Workflow Diagram:

1. **Data Acquisition**

   ◦ Capture facial expressions via webcam/video (OpenCV)

   ◦ Load pre-recorded images (Optional)

2. **Preprocessing**

   ◦ Image enhancement

   ◦ Noise reduction

   ◦ Face detection

3. **Emotion Analysis**

   ◦ Utilize DeepFace for facial emotion recognition

   ◦ Extract dominant emotion and confidence score

4. **Data Interpretation**

   ◦ Analyze results

   ◦ Store detected emotions in a database (Optional)

5. **Visualization & Reporting**

   ◦ Display emotion results in real-time (OpenCV)

   ◦ Generate insights via visualization tools

6. **Deployment**

   ◦ Web-based access via Flask

   ◦ Integration with third-party applications