Computational Legal Studies™

GraphMovie: A Library for Generating Movies from Dynamic Graphs with igraph

Over the past few months, we've developed a library for simply generating dynamic network animations. We've used this library in visualizations like (1) **Visualizing the Gawaher Interactions of Umar Farouk Abdulmutallab, the Christmas Day Bomber** and (2) **Dynamic Animation of the East Anglia Climate Research Unit Email Network**. Prior to these visualizations, we've used **Sonia** to produce animations like **this one**. While certainly a useful program for those without programming expertise, **Sonia** suffers from a number of issues that make it unusable for large graphs or graphs with many "slices." Furthermore, in our experience rendering various movies a number of platform issues with the Quicktime and Flash rendering engines have arisen. Fixing these problems is possible, but Sonia's large Java codebase makes for a steep learning curve. As a result, we've decided to release **this GraphMovie class** so that others can use or possibly improve this library.

In order to use the GraphMovie, you'll need the following:

- **python** (tested with 2.6)
- **igraph** for network manipulation and visualization
- **Python Imaging Library** for manipulating the image frames

- mencoder from the **MPlayer** package for encoding the image frames into a movie

Here are the files, hosted on github:

- **GraphMovie.py**
- **GraphMovie_Example1.py**

GraphMovie: Example 1 from Computational Legal Studies on Vimeo.

- GraphMovie_Example2.py

GraphMovie: Example 2 from Computational Legal Studies on Vimeo.

Michael Bommarito / January 17, 2010 / dynamic visualization, network analysis, python