

BRENDA'S BIOMETRIC SYSTEM

Core Objectives: vision and voice analysis:

- ❖ Identity Verification – recognize known users (e.g., Wabz – owner) by cross-checking with the info stored in database. Unknown user's data should be stored in the database.
- ❖ Emotional Awareness – detect and interpret core emotions (happy, sad, angry, etc.) using facial expressions to enable empathetic responses.
- ❖ Attention and Focus Monitoring – measure Eye Aspect Ratio (EAR) to determine if the user is focused or distracted (e.g., during study or work etc.)
- ❖ Posture and Body Language – assess head orientation and body alignment to detect posture state (upright, slouched, turned etc.)
- ❖ Gesture-Based Control – enable hands-free interaction via real-time hand gesture recognition.
- ❖ Gaze tracking and Activity recognition – follow face & head movement. Determine the activity user is engaged in (e.g., sitting, standing, walking etc.).

SYSTEM FLOWCHART

