

# Human-Computer Interfaces and Information Visualization

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# Project Activities

- ◆ Web-based model control and visualization
- ◆ Distributed collaborative decision-making
- ◆ Versioning for management of model outputs

# Web model control and visualization

The screenshot displays the MODSIM software interface. The main window shows a network diagram with nodes and connections. A context menu is open over the 'DC\_Dam' node, listing various options such as 'Run MODSIM', 'Custom Runs', and 'Graphing Mode'. A 'Reservoir Node Properties' dialog box is open for the 'DC\_Dam' node, showing details like 'Node Name', 'Description', and 'Reservoir Layer Priorities'. The dialog box also includes a 'Reservoir Target Storage' section with a table of data.

**Models Subsystem**

**Dialog Subsystem**

**Database Subsystem**

**Reservoir Node Properties (145)**

Node Name: DC\_Dam

Description:

Runoff Forecast: A/C/E/Hydraulic Capacity

General | Targets | Power | Evaporation | Groundwater Seepage

Reservoir Layer Priorities

Priority Basis: % Target Storage

Incremental Cost	% Target Storage
-2500	99
0	100.01
*	

Reservoir Target Storage

Data | Plot

Varies By Year  Interpolate Units: 1000 m<sup>3</sup> / day

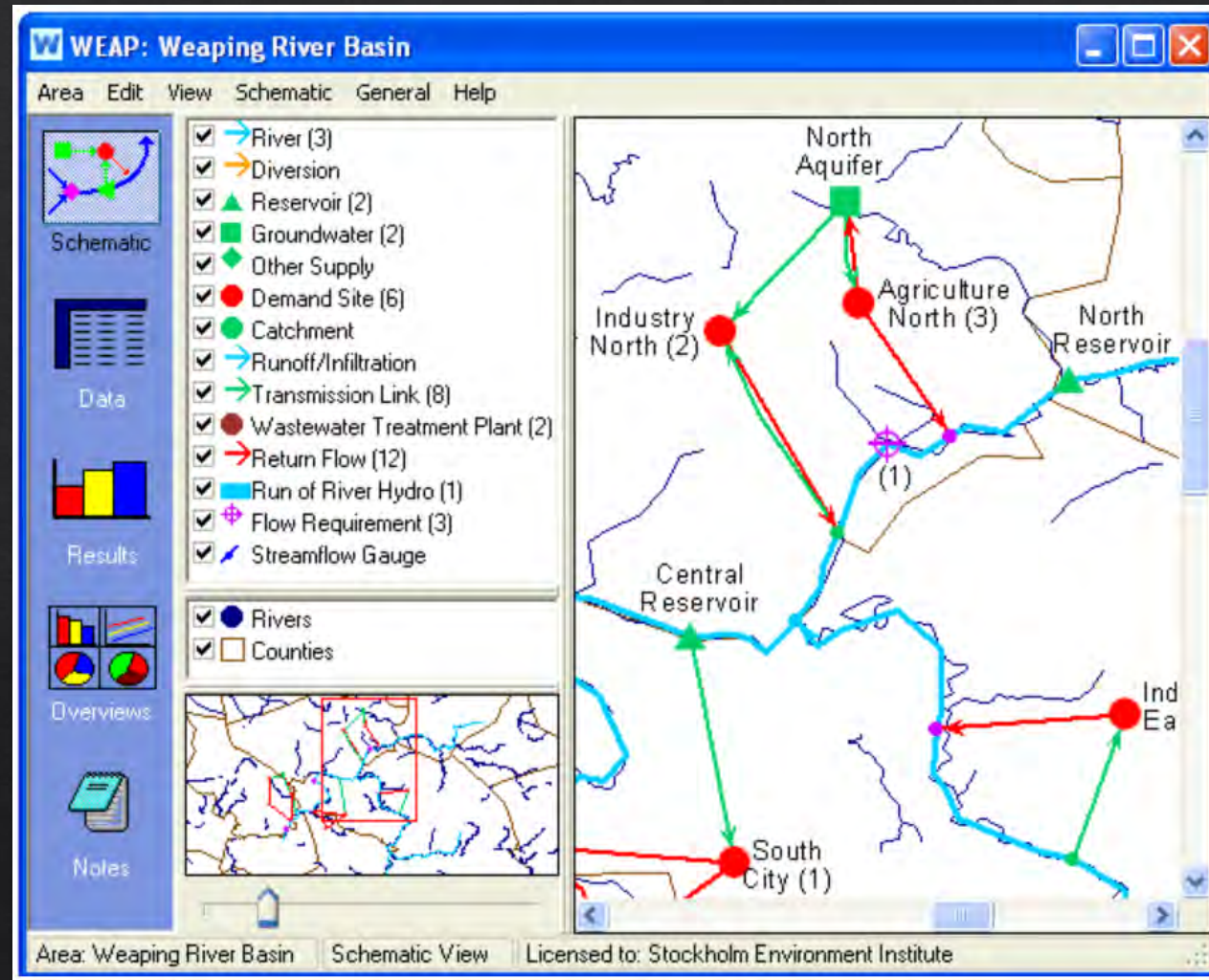
Date (12:00 AM)	Volume
10/2/1983	968270
10/3/1983	964970
10/4/1983	958370
10/5/1983	954000
10/6/1983	950730
10/7/1983	948010
10/8/1983	945300
10/9/1983	945840

OK Cancel Apply

C:\Projects\Korea\Testing\Geum\_Daily\_v8\_1.xy Could not find file 'C:\Pr



# Web model control and visualization



# Web model control and visualization

**Winnowing Pipeline Project**

Version Tree Display

Select csv file to upload:

No file selected.

InputFile:

**Conditioning**

conditioningType:

minimumCount:

**Metrics**

metricType:

numberPCAComponents:

**Reduction**

selectTotal: 50  All

selectPerIteration: 25  All

**Evaluation**

evaluationType:

**Data Storage**

outputToCSV:

saveToDatabase:

createGraphs:

Select Node to edit its label.

Node 1

Node 2

Node 5

Node 3

Node 4

Node 6

Node 7

Selected Node:

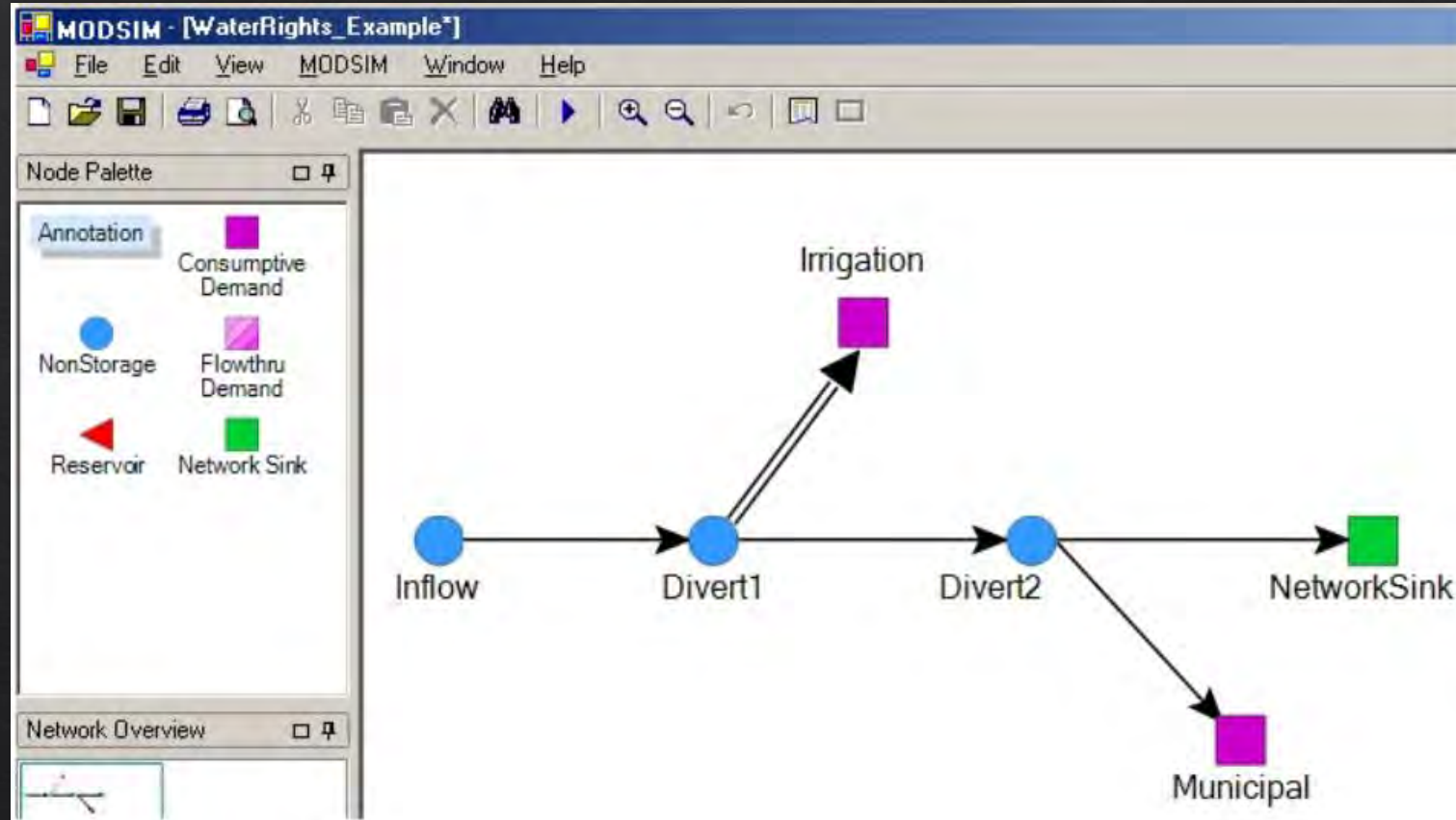
Current Working Node:

Other Nodes

```
python3 pipeline.py -f1 input/bromeA_all.csv -c add_one -min 3 -m pca_importance -p 10 -st 50 -si 25 -e kl_divergence
```

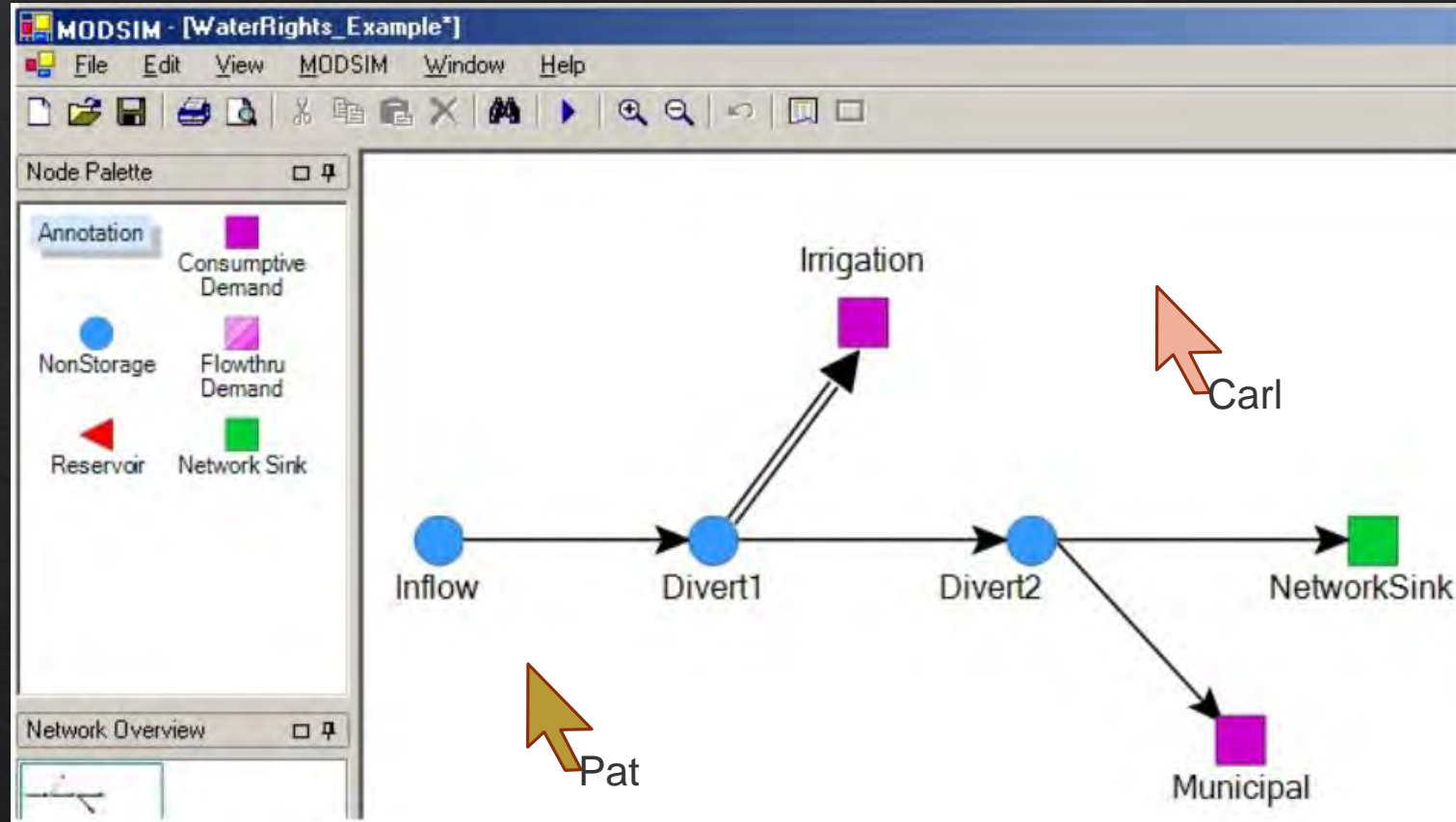
```
Run date: 14/9/2017 @ 20:25:7
python3 pipeline.py -f1 input/bromeA_all.csv -c add_one -min 3 -m pca_importance -p 10 -st 50 -si 25 -e kl_divergence
Result files:
bromeA_all-pca_importance-None-select50by25.csv
bromeA_all-pca_importance-None-select50by25-abundances.csv
metric_results.csv
OTU      Metric      Abundance
Otu6219  1.944255   -0.061126   -0.068383   440
Otu5989  1.198652   -0.074565   -0.055218   148
Otu0086  1.138298   -0.036401   -0.005075   39
Otu5503  1.000000   0.000000    0.000000    0
```

# Distributed collaborative decision-making

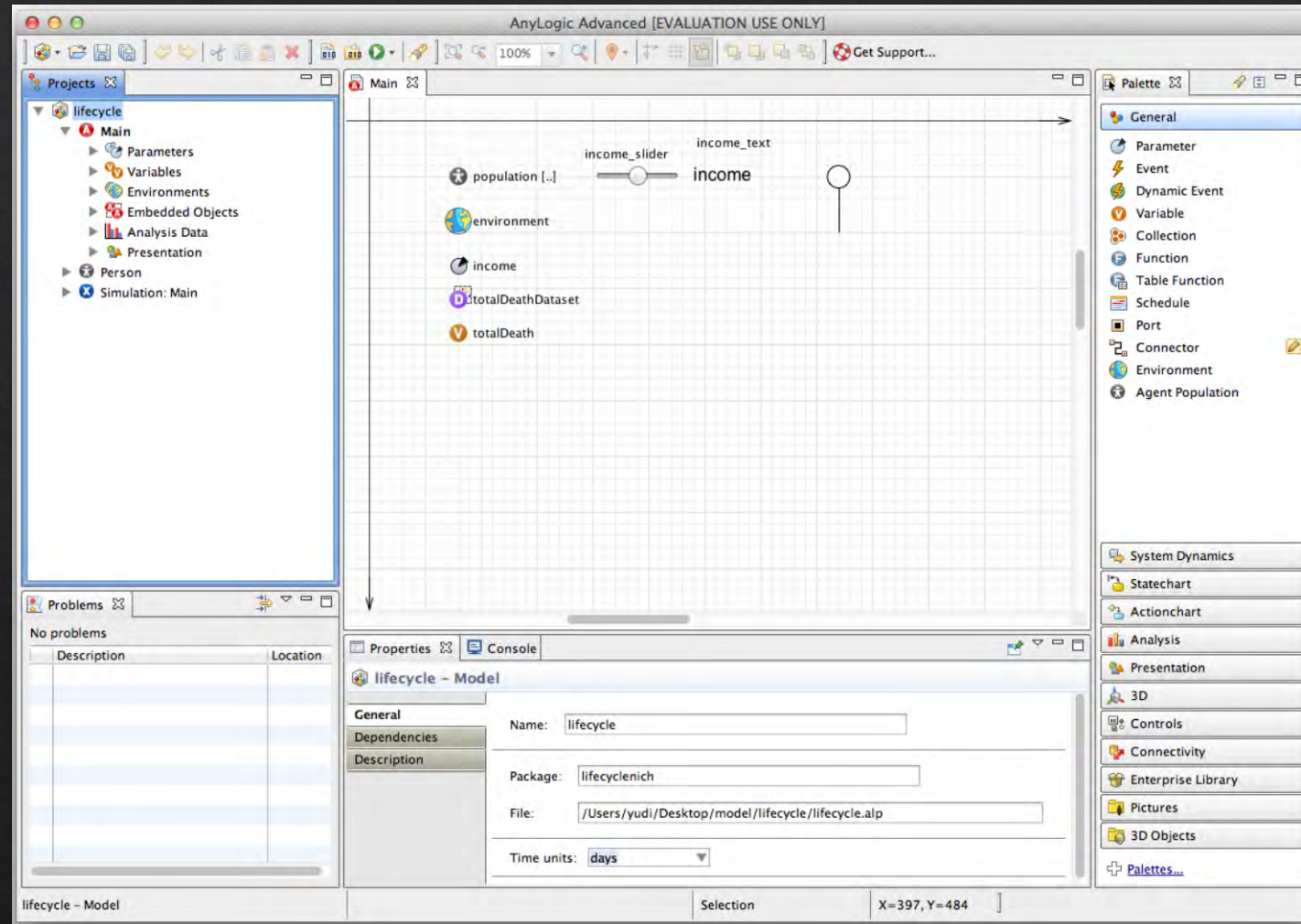




# Distributed collaborative decision-making



# Versioning for management of model outputs





# Versioning for management of model outputs

**Winnowing Pipeline Project**

Version Tree Display

Select csv file to upload:

Browse... No file selected. Upload File

inputFile  
bromeA\_all.csv

**Conditioning**

conditioningType  
add\_one

minimumCount: 3

**Metrics**

metricType  
pca\_importance

numberPCAComponents: 10

**Reduction**

selectTotal: 50  All

selectPerIteration: 25  All

**Evaluation**

evaluationType  
kl\_divergence

**Data Storage**

outputToCSV  
true

saveToDatabase  
false

createGraphs  
false

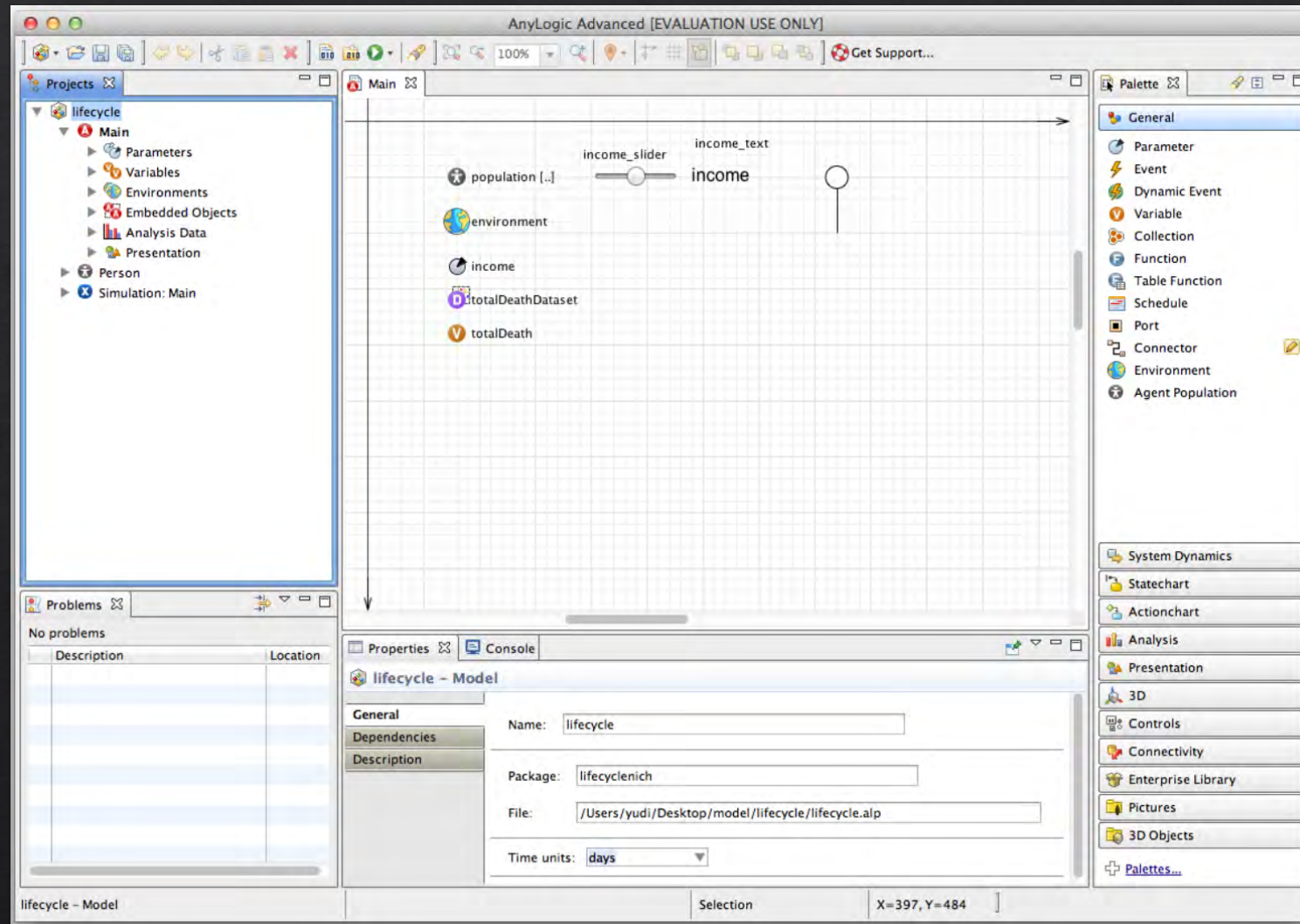
Run

Select Node to edit its label.

```
graph TD; Node1[Node 1] --- Node2[Node 2]; Node1 --- Node5[Node 5]; Node2 --- Node3[Node 3]; Node2 --- Node4[Node 4]; Node5 --- Node6[Node 6]; Node6 --- Node7[Node 7];
```

Selected Node  
Current Working Node 8  
Other Nodes

# Versioning for management of model outputs



# Versioning for management of model outputs

The screenshot displays a software interface for managing model outputs, titled "vis". The main area shows a graph of model states and transitions:

- Nodes:** s1 (blue), baseline (green), Version1 (red), H1N1Winter (green), Version2 (red), Group (yellow), WestNile (green), Imported Version (red), Baseline Collection (green), and Baseline Scenario (blue).
- Edges:** s1 connects to baseline; baseline connects to Version1; Version1 connects to H1N1Winter; H1N1Winter connects to Version2 and Group; Group connects to WestNile; WestNile connects to Imported Version; Imported Version connects to Baseline Collection; Baseline Collection connects to Baseline Scenario.

On the left, a "Change history" panel lists:

- Ying on 2012-01-23
- Ying on 2011-11-23

On the right, a "Configuration panel" includes:

- Adjust graph size:** Edge length slider set to 100.
- Display information:** Radio buttons for Name (selected), Author, Type, and Time.

At the bottom, a status bar shows:

- Package: lifecycle.mcn
- File: /Users/yudi/Desktop/model/lifecycle/lifecycle.alp
- Time units: days
- Enterprise Library, Pictures, 3D Objects, Palettes...
- lifecycle - Model | Selection | X=397, Y=484



# Versioning for management of model outputs

The screenshot displays the AnyLogic Advanced interface for a model named 'lifecycle'. The main workspace shows a versioning diagram with nodes: 's1', 'baseline', 'Version1', 'H1N1Winter', 'Version2', 'Group', 'WestNile', 'Imported Version', 'Baseline Collection', and 'Baseline Scenario'. A 'Change history' panel on the left lists 'Ying on 2012-01-23' and 'Ying on 2011-11-23'. A 'Configuration panel' on the right allows adjusting graph size (Edge length: 100) and displaying information (Name, Author, Type, Time). The bottom status bar shows 'lifecycle - Model', 'Selection', and coordinates 'X=397, Y=484'.

AnyLogic Advanced [EVALUATION USE ONLY]

vis

Change history  
Ying on 2012-01-23  
Ying on 2011-11-23

Configuration panel  
Adjust graph size  
Edge length 100  
Display information  
 Name  Author  Type  Time

Dependencies  
Description

Name: lifecycle  
Package: lifecyclenich  
File: /Users/yudi/Desktop/model/lifecycle/lifecycle.alp  
Time units: days

lifecycle - Model Selection X=397, Y=484