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ESOF 322 Homework #4 (35 pts)

- Hand in a print out of your work during class on **10/10**. Upload a copy on D2L.
- Clearly label every page with all names.
- **Staple the pages together.**

Question 1 (25 pts)

In this question you will exercise your reverse engineering skills.

a) Download the source code for any Open Source system. You can typically search sites like SourceForge to find an Open Source system. Make sure the system is written in Java. **(10 pts)**

1. What system did you download? (4 pts)

The DJ Project

2. What does it do? (2 pts)

The DJ Project is a set of tools to improve Java capabilities on the Desktop. The DJ Native Swing sub-project, among other things, allows integrating a Web Browser, Flash Player, HTML editor, or VLC-based player in Swing applications.

3. How many Lines of Code (LOC) does it have? How did you calculate this? (4 pts)

29743, I open each page and count it.

b) Use the Design Pattern Finder tool (<http://designpatternfinder.codeplex.com/>) to scan the code for potential realizations of many design patterns. **Note** that this tool only works in a Windows system, so you will need a Windows machine or virtual machine. The executable is in the *releases/0* directory and you will need to extract it to run it, since these are zipped files.

If you or your partner(s) do not have a Windows machine, you will have to use a machine in one of our labs or install virtual machine software (i.e. VMware or VBox). Then create a virtual Windows system.

The tool should give you a hint of potential existence of design patterns in the code. Print out the output of the Design Pattern tool for the Open Source system you chose. **(15 pts)**

1. Capture the output of the tool (without checking the "Search in file content" box) and print it. (2 pts)

Found 24 files that possibly contain design patterns.

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing\chrriis\dj\nativeswing\NativeComponentProxy.java
Possible patterns: Proxy

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing\chrriis\dj\nativeswing\NativeComponentProxyFinalizationPanel.java
Possible patterns: Proxy

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing\chrriis\dj\nativeswing\NativeComponentProxyPanel.java
Possible patterns: Proxy

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrriis\dj\nativeswing\swtimpl\CommandMessage.java
Possible patterns: Command

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrriis\dj\nativeswing\swtimpl\NativeInterfaceAdapter.java
Possible patterns: Adapter

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrriis\dj\nativeswing\swtimpl\PeerVMProcessFactory.java
Possible patterns: Factory

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrriis\dj\nativeswing\swtimpl\components\DefaultFlashPlayerDecorator.java
Possible patterns: Decorator

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrriis\dj\nativeswing\swtimpl\components\DefaultVLCPlayerDecorator.java
Possible patterns: Decorator

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrriis\dj\nativeswing\swtimpl\components\DefaultWebBrowserDecorator.java
Possible patterns: Decorator

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrriis\dj\nativeswing\swtimpl\components\FlashPlayerCommandEvent.java
Possible patterns: Command

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrriis\dj\nativeswing\swtimpl\components\FlashPlayerDecorator.java
Possible patterns: Decorator

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrriis\dj\nativeswing\swtimpl\components\HTML editorAdapter.java
Possible patterns: Adapter

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrris\dj\nativeswing\swtimpl\components\HTML editorDirtyStateEvent.java
Possible patterns: State

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrris\dj\nativeswing\swtimpl\components\VLCPlayerDecorator.java
Possible patterns: Decorator

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrris\dj\nativeswing\swtimpl\components\WebBrowserAdapter.java
Possible patterns: Adapter

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrris\dj\nativeswing\swtimpl\components\WebBrowserCommandEvent.java
Possible patterns: Command

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrris\dj\nativeswing\swtimpl\components\WebBrowserDecorator.java
Possible patterns: Decorator

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrris\dj\nativeswing\swtimpl\components\WebBrowserWindowFactory.java
Possible patterns: Factory

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWT\chrris\dj\nativeswing\swtimpl\internal\NativeCoreObjectFactory.java
Possible patterns: Factory

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWTCore\chrris\dj\nativeswing\swtimpl\core\ControlCommandMessage.java
Possible patterns: Command

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWTCore\chrris\dj\nativeswing\swtimpl\core\DefaultPeerVMProcessFactory.java
Possible patterns: Factory

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWTDemo\chrris\dj\nativeswing\swtimpl\demo\examples\additionalfeatures\HierarchyProxying.java
Possible patterns: Proxy

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWTDemo\chrris\dj\nativeswing\swtimpl\demo\examples\webbrowser\CustomDecorators.java
Possible patterns: Decorator

C:\Users\DickHead\Desktop\DJNativeSwing-SWT-1-0-2\src\DJNativeSwing-SWTDemo\chrris\dj\nativeswing\swtimpl\demo\examples\webbrowser\SendingCommands.java

Possible patterns: Command

2. How does this tool look for instances of design patterns? (4 pts)

This Windows application can search a source code directory for possible Gang of Four design patterns. Works with .cs, .vb, .java and .php file extensions, then save results to .txt file.

3. Do you think the process used by the tool is correct? How would you do it? Be specific. (9 pts)

Yes, I think it is correct.

The tool description shows that it can search a source code directory for possible Gang of Four design patterns which are grouped into 3 categories, Creational Design Patterns, Structural Design Patterns, and Behavioral Design Patterns. Moreover, looks like this tool has access to the jav file in each folder and look for the categories of the GOF design pattern. I will do the same thing if it is me.

Question 2 (10 pts)

If you do not already have a GitHub account, create one. Now add all the assignments we have done in this class into your GitHub account. You should create a repository for the ESOF 322 class.

- a) How did you upload the ESOF 322 files into your GitHub account? (5 pts)

I just drag files to my repository.

username: HungKaiSun

- b) Add a file (any dummy file) in your local machine, stage it, commit it, then push it to your GitHub account. What commands did you use? Show the output of each command, then a screenshot of your GitHub with the new files. (5 pts)

```

DickHead@DESKTOP-3PPQ4ME MINGW64 ~/Desktop/ESOF-322-master/ESOF-322-master (master)
$ git init
Reinitialized existing Git repository in C:/Users/DickHead/Desktop/ESOF-322-master/ESOF-322-master/.git/

DickHead@DESKTOP-3PPQ4ME MINGW64 ~/Desktop/ESOF-322-master/ESOF-322-master (master)
$ git add .
warning: LF will be replaced by CRLF in README.md.
The file will have its original line endings in your working directory

DickHead@DESKTOP-3PPQ4ME MINGW64 ~/Desktop/ESOF-322-master/ESOF-322-master (master)
$ git add README.md

DickHead@DESKTOP-3PPQ4ME MINGW64 ~/Desktop/ESOF-322-master/ESOF-322-master (master)
$ git commit -m "Add existing file"
[master 8bfc46c] Add existing file
1 file changed, 2 insertions(+), 1 deletion(-)

DickHead@DESKTOP-3PPQ4ME MINGW64 ~/Desktop/ESOF-322-master/ESOF-322-master (master)
$ git push origin master:version1
remote: Not Found
fatal: repository 'http://github.com/HungKaiSun/' not found

DickHead@DESKTOP-3PPQ4ME MINGW64 ~/Desktop/ESOF-322-master/ESOF-322-master (master)
$ git remote origin http://github.com/HungKaiSun/ESOF-322.git
error: Unknown subcommand: origin
usage: git remote [-v | --verbose]
       or: git remote add [-t <branch>] [-m <master>] [-f] [--tags | --no-tags] [--mirror=<fetch|push>] <name> <url>
       or: git remote rename <old> <new>
       or: git remote remove <name>
       or: git remote set-head <name> (-a | --auto | -d | --delete | <branch>)
       or: git remote [-v | --verbose] show [-n] <name>
       or: git remote prune [-n | --dry-run] <name>
       or: git remote [-v | --verbose] update [-p | --prune] [(<group> | <remote>)...]
       or: git remote set-branches [--add] <name> <branch>...
       or: git remote get-url [--push] [--all] <name>
       or: git remote set-url [--push] <name> <newurl> [<oldurl>]
       or: git remote set-url --add <name> <newurl>
       or: git remote set-url --delete <name> <url>

       -v, --verbose          be verbose; must be placed before a subcommand

DickHead@DESKTOP-3PPQ4ME MINGW64 ~/Desktop/ESOF-322-master/ESOF-322-master (master)
$ git push origin master:version1
remote: Not Found
fatal: repository 'http://github.com/HungKaiSun/' not found

DickHead@DESKTOP-3PPQ4ME MINGW64 ~/Desktop/ESOF-322-master/ESOF-322-master (master)
$ git push http://github.com/HungKaiSun/ESOF-322.git master:version1
warning: redirecting to https://github.com/HungKaiSun/ESOF-322.git/
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 16 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 348 bytes | 348.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To http://github.com/HungKaiSun/ESOF-322.git
   ab32c0f..8bfc46c  master -> version1

```