OOoUnoMazeBuilder

The program, this documentation, and everything contained within this package is offered for free with NO WARRANTY whatsoever. If you are not willing to accept any possible risk of running the program, then do not use it.

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What it is OOoUnoMazeBuilder

This is a program that generates drawings of mazes in the OpenOffice.org office productivity software.

What is OpenOffice.org

OpenOffice.org is a Free office suite that runs on numerous platforms including Linux and Windows.

See: http://www.openoffice.org

In this document, OpenOffice.org may be abbreviated as OOo.

Requirements

This program is written in Java. You need to have a Java 1.4 installed. (In my experience, it runs on Java 1.3 under SuSE Linux 8.1 just fine. I wrote it using Sun's JDK 1.4 on Windows XP, but I probably don't have any dependancies which tie it to version Java 1.4.)

The program requires OpenOffice.org to be installed. (On SuSE Linux 8.1 I am using OpenOffice.org 1.0.1. On Windows XP I'm using OpenOffice.org 1.1beta.)

How does the program work?

The program uses UNO (Universal Network Objects) to make a connection from the Java program to a running copy of OpenOffice.org. The program then takes advantage of the OOo api to cause the running copy of OOo to create a drawing document, and then to draw one or more mazes into that document.

You must start up OOo in such a way that it will accept UNO connections from another program.

How to startup OpenOffice.org to accept UNO connections

Launch the program using a parameter.

The easiest way to do this is to create a batch file (Windows) or shell script (Linux).

On Windows, look in the folder where you installed OOo, and find the "program" folder there. Within the program folder, create a batch file. I called mine "unostart.bat" and put the following text into it.

```
.\soffice "-accept=socket,host=localhost,port=8100;urp;StarOffice.
NamingService"
```

(Note that the command should be one long line, even if it does not appear that way above due to wrapping around onto two lines.)

On Linux, I created a bash script named unostart.sh, and put the following into it.

```
#!/bin/bash

openoffice "-accept=socket,host=localhost,port=8100;urp;StarOffice.
NamingService
```

(Note that the command should be one long line, even if it does not appear that way above due to wrapping around onto two lines.)

In both cases, the script starts up OOo listening on port 8100 for a UNO connection.

Replacing the "host=localhost" with "host=0" will allow UNO connections from other computers. For instance, the author can make OOoUnoMazeGenerator on Win XP create a drawing in OOo running on Linux, and vice versa.

When OOo starts up, it will create a new empty document. If you don't like this behavior, you could append either -invisible or -quickstart to the command which starts Ooo. If you do this, then OOo does not provide any user interface to interact with. In this case you may have to find the process and kill it yourself. My experience is that once the Java program connects, draws its maze, and you close the last OOo document, the program quits and disappears leaving no processes behind.

Note that in the bash script above for Linux, this is what I did for my SuSE Linux 8.1. You might need to replace "openoffice" with "soffice".

How do I start the Maze Generator program?

Once you've started OpenOffice.org in such a way that it is listening for a connection, you must also start the Maze Generator program.

On Windows you must have a Java runtime or development kit installed. You can either use Microsoft's Java, or download one from Sun. (http://java.sun.com)

On Linux you must also have a Java runtime or development kit installed. You can download this, or you may find that it is already included from your Linux distribution vendor.

To start the program, simply double-click the ".jar" file (in Windows) or single-click the ".jar" file (Linux KDE, or GNOME, depending on desktop configuration).

On my SuSE Linux 8.1, a KDE window poped up asking me to associate ".jar" files with some program. I associated ".jar" files with the command "java -jar".

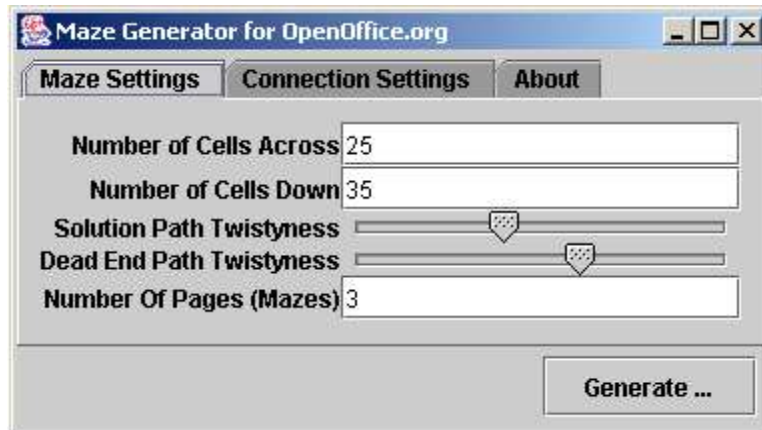Alternately, you can start the program using a command such as

        java -jar OooUnoMazeBuilder.jar

in either Windows or Linux.

How do I generate mazes?

Run the OooUnoMazeBuilder.jar program as previously described.

The program's main window will appear.

Adjust the parameters to taste and click the Generate button.

A window running a new thread will appear that details the progress of building the maze.

Until I get around to implementing a better maze generator algorithm (like from X screensavers maze) generating large mazes might be very slow. For a say, 100 x 150 maze on a 1.8 Ghz P4, it may take about a minute or so.

Who wrote this?

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Copyright and License

The program was written by me, Danny Brewer, using NetBeans. (http://www.netbeans.org) The program is Copyright 2003 Danny Brewer.

Anyone may run this program.

You may distribute this under terms of the GNU Lesser General Public License. (See: http://www.fsf.org/licenses/licenses.html#LGPL or http://www.ooextras.org/license.txt).

The jar file also contains classes from the jar files distributed with OpenOffice.org. These are licensed according to the terms of OpenOffice.org. See http://www.openoffice.org/license.html. Under the terms of the SISSL (http://www.openoffice.org/licenses/sissl_license.html) section 3.4, those classes are included within this program under the

"Larger Works" clause. The source code to the classes from OpenOffice.org is available as part of the larger sources of OpenOffice.org.

Building the Source Code

I build the program using NetBeans, an open source Java IDE. (http://www.netbeans.org)

In NetBeans, simply "mount" the top level "source code" folder in your project. All of the sub folders will match the correct package hierarchy. Do a Build Project, and NetBeans will compile everything according to the dependancies.

To run the program, you must also include classes from the various jar files that are included in the OpenOffice.org software.

Look in the path where you OpenOffice.org is installed. See the program/classes folder. There are various jar files here which contain classes that implement the UNO runtime for Java. These must be included on the CLASSPATH when the maze builder is run.

I simply included those classes into the jar file I distribute to make it easy to run (under the "Larger Works" clause section 3.4 of the SISSL). You can of course, keep those classes seperate and add them to the CLASSPATH when you run the program.

If you want to add the classes into your jar file, simply "mount" each jar file in NetBeans FileSystem Explorer and add the classes to your "jar recipie".

You can run the program directly within NetBeans after compiling. If you wish to package it into a jar file, then you will need to make a "jar recipie". You may wish to include the classes from the OpenOffice.org jar files, as I did. See the extensive online help in NetBeans for simple instructions on how to create a jar recipie.