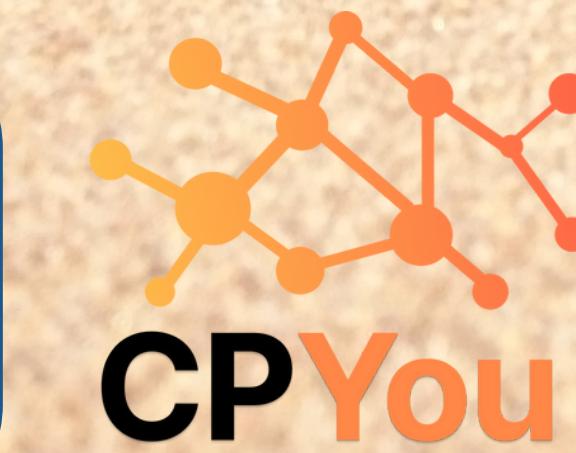




Curtin University

Human Computer Interface

Amicia



Designs that connect us





Acknowledgement of Country

We'd like to begin by acknowledging the Traditional Owners of the land on which we meet today, the Whadjuk people. We wish to pay our respects to Elders past and present.



1 in 5 Australians
aged 16-34 are
highly stressed*

STRESS MANAGEMENT IS KEY TO
REDUCING OUR GROWING
STRESSED POPULATION

*First insights from the National Study of Mental Health and Wellbeing, 2020-21 | Australian Bureau of Statistics (abs.gov.au)



Our Solution: Amicia App

WELLBEING AI ASSISTANT

A powerful assistant that learns the user's behavioural patterns to deliver personalised support and real time analyses of biofeedback data.



ENVIRONMENT TRACKING

GPS tracking and biofeedback used to generate stress heat maps that evolve over the user's day.

BIOFEEDBACK MONITORING

A mobile app that works with smart watches to track stress levels and collate environmental data.



Understanding your mental state empowers you to control it

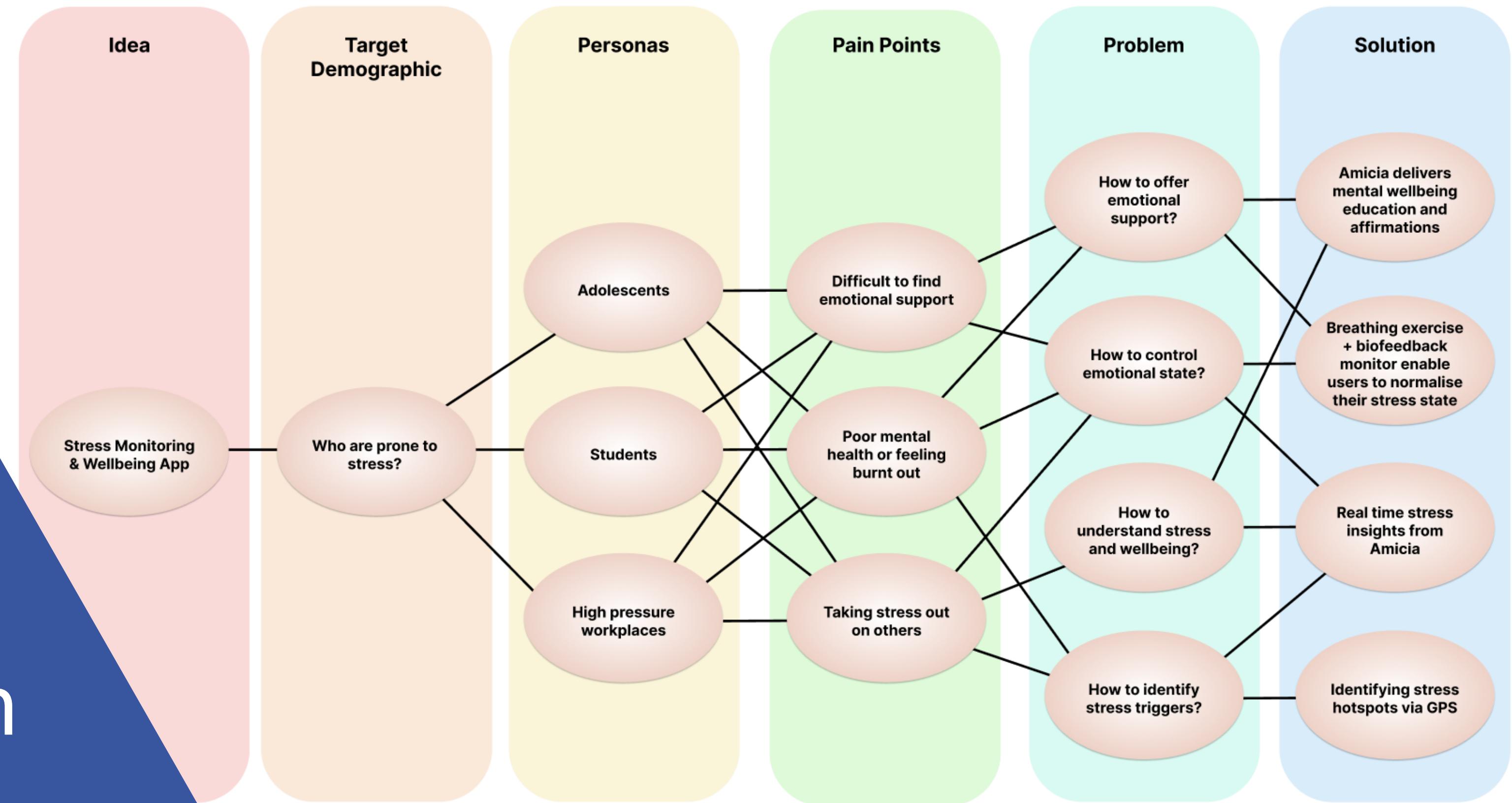
- Trains the user to voluntarily control biofeedback in controlled breathing exercise
- Amicia helps user's to identify stress triggers in their environment
- Historical data recorded into stress level graphs to allow reflection of mood changes

A photograph of a young woman with long dark hair, wearing a grey sweater, sitting at a desk in what appears to be a library or study area. She is holding her head in her hands, looking down with a distressed expression. In the background, a man is visible, also seated at a desk.

Wellbeing interventions at critical times of stress

- Amicia learns when user's are outside their normal stress levels
- Affirmations provide some form of immediate emotional support
- Wellbeing education tailored to the user. E.g. healthy sleep cycle
- Breathing exercises allows users to recompose themselves

Design Process



EDA Scan by Fitbit

- 1 Provide user with information about how the app will measure their stress
- 2 Display countdown timer for breathing exercises—perhaps with some form of visualisation
- 3 Record streaks of app interaction to encourage continual use by the user



Pros

Gives the user a little bit of information about what EDA scans are

Provides visual instruction as to how to use the app

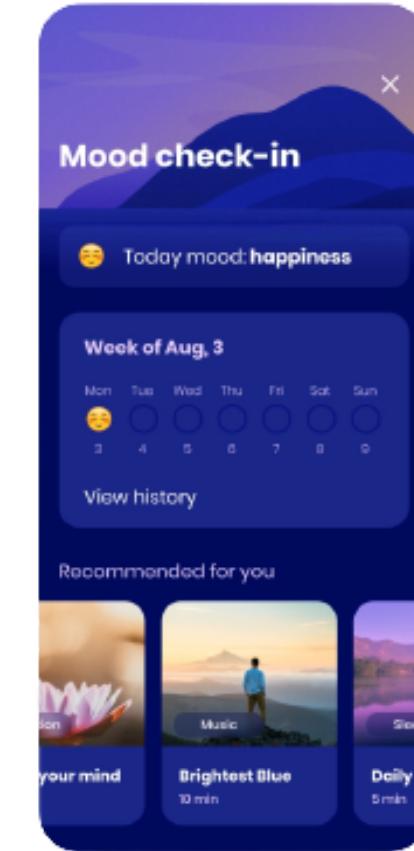
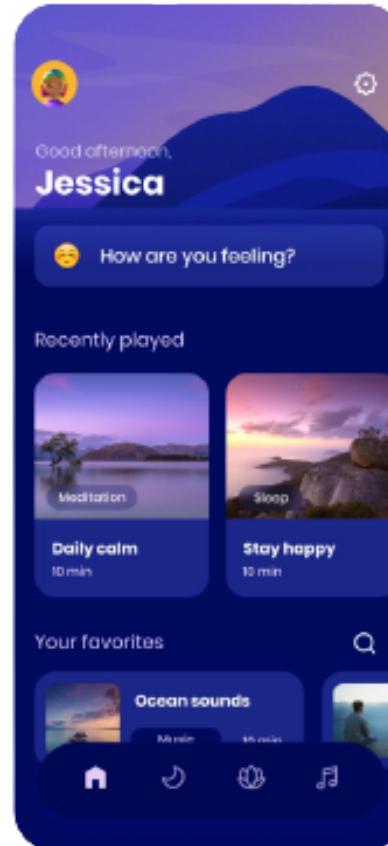
Records streaks of usage to encourage user to regularly conduct EDA scans

Cons

Conducting a scan is a bit of an inconvenience
—user must sit still for a 2 minutes, pinching the sides of the Fitbit or placing their palm over the screen (depending on the Fitbit model)

Calm

- 1 Consider playing background sounds while user is interacting with the app itself or its specific features (e.g. play the sound of a creek while conducting breathing exercises)
- 2 Avoid making the app paid. However, if so, ensure all of the core functionality comes at a reasonable price
- 3 Design a clean, somewhat minimalistic UI



Pros

Offers both iOS and watchOS apps

Plays calming background sounds (creek, valley, rain etc.) on iOS

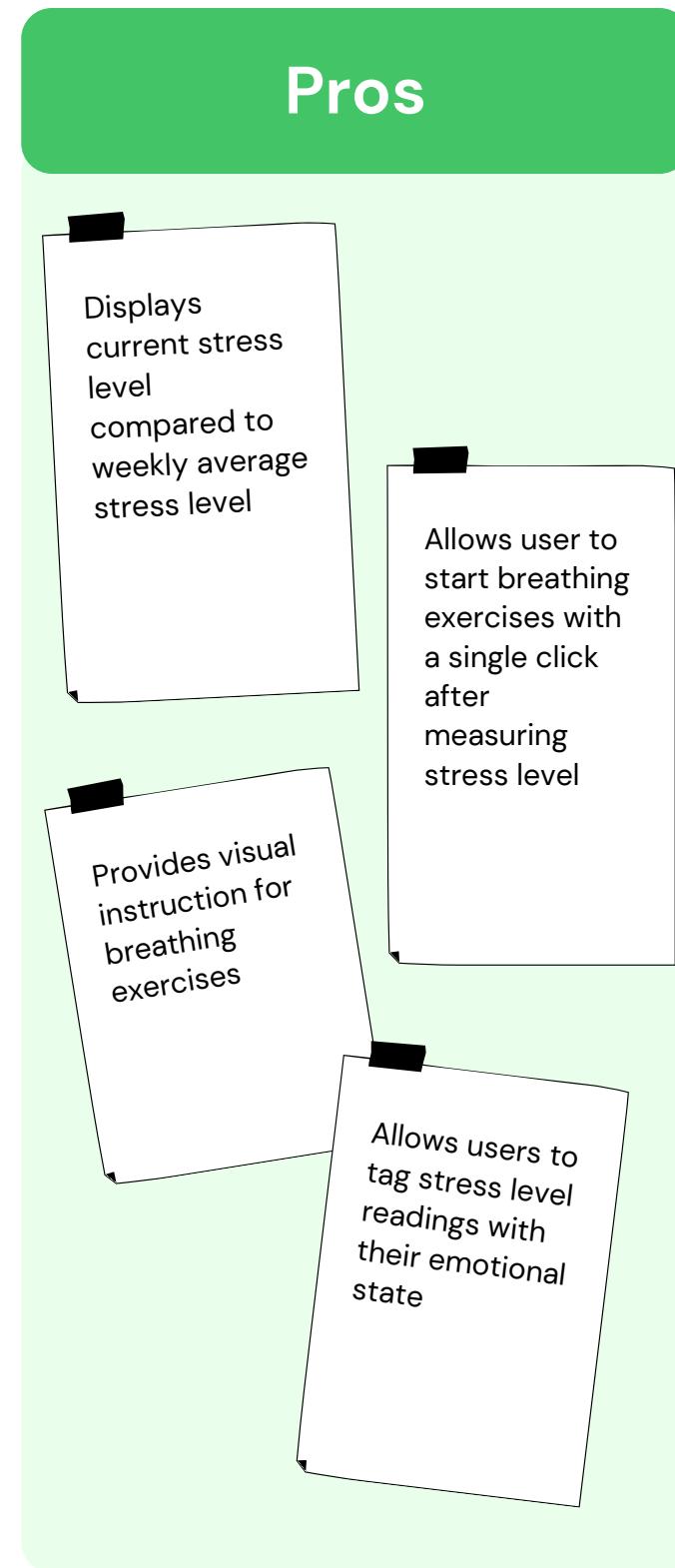
Cons

Subscription-based-costing
\$19.99 per month or
\$79.99 annually

Cluttered iOS UI

Samsung Health by Samsung

- 1 Display some form of comparison between stress levels so user has an understanding of their relative wellbeing
- 2 Ensure all of the core functionality can be interacted with in only a few clicks
- 3 Allow users to reflect on their well-being periodically



Target Demographic



Adolescents



Students



**High Stress
Workers**

Why?

Australians aged 16-34 years are stressed at more than twice the rate of those aged 65-85 years.*

*First insights from the National Study of Mental Health and Wellbeing, 2020-21 | Australian Bureau of Statistics (abs.gov.au)



Jonus, 22

Perth, AUS | Curtin University | Med Student

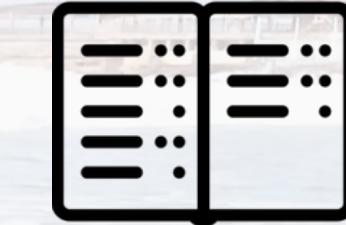
“Always looking for time to spend with my family and friends but it can get a bit hectic during the semester.”

Jonus is an avid basketball player hoping to make it onto the U25s WA state basketball team. He enjoys going to the beach with his girlfriend, hiking with his best mates and cooking with his mum and dad. As much as he loves being social, Jonus has been having difficulty finding time to connect with others as of late, and it is starting to feel overwhelmed juggling all of his commitments.

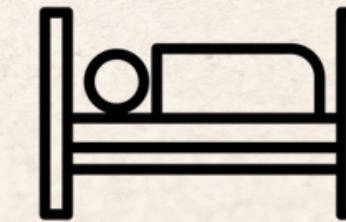
Frustrations

- Securing his future if his basketball dreams don't pan out how he hopes.
- Constant pressure to perform as an athlete, but also stay close to all of his loved ones.
- Needing to use apps with poor UI/UX for his studies

Pain Points



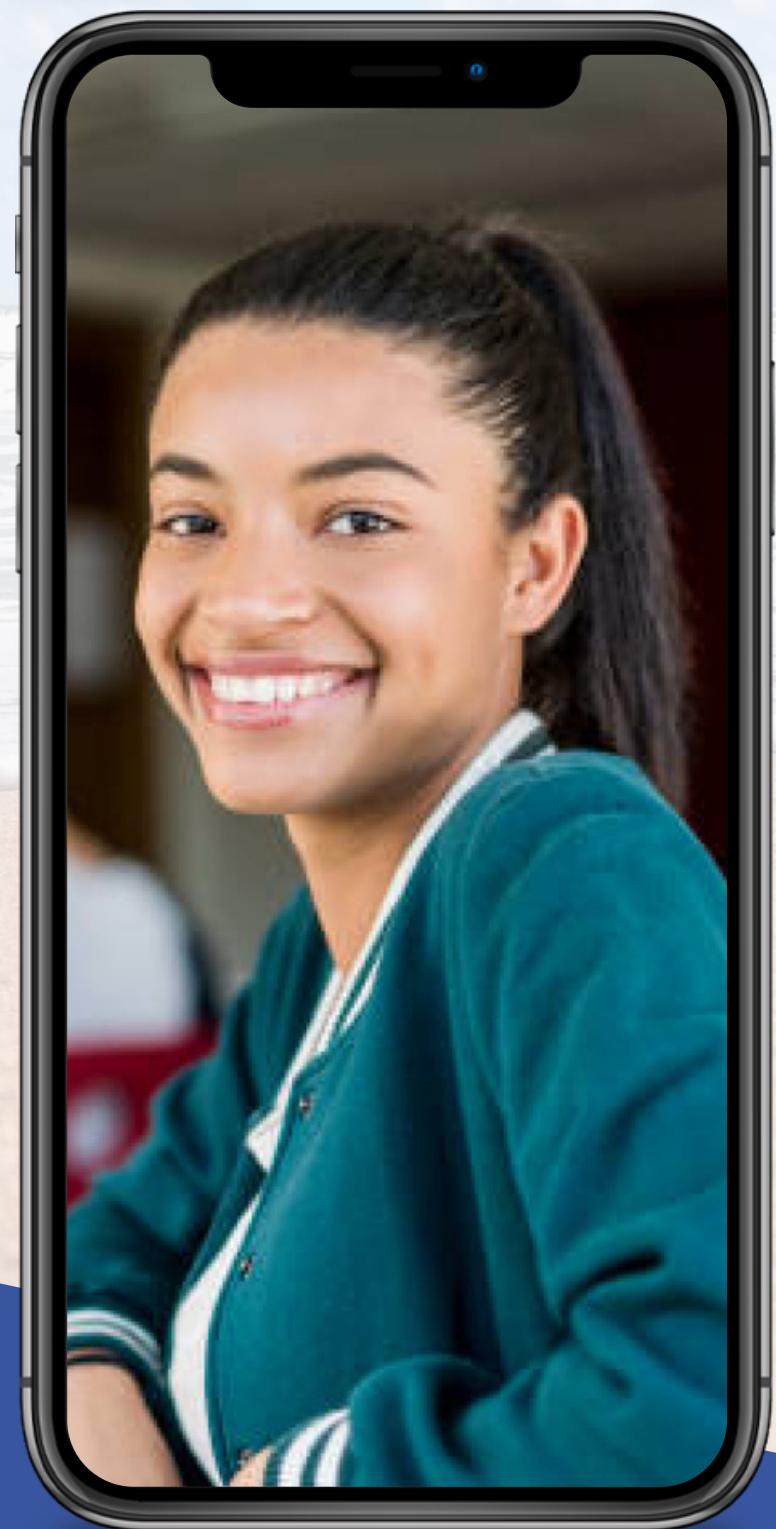
Academic Pressure



Poor Sleep Routine



Mindful of Mental Health



Mina, 15

London, UK | Morehouse High School | Adolescent

“It’s tough keeping up at school with ADHD but art has become an outlet for all my creative energy.”

Mina is a true creative at heart—always drawing inspiration from her surroundings in order to create paintings of a variety of different mediums including oil, watercolour and charcoal. Her parents aspire for her to attend the Eton School of the Arts once she graduates from High School, however, as of late she has been feeling more and more stressed about whether or not she's good enough to get admitted.

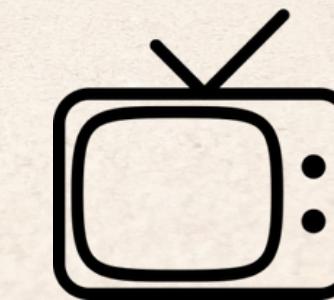
Frustrations

- Feeling guilty for not being capable to pursue a life her parents have invested so much in
- No easy access to help when she starts feeling anxious during the day
- Being so connected to technology despite it doing very little for her mental well-being

Pain Points



Mental Health Issues



Bad Habits



Where to find help?



Danielle, 32

New York, USA | Yale University | Lawyer

“You want to live, love, laugh? I want to gaslight, gatekeep, girlboss.”

Danielle is a Corporate Lawyer and has been for nearly 11 years now—studying Business and Law at Harvard University. She currently works at Becker and Yanagiraha, perhaps the most prominent law firm in all of New York and has been quickly climbing up the ladder of Corporate America. She's had her sights set on becoming the firm's youngest partner ever since she first interned there while in Law School. However, due to her success at the firm, she's starting to feel the pressure of having all eyes on her.

Frustrations

- Not being able to succeed as a career-long lawyer
- Constant need to present herself as strong and put together despite her work taking its toll on her from time to time

Pain Points



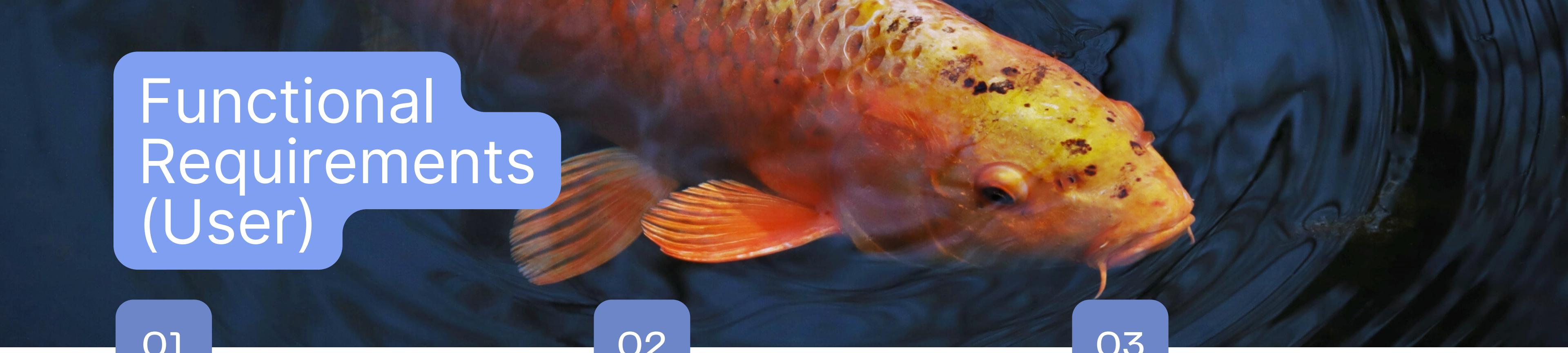
Poor Time Management



Overworked



Social Commitments



Functional Requirements (User)

01

Biofeedback viewing

View their current stress level, heart rate, blood pressure and oxygen levels in real time.

02

Controlled breathing exercise

Participate in a guided breathing exercise by following the breathing instructions and viewing the breathing animation.

03

Access features from Amicia's conversation

Access advice, affirmations and breathing exercises from the chat with Amicia.



Functional Requirements (User)

04

Find stress hotspot data

Find timestamp and biofeedback statistics for specific points of interests in the stress hotspots.

05

Stress timeline

Scrub through timeline of stress hotspots to view stress journey throughout the day.

Functional Requirements (System)

01

Stress intervention

Prompt users when they are experiencing high stress levels with a breathing exercise or advice.

02

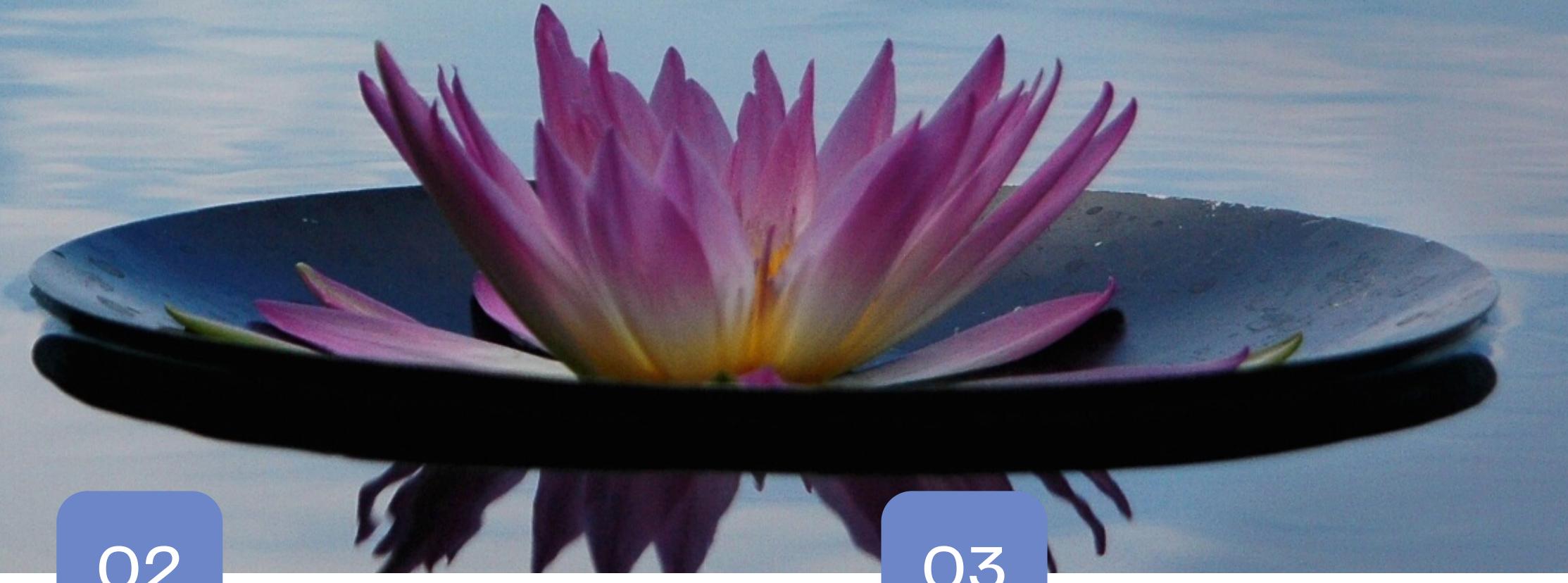
Biofeedback display

Display a graph of the user's stress levels throughout the day.

03

Stress hotspots

Construct hotspots using the user's GPS location and stress levels.



Functional Requirements (System)

04

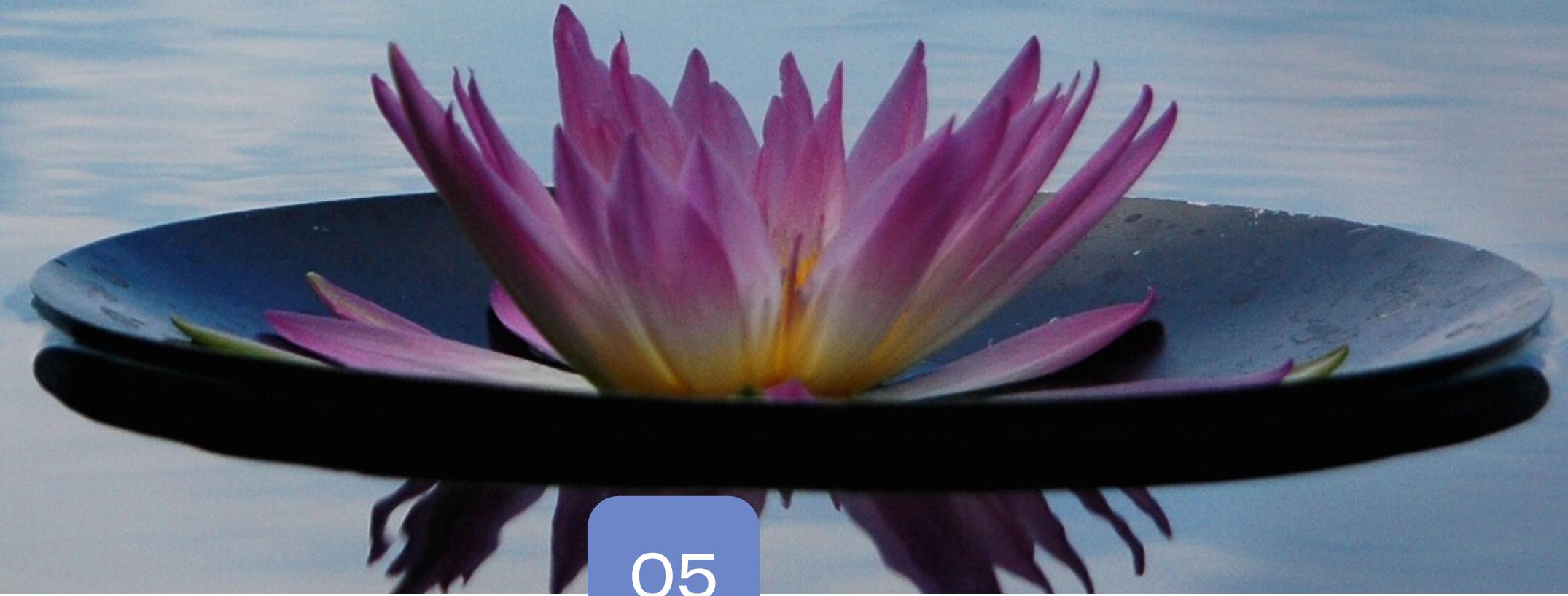
Monitor biofeedback

Monitor heart rate, blood pressure, electrodermal activity and oxygen levels.

05

Calculate stress levels

Use heart rate, blood pressure, electrodermal activity and oxygen to calculate the user's stress levels.



Non-Functional Requirements (User)

01

No reuse passwords

Users should not reuse the same password when updating their login details

Non-Functional Requirements (System)

01

Data storage

Store stress and biofeedback data for the past year.

02

AI Assistant Accessibility

Allow the user to access the smart assistant's help options in 2 clicks.

03

Cloud accessibility

Make the user's data accessible on multiple devices through the cloud.



Non-Functional Requirements (System)

04

OS support

Support iOS 14.3+ and Android devices 8+

05

Device support

Be compatible with Samsung Galaxy Watch 4 and Apple Watch Series 7

06

Backup intervals

Backup user data every 24hrs.

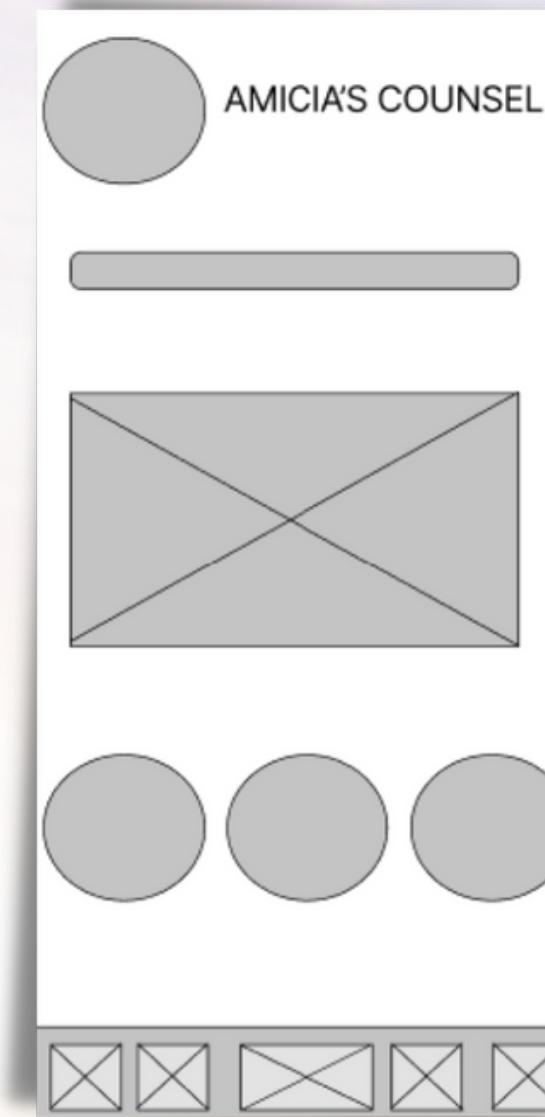
07

Biofeedback accuracy

Calculate stress level from biofeedback in <1ms



PROTOTYPING HOME



Wireframe

Key elements are Amicia, the stress graph pagination and the current biofeedback readings.

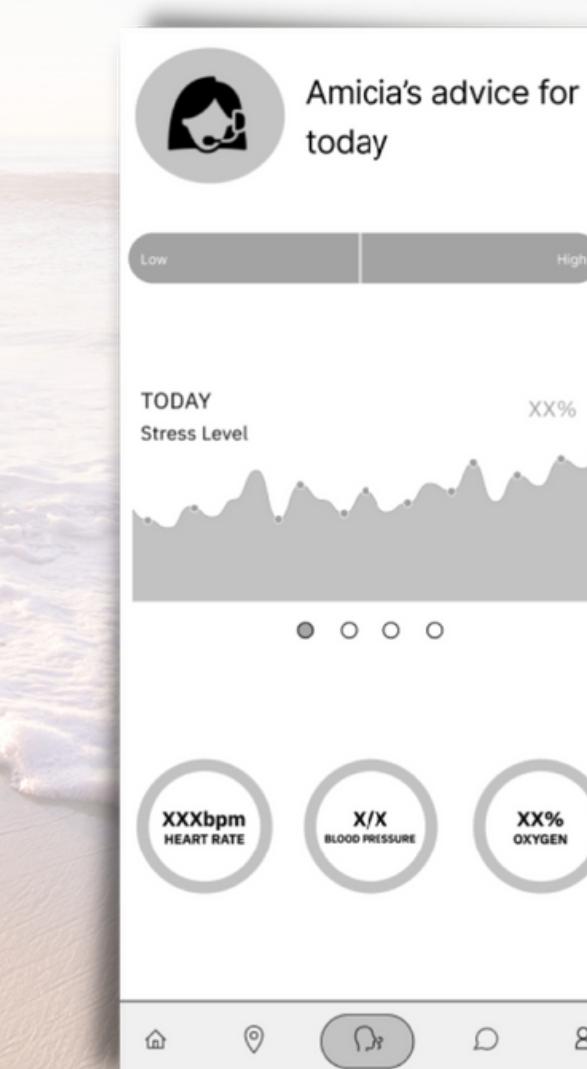
Circular readings envelope the idea of completeness and symmetry.



Low-fi

The stress bar is designed so that the user only needs to glance at it to get a reading.

The stress bar uses a familiar green to red indication of current stress levels.



Amicia's advice for today

Low

High

TODAY

Stress Level

XX%

...

XXXbpm
HEART RATE

X/X
BLOOD PRESSURE

XX%
OXYGEN

...

...

...



High-fi

Colour coding different biofeedback inputs makes it easier to learn and identify.

The stress graph palate resemble waves on a beach. A common motif in Amicia.



PROTOTYPING HOT SPOTS



Wireframe

Key elements are the heat map, location data, biofeedbacks and stress bar.

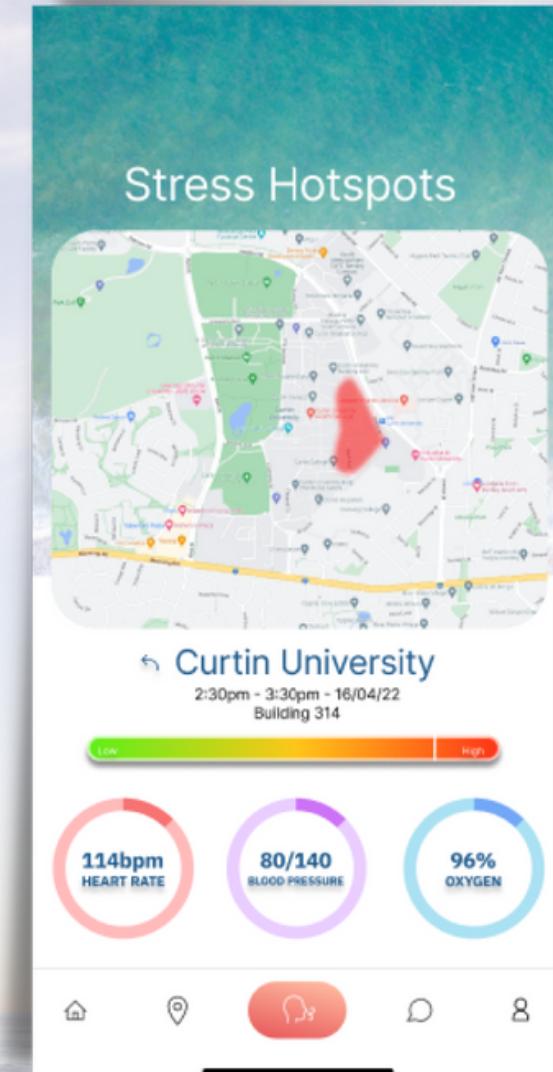
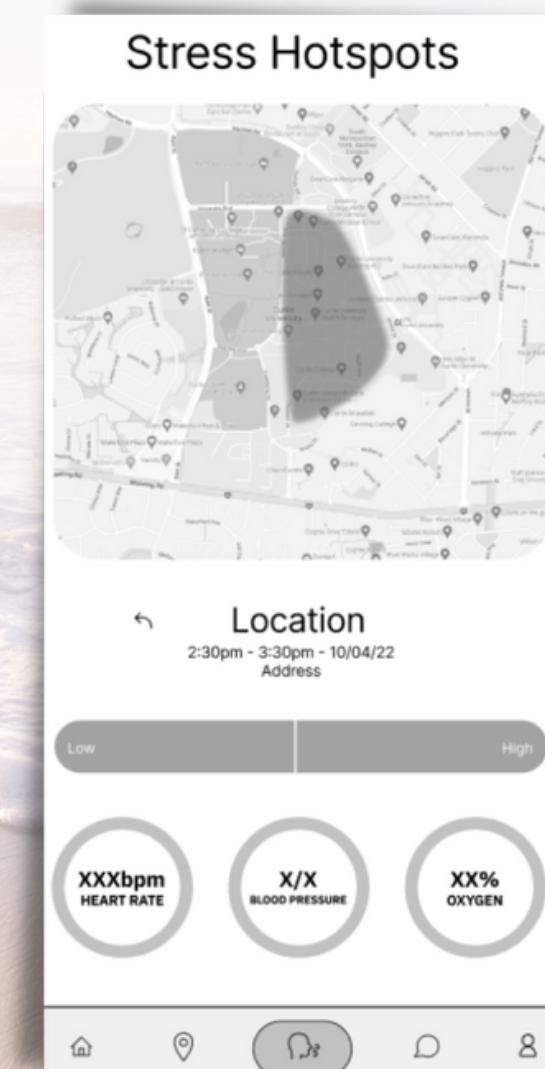
Duplicate this page as many times as needed to give you more space for discussion.



Low-fi

Hotspots are shown as glowing areas around sites the user has visited during their day.

There is a timeline the user can scrub through to view how their mood changed between locations.



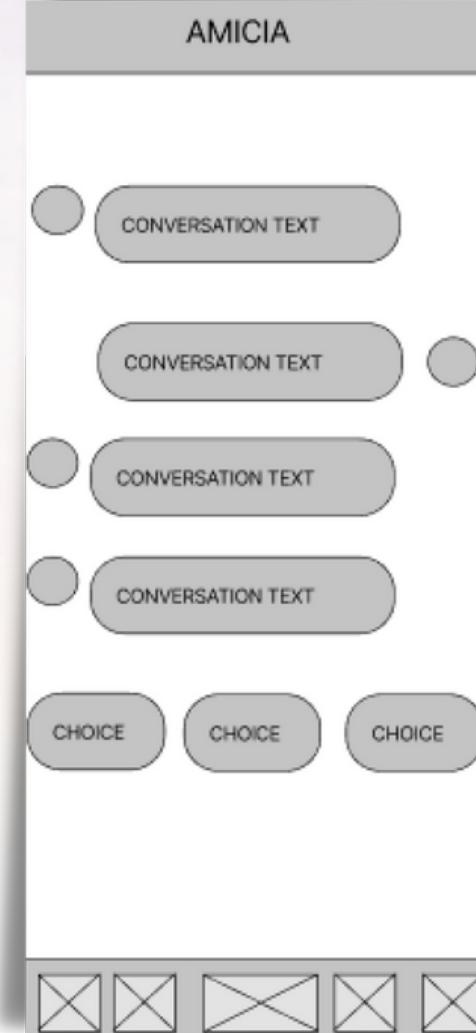
High-fi

Hotspots are colour coded on a range from green to red. This is a familiar system also used in the stress bar.

Stress bar displays the average stress levels in a location.



PROTOTYPING CHAT



Wireframe

Key elements are the messages and action prompts available to the user.

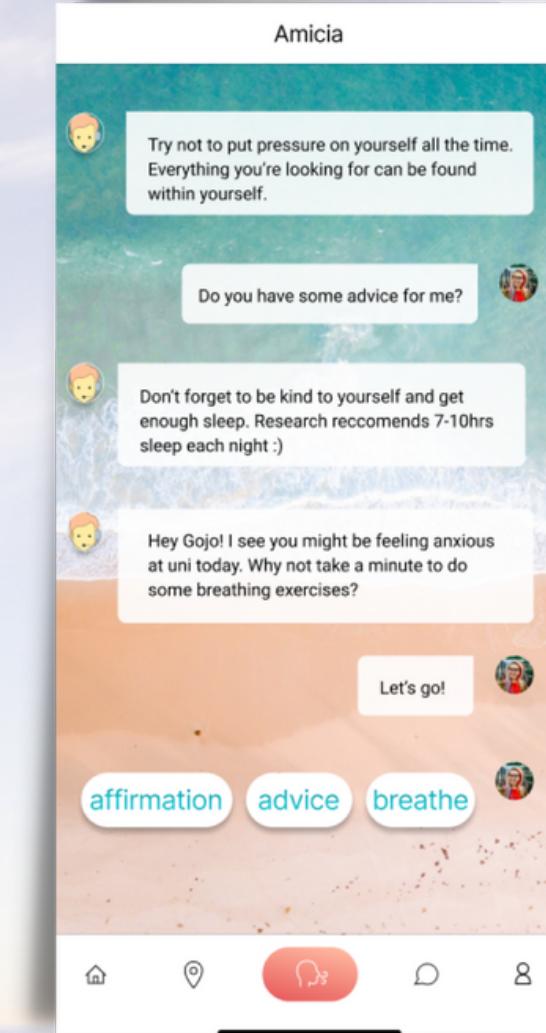
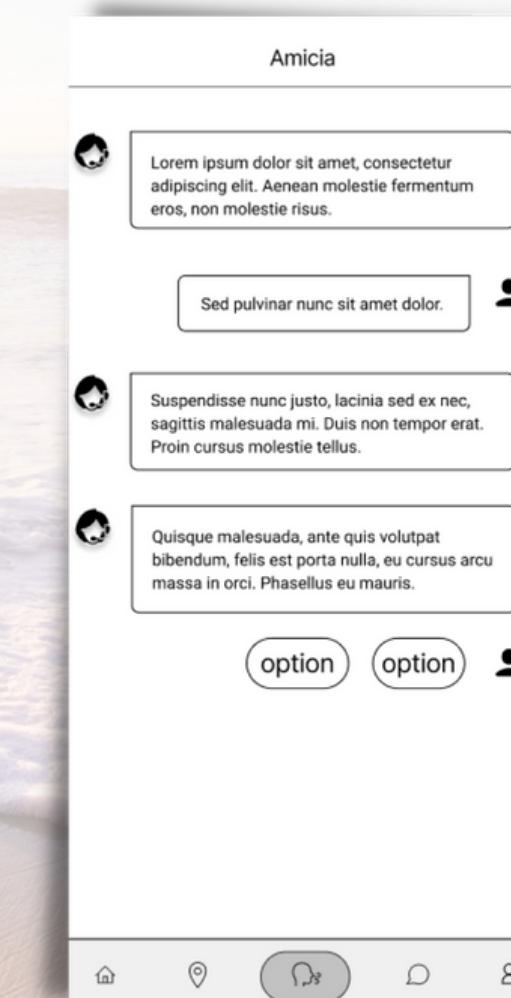
Offering a selection of choices rather than natural language processing eliminates miscommunication with AI.



Low-fi

Conversation history allows users to revisit old resources provided by Amicia.

A personable experience improves the validity of the affirmations.



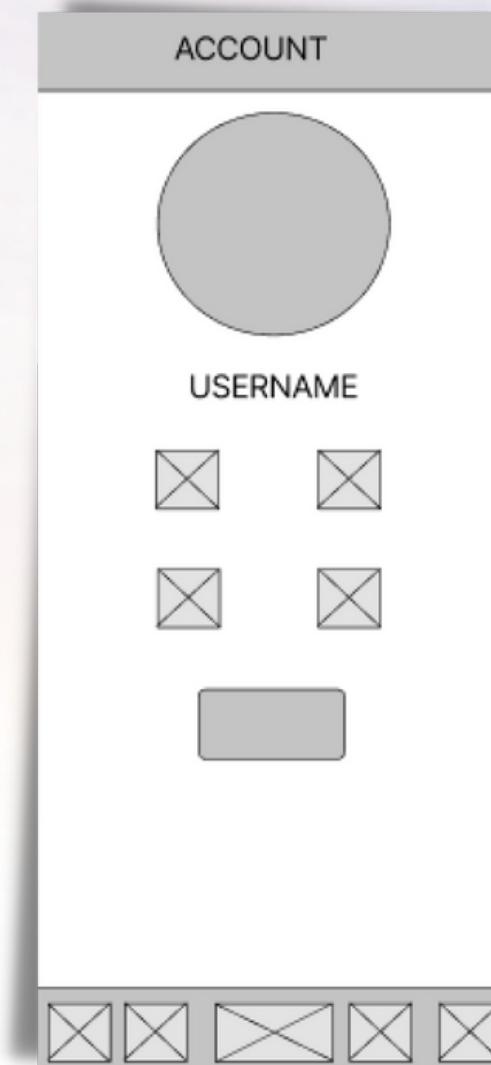
High-fi

New users appreciate the familiarity of the conversation rather than a complex interface.

Chat metaphor increases accessibility of AI assistant by making the experience predictable and intimate.



PROTOTYPING ACCOUNT



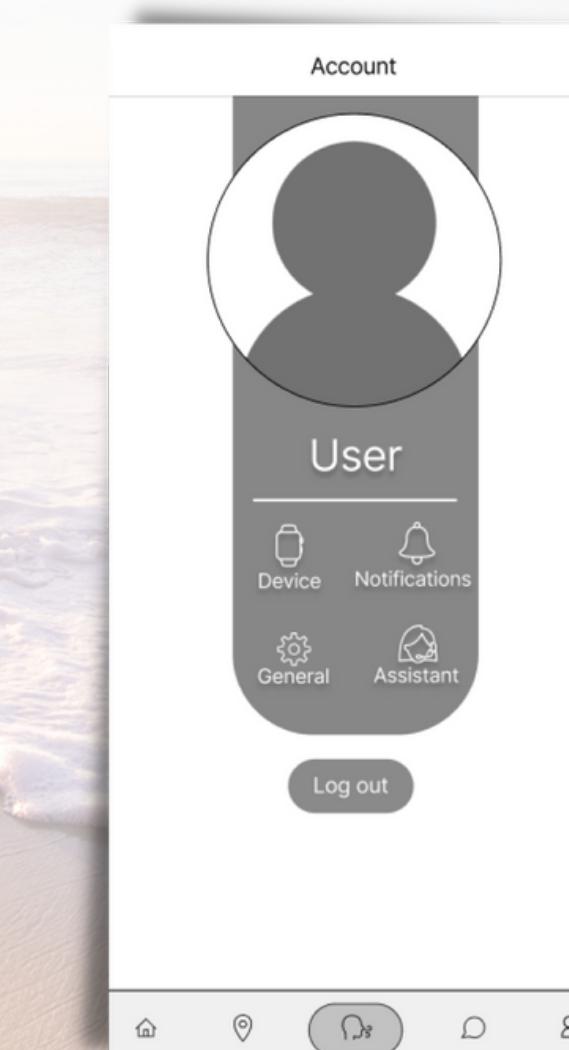
Wireframe

Key elements are the user's profile, username, settings and logout button.



Low-fi

Negative space frames the user dashboard and conveys a serene calm environment.

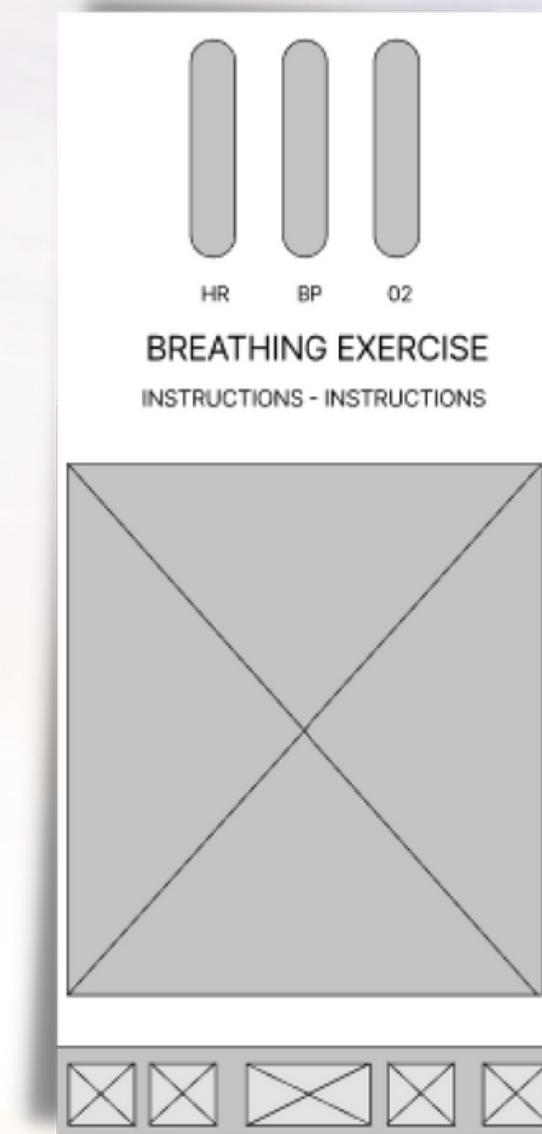


High-fi

A simple user interface where the gradient strip resembles a surf board on the water in the ongoing beach motif.

A minimalist approach to dealing with settings. More may be added in future updates.

PROTOTYPING BREATHING EXERCISE



Wireframe

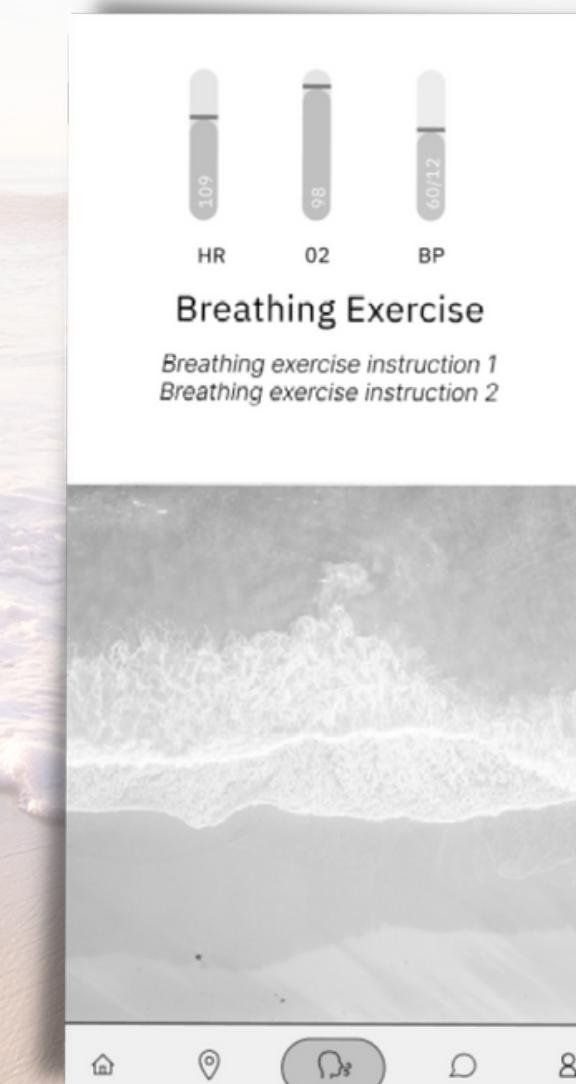
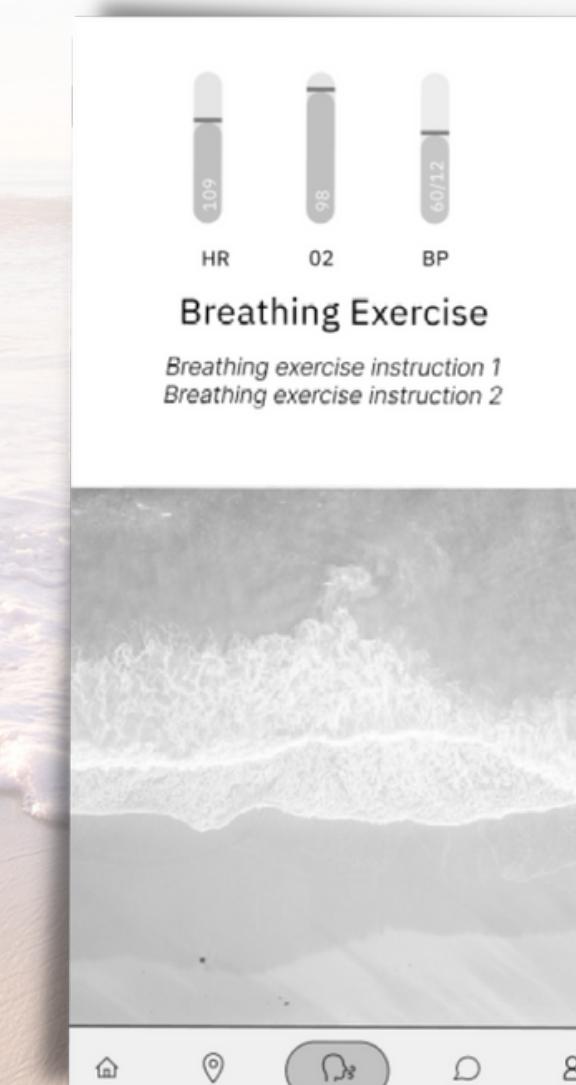
Key elements are the biofeedback, breathing instructions and beach animation.

A tide animation seemed the most intuitive to breathe to and the imagery of a beach is associated with calmness.



Low-fi

Negative space frames the beach animation as primary focus. Absence of other elements contributes to the serenity.



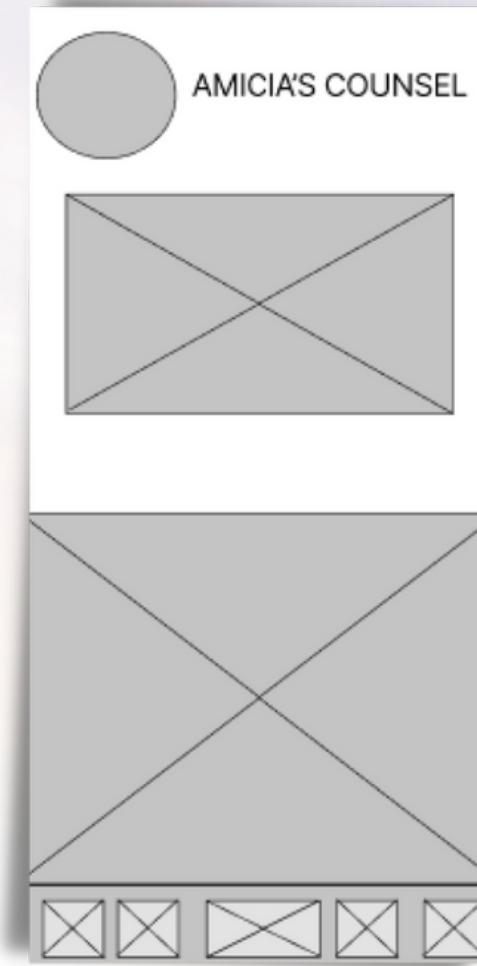
High-fi

With biofeedback displays, the user learns to voluntarily alter their physiology to a normal state indicated by the line.

The tide is animated in the app so the user can sync their breathing.



PROTOTYPING CALENDAR



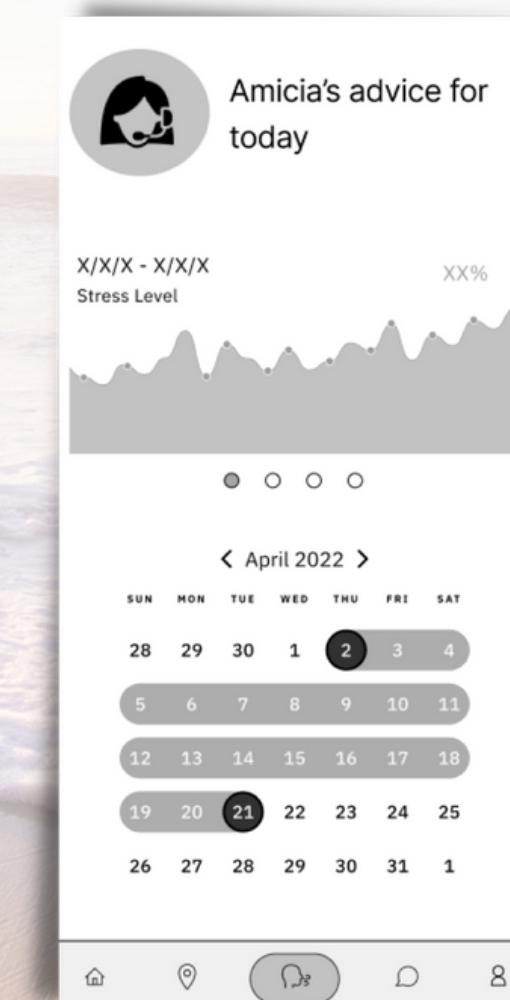
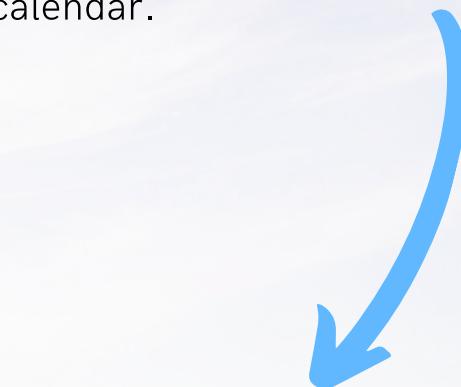
Wireframe

Key elements are Amicia's analysis, stress graph and the calendar.



Low-fi

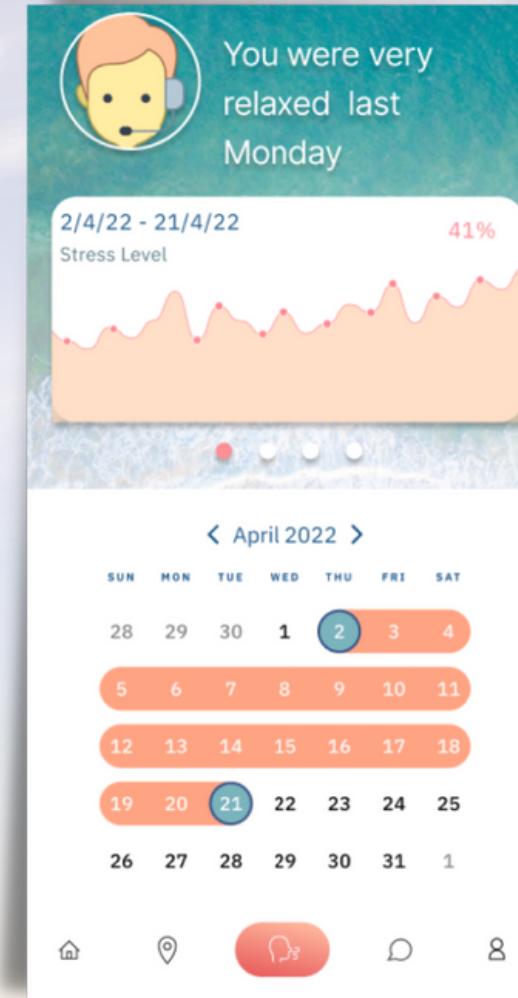
In future, it would be great to implement hotspots into the calendar.



High-fi

Selecting two dates generates the stress graphs. Double tapping one date shows you stats from only that day.

The calendar pops up from the tab bar menu seamlessly.





Prototype Walkthrough

Demo

FUTURE PLANS

Circadian rhythm monitoring

Shared anonymous community hotspot data

Implementing smart assistant modules for various mental health issues



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