

# LAP LAMP

## Fall '25

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Lap Lamp uses touch, light, and vibration to share a heartbeat in real time, replacing notifications with an ambient rhythm.

Group Project:

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# PROBLEM REVIEW

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Generation Z (age 18–28) is experiencing unprecedented levels of loneliness, a trend linked to technological advances and reduced daily social interaction. Associated with higher rates of depression, anxiety and heart disease, loneliness is experienced both physically and perceptually.



# GEN-Z LONELINESS

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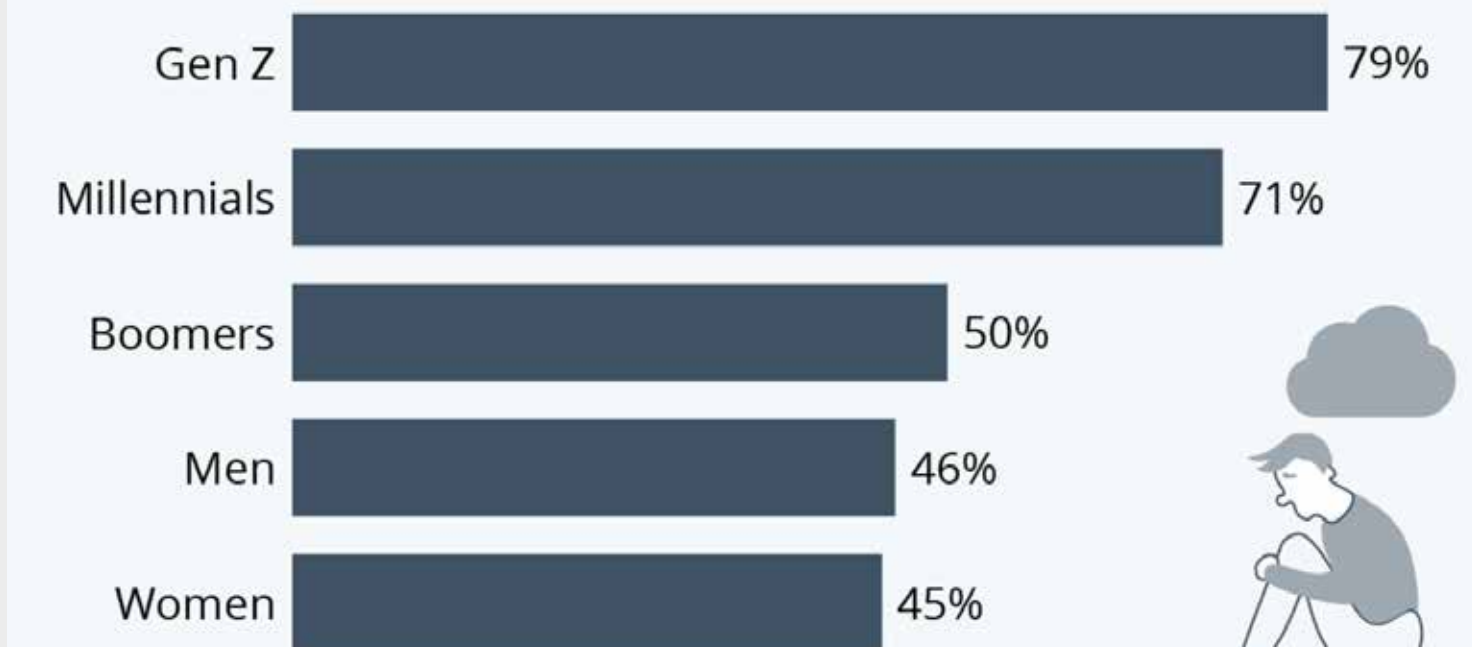
The global shift towards digital communication has rewired the neurological behaviors of young people. Social media's endless volume of cherry picked snapshots of people's lives creates what psychologists refer to as an "invisible audience," a self-perpetuated feeling of being silently scrutinized.



## Gen Z Is Lonely

Percent of U.S. adults who are lonely, shown as demographics

61% of all U.S. adults reported feeling lonely, which is up 7% from last year



n=10,441 adults  
Survey was conducted during the summer of 2019  
Source: Ipsos Polling for Cigna U.S. Loneliness Index



statista



# ESCAPING THE INVISIBLE AUDIENCE

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To alleviate the perception of the invisible audience, the product will seek to provide an alternative and enticing activity to scrolling social media.

Our product should:

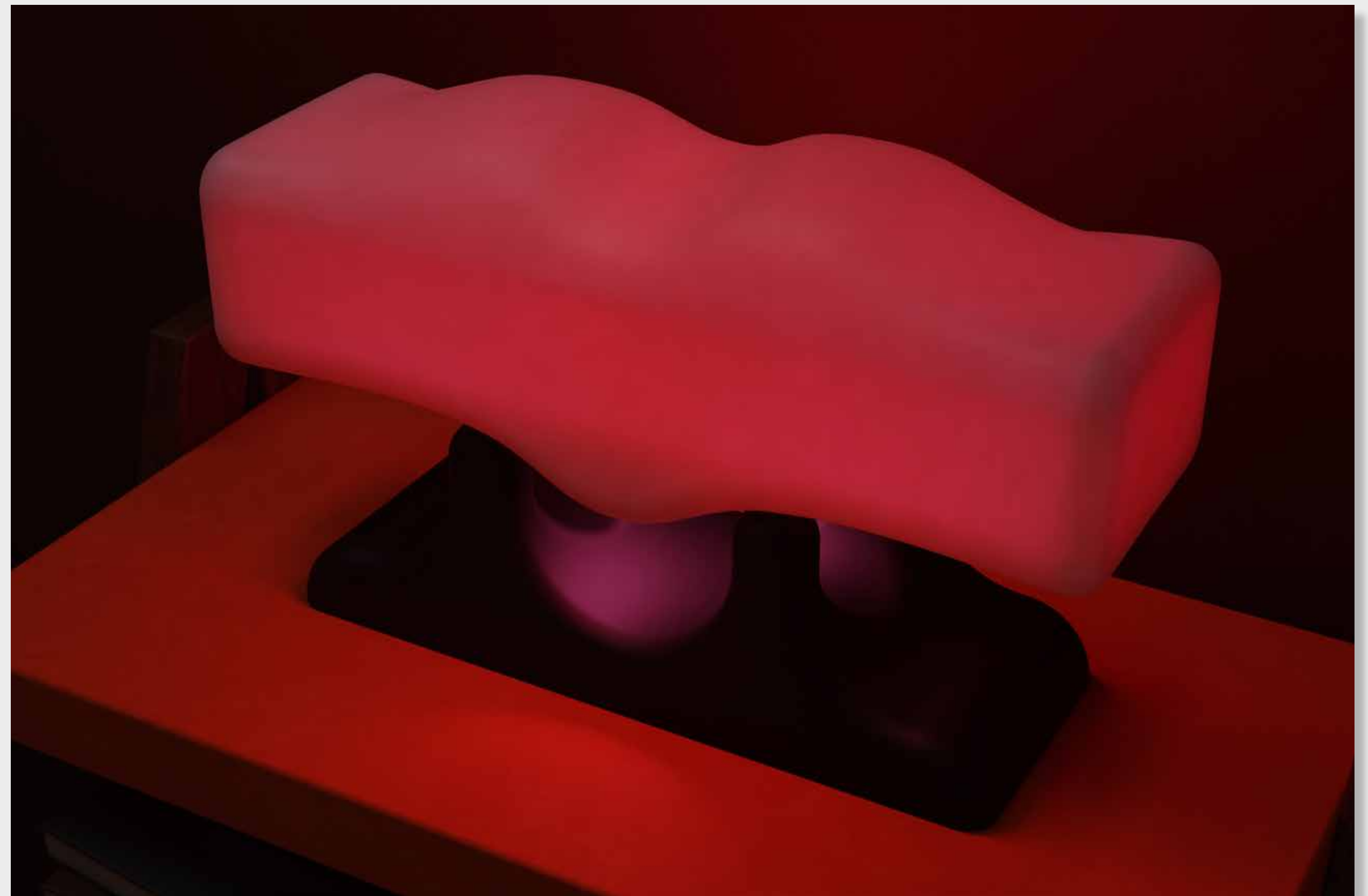
- Be approachable in form
- Require low effort
- Seamlessly translate heartbeat into light and haptic feedback.



# FEATURE OUTLINE

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- Home stationary lamp with heartbeat detection
- Anonymous matchmaking with other lap lamp owners
- LED-haptic heartbeat pattern
- Squishy material for comfort
- Detachable diffuser for mobility

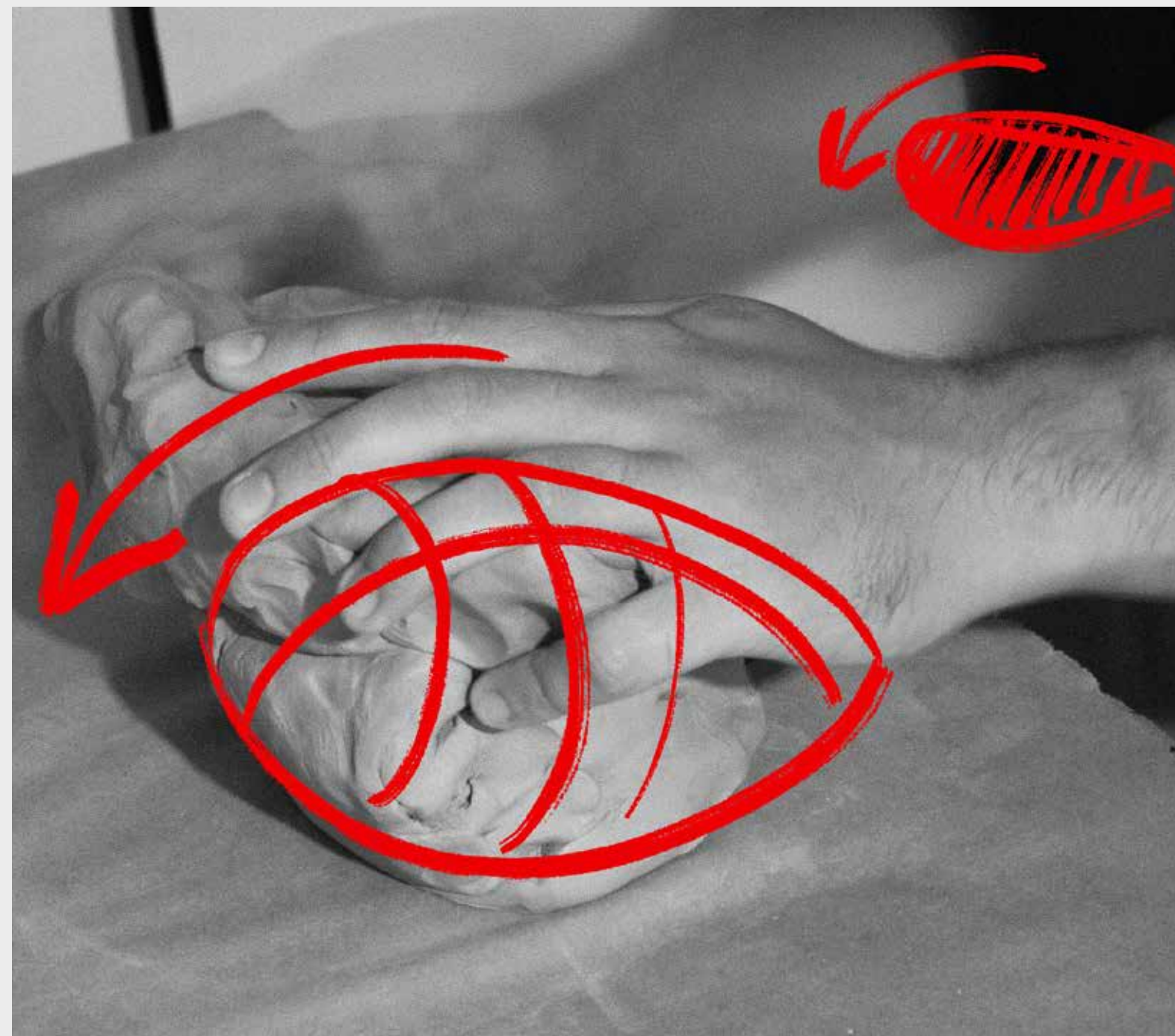




# HAND STUDY

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Classmates were led through a guided meditation in a quiet room in order to gather data on relaxed hand forms. Clay and verbal imagery were used to create an immersive, relaxing atmosphere.

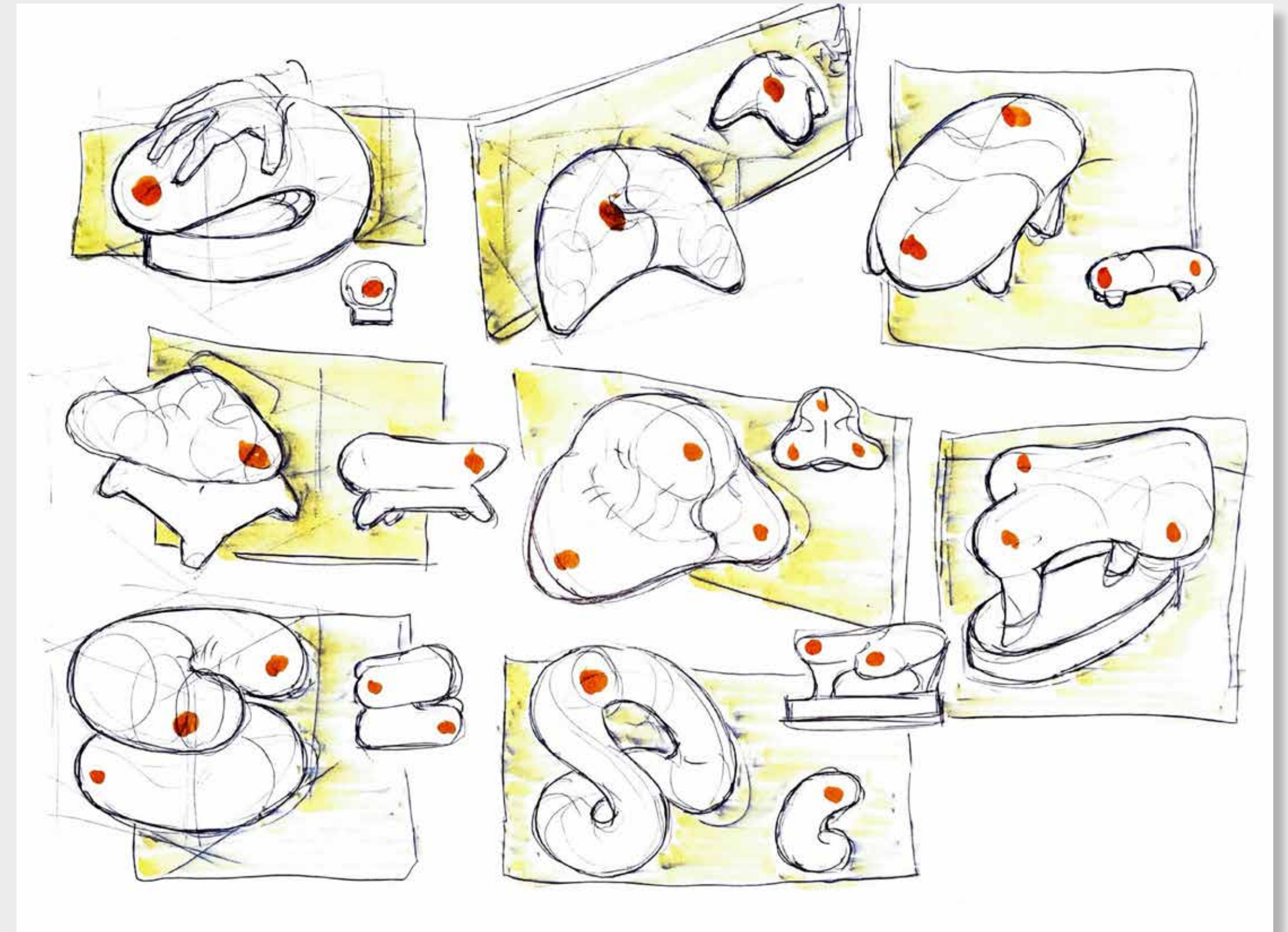
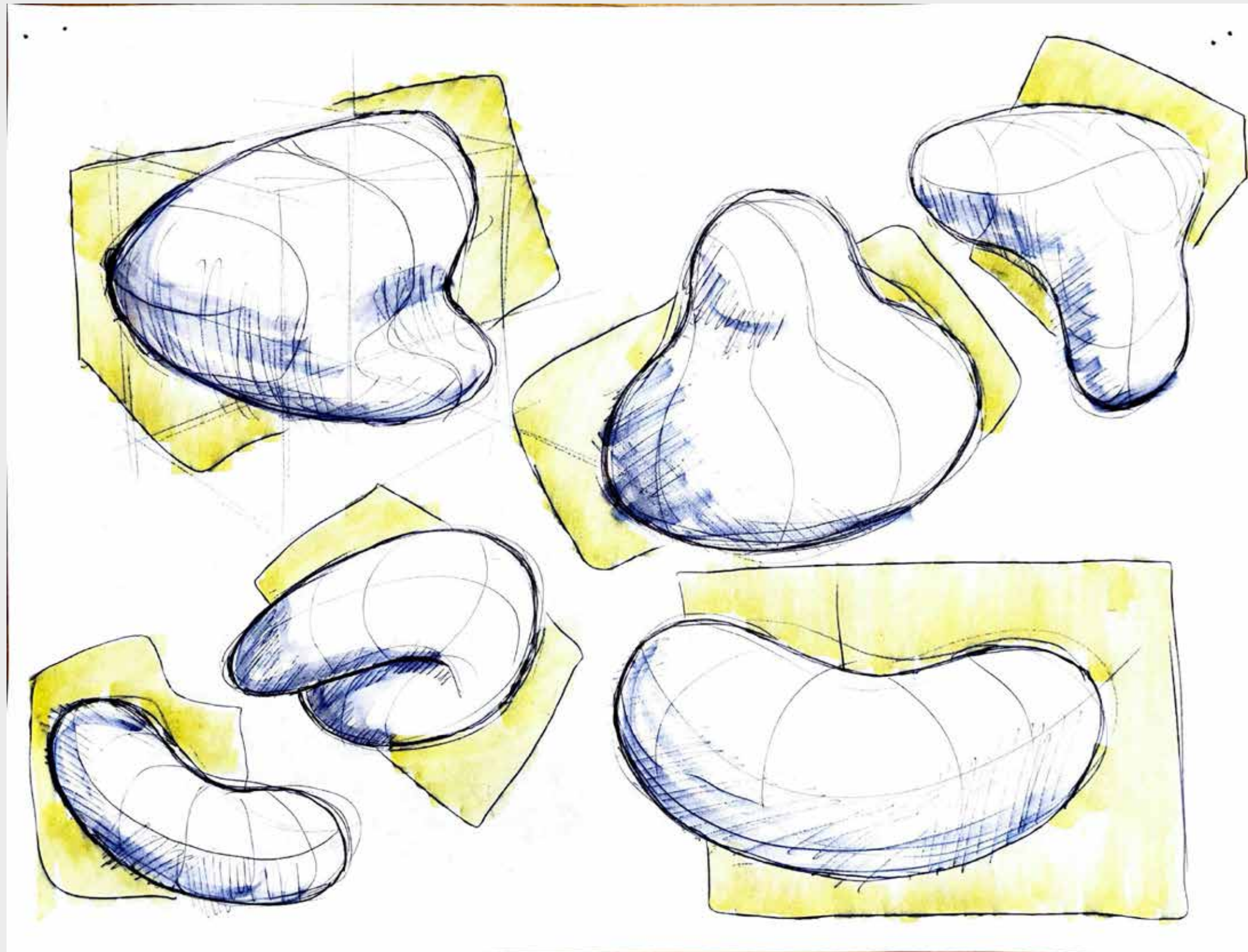


Images: David Ausman, Drawing: Edward Smiljkovich



# SKETCHES

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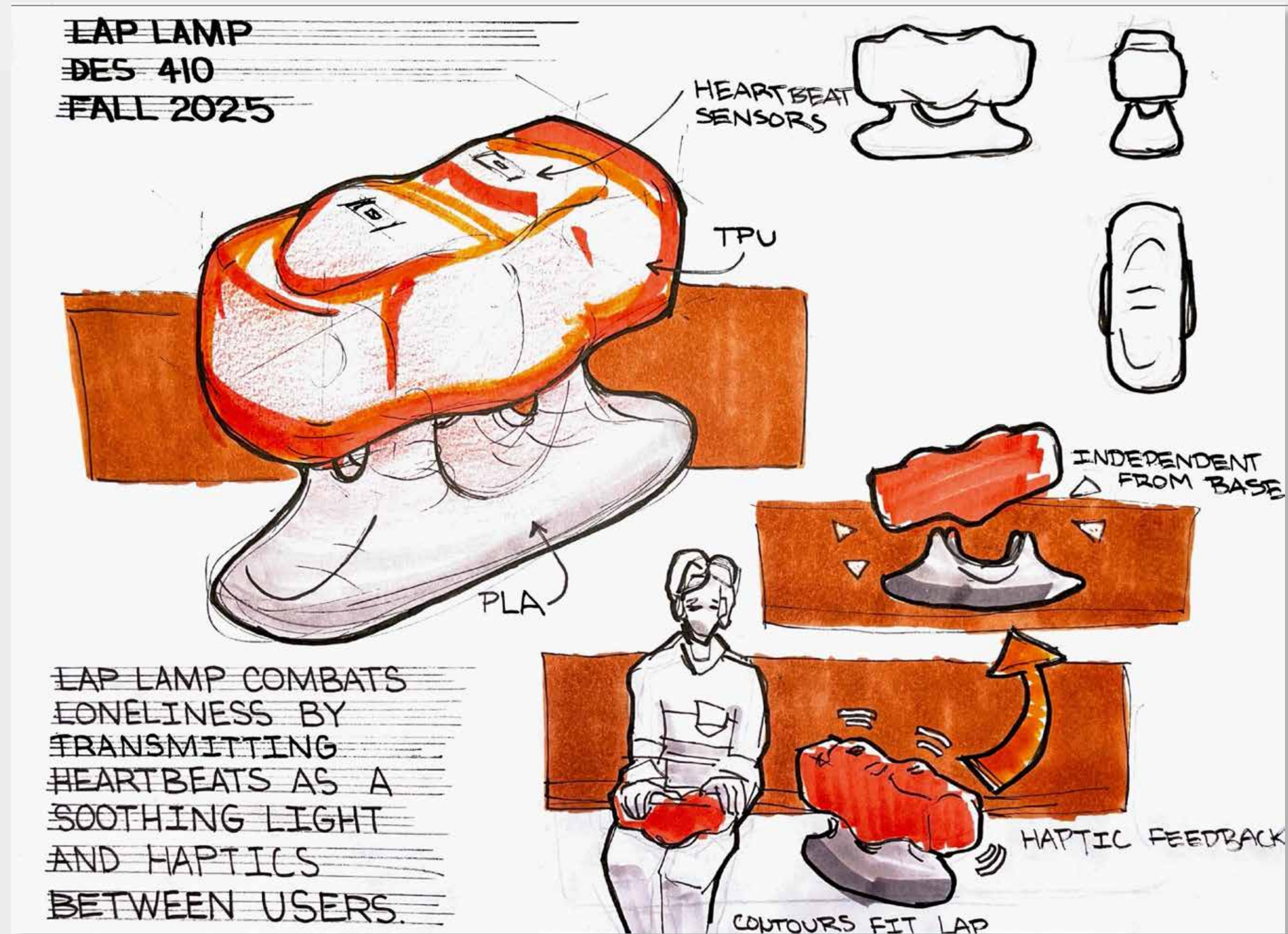


Drawings by Edward Smiljkovich



# SKETCHES

08



Drawings by Edward Smiljkovich



# LOW-FI MODELS

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These quick foam and cardboard mockups helped us dial in the size and comfort early by testing grip and softer corners, checking overall proportions and component space, and making sure it sits stable without feeling bulky.

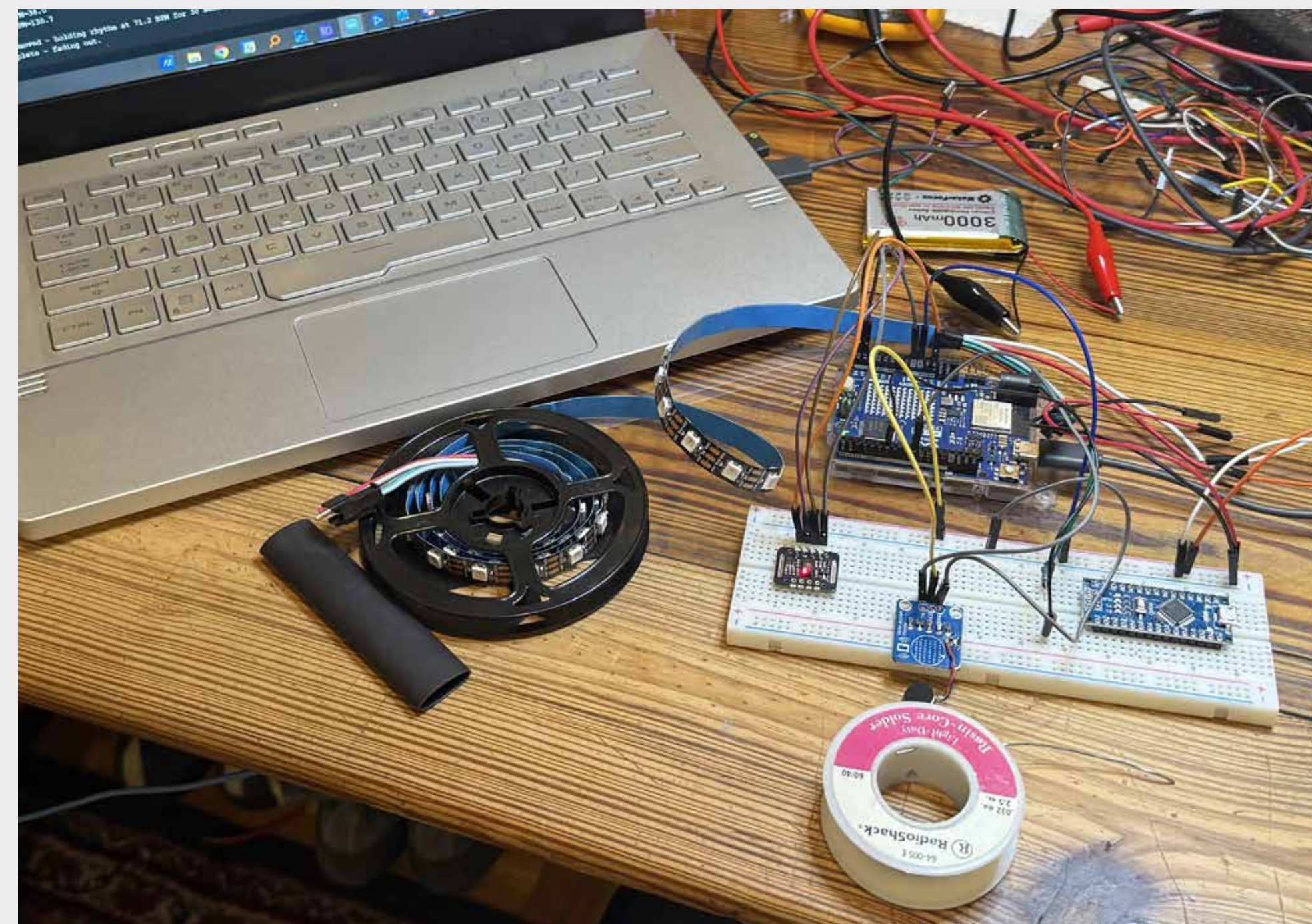
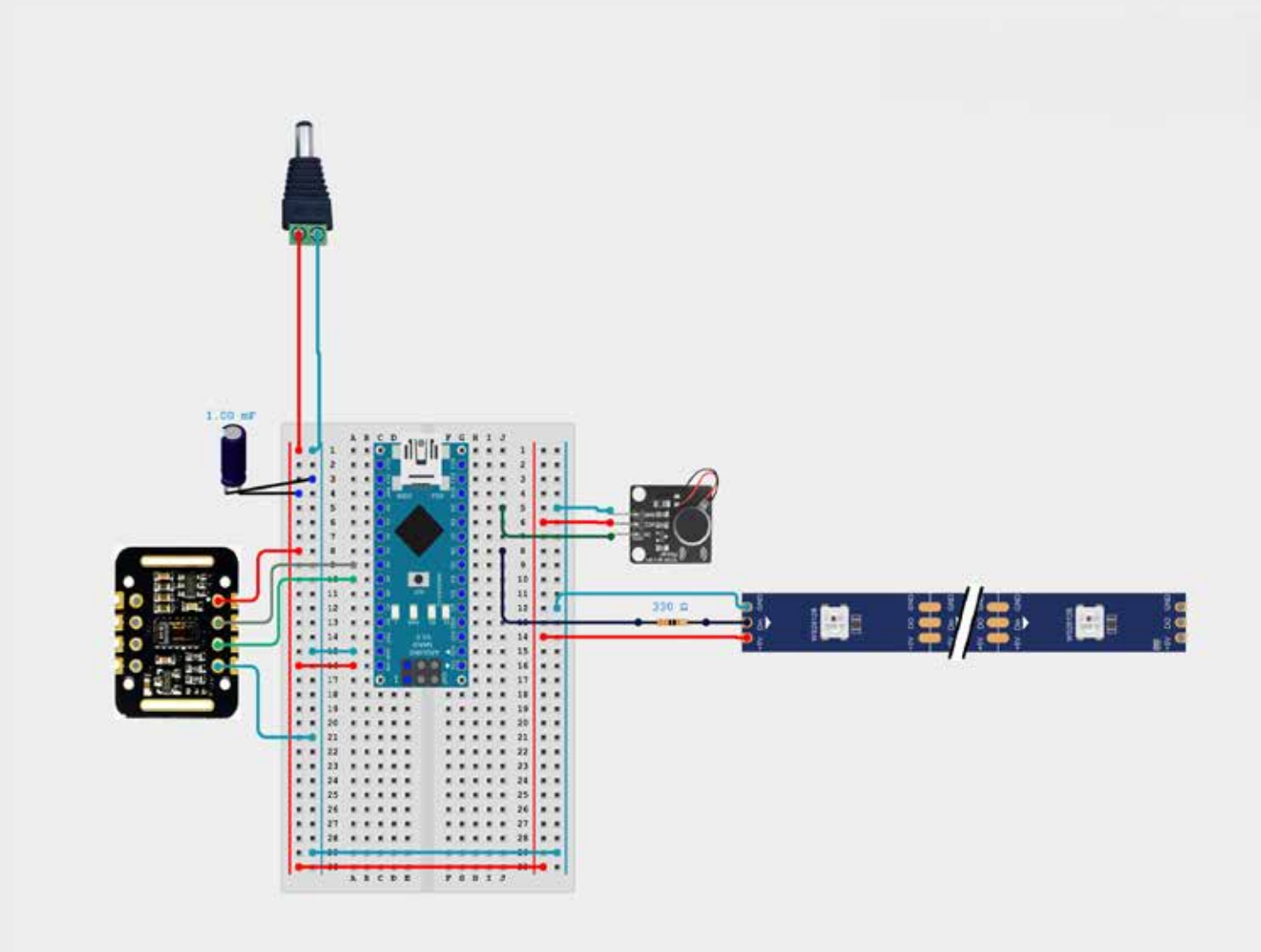




# ELECTRONICS

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I utilized arduino to allow the prototype to be interactive. With the use of a MAX30102 Heart Rate Sensor Module, WS2812B Addressable LED Strip, and Vibration Motor Module, I was able to create a working prototype of the Lap Lamp.



Circuits by David Ausman

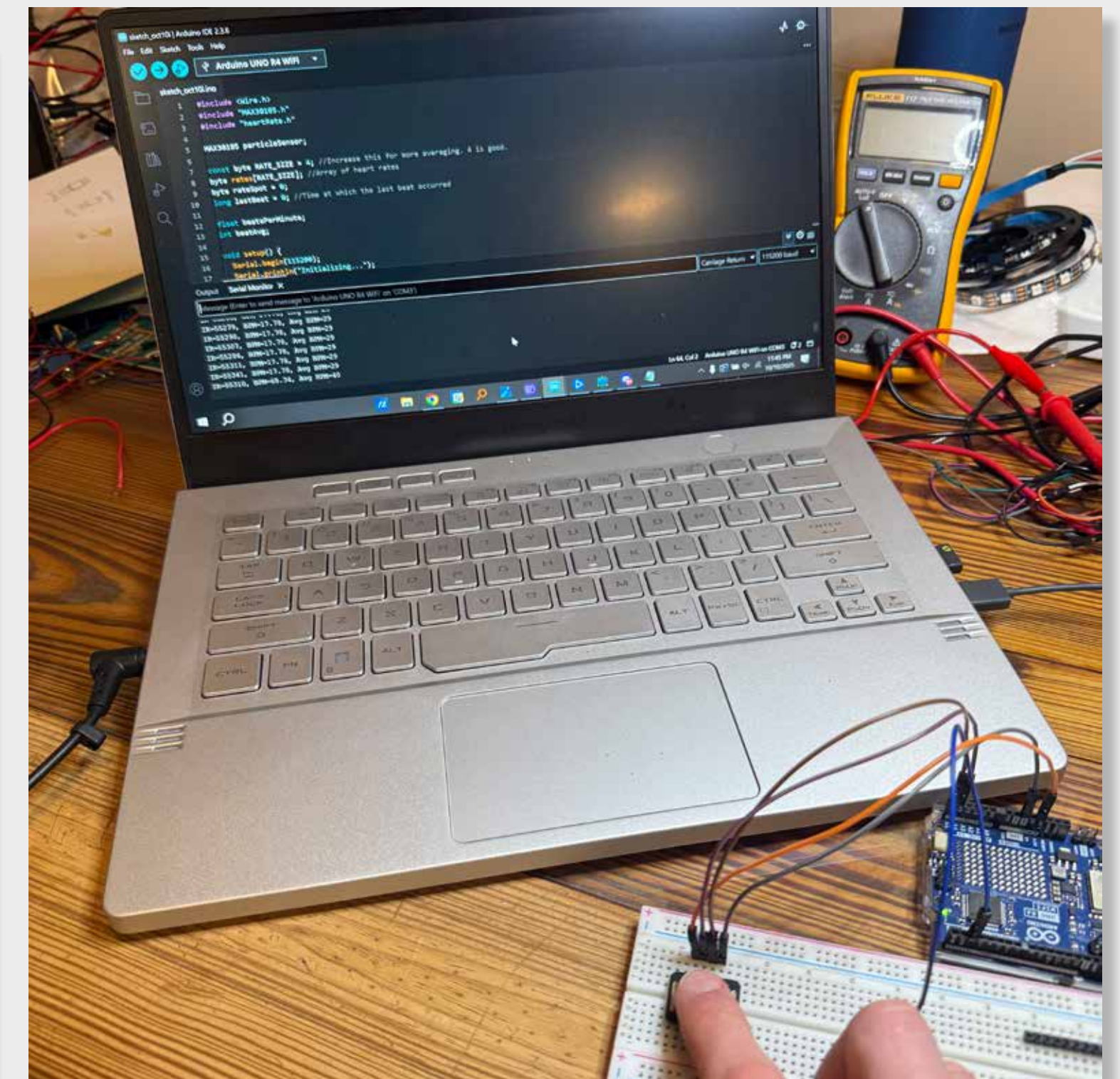
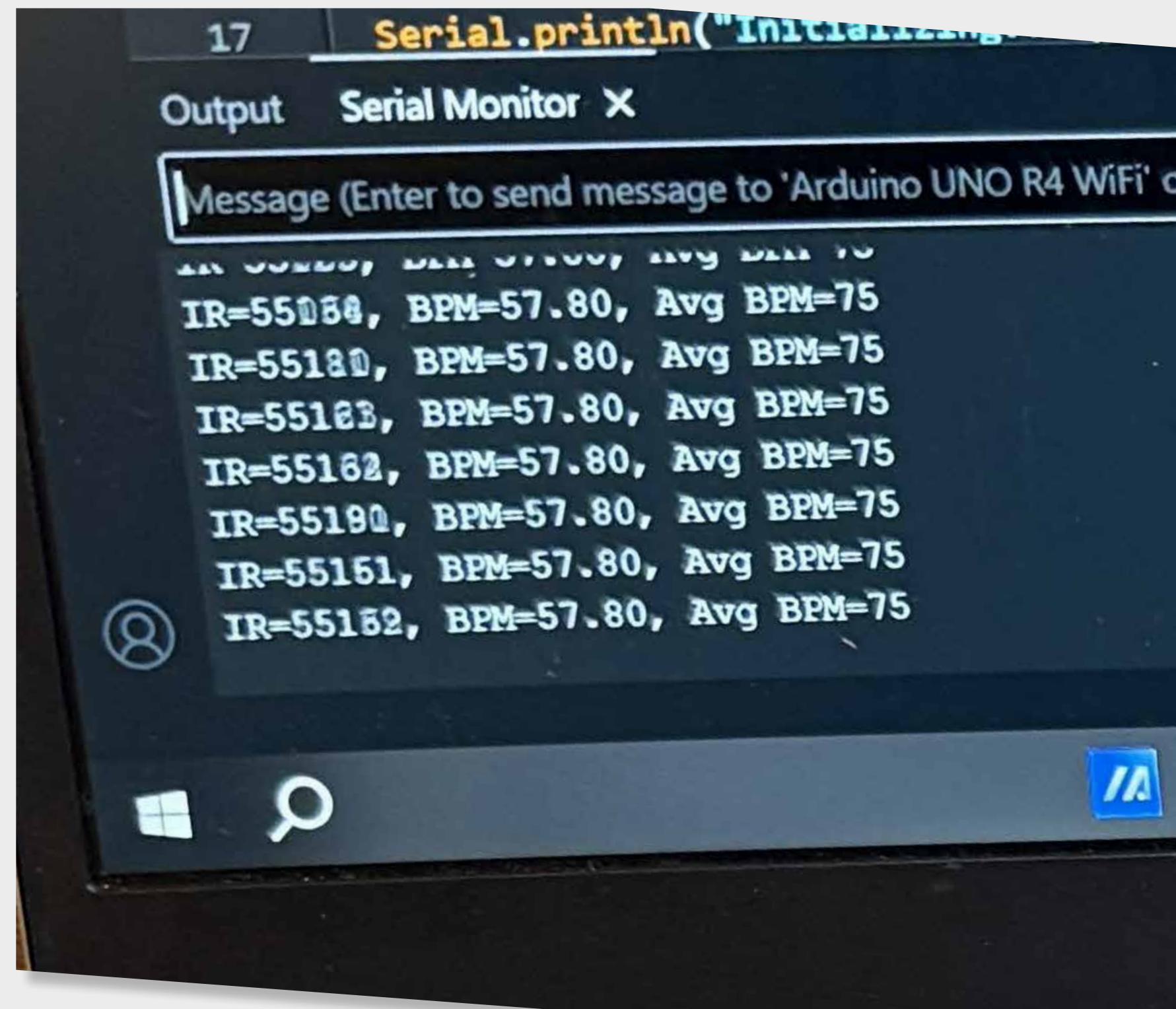


# FUNCTION

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Lap Lamp is designed to reduce the sense of isolation that can come with extended screen time by offering a simple, physical way to check in. It reads your heartbeat and translates it into a gentle pulse of light and vibration. When two Lap Lamps are paired, that same rhythm is mirrored on the other device in real time, creating a quiet shared signal. The soft TPU body is intentionally flexible so it can be comfortably held, hugged, or placed on a lap.

1. Hold a finger on either heart rate sensor while the light flashes.
2. After about 5 seconds, Lap Lamp locks in your BPM and begins pulsing with light and vibration.
3. When paired with a second Lap Lamp, your BPM is sent to the other device and mirrored in real time.



Circuits by David Ausman



# RENDER

012

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Lap Lamp





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