

Biometrics:

AN OVERVIEW



KEY LIME
INTERACTIVE
Optimize the Experience. Inform Design.

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AN OVERVIEW

Biometrics testing helps improve our understanding of users subconscious reactions to a stimuli.

WHAT IS BIOMETRICS?

Participants are connected to sensors which measure and record their physiological reactions to the tasks as they perform them, by tracking the following measurements:

- **Facial EMG**—facial muscle movement provides insight into emotional responses
- **Skin conductance**—Galvanic skin responses (GSR) measures emotional stimulation associated with pleasure, displeasure, and anxiety
- **Heart rate**—Electrocardiography (ECG) tracks the heart's response to stimuli
- **Eye tracking**—Monitors where a participant's eyes travel to determine elements they focused on, what they saw, and time spent on particular areas

WHY BIOMETRICS?

By capturing physiological real-time reactions, it helps validate data by revealing:

- How participants feel during tasks
- Any levels of confusion, frustrations, and anxiousness
- How their gaze travels across the page and what they notice
- Avoid biases
- Capture micro-expressions that would not be necessarily observed by a non-expert

ASPECTS OF BIOMETRICS:

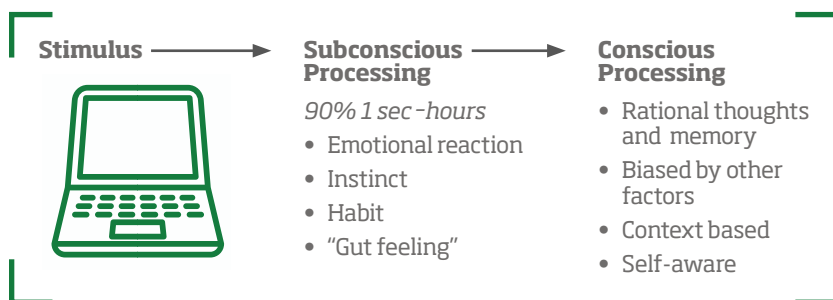
What Is Possible:

- Real time view of biometric data being collected—if co-located
- The measures are selected ahead of time based on the research goals and questions agreed upon with the client
- Real time tagging—researcher can tag digitally instants to come back to (micro moments, quotes)

Limitations:

- Data is not processed immediately so interpretation of live data should be directional only.
- Post processing is required in order to make recommendations.
- Due to network capabilities, live streaming from remote areas is not always guaranteed.

How we Process Stimuli



WHAT YOU EXPERIENCE DURING FIELDING:

Testing Room

- Participant is hooked up to Biometrics sensors and walked through the usability test
- Camera is filming entire session
- Participant is able to think out loud and provide feedback

Observation Room

- Opportunity for immediate walk throughs and teaching moments from the researcher
- Ability to observe the participant, screen movements, and real time biometric data
- Note taker is able to capture moments on and off screen
- Live streaming of the participant's facial movements

THE ANALYSIS:

A report that uses the data retrieved from the Biometrics testing to draw findings to better understand the user's needs.

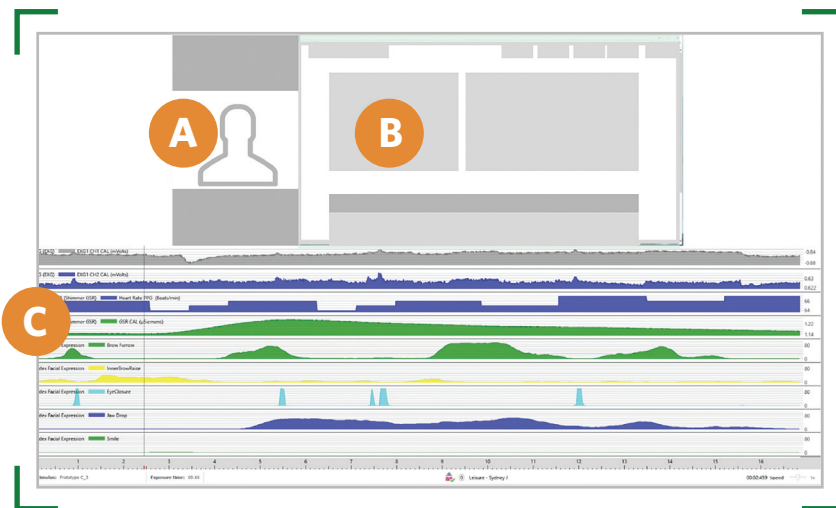
Sensor/Data:

- *Eye tracking*—AOI Metrics Per Respondent
- *F AE*—Affectiva Statistics
- *F AE* (head position)—Sensor Data
- *GSR*—Summary Scores
- *EMG*—Sensor Data (Select Shimmer)
- *Survey*—Survey Exports
- *Media Exports*—Recordings

Analysis Results:

- Eye Tracking Analysis and Facial Expression Analysis
- EMG: How are people reacting? How strongly are people reacting?
- Correlations between different stimuli, behaviors, and patterns
- Analysis of the participant follow up interviews
- Data trends presented in various graphs and visualizations
- Findings based on the qualitative data

Your Real-Time View of the Biometrics Data



- A** Live feed of the Participant's
- B** Face Participant's screen
- C** Live Biometrics

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