

**Emotion-Aware AI Wearables:**  
**Supporting Human Contexts for a Better Life**



# Subtly detecting moments of joy to seamlessly replay the ongoing content

When a genuine moment of joy is detected, the glasses pinpoint the corresponding scene from the content being watched, seamlessly loop it once, or archive it as a memorable highlight sequence.



### Human Biometric Data Collection

- Glasses Front Camera: Detection of cheek muscle contraction, mouth corner elevation, eye corner lift, and smile duration.
- Smart watch: Monitoring of slight increases in heart rate and heart rate variability (HRV).
- Smart Ring: Measurement of slight rises in skin temperature.

# Understanding Hesitation: Zooming In and Providing Context in Real Time

By recognizing subtle signs of confusion, the glasses intelligently zoom in on objects within the user's field of view and provide contextual explanations in real time, creating a seamless and empathetic interaction

### Leaves of Grass

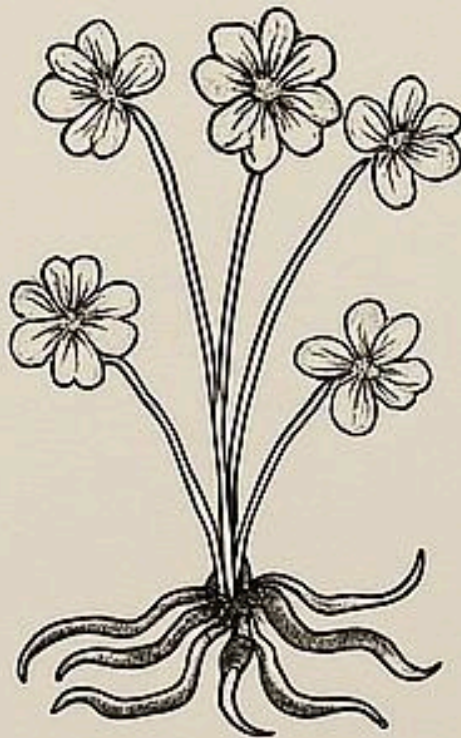
★ 4.8

Geographer, naturalist philosopher

Emphasizing the autonomy of nature and the unity between humans and nature.

Élisée Reclus

## Libre nature



Éditions Héros-Limite

- [Context-Aware Interface]
- Seamless English Translation
  - Immersive Real-Time Zoom
  - Contextual and Actionable Insights

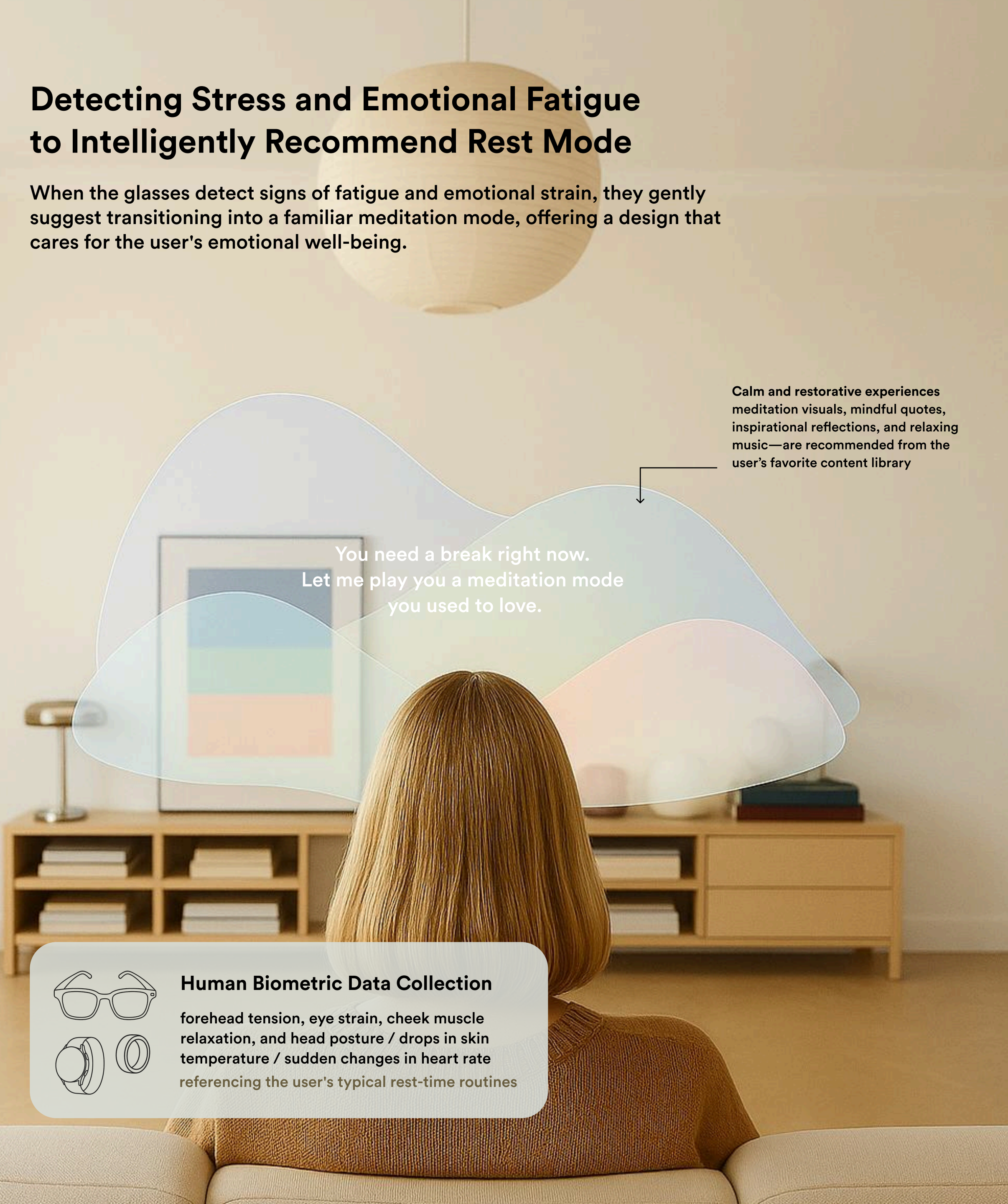


When readability is low due to the small image size, seamlessly zoom in on the entire document.



# Detecting Stress and Emotional Fatigue to Intelligently Recommend Rest Mode

When the glasses detect signs of fatigue and emotional strain, they gently suggest transitioning into a familiar meditation mode, offering a design that cares for the user's emotional well-being.

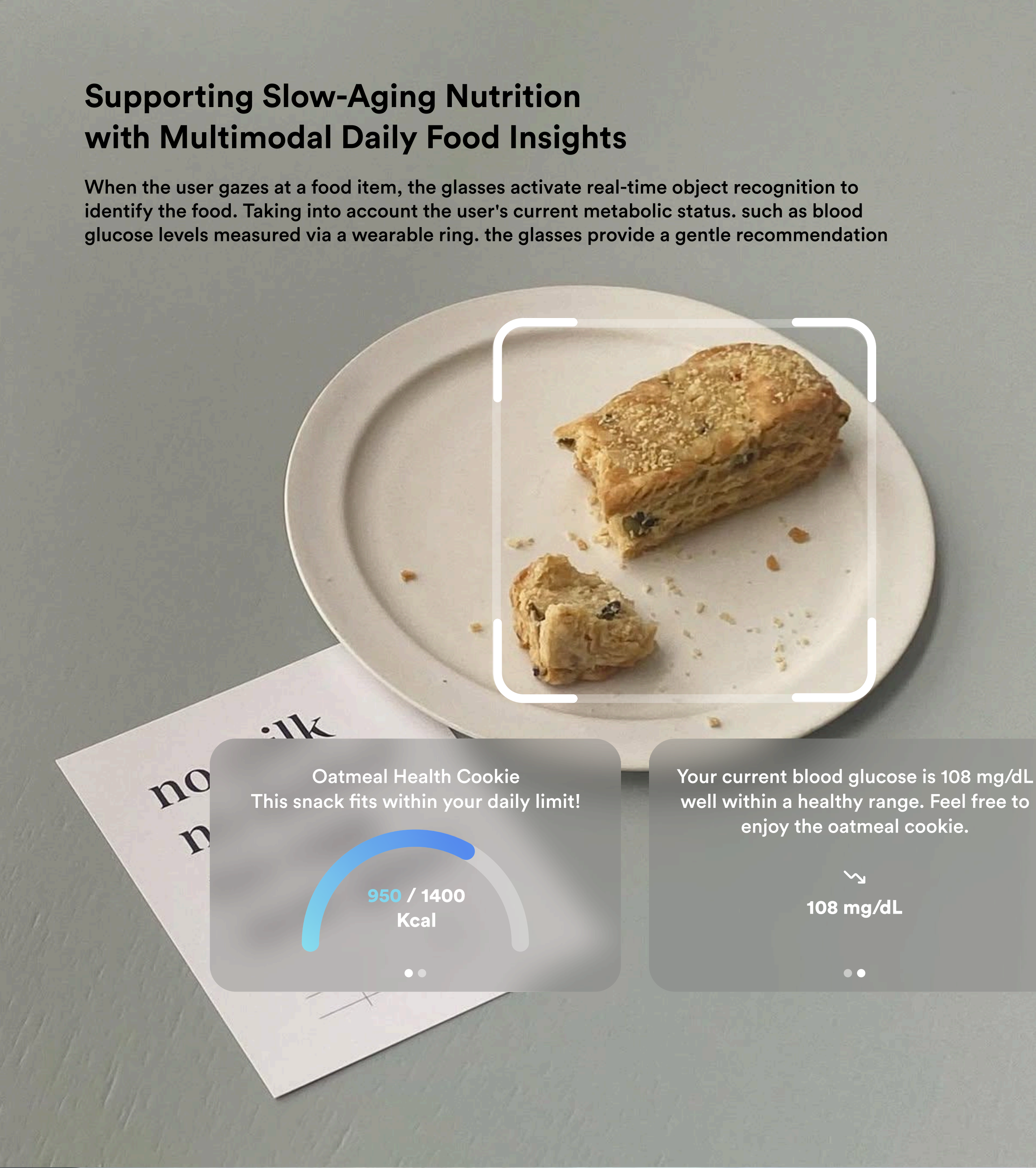


## Human Biometric Data Collection

forehead tension, eye strain, cheek muscle relaxation, and head posture / drops in skin temperature / sudden changes in heart rate referencing the user's typical rest-time routines

# Supporting Slow-Aging Nutrition with Multimodal Daily Food Insights

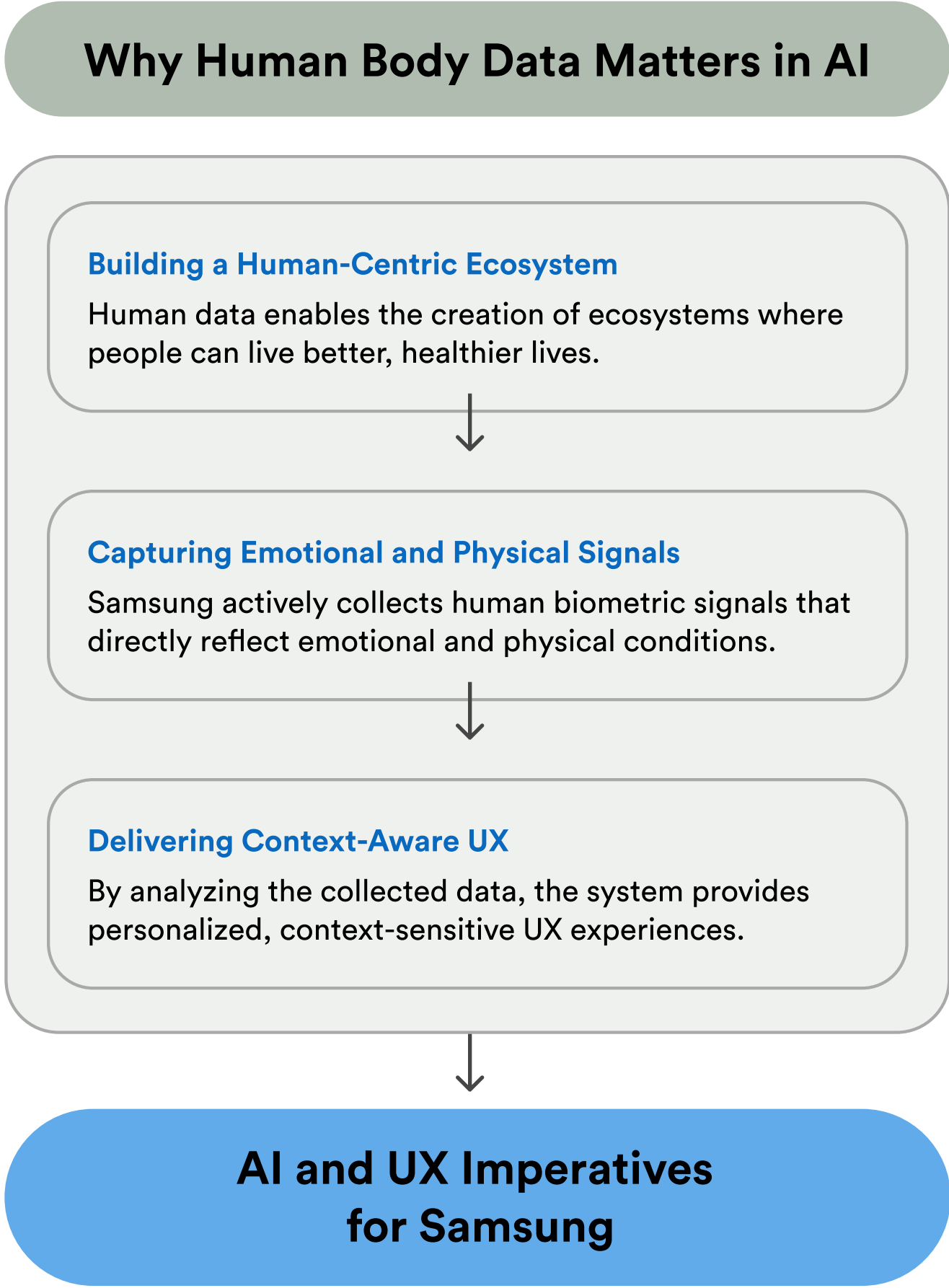
When the user gazes at a food item, the glasses activate real-time object recognition to identify the food. Taking into account the user's current metabolic status, such as blood glucose levels measured via a wearable ring, the glasses provide a gentle recommendation





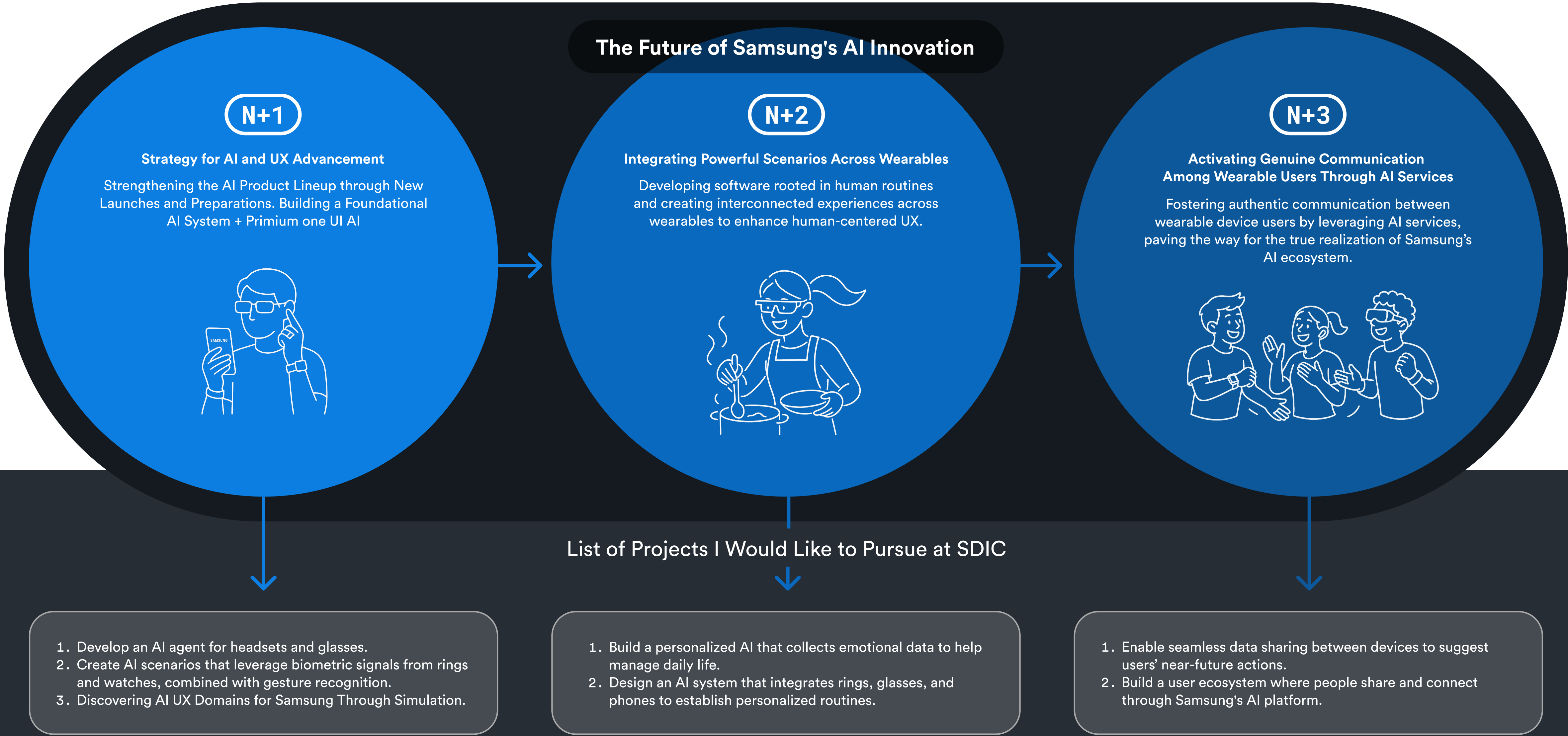
# Coexisting with Intelligence: A Human-Centered Future

Technology must recognize and respond to human emotions. "A more important question than 'What can technology do?' is 'What kind of being is a human?'" Humans react, remeber with emotions. By expressing and sharing emotions, they form social connections.





# Strategic Roadmap for Future Experiences in Samsung's Computational Design





# UX and Exp Planning Workflow for Computational Design (Rapid proto, Agile UX)

1

Collecting Human Biometric Data Through AI Simulation  
Capturing emotional biometric signals such as laughter, sadness, and curiosity.

Happy, smile\_watching youtube

8 Image Samples

Webcam Upload

Confused\_ZoomObject

10 Image Samples

Webcam Upload

Exhausted\_TiredMeditation

9 Image Samples

Webcam Upload

Training

Model Trained

Advanced

Epochs: 50

Batch Size: 16

Learning Rate: 0.001

Reset Defaults

Under the hood

Preview

Export Model

Input ON Webcam

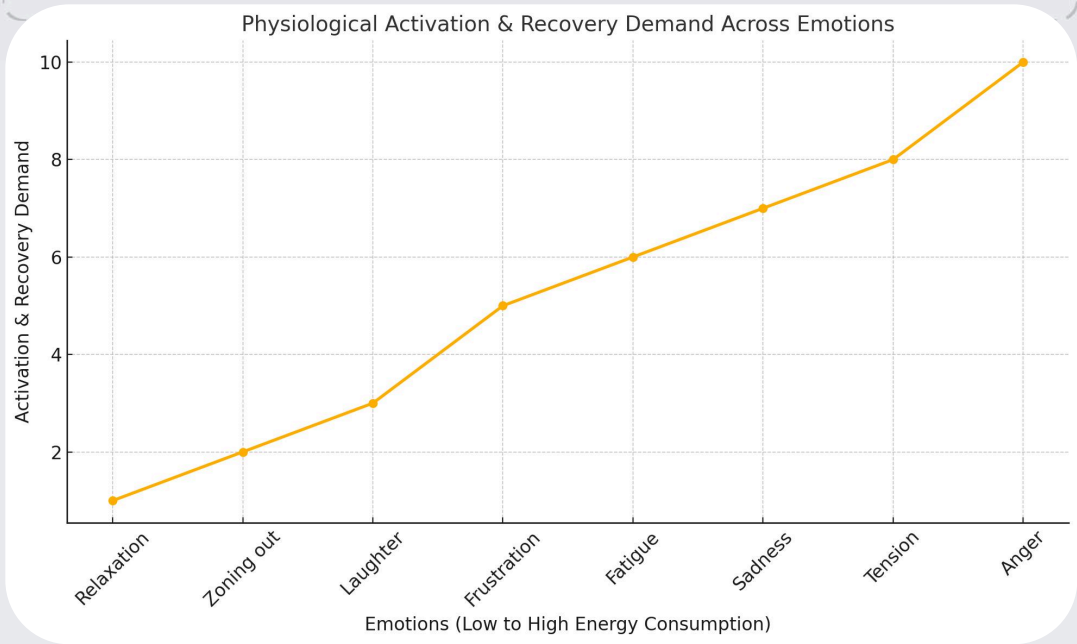
Output

Happy, smile\_watc... youtu... 98%

Confu...

Exhau...

To address copyright concerns regarding real individuals' faces, alternative placeholder images have been temporarily used (teachable machine tool)

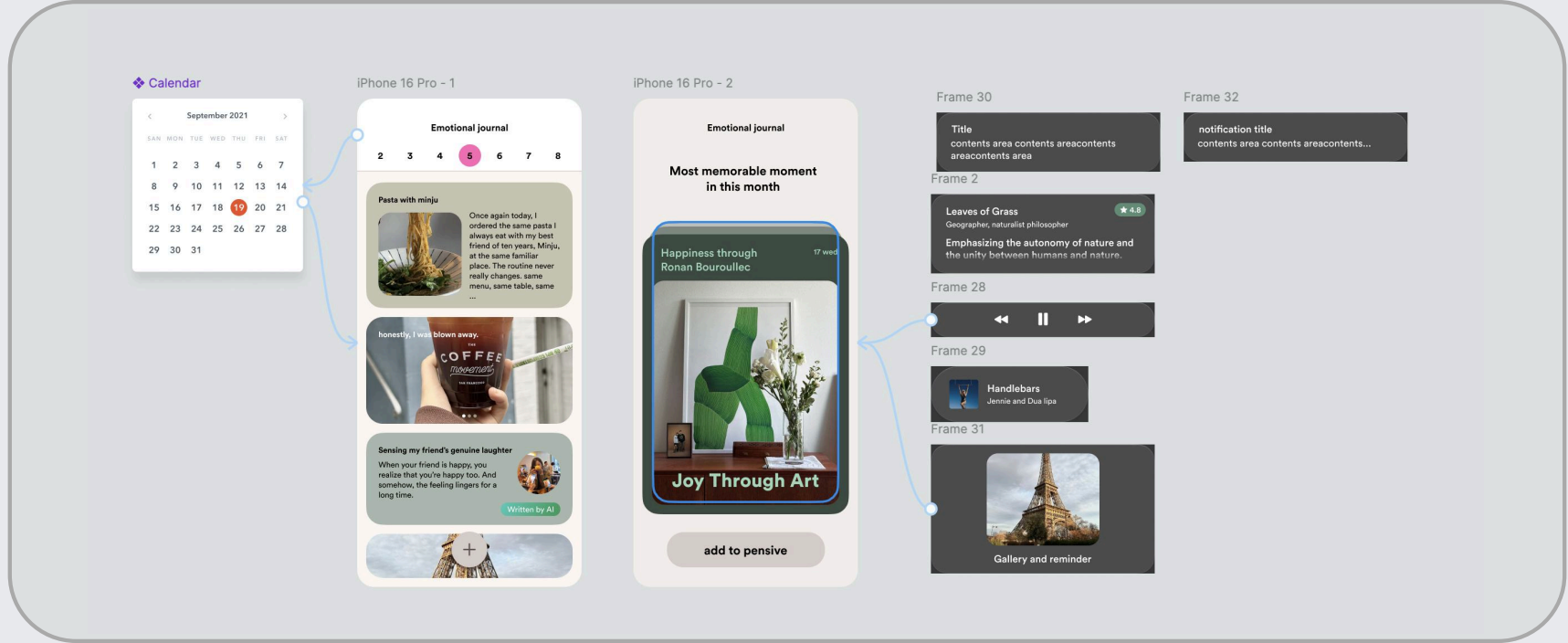


2

Research and Hypothesis Graph  
Conducting literature reviews on emotional energy expenditure and performing qualitative user testing.

3

Designing UX/UI Matched to Each Emotional Class  
Creating corresponding UX and UI designs for each emotion category and developing Figma prototypes. + Motion, aesthetic GUI



4

POC Development and Advanced AI Collaboration  
Building POC and collaborating with computational engineers to apply advanced AI models.

5

Experience Strategy Development  
Continuously evolving the experience to contribute to new device innovations within Samsung.

