A Simple Guide to Using Gephi

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Importing a dataset into Gephi

1. Click on ‘New Project’ and then go to ‘Data Laboratory’.
2. Click on ‘Import Spreadsheet’, then select your dataset and press ‘open’.
3. Import the ‘Nodes table’, then go to ‘Import spreadsheet’ and import the ‘Edges table’.
4. Select ‘Integer’ or ‘BigDecimal’ (if your weight contains decimals) for the ‘Weight’ column.
5. Select ‘Directed’ or ‘Undirected’ for the ‘Chart type’ and then select ‘Append to existing workplace’.
6. Go to ‘Overview’ and select ‘Yifan Hu’ for the layout.

Measuring the networks

1. Go to ‘Statistics’.
2. Run ‘Average degree’, ‘Avg. Weighted Degree’, ‘Network Diameter’, ‘Modularity’, and ‘Eigenvector Centrality’.
3. Go to ‘Data Laboratory’, and you will find statistics for several types of centrality measures, including degree (centrality), weighted degree, betweenness centrality, and eigenvector centrality.
4. Go back to ‘Overview’ then go to ‘Appearance’.
5. Select ‘Node’, click the ‘Colour’ button, then select ‘Modularity Class’ under ‘Partition’.
6. Click on ‘Apply’.

Interpreting the networks

1. Degree centrality: number of edges linked to each node (popularity, well connected)

2. Weighted degree centrality: Number of edges connected to each node, taking into account the weight of the edges (popularity, well connected)
3. Betweenness centrality: the number of times a node is on the shortest path between other nodes (bridges, gatekeepers)
4. Eigenvector centrality: similar to degree centrality, but takes into account the centrality of the nodes it‘s connected to
5. Modularity Class: Community detection

Geographical distribution

The geographical distribution and associated characteristics of the networks can be visualised using the GeoLayout and ExportToEarth functions.