# Graph virtualization tools

### 1. Gephi

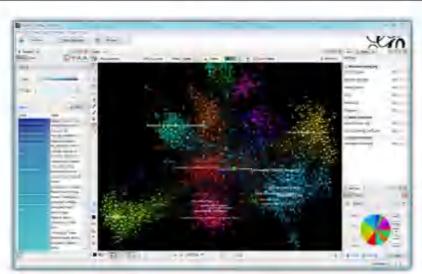


#### The Open Graph Viz Platform

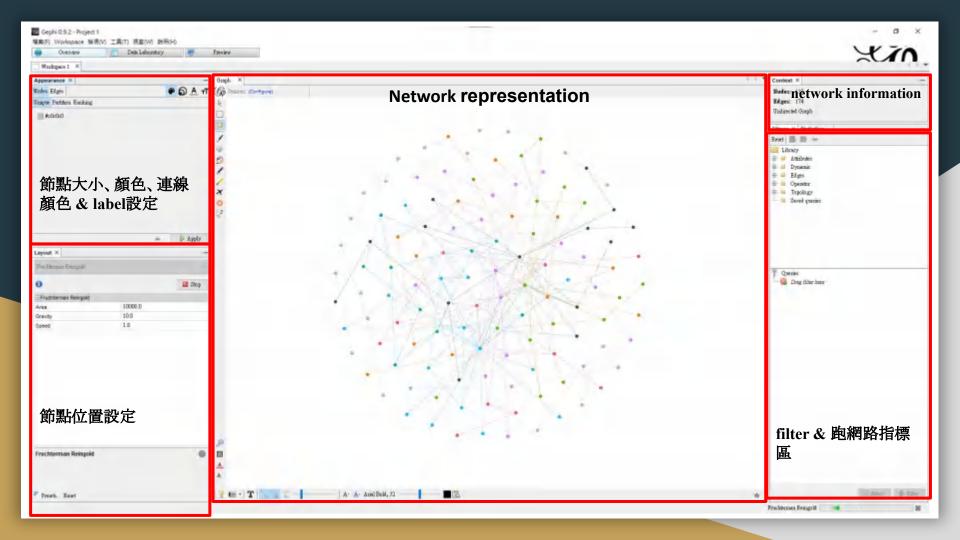
Gephi is the leading visualization and exploration software for all kinds of graphs and networks. Gephi is open-source and free.

Runs on Windows, Mac OS X and Linux, Learn flore on Gephi Platform =





# 1-1. 介面(Overview)



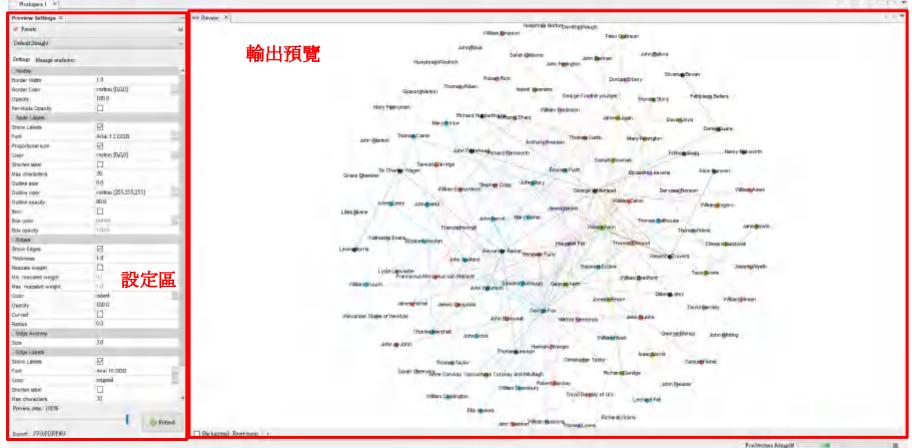
# 1-1. 介面(Data Laboratory)



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# 1-1. 介面(Preview)

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### 1-2. 匯入資料

#### **Input format**:

GraphViz(.dot), Graphlet(.gml), GUESS(.gdf), LEDA(.gml), NetworkX(.graphml, .net), NodeXL(.graphml, .net), Pajek(.net, .gml), Sonivis(.graphml), Tulip(.tlp, .dot), UCINET(.dl), yEd(.gml), Gephi (.gexf), Edge list(.csv), databases

# 1-2. 匯入資料

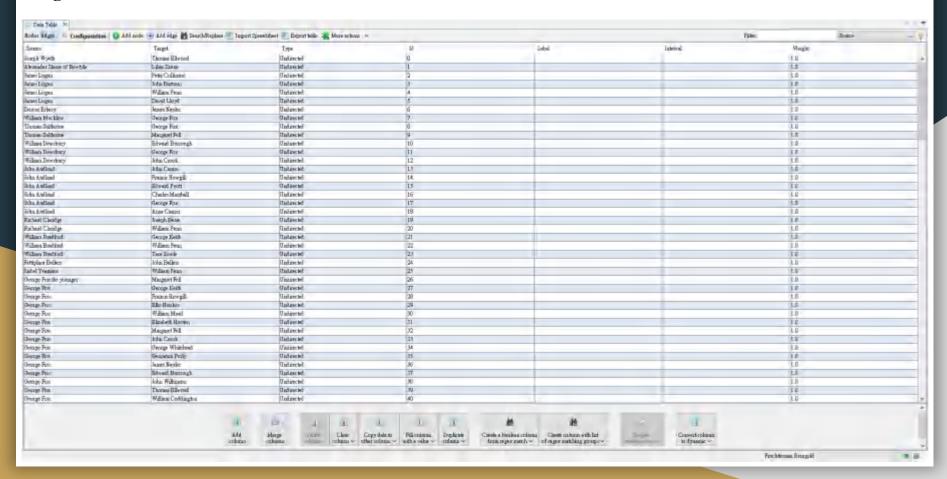
- a. Node data:
  - i. id(必須): must be unique

- b. Edge data:
  - i. source(必須): 連線起點id
  - ii. target(必須): 連線端點id

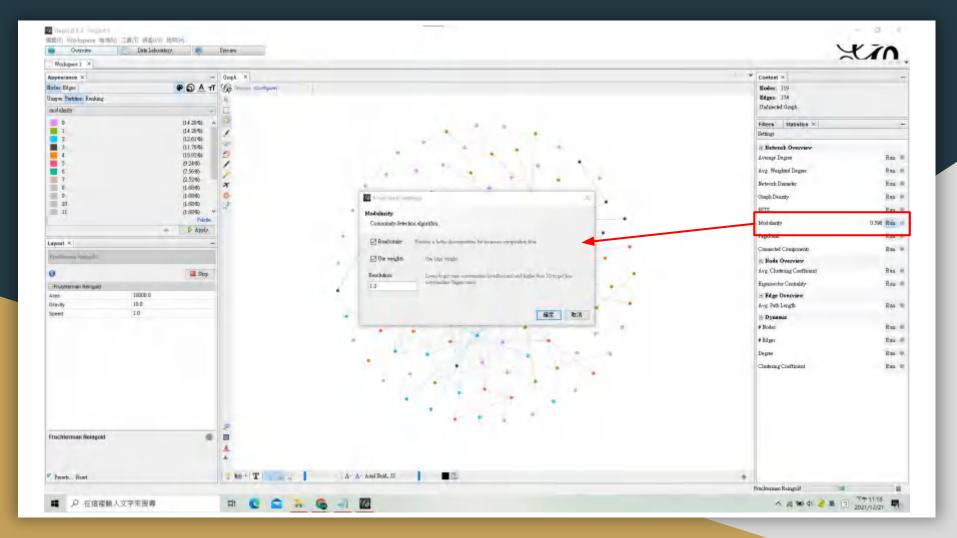
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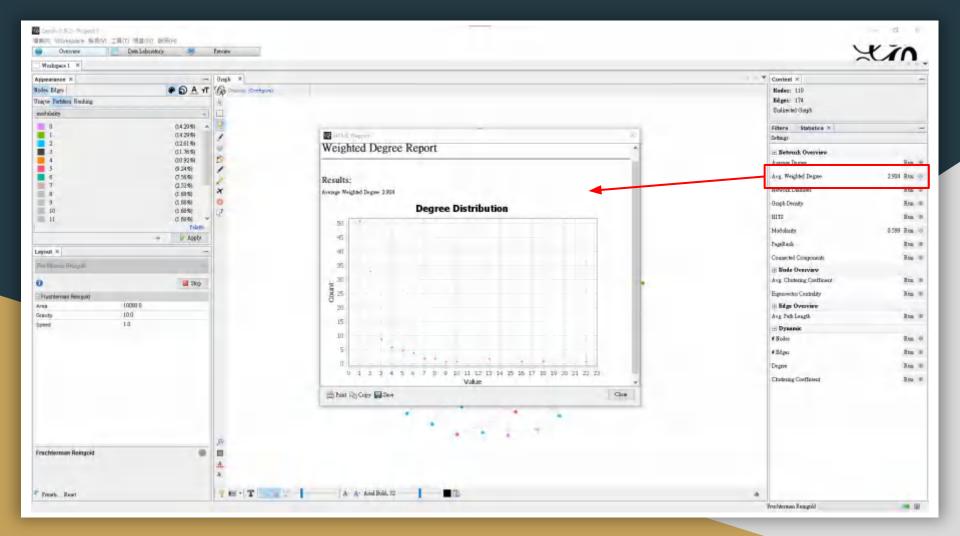
#### Edge data



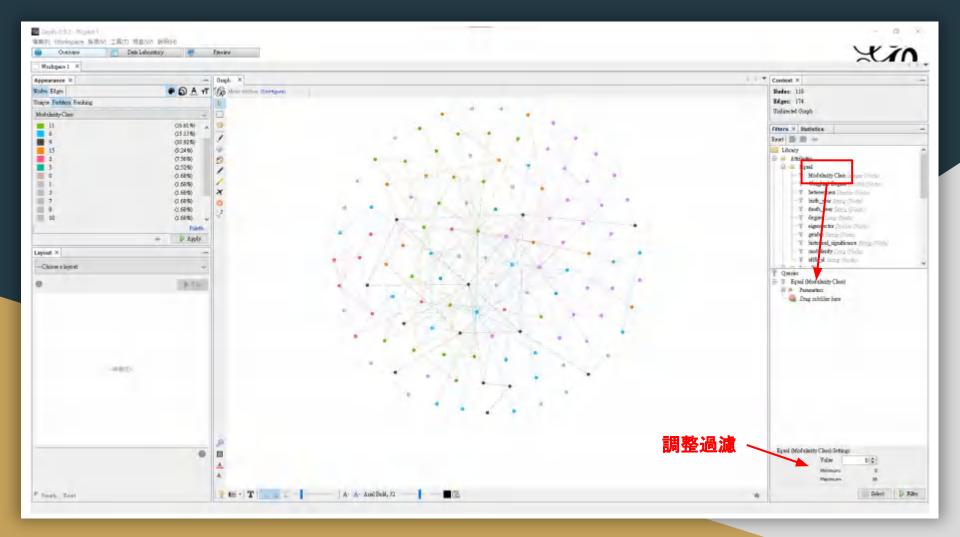
# 1-3. 分析(Modularity)

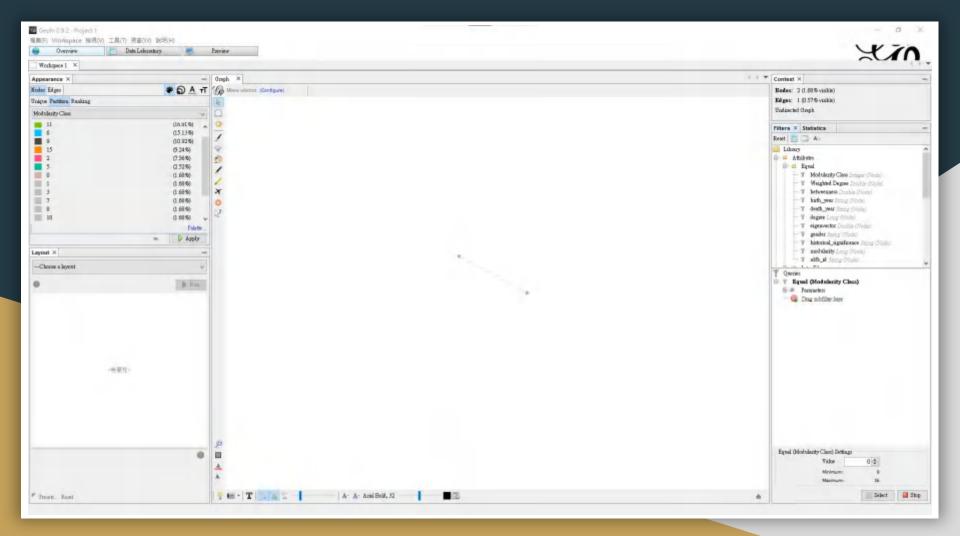


1-3. 分析(Avg. Weight Degree)

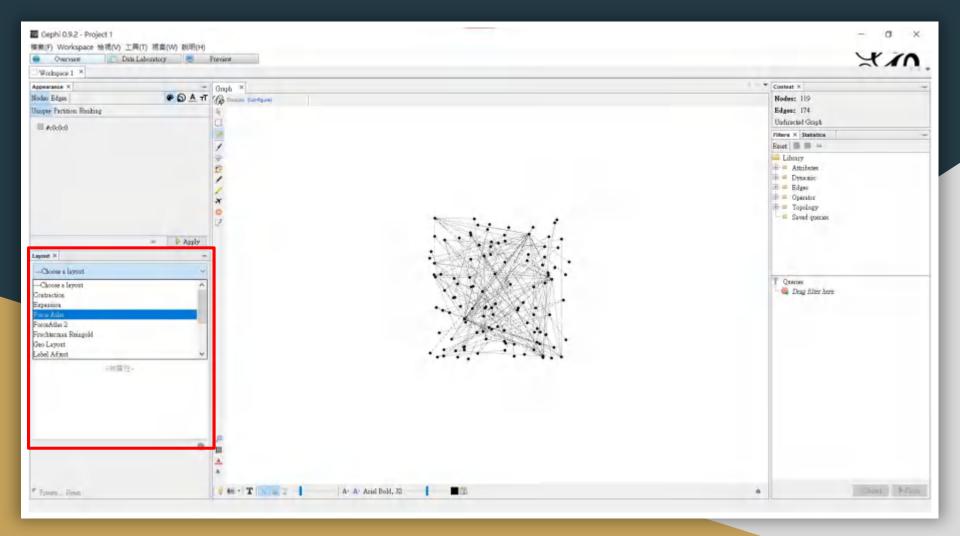


# 1-4. 過濾

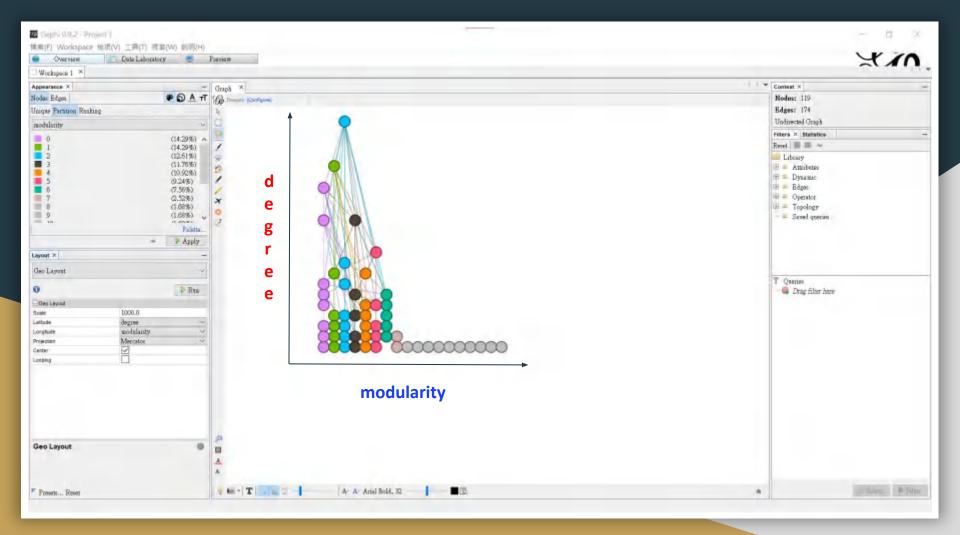




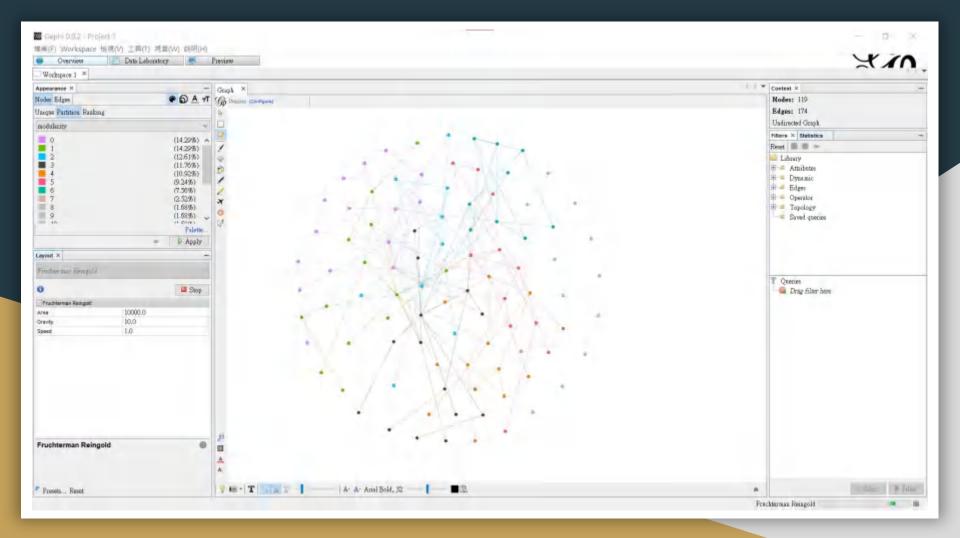
# 1-5. Layout



1-5. Layout(Geo layout)



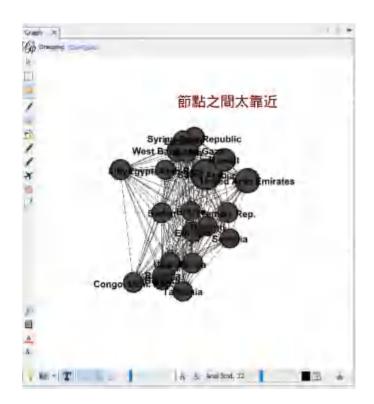
# 1-5. Layout(Fruchterman Reingold)

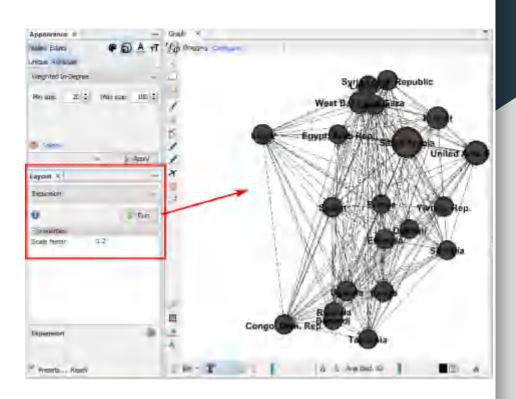


### 1-5. Layout(Expansion)

使用時機: layout的結果出現節點太過靠近的情況

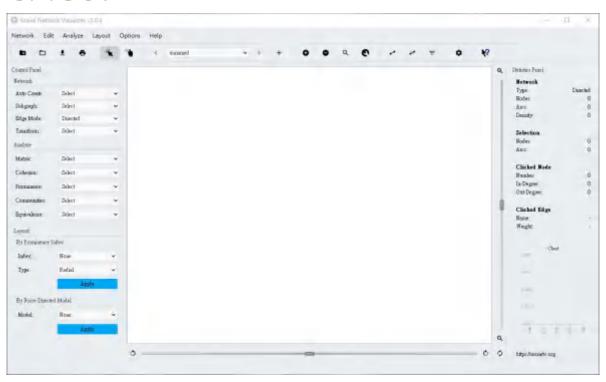
**Before** After



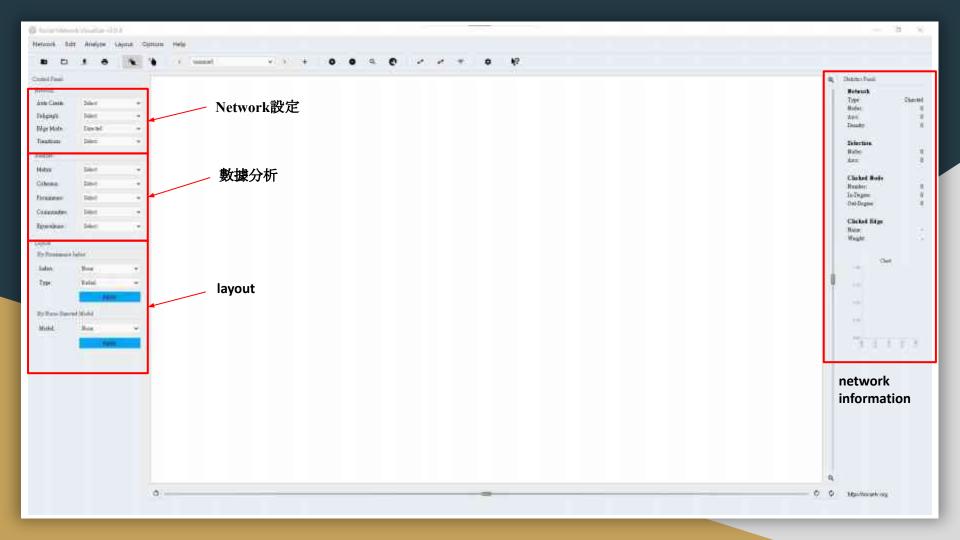


圖片來源: <a href="https://wenlab501.github.io/tutorial/gephi\_tutor/design/layout/">https://wenlab501.github.io/tutorial/gephi\_tutor/design/layout/</a>

#### 2. SocNetV



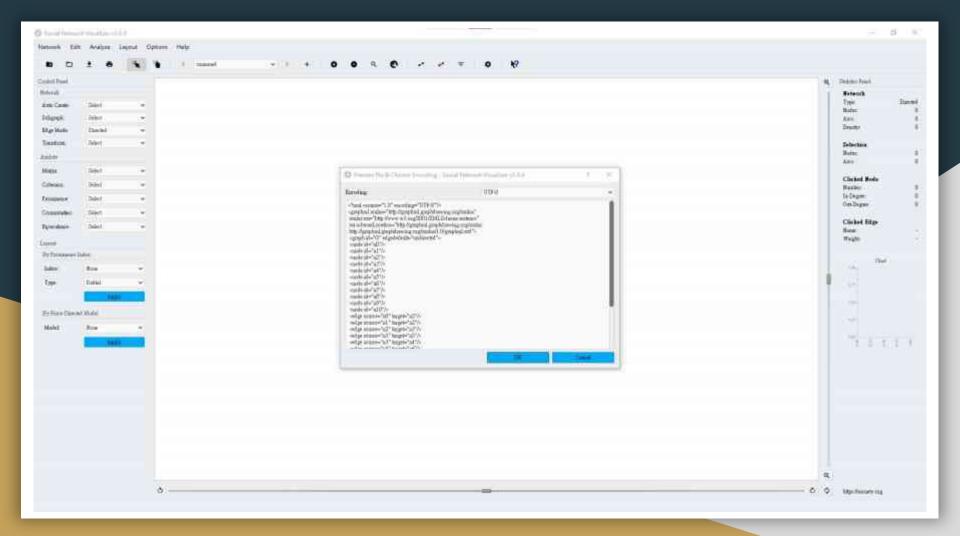
# 2-1. 介面

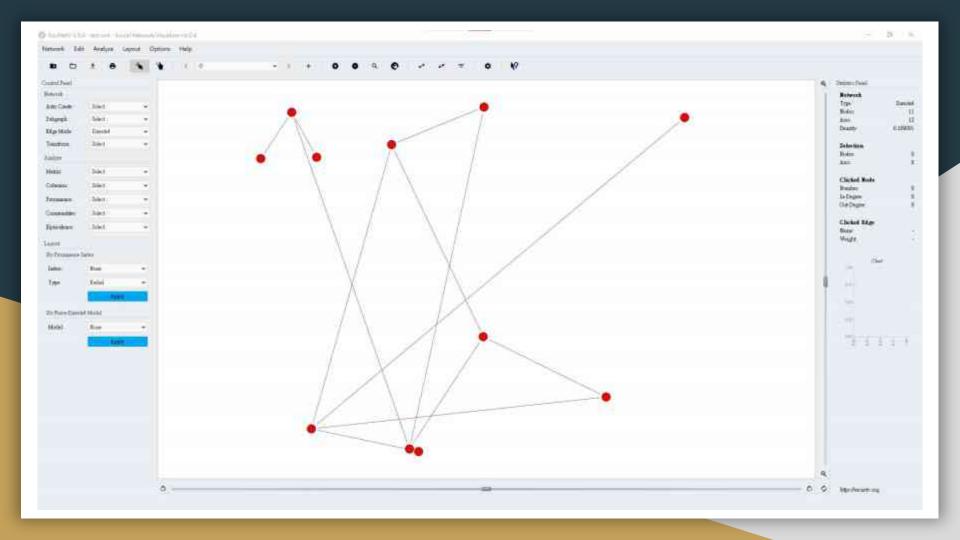


### 2-2. Import Data

#### **Input format**:

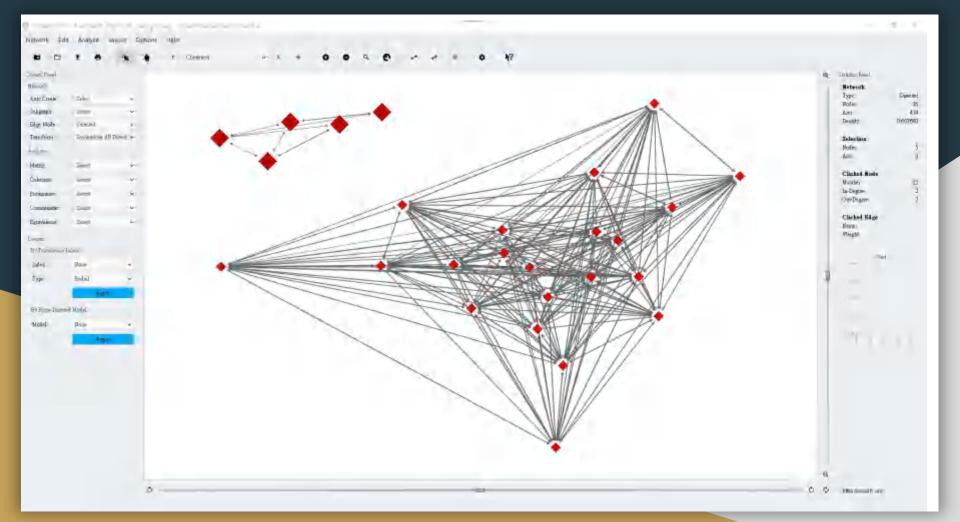
- GraphML (.graphml or .xml),
- GML (.gml or .xml)
- GraphViz (.dot),
- Adjacency matrix (.sm, .adj or .csv)
- Pajek (.net, .paj or .pajek),
- UCINET's Data Language (.dl)
- edge list (.lst or .list)
- Weighted Lists (.wlst or .wlist)





### 2-3. Control Panel(Network)

- a. Auto Create: 自動建立network
- b. Subgraph: 建立子圖(至少三個點)
- c. EdgeMode: directed or undirected
- d. Transform: to transform the netowk, i.e. symmetrize edges.

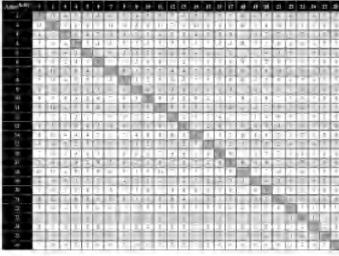


### 2-3. Control Panel(Analyze)

#### ADJACENCY MATRIX

Total per executive constructs

- a. Matrix: i.e. adjacency
- b. Cohesion: measures relat
- **c. Prominence:** methods to 1
- d. Community: compute clic
- e. **Equivalence**: The struc Cluster Analysis, Tie pro



nside the network.

such as Hierarchical



# 2-3. Layout

- By prominence index. Here you can select a prominence metric (i.e. Betweenness) and a layout type (i.e. circular).
- By Force Directed Placement (FDP), such as the Kamada-Kawai model.