Free Hand Drawing App for End Sem Lab Exam

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Experiment 10: Free Hand Drawing APP

MainActivity.java

```
package com.siddhant.paintapp; // Replace with your package name

import android.os.Bundle;
import android.view.View;
import android.widget.ImageButton;
import android.widget.LinearLayout;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
    private DrawingView drawView;
    private ImageButton currPaint;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        drawView = (DrawingView) findViewById(R.id.drawing);
        LinearLayout paintLayout = (LinearLayout)
findViewById(R.id.paint_colors);
        currPaint = (ImageButton) paintLayout.getChildAt(0);

currPaint.setImageDrawable(getResources().getDrawable(R.drawable.paint_press
ed));
    }

    public void paintClicked(View view) {
        if (view != currPaint) {
            // Update color
            ImageButton imgView = (ImageButton) view;
            String color = view.getTag().toString();
            drawView.setColor(color);
```

```
imgView.setImageDrawable(getResources().getDrawable(R.drawable.paint_pressed
));

currPaint.setImageDrawable(getResources().getDrawable(R.drawable.paint));
            currPaint = imgView;
        }
    }
}
```

DrawingView.java

```
package com.siddhant.paintapp;

import android.content.Context;
import android.graphics.Bitmap;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.graphics.Path;
import android.util.AttributeSet;
import android.view.MotionEvent;
import android.view.View;

public class DrawingView extends View {
    // Drawing path
    private Path drawPath;
    // Drawing and canvas paint
    private Paint drawPaint, canvasPaint;
    // Initial color
    private int paintColor = 0xFF660000;
    // Canvas
    private Canvas drawCanvas;
    // Canvas bitmap
    private Bitmap canvasBitmap;

    public DrawingView(Context context, AttributeSet attrs) {
        super(context, attrs);
        setupDrawing();
    }

    private void setupDrawing() {
        drawPath = new Path();
        drawPaint = new Paint();
```

```
        drawPaint.setColor(paintColor);
        drawPaint.setAntiAlias(true);
        drawPaint.setStrokeWidth(20);
        drawPaint.setStyle(Paint.Style.STROKE);
        drawPaint.setStrokeJoin(Paint.Join.ROUND);
        drawPaint.setStrokeCap(Paint.Cap.ROUND);

        canvasPaint = new Paint(Paint.DITHER_FLAG);
    }

    @Override
    protected void onSizeChanged(int w, int h, int oldw, int oldh) {
        super.onSizeChanged(w, h, oldw, oldh);
        canvasBitmap = Bitmap.createBitmap(w, h, Bitmap.Config.ARGB_8888);
        drawCanvas = new Canvas(canvasBitmap);
    }

    @Override
    protected void onDraw(Canvas canvas) {
        canvas.drawBitmap(canvasBitmap, 0, 0, canvasPaint);
        canvas.drawPath(drawPath, drawPaint);
    }

    @Override
    public boolean onTouchEvent(MotionEvent event) {
        float touchX = event.getX();
        float touchY = event.getY();

        switch (event.getAction()) {
            case MotionEvent.ACTION_DOWN:
                drawPath.moveTo(touchX, touchY);
                break;
            case MotionEvent.ACTION_MOVE:
                drawPath.lineTo(touchX, touchY);
                break;
            case MotionEvent.ACTION_UP:
                drawCanvas.drawPath(drawPath, drawPaint);
                drawPath.reset();
                break;
            default:
                return false;
        }
        invalidate();
```

```
        return true;
    }

    public void setColor(String newColor) {
        invalidate();
        paintColor = Color.parseColor(newColor);
        drawPaint.setColor(paintColor);
    }
}
```

ActivityMain.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <LinearLayout
        android:id="@+id/paint_colors"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">

        <ImageButton
            android:id="@+id/paint1"
            android:layout_width="0dp"
            android:layout_weight="1"
            android:layout_height="wrap_content"
            android:background="@drawable/paint"
            android:tag="#FF660000"
            android:onClick="paintClicked"/>

        <!-- Add more color buttons here with different tags -->

    </LinearLayout>

    <com.siddhant.paintapp.DrawingView
        android:id="@+id/drawing"
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="1" />
</LinearLayout>
```

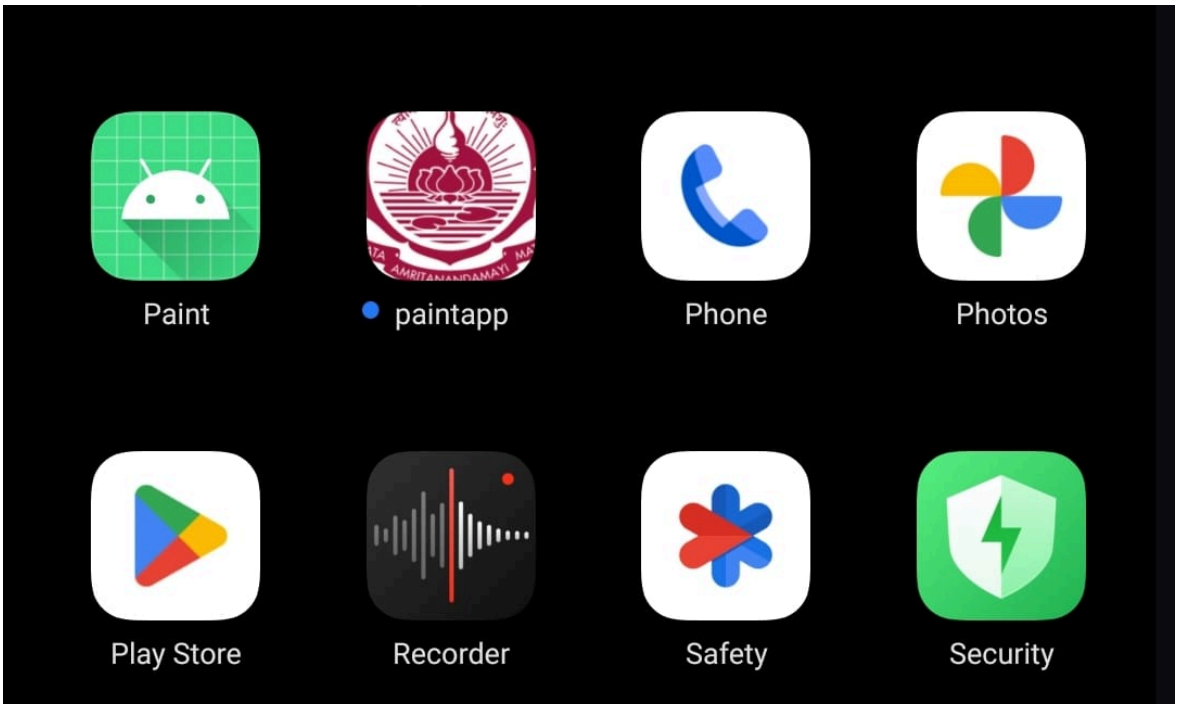
PaintPressed.xml

```
<?xml version="1.0" encoding="utf-8"?>
<layer-list xmlns:android="http://schemas.android.com/apk/res/android">
    <item>
        <shape android:shape="rectangle">
            <stroke
                android:width="4dp"
                android:color="#FF333333" />
            <solid android:color="#00000000" />
        </shape>
    </item>
    <item>
        <shape xmlns:android="http://schemas.android.com/apk/res/android">
            <stroke
                android:width="4dp"
                android:color="#FF333333" />
            <solid android:color="#00000000" />
            <corners android:radius="10dp" />
        </shape>
    </item>
</layer-list>
```

paint.xml

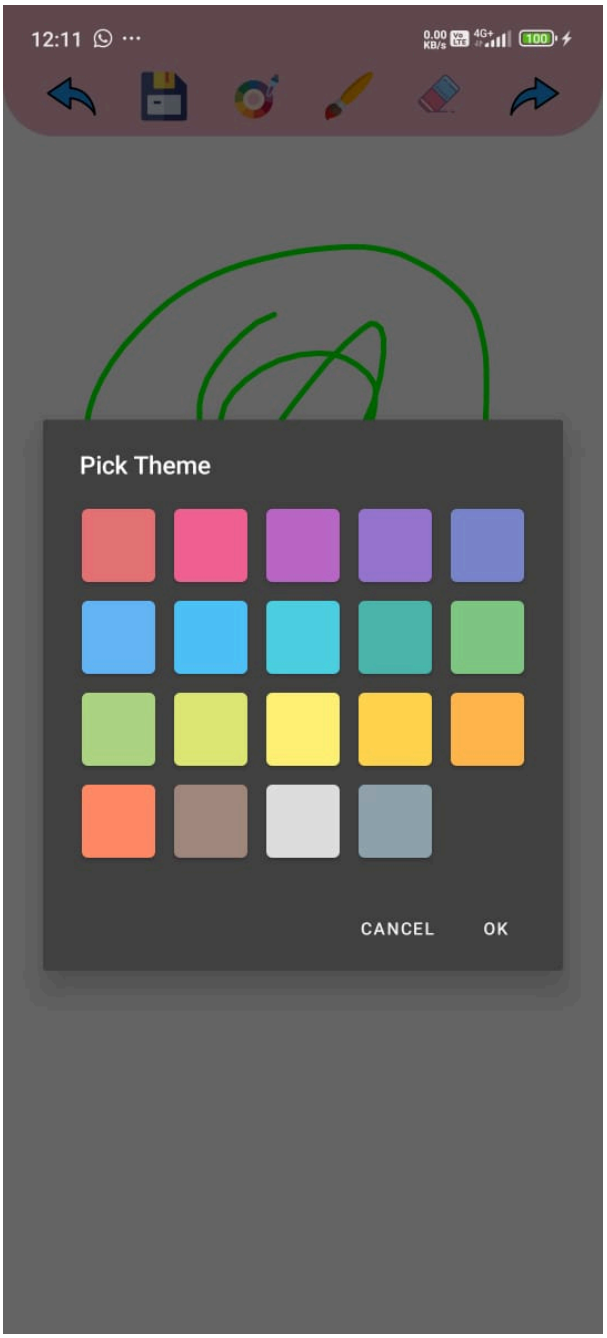
```
<?xml version="1.0" encoding="utf-8"?>
<selector xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:drawable="@android:color/transparent" />
</selector>
```

Output Images:


Paint
paintapp
Phone
Photos
Play Store
Recorder
Safety
Security

12:12

12:11


12:11
Pick Theme
CANCEL
OK