

Analyzing Facebook Ego Network using NodeXL

Dave King

HICSS 47

2014

The screenshot shows a Microsoft Excel window titled "NodeXLGraph1 - Microsoft Excel". The ribbon at the top has tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, Acrobat, NodeXL (which is selected), and Design. Below the ribbon is a toolbar with various icons for clipboard operations like Cut, Copy, Paste, and Format Painter, along with font and alignment tools. The main workspace contains a table with columns labeled A through J. Columns A and B have dropdown menus for "Vertex 1" and "Vertex 2" respectively. A tooltip for "Vertex 1 Name" appears over column A. Columns C through J have dropdown menus for "Color", "Width", "Style", "Opacity", "Visibility", "Label Text", "Label Font", and "Size". To the right of the table is a "Document Actions" pane. This pane features a network graph visualization with the word "NODEX" formed by nodes and edges. The graph is red and blue. Below the graph, the text "Network Graphs" and "The Social Media Research Foundation" is displayed. The pane also contains a list of bullet points: • NodeXL is brought to you by the [Social Media Research Foundation](#). • Do you have questions, comments or requests concerning NodeXL? Please join us on the [NodeXL discussion list](#). • Visit the [NodeXL Graph Gallery](#) to see the wide variety of graphs that have been created by the NodeXL community. • NodeXL is supported by user donations, which enable us to continually improve the product. Please help us continue our work by donating to the Social Media Research Foundation's NodeXL development fund. At the bottom of the pane is a "Donate" button with payment method icons for American Express, VISA, MasterCard, and Bank.

Step 1A: Open NodeXL Template

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Export Prepare Data Data Graph

Show Graph Type: Undirected Fruchterman... Layout: Fruchterman... Automate

Color Vertex Shape Autofill Columns Opacity Vertex Size Visibility Edge Width

Graph Metrics Subgraph Images Groups

Dynamic Filters Use Current for New Import Workbook Columns Show Notifications Help Online Sample Workbook About Help

A3 f

Visual Properties Labels Label Text Label Font

Vertex 1 Vertex 2 Color Width Style Opacity Visibility Label Label Color Size

3

Vertex 1 Name
Enter the name of the edge's first vertex.

Document Actions

Show Graph Fruchterman-Reingo Lay Out Again Dynamic Filters Graph Options

Zoom: Scale: Lock:

NODEX Network Graphs
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Donate

Ready Edges Vertices Groups Group Vertices Overall Metrics

This screenshot shows the Microsoft Excel interface with the NodeXL ribbon tab selected. The ribbon includes tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, Acrobat, NodeXL, and Design. The NodeXL tab is active, displaying various graph-related tools such as Import, Export, Prepare Data, Show Graph, Graph Metrics, Subgraph Images, Dynamic Filters, and Help. The main worksheet area shows a table with columns for edges, vertices, groups, and overall metrics. A tooltip for 'Vertex 1 Name' is visible, prompting the user to enter the name of the edge's first vertex. On the right side, there is a 'Document Actions' panel containing a graph visualization titled 'NODEX Network Graphs' and a list of links for the Social Media Research Foundation, NodeXL discussion list, and NodeXL Graph Gallery. There is also a 'Donate' button and payment method icons (Visa, MasterCard, American Express, Discover). The status bar at the bottom indicates the document is ready and shows the zoom level as 100%.

Step 1B: Switch to NodeXL Menus

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import From UCINET Full Matrix DL File... From GraphML file... From GraphML files... From Pajek File... From Open Matrix Workbook... From Open Workbook... From NodeXL Graph Gallery From Email Network... From Facebook Fan Page Network (v.1.9.1)... From Facebook Group Network (v.1.9.1)... From Facebook Personal and Timeline Network (v.1.9.1)... From Flickr Related Tags Network... From Flickr User's Network... From Twitter List Network... From Twitter Search Network... From Twitter User's Network... From YouTube User's Network... From YouTube Video Network... From NodeXL Workbook Created on Another Computer... Get Third-Party Graph Data Importers Import Options...

Autofill Columns Color Vertex Shape
Opacity Vertex Size
Visibility Edge Width
Dynamic Filters Graph Metrics
Subgraph Images Groups
Analysis Use Current for New Import Workbook Columns
Reset All Export Graph Elements Show Notifications
Show/Hide Options Show/Hide Help Online Sample Workbook About Help

F G H I J Labels Label Text Label Font
Opacity Visibility Label Color Size

Document Actions

Show Graph Fruchterman-Reingo Lay Out Again Dynamic Filters Graph Options

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Ready Edges Vertices Groups Group Vertices Overall Metrics

Step 1C: Beginning Import from Facebook

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Export Prepare Data Data Graph

A3

Visual Properties

Vertex 1 Vertex 2 Color Width Style Options

Vertex 1 Name
Enter the name of the edge's first vertex.

The NodeXL Facebook personal and timeline network importer (v.1.9.1) will download the friendship relations between your friends. It needs to access your basic information from Facebook. After you login and authorize the application, you can click download.

[Click here to logout from Facebook.](#)

Attributes

| Attribute | Include |
|---------------------|-------------------------------------|
| Name | <input checked="" type="checkbox"/> |
| First Name | <input checked="" type="checkbox"/> |
| Middle Name | <input type="checkbox"/> |
| Last Name | <input type="checkbox"/> |
| Hometown | <input checked="" type="checkbox"/> |
| Current Location | <input checked="" type="checkbox"/> |
| Birthday | <input checked="" type="checkbox"/> |
| Picture | <input type="checkbox"/> |
| Profile Update Time | <input type="checkbox"/> |
| Timezone | <input checked="" type="checkbox"/> |
| Religion | <input type="checkbox"/> |
| Sex | <input checked="" type="checkbox"/> |
| Relationship | <input checked="" type="checkbox"/> |
| Political Views | <input type="checkbox"/> |
| Activities | <input type="checkbox"/> |

Add an edge for each
 Post author
 User tagged
 Comment
 Like

found in
 2 first post(s)
 posts between and

of
 my timeline
 my friend's timeline

Options
 Limit nr. comments/likes per post to
 Download Tooltips
 Include Me

Login Download Cancel

Lay Out Again Dynamic Filters Graph Options

Scale:

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Comments or requests concerning NodeXL? [View the discussion list.](#)

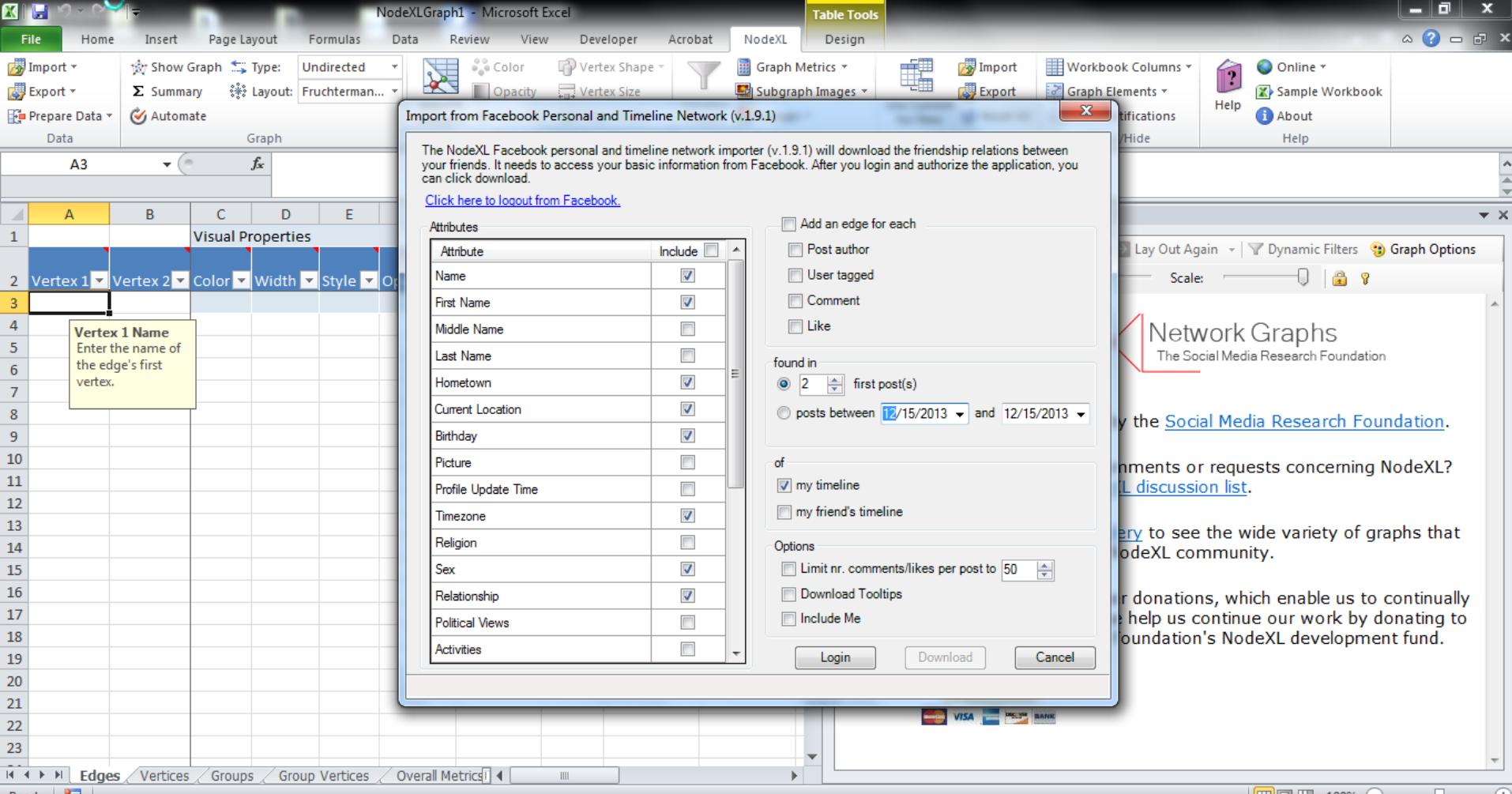
Want to see the wide variety of graphs that the NodeXL community.

For donations, which enable us to continually help us continue our work by donating to the Social Media Research Foundation's NodeXL development fund.

Ready

Edges Vertices Groups Group Vertices Overall Metrics

100%



Step 1D: Selecting Facebook Attributes

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Export Prepare Data Data

Show Graph Type: Undirected Layout: Fruchterman... Automate

Color Vertex Shape Opacity Vertex Size Graph Metrics Subgraph Images Import Export Workbook Columns Graph Elements Hide

Online Sample Workbook Help About Help

Import from Facebook Personal and Timeline Network (v.1.9.1)

Facebook - Login

relations between the application, you

Enter the n the edge's vertex.

12/15/2013

Scale: 50

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the Social Media Research Foundation.

ments or requests concerning NodeXL? [\[L discussion list\]](#)

try to see the wide variety of graphs that NodeXL community.

ur donations, which enable us to continually help us continue our work by donating to foundation's NodeXL development fund.

Relationship Download Tooltips
Political Views Include Me
Activities

Login Download Cancel

Edges Vertices Groups Group Vertices Overall Metrics

Ready

A3

1 Vertex 1

2 Vertex 1

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

100%

Step 1E: Login to Facebook

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Export Prepare Data Data Graph

A3

Visual Properties

Vertex 1 Vertex 2 Color Width Style Options

Vertex 1 Name
Enter the name of the edge's first vertex.

Import from Facebook Personal and Timeline Network (v.1.9.1)

The NodeXL Facebook personal and timeline network importer (v.1.9.1) will download the friendship relations between your friends. It needs to access your basic information from Facebook. After you login and authorize the application, you can click download.

[Click here to logout from Facebook.](#)

Attributes

| Attribute | Include |
|---------------------|-------------------------------------|
| Name | <input checked="" type="checkbox"/> |
| First Name | <input checked="" type="checkbox"/> |
| Middle Name | <input type="checkbox"/> |
| Last Name | <input type="checkbox"/> |
| Hometown | <input checked="" type="checkbox"/> |
| Current Location | <input checked="" type="checkbox"/> |
| Birthday | <input checked="" type="checkbox"/> |
| Picture | <input type="checkbox"/> |
| Profile Update Time | <input type="checkbox"/> |
| Timezone | <input checked="" type="checkbox"/> |
| Religion | <input type="checkbox"/> |
| Sex | <input checked="" type="checkbox"/> |
| Relationship | <input checked="" type="checkbox"/> |
| Political Views | <input type="checkbox"/> |
| Activities | <input type="checkbox"/> |

Add an edge for each
 Post author
 User tagged
 Comment
 Like

found in
 2
 posts between 12/15/2013 and 12/15/2013

of
 my timeline
 my friend's timeline

Options
 Limit nr. comments/likes per post to 50
 Download Tooltips
 Include Me

Login Download Cancel

Lay Out Again Dynamic Filters Graph Options

Scale:

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by the [Social Media Research Foundation](#).

Comments or requests concerning NodeXL? [\[discussion list\]](#).

Every to see the wide variety of graphs that NodeXL community.

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Step 1F: Click Download

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Show Graph Type: Undirected
Export Summary Layout: Fruchterman...
Prepare Data Automate

Autofill Columns Color Vertex Shape
 Opacity Vertex Size
 Visibility Edge Width

Dynamic Filters Graph Metrics Subgraph Images Groups

Use Current for New Import Workbook Columns Graph Elements
 Export Show Notifications Reset All Show/Hide

Help Online Sample Workbook About Help

A2 fx Vertex

| | A | B | C | D | E | F | G | H | I |
|----|--------------------------|-------------------|-------|------|---------|-------|--------|------------|-------|
| 1 | | Visual Properties | | | | | Labels | | |
| 2 | Vertex | Color | Shape | Size | Opacity | Image | File | Visibility | Label |
| 3 | Janet Gray | | | | | | | | |
| 4 | Nina Nahemow King | | | | | | | | |
| 5 | J Mark Geninatti | | | | | | | | |
| 6 | Chris J Kozioł | | | | | | | | |
| 7 | Kristen Magnuson DeCozio | | | | | | | | |
| 8 | Christopher King | | | | | | | | |
| 9 | Leigh Reynolds King | | | | | | | | |
| 10 | Barbara King | | | | | | | | |
| 11 | Norman Neuman | | | | | | | | |
| 12 | Reynolds Williams | | | | | | | | |
| 13 | Christy Bray Graves | | | | | | | | |
| 14 | Susan Reeves Beyer | | | | | | | | |
| 15 | Chris Field | | | | | | | | |
| 16 | Steve Coatney | | | | | | | | |
| 17 | Dennis Ganster | | | | | | | | |
| 18 | Jenny Martin | | | | | | | | |
| 19 | Heather Blatchford | | | | | | | | |
| 20 | Michael Coveney | | | | | | | | |
| 21 | Satish Manne | | | | | | | | |
| 22 | Shrihari Pandula | | | | | | | | |
| 23 | Raja Jeevan Kumar Maduri | | | | | | | | |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Show Graph Fruchterman-Reingo Lay Out Again Dynamic Filters Graph Options

Zoom: Scale: Position:

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Step 1G: Downloaded Vertices

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL

Import Export Prepare Data Data Show Graph Type: Undirected Fruchterman... Layout: Fruchterman... Autofill Columns Color Vertex Shape Opacity Vertex Size Dynamic Filters Graph Metrics Subgraph Images Groups Analysis Use Current for New Import Workbook Columns Graph Elements Show Notifications Options Show/Hide Help Online Sample Workbook About Help

A1 fx

| | A | B | C | D | E | F | G | H |
|----|--------------------------|--------------------------|-------------------|-------|-------|---------|------------|-------|
| 1 | | | Visual Properties | | | | | |
| 2 | Vertex 1 | Vertex 2 | Color | Width | Style | Opacity | Visibility | Label |
| 3 | Janet Gray | Nina Nahemow King | | | | | | |
| 4 | J Mark Geninatti | Chris J Koziol | | | | | | |
| 5 | J Mark Geninatti | Kristen Magnuson DeCozio | | | | | | |
| 6 | Christopher King | Nina Nahemow King | | | | | | |
| 7 | Leigh Reynolds King | Nina Nahemow King | | | | | | |
| 8 | Barbara King | Nina Nahemow King | | | | | | |
| 9 | Nina Nahemow King | Norman Neuman | | | | | | |
| 10 | Nina Nahemow King | Reynolds Williams | | | | | | |
| 11 | Nina Nahemow King | Christy Bray Graves | | | | | | |
| 12 | Susan Reeves Beyer | Chris Field | | | | | | |
| 13 | Chris Field | Steve Coatney | | | | | | |
| 14 | Chris Field | Dennis Ganster | | | | | | |
| 15 | Chris Field | Jenny Martin | | | | | | |
| 16 | Chris Field | Heather Blatchford | | | | | | |
| 17 | Chris Field | Michael Coveney | | | | | | |
| 18 | Satish Manne | Shrihari Pandula | | | | | | |
| 19 | Raja Jeevan Kumar Maduri | Shrihari Pandula | | | | | | |
| 20 | Ramakrishna Yamijala | Shrihari Pandula | | | | | | |
| 21 | Hemant Shergare | Shrihari Pandula | | | | | | |
| 22 | Ranganath Mamidala | Shrihari Pandula | | | | | | |
| 23 | Durga Prasad | Shrihari Pandula | | | | | | |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Show Graph Fruchterman-Reingo Lay Out Again Dynamic Filters Graph Options

Zoom: Scale: Lock:

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Step 1H: Downloaded Edges

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Export Prepare Data Data Graph

Show Graph Type: Undirected Fruchterman... Layout: Fruchterman... Automate

Color Vertex Shape Autofill Columns Opacity Vertex Size Visibility Edge Width

Graph Metrics Subgraph Images Groups

Use Current for New Import Workbook Columns Graph Elements Show Notifications Options Reset All Show/Hide Help Online Sample Workbook About Help

A2 fx Vertex

| | A | B | C | D | E | F | G | H | I | |
|----|--------------------------|-------------------|-------|------|---------|-------|------------|-------|------------|----------------|
| 1 | | Visual Properties | | | | | Labels | | | |
| 2 | Vertex | Color | Shape | Size | Opacity | Image | Visibility | Label | Label Fill | Label Position |
| 3 | Janet Gray | | | | | | | | | |
| 4 | Nina Nahemow King | | | | | | | | | |
| 5 | J Mark Geninatti | | | | | | | | | |
| 6 | Chris J Koziol | | | | | | | | | |
| 7 | Kristen Magnuson DeCozio | | | | | | | | | |
| 8 | Christopher King | | | | | | | | | |
| 9 | Leigh Reynolds King | | | | | | | | | |
| 10 | Barbara King | | | | | | | | | |
| 11 | Norman Neuman | | | | | | | | | |
| 12 | Reynolds Williams | | | | | | | | | |
| 13 | Christy Bray Graves | | | | | | | | | |
| 14 | Susan Reeves Beyer | | | | | | | | | |
| 15 | Chris Field | | | | | | | | | |
| 16 | Steve Coatney | | | | | | | | | |
| 17 | Dennis Ganster | | | | | | | | | |
| 18 | Jenny Martin | | | | | | | | | |
| 19 | Heather Blatchford | | | | | | | | | |
| 20 | Michael Coveney | | | | | | | | | |
| 21 | Satish Manne | | | | | | | | | |
| 22 | Shrihari Pandula | | | | | | | | | |
| 23 | Raja Jeevan Kumar Maduri | | | | | | | | | |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Show Graph Fruchterman-Reingo Lay Out Again Dynamic Filters Graph Options

Zoom Scale

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Step 2A: Preparing the Network for Analysis

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat **NodeXL** Table Tools Design

Import Export Prepare Data Data Graph

Show Graph Type: Undirected
Σ Summary Layout: Fruchterman...
Automate

Color Vertex Shape
Autofill Columns Opacity Vertex Size
Visibility Edge Width

Dynamic Filters Graph Metrics Subgraph Images Groups

Analysis Use Current for New Import Workbook Columns
Reset All Export Graph Elements Show Notifications

Options Show/Hide Help Online Sample Workbook About Help

A2 Vertex

| | A | AN | AO | AP | AQ | AR |
|----|--------------------------|------------------|------------------|------------------|----------------|-----------|
| 1 | | | | | | |
| 2 | Vertex | Current Location | Current Location | Current Location | Birthday | Timezone |
| | Location | City | State | Country | | |
| 3 | Janet Gray | Ypsilanti | Township | Michigan | United States | |
| 4 | Nina Nahemow King | Scottsdale | | Arizona | United States | 17-Jun-45 |
| 5 | J Mark Geninatti | Phoenix | | Arizona | United States | |
| 6 | Chris J Koziol | | | | 1-Nov | |
| 7 | Kristen Magnuson DeCozio | Scottsdale | | Arizona | United States | 25-Apr |
| 8 | Christopher King | Las Colinas | | Panama | Panama | 9-Jul-63 |
| 9 | Leigh Reynolds King | Dallas | Texas | | United States | |
| 10 | Barbara King | Chelsea | | Michigan | United States | 24-Apr |
| 11 | Norman Neuman | Florence | | South Carolina | United States | 16-Oct-40 |
| 12 | Reynolds Williams | Durham | | North Carolina | United States | 15-May-46 |
| 13 | Christy Bray Graves | Saline | | Michigan | United States | 20-Aug |
| 14 | Susan Reeves Beyer | London | England | | United Kingdom | 1-Apr |
| 15 | Chris Field | Ann Arbor | | Michigan | United States | 4-Mar-57 |
| 16 | Steve Coatney | Brighton | | Michigan | United States | 29-Aug-54 |
| 17 | Dennis Ganster | | | | United States | 9-Jan-51 |
| 18 | Jenny Martin | Redlands | California | | United States | |
| 19 | Heather Blatchford | Gravesend | England | | United Kingdom | 26-Jun-53 |
| 20 | Michael Coveney | | | | | 26-Jul |
| 21 | Satish Manne | Hyderabad | Andhra Pradesh | India | | 16-May-79 |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Show Graph Fruchterman-Reingo Lay Out Again Dynamic Filters Graph Options

Cursor icons: Hand, Pointer, Selection, Crosshair, Magnifying Glass, Zoom In, Zoom Out, Lock, Key.

Zoom: Scale: 100%

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Visa, MasterCard, American Express, Discover, Bank

Count: 46 100%

Step 2B: Scrolling to review Vertex Attributes

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Show Graph Type: Undirected Fruchterman... Color Vertex Shape: Edge Width: **Export** Layout: Fruchterman... Opacity Vertex Size: **Prepare Data** Automate Autofill Columns Visibility: **Graph Metrics** Subgraph Images: **Analysis**

Data Graph Use Current for New Import Workbook Columns: **Options** Reset All Graph Elements: Show Notifications **Help** Online: Sample Workbook About Help

A2 fx Vertex

| | A | AC | AD | AE | AF | AG | |
|----|--------------------------|---------------------------|-----------------|---|-------------|--------------------------|------|
| 1 | | Other Columns | | | | | |
| 2 | Vertex | Add Your Own Columns Here | Custom Menu | Custom Menu | Item Action | Type | Name |
| 3 | Janet Gray | | Open Facebook P | http://www.facebook.com | Friend | Janet Gray | |
| 4 | Nina Nahemow King | | Open Facebook P | http://www.facebook.com | Friend | Nina Nahemow King | |
| 5 | J Mark Geninatti | | Open Facebook P | http://www.facebook.com | Friend | J Mark Geninatti | |
| 6 | Chris J Koziol | | Open Facebook P | http://www.facebook.com | Friend | Chris J Koziol | |
| 7 | Kristen Magnuson DeCozio | | Open Facebook P | http://www.facebook.com | Friend | Kristen Magnuson DeCozio | |
| 8 | Christopher King | | Open Facebook P | http://www.facebook.com | Friend | Christopher King | |
| 9 | Leigh Reynolds King | | Open Facebook P | http://www.facebook.com | Friend | Leigh Reynolds King | |
| 10 | Barbara King | | Open Facebook P | http://www.facebook.com | Friend | Barbara King | |
| 11 | Norman Neuman | | Open Facebook P | http://www.facebook.com | Friend | Norman Neuman | |
| 12 | Reynolds Williams | | Open Facebook P | http://www.facebook.com | Friend | Reynolds Williams | |
| 13 | Christy Bray Graves | | Open Facebook P | http://www.facebook.com | Friend | Christy Bray Graves | |
| 14 | Susan Reeves Beyer | | Open Facebook P | http://www.facebook.com | Friend | Susan Reeves Beyer | |
| 15 | Chris Field | | Open Facebook P | http://www.facebook.com | Friend | Chris Field | |
| 16 | Steve Coatney | | Open Facebook P | http://www.facebook.com | Friend | Steve Coatney | |
| 17 | Dennis Ganster | | Open Facebook P | http://www.facebook.com | Friend | Dennis Ganster | |
| 18 | Jenny Martin | | Open Facebook P | http://www.facebook.com | Friend | Jenny Martin | |
| 19 | Heather Blatchford | | Open Facebook P | http://www.facebook.com | Friend | Heather Blatchford | |
| 20 | Michael Coveney | | Open Facebook P | http://www.facebook.com | Friend | Michael Coveney | |
| 21 | Satish Manne | | Open Facebook P | http://www.facebook.com | Friend | Satish Manne | |
| 22 | Shrihari Pandula | | Open Facebook P | http://www.facebook.com | Friend | Shrihari Pandula | |
| 23 | Raja Jeevan Kumar Maduri | | Open Facebook P | http://www.facebook.com | Friend | Raja Jeevan Kumar Maduri | |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Show Graph Fruchterman-Reingo Lay Out Again Dynamic Filters Graph Options

Zoom: Scale:

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Count: 46 100%

Step 2C: Adding custom Attributes

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Cut Copy Format Painter Clipboard

Font Alignment Number Styles Cells Editing

A2 Vertex

| | A | AC | AD | AE | AF | AG | AH |
|----|--------------------------|---------------|-------------|---|-------------|---------------|------------|
| 1 | | Other Columns | | | | | |
| 2 | Vertex | OrigOrder | FriendGrp | Custom Menu | Custom Menu | Type | First Name |
| 3 | Janet Gray | | 1 Family | Open Facebook P http://www.facebook.com | Friend | Janet | |
| 4 | Nina Nahemow King | | 2 Family | Open Facebook P http://www.facebook.com | Friend | Nina | |
| 5 | J Mark Geninatti | | 3 JDA | Open Facebook P http://www.facebook.com | Friend | J Mark | |
| 6 | Chris J Koziol | | 4 JDA | Open Facebook P http://www.facebook.com | Friend | Chris | |
| 7 | Kristen Magnuson DeCozio | | 5 JDA | Open Facebook P http://www.facebook.com | Friend | Kristen | |
| 8 | Christopher King | | 6 Family | Open Facebook P http://www.facebook.com | Friend | Christopher | |
| 9 | Leigh Reynolds King | | 7 Family | Open Facebook P http://www.facebook.com | Friend | Leigh | |
| 10 | Barbara King | | 8 Family | Open Facebook P http://www.facebook.com | Friend | Barbara | |
| 11 | Norman Neuman | | 9 Comshare | Open Facebook P http://www.facebook.com | Friend | Norman | |
| 12 | Reynolds Williams | | 10 Family | Open Facebook P http://www.facebook.com | Friend | Reynolds | |
| 13 | Christy Bray Graves | | 11 Family | Open Facebook P http://www.facebook.com | Friend | Christy | |
| 14 | Susan Reeves Beyer | | 12 Comshare | Open Facebook P http://www.facebook.com | Friend | Susan | |
| 15 | Chris Field | | 13 Comshare | Open Facebook P http://www.facebook.com | Friend | Chris | |
| 16 | Steve Coatney | | 14 Comshare | Open Facebook P http://www.facebook.com | Friend | Steve | |
| 17 | Dennis Ganster | | 15 Comshare | Open Facebook P http://www.facebook.com | Friend | Dennis | |
| 18 | Jenny Martin | | 16 Comshare | Open Facebook P http://www.facebook.com | Friend | Jenny | |
| 19 | Heather Blatchford | | 17 Comshare | Open Facebook P http://www.facebook.com | Friend | Heather | |
| 20 | Michael Coveney | | 18 Comshare | Open Facebook P http://www.facebook.com | Friend | Michael | |
| 21 | Satish Manne | | 19 JDA-I | Open Facebook P http://www.facebook.com | Friend | Satish | |
| 22 | Shrihari Pandula | | 20 JDA-I | Open Facebook P http://www.facebook.com | Friend | Shrihari | |
| 23 | Raja Jeevan Kumar Maduri | | 21 JDA-I | Open Facebook P http://www.facebook.com | Friend | Raja Jeevan K | |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Show Graph Fruchterman-Reingo Lay Out Again Dynamic Filters

Zoom Scale Lock

Network Graphs
The Social Media Research Foundation

- NodeXL is brought to you by the [Social Media Research Foundation](#).
- Do you have questions, comments or requests concerning NodeXL? Please join us on the [NodeXL discussion list](#).
- Visit the [NodeXL Graph Gallery](#) to see the wide variety of graphs that have been created by the NodeXL community.
- NodeXL is supported by user donations, which enable us to continually improve the product. Please help us continue our work by donating to the Social Media Research Foundation's NodeXL development fund.

[Donate](#)

Ready

Step 2D: Added Attributes

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Cut Copy Format Painter Paste Clipboard

Font Alignment Number Styles Cells Editing

A2 Vertex

| | A | AC | AD | AE | AF | AG | AH |
|----|--------------------------|---------------|-------------|---|-------------|---------------|------------|
| 1 | | Other Columns | | | | | |
| 2 | Vertex | OrigOrder | FriendGrp | Custom Menu | Custom Menu | Type | First Name |
| 3 | Janet Gray | | 1 Family | Open Facebook P http://www.facebook.com | Friend | Janet | |
| 4 | Nina Nahemow King | | 2 Family | Open Facebook P http://www.facebook.com | Friend | Nina | |
| 5 | J Mark Geninatti | | 3 JDA | Open Facebook P http://www.facebook.com | Friend | J Mark | |
| 6 | Chris J Koziol | | 4 JDA | Open Facebook P http://www.facebook.com | Friend | Chris | |
| 7 | Kristen Magnuson DeCozio | | 5 JDA | Open Facebook P http://www.facebook.com | Friend | Kristen | |
| 8 | Christopher King | | 6 Family | Open Facebook P http://www.facebook.com | Friend | Christopher | |
| 9 | Leigh Reynolds King | | 7 Family | Open Facebook P http://www.facebook.com | Friend | Leigh | |
| 10 | Barbara King | | 8 Family | Open Facebook P http://www.facebook.com | Friend | Barbara | |
| 11 | Norman Neuman | | 9 Comshare | Open Facebook P http://www.facebook.com | Friend | Norman | |
| 12 | Reynolds Williams | | 10 Family | Open Facebook P http://www.facebook.com | Friend | Reynolds | |
| 13 | Christy Bray Graves | | 11 Family | Open Facebook P http://www.facebook.com | Friend | Christy | |
| 14 | Susan Reeves Beyer | | 12 Comshare | Open Facebook P http://www.facebook.com | Friend | Susan | |
| 15 | Chris Field | | 13 Comshare | Open Facebook P http://www.facebook.com | Friend | Chris | |
| 16 | Steve Coatney | | 14 Comshare | Open Facebook P http://www.facebook.com | Friend | Steve | |
| 17 | Dennis Ganster | | 15 Comshare | Open Facebook P http://www.facebook.com | Friend | Dennis | |
| 18 | Jenny Martin | | 16 Comshare | Open Facebook P http://www.facebook.com | Friend | Jenny | |
| 19 | Heather Blatchford | | 17 Comshare | Open Facebook P http://www.facebook.com | Friend | Heather | |
| 20 | Michael Coveney | | 18 Comshare | Open Facebook P http://www.facebook.com | Friend | Michael | |
| 21 | Satish Manne | | 19 JDA-I | Open Facebook P http://www.facebook.com | Friend | Satish | |
| 22 | Shrihari Pandula | | 20 JDA-I | Open Facebook P http://www.facebook.com | Friend | Shrihari | |
| 23 | Raja Jeevan Kumar Maduri | | 21 JDA-I | Open Facebook P http://www.facebook.com | Friend | Raja Jeevan K | |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Fruchterman-Reingold

Circle Spiral Horizontal Sine Wave Vertical Sine Wave Grid Polar Polar Absolute Sugiyama Random None Layout Options...

• NodeXL is Foundation

• Do you have questions about NodeXL?

• Visit the NodeXL forums to ask questions concerning discussion list.

• NodeXL is supported by user donations, which enable us to continually improve the product. Please help us continue our work by donating to the Social Media Research Foundation's NodeXL development fund.

Donate

100%

Step 3A: Selecting a Graphic Layout

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Refresh Graph Type: Undirected Layout: Fruchterman... Export Color Vertex Shape Autofill Subgraph Images Dynamic Filters Workbook Columns Graph Elements Show Notifications Help Online Sample Workbook About Help

Data Graph Data Visual Properties Analysis Options Show/Hide

A2 Vertex

| | A | B | C | D | E | F | G | H | I | |
|----|--------------------------|-------------------|-------|------|---------|------------|------------|-------|------------|----------------|
| 1 | | Visual Properties | | | | | | | | |
| 2 | Vertex | Color | Shape | Size | Opacity | Image File | Visibility | Label | Label Fill | Label Position |
| 3 | Janet Gray | | | | | | | | | |
| 4 | Nina Nahemow King | | | | | | | | | |
| 5 | J Mark Geninatti | | | | | | | | | |
| 6 | Chris J Koziol | | | | | | | | | |
| 7 | Kristen Magnuson DeCozio | | | | | | | | | |
| 8 | Christopher King | | | | | | | | | |
| 9 | Leigh Reynolds King | | | | | | | | | |
| 10 | Barbara King | | | | | | | | | |
| 11 | Norman Neuman | | | | | | | | | |
| 12 | Reynolds Williams | | | | | | | | | |
| 13 | Christy Bray Graves | | | | | | | | | |
| 14 | Susan Reeves Beyer | | | | | | | | | |
| 15 | Chris Field | | | | | | | | | |
| 16 | Steve Coatney | | | | | | | | | |
| 17 | Dennis Ganster | | | | | | | | | |
| 18 | Jenny Martin | | | | | | | | | |
| 19 | Heather Blatchford | | | | | | | | | |
| 20 | Michael Coveney | | | | | | | | | |
| 21 | Satish Manne | | | | | | | | | |
| 22 | Shrihari Pandula | | | | | | | | | |
| 23 | Raja Jeevan Kumar Maduri | | | | | | | | | |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Refresh Graph Fruchterman-Reingo Lay Out Again Dynamic Filters

Zoom: Scale: 100%

Step 3B: Refreshed Graph with Fruchterman-Reingo Layout

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Refresh Graph Type: Undirected Color Vertex Shape
Export Summary Opacity Vertex Size
Prepare Data Automate Layout: Fruchterman... Autofill Visibility Edge Width

Graph Metrics Subgraph Images Groups Analysis

Import Export Workbook Columns Graph Elements Show Notifications Options Show/Hide Help Online Sample Workbook About Help

A2

Edges Vertices Groups

When Autofill is clicked, fill in these worksheet columns... ...using the values in these source columns, if the columns exist Options

| | | |
|-----------------------|--|-------------|
| Vertex Color | | Color |
| Vertex Shape | | Shape |
| Vertex Size: | | Size |
| Vertex Opacity | | Opacity |
| Vertex Visibility | | Visibility |
| Vertex Label | | Label |
| Fill Color | | Color |
| Vertex Label Position | | Position |
| Vertex Tooltip | | Tooltip |
| Vertex Layout Order | | Order |
| Vertex X | | X |
| Vertex Y | | Y |
| Vertex Polar R | | Polar R |
| Vertex Polar Angle | | Polar Angle |

Clear All Worksheet Columns Now Autofill Close

Document Actions

Refresh Graph Fruchterman-Reingold Lay Out Again Dynamic Filters

Label Fill Label Color Position

Autofill

100%

Step 3C: Going to Color Vertices according to my friendship groups

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Refresh Graph Type: Undirected Color Vertex Shape
Export Summary Layout: Fruchterman... Opacity Vertex Size
Prepare Data Automate Autofill Columns Visibility Edge Width

Graph Metrics Subgraph Images Groups Analysis

Import Export Workbook Columns Graph Elements Show Notifications Use Current for New Reset All Options Show/Hide Help Online Sample Workbook About Help

A2

Edges Vertices Groups

When Autofill is clicked, fill in these worksheet columns... ...using the values in these source columns, if the columns exist Options

Vertex Color Degree In-Degree Out-Degree Betweenness Centrality Closeness Centrality Eigenvector Centrality PageRank Clustering Coefficient Reciprocated Vertex Pair Ratio OrigOrder FriendGp Type First Name Hometown Hometown City Hometown State Hometown Country Current Location Current Location City Current Location State Current Location Country Birthday Timezone Sex

Label Fill Label Position

Document Actions Refresh Graph Fruchterman-Reingold Lay Out Again Dynamic Filters

Autofill Close

Clear All Worksheet Columns Now

Reset All Autofill Settings

100%

The screenshot displays the Microsoft Excel interface with the NodeXL add-in installed. A dialog box titled "Autofill Columns" is open, specifically the "Vertices" tab, which allows users to map worksheet columns to vertex properties like color, shape, size, and opacity. The "Vertex Color" section is currently active, showing a dropdown menu with various network metrics as possible mappings. To the right of the dialog, a network graph is visualized with numerous nodes and connections. The ribbon at the top provides standard Excel functions like File, Home, and Insert, along with specific NodeXL tools for graph analysis and visualization.

Step 3C: Possible selections for Vertex color

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Refresh Graph Type: Undirected Layout: Fruchterman... Color Vertex Shape Edge Width
Export Summary Automate Autofill Opacity Vertex Size
Prepare Data Groups Analysis

Graph Metrics Subgraph Images Groups Use Current for New Reset All Options Show Notifications Show/Hide Help Online Sample Workbook About Help

A2

Edges Vertices Groups

When Autofill is clicked, fill in these worksheet columns... ...using the values in these source columns, if the columns exist Options

| | | |
|-----------------------|-----------|---|
| Vertex Color | FriendGrp | → |
| Vertex Shape | | → |
| Vertex Size: | | → |
| Vertex Opacity | | → |
| Vertex Visibility | | → |
| Vertex Label | | → |
| Fill Color | | → |
| Vertex Label Position | | → |
| Vertex Tooltip | | → |
| Vertex Layout Order | | → |
| Vertex X | | → |
| Vertex Y | | → |
| Vertex Polar R | | → |
| Vertex Polar Angle | | → |

Clear All Worksheet Columns Now Autofill Close

Label Fill Label Color Position

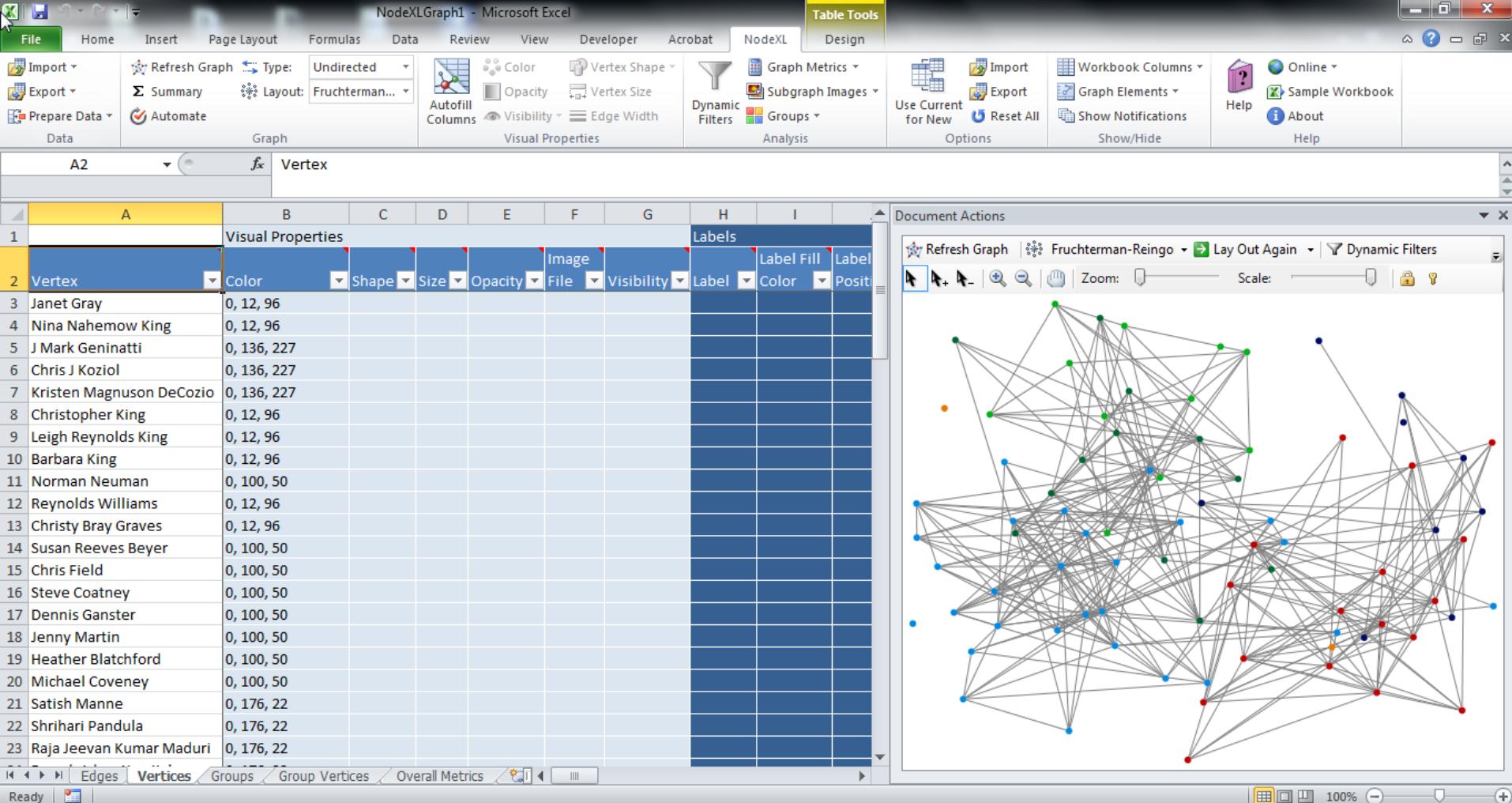
Document Actions Refresh Graph Fruchterman-Reingo Lay Out Again Dynamic Filters

1 2 Janet Gray 3 Nina Nahemow King 4 J Mark Geninatti 5 Chris J Koziolek 6 Kristen Magnuson DeCozio 7 Christopher King 8 Leigh Reynolds King 9 Barbara King 10 Norman Neuman 11 Reynolds Williams 12 Christy Bray Graves 13 Susan Reeves Beyer 14 Chris Field 15 Steve Coatney 16 Dennis Ganster 17 Jenny Martin 18 Heather Blatchford 19 Michael Coveney 20 Satish Manne 21 Shrihari Pandula 22 Raja Jeevan Kumar Maduri

Edges Vertices Groups

100% 100%

Step 3C: Vertex Color will reflect FriendGrp category



Step 3D: Resulting network with colored vertices

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat **Table Tools** NodeXL Design

Import Export Prepare Data Data

Refresh Graph Type: Undirected Color Vertex Shape
 Summary Layout: Fruchterman... Opacity Vertex Size
 Autofill

Graph Metrics Subgraph Images Groups
 Dynamic Filters Import Export Use Current for New Reset All Options
 Workbook Columns Graph Elements Show Notifications Show/Hide
 Help Online Sample Workbook About Help

A2

1

2 Vertex

3 Janet Gray

4 Nina Nahen

5 J Mark Geni

6 Chris J Kozic

7 Kristen Mag

8 Christopher

9 Leigh Reyno

10 Barbara King

11 Norman Ne

12 Reynolds W

13 Christy Bray

14 Susan Reev

15 Chris Field

16 Steve Coatr

17 Dennis Gan

18 Jenny Marti

19 Heather Bla

20 Michael Cov

21 Satish Manne

22 Shrihari Pandula

23 Raja Jeevan Kumar Maduri

H I Labels

Label Label Fill Position

Overall graph metrics

Vertex degree (undirected graphs only)
 Vertex in-degree (directed graphs only)
 Vertex out-degree (directed graphs only)
 Vertex betweenness and closeness centralities
 Vertex eigenvector centrality
 Vertex PageRank
 Vertex clustering coefficient
 Vertex reciprocated vertex pair ratio (directed graphs only)
 Edge reciprocity (directed graphs only)
 Group metrics
 Words and word pairs
 Top items
 Twitter search network top items

Select All Deselect All Options...

Overall graph metrics

The following overall metrics get inserted into the Overall Metrics worksheet:

| | |
|--------------|--|
| Graph Type | Directed or undirected. |
| Vertices | The number of vertices in the graph. |
| Unique Edges | The number of edges that do not have duplicates. |
| Edges With | The number of edges that have duplicates. |

About duplicate edges Calculate Metrics Cancel

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Refresh Graph Fruchterman-Reingo Lay Out Again Dynamic Filters

Labels

Color Position

Zoom: Scale: Lock:

Step 4A: Producing Graph Metrics (menu selection at top)

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Export Prepare Data Data

Refresh Graph Type: Undirected Color Vertex Shape Autofill Layout: Fruchterman... Opacity Vertex Size

Summary Layout: Fruchterman... Autofill

Graph Metrics Subgraph Images Groups

Dynamic Filters Use Current for New Options Import Export Workbook Columns Graph Elements Show Notifications Help Online Sample Workbook About Help

A2

Metrics to calculate and insert into the workbook:

- Overall graph metrics
- Vertex degree (undirected graphs only)
- Vertex in-degree (directed graphs only)
- Vertex out-degree (directed graphs only)
- Vertex betweenness and closeness centralities
- Vertex eigenvector centrality
- Vertex PageRank
- Vertex clustering coefficient
- Vertex reciprocated vertex pair ratio (directed graphs only)
- Edge reciprocity (directed graphs only)
- Group metrics
- Words and word pairs
- Top items
- Twitter search network top items

Select All Deselect All Options...

Group metrics

Group metrics include vertex counts, edge counts, geodesic distances and graph density for each of the graph's groups. They are calculated as if the vertices and edges outside the group do not exist. These metrics get inserted into the Groups worksheet.

Group metrics also include the number of edges within each group and the number of edges between each pair of groups. These metrics get inserted into the Group Edges worksheet, which gets added to the workbook first.

About duplicate edges Calculate Metrics Cancel

H I Labels Label Fill Label

Label Color Position

Document Actions

Refresh Graph Fruchterman-Reingold Lay Out Again Dynamic Filters

Labels

Group Edges

Overall Metrics

Edges Vertices Groups Group Vertices Overall Metrics

100%

The screenshot shows a Microsoft Excel spreadsheet titled "NodeXLGraph1". The ribbon tabs are "File", "Home", "Insert", "Page Layout", "Formulas", "Data", "Review", "View", "Developer", "Acrobat", "NodeXL", and "Design". The "NodeXL" tab is selected. On the left, there is a list of names in columns A and B. A dialog box titled "Graph Metrics" is open, listing various network metrics like Degree, Betweenness, and Eigenvector Centrality, with "Group metrics" currently selected. Below this is a detailed description of what "Group metrics" entail. At the bottom of the dialog are "Calculate Metrics" and "Cancel" buttons. To the right of the dialog is a "Labels" table with columns for Label, Label Fill, and Label Position. Further right is a "Document Actions" panel containing a network graph visualization and various layout and filter options. The bottom navigation bar includes tabs for "Edges", "Vertices", "Groups", "Group Vertices", and "Overall Metrics".

Step 4B: Selected sample of Graph Metrics

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat **NodeXL** Table Tools Design

Import Refresh Graph Type: Undirected
 Export Summary Layout: Fruchterman...
 Prepare Data Automate

Data Graph

A2 fx Graph Type

| | A | B | C | Y | Z | AA | AB | AC |
|----|---|----------------|---|---|---|----|----|----|
| 1 | Graph Metric | Value | | | | | | |
| 2 | Graph Type | Undirected | | | | | | |
| 3 | Vertices | 79 | | | | | | |
| 4 | Unique Edges | 313 | | | | | | |
| 5 | Edges With Duplicates | 0 | | | | | | |
| 6 | Total Edges | 313 | | | | | | |
| 7 | Self-Loops | 0 | | | | | | |
| 8 | Reciprocated Vertex Pair Ratio | Not Applicable | | | | | | |
| 9 | Reciprocated Edge Ratio | Not Applicable | | | | | | |
| 10 | Connected Components | 6 | | | | | | |
| 11 | Single-Vertex Connected Components | 4 | | | | | | |
| 12 | Maximum Vertices in a Connected Component | 38 | | | | | | |
| 13 | Maximum Edges in a Connected Component | 168 | | | | | | |
| 14 | Maximum Geodesic Distance (Diameter) | 8 | | | | | | |
| 15 | Average Geodesic Distance | 2.838962 | | | | | | |
| 16 | Graph Density | 0.101590393 | | | | | | |
| 17 | Modularity | Not Applicable | | | | | | |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Refresh Graph Fruchterman-Reingold Lay Out Again Dynamic Filters

Scale: 100%

Step 4C: Calculated Overall Graph Metrics

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat **NodeXL** Design

Import Refresh Graph Type: Undirected
 Export Summary Layout: Fruchterman...
 Prepare Data Automate

Data Graph

A2 Vertex

| A | R | S | T | U | V | W | X | |
|----|--------------------------|--------|-----------|------------|------------------------|----------------------|------------------------|----------|
| | | | | | | | | |
| 1 | | | | | | | | |
| 2 | Vertex | Degree | In-Degree | Out-Degree | Betweenness Centrality | Closeness Centrality | Eigenvector Centrality | PageRank |
| 3 | Janet Gray | 1 | | | 0.000 | 0.007 | 0.000 | |
| 4 | Nina Nahemow King | 7 | | | 311.200 | 0.010 | 0.000 | |
| 5 | J Mark Geninatti | 2 | | | 0.000 | 0.010 | 0.007 | |
| 6 | Chris J Koziol | 11 | | | 18.142 | 0.014 | 0.042 | |
| 7 | Kristen Magnuson DeCozio | 14 | | | 41.466 | 0.014 | 0.046 | |
| 8 | Christopher King | 6 | | | 50.600 | 0.010 | 0.000 | |
| 9 | Leigh Reynolds King | 6 | | | 50.600 | 0.010 | 0.000 | |
| 10 | Barbara King | 6 | | | 50.600 | 0.010 | 0.000 | |
| 11 | Norman Neuman | 6 | | | 275.000 | 0.009 | 0.000 | |
| 12 | Reynolds Williams | 5 | | | 50.400 | 0.010 | 0.000 | |
| 13 | Christy Bray Graves | 5 | | | 50.400 | 0.010 | 0.000 | |
| 14 | Susan Reeves Beyer | 10 | | | 33.417 | 0.007 | 0.000 | |
| 15 | Chris Field | 6 | | | 0.167 | 0.006 | 0.000 | |
| 16 | Steve Coatney | 10 | | | 3.100 | 0.006 | 0.000 | |
| 17 | Dennis Ganster | 11 | | | 48.167 | 0.007 | 0.000 | |
| 18 | Jenny Martin | 7 | | | 0.917 | 0.006 | 0.000 | |
| 19 | Heather Blatchford | 8 | | | 0.733 | 0.006 | 0.000 | |
| 20 | Michael Coveney | 11 | | | 48.167 | 0.007 | 0.000 | |
| 21 | Satish Manne | 11 | | | 203.861 | 0.014 | 0.007 | |
| 22 | Shrihari Pandula | 8 | | | 51.879 | 0.012 | 0.003 | |
| 23 | Raja Jeevan Kumar Maduri | 5 | | | 0.200 | 0.010 | 0.001 | |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Refresh Graph Fruchterman-Reingold Lay Out Again Dynamic Filters

Step 4D: Calculated Graph Metrics for individual Vertices

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Refresh Graph Type: Undirected Color Vertex Shape
Export Summary Layout: Fruchterman... Opacity Vertex Size
Prepare Data Automate Autofill Columns Visibility Edge Width

Graph Metrics Subgraph Images Workbook Columns
Groups Use Current for New Import Export Graph Elements
Analysis Options Show Notifications Show/Hide Help Online Sample Workbook About Help

D2 A

1

2 Vertex

3 Janet Gray

4 Nina Nahemow King

5 J Mark Geninatti

6 Chris J Kozioł

7 Kristen Magnuson DeCozio

8 Christopher King

9 Leigh Reynolds King

10 Barbara King

11 Norman Neuman

12 Reynolds Williams

13 Christy Bray Graves

14 Susan Reeves Beyer

15 Chris Field

16 Steve Coatney

17 Dennis Ganster

18 Jenny Martin

19 Heather Blatchford

20 Michael Coveney

21 Satish Manne

22 Shrihari Pandula

23 Raja Jeevan Kumar Maduri

Edges Vertices Groups

When Autofill is clicked, fill in these worksheet columns... ...using the values in these source columns, if the columns exist Options

Vertex Color FriendGrp

Vertex Shape

Vertex Size: Betweenness Centrality

Vertex Opacity

Vertex Visibility

Vertex Label

Fill Color

Vertex Label Position

Vertex Tooltip

Vertex Layout Order

Vertex X

Vertex Y

Vertex Polar R

Vertex Polar Angle

Clear All Worksheet Columns Now

Reset All Autofill Settings

Autofill Close

Document Actions

Refresh Graph Fruchterman-Reingold Lay Out Again Dynamic Filters

Label Fill Label Color Position

Zoom Scale

100%

Step 4E: Setting Vertex Size to reflect Betweenness Centrality

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat NodeXL Design

Import Refresh Graph Type: Undirected Layout: Fruchterman... Color Vertex Shape Autofill Columns Opacity Vertex Size Dynamic Filters Graph Metrics Subgraph Images Groups Use Current for New Import Export Workbook Columns Graph Elements Show Notifications Help Online Sample Workbook About Help

D2 Size

A B C D E F G H I

1 Visual Properties Labels

2 Vertex Color Shape Size Opacity Image File Visibility Label Label Fill Label Position

| 3 | Janet Gray | 0, 12, 96 | | 1.5 | | | | | |
|----|--------------------------|-------------|--|-----|--|--|--|--|--|
| 4 | Nina Nahemow King | 0, 12, 96 | | 9.7 | | | | | |
| 5 | J Mark Geninatti | 0, 136, 227 | | 1.5 | | | | | |
| 6 | Chris J Koziol | 0, 136, 227 | | 2.0 | | | | | |
| 7 | Kristen Magnuson DeCozio | 0, 136, 227 | | 2.6 | | | | | |
| 8 | Christopher King | 0, 12, 96 | | 2.8 | | | | | |
| 9 | Leigh Reynolds King | 0, 12, 96 | | 2.8 | | | | | |
| 10 | Barbara King | 0, 12, 96 | | 2.8 | | | | | |
| 11 | Norman Neuman | 0, 100, 50 | | 8.7 | | | | | |
| 12 | Reynolds Williams | 0, 12, 96 | | 2.8 | | | | | |
| 13 | Christy Bray Graves | 0, 12, 96 | | 2.8 | | | | | |
| 14 | Susan Reeves Beyer | 0, 100, 50 | | 2.4 | | | | | |
| 15 | Chris Field | 0, 100, 50 | | 1.5 | | | | | |
| 16 | Steve Coatney | 0, 100, 50 | | 1.6 | | | | | |
| 17 | Dennis Ganster | 0, 100, 50 | | 2.8 | | | | | |
| 18 | Jenny Martin | 0, 100, 50 | | 1.5 | | | | | |
| 19 | Heather Blatchford | 0, 100, 50 | | 1.5 | | | | | |
| 20 | Michael Coveney | 0, 100, 50 | | 2.8 | | | | | |
| 21 | Satish Manne | 0, 176, 22 | | 6.9 | | | | | |
| 22 | Shrihari Pandula | 0, 176, 22 | | 2.9 | | | | | |
| 23 | Raja Jeevan Kumar Maduri | 0, 176, 22 | | 1.5 | | | | | |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Refresh Graph Layout Again Dynamic Filters

Fruchterman-Reingold Fruchterman-Reingold Harel-Koren Fast Multiscale Circle Spiral Horizontal Sine Wave Vertical Sine Wave Grid Polar Polar Absolute Sugiyama Random None Layout Options...

Ready

Step 4F: Selecting a new layout
to view cohesive groups

NodeXLGraph1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Acrobat **NodeXL** Design

Import Refresh Graph Type: Undirected
Σ Summary Layout: Harel-Koren ...
Autofill Columns Color Vertex Shape
Opacity Vertex Size
Visibility Edge Width
Dynamic Filters Graph Metrics Subgraph Images
Groups Use Current for New Import Export
Workbook Columns Graph Elements
Show Notifications Reset All Options Show/Hide
Help Online Sample Workbook About Help

Visual Properties

| Vertex | Color | Shape | Size | Opacity | Image | File | Visibility | Label | Color | Label Fill | Label Position |
|--------------------------|-------------|-------|------|---------|-------|------|------------|-------|-------|------------|----------------|
| Janet Gray | 0, 12, 96 | | 1.5 | | | | | | | | |
| Nina Nahemow King | 0, 12, 96 | | 9.7 | | | | | | | | |
| J Mark Geninatti | 0, 136, 227 | | 1.5 | | | | | | | | |
| Chris J Koziol | 0, 136, 227 | | 2.0 | | | | | | | | |
| Kristen Magnuson DeCozio | 0, 136, 227 | | 2.6 | | | | | | | | |
| Christopher King | 0, 12, 96 | | 2.8 | | | | | | | | |
| Leigh Reynolds King | 0, 12, 96 | | 2.8 | | | | | | | | |
| Barbara King | 0, 12, 96 | | 2.8 | | | | | | | | |
| Norman Neuman | 0, 100, 50 | | 8.7 | | | | | | | | |
| Reynolds Williams | 0, 12, 96 | | 2.8 | | | | | | | | |
| Christy Bray Graves | 0, 12, 96 | | 2.8 | | | | | | | | |
| Susan Reeves Beyer | 0, 100, 50 | | 2.4 | | | | | | | | |
| Chris Field | 0, 100, 50 | | 1.5 | | | | | | | | |
| Steve Coatney | 0, 100, 50 | | 1.6 | | | | | | | | |
| Dennis Ganster | 0, 100, 50 | | 2.8 | | | | | | | | |
| Jenny Martin | 0, 100, 50 | | 1.5 | | | | | | | | |
| Heather Blatchford | 0, 100, 50 | | 1.5 | | | | | | | | |
| Michael Coveney | 0, 100, 50 | | 2.8 | | | | | | | | |
| Satish Manne | 0, 176, 22 | | 6.9 | | | | | | | | |
| Shrihari Pandula | 0, 176, 22 | | 2.9 | | | | | | | | |
| Raja Jeevan Kumar Maduri | 0, 176, 22 | | 1.5 | | | | | | | | |

Edges Vertices Groups Group Vertices Overall Metrics

Document Actions

Refresh Graph Harel-Koren Fast Mul Lay Out Again Dynamic Filters

Zoom: Scale: 100%

Step 4F: Selecting a new layout to view cohesive groups (note: takes a couple of refreshes)