Tugas Pendeteksi Wajah – OpenCV – Java

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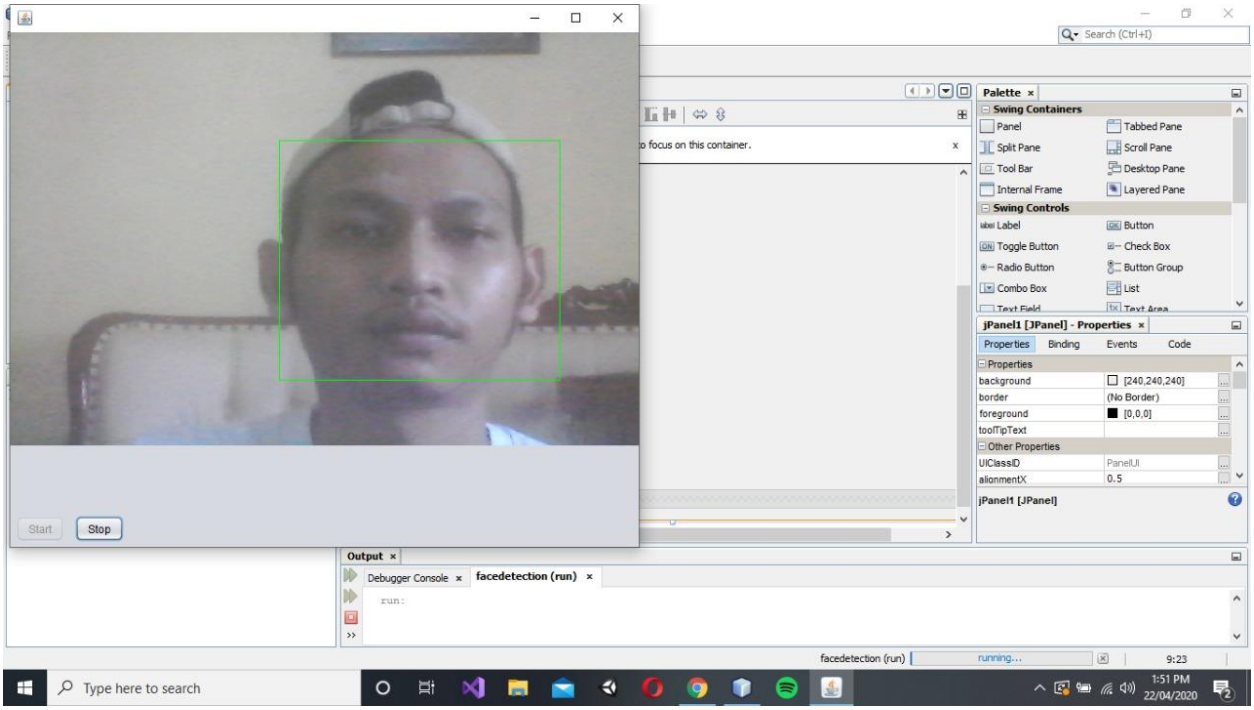

Source Code

Link Github:

https://github.com/ilhamtaufiq/PendeteksiWajah

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package gui;
```

```
import java.awt.Graphics;
import java.awt.Image;
import java.awt.image.BufferedImage;
import java.io.ByteArrayInputStream;
import javax.imageio.ImageIO;
import org.opencv.core.Core;
import org.opencv.core.Mat;
import org.opencv.core.MatOfByte;
import org.opencv.core.MatOfRect;
import org.opencv.core.Point;
import org.opencv.core.Rect;
import org.opencv.core.Scalar;
import org.opencv.core.Size;
import org.opencv.imgcodecs.Imgcodecs;
import org.opencv.imgproc.Imgproc;
import org.opencv.objdetect.CascadeClassifier;
import org.opencv.videoio.VideoCapture;
import org.opencv.objdetect.CascadeClassifier;

/**
 *
 * @author regi
 */
public class facedetection extends javax.swing.JFrame {

    private DaemonThread myThread = null;
    int count = 0;
    VideoCapture webSource = null;
    Mat frame = new Mat();
    MatOfByte mem = new MatOfByte();
```

```
    CascadeClassifier faceDetector = new
CascadeClassifier(facedetection.class.getResource("haarcascade_frontal
face_alt.xml").getPath().substring(1));
    MatOfRect faceDetections = new MatOfRect();


    class DaemonThread implements Runnable {


        protected volatile boolean runnable = false;


        @Override
        public void run() {
            synchronized (this) {
                while (runnable) {
                    if (webSource.grab()) {
                        try {
                            webSource.retrieve(frame);
                            Graphics g = jPanel1.getGraphics();
                            faceDetector.detectMultiScale(frame,
faceDetections);
                            for (Rect rect : faceDetections.toArray())
{
                                // System.out.println("ttt");
                                Imgproc.rectangle(frame, new
Point(rect.x, rect.y), new Point(rect.x + rect.width, rect.y +
rect.height),
                                        new Scalar(0, 255, 0));
                            }
                            Imgcodecs.imencode(".bmp", frame, mem);
                            Image im = ImageIO.read(new
ByteArrayInputStream(mem.toArray()));
                            BufferedImage buff = (BufferedImage) im;
                            if (g.drawImage(buff, 0, 0, getWidth(),
getHeight() - 150, 0, 0, buff.getWidth(), buff.getHeight(), null)) {
```

```
                                if (runnable == false) {
                                    System.out.println("Paused .....
");
                                    this.wait();
                                }
                            }
                        } catch (Exception ex) {
                            System.out.println("Error!!");
                            ex.printStackTrace();
                        }
                    }
                }
            }
        }

    /**
     * Creates new form facedetection
     */
    public facedetection() {
        initComponents();
    }

    /**
     * This method is called from within the constructor to initialize
the form.
     * WARNING: Do NOT modify this code. The content of this method is
always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
```

```
    // <editor-fold defaultstate="collapsed" desc="Generated Code">
    private void initComponents() {

        jPanel1 = new javax.swing.JPanel();
        jButton1 = new javax.swing.JButton();
        jButton2 = new javax.swing.JButton();


setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jButton1.setText("Start");
        jButton1.addActionListener(new java.awt.event.ActionListener()
{
            public void actionPerformed(java.awt.event.ActionEvent
evt) {
                jButton1ActionPerformed(evt);
            }
        });

        jButton2.setText("Stop");
        jButton2.addActionListener(new java.awt.event.ActionListener()
{
            public void actionPerformed(java.awt.event.ActionEvent
evt) {
                jButton2ActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout jPanel1Layout = new
javax.swing.GroupLayout(jPanel1);
        jPanel1.setLayout(jPanel1Layout);
        jPanel1Layout.setHorizontalGroup(
```

```
jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jButton1)

.addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.UNRELATED)
                .addComponent(jButton2)
                .addContainerGap(564, Short.MAX_VALUE))
        );
        jPanel1Layout.setVerticalGroup(

jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LE
ADING)
            .addGroup(jPanel1Layout.createSequentialGroup()
                .addContainerGap(529, Short.MAX_VALUE)

.addGroup(jPanel1Layout.createParallelGroup(javax.swing.GroupLayout.Al
ignment.BASELINE)
                    .addComponent(jButton1)
                    .addComponent(jButton2))
                .addContainerGap())
        );


        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1,
javax.swing.GroupLayout.PREFERRED_SIZE,
```

```
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 0, Short.MAX_VALUE))
        );
        layout.setVerticalGroup(

layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addComponent(jPanel1,
javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE)
                .addGap(0, 0, Short.MAX_VALUE))
        );


        pack();
    }// </editor-fold>


    private void jButton1ActionPerformed(java.awt.event.ActionEvent
evt) {
        // TODO add your handling code here:
        webSource = new VideoCapture(0); // mengambil gambar dari
kamera
        myThread = new DaemonThread(); // membuat objek
        Thread t = new Thread(myThread);
        t.setDaemon(true);
        myThread.runnable = true;
        t.start();                  //mulai thread
        jButton1.setEnabled(false);  // nonaktif tombil start
        jButton2.setEnabled(true);  //  aktif tombol stop
    }
```

```
    private void jButton2ActionPerformed(java.awt.event.ActionEvent
evt) {
        // TODO add your handling code here:
        myThread.runnable = false;            // stop thread
        jButton2.setEnabled(false);   // aktif tombol start
        jButton1.setEnabled(true);     // nonaktif tombol stop

        webSource.release();  // stop kamera
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        System.loadLibrary(Core.NATIVE_LIBRARY_NAME);
        //<editor-fold defaultstate="collapsed" desc=" Look and feel
setting code (optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay
with the default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.ht
ml
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {

javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
```

```
        } catch (ClassNotFoundException ex) {

java.util.logging.Logger.getLogger(facedetection.class.getName()).log(
java.util.logging.Level.SEVERE, null, ex);

        } catch (InstantiationException ex) {

java.util.logging.Logger.getLogger(facedetection.class.getName()).log(
java.util.logging.Level.SEVERE, null, ex);

        } catch (IllegalAccessException ex) {

java.util.logging.Logger.getLogger(facedetection.class.getName()).log(
java.util.logging.Level.SEVERE, null, ex);

        } catch (javax.swing.UnsupportedLookAndFeelException ex) {

java.util.logging.Logger.getLogger(facedetection.class.getName()).log(
java.util.logging.Level.SEVERE, null, ex);

        }

        //</editor-fold>


        /* Create and display the form */

        java.awt.EventQueue.invokeLater(new Runnable() {

            public void run() {

                new facedetection().setVisible(true);

            }

        });

    }


    // Variables declaration - do not modify

    private javax.swing.JButton jButton1;

    private javax.swing.JButton jButton2;

    private javax.swing.JPanel jPanel1;

    // End of variables declaration

}
```