Image Exporter 1.0 Requirements Specification

1. Scope

1.1 Overview

The Image Exporter component provides the ability to save the image of a java.awt.Component to an image file. It supports BMP, GIF and JPG formats.

1.2 Logic Requirements

1.2.1 ImageExporter

This class provides methods to export a java.awt.Component or an array of Components to image files. One method receives the Component and one receives the Component and the rectangle area that should be exported. The methods also receive the location of the files, the file names and the image format.

1.2.2 Imgae format

The supported formats are BMP, GIF and JPG. Other formats should be added in the future.

1.2.3 Double buffering

The component will turn the global double buffering off before exporting, and on after that. Any other optimizations are welcome.

1.2.4 Non visible Component

The Component passed to the methods might not be visible, in which case they will not render anything. The component will provide a pluggable way to make the component visible while exporting the diagrams. The default way will be a dialog showing that exporting is in progress. The component will be added to the dialog with a size of (0,0) - it only needs to be visible, not to be fully displayed.

To determine if a Component is visible, the Graphics object is checked whether it is null. Note that the Component might belong to a parent, in which case, it should be added back to that container in the same position after exporting (this is not an entirely safe strategy, but it will do).

1.3 Required Algorithms

None.

1.4 Example of the Software Usage

The component will be used in the TopCoder UML Tool to export the diagrams to image files.

1.5 Future Component Direction

None.

2. Interface Requirements

2.1.1 Graphical User Interface Requirements

None.

2.1.2 External Interfaces

The design must follow the interface found in the class diagram with the component interfaces. The designer is encouraged to add to the existing interface, but not to remove anything.

2.1.3 Environment Requirements

- Development language: Java 1.5
- Compile target: Java 1.5

2.1.4 Package Structure

com.topcoder.swing.imageexporter

3. Software Requirements

3.1 Administration Requirements

3.1.1 What elements of the application need to be configurable?

None.

3.2 Technical Constraints

3.2.1 Are there particular frameworks or standards that are required?

None

3.2.2 TopCoder Software Component Dependencies:

- Image manipulation 1.0

**Please review the TopCoder Software component catalog for existing components that can be used in the design.

3.2.3 Third Party Component, Library, or Product Dependencies:

None

3.2.4 QA Environment:

- Solaris 7
- RedHat Linux 7.1
- Windows 2000
- Windows 2003

3.3 Design Constraints

The component design and development solutions must adhere to the guidelines as outlined in the TopCoder Software Component Guidelines. Modifications to these guidelines for this component should be detailed below.

3.4 Required Documentation

3.4.1 Design Documentation

- Use-Case Diagram
- Class Diagram
- Sequence Diagram
- Component Specification

3.4.2 Help / User Documentation

- Design documents must clearly define intended component usage in the 'Documentation' tab of Poseidon.