**UTCN**

**Computer Science Department**

**Software Design 2012/2013**

**ASSIGNMENT A4**

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1. **Objective**

The objective of this assignment is to allow students to become familiar with the Composite design pattern.

1. **Application Description**

Use appropriate Java/C# classes for Drawing and Drag & Dropping to design and implement an application similar with Paint. The application should implement the following actions: (1) draw complex shapes using simple shapes and (2) drag and drop simple shapes from a toolbar.

1. **Application Constraints**

Choose and use an architectural pattern in designing the application. Use at least two design patterns: the Composite design pattern and another one at your choice (not an already used one).

1. **Requirements**

* Create the analysis and design document (see the template).
* Implement and test the application.

1. **Deliverables**

* Analysis and design document.
* Implementation source files.

1. **References**

<http://java.sun.com/docs/books/tutorial/uiswing/>

<http://java.sun.com/j2se/1.4.2/docs/api/javax/swing/package-summary.html>

<http://www.exampledepot.com/egs/?>

<http://msdn.microsoft.com/en-us/library/54xbah2z(VS.80).aspx>

<http://msdn.microsoft.com/en-us/library/system.drawing.graphics.aspx>

<http://download.oracle.com/javase/tutorial/uiswing/dnd/index.html>

<http://msdn.microsoft.com/en-us/library/aa984430%28v=vs.71%29.aspx>