



# Tranquil - Artera

Heather Dinh, Victoria Reed, Archana  
Neupane, Samar Khan, John Rollinson

# The Problem

- 31% of adults in the US experience anxiety disorder at some point in their lives
- Few options to effectively handle their symptoms and reduce high levels of anxiety
- Costly, timely solutions



# Our App Tranquil

## Our Solution:

- Quick & minimally invasive in people's daily lives to combat their anxiety
- Combines wearable tech + iPhone
- Aimed at younger, working professionals/ students with a busy schedule





**Notification  
Demo**

3:25



Current Heart Rate: 78

Show Notification: false

# TRANQUIL

Breathing Exercises

Journal

History

AI Chatbot





# Feature Demo



Current Heart Rate: 112

Show Notification: false

# TRANQUIL

Breathing Exercises

Journal

History

AI Chatbot

# Technology and Its Challenges - Software



**Xcode and Swift**



**HealthKit**



**Firebase**



# Technology and Its Challenges - Hardware



**Apple Watch Series 7**

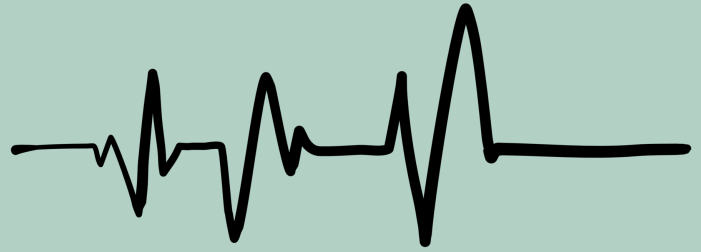


**The iPhone**



**The MacBooks**

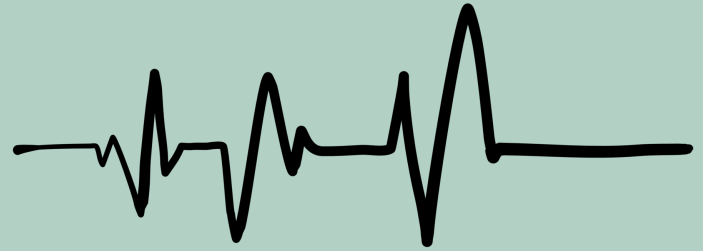
# Research Background



## Heart Rate Variability

- Medical study used: “Heart rate variability metrics for fine-grained stress level assessment”.
- In the study HRV metrics were used in short term analysis to assess how stressed the test subjects were.
- This study represents an extensive characterization of of HRV that enables the selection of the metrics sub-set which could be used in short-time windows to assess the physiological correlation of stress.

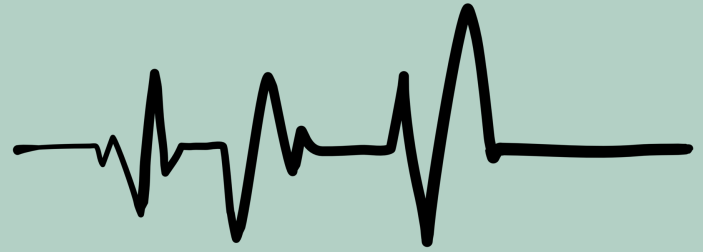
# Research Background



## Breathing Exercises

- Medical study used: “The Effect of Diaphragmatic Breathing on Attention, Negative Affect and Stress in Healthy Adults”.
- The Psychological studies revealed breathing exercises to be an effective non-pharmacological intervention for emotion enhancement (Stromberg et al., 2015), including a reduction in anxiety, depression, and stress (Brown and Gerbarg, 2005a, b; Anju et al., 2015).

# Research Background



## AI Chat Bot

- Medical study used: “Artificial Intelligence–Based Chatbot for Anxiety and Depression in University Students: Pilot Randomized Controlled Trial”
- “Although the initial evidence on the efficacy of chatbots is promising, research on chatbots is still in its initial stages.”
- “Students spent a considerable amount of time exchanging messages with Tess and positive feedback was associated with higher numbers of messages exchanges. The initial results showed preliminary evidence regarding the effectiveness of Tess in addressing anxiety symptoms”

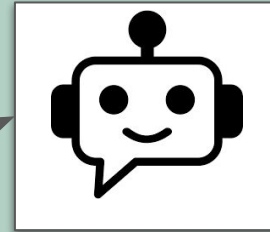
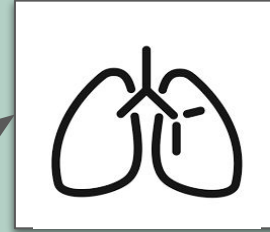
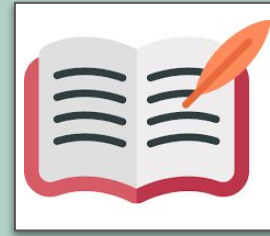
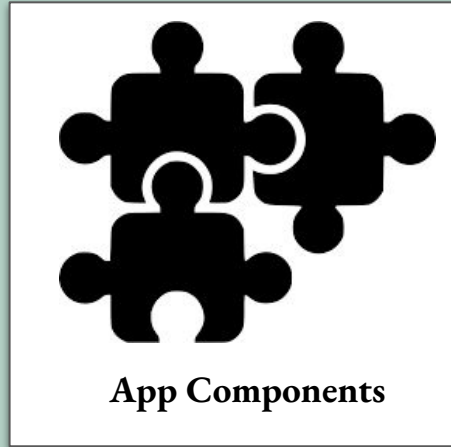
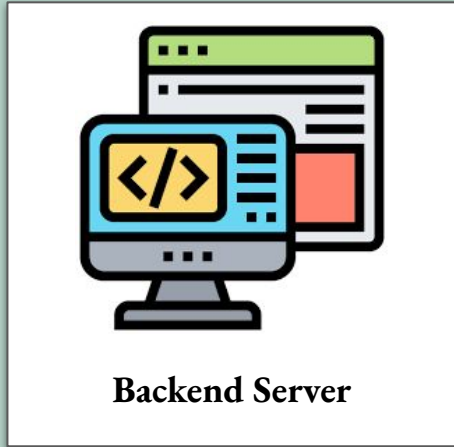
# Research Background



## Journaling

- Medical study used: “Online Positive Affect Journaling in the Improvement of Mental Distress and Well-Being in General Medical Patients With Elevated Anxiety Symptoms”
- “The results of this randomized controlled trial provide preliminary evidence that PAJ is a feasible and well-accepted intervention that can be implemented on the Web for effectively reducing some aspects of mental distress and improving aspects of well-being among medical patients with mild to moderate anxiety symptoms.”

# Next Steps





**Thank  
You**

# Instructions for Presentations (Demos)

---

UC Santa Barbara

- ❖ Will be **evaluated!**
- ❖ Presentations worth a significant portion of grade
  - Order of teams will be on the class schedule website
  - 10 mins max (**points for getting the timing right!**)
  - Setup/laptop must work! **Points deducted if it doesn't**, so test in advance
  - **Will be recorded**
- ❖ Outline (~1 slide each) – **all members** of team should speak
  - Introduce team and **give team name and company**
  - Introduce the problem
  - Overview and demo how you solve it: use pictures, demo recording OK
  - Provide some technical details, novelty and challenges (2 slides max)
  - Next steps (plan for what is left / CS189B)