Neo4j/Gephi assignment

We know that fake news botnets distribute content in bursts, employing newly registered accounts with limited connections. In this particular case we're going to look at user with a small following that shared video's with one of the following tags; "ukraine", "russia", "ukrainewar", "ukrainerussiaconflict", "ukrainewarrussia", "supportukraine", "ukrainevsrussia", "prayforukraine", "russianarmy", "Z".

match (user:user)-[:author]->(video:video) where user.followerCount < 100 match(video)-[:has]->(tag:tag) where tag.title in ["ukraine", "russia", "ukrainewar", "ukrainerussiaconflict", "ukrainewarrussia", "supportukraine", "ukrainevsrussia", "prayforukraine", "russianarmy", "Z"] return user

The following image in figure 1 represents all users with fewer than 100 followers who have posted a video about the Ukraine-Russia conflict. We will investigate the properties of the username "Ukraine will win!!!" which sticks out among the nine returned users. We may deduce from the attributes that the majority of the videos are about Ukraine.

match (user:user{nickname:"Ukraine will win!!!"}) -[:author]->(video:video) match(video)-[:has]->(tag:tag) return user,video,tag

Figure 3 shows a graph representation of all of their videos that have been tagged. Except for the tag "fyp," all of the tags are linked to the conflict. The acronym FYP stands for "For You Page." This page is the one that defines the majority of the user experience. FYP on TikTok is entirely algorithmic. As a result, when you initially sign up for TikTok, your For You Page may appear generic and, in some cases, boring. However, after a certain amount of scrolling, the app will begin to learn your viewing habits and show you with information that is personalized to your preferences.

match (user:user)-[:author]->(video:video) where user.followerCount < 100 match(video)-[:has]->(tag:tag) where tag.title in ["ukraine", "russia", "ukrainewar", "ukrainerussiaconflict", "ukrainewarrussia", "supportukraine", "ukrainevsrussia", "prayforukraine", "russianarmy", "Z"] match(user)-[recommends:recommends]->(:user) return user,count(recommends)

What's also worth looking at is the amount of connections those 9 people have in relation to the number of accounts they promote, as this implies a strong traction of information stream for such a small audience. Only two people, "Ukraine will win!!!" and " Maria," recommend 420 and 56 accounts, respectively, out of a total of nine individuals. Those two accounts, particularly "Ukraine will win!!!," should be examined due to the huge network they represent and the potential for quick information influx.
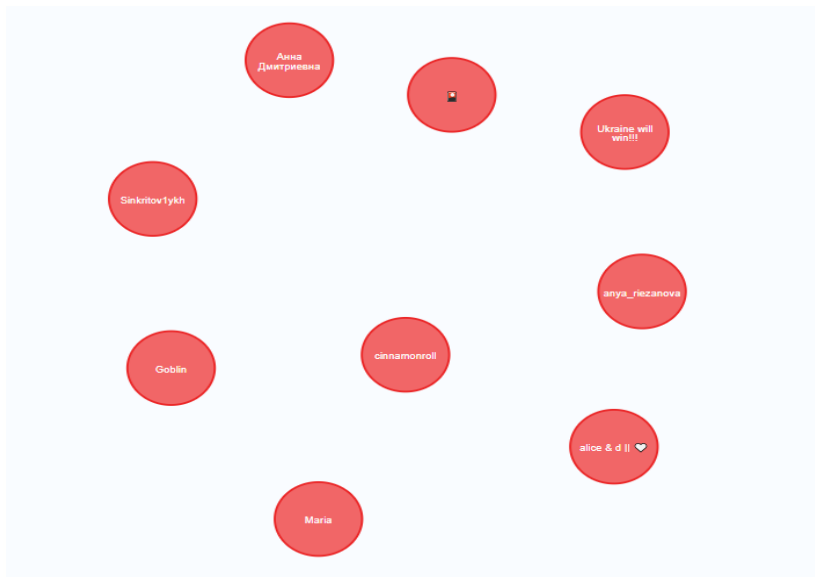
Figure 1: users that shared content about the Ukraine-Russia conflict with less than 100 followers

id	ukraine_best_3
isADVirtual	0
nickname	Ukraine will win!!!
openFavorite	0
privateAccount	0
relation	0
roomId	
secret	0
shortId	
signature	Russia started it ukraine and europe will finish
stitchSetting	0
uniqueId	ukraine_best_3

Figure 2 : user with nickname "Ukriane will win!!!", follows 2 people and has 98 followers, not verified, 15 videos
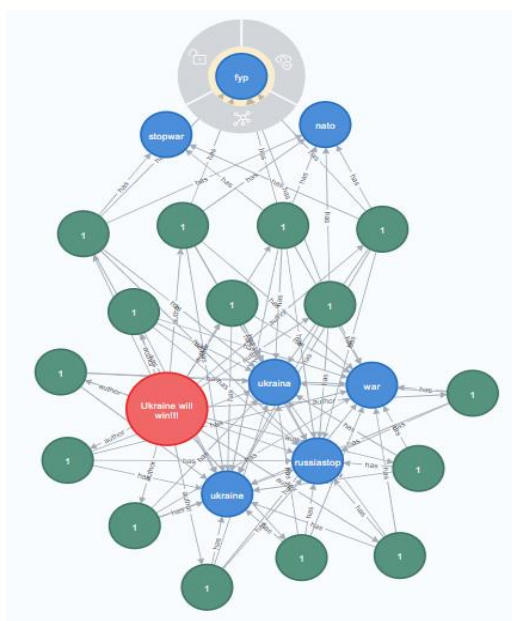

Figure 3 : Graph network of "Ukraine will win!!!" with its videos annotated with tags.

```
match (user:user)-[:author]->(video:video) where user.followerCount < 100 match(video)-[:has]-
>(tag:tag) where tag.title in ["ukraine", "russia", "ukrainewar", "ukrainerussiaconflict", "ukrai
newarrussia",
"supportukraine", "ukrainevsrussia", "prayforukraine", "russianarmy", "Z"] match(video)-
[:recommends]->(video2:video) return user,video,video2
```

The next question is whether those videos also propose other videos, and if so, are they linked to the same subject. Figure 4 shows that just three videos from three distinct accounts recommend other videos to the nine filtered individuals. Because the following query does not return videos with the appropriate tags, we may conclude that all of the recommended videos have nothing to do with the conflict. The second query gives a visual of all the videos that are recommended from the three videos from "cinnamonroll"," alice & d || ▯" and Maria annotated with their tags.

```
match (user:user)-[:author]->(video:video) where user.followerCount < 100  match(video)-[:has]-
>(tag:tag) where tag.title in ["ukraine", "russia", "ukrainewar", "ukrainerussiaconflict", "ukrai
newarrussia",
"supportukraine", "ukrainevsrussia", "prayforukraine", "russianarmy", "Z"] match(video)-
[:recommends]->(video2:video) match (video2)-[:has]-
>(tag1:tag) where tag1.title in ["ukraine", "russia", "ukrainewar", "ukrainerussiaconflict", "ukr
ainewarrussia",
"supportukraine", "ukrainevsrussia", "prayforukraine", "russianarmy", "Z"]   return user,video
,video2,tag1,tag
```

```
match (user:user)-[:author]->(video:video) where user.followerCount < 100 match(video)-[:has]-
>(tag:tag) where tag.title in ["ukraine", "russia", "ukrainewar", "ukrainerussiaconflict", "ukrai
newarrussia",
"supportukraine", "ukrainevsrussia", "prayforukraine", "russianarmy", "Z"] match(video)-
[:recommends]->(video2:video) match (video2)-[:has]-
>(tag1:tag)  return user,video,video2,tag1
```
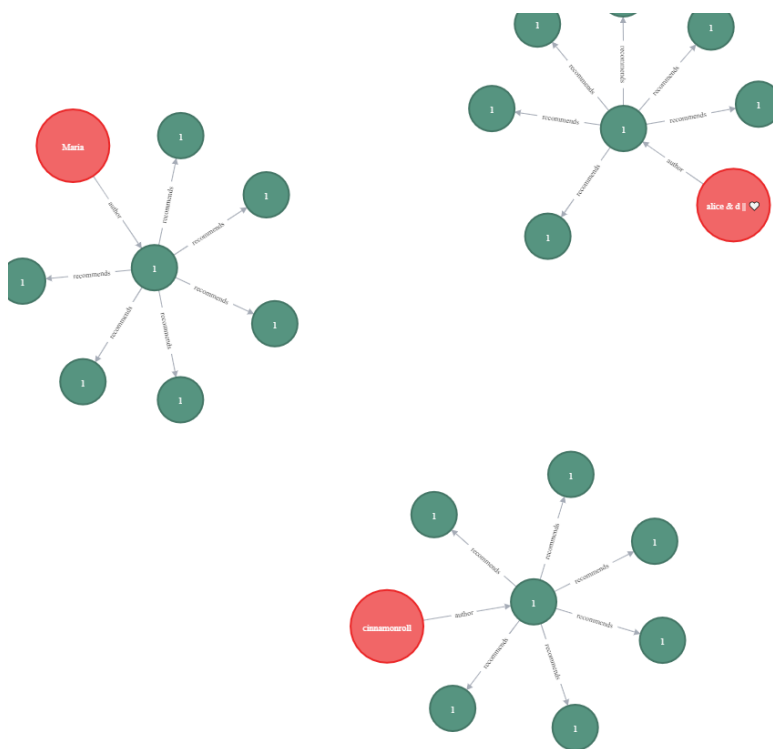
Figure 4: Users that have videos that recommends other videos