

What is a Social Network Analysis Tool?

Bellingcat Hackathon

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For the purposes of this hackathon, a social media network analysis tool is a program that performs – or makes it easier to perform – one or more of the following steps in a social media network analysis workflow:

1. Collecting data
2. Extracting a set of nodes and edges from the data
3. Analysing the network
4. Visualising the network

One example of the above social network analysis workflow is:

1. Using [Tweepy](#) (Python Twitter API wrapper) to get a list of follower/following accounts for many Twitter accounts
2. Processing the data to create a set of nodes and edges, where the nodes are Twitter accounts and an edge between two nodes indicates that one of the two users follows the other
3. Computing various centrality measures (e.g. betweenness centrality) to determine key nodes in the network
4. Using Gephi to layout the network
5. Exporting the Gephi network layout as an image or an interactive visualisation

See this [blog post](#) for an example of a similar workflow.

Many steps in this workflow typically require specialised scripts and data conversion routines, making them difficult for less technically skilled researchers. Similarly, programs such as Gephi are useful for analysing and laying out networks, but it's common to see network visualisations that aren't particularly informative, for example, a [low quality image](#), [overlapping text](#), or a "[hairball](#)" network.

In essence, the goal of this hackathon is to develop a social media network analysis tool that can be used by less technically skilled researchers. A tool can take many forms, including

- Executable script
- Command-line interface
- Graphical user interface

Some examples of tool ideas are:

- A tool that extracts network data from an interesting or not widely-studied source, for example a XenForo or phpBB forum, or recommendations from a video sharing platform

- A tool that reads a tabular data file and aggregates specific columns into a list of nodes and edges
- A tool that reads a Gephi-exported GEXF file and generates an interactive network visualisation using a library such as [d3](#), [Sigma.js](#) or [HoloViews](#)
- A tool that allows a user to make a network less hairball-like, for example filtering out edges with low weights and/or nodes with few neighbors

These are just a few examples and should by no means constrain other suggestions – in fact, we welcome broader, imaginative proposals.

If you don't have a specific idea for a tool to develop during the hackathon, we recommend working on a tool that reads a Gephi-exported GEXF file and generates an interactive network visualisation using a library such as [d3](#), [Sigma.js](#) or [HoloViews](#). See the [following list](#) of GEXF example files for inputs for this tool idea.