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package applets;

// Draw.java
// Big Smiley Applet
import java.applet.Applet;
import java.awt.BasicStroke;
import java.awt.Color;
import java.awt.Graphics;
import java.awt.Graphics2D;

public class Draw extends Applet implements Runnable {

    private Color eyeswhites;
    private Color eyescolor;
    private Color eyespupils;
    private Color face;
    private Color mouth;
    private BasicStroke mouthWidth;

    Thread mythread = null;
    @Override
    public void run(){}

    /* Thread methods */

    @Override
    public void start() {
        if (mythread == null) {
            mythread = new Thread(this);
            mythread.start();
        }
    }

    @Override
    public void stop() {
        if (mythread != null) {
            //mythread.stop();
            mythread = null;
            destroy();
        }
    }

    /* Applet methods */
    @Override

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public void init() {
    //resize(1016, 700);
    //resize(1024, 665);

    try {
        setBackground(new Color(Integer.parseInt(getParameter("bgcolor"),
            16)));
    } catch (NullPointerException e) {
        System.out.println(e);
    } catch (NumberFormatException e) {
        System.out.println(e);
    }
}

eyeswhites = Color.WHITE;
eyescolor = Color.BLUE;
eyespupils = Color.BLACK;
face = Color.YELLOW;
mouth = Color.MAGENTA;
}

@Override
public void paint(Graphics g) {
    Graphics2D g2 = (Graphics2D) g;

    // Total screen size
    int sw = getSize().width;
    int sh = getSize().height;

    // Mouth is used as the reference for the Eyes.
    // Center of Eyes are at Mouth ends.
    int mW = getSize().width/4;    // Mouth width
    int mH = getSize().height/6;   // Mouth height

    int fS = mW * 2;               // Face size is twice Mouth width.
    int mL = mW/2 + fS;           // Left mouth starts here.
    int mT = mH/4 + fS/2;         // Top mouth starts here.

    int fL = mW + fS;
    int fT = mH/2 + fS;

    int eS = fS/5;
    int eL = mL + eS/2;
    int eR = eL - mW;
    int eT = eS * 2 + mT;

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int cS = fS/7;
int cL = mL + cS/2;
int cR = cL - mW;
int cT = eT - eS/8;

int pS = fS/13;
int pL = mL + pS/2;
int pR = pL - mW;
int pT = cT - cS/4;

System.out.println("width size: " + sW);
System.out.println("height size: " + sH);
System.out.println("face size: " + fS);
System.out.println("eyes size: " + eS);
System.out.println("eyes color size: " + cS);
System.out.println("eyes pupils size: " + pS);

g.setColor(face);
g.fillOval(sW-fL, sH-fT, fS, fS);
g.setColor(eyeswhites);
g.fillOval(sW-eL, sH-eT, eS, eS);
g.fillOval(sW-eR, sH-eT, eS, eS);
g.setColor(eyescolor);
g.fillOval(sW-cL, sH-cT, cS, cS);
g.fillOval(sW-cR, sH-cT, cS, cS);
g.setColor(eyespupils);
g.fillOval(sW-pL, sH-pT, pS, pS);
g.fillOval(sW-pR, sH-pT, pS, pS);
g2.setColor(mouth);
float stroke = eS / 4;
mouthWidth = new BasicStroke(stroke);
g2.setStroke(mouthWidth);
g2.drawArc(sW-mL, sH-mT, mW, mH, 0, -180);

}

@Override
public String[][] getParameterInfo() {
    String[][] info = {
        {"bgcolor", "hexadecimal RGB number",
        "The background color. Default is the color of your browser."
        }
    };
};

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        return info;
    }
}
```