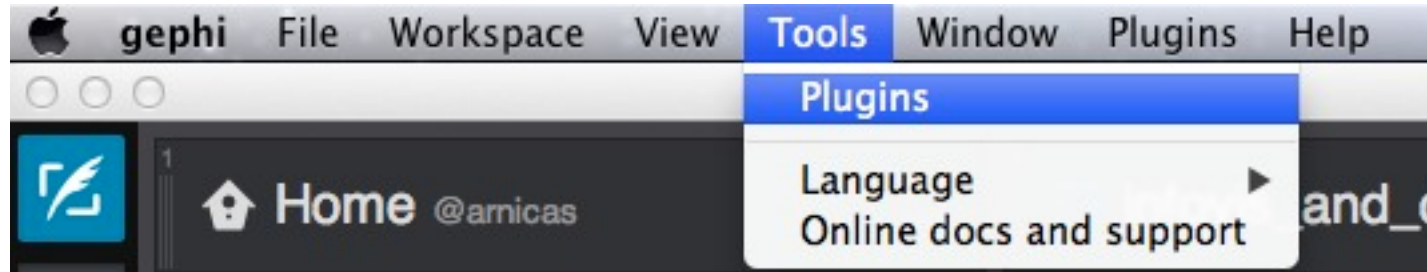


Some Layout and Export Tricks in Gephi

Lynn Cherny (@arnicas)

Plugins to Add to Gephi

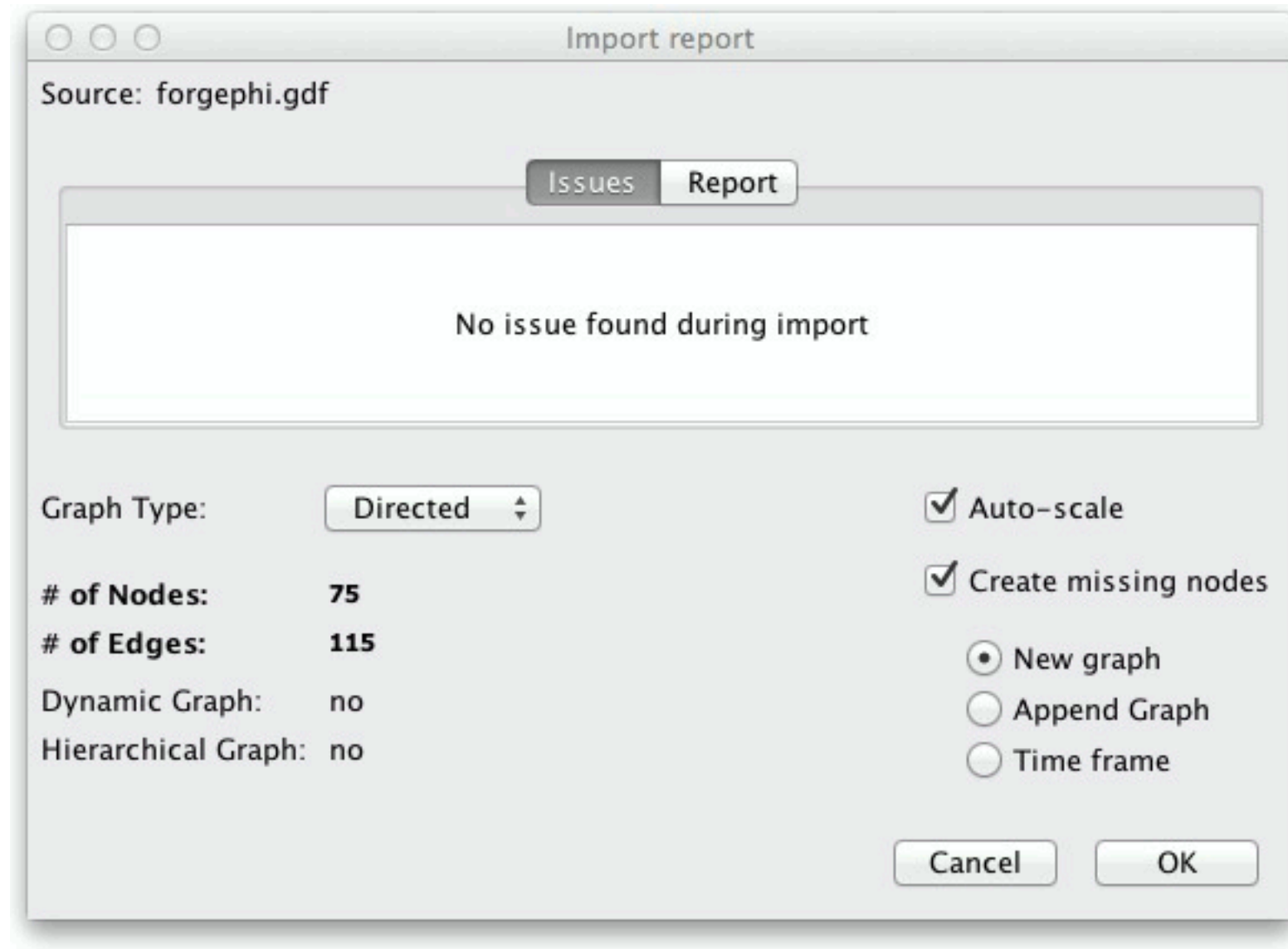


- Circular Layout
- SigmaExporter

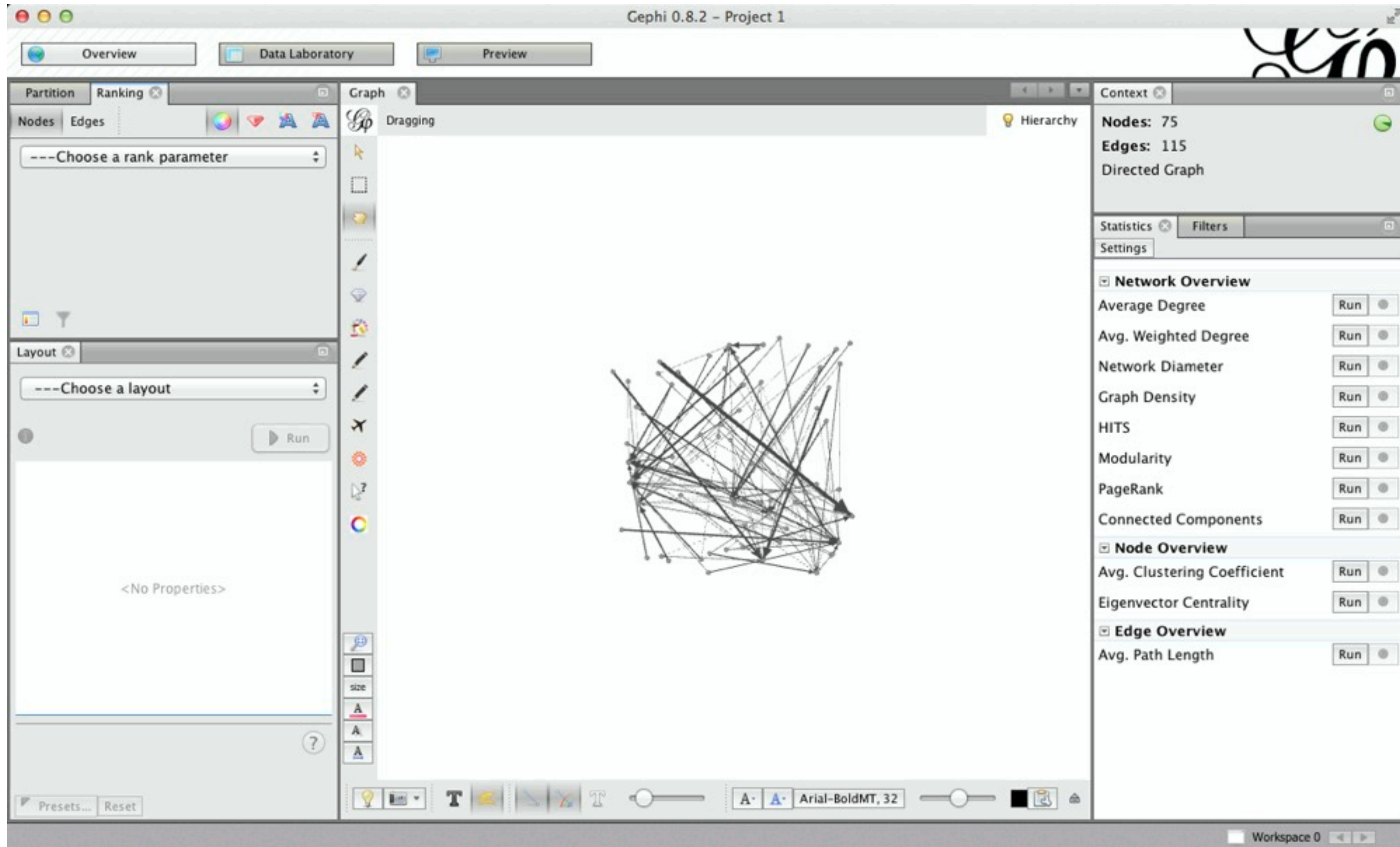
If you're following along...

- All the files are in <https://github.com/arnicas/TopicsPythonGephi>
- You should have a gephi appropriate files now, found in files/forgephi.gdf: <https://github.com/arnicas/TopicsPythonGephi/blob/master/files/forgephi.gdf>

Launch Gephi. “Open” on file menu... Use defaults you see here.



If all goes well, you should see something like this....



On the Data Laboratory Tab, you'll see what we imported.

Gephi 0.8.2 – Project 1

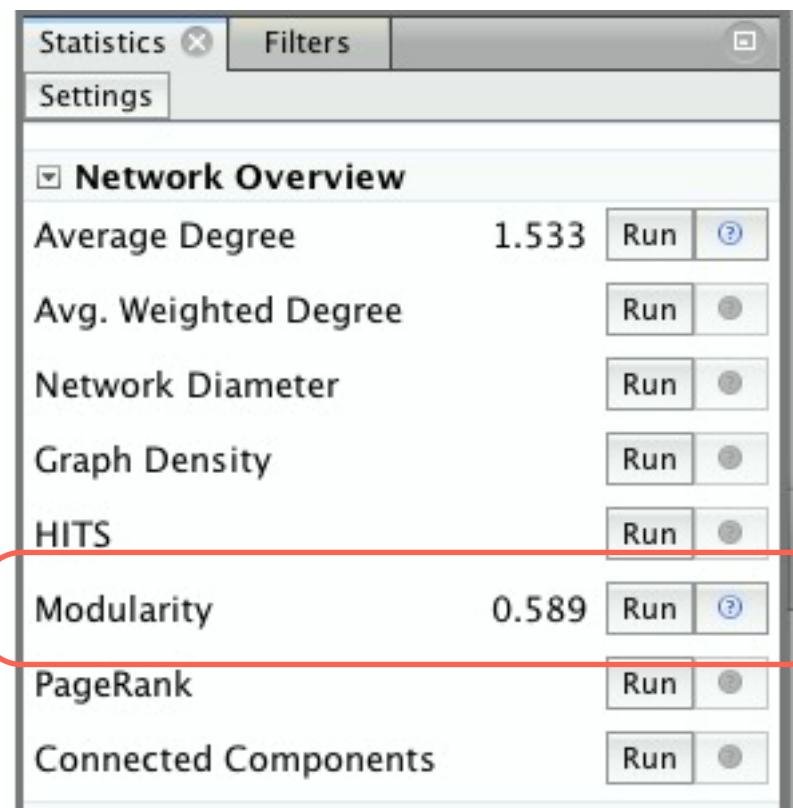
Overview Data Laboratory Preview

Data Table

Nodes Edges Configuration Add node Add edge Search/Replace Import Spreadsheet Export table

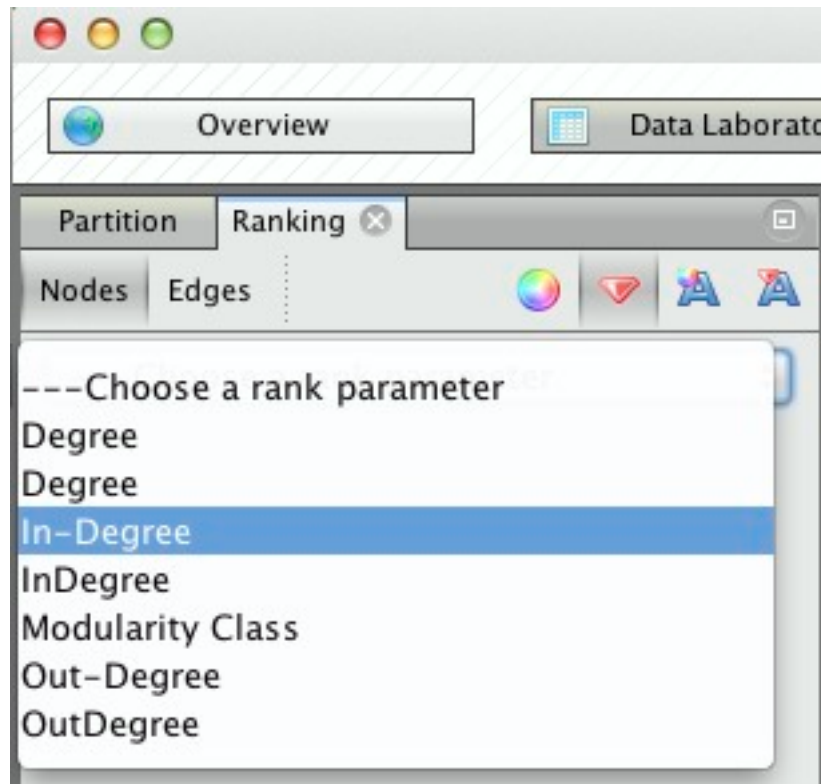
Nodes	...	Label	title
THE GOLDEN BIRD	1	THE GOLDEN BIRD	THE GOLDEN BIRD " Chapter THE GOLDEN BIRD A certain king
HANS IN LUCK	2	HANS IN LUCK	HANS IN LUCK " Chapter HANS IN LUCK Some men are bor
JORINDA AND JORINDEI	3	JORINDA AND JORINDEL	JORINDA AND JORINDEL " Chapter JORINDA AND JORINDEL There w
THE TRAVELLING MUSIC	4	THE TRAVELLING MUSICIANS	THE TRAVELLING MUSICIANS " Chapter THE TRAVELLING MUSICIANS An I
OLD SULTAN	5	OLD SULTAN	OLD SULTAN " Chapter OLD SULTAN A shepherd had a f
THE STRAW THE COAL	6	THE STRAW THE COAL AND	THE STRAW THE COAL AND " Chapter THE STRAW THE COAL AND THE
BRIAR ROSE	7	BRIAR ROSE	BRIAR ROSE " Chapter BRIAR ROSE A king and queen on
THE DOG AND THE SPA	8	THE DOG AND THE SPARRO	THE DOG AND THE SPARRO " Chapter THE DOG AND THE SPARROW A :
THE TWELVE DANCING	9	THE TWELVE DANCING PRIN	THE TWELVE DANCING PRIN " Chapter THE TWELVE DANCING PRINCESS
THE FISHERMAN AND H	10	THE FISHERMAN AND HIS WI	THE FISHERMAN AND HIS WI " Chapter THE FISHERMAN AND HIS WIFE TI
THE WILLOW-WREN ANI	11	THE WILLOW-WREN AND TH	THE WILLOW-WREN AND TH " Chapter THE WILLOW-WREN AND THE BE
THE FROG-PRINCE	12	THE FROG-PRINCE	THE FROG-PRINCE " Chapter THE FROG-PRINCE One fine even
CAT AND MOUSE IN PAI	13	CAT AND MOUSE IN PARTNE	CAT AND MOUSE IN PARTNE " Chapter CAT AND MOUSE IN PARTNERSHI
THE GOOSE-GIRL	14	THE GOOSE-GIRL	THE GOOSE-GIRL " Chapter THE GOOSE-GIRL The king of a g
Chanticleer 1. HOW THI	15	Chanticleer 1. HOW THEY WI	Chanticleer 1. HOW THEY WI " Chapter Chanticleer 1. HOW THEY WENT "
Chanticleer 2. HOW CH	16	Chanticleer 2. HOW CHANTIK	Chanticleer 2. HOW CHANTIK " Chapter Chanticleer 2. HOW CHANTICLEEI
Chanticleer 3. HOW PA	17	Chanticleer 3. HOW PARTLET	Chanticleer 3. HOW PARTLET " Chapter Chanticleer 3. HOW PARTLET DIE
RAPUNZEL	18	RAPUNZEL	RAPUNZEL " Chapter RAPUNZEL There were once a ma
FUNDEVOGEL	19	FUNDEVOGEL	FUNDEVOGEL " Chapter FUNDEVOGEL There was once a f
THE VALIANT LITTLE T	20	THE VALIANT LITTLE TAILOR	THE VALIANT LITTLE TAILOR " Chapter THE VALIANT LITTLE TAILOR One

Over on the right side, you should have a “statistics” panel. “Run” a few of them and dismiss the dialogs. This adds stats to your data file you can use in layout and design. Run Modularity at least -- it’s a “community finding” algorithm.

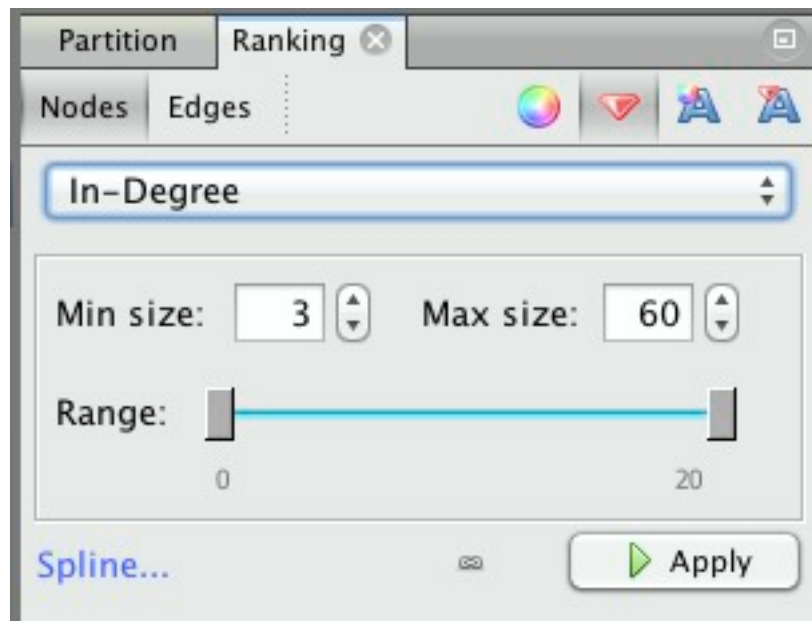


Now, on upper left side, in Ranking, select nodes, and the diamond. Pick “In-Degree” to size by.

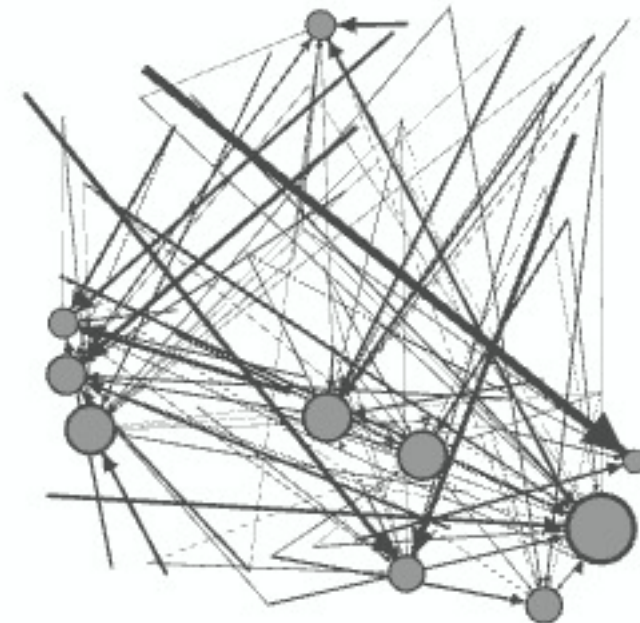
1.



2.



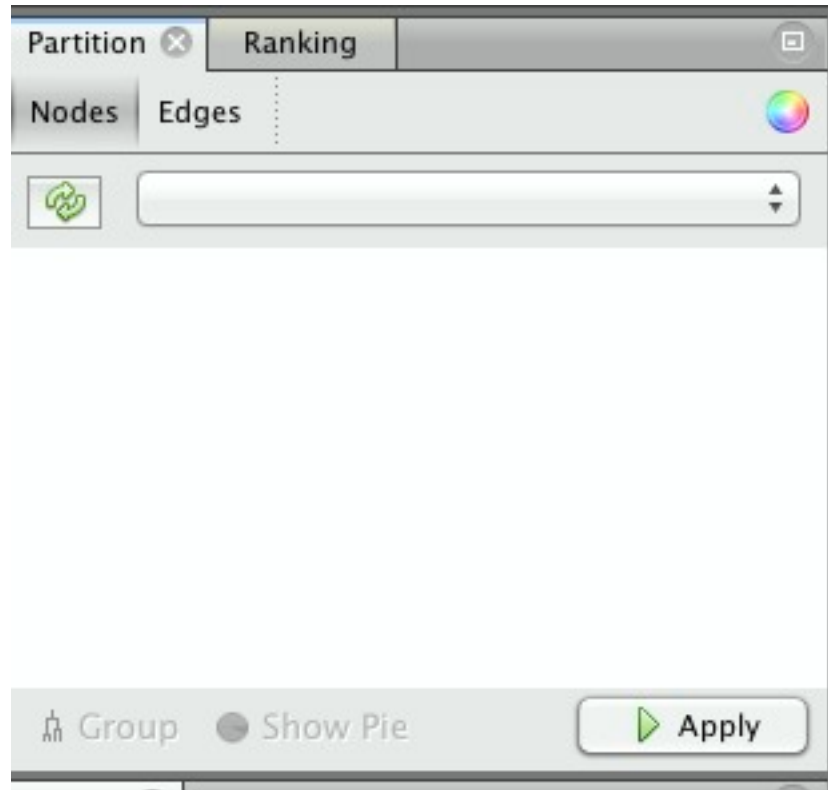
3. after
Apply:



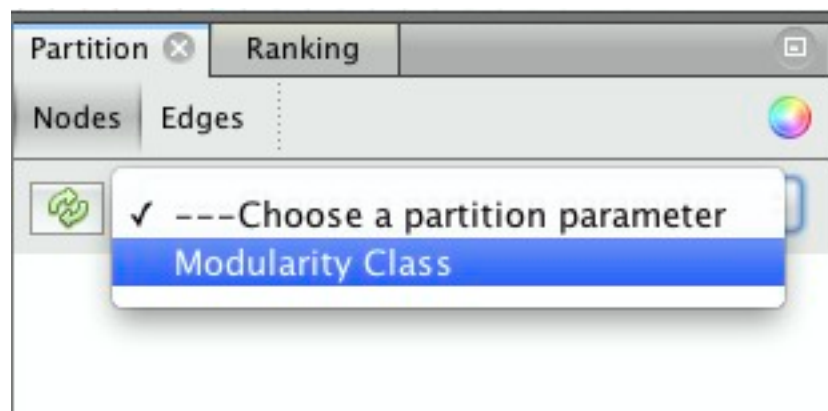
These are the nodes with the most “in arrows,” or highest in-degree. They are the “topics.”

Color by “Modularity”

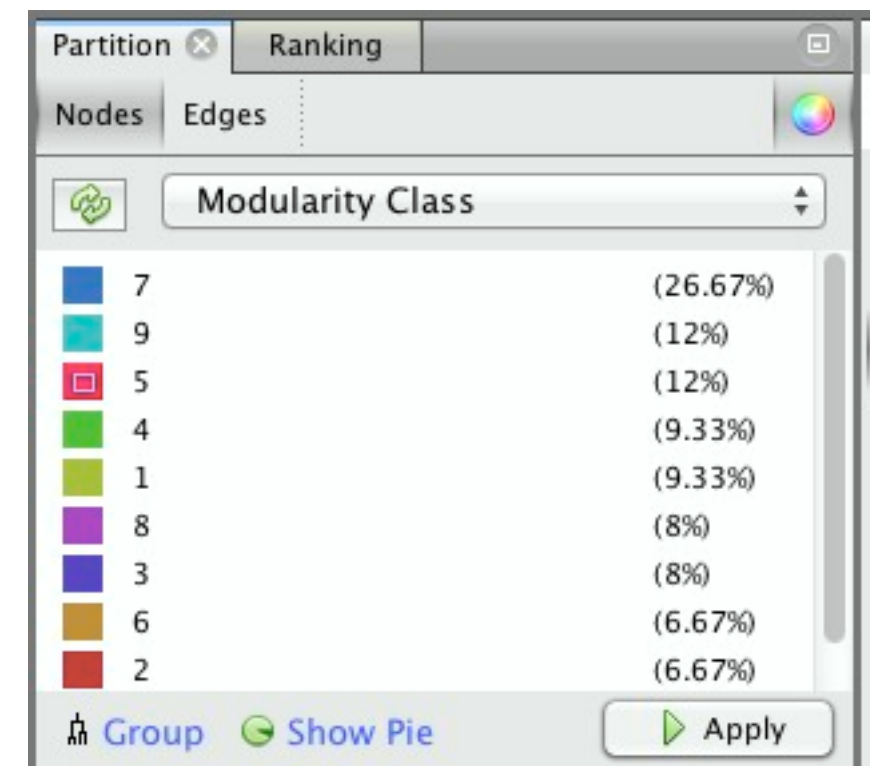
1. Hit green refresh arrow:



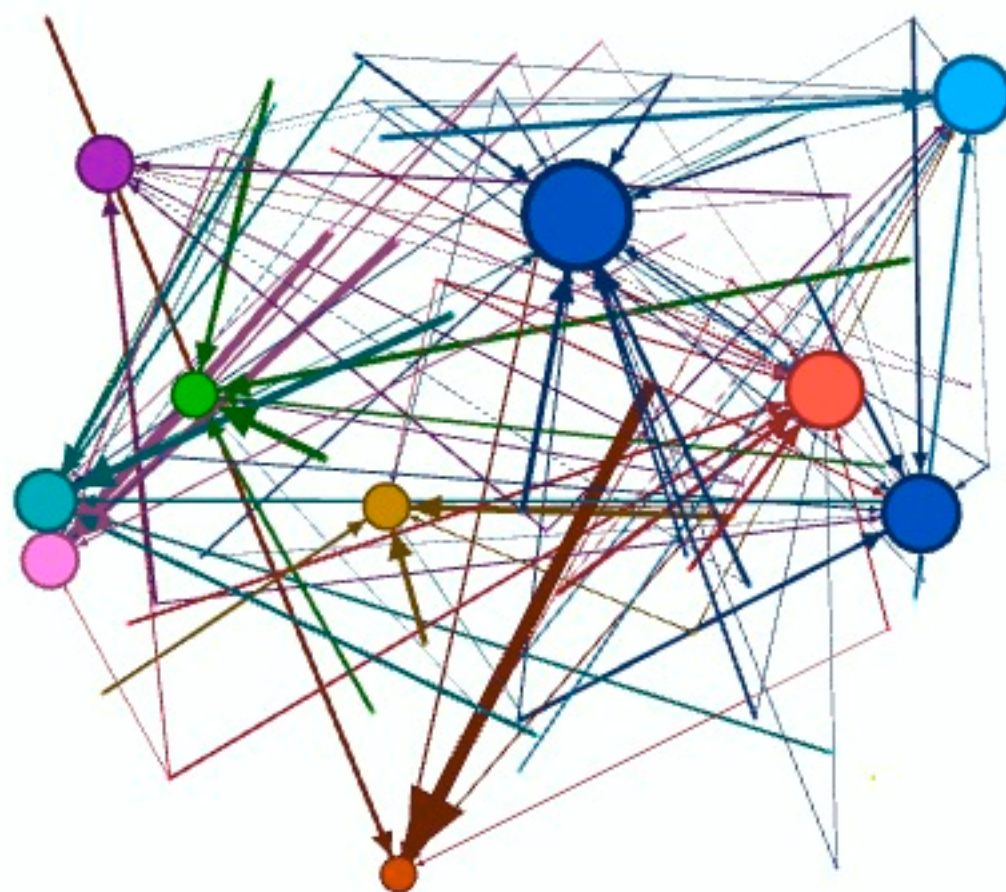
2. Then choose “Modularity Class” from menu:



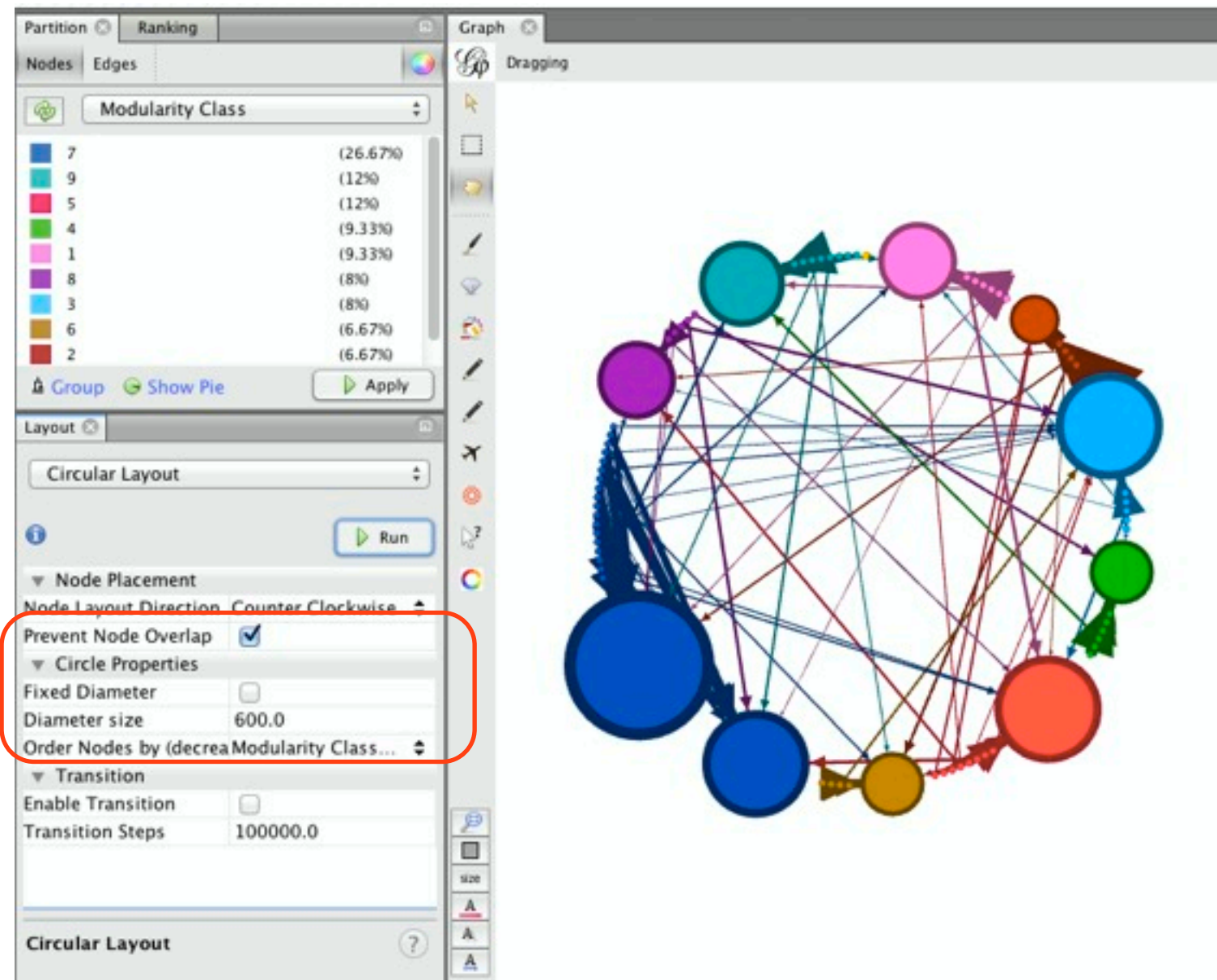
3. You’ll see the “groups” and random assigned colors. Click on a color to pick a new one. Make them as different as you can.



4. Then hit “Apply.”

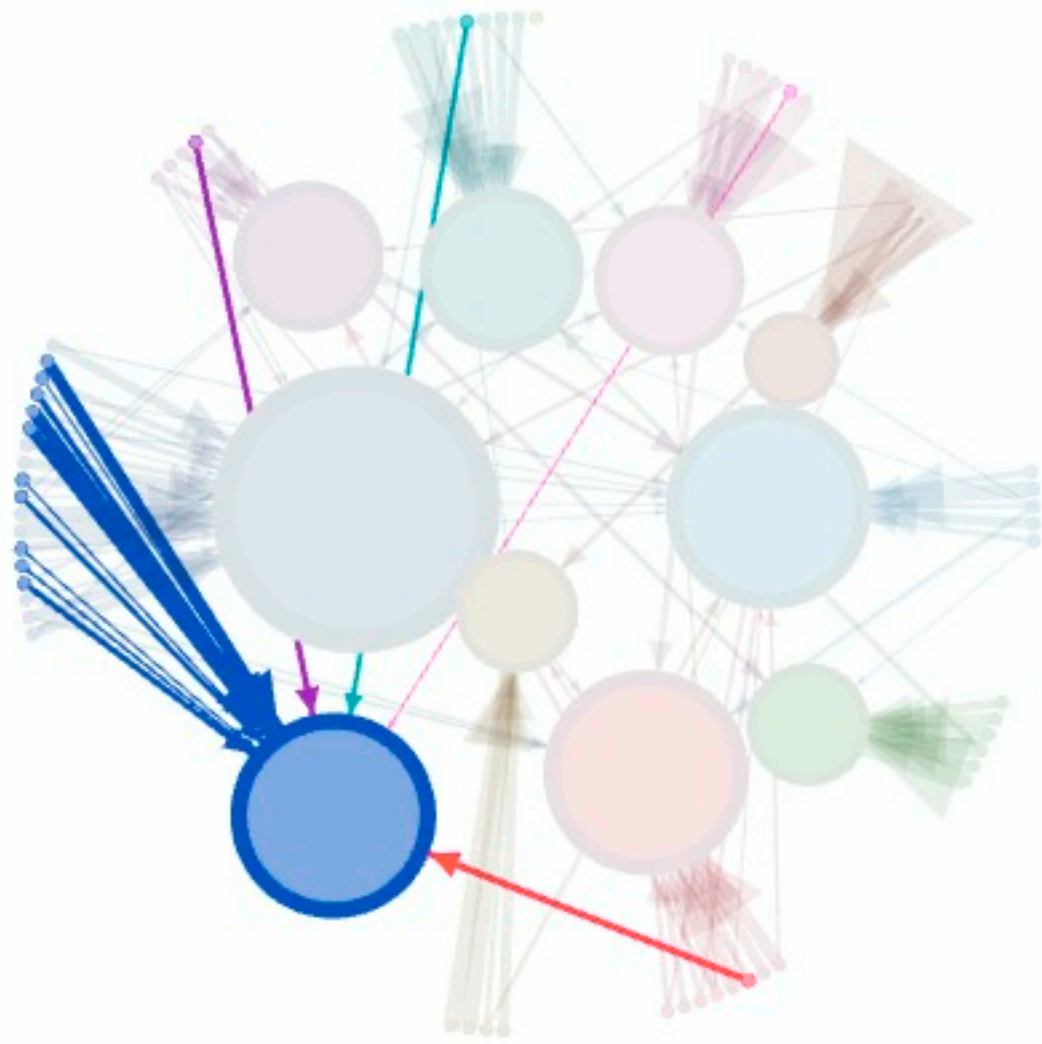


Let's try to lay it out a bit...
Circular is nice for topics.
You'll need to hand-adjust in
any case.

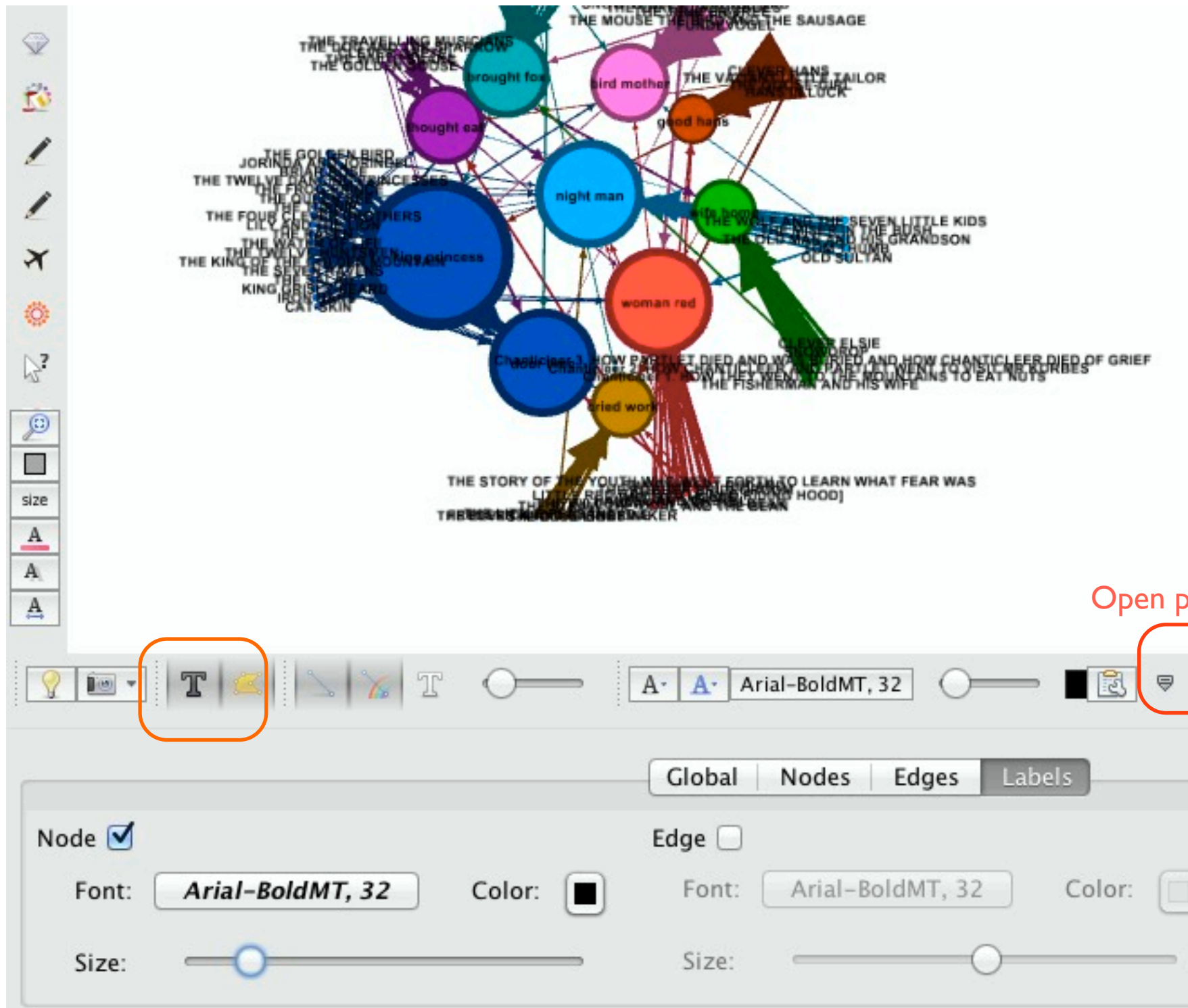


Order nodes by modularity
class!

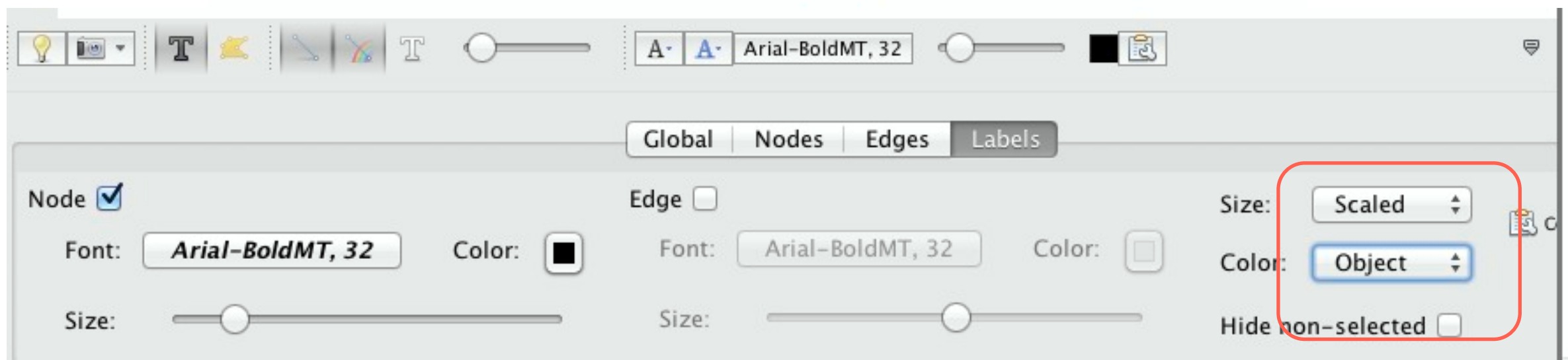
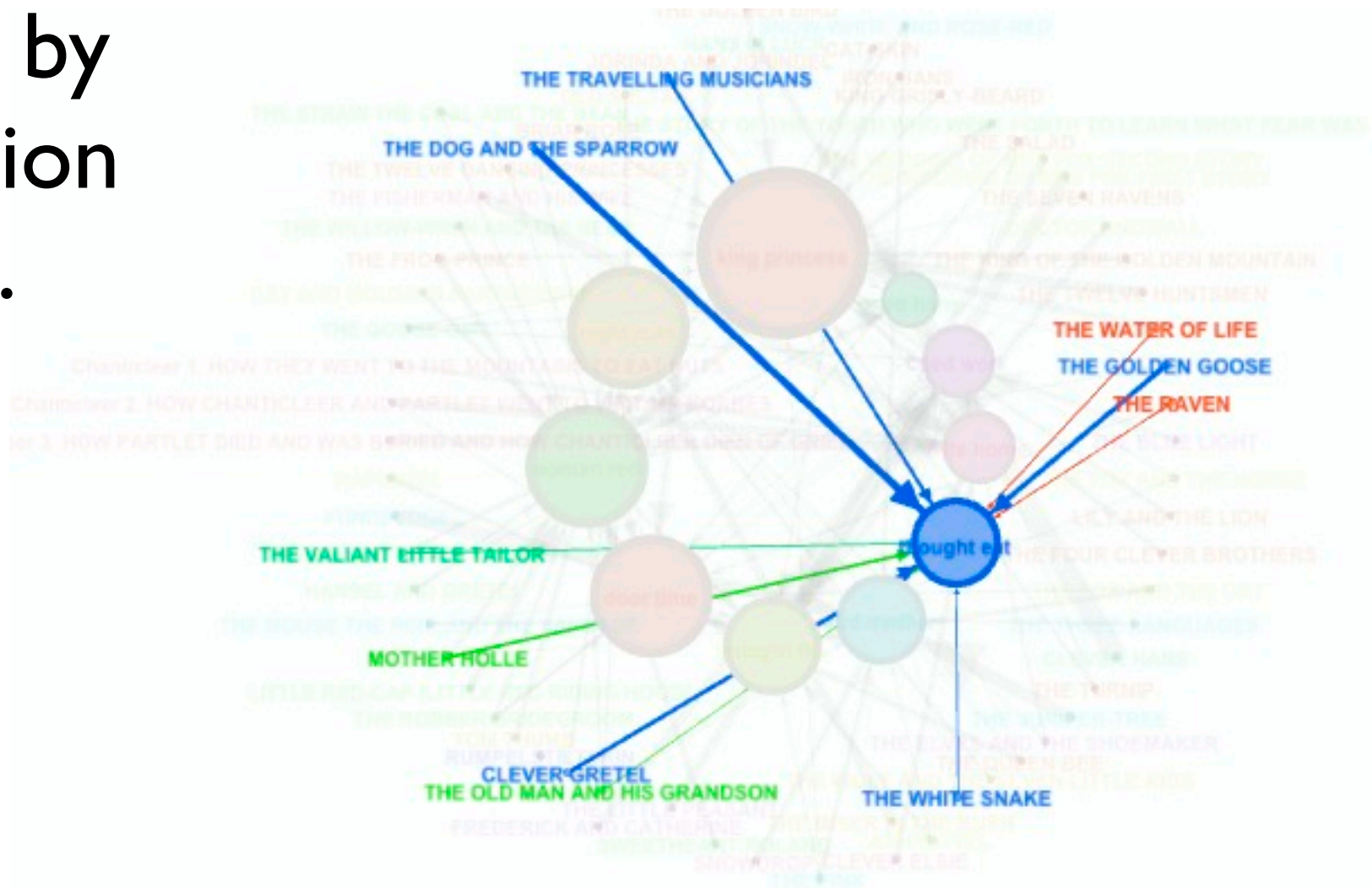
Hand-tweak to
move the topic
nodes inside.



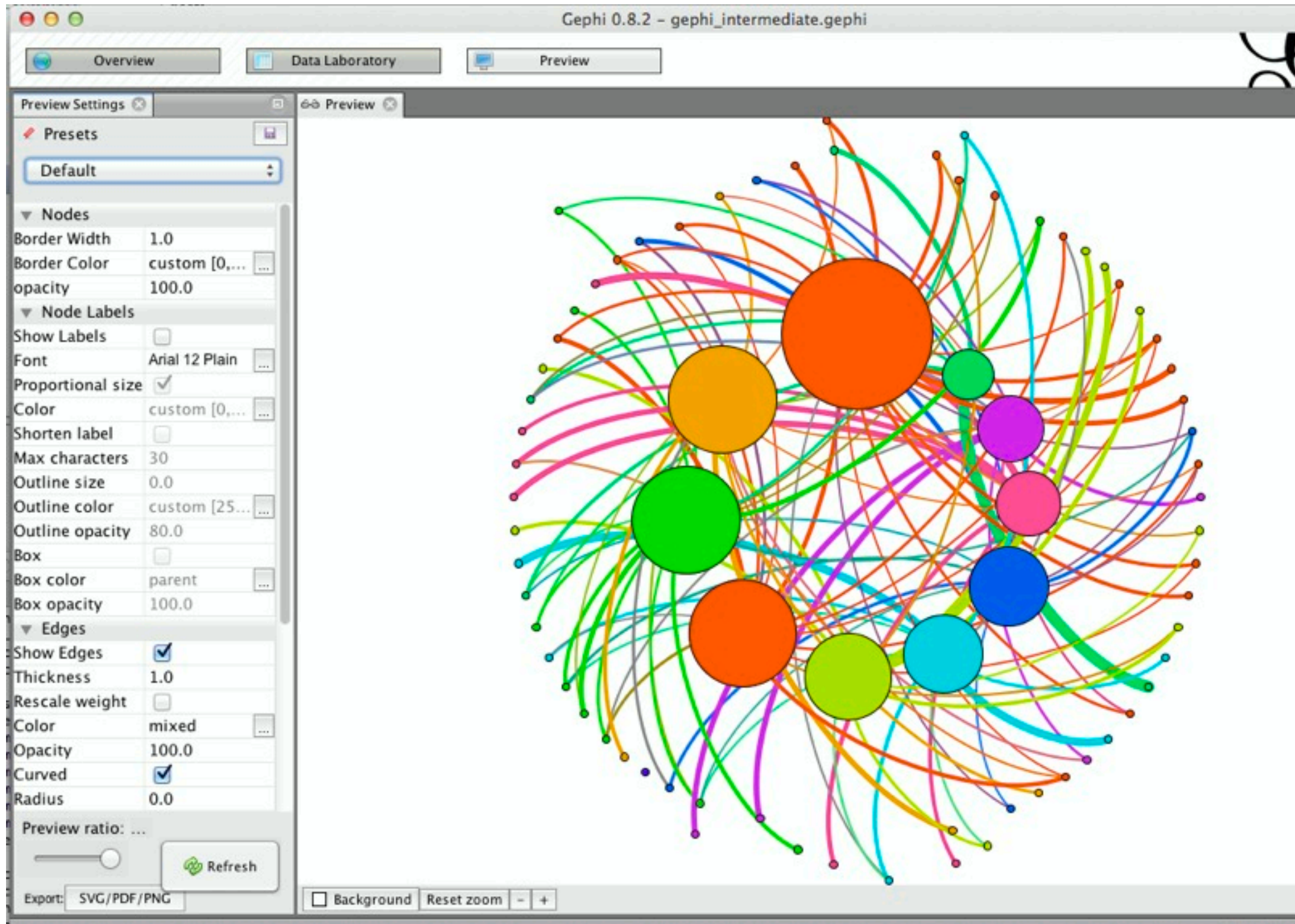
Turn on
labels and
adjust
sizes...



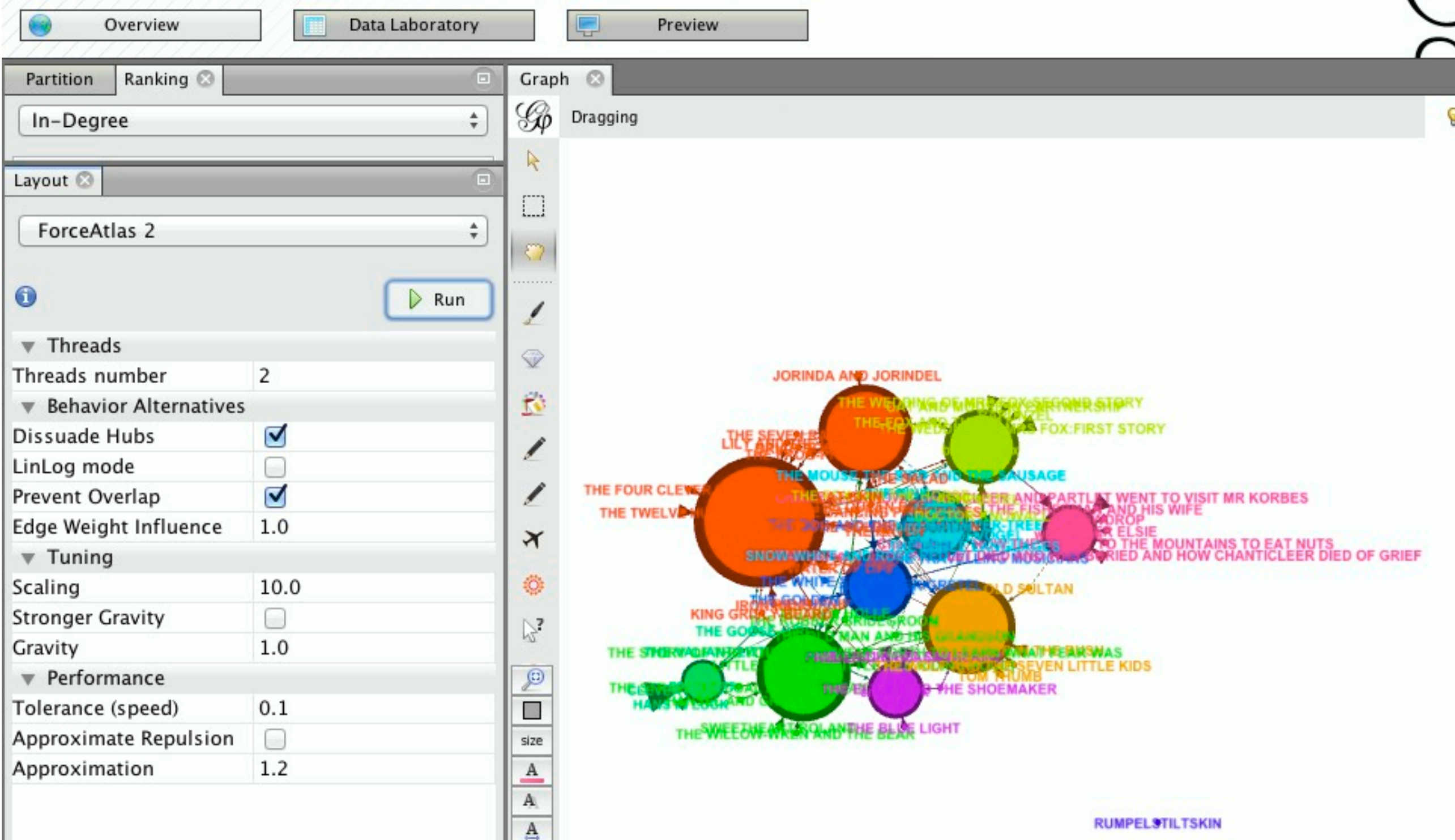
One option
is color by
destination
node.



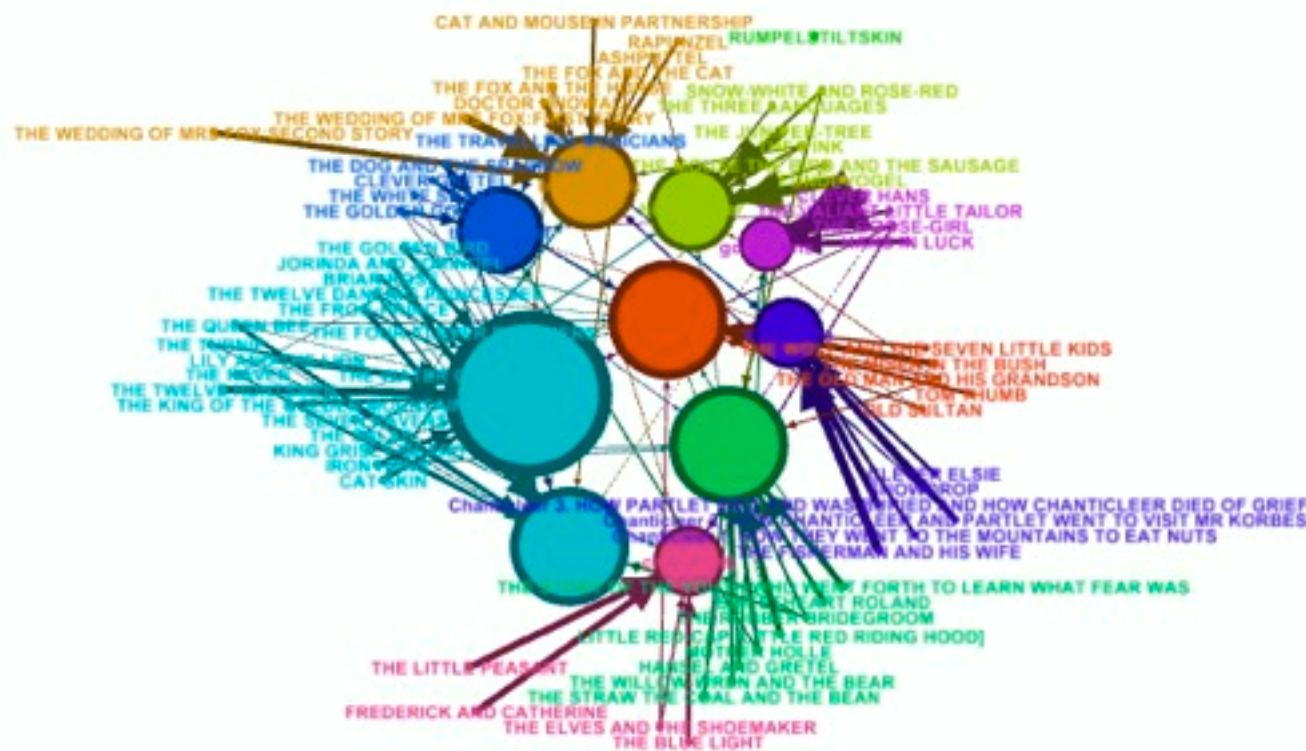
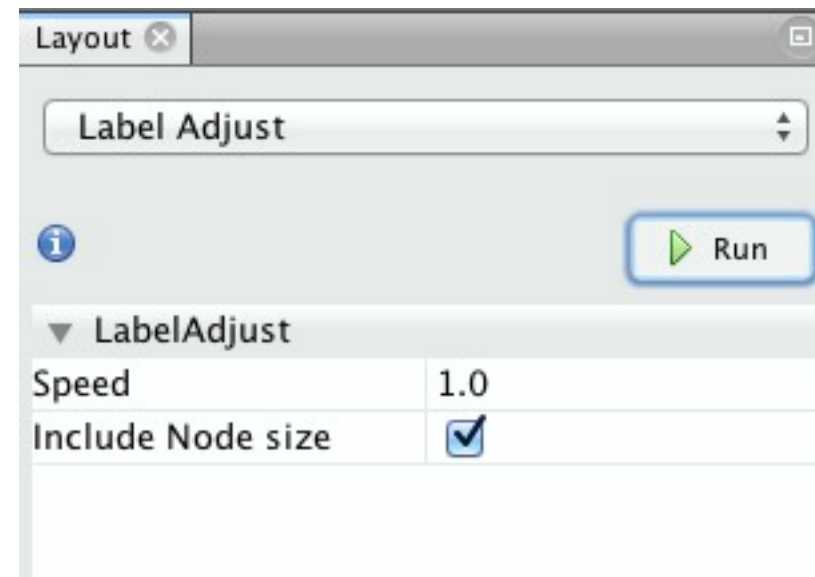
The “pretty” exportable version is on the Preview Tab. Finish adjusting in here.



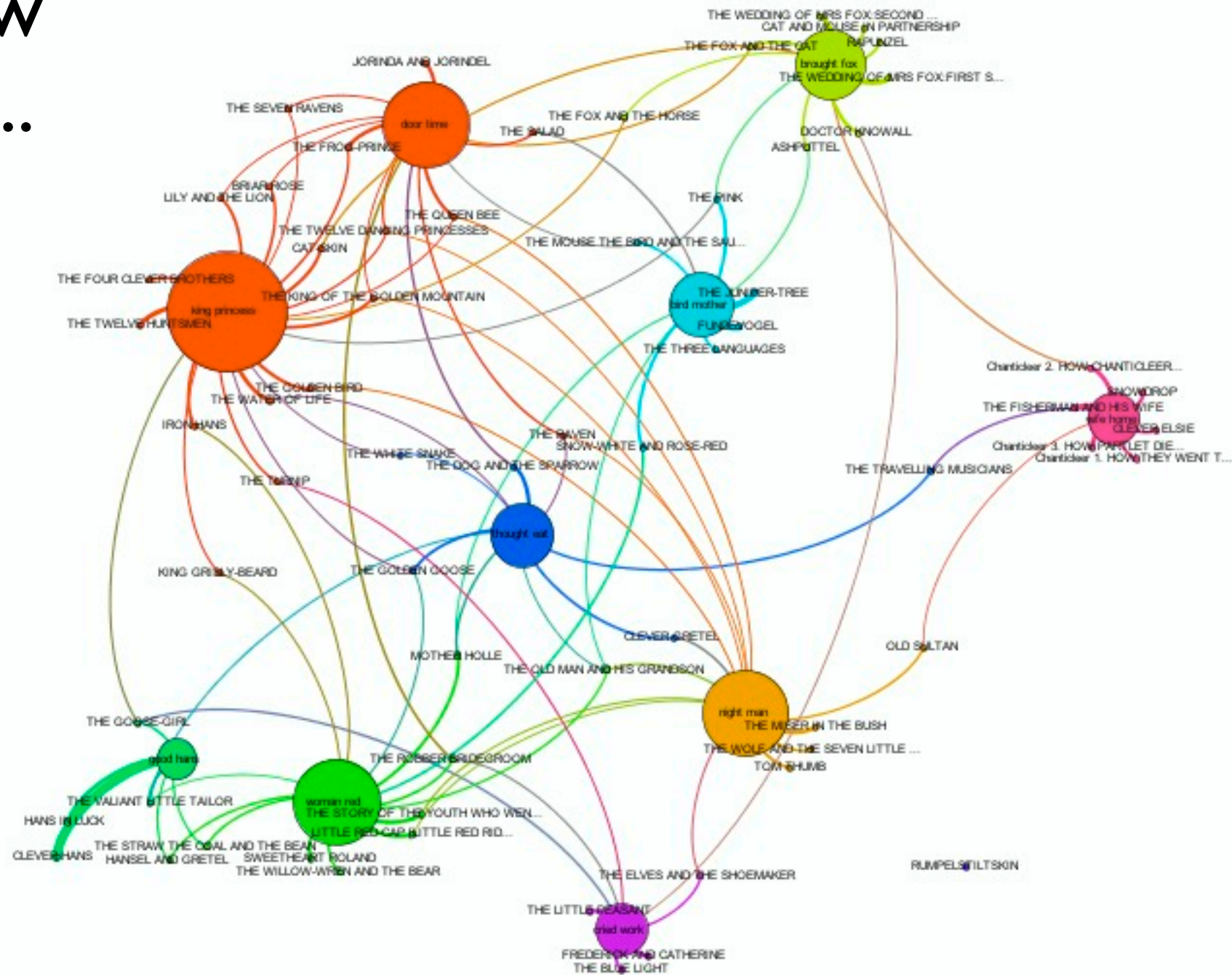
Another layout option is force-atlas2. Be careful with the settings! Note that Rumpelstiltskin will fly away.



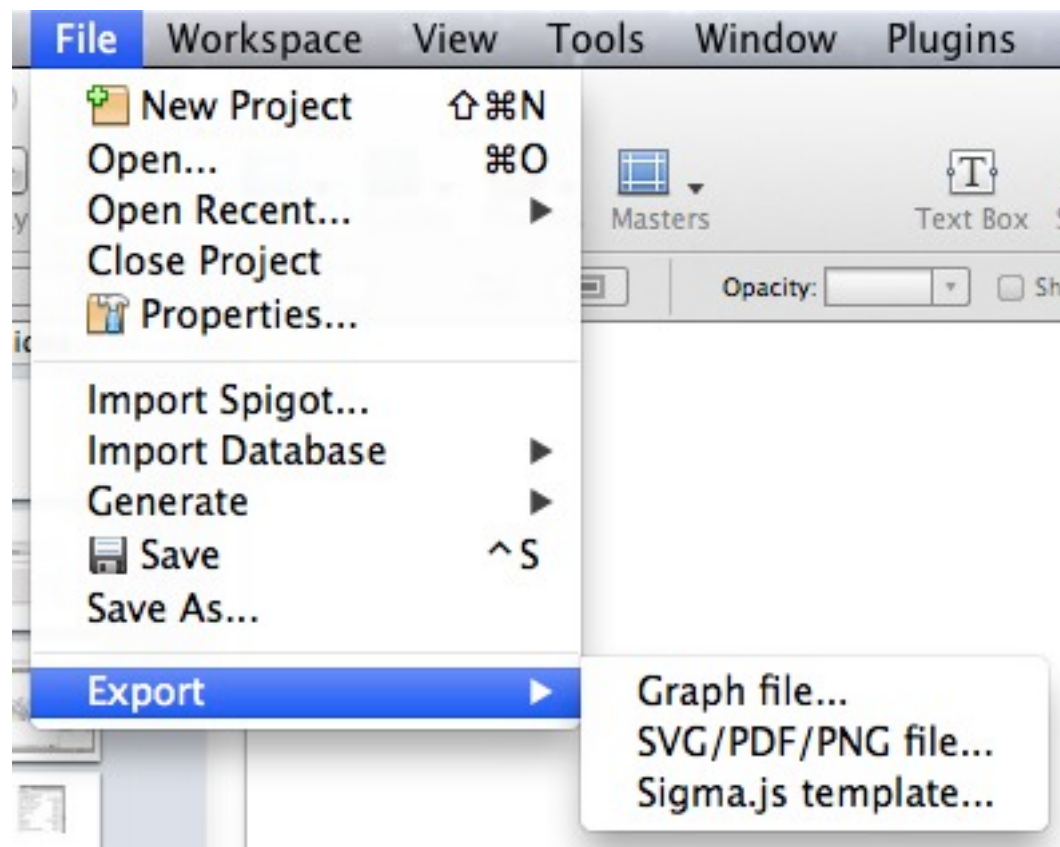
Always use
Label Adjust is
you use Force
Atlas (or any
one, actually).



A Force Layout in Preview mode...



To export to an interactive web project after your Layout, pick Export... Sigma.js template.



Put in whatever useful, informative text you can supply. I like “Dim” for Hover behavior. Let’s use Modularity Class for Group.

Sigma.js Export

Export to Sigma.js template

/Users/lynn/Documents/Talks/TopicsPythonGephi/files Browse...

Legend

Node* Topic/Story

Edge* Strength

Color* Community

Branding

Logo (url)

Link

Author* Lynn Cherny

Title* Jell of Grimms

Features

☒ Include search? ☒ Group edges by direction?

Hover behavior Dim

Group Selector? Modularity Class

Image attribute? None (Default)

Attributes

Coming soon

Short Description*

An example of exporting topic model relations from Gephi using the Sigma.js plugin.

Long Description*

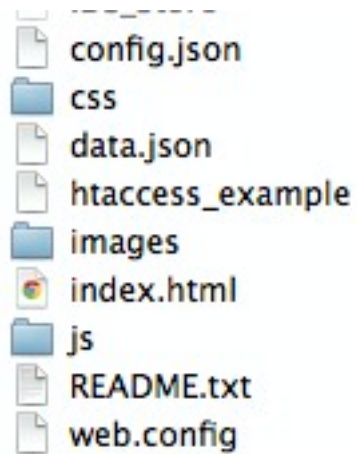
An example of a sigma.js export of Grimm's Fairytales topics – chapters mapped to topics.

☐ Replace node ids with numbers

Cancel OK

It will output a “network” folder - pick where!

The “network” folder has these:

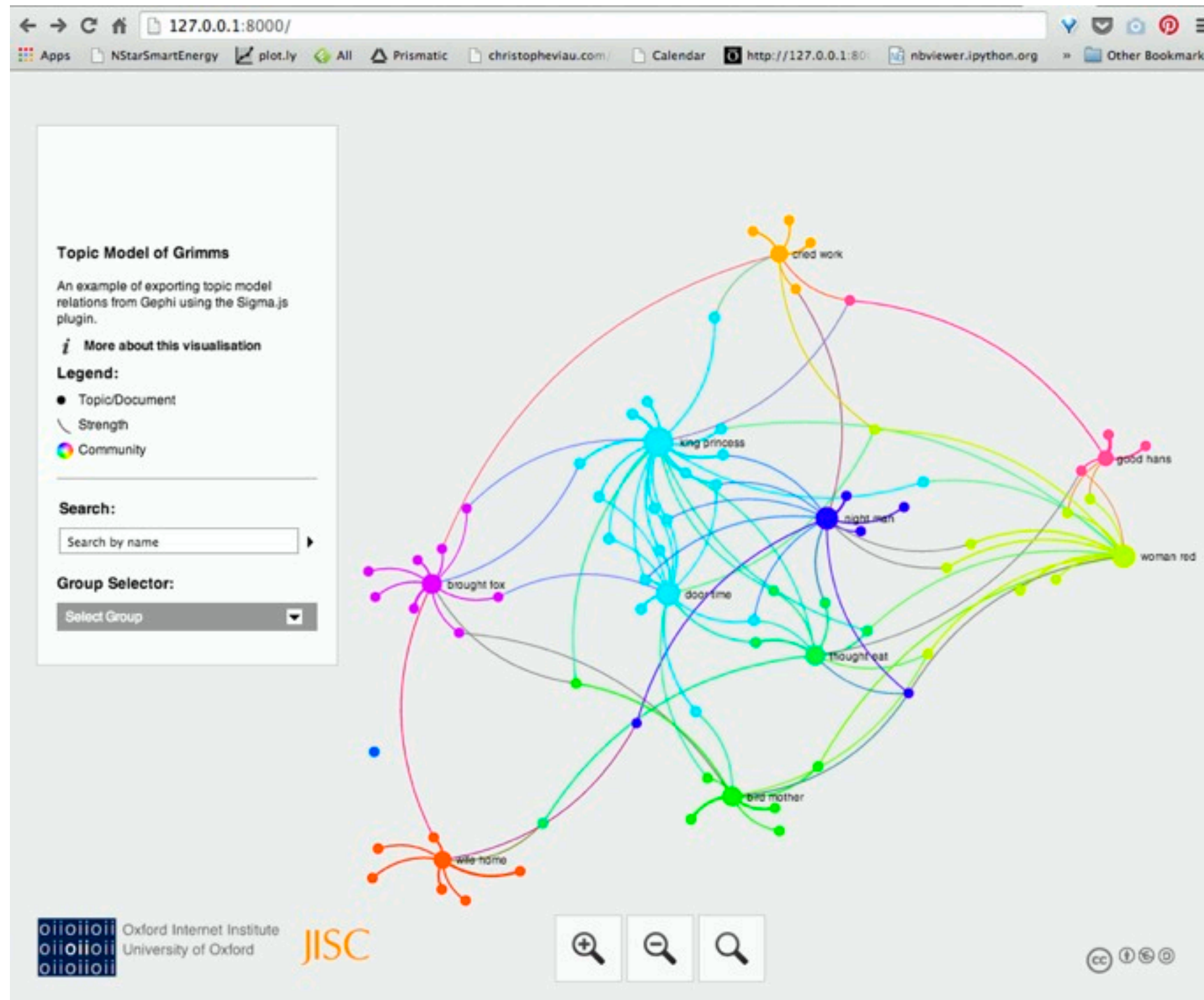


```
config.json x
17     "colorLabel": "Community",
18     "nodeLabel": "Topic/Document"
19 },
20 "features": {
21     "search": true,
22     "groupSelectorAttribute": "Modularity Class",
23     "hoverBehavior": "default"
24 },
25 "informationPanel": {
26     "imageAttribute": false,
27     "groupByEdgeDirection": true
28 },
29 "sigma": {
30     "graphProperties": {
31         "minEdgeSize": 1,
32         "maxNodeSize": 20,
33         "maxEdgeSize": 8,
34         "minNodeSize": 7
35     },
36     "drawingProperties": {
37         "labelThreshold": 10,
38         "hoverFontStyle": "bold",
39         "defaultEdgeType": "curve",
40         "defaultLabelColor": "#000",
41         "defaultLabelHoverColor": "#fff",
42         "defaultLabelSize": 14,
43         "activeFontStyle": "bold",
44         "fontStyle": "bold",
45         "defaultHoverLabelBGColor": "#002147",
46         "defaultLabelBGColor": "#ddd"
47     },
48     "mouseProperties": {
49         "minRatio": 0.75,
50         "maxRatio": 20
51     }
52 }
53 }
```

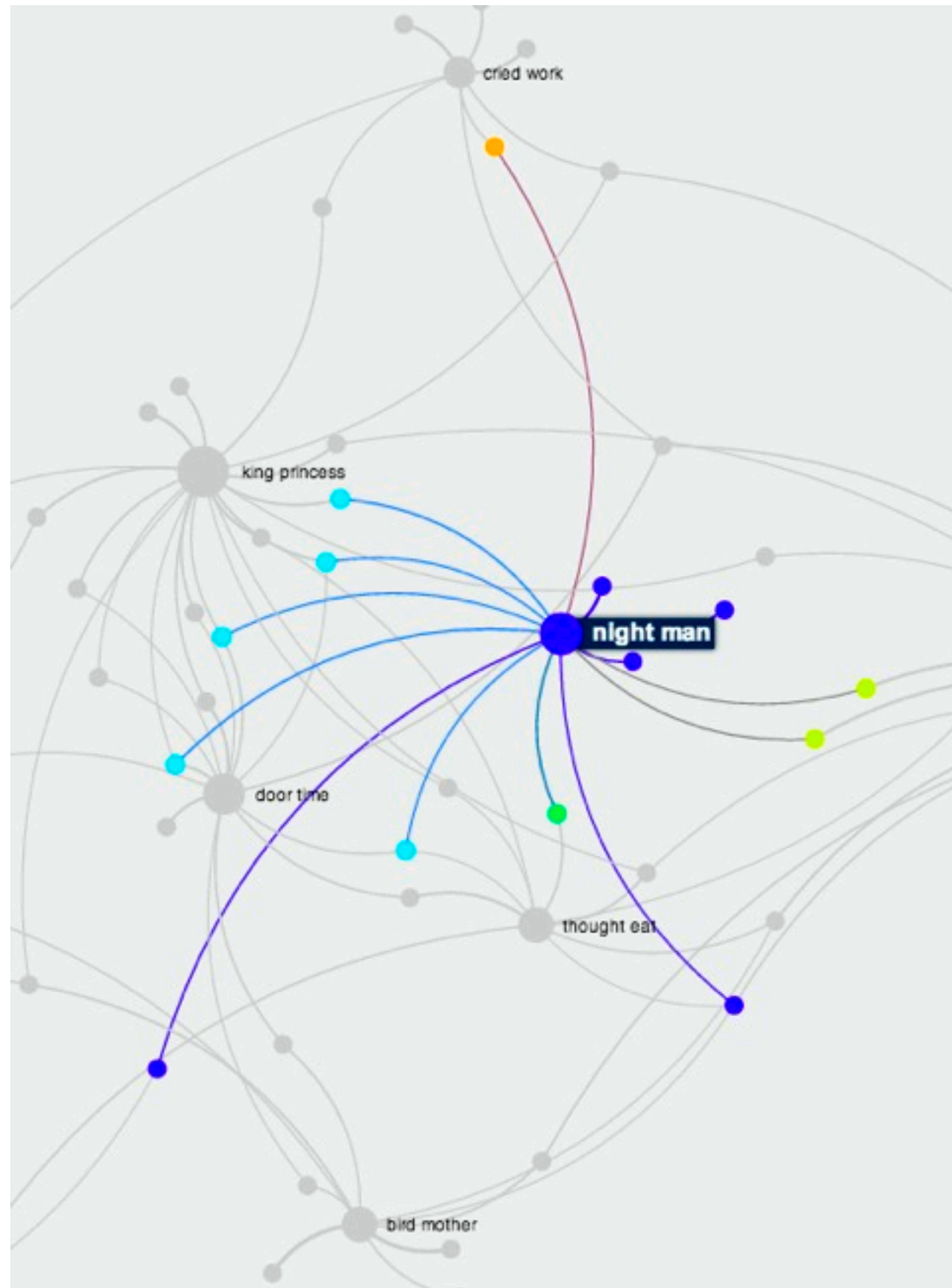
Edit config.json to
increase some
sizes:

Move your network folder to a web server or start one locally:

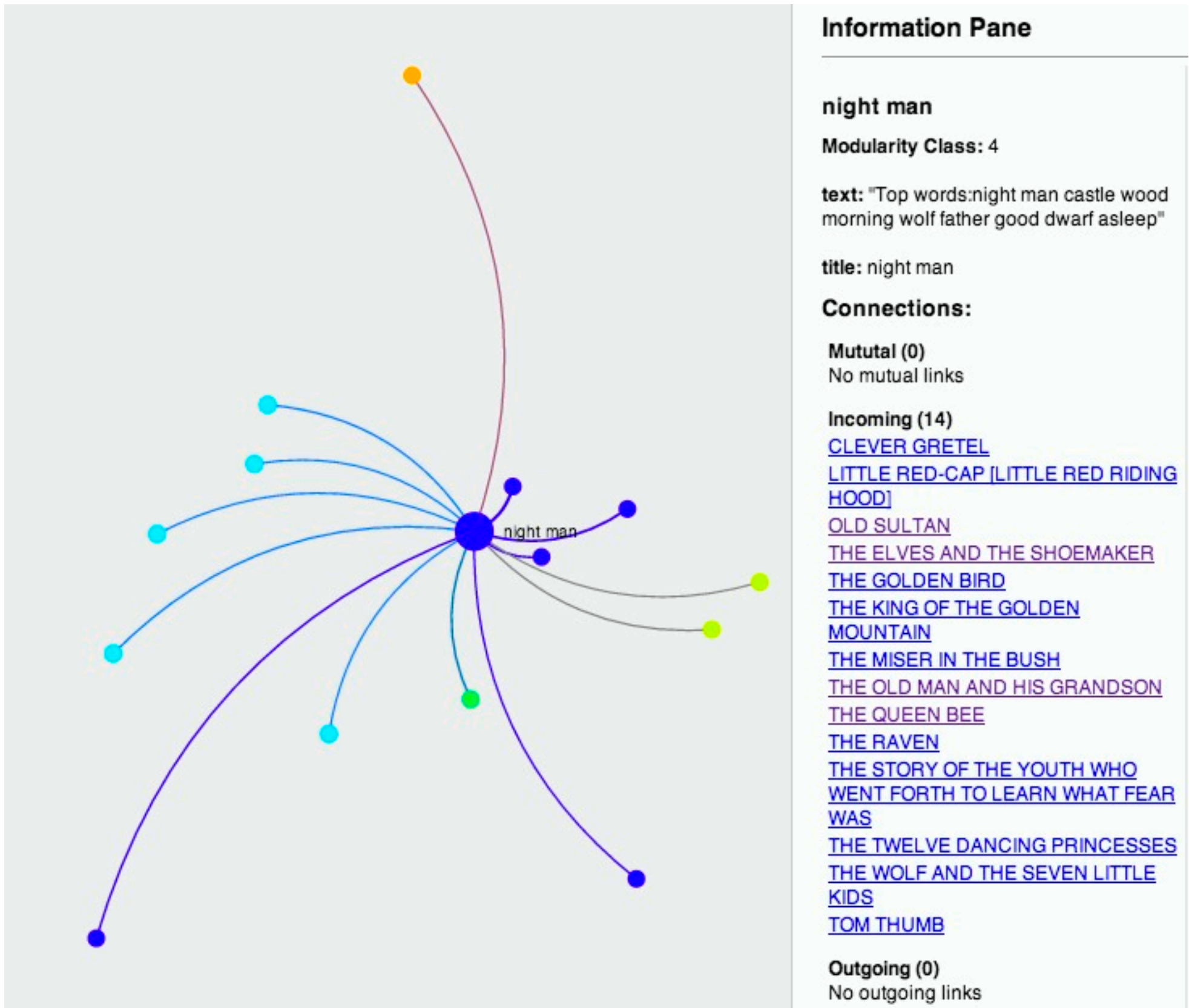
```
new-host-2:files lynn$ cd network
new-host-2:network lynn$ python -m SimpleHTTPServer 8000
Serving HTTP on 0.0.0.0 port 8000 ...
127.0.0.1 - - [30/Mar/2014 15:45:06] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [30/Mar/2014 15:45:07] "GET /js/jquery/jquery.min.js HTTP/1.1" 200 -
...
```



At this level, rollovers dim unconnected nodes, showing only connected nodes. Only the largest node labels are visible (topics).



Clicking
gives you
info on the
right side,
including
the text
we
uploaded
to the
graph file
from
python!



```
graph TD; night_man((night man)) --- clever_gretel[CLEVER GRETEL]; clever_gretel --- thought_eat((thought eat))
```

Information Pane

CLEVER GRETEL

Modularity Class: 8

text: " Chapter CLEVER GRETEL There was once a cook named Gretel who wore shoes with red heels and when she walked out with them on she turned herself this way and that was quite happy and thought: 'You certainly are a pretty girl!' And when she came home she drank in her gladness of heart a draught of wine and as wine excites a desire to eat she tasted the..."

title: CLEVER GRETEL

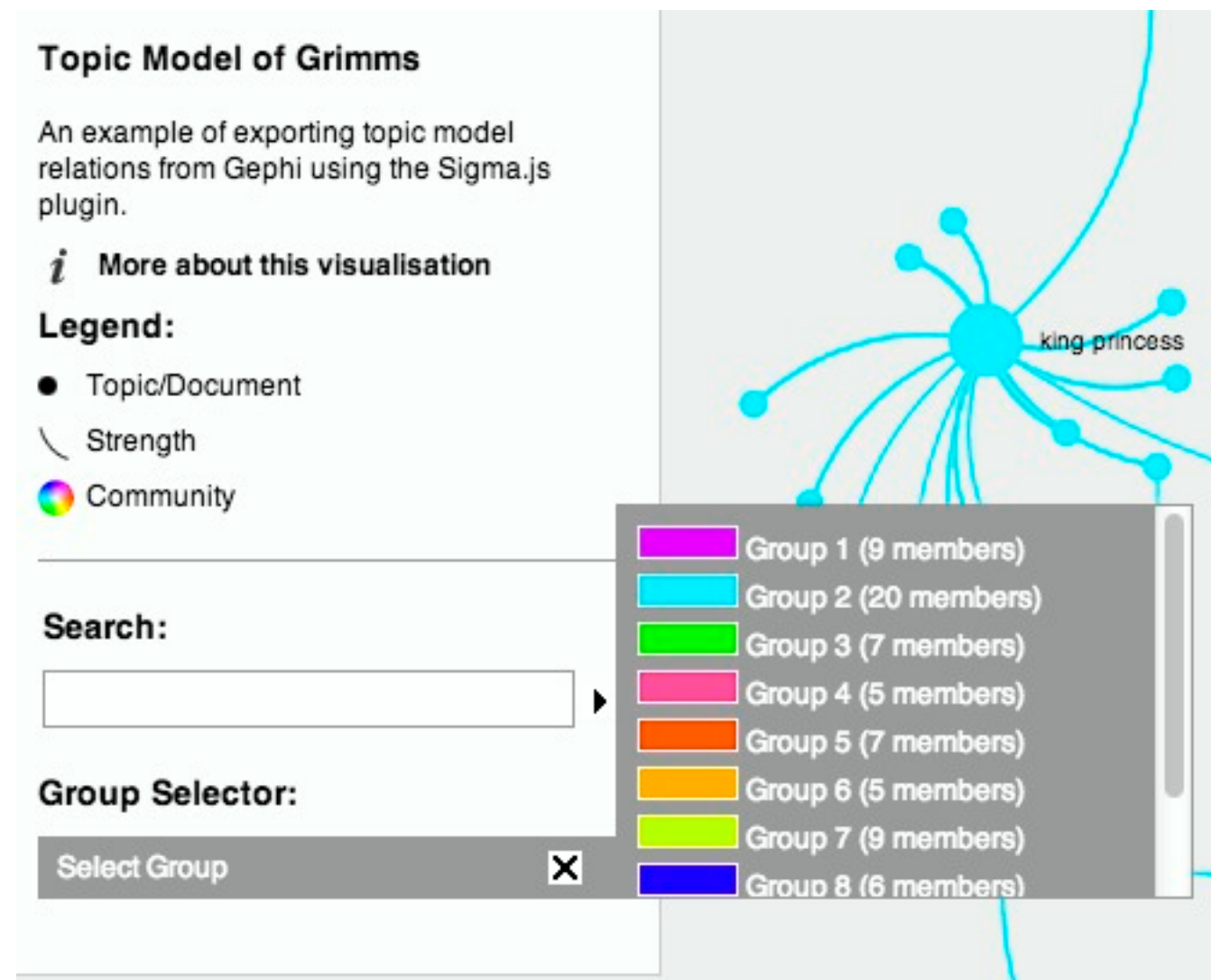
Connections:

Mutual (0)
No mutual links

Incoming (0)
No incoming links

Outgoing (2)
[night man](#)
[thought eat](#)

The groups
are the
modularity
classes
found. You
can search
for a node
name too...



- The utility of this graph is improved by useful text/content additions in the graph file (the python exercise we went thru first) and some tweaks in the output visuals.
- It could be even better by post-processing the modularity groups to have better names than “group 2”...
- NOTE: The sigma.js exporter from Gephi is out of date, using an old sigma.js format. It also seems to not differentiate weights/sizes of edges very well. Caveats!

Hope this helped!

lynn@ghostweather.com