

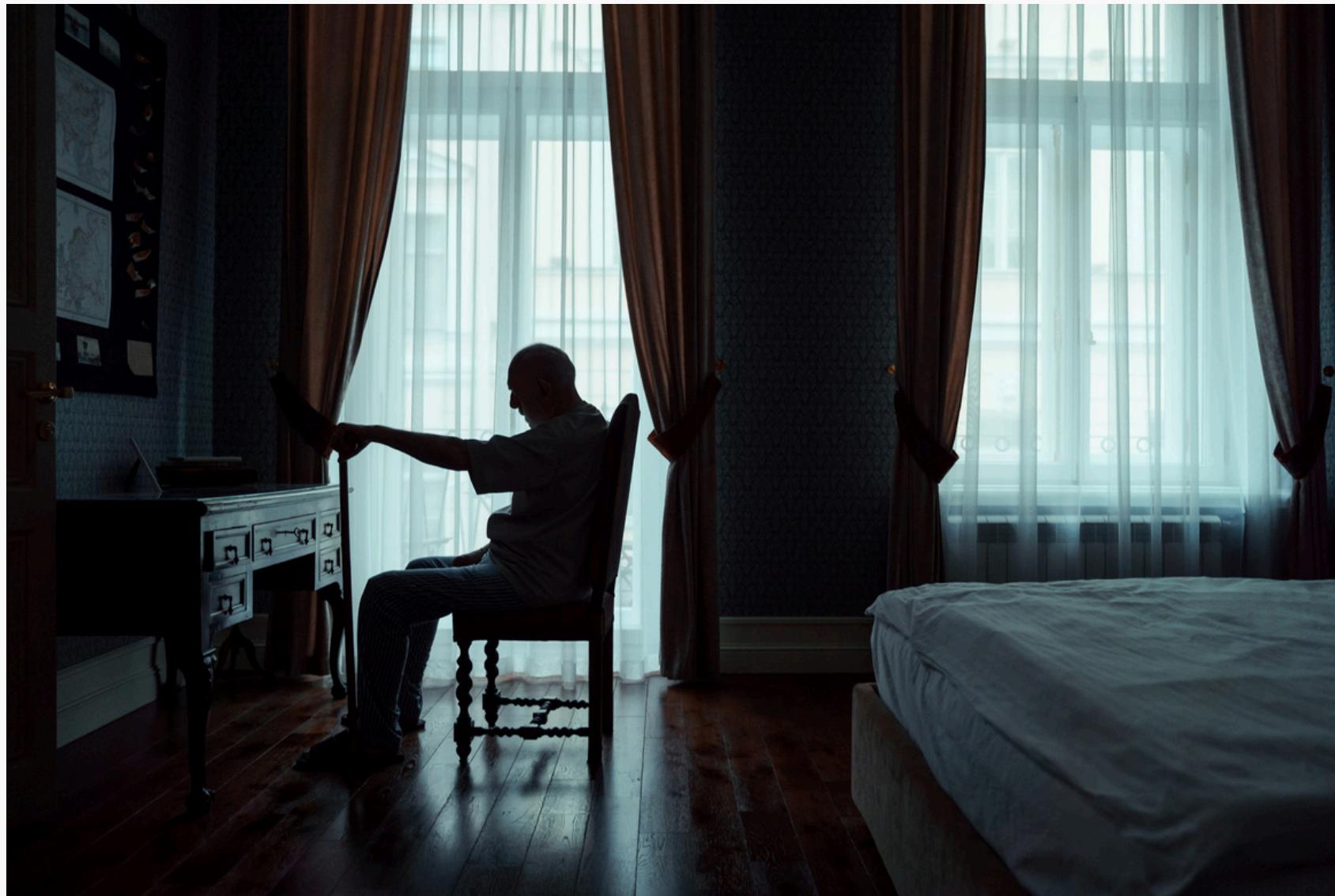
LUMA CARE

Luma is a voice-first, disability-inclusive AI assistant built specifically for older adults and individuals with disabilities.



presented by
Bytesized

PROBLEMS



Many elderly and disabled individuals struggle with:

- Complex Applications and Technology
- Health Monitoring
- Memory
- Isolation
- Knowledge around healthy habits
- Exercise

But what if checking your heart rate, finding a ride, or getting health advice was as easy as saying,

"Luma, I need help"

INTRODUCING....

LUMA

- A voice-activated wearable AI device that listens, understands, and responds with care.
- This device turns wearable tech into a compassionate partner, not just another gadget.
- It's built for dignity, designed for simplicity, and powered by AI that listens.

Luma helps with health, memory, education, and everyday tasks in a way that is accessible, respectful, and easy to use, even for users with mobility, vision, hearing, or speech impairments.



CORE FEATURES

- Monitor vital signs such as heart rate & blood pressure.
- Ask AI everyday questions especially health related.
- Assist with finding accessible rides and assistance.
- AI trained to recognize multiple speech patterns (e.g., Stuttering, Slurred speech, shaky voice, accents, etc...)
- Directly notify caregivers/ family members through the app when individual is feeling unwell.



SECURE SYNCED
CAREGIVER APP



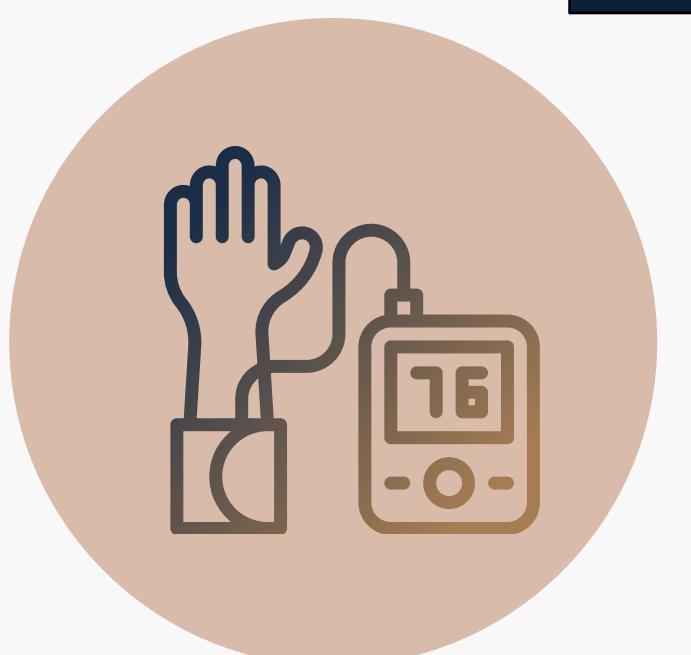
ACCESSIBLE TO
DISABLED/SPEECH
IMPAIRED USERS



WELLNESS
RESPONSE/ALERT
SYSTEM



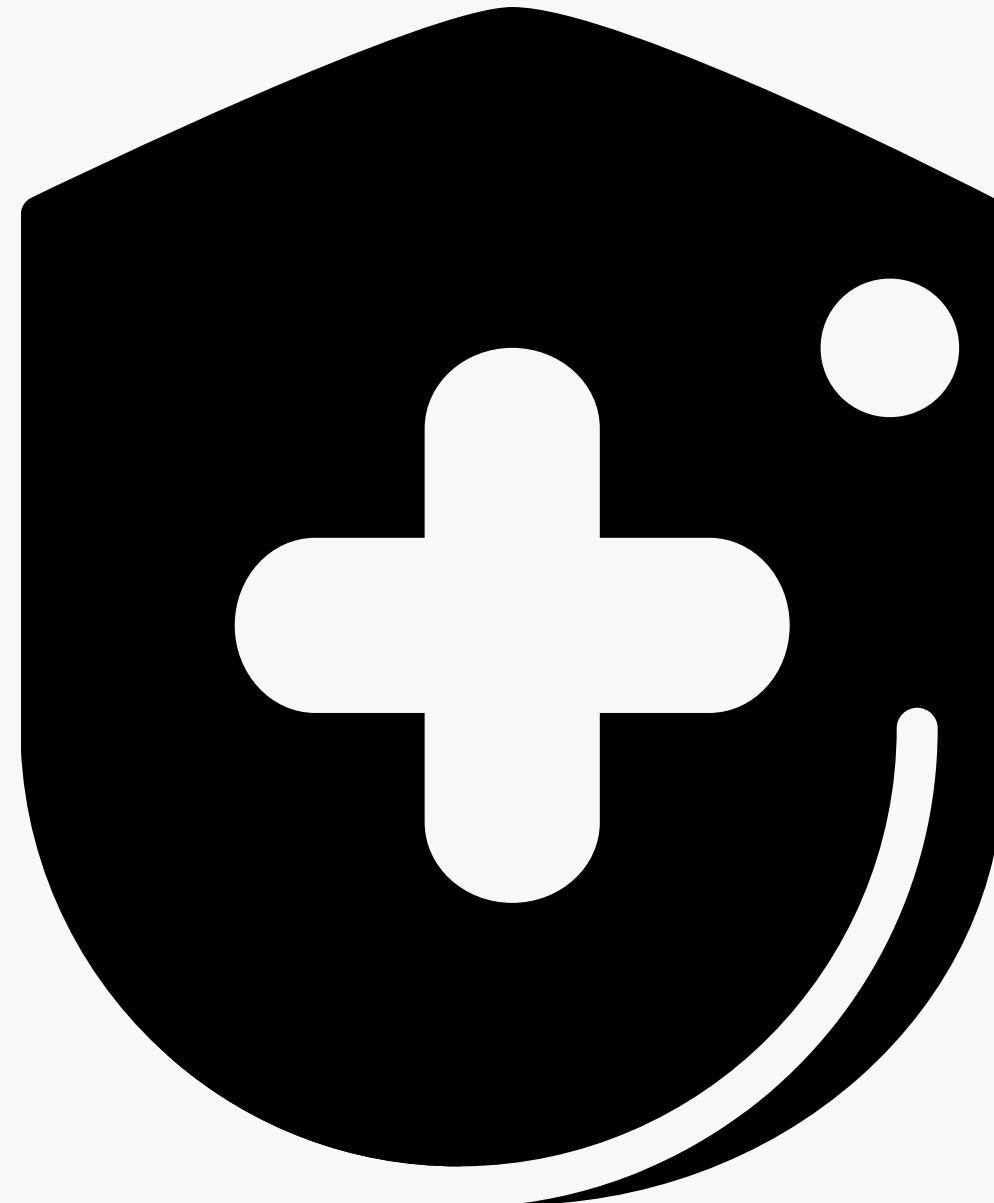
FULLY VOICE-
ACTIVATED AI
ASSISTANT



VITAL SIGN
MONITORING

PERFORMANCE SPECIFICS

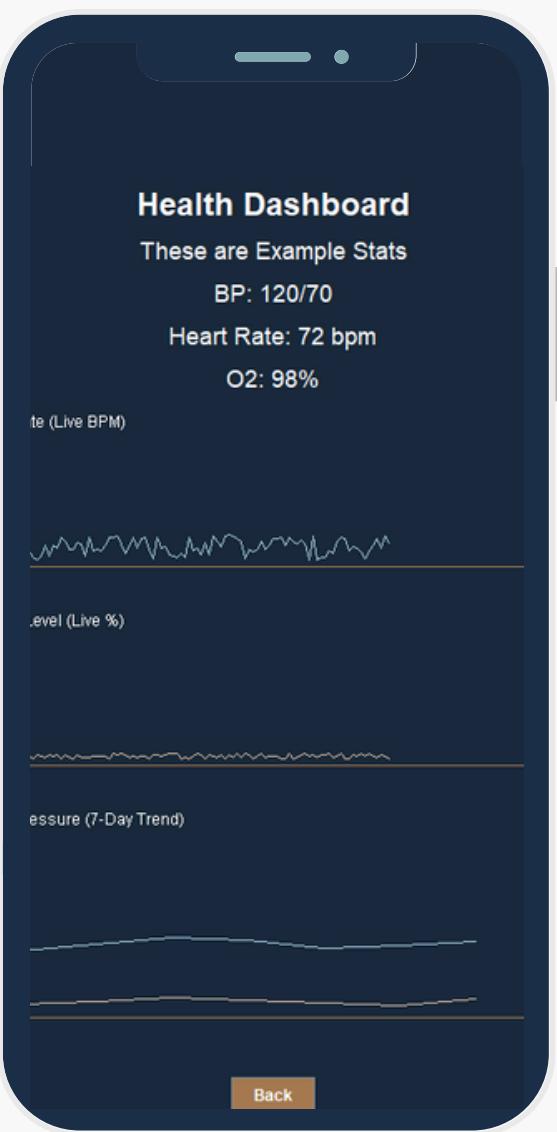
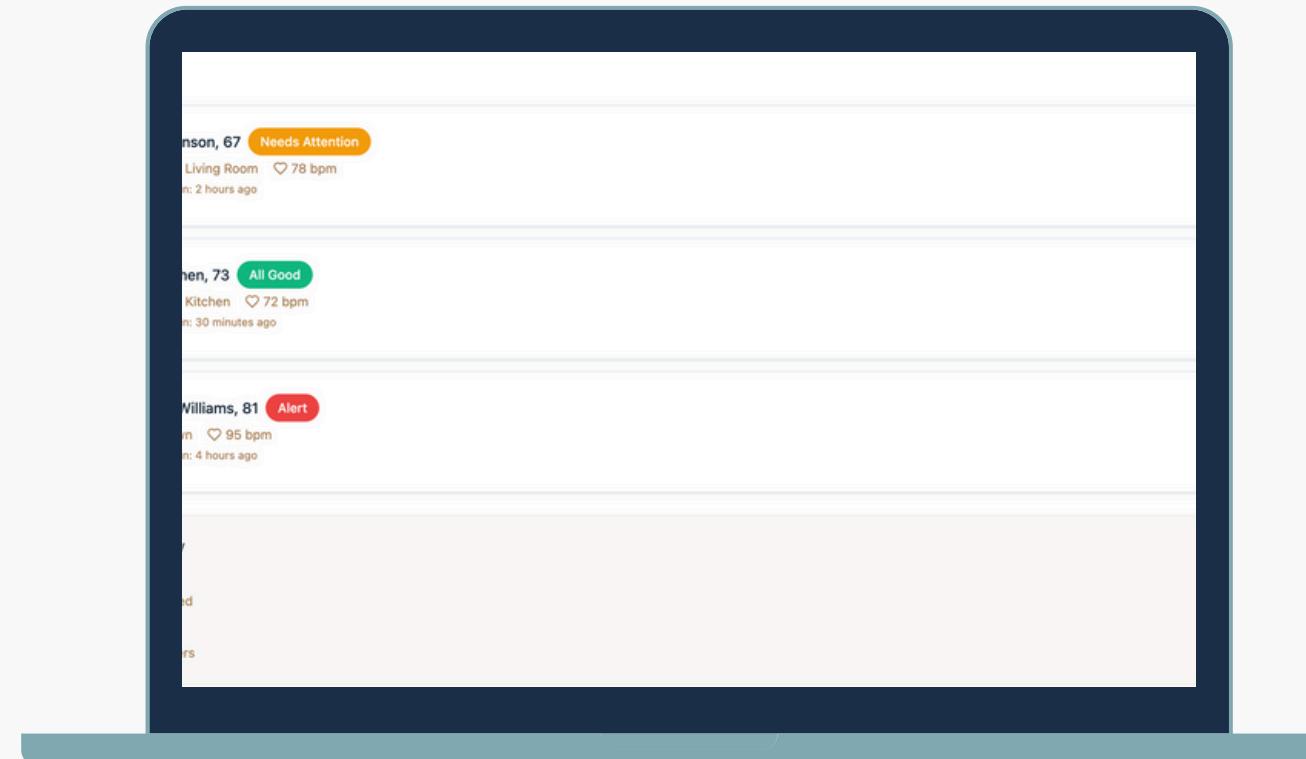
HIPPA compliant



- Blood pressure monitoring
- Pulse Oximeter
- Oxygen Saturation
- Identify Abnormalities
- Respiratory distress
- Fall or Impact
- Fluctuating heart rate
- Abnormal or critical blood pressure

Designing and Prototyping

LUMA



LumaCare: Mobile
Caregiver Application



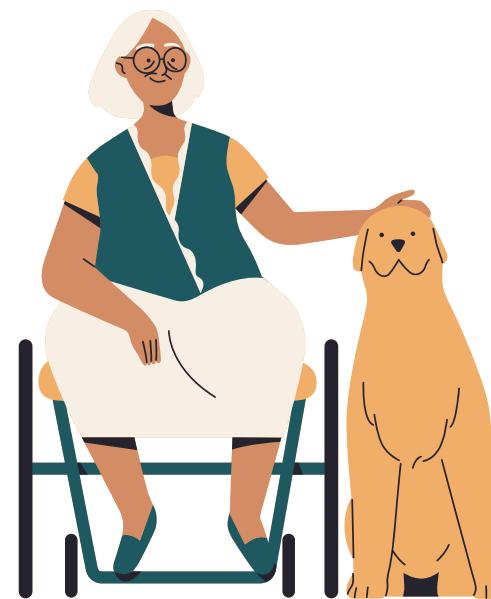
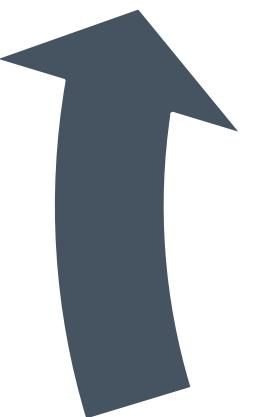
IMPACT & ACCESSABILITY

This isn't just a device. It's a companion – one that listens when others can't.

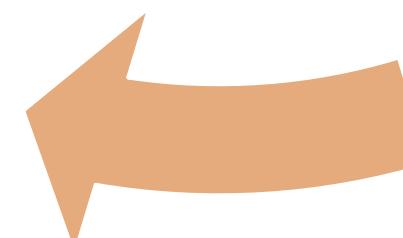
"Let's build tools that care. Tools that listen."



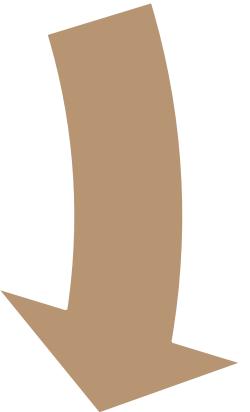
Designed with empathy for
real-life aging, disability,
and care needs.



Built for dignity: No clutter,
random apps – just voice
and touch.



Empowers users to
manage their health
independently.



Reduces fear and isolation
with instant support.

DEMO VOICE INTERACTION

- **Scenario 1:** " I'm Feeling Unwell "



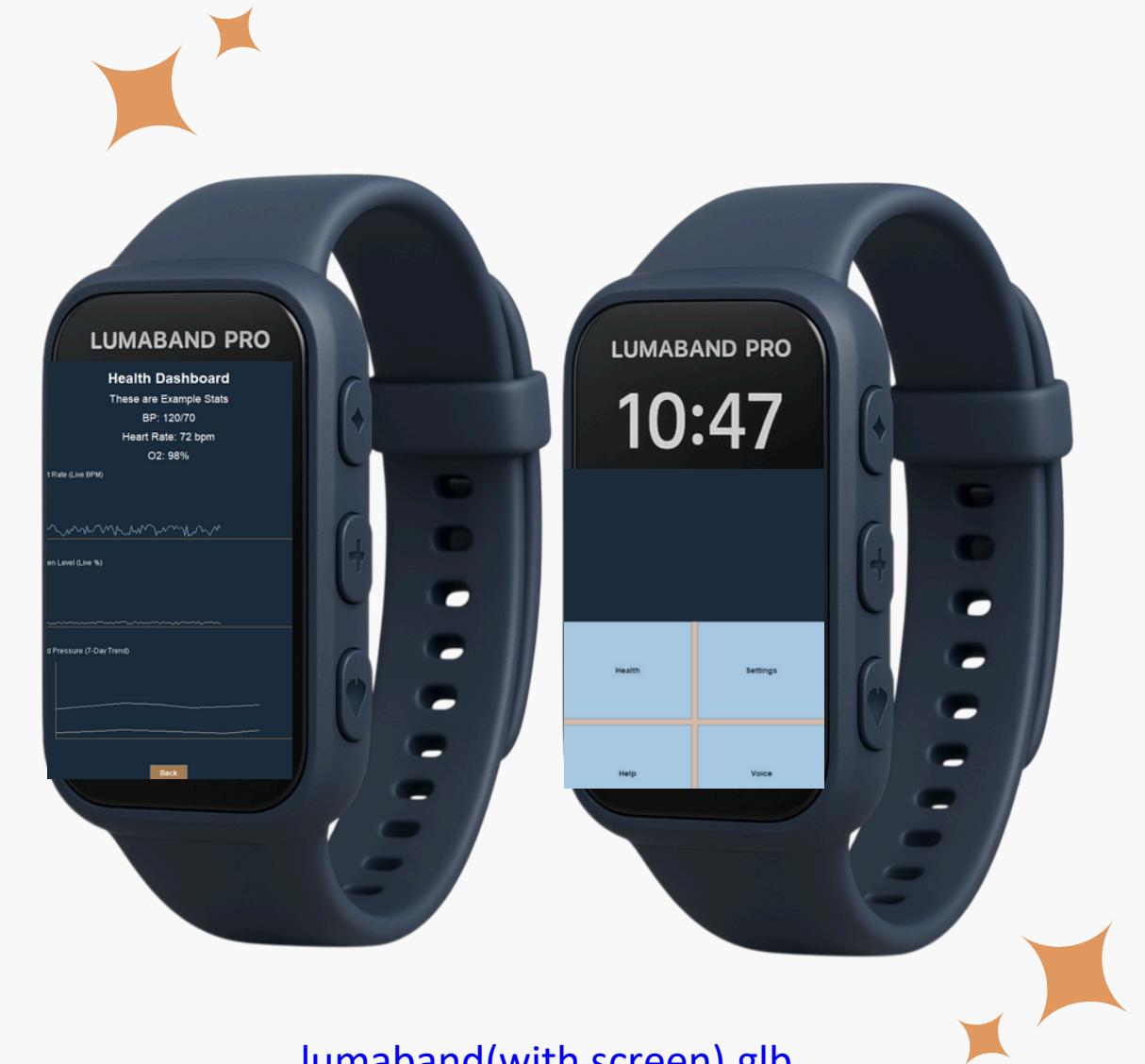
- **Scenario 2:** "Can you suggest something I can have for dinner that will work for diabetes?"



- **Scenario 3:** Medication Reminder- " Did I take my morning pills? "



- **Scenario 4:** Mental Health & Reassurance" I'm feeling anxious. "



[lumaband\(with screen\).glb](#)

These kinds of thoughtful, natural interactions make the AI feel like a trusted companion, not just a tool.

Luma 3D Sandbox

HOW LUMA KEEPS YOUR DATA **SAFE**



MICROSOFT-
POWERED SECURITY,
CONSENT-FIRST
DESIGN



VOICE RECOGNITION
+ PIN SECURITY



CAREGIVER ACCESS
CONTROL



HIPPA, GDPR, AND
FDA COMPLIANT

VOICE DATA CONSENT

- Luma asks for consent before using voice recognition
- Voice data is securely stored
- Luma recognizes your voice – like Face ID but for sound.
- Use your custom PIN (e.g., "One-Two-Three-Four") if voice fails.
- Voiceprints are encrypted using Azure Key Vault.
- You can ask Luma to explain or delete your data anytime.

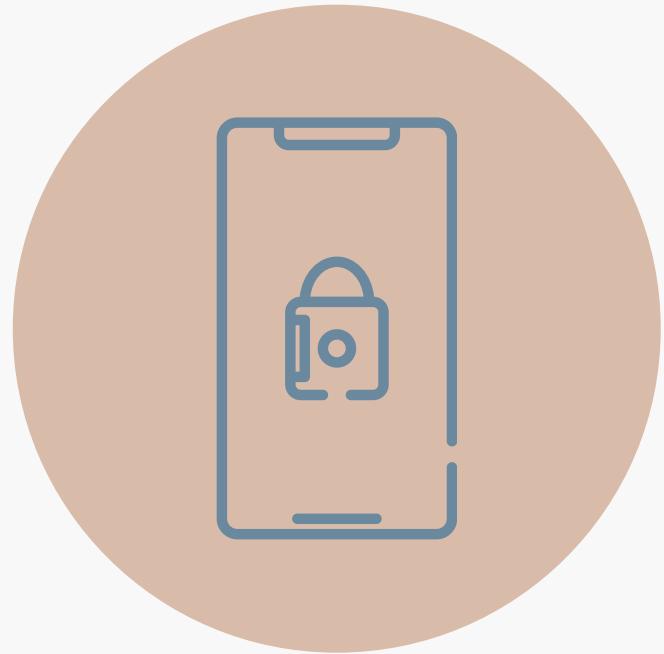


CAREGIVER ACCESS + EMERGENCY SUPPORT

- You choose who can see your reminders, health info, or **alert**
- GPS tracking is **off by default** – enabled only with **permission**
- **Revoke** access with a voice command or button tap
- Everything caregivers do is **tracked** and **permission-based**



SAY A KEYWORD OR
PRESS A BUTTON TO
ALERT YOUR
CAREGIVER



LOST DEVICE?
CAREGIVER CAN lock
or locate remotely



USES AZURE MAPS /
MICROSOFT
LOCATION SERVICES
API



GPS DATA IS
ENCRYPTED +
ACCESS-CONTROLLED

ENTERPRISE-LEVEL PROTECTION

- Azure Active Directory (AAD) for secure logins & caregiver access
- Azure Key Vault for data, voice & GPS encryption
- Defender for Cloud + Azure Monitor = real-time protection
- TLS 1.3 for secure data transmission
- HTTPS/SSL for web and API endpoints
- OAuth 2.0 for authentication protocols
- Role-Based Access Control (RBAC) to ensure limited access



LEGAL AND COMPLIANCE



Encrypt Data Secure
chat/emergency
features and protect
health information

Ensure explicit
consent ad user
control with voice
recognition and PIN
security.

Class II Medical
Device, Consensus
standards, 510(k)
premarket notification

This device and its apps
are for general wellness
only and are not intended
to diagnose, treat, or
prevent any medical
condition—always consult
a healthcare professional
for medical advice.

HIPAA

GDPR

FDA

DISCLAIMER

HIPPA AND GDPR PROTECTION

- **Transparency:** Clear Privacy Policy and Security Policy and Business Associate Agreements (BAAs) for any third parties and an explanation of how data is used.
- **Data Minimization:** Only collect what's necessary for the app to function.
- **Consent:** Explicit consent must be given before use (Explicit Consent (Art. 9(2)(a)))
- **Rights Include:**
 - Access to personal data
 - Ability to correct inaccurate data
 - Deletion ("Right to be forgotten")
 - Data portability (retain and reuse)
 - Objection to processing



FDA REGULATION

- **Class II Medical Device** due to option for Blood Pressure (Non-invasive)
- 510(k) Premarket Notification
- **Device description** The Luna is a wearable, non-invasive device that intermittently estimates blood pressure using embedded sensors and proprietary algorithms, without the need for a traditional cuff. It transmits data wirelessly to a mobile app for real-time monitoring and hypertension management
- **Performance testing** (bench and clinical)
- **Software documentation** as needed for the AI
- **Risk analysis** (per ISO 14971)
- **Labeling and instructions for use**
- **Biocompatibility and electrical safety testing** (e.g., IEC 60601-1)



ASK OUR TEAM

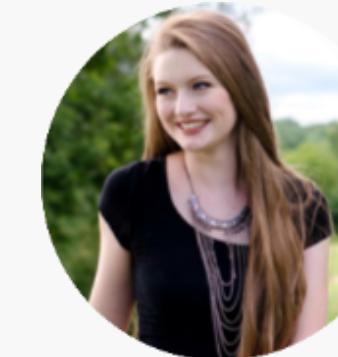


BYTESIZED



ABBY URQUHART

CORE FEATURES/IMPACT/VOICE DEMO



ANNMARIE WELCH

HIPPA/GDPR/FDA/LEGAL COMPLIANCE/LOGO DESIGN



DAMILARE OLADELE

UI /UX ENGINEER/ 3D MODEL DESIGN



DEANNA GABLE

UI /UX ENGINEER/ 3D MODEL DESIGN



ZHAIRE ROBINSON

SECURITY ARCHITECTURE DESIGN/CAREGIVERACCESS/POWERPOINT DESIGN