

If you haven't already:  
Download at [gephi.org](http://gephi.org)  
and download data  
from course website

# Lab 12

## Gephi

# Gephi

“The Open Graph Viz Platform”

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## The Open Graph Viz Platform

Gephi is an interactive visualization and exploration **platform** for all kinds of networks and complex systems, dynamic and hierarchical graphs.

Runs on Windows, Linux and Mac OS X. Gephi is open-source and free.

[Learn More on Gephi Platform »](#)

[Download FREE Gephi 0.8.2-beta](#)

[Release Notes | System Requirements](#)

- Features
- Screenshots
- Quick start
- Videos

**Gephi 0.8.1-beta has been released! Discover a new Timeline, dynamic ranking and weighted community detection.**

[Learn More »](#)

### APPLICATIONS

- ✓ **Exploratory Data Analysis:** intuition-oriented analysis by networks manipulations in real time.
- ✓ **Link Analysis:** revealing the underlying

### PAPERS

“Like Photoshop™ for graphs.”  
— the Community

# Gephi

“The Open Graph Viz Platform”

The Open Graph Viz Platform

Gephi is an interactive visualization and exploration platform for all kinds of networks and complex systems, dynamic and hierarchical graphs.

Runs on Windows, Linux and Mac OS X. Gephi is open-source and free.

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Gephi 0.8.2-beta

Features | Screenshots  
Quick start | Videos

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“Like Photoshop™ for graphs.”

<http://gephi.org/>

Exploratory Data  
Analysis

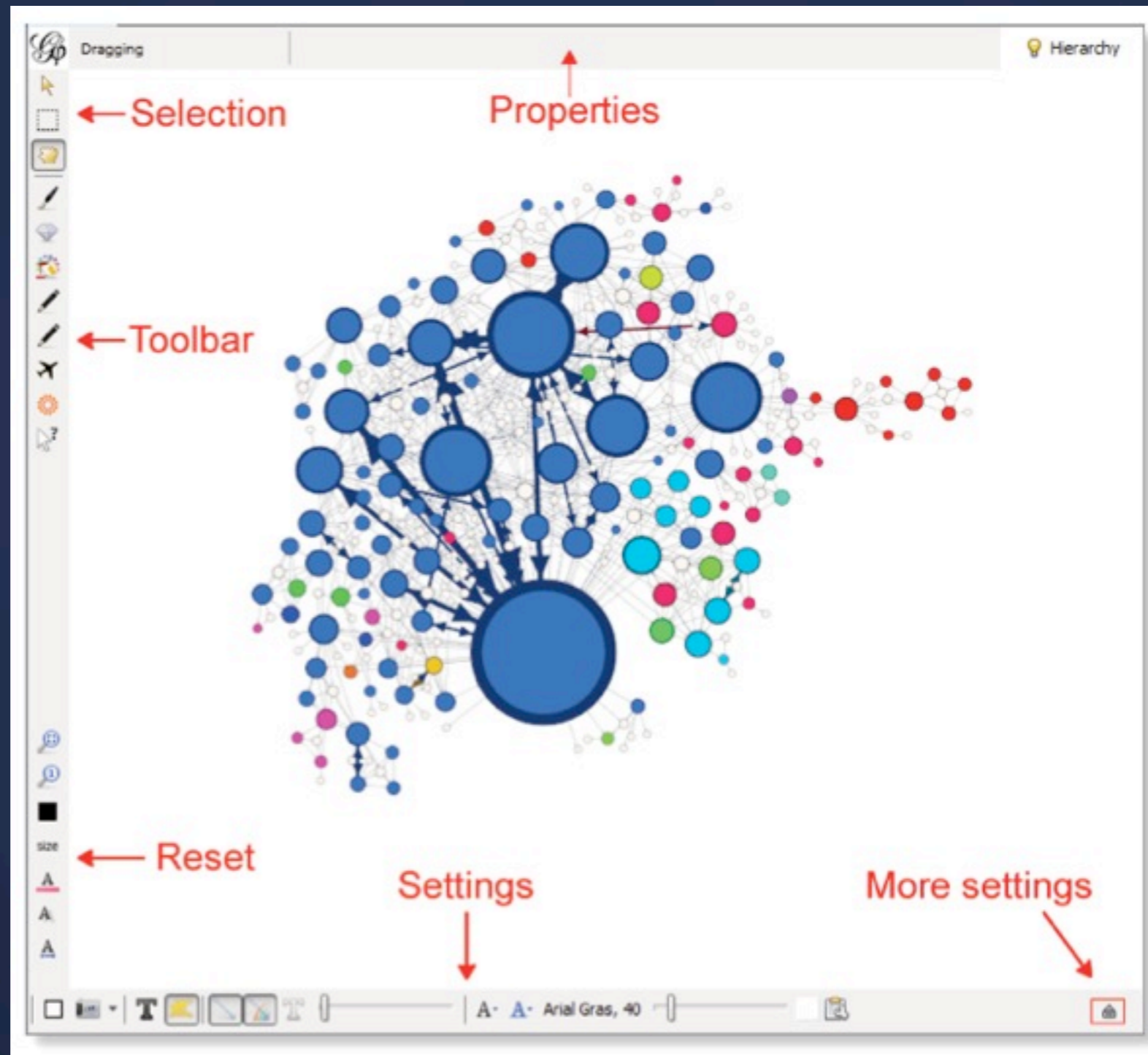
Data-driven styling  
of nodes and edges

Layout algorithms



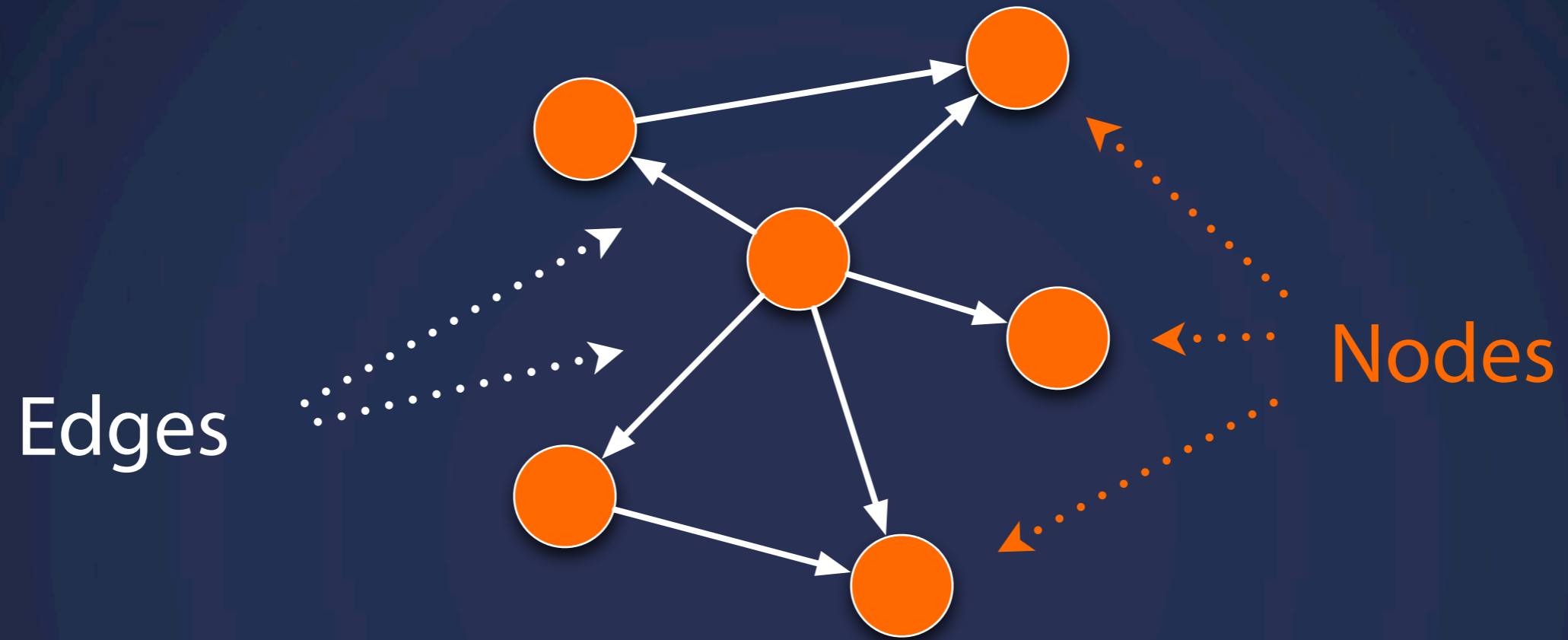
# User Interface

... you'll have to get used to it



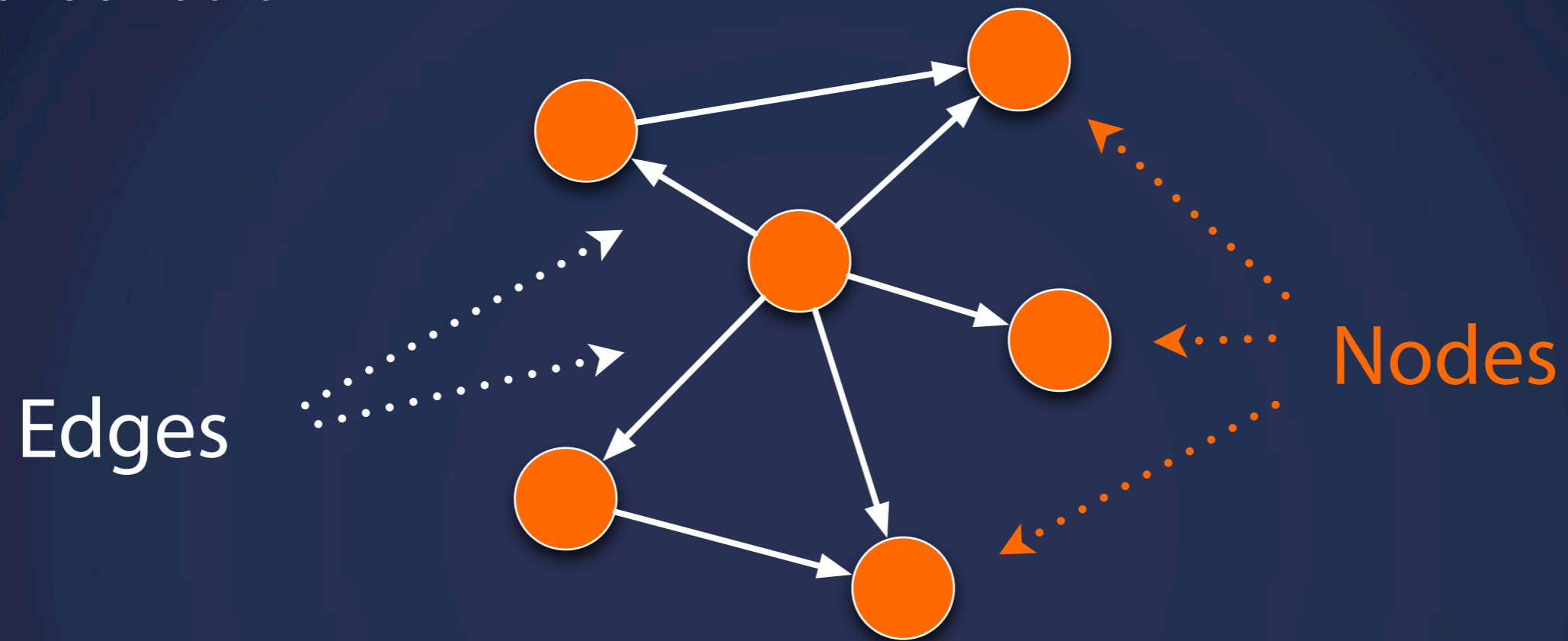
# Data

Take a look at it



# Data

Take a look at it

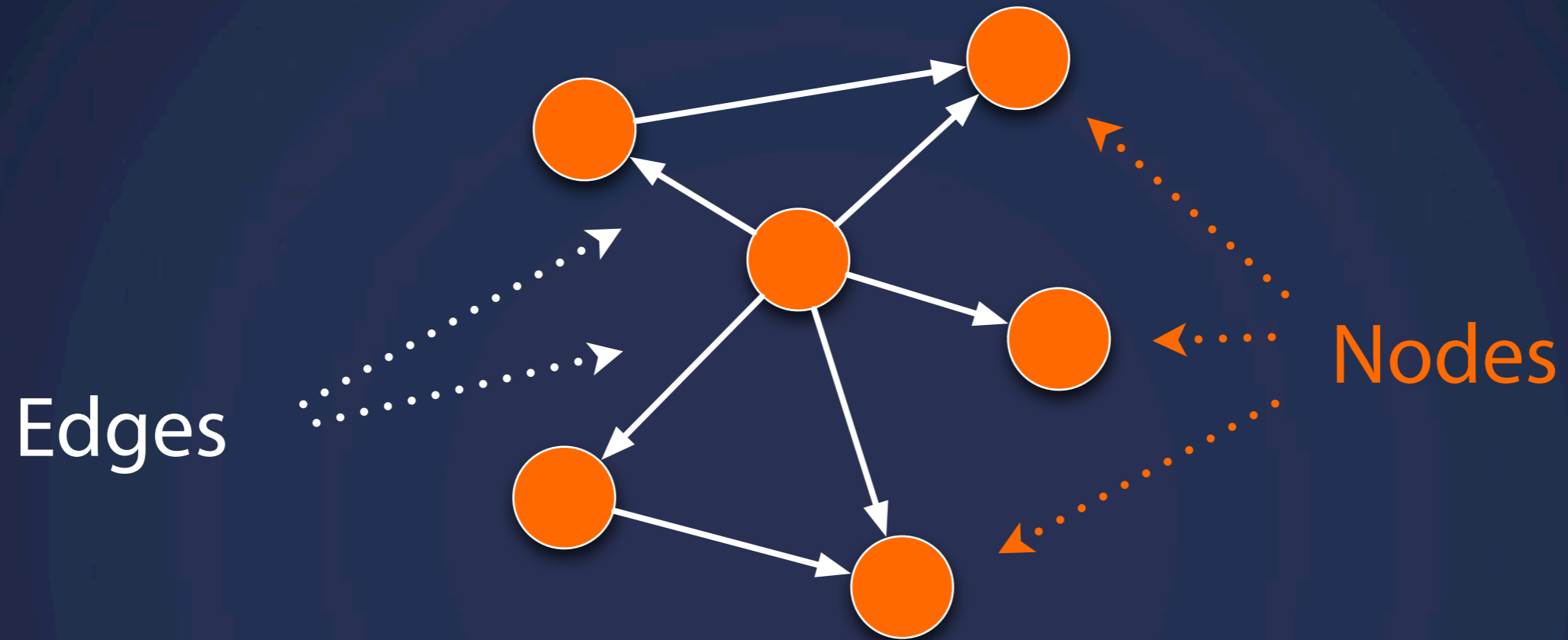


ID	Label	Age
1	Jimmy Fallon	38
2	Jon Stewart	50
3	Stephen Colbert	48

*nodes.csv*

# Data

Take a look at it



ID	Label	Age
1	Jimmy Fallon	38
2	Jon Stewart	50
3	Stephen Colbert	48

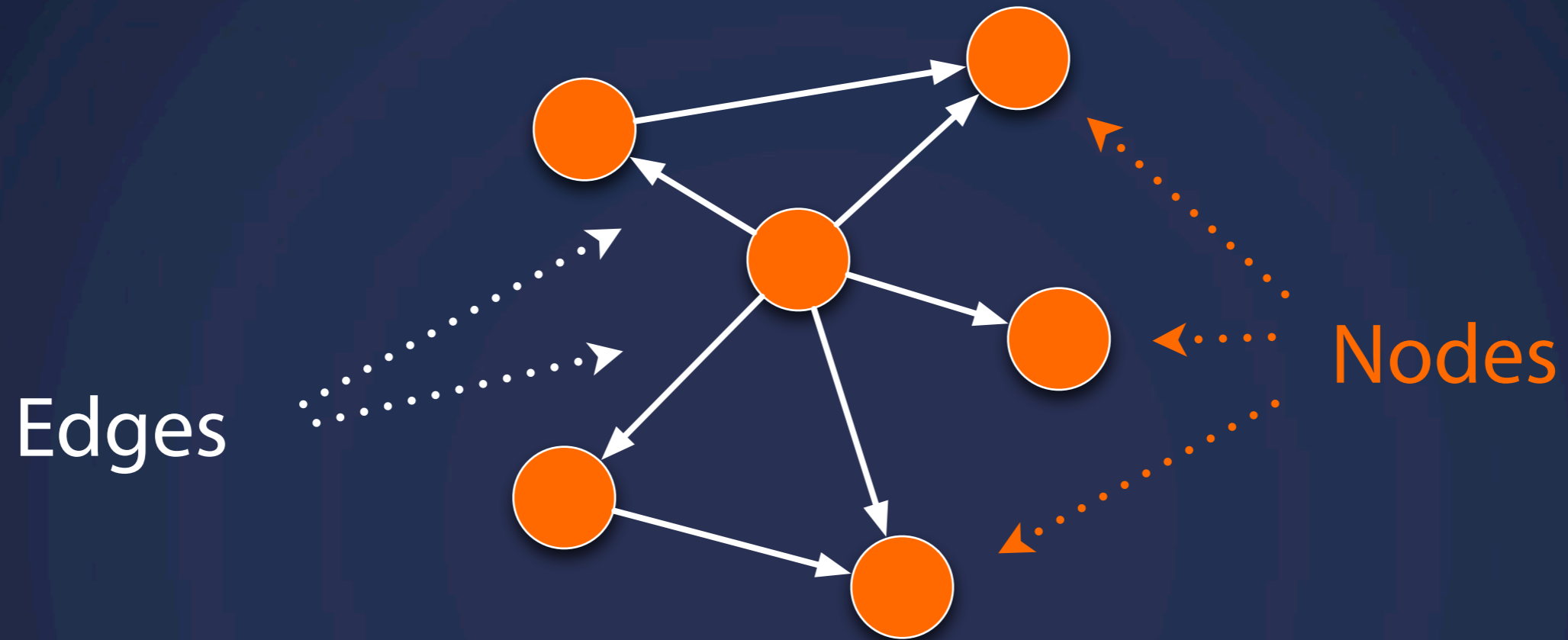
*nodes.csv*

Source	Target	Weight
1	2	1
1	3	8
3	2	17

*edges.csv*

# Data

Take a look at it



ID	Label	Age
1	Jimmy Fallon	38
2	Jon Stewart	50
3	Stephen Colbert	48

*nodes.csv*

Source	Target	Weight
1	2	1
1	3	8
3	2	17

*edges.csv*



# Data

## Import

The screenshot displays the Gephi 0.8.2 interface with the 'Data Laboratory' tab selected. The 'Data Table' window is open, showing a table with columns: Source, Target, Type, Id, Label, and Weight. The 'Import Spreadsheet' button is highlighted with an orange arrow. Another orange arrow points to the 'Data Table' window title bar. The text 'import spreadsheet' is written in orange in the center of the interface.

**import spreadsheet**

# Data

## Import

Import spreadsheet

**Steps**

1. General options
2. Import settings

**General options**

Choose a CSV file to import:

[ /nodes.csv ... ]

Separator: Co... As table: Nodes ta... Charset: UTF-8

Preview:

id	age	depart...	gender	label	courses
1	23	School...	Female	Christina	Info 20...
2	27	School...	Female	Divya A	Info 20...
3	23	Exchan...	Male	Alec H...	Info 24...
4	28	Public...	Male	Sonthe...	Info 24...
5	27	Compu...	Female	Aude	Info 24...
6	23	School...	Male	Charles...	Info 20...
7	27	Compu...	Female	Kristin	CS 289...
8	25	School...	Male	Morgan...	Info 20...

Help < Back Next > Finish Cancel

# Data

## Import

Import spreadsheet

**Steps**

1. General options
2. **Import settings**

**Import settings**

New columns are created with the specified type.  
A generated id is assigned if missing.  
Unless the option 'Force nodes to be created as new or

Imported columns:

- id  
String
- age  
Integer
- department  
String
- gender

Help < Back Next > Finish Cancel

# Data

## Import

Import spreadsheet

**Steps**

1. General options
2. Import settings

**General options**

Choose a CSV file to import:

edges.csv ...

Separator: As table: Charset:

Co... Edges table UTF-8

Preview:

source	target	weight
1	2	Info 205: Informa...
1	2	Info 247: Informa...
1	2	Info 203: Social a...
1	2	Info 202: Informa...
1	2	Info 213: User Int...
1	2	Info 206: Distrib...
1	2	Info 290: Game...
1	3	Info 247: Informa...

Help < Back Next > Finish Cancel



# Data

## Import: Result

The image shows the Gephi 0.8.2 software interface with a network graph visualization. The window title is "Gephi 0.8.2 - Project 2". The interface is divided into several panels:

- Overview:** Contains tabs for "Overview", "Data Laboratory", and "Preview".
- Partition:** Includes "Nodes" and "Edges" tabs, a color selection tool, and a "Group" button.
- Ranking:** Includes "Nodes" and "Edges" tabs, a "Choose a rank par..." dropdown, and a "Run" button.
- Layout:** Includes a "Choose a layout" dropdown and a "Run" button.
- Data Table:** A tab for viewing the underlying data.
- Graph:** The main workspace showing a dense network graph with many nodes and edges. A "Rectangle selection" tool is active.
- Filters:** A panel on the right with a "Reset" button, a "Library" of filters (Attributes, Dynamic, Edges, Operator, Topology, Saved queries), and a "Queries" section with a "Drag filter here" prompt.

The graph visualization shows a complex network structure with many nodes and edges, rendered in black and white. The nodes are represented by small circles, and the edges are represented by lines connecting them. The graph is dense and appears to be a large, interconnected network.



# Labels

The screenshot displays the Gephi 0.8.2 interface for a network graph. The main workspace shows a dense network of nodes and edges. Nodes are labeled with names such as Sothornax Vernard, Shreyas, Taeil Kwak, Aude, Aksei Olsen, Charles Wang, sara cambridge, Divya, Priya, Sarav, Vimal Kini, Michael, Suhani N Mehta, Chris Hallas, SONALI SHARMA, Sandra, Divya, Kristin, and Kate Hsiao. The interface includes several panels: 'Partition' (Nodes/Edges), 'Data Table', 'Graph' (with 'Rectangle selection' and 'Hierarchy' options), 'Filters' (Library and Queries), 'Ranking' (Nodes/Edges), and 'Layout' (Choose a layout). A toolbar on the left contains various tools like selection, zoom, and pan. A bottom toolbar includes text formatting options (font size, bold, italic) and a text tool icon. An orange arrow points to the text tool icon in the bottom toolbar. The status bar at the bottom right shows 'Workspace 0'.

# Hairball!

How can we make this more meaningful?

*Discuss*

# Filter

Remove insignificant edges

The screenshot displays the Gephi 0.8.2 software interface. The main window shows a network graph with nodes and edges. The interface is divided into several panels:

- Overview:** Contains tabs for Partition, Data Table, and Graph.
- Partition:** Includes options for Nodes and Edges, a Group button, and a Show Pie chart option.
- Ranking:** Allows for ranking nodes and edges based on various parameters.
- Layout:** Provides options to choose a layout and a Run button.
- Filters:** A panel on the right side where filters can be applied to the graph. It includes a Library of filters (Attributes, Dynamic, Edges, Operator, Topology, Saved queries) and a Queries section. The **Edge Weight** filter is selected, and its settings are visible, showing a range from 6.464 to 9.0. An orange arrow points to the **Filter** button at the bottom right of the Filters panel.

The graph itself shows a complex network of nodes and edges. Nodes are labeled with names such as Sonthonax Vernard, Sireyas, Taeil Kwak, Akseil Olsen, Charles Wang, sara cambridge, Divya, Priya, Michael, Suhani N Mehta, Vimal Kini, Seema, Michael, Chris Hallas, Sandra SONALI SHARMA Divya, Kristin, and Kate Hsiao. Edges represent relationships between these nodes, with some edges being thicker than others, indicating higher weights.

# Layout

Play with the algorithm settings

The screenshot displays the Gephi 0.8.2 interface for 'Project 2'. The main workspace shows a network graph with nodes and edges. The 'Force Atlas' layout algorithm settings panel is highlighted with an orange border. The settings include:

- Inertia: 0.1
- Repulsion strength: 2000.0
- Attraction strength: 5.0
- Maximum displacement: 10.0
- Auto stabilize:
- Autostabilization strength: 80.0
- Autostabilization sensitivity: 0.2

The 'Edge Weight Settings' panel on the right shows a slider for 'Edge Weight' ranging from 6.464 to 9.0. The 'Filters' panel on the right shows a tree view of filters, including 'Edge Weight' and 'Self-Loop'.

Nodes visible in the graph include: Divya, Fred Kristin, Alec Hanefeld, Chris Hallas, Akse Olsen, Seema, Kate Hsiao, Sandra, Suhani N Mehta, Vimal Kini, Michael, Morgan Wallace, Divya A, sara cambridge, Charles Wang, Shreyas, SONALI SHARMA, and Gaurav.



# Color

Categorical color: "Partition"

The screenshot displays the Gephi 0.8.2 interface for 'Project 2'. The main window shows a network graph with nodes and edges. The nodes are colored based on their department, as shown in the 'Partition' panel on the left. The 'Partition' panel is highlighted with an orange box and contains the following information:

- Nodes: department
- School of Infor... (76.67%)
- Computer Scie... (6.67%)
- Public Policy (3.33%)
- Exchange Stud... (3.33%)
- Open Enrollment (3.33%)
- City & Region (3.33%)

The graph shows a central cluster of nodes with several edges connecting them. The nodes are labeled with names such as Divya, Fred, Kristin, Alec Hanefeld, Chris Hallas, Akse Olsen, Seema, Kate Hsiao, Sandra, Vimal Kini, Michael, Kiran, Charles Wang, Shreyas, SONALI SHARMA, sara cambridge, Morgan, Christina, Divya A, Gaurav, Suhani N Mehta, Taeil Kwak, and Vernard. The 'Force Atlas' layout is selected, and the 'Edge Weight' filter is active, showing a slider set to 6.208. The 'Filters' panel on the right shows the 'Library' and 'Queries' sections, with 'Edge Weight' selected under 'Queries'.



# Color/Size

Continuous Data: "Ranking"

The screenshot displays the Gephi 0.8.2 interface for a network graph visualization. The main window shows a graph with nodes of varying sizes and colors, representing continuous data. The nodes are labeled with names such as Divya, Fred Kristin, Alec Hanefeld, Chris Hallas, Aksel Olsen, Seema, Kate Hsiao, Sandra, Gaurav, Suhani N. Mehta, Tael Kwak, Vimal Kim, Kiran, Michael, Morgan Wallace, Charles Wang, Shreyas, SONALI SHARMA, sara cambridge, Divya A, and Christina. The graph is visualized using the Force Atlas layout algorithm.

The interface includes several panels and controls:

- Overview:** Contains tabs for Overview, Data Laboratory, and Preview.
- Partitioning:** A dropdown menu is set to "age".
- Ranking:** Controls for "Nodes" and "Edges" are visible. The "Nodes" section shows "Min size: 20" and "Max size: 50". A "Range" slider is positioned at 23. An "Apply" button is present.
- Layout:** The "Force Atlas" layout algorithm is selected. The "Run" button is visible. The Force Atlas settings are:
  - Inertia: 0.1
  - Repulsion strength: 2000.0
  - Attraction strength: 5.0
  - Maximum displacement: 10.0
  - Auto stabilize force:
  - Autostabilization strength: 80.0
- Filters:** A "Filters" panel on the right shows a "Library" of filters including Attributes, Dynamic, Edges (Edge Weight, Self-Loop), Operator, Topology, and Saved queries. The "Edge Weight" filter is selected under "Queries".
- Edge Weight Settings:** A slider is set to 6.168, with a range from 6.168 to 9.0.
- Bottom Panel:** Includes a font size dropdown set to "Arial-BoldMT, 32" and a "Filter" button.

# **Next Lecture**

**Visualization Types IV: Geo**

# **Next Lab**

**Concept Critique**

# Bring for next lab

## Our Project: Burrito Mapper SF

### *Topic*

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### *Audience*

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### *Objective*

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### *Variables*

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- \_\_\_\_\_