

Morpho - Bug #499

Swing changes outside the event thread

05/08/2002 09:40 AM - Dan Higgins

Status:	Resolved	Start date:	05/08/2002
Priority:	Immediate	Due date:	
Assignee:	Dan Higgins	% Done:	0%
Category:	morpho - general	Estimated time:	0.00 hour
Target version:	1.2	Spent time:	0.00 hour
Bugzilla-Id:	499		
Description <p>When the SwingWorker class was added to Morpho to create new threads for time-consuming tasks, some modifications to Swing components were apparently moved outside the event thread. This is not allowed since Swing components are not multithreaded. Problems have not been noted during normal operation of Morpho but may cause subtle problems in the future. (Bug noted during attempts to convert Morpho to run with Java Web Start).</p> <p>In particular, there are a number of modifications made to the treenode structure in the XML editor outside the event thread. This would not appear to be a problem until a new DefaultTreeModel is created and a method like 'reload' is called. According to the documentation, this method triggers the Model to notify all listeners that the model has changed.</p>			

History

#1 - 07/09/2002 11:16 AM - Matt Jones

We need to be sure this is working reliably for the next release (1.2). Please test thoroughly.

#2 - 10/02/2002 11:10 AM - Dan Higgins

10/2/02 - higgins

According to the Java tutorial,

Rule: Once a Swing component has been realized, all code that might affect or depend on the state of that component should be executed in the event-dispatching thread

Currently, the SwingWorker class is used in a number of locations. namely

C:\work\morpho\src\edu\ucsb\nceas\morpho\editor\DocFrame.java
fixed

C:\work\morpho\src\edu\ucsb\nceas\morpho\Morpho.java
OK

C:\work\morpho\src\edu\ucsb\nceas\morpho\query\DeleteCommand.java
morphoFrame.setBusy(true);refreshDataPackageFrame violates rule

C:\work\morpho\src\edu\ucsb\nceas\morpho\query\ExportCommand.java
morphoFrame.setBusy(true); violates rule

C:\work\morpho\src\edu\ucsb\nceas\morpho\query\LocalToNetworkCommand.java
frame.setBusy(true); violates rule

C:\work\morpho\src\edu\ucsb\nceas\morpho\query\NetworkToLocalCommand.java
frame.setBusy(true); violates rule

C:\work\morpho\src\edu\ucsb\nceas\morpho\query\OpenDialogBoxCommand.java
morphoFrame.setBusy(true); violates rule

C:\work\morpho\src\edu\ucsb\nceas\morpho\query\OpenPackageCommand.java
morphoFrame.setBusy(true); violates rule

C:\work\morpho\src\edu\ucsb\nceas\morpho\query\OpenPreviousVersionCommand.java
morphoFrame.setBusy(true); violates rule

C:\work\morpho\src\edu\ucsb\nceas\morpho\query\RefreshCommand.java
morphoFrame.setBusy(true); violates rule

C:\work\morpho\src\edu\ucsb\nceas\morpho\query\ReviseSearchCommand.java
morphoFrame.setBusy(true); violates rule

C:\work\morpho\src\edu\ucsb\nceas\morpho\query\SearchCommand.java
morphoFrame.setBusy(true); violates rule

A recurring violation of the rule appears in several places where the 'flapping butterfly' is set with a 'setBusy' command outside the event thread. (This uses the "ProgressIndicator" class to reset the icon used in a JComponent). No code bugs are obviously caused by this in Morpho, but we should probably make the setBusy operation into a thread and use 'invokeLater' to execute in the eventThread.

#3 - 10/03/2002 11:17 AM - Dan Higgins

fixed 'morphoFrame.setBusy(true)' so that the actual changing of the busy icon is always done inside the event thread. This was done by changing the ProgressIndicator class to implement Runnable and using invokeLater in the morphoFrame.setBusy method.

This fixes a problem in almost all the SwingWorker instances, but each still needs to be examined for other component changes outside the event thread.

#4 - 10/03/2002 03:27 PM - Dan Higgins

All the SwingWorker instances have been examined to look for Swing component changed outside the event thread and any such changes have been moved to the inside of the event loop.

(Since there were no apparently problems even in code that did change Swing components outside the event loop, it is impossible to be sure that all instances have been fixed!)

#5 - 03/27/2013 02:14 PM - Redmine Admin

Original Bugzilla ID was 499