

JComponent 4

KeyboardAction

System checks for you

'a' --> code

Focus

From component constructor...

```
registerKeyboardAction(  
    new ActionListener() {  
        public void actionPerformed(ActionEvent e) {  
            foo();  
        }  
    },  
    "foo",  
    KeyStroke.getKeyStroke('a'),  
    WHEN_IN_FOCUSED_WINDOW  
);
```

Double Buffering

3-step blink

JComponent built-in

Offscreen

Copy bits on screen

No blinking

It's the pixels stupid!

drawing is slow / logic is fast

paint() optimization

Graphics.getClip

Shape

Shape.getBounds

1. Automatic

erase is faster from clipping

2. paintComponent

use intersect logic on clip