



Smart Uses of Smart Tech: Technology for Aging in Place

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Safety & Security Sensors



Controller **N**

Transmits information from safety and security sensors onwards through the system



Smoke Sensor **1**



Gas Sensor **2**



Gas Actuator



Door Intrusion Sensor **3**



Biometric Door Lock **4**

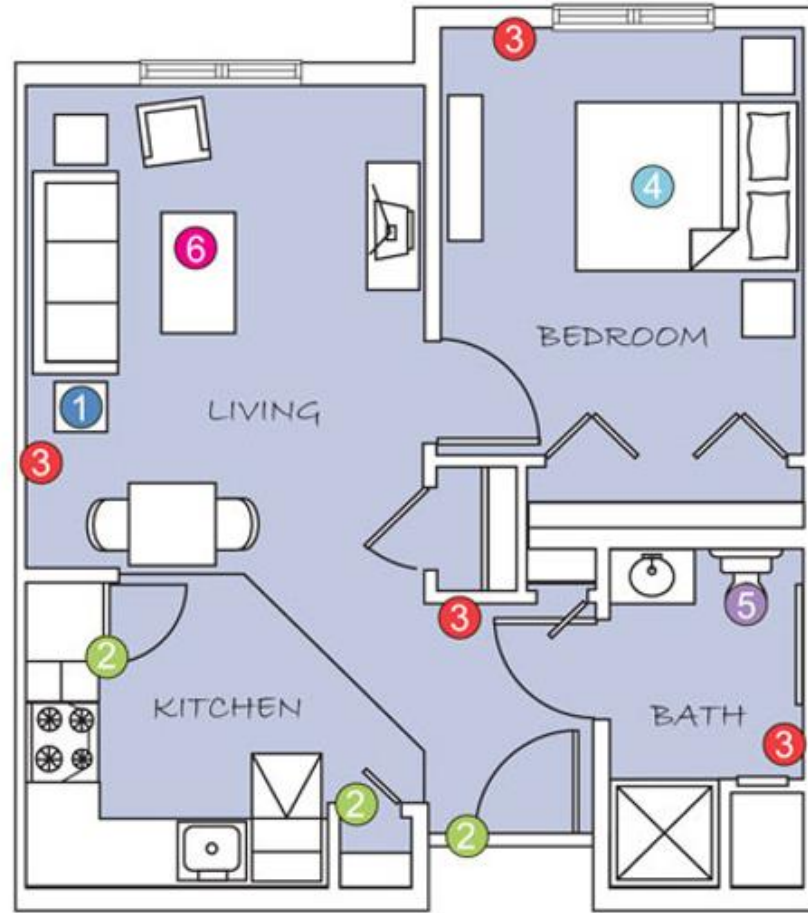


Internet cloud

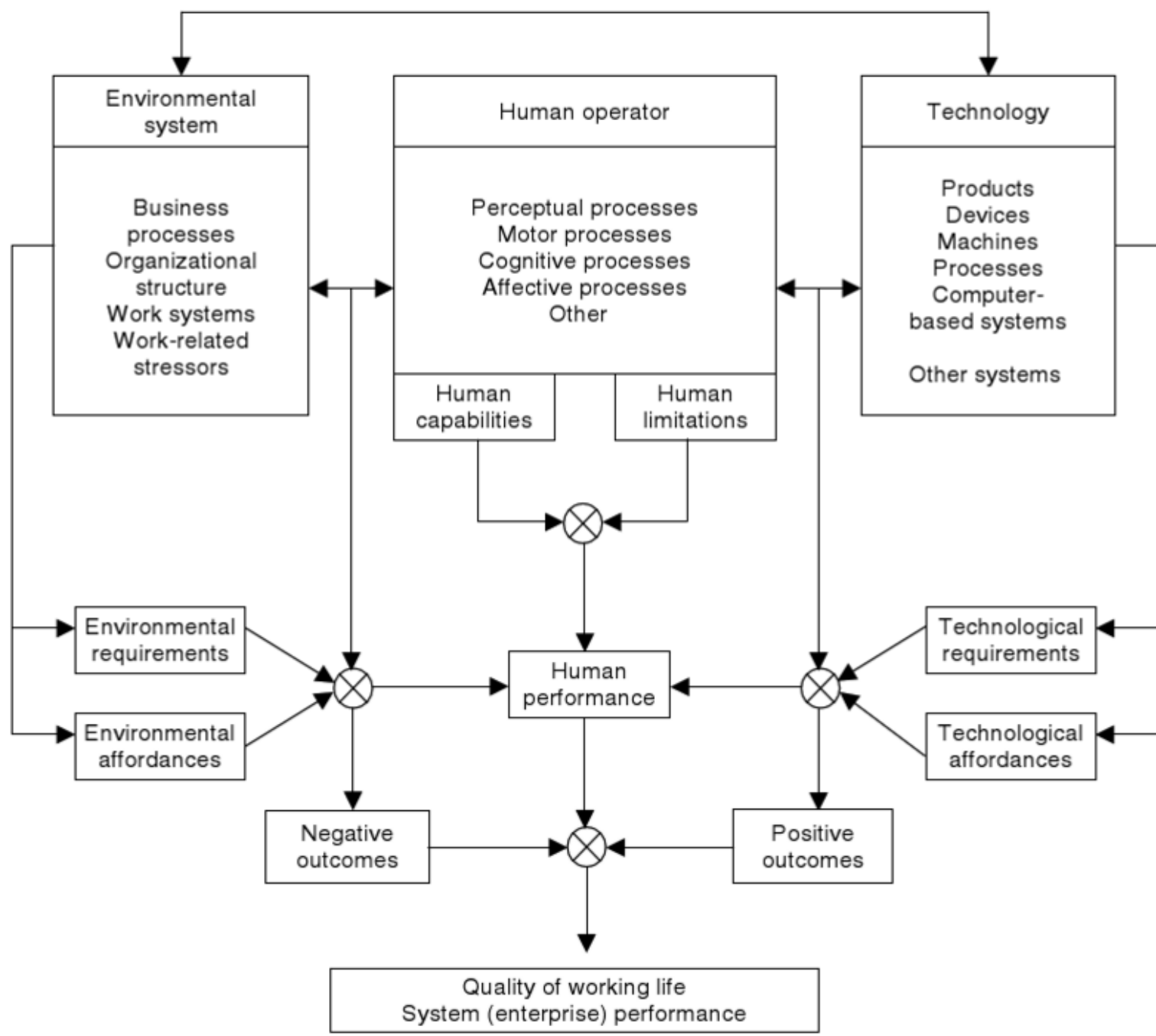
CENTRAL SOFTWARE

eNeighbor® Typical Sensor Application

The diagram below shows the typical placement of sensors in a senior residence.
The sample floor plan uses sensors included in the eNeighbor Remote Monitoring package.

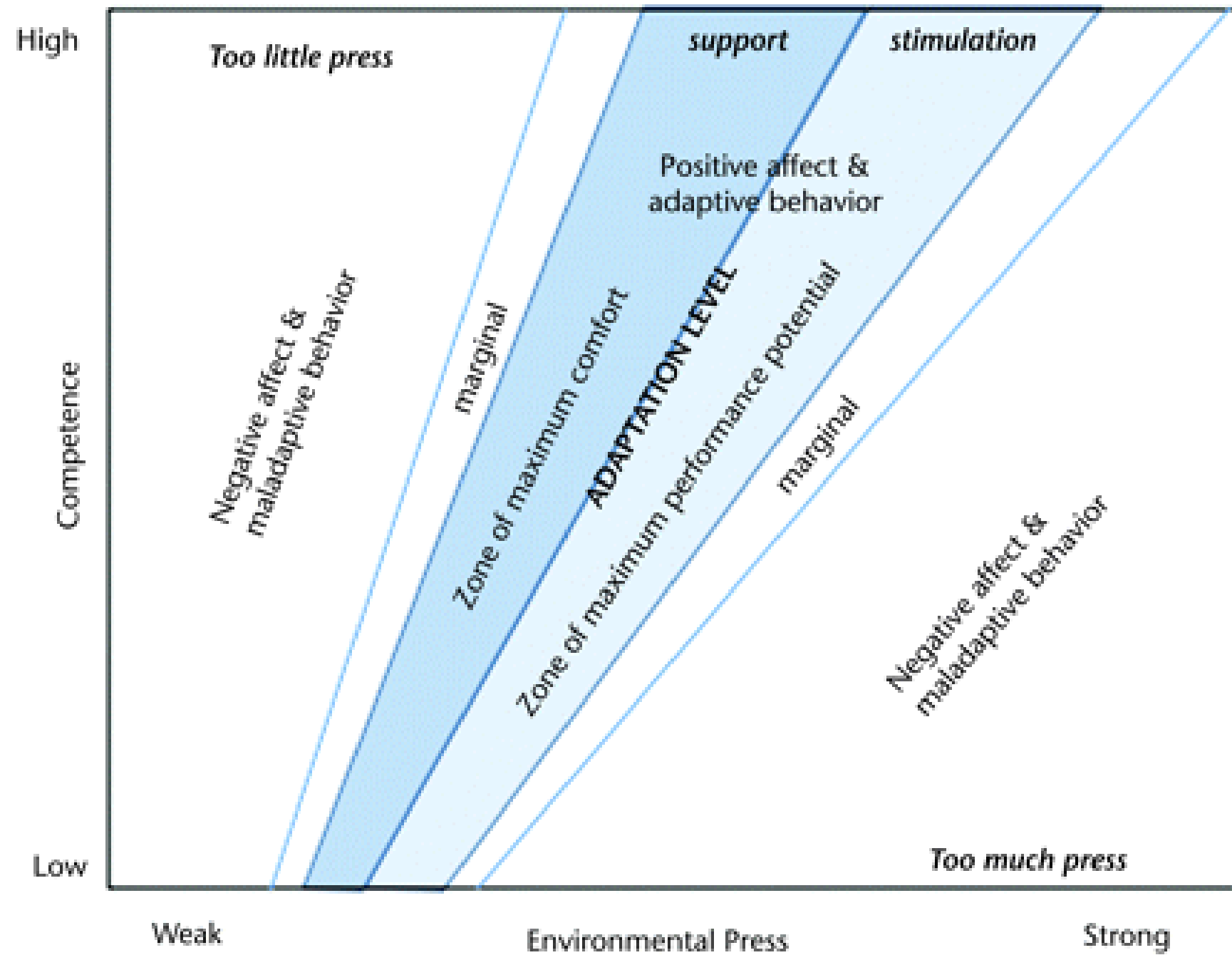


- | | | | |
|---|----------------|---|---------------|
| 1 | Call Pendant | 4 | Bed Sensor |
| 2 | Contact Sensor | 5 | Toilet Sensor |
| 3 | Motion Sensor | 6 | Cancel Button |



Note: ⊗ — Matching of compatibility relationships

Person - Environment Fit





WalkJoy & WalkingHealth

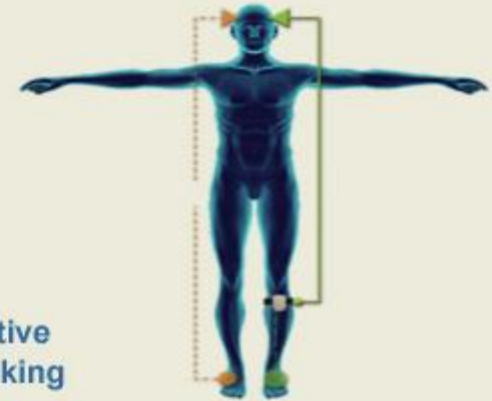
Catch Them Before They Fall



Peripheral Neuropathy interrupts normal sensation, proprioception & kinesthesia

WalkJoy Restores The Sensory Feedback Loop

WalkingHealth Provides Objective Gait Analysis and Activity Tracking



I Have
Peripheral Neuropathy

I Treat
Walking and Balance Disorders

Facilities
Catch Them Before They Fall

Stay Active and Independent

Introducing the first all-in-one, voice-controlled device designed to keep you independent, active and safe.



Medication Reminders



Voice Activated Directions



Fall Detection



Emergency Assistance



Guide Me Home Assistance



STORY [UPDATES \(15\)](#) [COMMENTS \(92\)](#) [BACKERS \(183\)](#)

CLOSED

Smartstones: Wearable Touch Communicator

SEND PRIVATE MESSAGES WITH SWIPE AND MOTION GESTURES. WE ARE PIONEERING NONVERBAL COMMUNICATION.



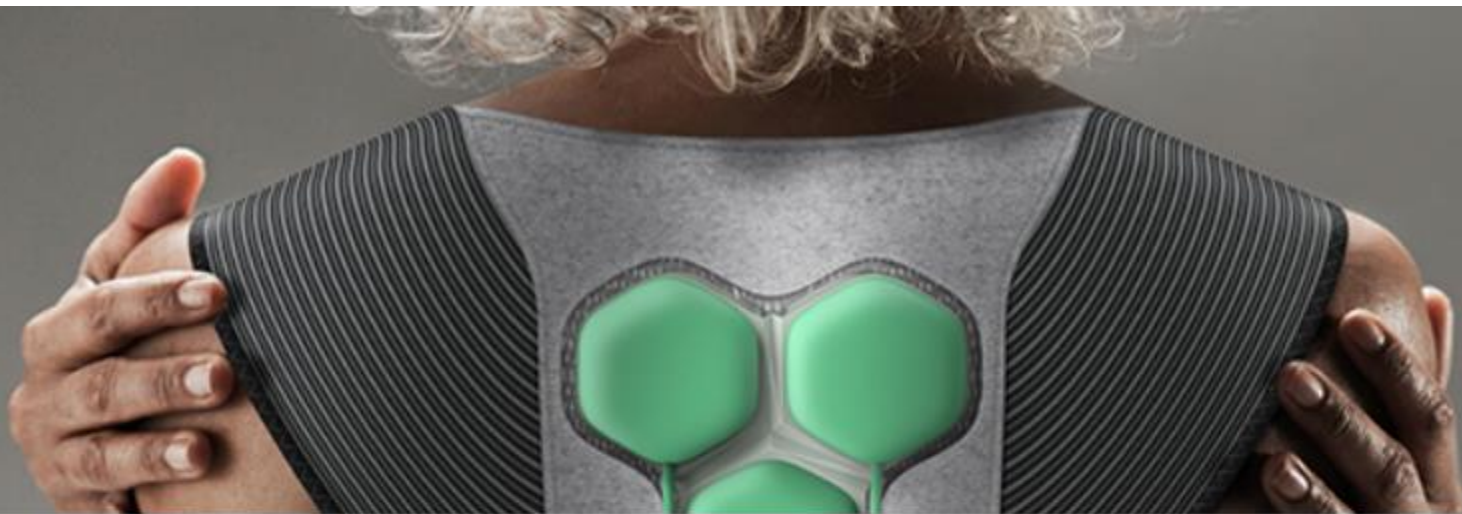
Smartstones Touch
Santa Barbara, United States
[About](#)

\$35,000 USD raised by 183 backers

70% of \$50,000 [flexible goal](#)



PERKS



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Superflex is Defining the Future of Movement™ through Powered Clothing™

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[Pre-order STEER](#)

Created by

Creative Mode

287 backers pledged €32,374 to help bring this project to life.

Wearable Unit

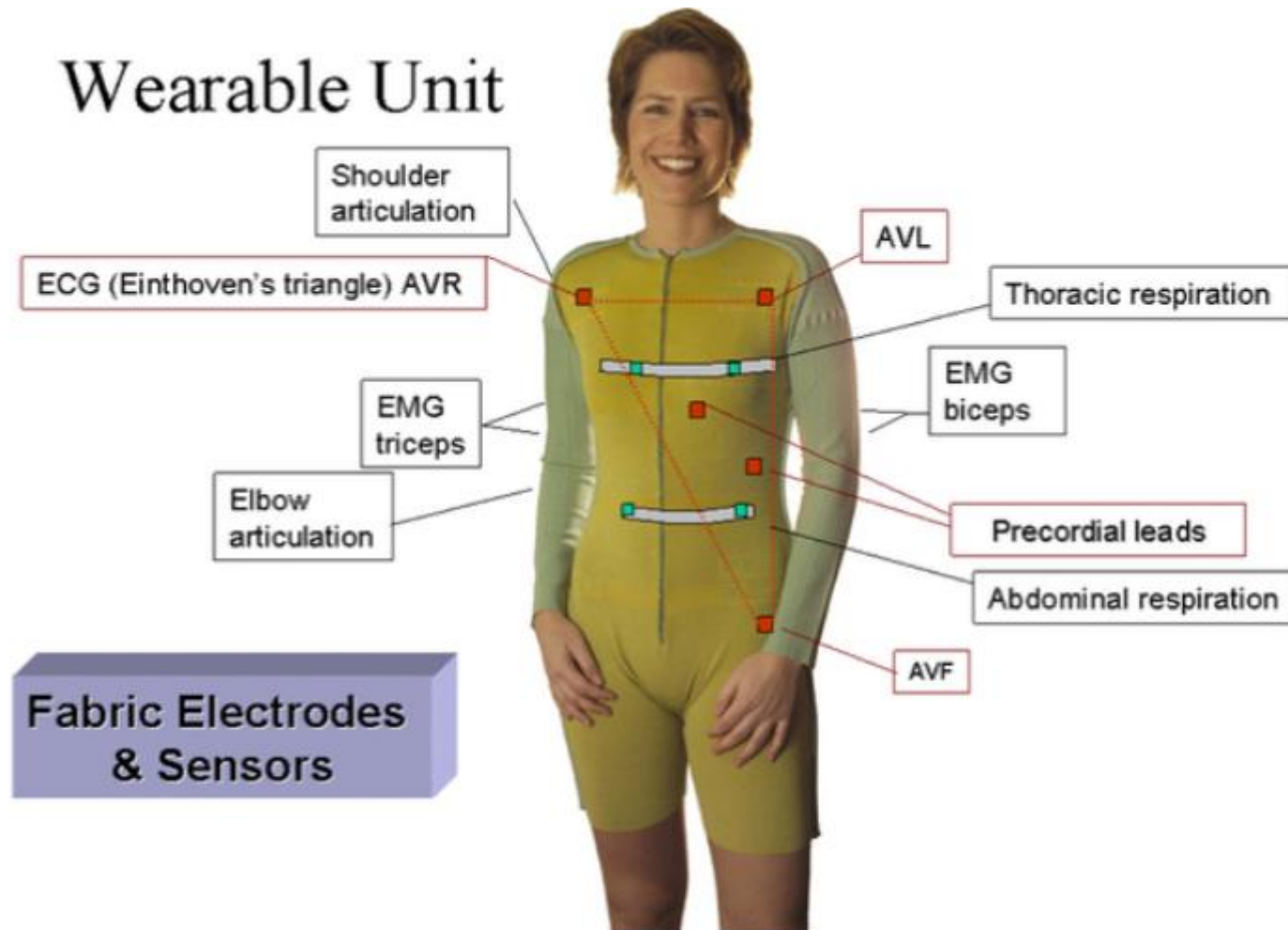


Figure 3 Example of e-textile system for remote, continuous monitoring of physiological and movement data. Embedded sensors provide one with the capability of recording electrocardiographic data (ECG) using different electrode configurations as well as electromyographic (EMG) data. Additional sensors allow one to record thoracic and abdominal signals associated with respiration and movement data related to stretching of the garment with shoulder movements. (Courtesy of Smartex, Italy).





Six major themes of designing for aging

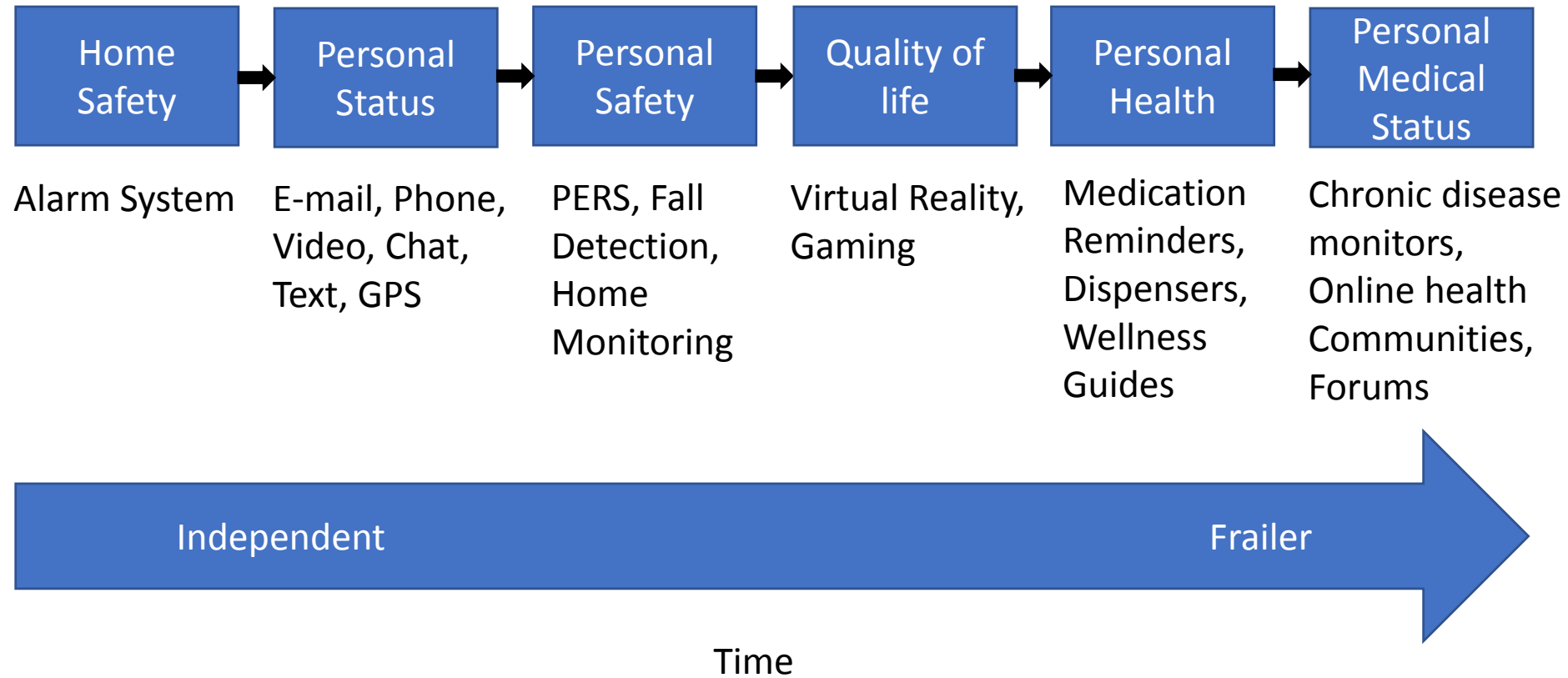
- Design Theme
- Provide environmental support through context, cues, and organization
- Improve the physical stimulus
- Display information consistently
- Provide training
- Capitalize on crystallized knowledge
- Recognize knowledge, interest and motivation



Unique aging issues to be considered

- Visual acuity
- Visual accommodation
- Color vision
- Contrast detection
- Dark adaptation
- Glare
- Illumination
- Motion perception
- Useful field of view
- Auditory acuity
- Auditory localization
- Audition in noise
- Haptic control
- Proprioceptive perception
- Temperature perception
- Vibration perception

Aging Status Changes May Require Different Technologies



Why Hearables for All?



Half of older adults 75+ face hearing difficulty



Increased social isolation from hearing loss



Only 30% of adults 70+ with hearing loss who could benefit from hearing aids have used them

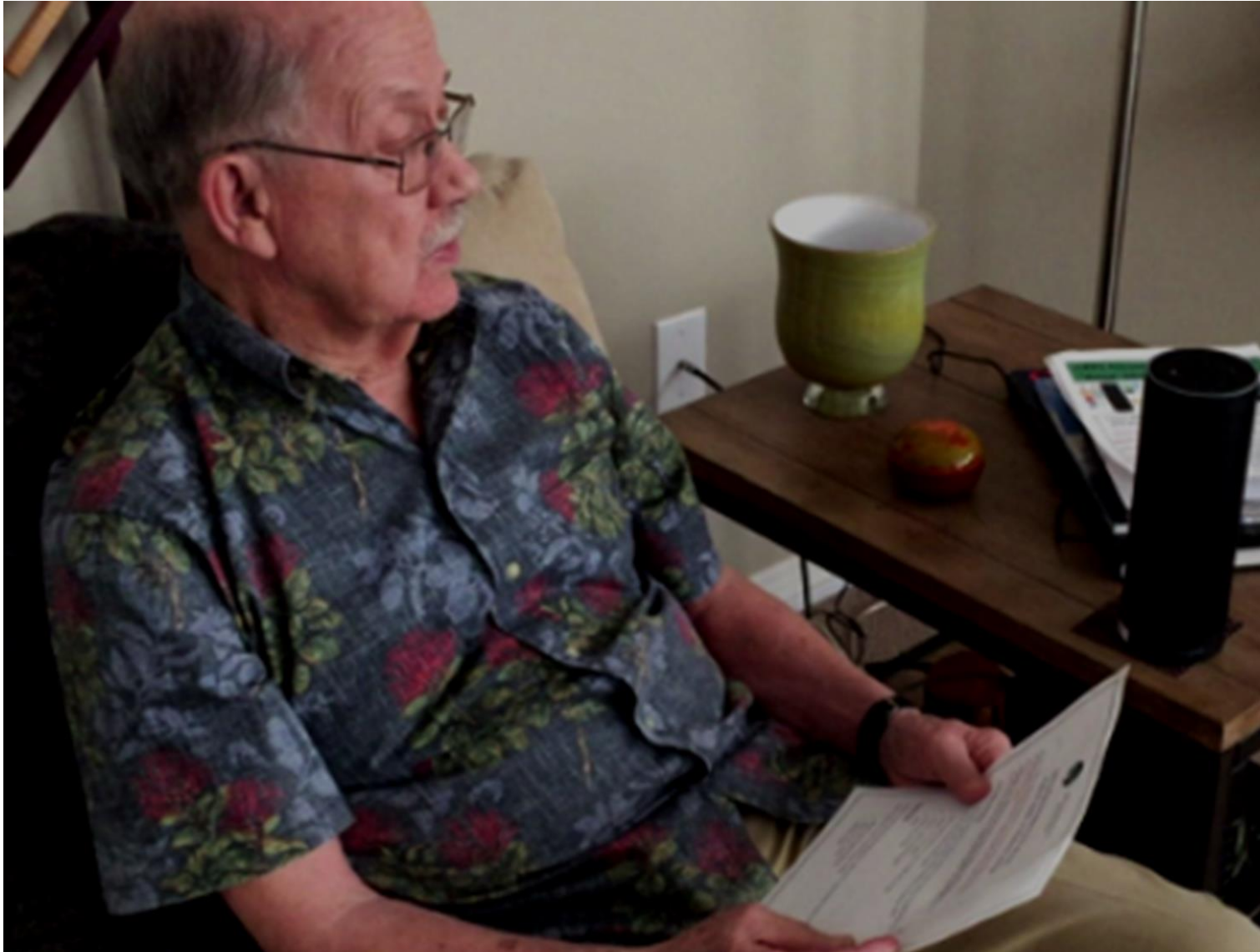


3X fall risk with mild hearing loss



Up to 40 percent faster cognitive decline

Voice First Engagement in Senior Living



Virtual Personal Assistants and Smart Homes for Older Adults

Study Outcomes (n=15)



Popular Skills

- Weather & Temperature (67%)
- Alarm & Timers (53%)
- Music, Date/Time (40%)
- News (27%)
- Searching information (20%)

Study Outcomes (n=15)



- 75% used their smart devices at least once a day
- 100% felt the Alexa overall made their life easier
- 71% felt more connected to family, friends, and the community since the start of the Alexa pilot

The Alexa Project Today



- 90 Voice First devices
- “Pay it forward”
- Addressing wellness and social isolation
- “Alexa Club”
- Scale and diffusion model across additional communities



Thank You

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