

**U.S. Army Biometrics Task Force**  
**Facial Image Quality Measurement Tool**  
**Prototype Version March, 2007**  
**DISTRIBUTION NOTES**

**Overview**

The Facial Image Quality Measurement (FaceQM) prototype toolset was designed by the DoD Biometrics Task Force (BTF) to analyze the quality of facial images, which is crucial to the performance of a biometric identification system. The FaceQM toolset generates a quality score for each facial image using a facial features detection and verification algorithm. Based on this score, an analyst or operator can determine the usefulness of the image in determining a person's identity. This is useful when examining an existing database of images and also at enrollment so an operator can determine if a picture needs to be retaken while capturing someone's facial image.

**In this Release**

The U.S. Army Biometrics Task Force FaceQM Tool prototype's functionality includes:

- Detection of the locations of the eyes, ears, and mouth;
- Detection of the roll and yaw angles of the subject's pose;
- Detection of the luminance, color contrast, and color saturation of the facial image;
- Detection of the head to the overall image width ratio;
- Detection of the position of the eyes with respect to the vertical distance up from the bottom edge of the facial image;
- Detection of how well the face is centered in the facial image;
- Capability to calculate if a facial image is acceptable or needs to be retaken.

For more information, refer to the BTF Face Image Quality Measurement Tool User Guide for this prototype release.

## **Release Contents**

1. FaceQM executable: "FaceQM.exe," Prototype
2. User Guide for Prototype Facial Image Quality Measurement Tool
3. End User Licensing Agreement, (EULA)

## **System Requirements**

- A Win32-based operating system desktop or laptop PC with a minimum of 256 MB of RAM
- A video mode of 1024 x 768 (to allow displaying of a complete facial image on the screen without scrolling up and down)
- Microsoft Access database engine