Cincinnati, USA

Design for Wellbeing:

Generative Visual Music for Anxiety Reduction

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Visual Music for Anxiety Reduction


ANXIETY

Cross-Disciplinary Team

Emily Verba Fischer –
Visual + Interaction Designer

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Musician + Sound Designer

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Psychologist + Art Therapist

Jill Gomez, Ed.D. –
Mindfulness + Social Work

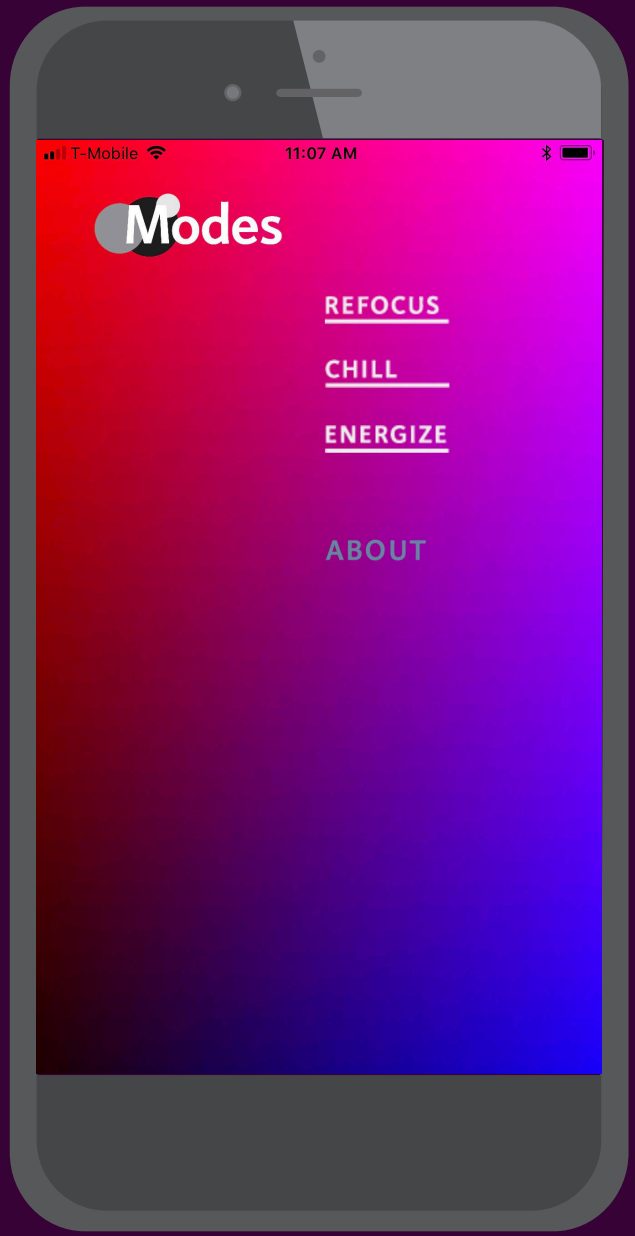
Hazem Said, Ph.D. –
Development

The 3 Modes

REFOCUS

CHILL

ENERGIZE



Sound Design Methodology

PART 1_ Music composition

— *Lower consistent volume*
— *Consistent placement*
— *Drives the environment*

PART 2_ Interactive frequency

— *Variable volume levels and placement*
— *Grows the environment*

Music Composition

TIMBRE — *The quality given to sound*

MELODY — *An agreeable arrangement of sounds*

RHYTHM — *A regular, repeated pattern of movement or sound*

Interactive Frequency

— *6 second tones with unique textures used in a binaural setting*

— *A psychoacoustics processor creates a 360 degree listening space*

— *All tones are in the same key as the composition filling different spatial positions*

Refocus Mode

- *Light but steady*
- *Soft guitar*
- *Midrange textures driving the music*
- *High tones*
- *Low frequencies*
- *Bass and synths*

Chill Mode

- *Warming, walking, composition*
- *Low bass music and overtones driving music*
- *Midrange tones*
- *Frequencies: piano and variations of piano, synth*

Energize Mode

- *Upbeat, moving composition*
- *Fender rhodes driving and piano notes driving music*
- *Tones: strings, hard piano, strong synth sounds*

Sound Design Methodology Conclusion

Effectiveness is determined by the overall sound and musical properties that have been specifically written and recorded to either Refocus, Chill, or Energize a user. Each sound environment elicits a different “feel” unique to the environment’s characteristics — and, in combination with the visual and interaction design elements, allows bachelor student users to Refocus, Chill, or Energize.

Visual Design Methodology

PART 1_ Color

PART 2_ Circle

Color psychology guides the user towards anxiety reduction.

HUE — *"A property of color that represents the generic names of family groups within the visible spectrum"* (Puhalla, 2011)

SATURATION — *"Brightness or intensity"* (Albers, 1963)

VALUE — *"A color's lightness or darkness"* (Puhalla, 2011)

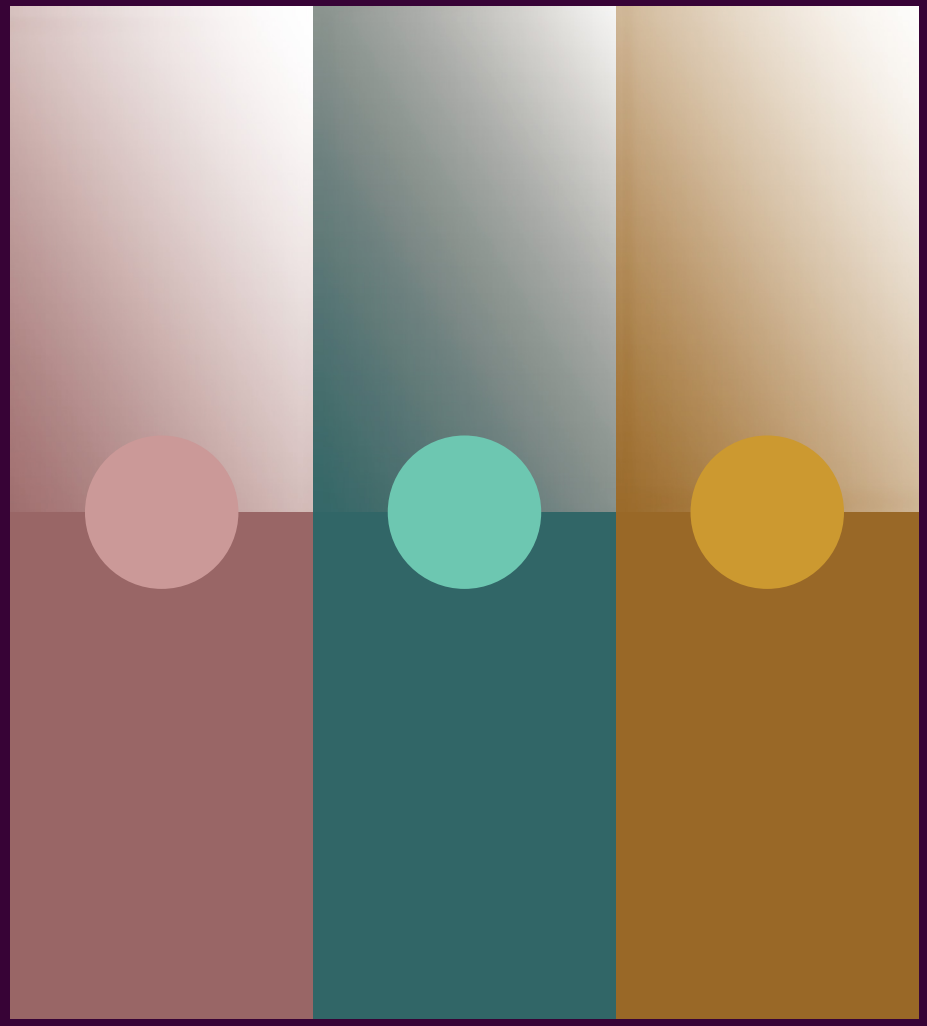
Refocus Mode

— *Intention: to move from scatter-brained state to grounded, clear-headed state*

— *Grounding, warm earth tones (hue)*

— *Mid level saturation*

— *Dark, heavy values*



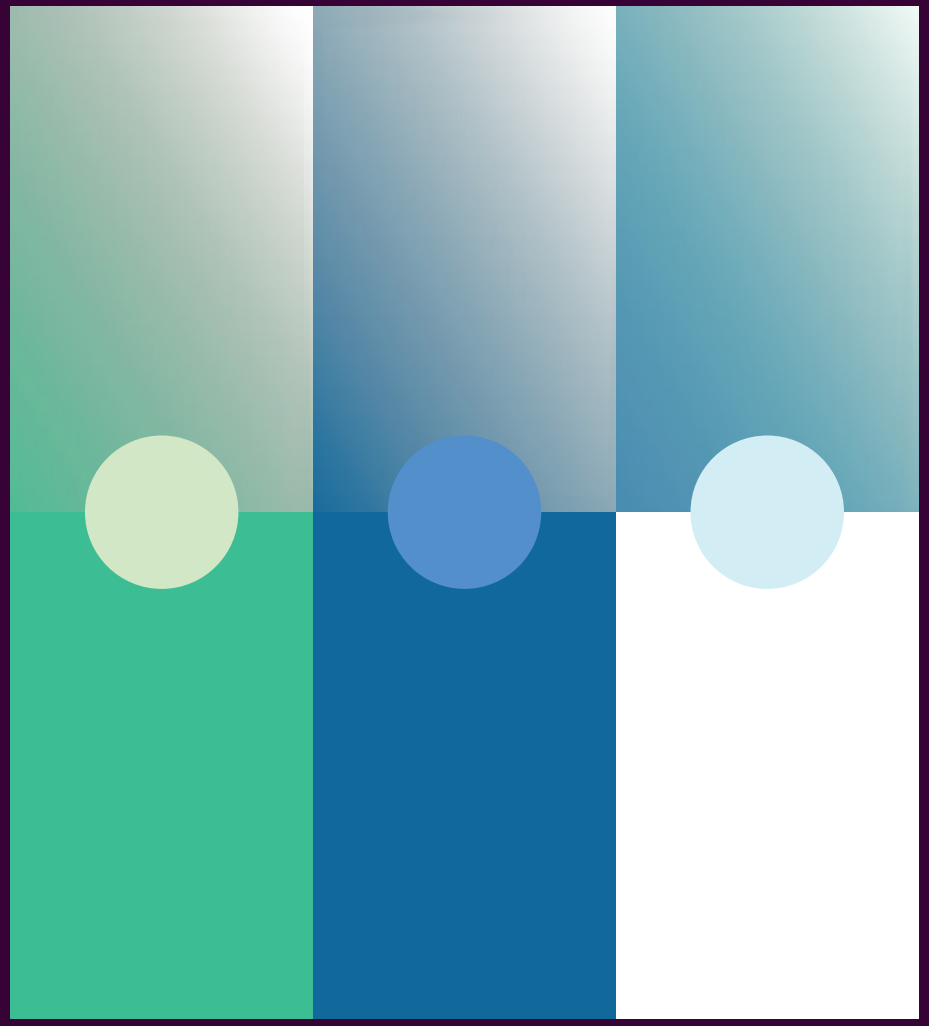
Chill Mode

— *Intention: to move from fiery, angry state into cool, collected state*

— *Cooling, oceanic colors (hue)*

— *Medium saturation*

— *Range of values*



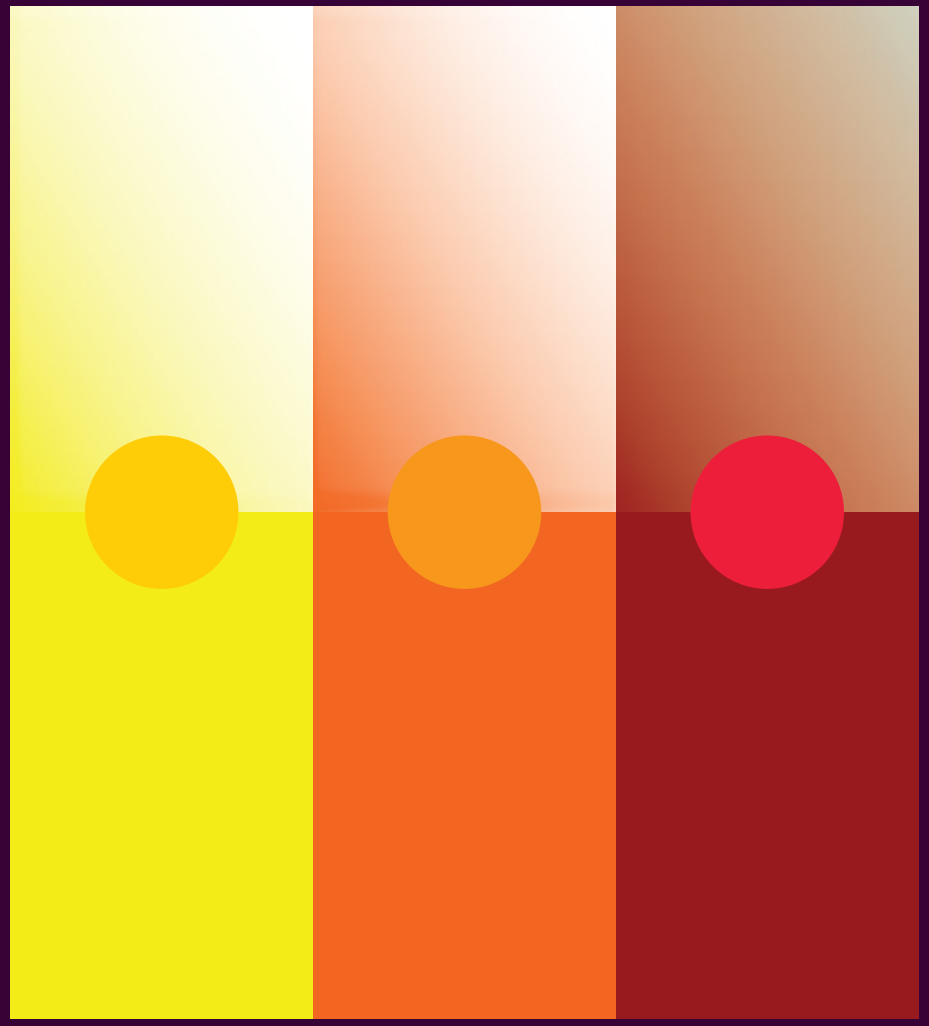
Energize Mode

— *Intention: to move from inert, sluggish state to lively, rejuvinated state*

— *Fiery, warm hues*

— *Bold saturation*

— *Mid-to-dark values*



“The circle is the first, perfect shape... The space speaks of potential — the tension between what is achieved and what could be achieved.”

(Gestalten, 2008)

Circle behaviors are linked to 6 available GESTURES:

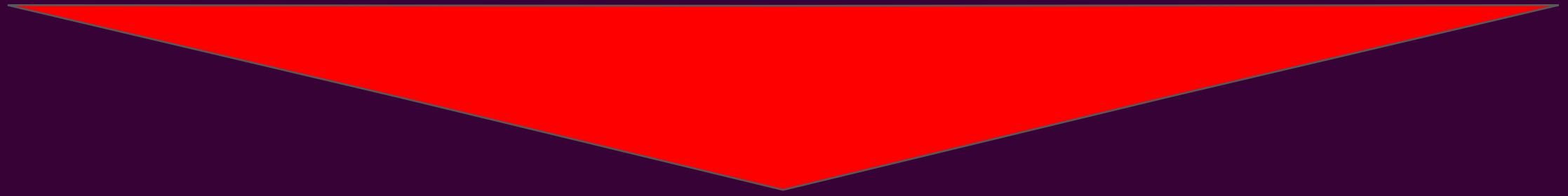
1.TAP — 2.SWIPE — 3.PINCH — 4.REVERSE

PINCH — 5.DRAW — 6.PRESS and HOLD

Gestures

1.TAP — 2.SWIPE — 3.PINCH — 4.REVERSE

PINCH — 5.DRAW — 6.PRESS and HOLD

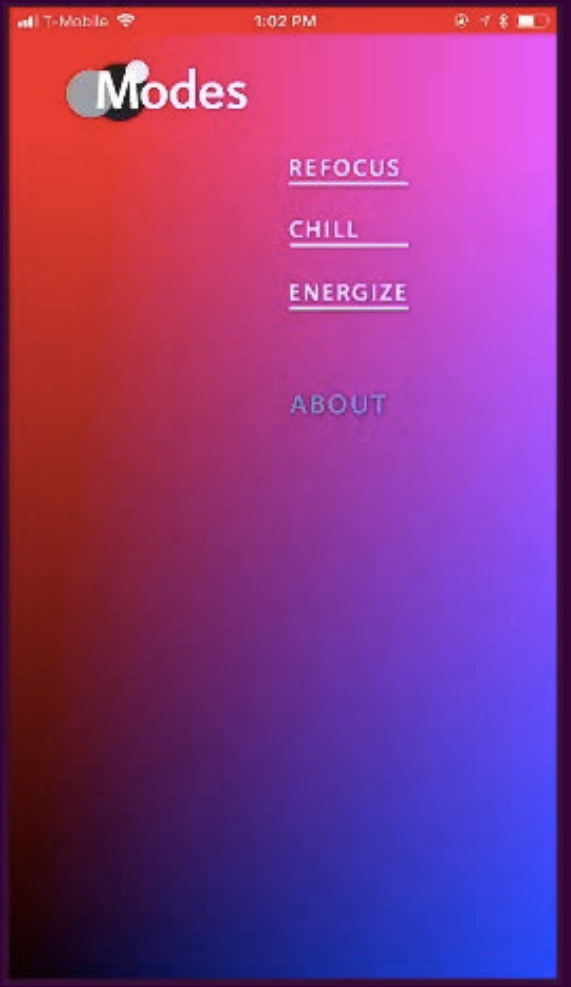


MUSIC: Trigger background track and tone per gesture

VISUALS: Trigger circle behaviors and color considerations

Demo Video

Various combinations of:
Tapping
Swiping
Pinching
Reverse Pinching
Drawing
Pressing and Holding



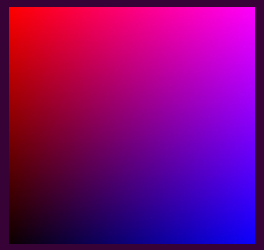
Research Methods: Pilot Study Measurements

— *1_ The reduction of self-reported anxiety in bachelor students*

— *2_ The reduction of bachelor student heart rates*

12 participants — Average age: 23.6 — Average year in school: 1.4
Race / ethnicity: 11 Caucasian and 1 Mixed

Time 1



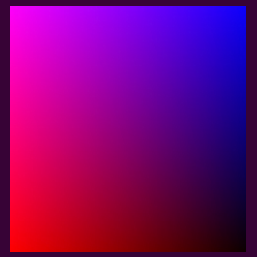
Consent form

Demographic questionnaire

State Trait Anxiety Inventory

Baseline heart rate (HR)

5 minutes



Interaction with Modes

Continued recording of HR

Time 2

State Trait Anxiety Inventory

Baseline heart rate

Findings

Pre-Modes anxiety score average: **91.75**
Post-anxiety score average: **80.17**
Average change from pre to post: **13 points**
84% of people had a decrease in anxiety

“It did get my leg to stop shaking which is more of an unintentional thing.”

“I don’t feel as anxious.”

“I thought the app was fun. It held my attention the entire time which is hard to accomplish.”

Conclusion

The attention to visual, interaction and sound design harmony within the Modes digital tool ultimately correlates to the inner harmony experienced within the user when anxiety is reduced.

THANK YOU

Available on the app store (for iPhone only so far)
modesapp.com

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