SBI The Systems Biology Institute

CellDesigner 4.0 alpha

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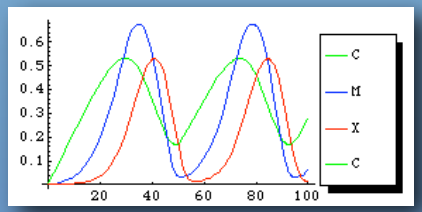
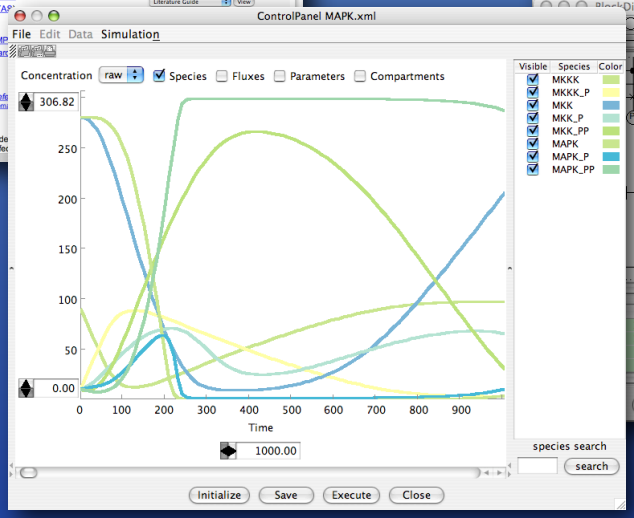
CellDesigner

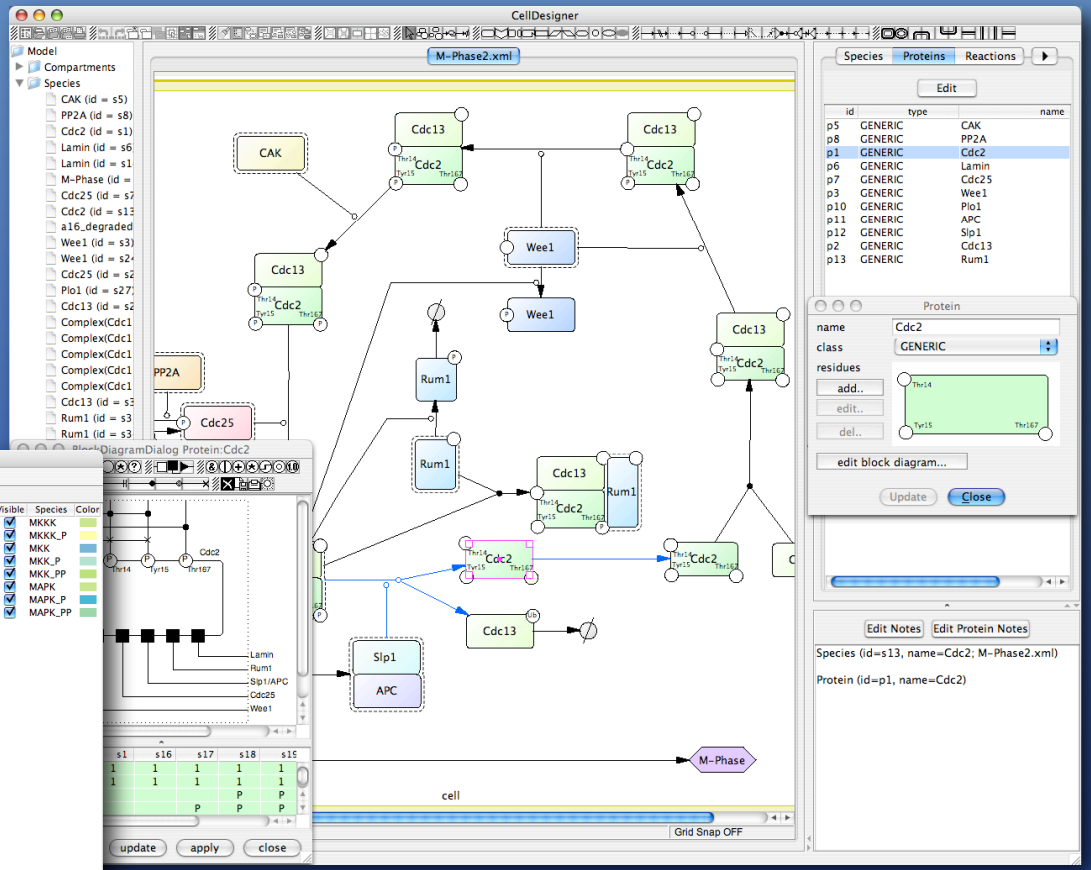
SBML Systems Biology Markup Language + SBGN Systems Biology Graphical Notation +



+ KEGG iHOP SGD PubMed BioModels

= CellDesigner





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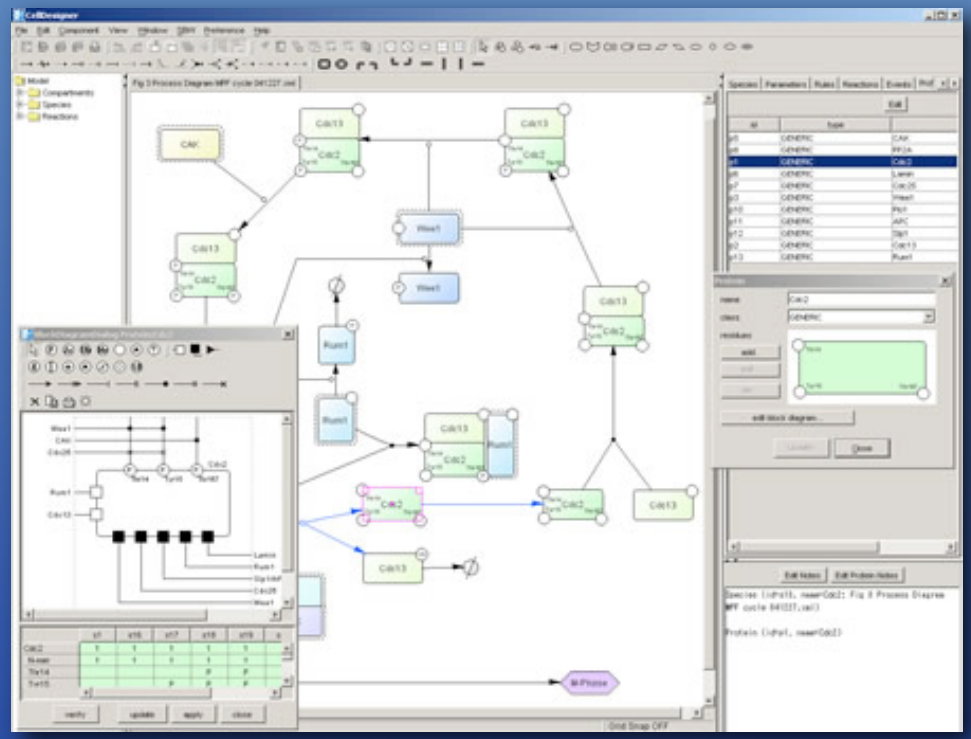
CellDesigner

- Import/export SBML using libSBML
- Graphical notation (SBGN)
- Built-in simulator (SBML ODE Solver)
- Integrate with Analysis tool, other simulators through SBW
- Database connection
- Export to PDF, PNG, etc.
- Freely available
- Supported Environment
  - Windows (2000 or later)
  - Mac OS X
  - Linux

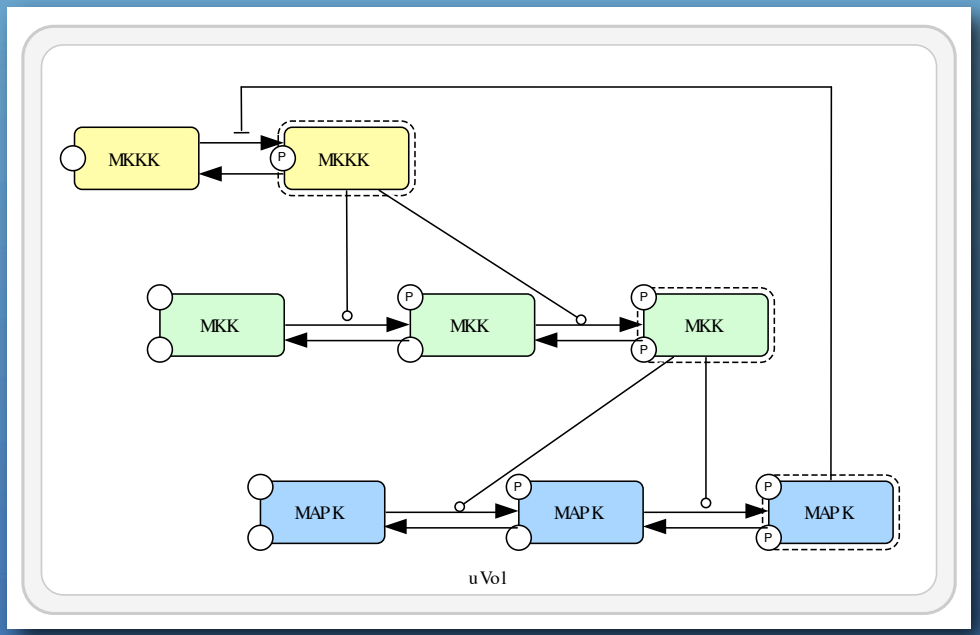


http://celldesigner.org

CellDesigner 4.0 alpha

- Auto-layout function
- Plugin development framework
- GUI improvement

Auto-layout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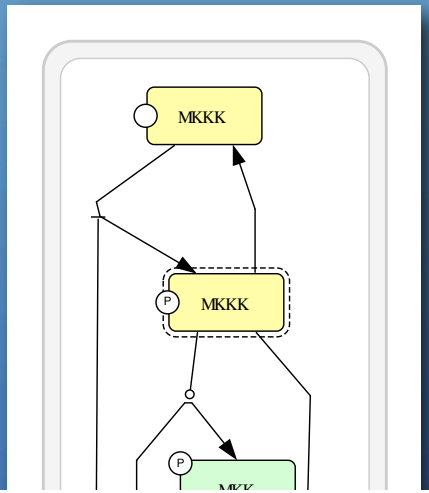
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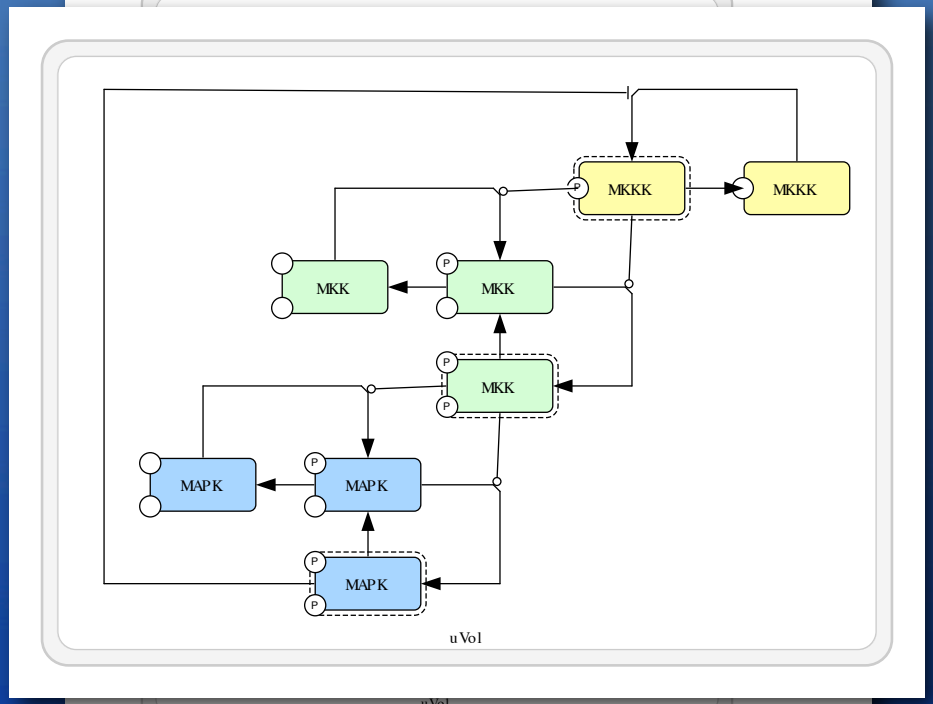
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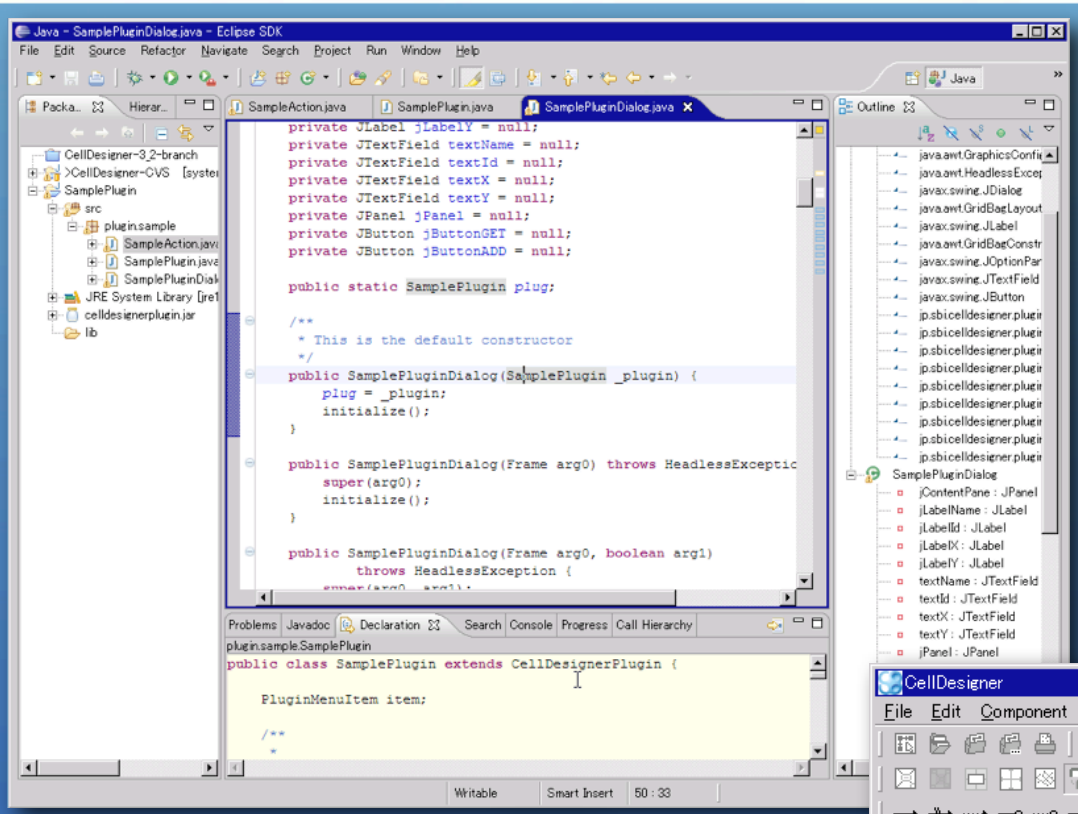
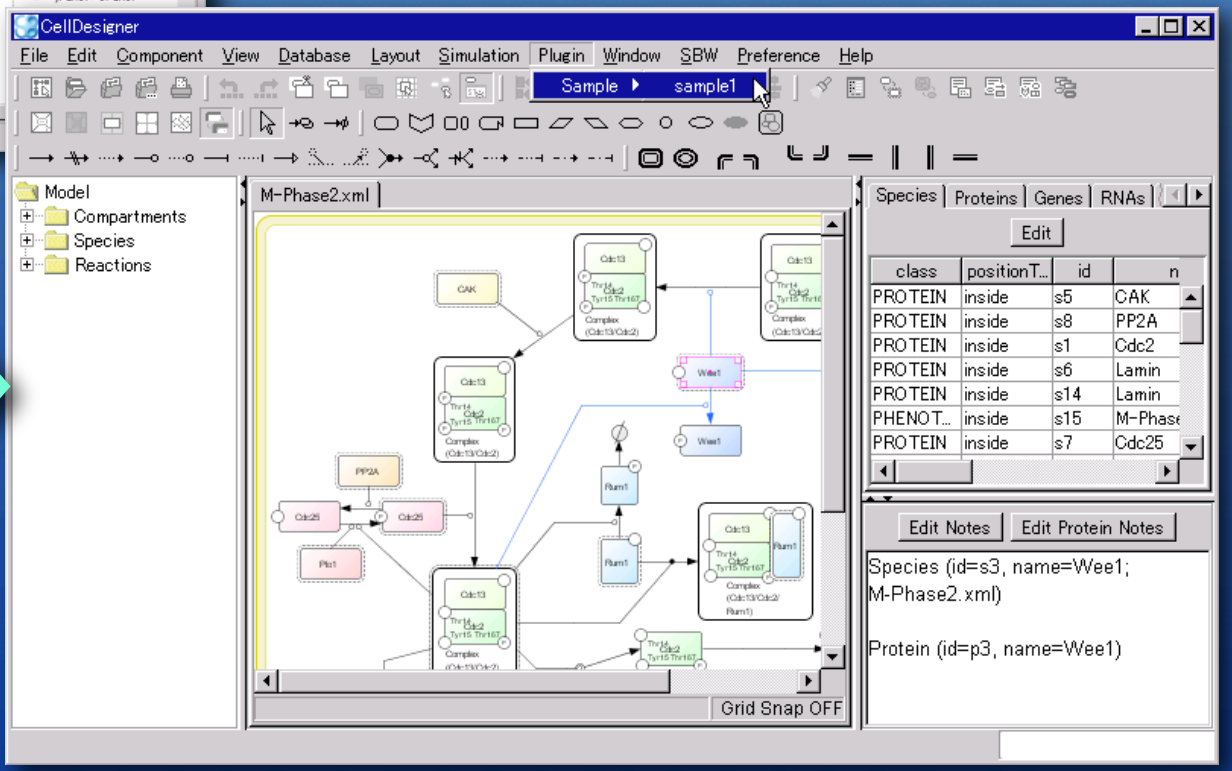
Plugin development

- Develop plugin on Eclipse
- Call plugin from [Plugin] menu on CellDesigner



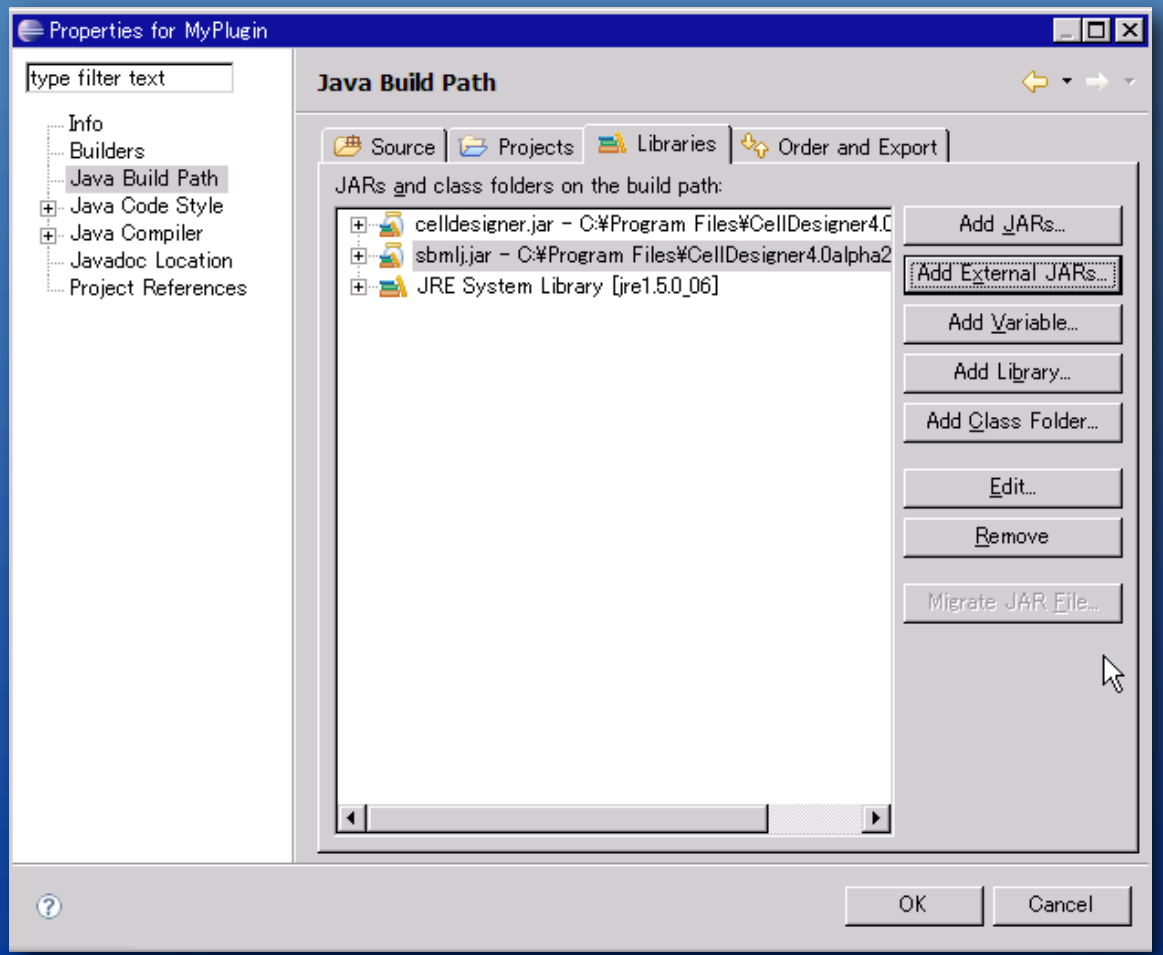


Development environment

- CellDesigner 4.0 alpha
- JDK 1.5.0 or 1.4.2 (for MacOSX 10.3)
- Eclipse (tested on 3.2.1)

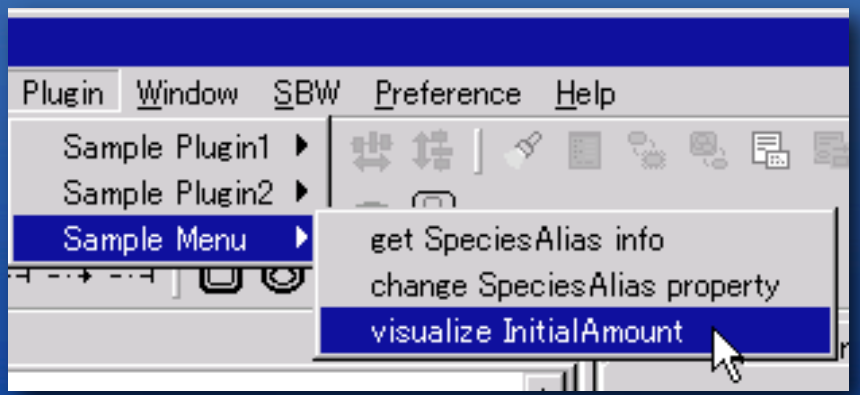
Libraries

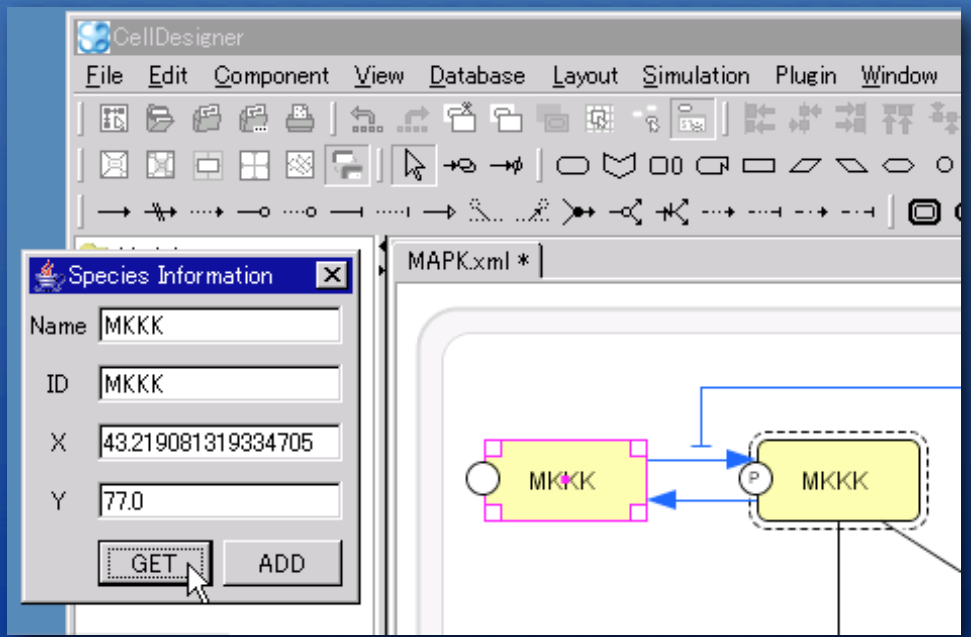
- Add following .jar files to your class path
  - C:\Program Files\CellDesigner4.0alpha\exec\celldesigner.jar
  - C:\Program Files\CellDesigner4.0alpha\lib\sbmlj.jar



Documents / Samples

- Documents
  - documents/PluginTutorial40A.pdf
  - documents/plugin/ ... Javadoc
- Sample code
  - http://celldesigner.org/funasample.zip
  - samples/plugin/src/





Example code

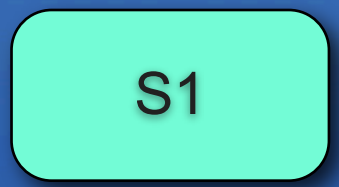
- Get Species properties from CellDesigner

```
private void getSelectedSpeciesProperties() {
   PluginListOf lof = plugin.getSelectedSpeciesNode();
   if (lof != null) {
      // get PluginSpeciesAlias
      PluginSpeciesAlias alias = (PluginSpeciesAlias)lof.get(0);

      // get position
      double x = alias.getX();
      double y = alias.getY();

      // get Species
      PluginSpecies sp  = alias.getSpecies();
      String name = sp.getName();
      String id = sp.getId();
      }
}
```

(100, 150)



Future plan

- SBML L2v2 support
- Export SBML Layout extension
- Update with new SOSlib (SBML ODE Solver)
- Integrate with COPASI
- Check & support new SBW modules
- Import models/kineticLaws from SABIO-RK

Acknowledgment

CellDesigner
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  Akiya Jouraku
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