

SOUND ASLEEP

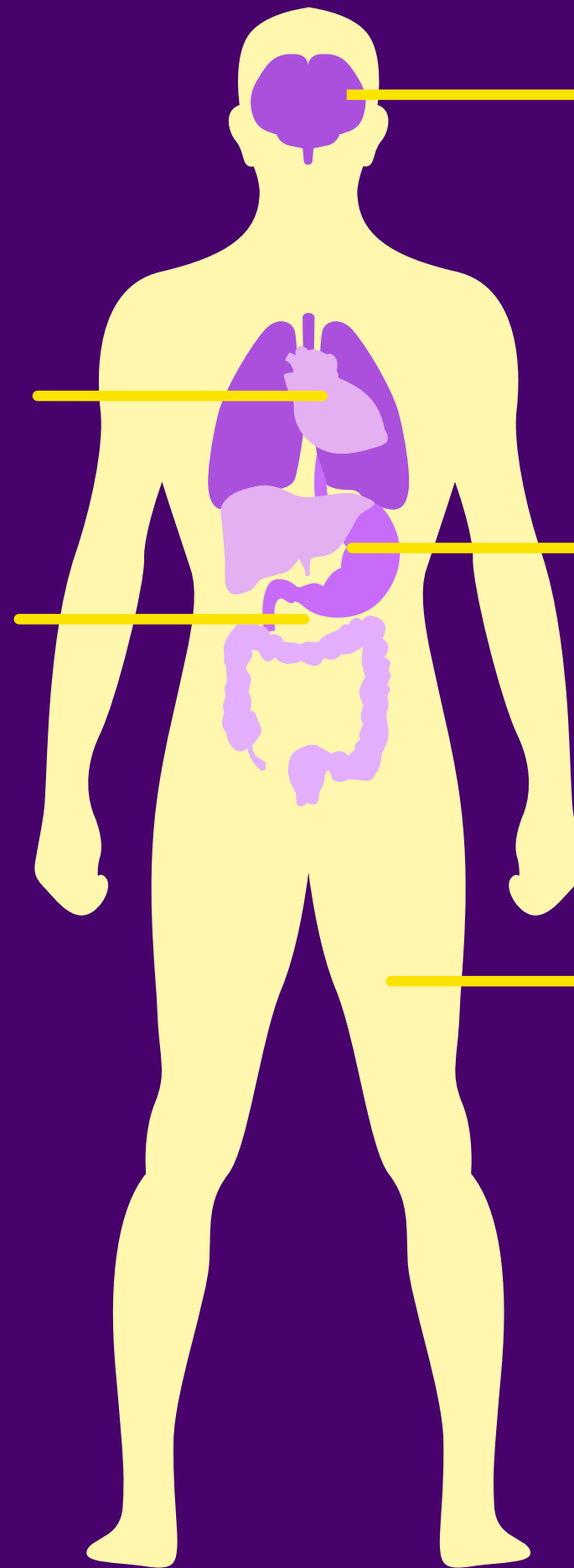
Improving sleep to
optimize aging



THE NIGHTMARE OF POOR SLEEP

heart disease
high blood pressure

kidney failure
diabetes
hormone imbalances
infertility



stroke
memory loss
trouble focusing
poor mental health
hallucinations
paranoia

obesity
poor digestion

joint pain
muscle weakness
poor immunity
cancer

DEEP SLEEP, DEEPLY IMPORTANT



66%

decrease in time
spent in slow
wave sleep

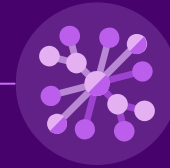
in people ages 51–85
compared to 18–23

SLOW WAVE SLEEP IS RESPONSIBLE FOR



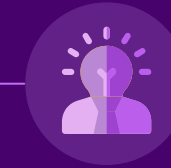
**Declarative
memory**

forming new memories



**Spatial
navigation**

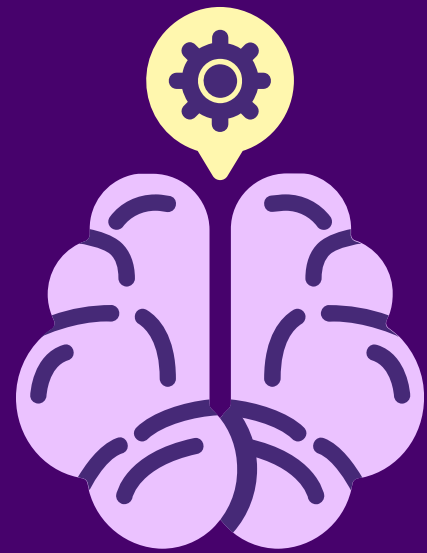
key to independence



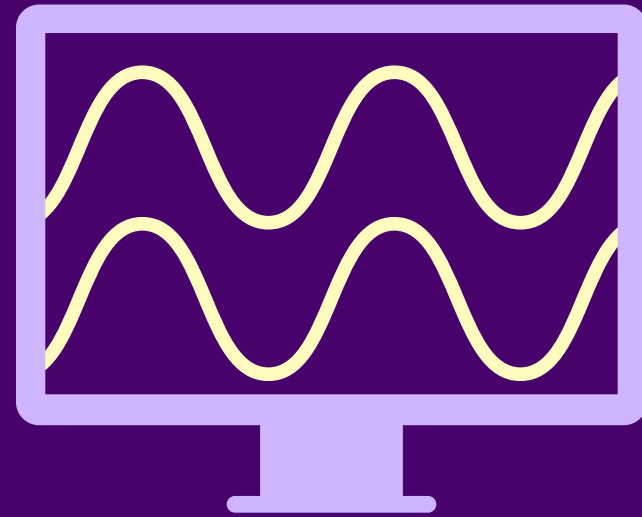
**Memory
consolidation**

retaining long-term
memories

NOT JUST TRACKING, BUT TRANSFORMING



Device detects the user's brain waves and other physiological metrics during sleep



Software analyzes data to detect slow wave sleep in real time



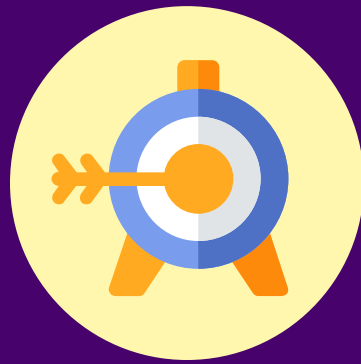
Speakers transmit specific sound frequencies to amplify and prolong slow waves



BETTER SLEEP!

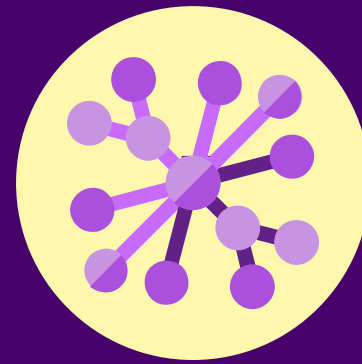


DREAMING BIGGER: THE COMPETITORS ARE ...



**Sensors without
stimulation**

Cogionics, Sleep Profiler



**Rigid headbands
that put users off**

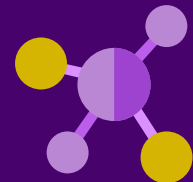
Dreem



**Only collecting
EEG data**

Most current systems

FROM SLEEP SCIENCE TO SOLUTIONS... WE ARE SEEKING



01

**Hardware
engineering**
to build the signal
processing and
transmission
system



02

**Software
engineering**
to build the EEG
processing
software and user-
facing application

WHY PICK THIS PROJECT?

★ Develop a variety of skills

Code in R and/or Python for signal processing, build with Raspberry Pis or Arduinos, manage power sources, and more!

Over \$50,000 in funding already secured

Access to whatever materials and software needed

Good opportunity to work with an interdisciplinary team

Medical students, business students, physicians, engineers, etc.



SLEEP SMARTER, LIVE BETTER

