Render Extension

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Introduction

- The SBML Layout extension allows preserving the layout of SBML models
- What is not specified is how to render the SBML elements
- What I want to present is an approach to a Render Extension
- SBW Development

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Render Extension

- The Render Extension consists of a list of Render styles where each Render styles consists of:
  - List of Compartment styles
  - List of Species styles
  - List of Reaction styles
  - List of Text styles
  - List of Groups

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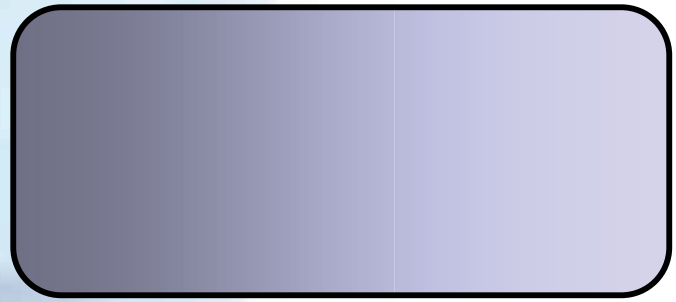
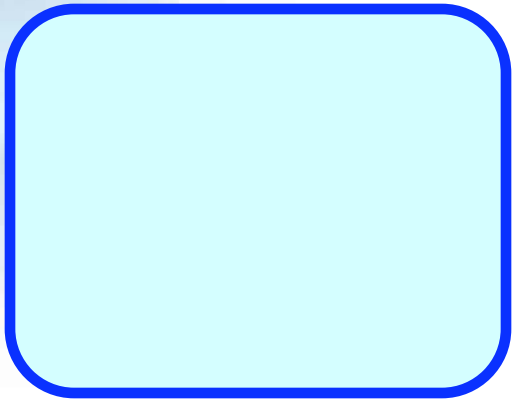
Compartment Styles

- Consists of:
  - List of Shape styles
    - Fill style
    - Bounding box
    - Edge style
    - Type
  - Edge Style
    - Thickness
    - Color
    - Style
  - Inner Style
    - Thickness
    - Color
    - Style

Examples:





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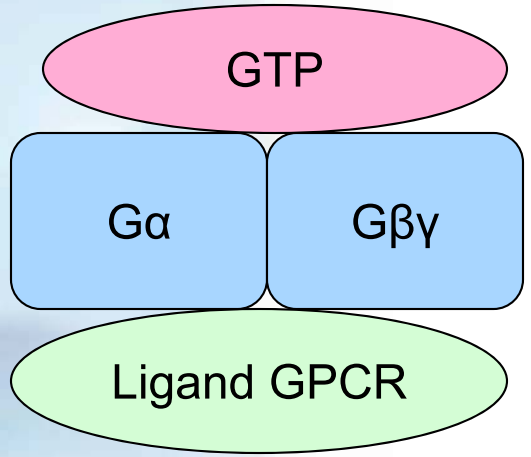
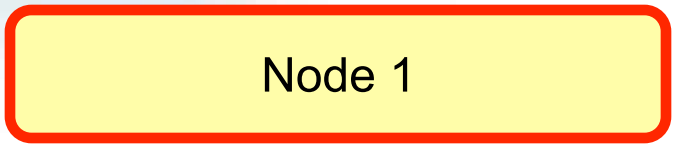
Species Styles

- Consists of:
  - List of Shape Styles
    - Fill style
    - Bounding box
    - Edge style
    - Type

Examples:





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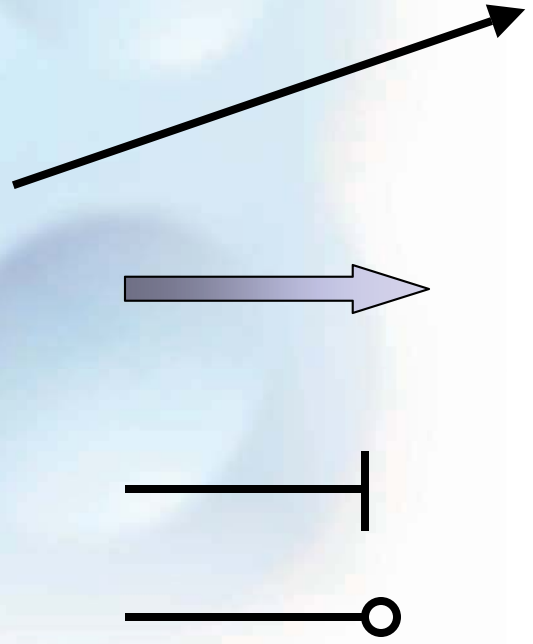
Reaction Styles

- Consists of:
  - Line style
  - Arrow Style

Examples:



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Text Styles

- Consists of:
  - Fill style
  - Font
  - Size
  - Style
  - calculateSize?
- Groups:
  - Used for Alias nodes

Examples:

ATP

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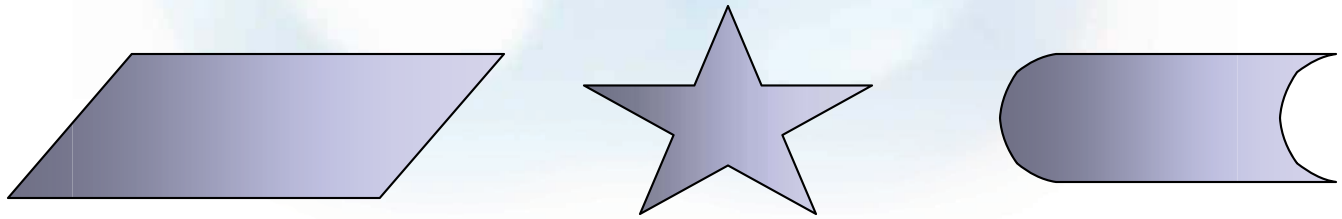
Further plans

- The current specification lacks the following points that will be added:
  - Custom shapes
    - Defining shapes via paths (straight lines & arcs/beziers)
  - Adopt SBGN for default styles

Examples



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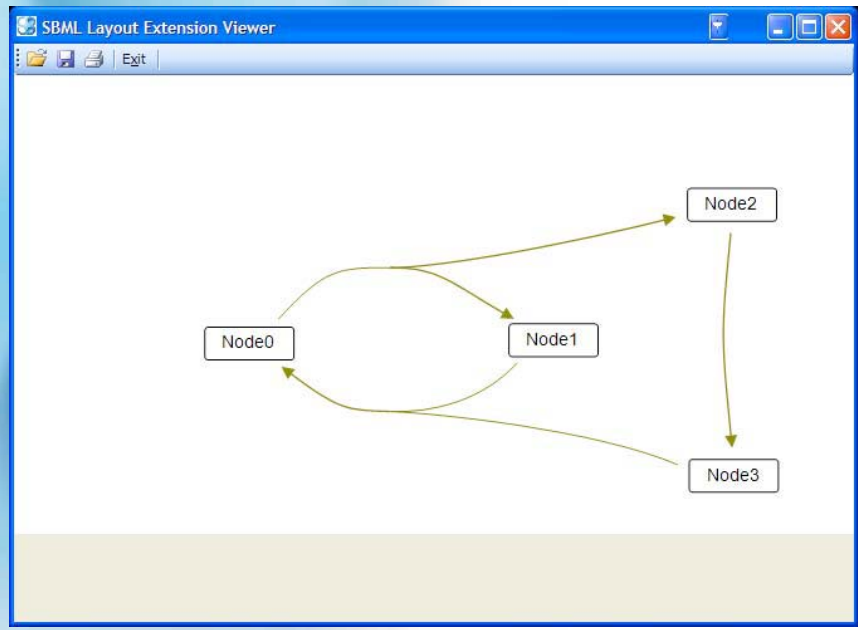
Current Implementations

- The Render Extension is currently implemented as Win32 application and as a Web Application
- http://134.173.97.95/SBMLLayout.aspx



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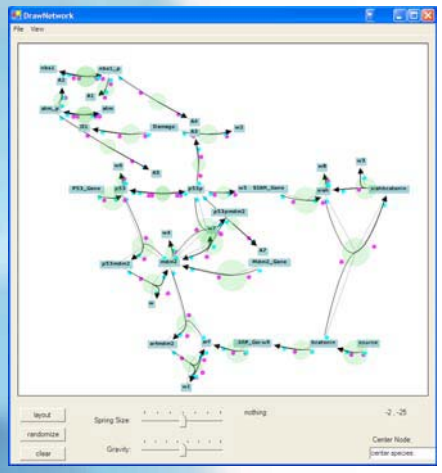
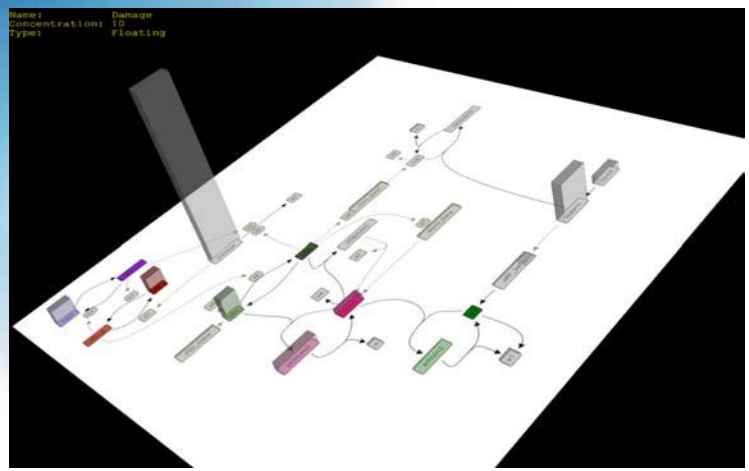
SBW Update

SBW Update

- New Modules:
  - Structural Analysis tool
  - Oscill8 (Bifurcation analysis)
  - SBML Layout
    - generate Layouts
    - displaying Layout/Render information
    - 3D Time course simulation
- Binary SBW installers for:
  - Win32
  - Mac OSX Panther & Tiger
  - Linux
- Focus on creating platform independent tools





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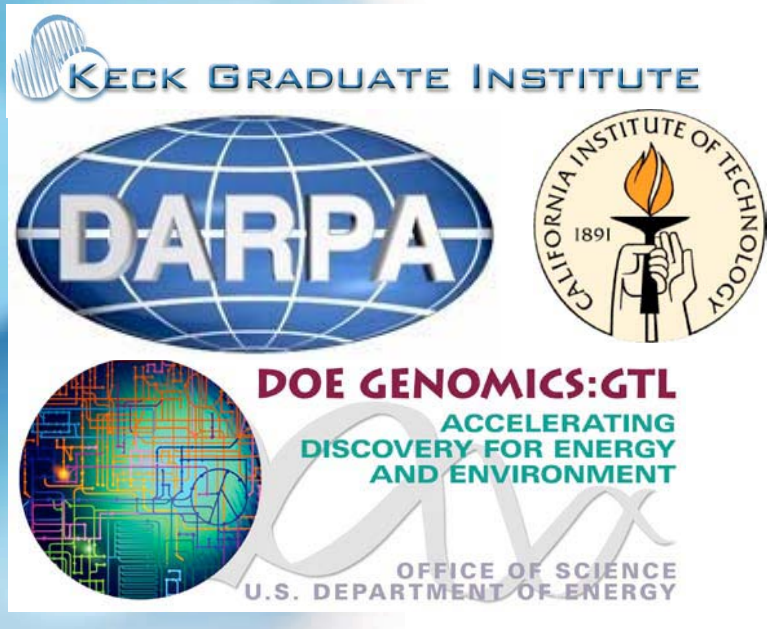
- Original Program Investigators: Hiroaki Kitano, John Doyle, in collaboration with Hamid Bolouri, Andrew Finney and Mike Hucka



More Information

- Render Extension schema:
  - http://sbw.kgi.edu/xml/render/level1.xsd
- SBML Layout viewer:
  - http://134.173.97.95/SBMLLayout.aspx
- SBW
  - http://www.sys-bio.org

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