

# Class HUD

java.lang.Object

java.awt.Component

java.awt.Container

javax.swing.JComponent

javax.swing.JPanel

HUD

## All Implemented Interfaces:

java.awt.image.ImageObserver, java.awt.MenuContainer, java.io.Serializable, javax.accessibility.Accessible

```
public class HUD
extends javax.swing.JPanel
```

Draws the taskbar with the score, the CPU usage..... the heads-up display.

## See Also:

Serialized Form

## Nested Class Summary

Nested classes/interfaces inherited from class javax.swing.JPanel
javax.swing.JPanel.AccessibleJPanel
Nested classes/interfaces inherited from class javax.swing.JComponent
javax.swing.JComponent.AccessibleJComponent
Nested classes/interfaces inherited from class java.awt.Container
java.awt.Container.AccessibleAWTContainer
Nested classes/interfaces inherited from class java.awt.Component
java.awt.Component.AccessibleAWTComponent, java.awt.Component.BaselineResizeBehavior, java.awt.Component.BltBufferStrategy, java.awt.Component.FlipBufferStrategy

## Field Summary

## Fields

Modifier and Type	Field and Description
private javax.swing.JProgressBar	<b>cpuUsageBar</b> A bar that displays the in-game CPU usage (indicating to the user how close they are to defeat).
private javax.swing.JButton	<b>startButton</b> The button that, well, starts the game.
static int	<b>startButtonHeight</b> The height of startButton.
static int	<b>startButtonPadding</b> Calculates the distance from the top of the taskbar at which to place the start button.
static int	<b>startButtonWidth</b> The width of startButton.
static int	<b>taskbarHeight</b> The height of the taskbar, equal to startButtonHeight plus 4px, or 2px of padding above and below.
private javax.swing.JLabel	<b>timeLabel</b> Some text that displays the time elapsed to nanosecond precision.

## Fields inherited from class javax.swing.JComponent

accessibleContext, listenerList, TOOL\_TIP\_TEXT\_KEY, ui, UNDEFINED\_CONDITION, WHEN\_ANCESTOR\_OF\_FOCUSED\_COMPONENT, WHEN\_FOCUSED, WHEN\_IN\_FOCUSED\_WINDOW

## Fields inherited from class java.awt.Component

BOTTOM\_ALIGNMENT, CENTER\_ALIGNMENT, LEFT\_ALIGNMENT, RIGHT\_ALIGNMENT, TOP\_ALIGNMENT

## Fields inherited from interface java.awt.image.ImageObserver

ABORT, ALLBITS, ERROR, FRAMEBITS, HEIGHT, PROPERTIES, SOMEBITS, WIDTH

## Constructor Summary

### Constructors

Constructor and Description
<b>HUD</b> (java.awt.Dimension d) Base constructor.

## Method Summary

## Methods

Modifier and Type	Method and Description
private java.lang.String	<b>formatNanoseconds</b> (long n) Changes a nanosecond time into the following format: hh:mm:ss.nnnnnnnnn
javax.swing.JButton	<b>getStartButton</b> () Exposes the start button so that a handler to start the game can be attached in the constructor of PopUpQuiz.
int	<b>getTaskbarHeight</b> () Gets the height of the taskbar
protected void	<b>paintComponent</b> (java.awt.Graphics g) Draws the taskbar, the CPU usage, the score.
void	<b>setCpuUsage</b> (int cpuUsage) Updates the CPU gauge
void	<b>setTime</b> (long n) Updates the time elapsed.

## Methods inherited from class javax.swing.JPanel

getAccessibleContext, getUI, getUIClassID, paramString, setUI, updateUI

## Methods inherited from class javax.swing.JComponent

addAncestorListener, addNotify, addVetoableChangeListener, computeVisibleRect, contains, createToolTip, disable, enable, firePropertyChange, firePropertyChange, firePropertyChange, fireVetoableChange, getActionForKeyStroke, getActionMap, getAlignmentX, getAlignmentY, getAncestorListeners, getAutoscrolls, getBaseline, getBaselineResizeBehavior, getBorder, getBounds, getClientProperty, getComponentGraphics, getComponentPopupMenu, getConditionForKeyStroke, getDebugGraphicsOptions, getDefaultLocale, getFontMetrics, getGraphics, getHeight, getInheritsPopupMenu, getInputMap, getInputMap, getInputVerifier, getInsets, getInsets, getListeners, getLocation, getMaximumSize, getMinimumSize, getNextFocusableComponent, getPopupLocation, getPreferredSize, getRegisteredKeyStrokes, getRootPane, getSize, getToolTipLocation, getToolTipText, getToolTipText, getTopLevelAncestor, getTransferHandler, getVerifyInputWhenFocusTarget, getVetoableChangeListeners, getVisibleRect, getWidth, getX, getY, grabFocus, isDoubleBuffered, isLightweightComponent, isManagingFocus, isOpaque, isOptimizedDrawingEnabled, isPaintingForPrint, isPaintingOrigin, isPaintingTile, isRequestFocusEnabled, isValidRoot, paint, paintBorder, paintChildren, paintImmediately, paintImmediately, print, printAll, printBorder, printChildren, printComponent, processComponentKeyEvent, processKeyBinding, processKeyEvent, processMouseEvent, processMouseMotionEvent, putClientProperty, registerKeyboardAction, registerKeyboardAction, removeAncestorListener, removeNotify, removeVetoableChangeListener, repaint, repaint, requestDefaultFocus, requestFocus, requestFocus, requestFocusInWindow, requestFocusInWindow, resetKeyboardActions, reshape, revalidate, scrollRectToVisible, setActionMap, setAlignmentX, setAlignmentY, setAutoscrolls, setBackground, setBorder, setComponentPopupMenu, setDebugGraphicsOptions, setDefaultLocale, setDoubleBuffered, setEnabled, setFocusTraversalKeys, setFont, setForeground, setInheritsPopupMenu, setInputMap, setInputVerifier, setMaximumSize, setMinimumSize, setNextFocusableComponent, setOpaque, setPreferredSize, setRequestFocusEnabled, setToolTipText, setTransferHandler, setUI, setVerifyInputWhenFocusTarget, setVisible, unregisterKeyboardAction, update

## Methods inherited from class java.awt.Container

add, add, add, add, add, add, addContainerListener, addImpl, addPropertyChangeListener,

```
addPropertyChangeListener, applyComponentOrientation, areFocusTraversalKeysSet,
countComponents, deliverEvent, doLayout, findComponentAt, findComponentAt, getComponent,
getComponentAt, getComponentAt, getComponentCount, getComponents, getComponentZOrder,
getContainerListeners, getFocusTraversalKeys, getFocusTraversalPolicy, getLayout,
getMousePosition, insets, invalidate, isAncestorOf, isFocusCycleRoot, isFocusCycleRoot,
isFocusTraversalPolicyProvider, isFocusTraversalPolicySet, layout, list, list, locate,
minimumSize, paintComponents, preferredSize, printComponents, processContainerEvent,
processEvent, remove, remove, removeAll, removeContainerListener, setComponentZOrder,
setFocusCycleRoot, setFocusTraversalPolicy, setFocusTraversalPolicyProvider, setLayout,
transferFocusDownCycle, validate, validateTree
```

## Methods inherited from class java.awt.Component

```
action, add, addComponentListener, addFocusListener, addHierarchyBoundsListener,
addHierarchyListener, addInputMethodListener, addKeyListener, addMouseListener,
addMouseMotionListener, addMouseWheelListener, bounds, checkImage, checkImage,
coalesceEvents, contains, createImage, createImage, createVolatileImage,
createVolatileImage, disableEvents, dispatchEvent, enable, enableEvents,
enableInputMethods, firePropertyChange, firePropertyChange, firePropertyChange,
firePropertyChange, firePropertyChange, firePropertyChange, getBackground, getBounds,
getColorModel, getComponentListeners, getComponentOrientation, getCursor, getDropTarget,
getFocusCycleRootAncestor, getFocusListeners, getFocusTraversalKeysEnabled, getFont,
getForeground, getGraphicsConfiguration, getHierarchyBoundsListeners,
getHierarchyListeners, getIgnoreRepaint, getInputContext, getInputMethodListeners,
getInputMethodRequests, getListeners, getLocale, getLocation, getLocationOnScreen,
getMouseListeners, getMouseMotionListeners, getMousePosition, getMouseWheelListeners,
getName, getParent, getPeer, getPropertyChangeListeners, getPropertyChangeListeners,
getSize, getToolkit, getTreeLock, gotFocus, handleEvent, hasFocus, hide, imageUpdate,
inside, isBackgroundSet, isCursorSet, isDisplayable, isEnabled, isFocusable, isFocusOwner,
isFocusTraversable, isFontSet, isForegroundSet, isLightweight, isMaximumSizeSet,
isMinimumSizeSet, isPreferredSizeSet, isShowing, isValid, isVisible, keyDown, keyUp, list,
list, list, location, lostFocus, mouseDown, mouseDrag, mouseEnter, mouseExit, mouseMove,
mouseUp, move, nextFocus, paintAll, postEvent, prepareImage, prepareImage,
processComponentEvent, processFocusEvent, processHierarchyBoundsEvent,
processHierarchyEvent, processInputMethodEvent, processMouseWheelEvent, remove,
removeComponentListener, removeFocusListener, removeHierarchyBoundsListener,
removeHierarchyListener, removeInputMethodListener, removeKeyListener, removeMouseListener,
removeMouseMotionListener, removeMouseWheelListener, removePropertyChangeListener,
removePropertyChangeListener, repaint, repaint, repaint, resize, resize, setBounds,
setBounds, setComponentOrientation, setCursor, setDropTarget, setFocusable,
setFocusTraversalKeysEnabled, setIgnoreRepaint, setLocale, setLocation, setLocation,
setName, setSize, setSize, show, show, size, toString, transferFocus,
transferFocusBackward, transferFocusUpCycle
```

## Methods inherited from class java.lang.Object

```
clone, equals, finalize, getClass, hashCode, notify, notifyAll, wait, wait, wait
```

## Field Detail

### startButton

```
private javax.swing.JButton startButton
```

The button that, well, starts the game.

## cpuUsageBar

```
private javax.swing.JProgressBar cpuUsageBar
```

A bar that displays the in-game CPU usage (indicating to the user how close they are to defeat).

## timeLabel

```
private javax.swing.JLabel timeLabel
```

Some text that displays the time elapsed to nanosecond precision.

## startButtonHeight

```
public static final int startButtonHeight
```

The height of startButton. Used in calculations.

### See Also:

[Constant Field Values](#)

## startButtonWidth

```
public static final int startButtonWidth
```

The width of startButton. Used in calculations.

### See Also:

[Constant Field Values](#)

## taskbarHeight

```
public static final int taskbarHeight
```

The height of the taskbar, equal to startButtonHeight plus 4px, or 2px of padding above and below.

### See Also:

[Constant Field Values](#)

## startButtonPadding

```
public static final int startButtonPadding
```

Calculates the distance from the top of the taskbar at which to place the start button. It's 2px.

## See Also:

[Constant Field Values](#)

## Constructor Detail

### HUD

```
public HUD(java.awt.Dimension d)
```

Base constructor. Creates all the components.

#### Parameters:

d - Size of the parent

## Method Detail

### paintComponent

```
protected void paintComponent(java.awt.Graphics g)
```

Draws the taskbar, the CPU usage, the score.

#### Overrides:

paintComponent in class `javax.swing.JComponent`

#### Parameters:

g - The Graphics object on which to draw

### getTaskbarHeight

```
public int getTaskbarHeight()
```

Gets the height of the taskbar

#### Returns:

The height of the taskbar

### setCpuUsage

```
public void setCpuUsage(int cpuUsage)
```

Updates the CPU gauge

**Parameters:**

`cpuUsage` - The new CPU usage reading.

## setTime

```
public void setTime(long n)
```

Updates the time elapsed.

**Parameters:**

`n` - Time elapsed in nanoseconds.

## formatNanoseconds

```
private java.lang.String formatNanoseconds(long n)
```

Changes a nanosecond time into the following format: hh:mm:ss.nnnnnnnnn

**Parameters:**

`n` - Time elapsed in nanoseconds

## getStartButton

```
public javax.swing.JButton getStartButton()
```

Exposes the start button so that a handler to start the game can be attached in the constructor of PopUpQuiz.

**Returns:**

A JButton, the start button.

[Package](#) [Class](#) [Use](#) [Tree](#) [Deprecated](#) [Index](#) [Help](#)

[Prev Class](#) [Next Class](#) [Frames](#) [No Frames](#) [All Classes](#)

Summary: [Nested](#) | [Field](#) | [Constr](#) | [Method](#) [Detail: Field](#) | [Constr](#) | [Method](#)