

EyesFollow.java

```
1  import java.applet.Applet;
2  import java.awt.*;
3  import java.awt.event.*;

4  public class EyesFollow extends Applet {

5      public void init() {
6          addMouseListener(new MouseMotionHandler());
7          setBackground(new Color(0, 0, 200));
8          setSize(AP_WIDTH, AP_HEIGHT);
9          lBrow.addPoint(L_EYE.x+40, L_EYE.y-25);
10         lBrow.addPoint(L_EYE.x+45, L_EYE.y-27);
11         lBrow.addPoint(L_EYE.x+20, L_EYE.y-50);
12         lBrow.addPoint(L_EYE.x-35, L_EYE.y-70);
13         lBrow.addPoint(L_EYE.x-55, L_EYE.y-65);
14         lBrow.addPoint(L_EYE.x-70, L_EYE.y-55);
15         lBrow.addPoint(L_EYE.x-35, L_EYE.y-52);
16         lBrow.addPoint(L_EYE.x+10, L_EYE.y-30);
17         int[] x = lBrow.xpoints;
18         int[] y = lBrow.ypoints;
19         for (int i = 0; i < x.length; i++)
20             rBrow.addPoint(R_EYE.x - x[i] + L_EYE.x, y[i]);
21     }

22     public void paint(Graphics g) {
23         g.clearRect(0, 0, AP_WIDTH, AP_HEIGHT);
24         drawBrow(g, L_EYE);
25         drawBrow(g, R_EYE);
26         drawEye(g, L_EYE);
27         drawEye(g, R_EYE);
28     }

29     public void update(Graphics g) {
30         if (offScnBufr == null || offScnBufr.getWidth(this) != getSize().width
31             || offScnBufr.getHeight(this) != getSize().height)
32             offScnBufr = createImage(getSize().width, getSize().height);
33         Graphics gr = offScnBufr.getGraphics();
34         paint(gr);
35         g.drawImage(offScnBufr, 0, 0, this);
36     }

37     private void drawBrow(Graphics g, Point eye) {
38         g.setColor(new Color(200, 150, 0));
39         Polygon lB = new Polygon(lBrow.xpoints, lBrow.ypoints, lBrow.npoints),
40             rB = new Polygon(rBrow.xpoints, rBrow.ypoints, rBrow.npoints);
41         if (point2.x < L_EYE.x-30)
42             rB.translate(0, -8);
43         else if (point2.x > R_EYE.x+30)
44             lB.translate(0, -8);
45         g.fillPolygon(lB);
46         g.fillPolygon(rB);
47     }

48     private void drawEye(Graphics g, Point eye) {
49         g.setColor(Color.yellow);
50         g.fillOval(eye.x-40, eye.y-20, 80, 40);
51         g.setColor(Color.white);
```

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52     int nX = adjust(eye.x, point2.x);
53     int nY = adjust(eye.y, point2.y);
54     g.drawLine(nX, nY, point2.x, point2.y);
55     g.setColor(Color.red);
56     g.fillOval(nX-16, nY-14, 32, 28);
57     g.setColor(Color.black);
58     g.fillOval(nX-4, nY-4, 8, 8);
59 }

60 private int adjust(int nX1, int nX2) {
61     return (10*nX1 + nX2) / 11;
62 }

63 private class MouseMotionHandler implements MouseMotionListener {

64     public void mouseMoved(MouseEvent event) {
65         point2 = event.getPoint();
66         repaint();
67     }

68     public void mouseDragged(MouseEvent event) {
69         mouseMoved(event);
70     }
71 }

72 }

73 private final int AP_WIDTH = 400;
74 private final int AP_HEIGHT = 200;
75 private final int nXOFF = 50;
76 private final Point L_EYE = new Point(AP_WIDTH / 2 - nXOFF, 9*AP_HEIGHT / 20);
77 private final Point R_EYE = new Point(AP_WIDTH / 2 + nXOFF, 9*AP_HEIGHT / 20);
78 private Point point2 = new Point((L_EYE.x + R_EYE.x) / 2,
79                                     2 * (L_EYE.y + R_EYE.y) / 3);

80 private Polygon lBrow = new Polygon();
81 private Polygon rBrow = new Polygon();
82 private Image offScnBuf = null;

82 }
```

