**自定义View一共分为6步**

**第一步**

public class SmileyView extends View {

   private Paint mCirclePaint;

   private Paint mEyeAndMouthPaint;

   private float mCenterX;

   private float mCenterY;

   private float mRadius;

   private RectF mArcBounds = new RectF();

   public SmileyView(Context context) {

       this(context, null);

   }

   public SmileyView(Context context, AttributeSet attrs) {

       this(context, attrs, 0);

   }

   public SmileyView(Context context, AttributeSet attrs, int defStyleAttr) {

       super(context, attrs, defStyleAttr);

       initPaints();

   }

   private void initPaints() {/\* ... \*/}

   @Override

   protected void onMeasure(int widthMeasureSpec, int heightMeasureSpec) {/\* ... \*/}

   @Override

   protected void onDraw(Canvas canvas) {/\* ... \*/}

}

**2.实现画笔paint类**

本文一共两只画笔

private void initPaints() {

   mCirclePaint = new Paint(Paint.ANTI\_ALIAS\_FLAG);

   mCirclePaint.setStyle(Paint.Style.FILL);

   mCirclePaint.setColor(Color.YELLOW);

   mEyeAndMouthPaint = new Paint(Paint.ANTI\_ALIAS\_FLAG);

   mEyeAndMouthPaint.setStyle(Paint.Style.STROKE);

   mEyeAndMouthPaint.setStrokeWidth(16 \* getResources().getDisplayMetrics().density);

   mEyeAndMouthPaint.setStrokeCap(Paint.Cap.ROUND);

   mEyeAndMouthPaint.setColor(Color.BLACK);

}

**3.覆写onMeasure(…)方法**

实现这个方法告诉了母容器如何放弃自定义View，可以通过提供的measureSpecs来决定你的View的高和宽，以下是一个正方形，确认它的宽和高是一样的。

@Override

protected void onMeasure(int widthMeasureSpec, int heightMeasureSpec) {

   int w = MeasureSpec.getSize(widthMeasureSpec);

   int h = MeasureSpec.getSize(heightMeasureSpec);

   int size = Math.min(w, h);

   setMeasuredDimension(size, size);

}

**注意：**

这个方法需要至少保证一个setMeasuredDimension(..)调用，否则会报IllegalStateException错误。

**4.实现onSizeChanged(…)方法**

这个方法是你获取View现在的宽和高. 这里我们计算的是中心和半径。

@Override

protected void onSizeChanged(int w, int h, int oldw, int oldh) {

   mCenterX = w / 2f;

   mCenterY = h / 2f;

   mRadius = Math.min(w, h) / 2f;

}

**5.实现onDraw(…)方法**

这个方法提供了如何绘制view，它提供的Canvas类可以进行绘制。

@Override

protected void onDraw(Canvas canvas) {

   // draw face

   canvas.drawCircle(mCenterX, mCenterY, mRadius, mCirclePaint);

   // draw eyes

   float eyeRadius = mRadius / 5f;

   float eyeOffsetX = mRadius / 3f;

   float eyeOffsetY = mRadius / 3f;

   canvas.drawCircle(mCenterX - eyeOffsetX, mCenterY - eyeOffsetY, eyeRadius, mEyeAndMouthPaint);

   canvas.drawCircle(mCenterX + eyeOffsetX, mCenterY - eyeOffsetY, eyeRadius, mEyeAndMouthPaint);

   // draw mouth

   float mouthInset = mRadius /3f;

   mArcBounds.set(mouthInset, mouthInset, mRadius \* 2 - mouthInset, mRadius \* 2 - mouthInset);

   canvas.drawArc(mArcBounds, 45f, 90f, false, mEyeAndMouthPaint);

}

**6.添加你的View**

<FrameLayout

   xmlns:android="http://schemas.android.com/apk/res/android"

   android:layout\_width="match\_parent"

   android:layout\_height="match\_parent">

   <com.example.app.SmileyView

       android:layout\_width="match\_parent"

       android:layout\_height="match\_parent" />

</FrameLayout>