AMEBA
Interactive visualization of metabolic networks

René Rex
Include even more information: reaction fluxes
Visualization of metabolic networks
Visualization of metabolic networks

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Graph handling

NetworkX

- http://networkx.github.com
- `graph.degree(node)`
- `graph.edge[newNode][successor]["disconnected"] = True`
- output: various graph formats (e.g. GML, GraphML, dot)
- However, interactive usage would be handy...
xdot – exactly what I needed

- an interactive viewer for graphs written in Graphviz’s dot language
- can be used either as a standalone application from command line, or as a library embedded in your python application
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**Features**

- Since it doesn’t use bitmaps it is fast and has a small memory footprint
- Arbitrary zoom, Keyboard/mouse navigation
- **Supports events on the nodes with URLs**
- Animated jumping between nodes
- Highlights node/edge under mouse
Sample code and clickable nodes

```python
def __init__(self):
    xdot.DotWindow.__init__(self)
    self.widget.connect('clicked', self.on_url_clicked)

def on_url_clicked(self, widget, url, event):
    dialog = gtk.MessageDialog(
        parent = self,
        buttons = gtk.BUTTONS_OK,
        message_format='"%s clicked\n" % url)
    dialog.connect('response', lambda dialog, response: dialog.destroy())
    dialog.run()

    return True
```
Clickable nodes

```
xdot:
self.emit("clicked", unicode(url.url), event)
```
Clickable nodes

**xdot:**
```
self.emit("clicked", unicode(url.url), event)
```

**AMEBA:**
```
self.splitRatioGraph.node[node]["URL"] = node
...
self.widget.connect("clicked", self._node_clicked)
```
AMEBA: Advanced MEtabolic Branchpoint Analysis

[Diagram of metabolic pathway]

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AMEBA: Advanced MEtabolic Branchpoint Analysis

- Interactively visualizes metabolic networks and display flux distributions
- Easily configurable to produce high-quality figures
- Available online, GPLv3, http://metano.tu-bs.de/ameba
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Thank you for your attention!

r.rex@tu-bs.de