

Possible bug in processing when running certain versions of java 8 and using the P2D renderer in external IDE

The data on the fps is unimportant to the bug aspect, I was just curious

Conclusions

On average, P2D runs about twice as fast as JAVA2d (the default), with J2D having a framerate of about 20 fps on average, whereas P2D has an fps averaging over 40. However P2D is only working on certain versions of Java 8 on mac. On all running versions the program results in a warning which states that:

```
2021-02-23 21:51:02.325 java[67490:3574544] WARNING: NSWindow drag regions should only be invalidated on the Main Thread! This will throw an exception in the future. Called from (
```

```
    0 AppKit                      0x00007fff22c27ec1 -[NSWindow(NSWindow_Theme)
    _postWindowNeedsToResetDragMarginsUnlessPostingDisabled] + 352
```

```
    1 AppKit                      0x00007fff22c12a8a -[NSWindow
    _initContent:styleMask:backing:defer:contentView:] + 1296
```

```
    2 AppKit                      0x00007fff22c12573 -[NSWindow
    initWithContentRect:styleMask:backing:defer:] + 42
```

```
    3 libnativewindow_macosx.jnilib 0x00000000132a533fe
    Java_jogamp_nativewindow_macosx_OSXUtil_CreateNSWindow0 + 398
```

```
    4 ???                          0x0000000010b818667 0x0 + 4488005223
)
```

. However some versions do not work entirely, and result in a complete system error, that immediately kills the program, you can't even catch the exception. On these versions, a popup window says that the window closed unexpectedly, and a report will be sent to apple. In the console, it prints out the following error message :

```
2021-02-23 21:58:17.405 java[67740:3580192] Apple AWT Internal Exception: NSWindow drag regions should only be invalidated on the Main Thread!
```

```
2021-02-23 21:58:17.405 java[67740:3580192]
```

```
*** Terminating app due to uncaught exception 'NSInternalInconsistencyException', reason: 'NSWindow drag regions should only be invalidated on the Main Thread!'
```

```
*** First throw call stack:
```

```
(
```

```
    0 CoreFoundation              0x00007fff2048c15b __exceptionPreprocess + 242
```

```
    1 libobjc.A.dylib              0x00007fff201c4d92 objc_exception_throw + 48
```

```
    2 CoreFoundation              0x00007fff204b4846 -[NSException raise] + 9
```

```

3 AppKit 0x00007fff22c27ea2 -[NSWindow(NSWindow_Theme)
_postWindowNeedsToResetDragMarginsUnlessPostingDisabled] + 321

4 AppKit 0x00007fff22c12a8a -[NSWindow
_initContent:styleMask:backing:defer:contentView:] + 1296

5 AppKit 0x00007fff22c12573 -[NSWindow
initWithContentRect:styleMask:backing:defer:] + 42

6 libnativewindow_macosx.jnilib 0x0000000013e5b83fe
Java_jogamp_nativewindow_macosx_OSXUtil_CreateNSWindow0 + 398

7 ??? 0x000000001178186c7 0x0 + 4689331911
)

```

libc++abi: terminating with uncaught exception of type NSException

. The only versions that actually work (although they still get a warning) with P2D (of jdk 8) are versions that are 1.8.0_251 or earlier. All later versions give this error.

Specifics of Testing

I came to these conclusions from drawing 7 different jpeg images, all of which were ~450 kB, and resized to 2000 by 200. I would then switch my jdk and the renderer I was using. There's probably a better way of doing this but sue me. Here are the specs of my computer.



I also had a friend run some code on his windows, and he had no errors on any later systems, but I did not thoroughly test this at all. Note that the code was run in IntelliJ, not the Processing IDE.

Possible causes

My guesses for why this is happening are as follows:

- 1) Bug in JOGL

- 2) Bug in macOS
- 3) Bug in processing
- 4) I'm being insanely dumb
- 5) Bug because I am running a beta version of macOS (big sur)