

Programación Avanzada  
Curso 2013 Juan Manuel Fernández Peña

El siguiente ejemplo usa eventos del teclado para mover una figura que es de tipo gif (de preferencia un icono). La figura debe colocarse en el directorio src dentro del proyecto en Eclipse (reemplace el nombre de su figura donde se marca)

En una primera vista no se preocupe por el manejo gráfico y observe el uso de los eventos.

```
package rtype;

import javax.swing.JFrame;

public class RType extends JFrame {

    public RType() {

        add(new Board());

        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setSize(400, 300);
        setLocationRelativeTo(null);
        setTitle("R - Type");
        setResizable(false);
        setVisible(true);
    }

    public static void main(String[] args) {
        new RType();
    }
}
```

```
package rtype;
import java.awt.Image;
import java.awt.event.KeyEvent;

import javax.swing.ImageIcon;

public class Craft {

    private String craft = "ICON.gif"; //cambie el nombre por el de su figura

    private int dx;
    private int dy;
    private int x;
    private int y;
    private Image image;

    public Craft() {
        ImageIcon ii = new ImageIcon(this.getClass().getResource(craft));
        image = ii.getImage();
        x = 40;
        y = 60;
    }

    public void move() {
        x += dx;
        y += dy;
    }

    public int getX() {
```

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```
        return x;
    }

    public int getY() {
        return y;
    }

    public Image getImage() {
        return image;
    }

    public void keyPressed(KeyEvent e) {

        int key = e.getKeyCode();
        if (key == KeyEvent.VK_LEFT) {
            dx = -2;
        }

        if (key == KeyEvent.VK_RIGHT) {
            dx = 2;
        }

        if (key == KeyEvent.VK_UP) {
            dy = -1;
        }

        if (key == KeyEvent.VK_DOWN) {
            dy = 1;
        }
    }

    public void keyReleased(KeyEvent e) {
        int key = e.getKeyCode();

        if (key == KeyEvent.VK_LEFT) {
            dx = 0;
        }

        if (key == KeyEvent.VK_RIGHT) {
            dx = 0;
        }

        if (key == KeyEvent.VK_UP) {
            dy = 0;
        }

        if (key == KeyEvent.VK_DOWN) {
            dy = 0;
        }
    }
}
```

```
package rtype;

import java.awt.Color;
import java.awt.Graphics;
import java.awt.Graphics2D;
import java.awt.Toolkit;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
```

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```
import java.awt.event.KeyAdapter;
import java.awt.event.KeyEvent;

import javax.swing.JPanel;
import javax.swing.Timer;

// Tomado de: http://zetcode.com/tutorials/javagamestutorial/movingsprites/
public class Board extends JPanel implements ActionListener {

    private Timer timer;
    private Craft craft;

    public Board() {

        addKeyListener(new TAdapter());
        setFocusable(true);
        setBackground(Color.WHITE);
        setDoubleBuffered(true);

        craft = new Craft();

        timer = new Timer(5, this);
        timer.start();
    }

    public void paint(Graphics g) {
        super.paint(g);

        Graphics2D g2d = (Graphics2D)g;
        g2d.drawImage(craft.getImage(), craft.getX(), craft.getY(), this);

        Toolkit.getDefaultToolkit().sync();
        g.dispose();
    }

    public void actionPerformed(ActionEvent e) {
        craft.move();
        repaint();
    }

    private class TAdapter extends KeyAdapter {

        public void keyReleased(KeyEvent e) {
            craft.keyReleased(e);
        }

        public void keyPressed(KeyEvent e) {
            craft.keyPressed(e);
        }
    }
}
```