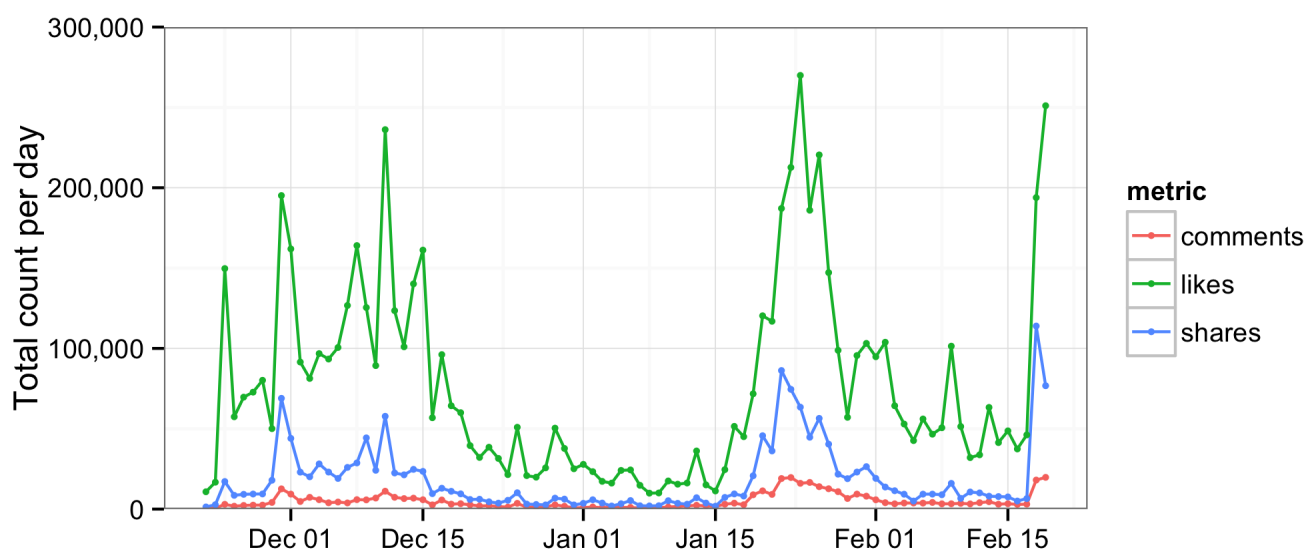
**Figure 1: Facebook Activity Until December 3rd**



As the protests have gone on, and become more violent, we see the overall trends of participation on Facebook remaining quite similar, but adapting in specific ways to changes in the situation on the ground. The main Facebook page is still primarily in Ukrainian, and it still seems to serve a dual purpose of spreading information and operating as a logistical tool for those on the ground. As had begun to happen in the early days of the protests, new pages to serve specific needs have been created to bolster the resources available on the main protest page. These include pages to help those arrested get legal assistance, and in recent days pages to coordinate medical services as violence has escalated. The organizational use has also continued on the main page where documents have been circulated to collect information on the dead and disseminate information about the needs of their family, to coordinate rallies and to keep people up to date on violence. It has also been used to

disseminate videos and images of the violence, with some of the most shared links in recent days including videos of government snipers shooting at protestors and of medics cross the square in a line to assist the wounded. As Figure 2, below, shows the trends on Facebook over time from the beginning of the protests through February 21st. We can see that activity increases dramatically, particularly likes and shares, during major incidents such as the violence over the past couple days, as well as the brief, lower-level violence in January.

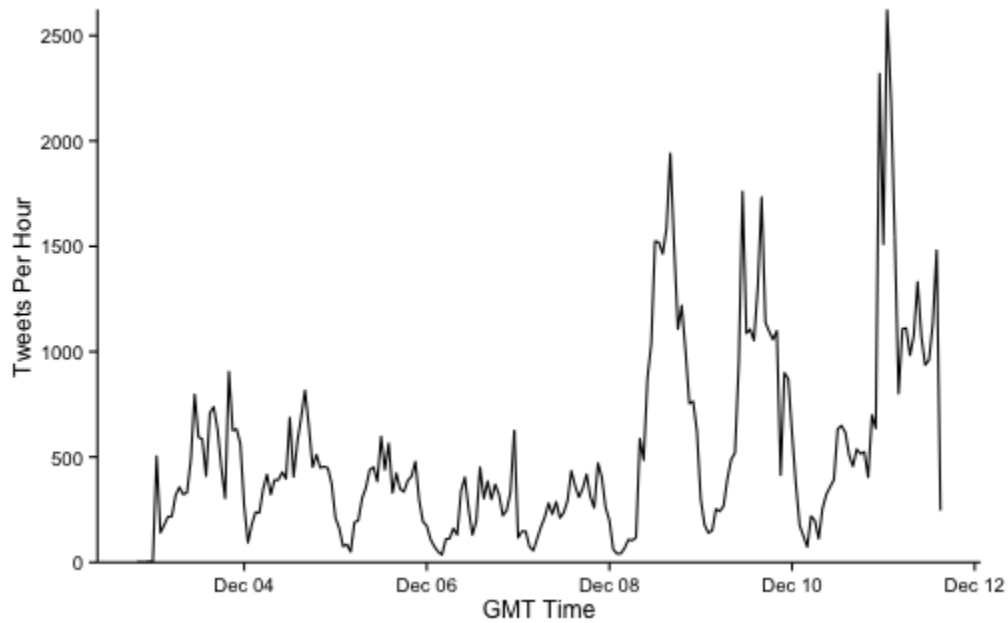
**Figure 2: Facebook Activity Through February 20th**



While the trends on Facebook have remained generally similar over time, the dynamics on Twitter have shifted from the early days of the protests. Initially, activity on Twitter was not at a level comparable to that on Facebook. In the first weeks of the protest, 120,000 tweets were sent mentioning the main hashtags of the protest. Figure 3 below shows Twitter activity using protest hashtags per hour in the early weeks of the protest.

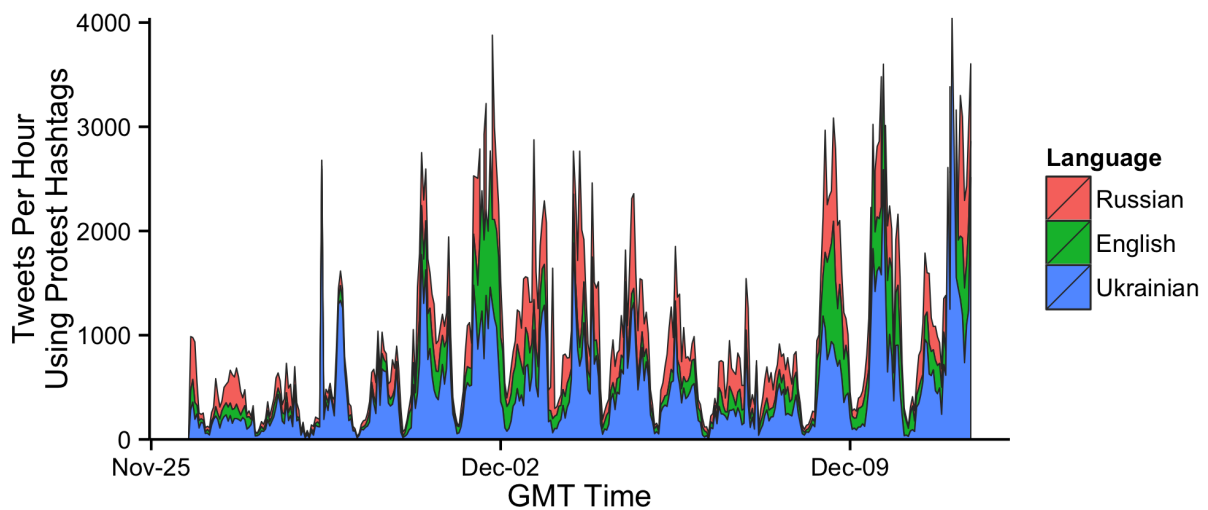
In comparison with other protests, such as in Turkey language use on Twitter was fragmented with Ukrainian accounting for only 33 percent, English for 28 percent and Russian for 24 percent. There was, then, a relatively even distribution of language use across the three

**Figure 3: Tweets Per Hour Through December 11th**



main languages in our data, and we particularly observed spikes in Russian and Ukrainian percentages during key moments in the early days of the protest. Figure 4, below, shows the distribution of language use across the first weeks of the protest.

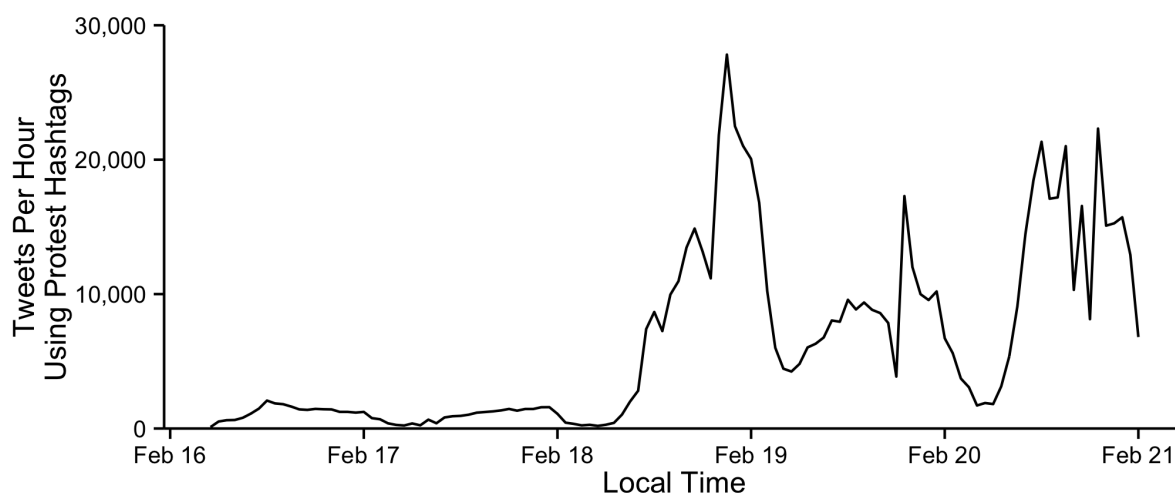
**Figure 4: Linguistic Distribution of Tweets Through December 11th**



However, when considering the geographic distribution of the active users on Twitter, we found that 69 percent of geolocated users were tweeting from Ukraine, many of them writing in English, which suggested that the language fragmentation was not driven primarily by foreign users. One possible explanation for this result is a division of purposes across social media: while Facebook was used to create content targeted to a domestic audience, Twitter appears to have been a tool to convey information about the protest to the rest of the world and to draw the attention of the international community. This result is consistent with some of the work by Sean Aday and colleagues in their paper “Blogs and Bullets”.

Over time, Twitter has come to represent a much more active locus of conversation about the protests. We have observed this particularly in the case of the violent conflict which occurred from February 18th-February 21st. In the 24 hours following the violence on February 18th, approximately 250,000 tweets were sent using protest hashtags, substantially more than were sent during the first several weeks of the protest in total, and tweets per hour peaked at 30,000. This increase is exponential in relation to early levels of activity, and is substantially higher even than activity during the less severe violence in January. Figure 5 shows tweets per hour during the most violent days of the protests.

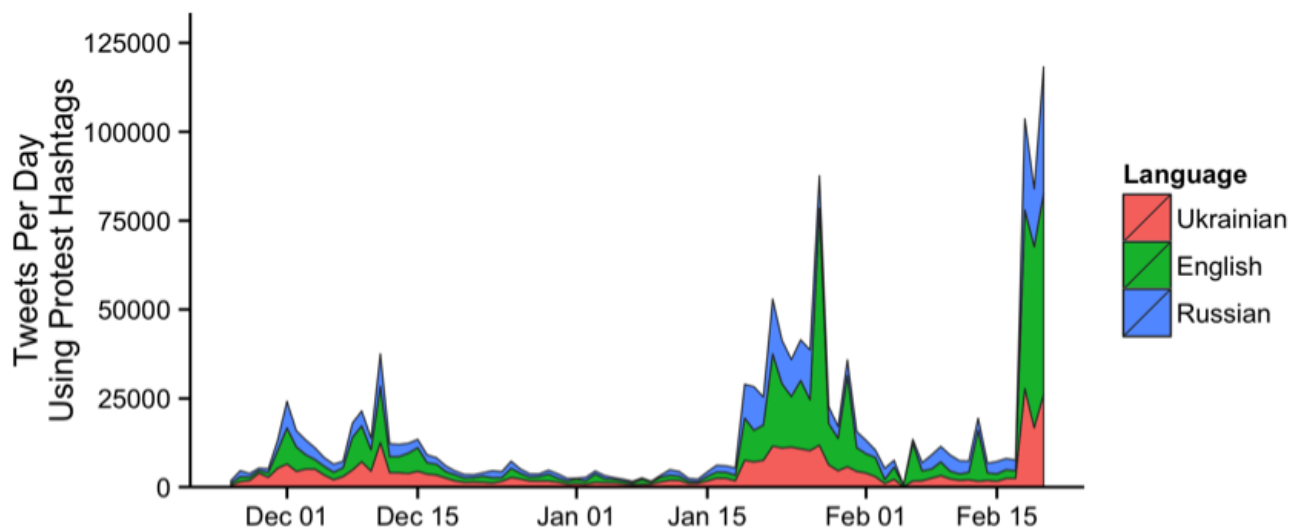
**Figure 5: Tweets Per Hour February 16th Through 21st**



The number of tweets mentioning the main hashtag used by protestors, #Euromaidan (and its translation to Ukrainian and Russian), steadily increased over the day on February 18th as protests in the square became more violent. The activity peaked in the late evening as the police encourage women and children to evacuate, leading to the most violent period of the day. The following day we see a similar pattern. Activity decreased over night, to then steadily rise throughout the day as the situation became increasingly violent. In fact, we can see that spikes often correspond exactly to the hour with events on the ground.

Figure 6, below, gives some insight into what is driving these shifts in activity. This figure shows that the dominant language on Twitter is currently English, but that was not always the case. Earlier in the protests, language use was more evenly distributed. However, over the past few days, the proportion of tweets in English has gone up dramatically, from 44 to 53%. Our numbers do not suggest that Ukrainians are tweeting less than during other high-volume days, but instead that their numbers are being augmented by a much larger population of users from the international community. Another possible explanation for the increased activity could be a concerted effort by supporters of the protest to engage the international community, that is, Ukrainians tweeting in English to prompt this increase in participation on the part of those outside the country.

**Figure 6: Linguistic Distribution of Tweets Through February 21st**

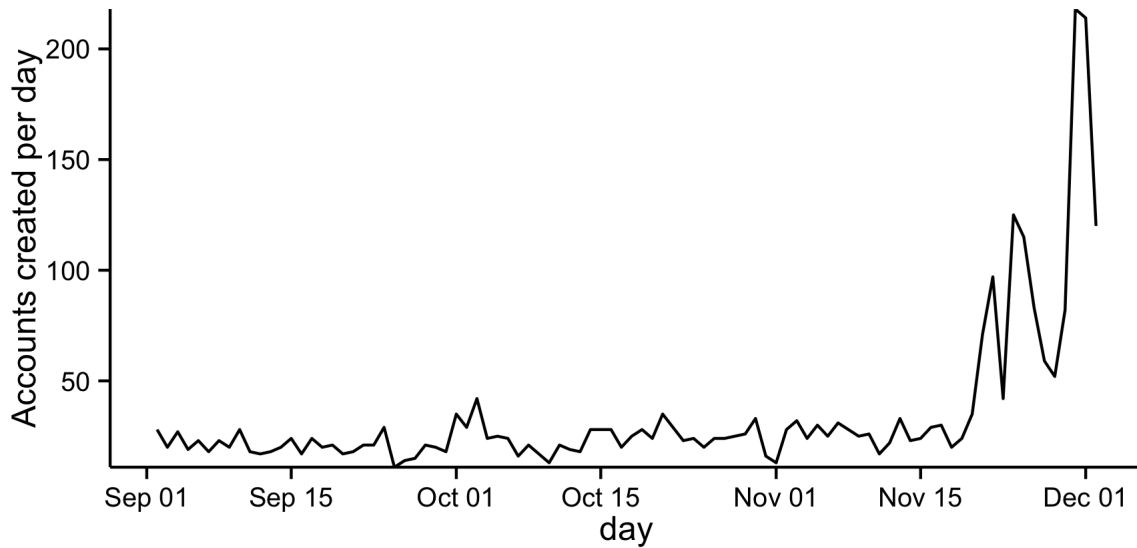


Another interesting phenomenon that may be helping to drive this increase in twitter activity, and which we observed early on, is that the protests themselves seem to have prompted users to join Twitter. Figure 7, below, shows our findings in the early days of the protest that there was a significant number of people tweeting about the protests who had in fact joined twitter during the protests. While some of this may be driven by individuals opening new accounts to tweet about the protests, or by newly formed protest organizations creating accounts, that does not account for the sort of spike that we see in twitter account creation exactly coinciding with the onset of the protests.

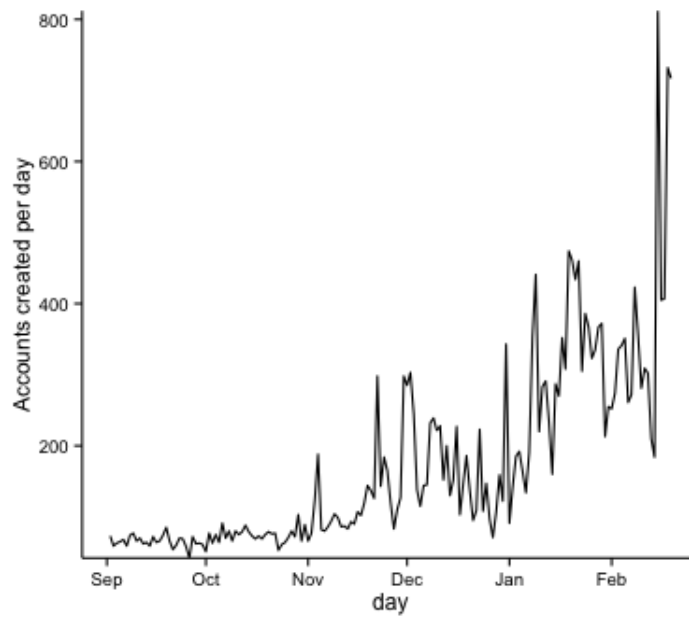
We see a similar trend if we look further out from the start of the protests, as can be seen in Figure 8.

Overall, one conclusion we can draw from the Ukrainian protests is that social media users strategically adapt the tools available to them to the situation on the ground as well as to the local social media context. In a country where Twitter is less used than Facebook, organizers employed Facebook as a tool for informational exchange and strategic planning, as well as to mobilize needed resources and to fill gaps or supplement on the ground strategies.

**Figure 7: Date of User Account Creation for Users in Data Through December 4th**



**Figure 8: Date of User Account Creation for Users in Data Through February 21st**





We see this in our data from both the particular information shared on Facebook, as well as from the fact that Facebook activity is mostly in the local language. On Twitter, we see greater fragmentation of language use, including from Ukrainian users, and conclude that Twitter is being used largely to mobilize and inform the international community. We also see non-users engaging with social media anew as the protests continue.

Our analysis suggests that, on the ground, there is a recognition of the importance of social media during protest, either as an informational or an organizational tool, that prompts people to begin using these tools themselves. As the situation on the ground became more violent, users were able to engage with these existing tools and adapt them to the shifting needs on the ground. They used them to release videos of police violence following denials by the government that the police had shot at protestors, they used them to encourage one another, and when the death toll began to rise they used them to mobilize medical resources and support for the families of the fallen. All told, what we can learn from our data on the Ukrainian protests is a lesson about the strategic potential and flexibility of social media in protest contexts.

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