



Stress Monitoring App

Amicia

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Team: P8

Tutorial: Monday, 3:00 PM

Human Computer Interfaces ICTE 3002 / Advanced Human Computer Interfaces ICTE 5001

School of Electrical Engineering, Computing and Mathematical Sciences, Curtin University

1 Usability Testing Plan

1.1 Research Goals

Most Important User Tasks:

View biofeedback data

- Find desired biofeedback input reading
- Observe biofeedback reading over time (line graph)
- Find calculated stress reading

Perform a controlled breathing exercise

- Ask Amicia to do a breathing exercise
- Following breathing exercise instructions

View stress heat map data

- View recent hotspot sites
- Locate stress hotspot on map
- Scrub through heatmap timeline to a specific timestamp
- View biofeedback analysis from a hotspot site
- Understand analysis from AI assistant

Access affirmations from Amicia

Access advice from Amicia

View historical biofeedback data

- Select date range for desired biofeedback data
- Understand analysis from AI assistant

Register a new account

Login

System Aspects of Most Concern:

Difficulty using the calendar

Stress hotspots timeline issues

Controlled breathing exercise frustrations

Amicia's affirmation feature isn't being used enough

Grouping User Tasks with System Aspects:

System Aspect	User Tasks
Difficulty using the calendar	<p>View historical biofeedback data</p> <ul style="list-style-type: none">- Select date range for desired biofeedback data- Understand analysis from AI assistant
Stress hotspots timeline issues	<p>View stress heat map data</p> <ul style="list-style-type: none">- View recent hotspot sites- Locate stress hotspot on map- Scrub through heatmap timeline to a specific timestamp- View biofeedback analysis from a hotspot site- Understand analysis from AI assistant
Controlled breathing exercise frustrations	<p>Perform a controlled breathing exercise</p> <ul style="list-style-type: none">- Ask Amicia to do a breathing exercise- Following breathing exercise instructions
Amicia's affirmation feature isn't being used enough	<p>Access affirmations from Amicia</p>

Importance Ranking:

There were 3 users and 3 designers, each ranking the issues in order of importance 4-1. The greater the score, the more important an issue is.

Issues	Importance Ranking		
	Users	Design Team	Total Score
Difficulty using the calendar	11	12	23
Stress hotspots timeline issues	9	8	17
Controlled breathing exercise frustrations	6	6	12
Amicia's affirmation feature isn't being used enough	4	4	8

Problem Statements:

Issue	Problem Statement
Difficulty using the calendar	Users don't know how to navigate to the calendar, reducing the use of an important app feature.
Stress hotspots timeline issues	Users aren't aware they can scrub the stress hotspots timeline to view their daily stress movements. One's finger also obstructs the time of day.
Controlled breathing exercise frustrations	Users are experiencing frustration when they aren't able to reduce stress markers in the controlled breathing exercise.
Amicia's affirmation feature isn't being used enough	The affirmation feature may not be receiving much use.

Problem Statement Goals:

Problem Statement	Research Goals
Users don't know how to navigate to the calendar, reducing the use of an important app feature.	Learn why users can't find the calendar. Determine if the user flow to the calendar can be improved. Find where to make improvements in the user flow.
Users aren't aware they can scrub the stress hotspots timeline to view their daily stress movements. One's finger also obstructs the time of day.	Determine if the user needs instructions. Look for a way to make the time of day more visible. Find ways to reduce ambiguity of function.
Users are experiencing frustration when they aren't able to reduce stress markers in the controlled breathing exercise.	Find what can reduce the user's frustrations. Find opportunities to make the experience rewarding.
The affirmation feature may not be receiving much use.	Cannot be addressed with usability testing. More suitable for survey and analytics.

1.2 Experimental Setup

Our experiment will be done in a quiet indoor environment which may have background chatter from other people in the room. It should be a well lit climate controlled environment to be comfortable for the user. Example environments could be a computer lab, library or coffee shop.

Consideration was made for having the testing done in loud busy environments to simulate the user being in stressful situations as this is when they are likely to be using the app. We decided to focus purely on application usability as opposed to the effect of stress on the users capability to navigate the app and eventually chose not to go with this idea.

Our participants will be given our prototype on a tablet device and be instructed to perform a list of tasks provided to them on a piece of paper. The testing aims to take a total of 15 minutes from the facilitator handing them the device to all parts of the test process being completed.

Conditions	Amicia's Experimental Setup
Environment	In-lab, quiet, controlled
Moderation	Moderated
In-Person or Remote	In-person
Presentation Medium	Figma prototype on mobile device

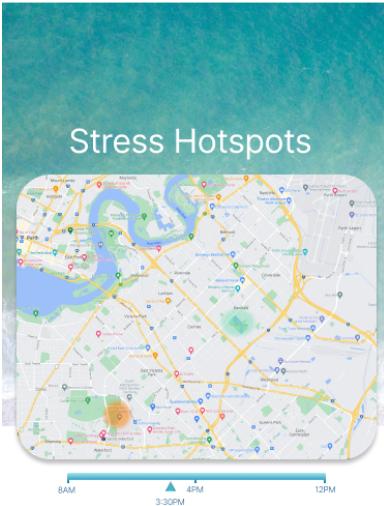
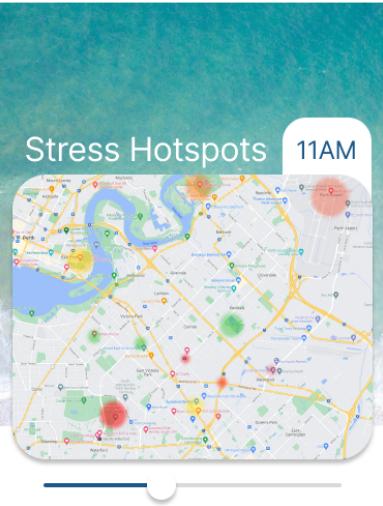
1.3 Facilitator

Our facilitator will give a basic outline of the Amicia application and then hand the user the prototype and a task sheet specifying all the tasks the user is to complete. They will not provide the participant with any additional information during the testing and will ask the user to move on to the next task if they are unable to complete one (with the exception of the third task). Once testing has concluded they will ask the user some follow-up questions as specified in the script.

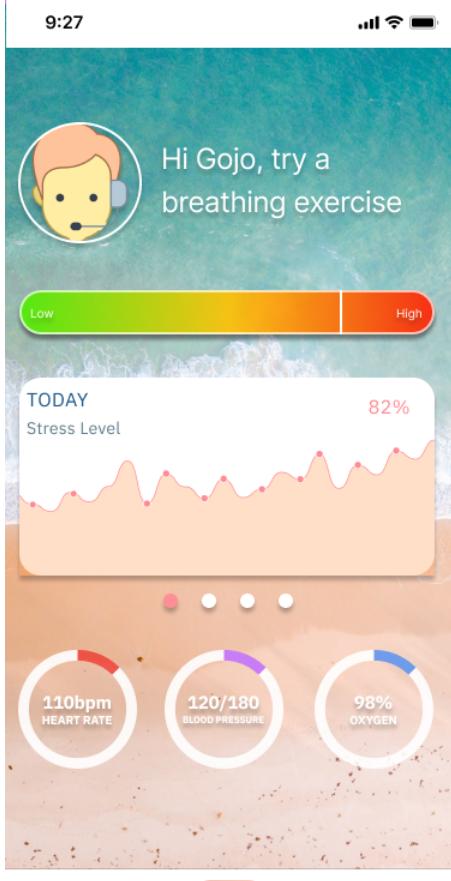
1.4 Task Scenario and Tasks

Problem Statement	Research Goals	Task Scenario	Tasks	Task Type
Users don't know how to navigate to the calendar, reducing the use of an important app feature.	Learn why users can't find the calendar. Determine if the user flow to the calendar can be improved. Find where to make improvements in the user flow.	Imagine that you just got back from a 2 week business trip.	Find out how stressed you were during those 2 weeks you were away.	Scenario Task Open Task
Users aren't aware they can scrub the stress hotspots timeline to view their daily stress movements. One's finger also obstructs the time of day.	Determine if the user needs instructions. Look for a way to make the time of day more visible. Find ways to reduce ambiguity of function.	Imagine that this morning you had a test at university and went home straight after. Then you came back for classes in the afternoon.	Find out how stressed you were at university in the morning compared to afternoon.	Scenario Task Open Task
Users are experiencing frustration when they aren't able to reduce stress markers in the controlled breathing exercise.	Find what can reduce the user's frustrations. Find opportunities to make the experience rewarding.	Imagine that you're having a hard day and feeling like you don't have as much control over your life as you'd like.	How would you alleviate some stress or recompose yourself?	Scenario Task Open Task

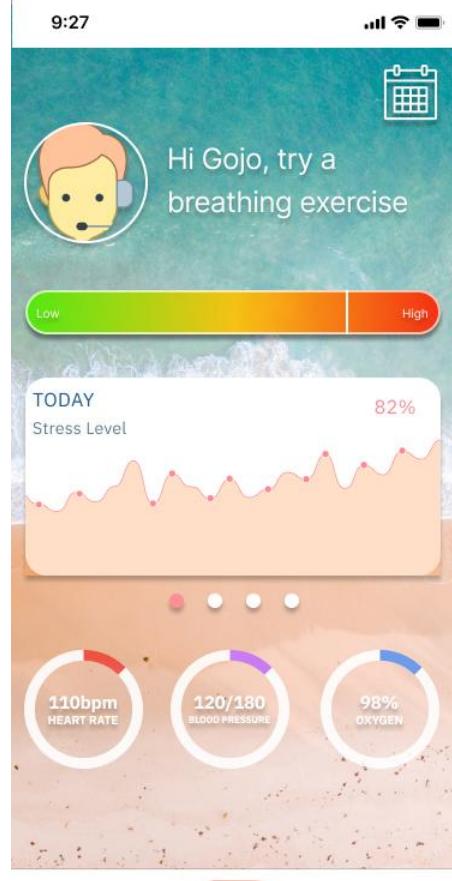
1.5 Alternative Workflow Testing

Issue	Workflow A (Original)	Workflow B
<p>Users aren't aware they can scrub the stress hotspots timeline to view their daily stress movements. One's finger also obstructs the timestamp.</p>	 <ul style="list-style-type: none"> - Slider is not a familiar design. It could be mistaken as a timeline - User's finger obstructs timestamp 	 <ul style="list-style-type: none"> - Moved timestamp away from where user would drag their finger into visible location - Replaced old slider with a more familiar iOS slider

Users don't know how to navigate to the calendar, reducing the use of an important app feature.

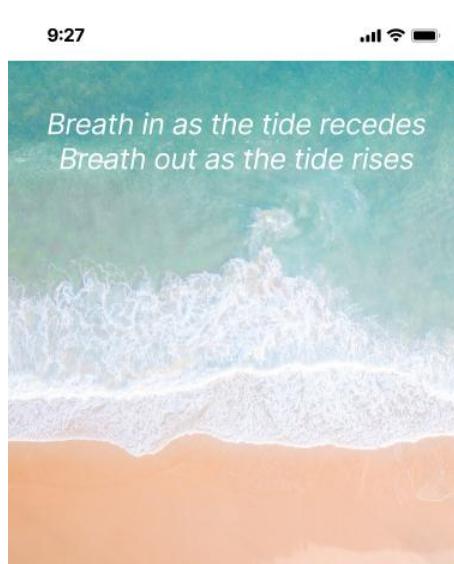


- Calendar is accessed by clicking on "Today" on the stress graph. Reportedly, not intuitive.



- Calendar option added to the top right corner to provide access from "Home"

Users are experiencing frustration when they aren't able to reduce stress markers in the controlled breathing exercise.



Breathing Exercise



Breathing Exercise



- Amicia detects when controlled breathing is having little effect on the user and sends an encouraging notification

1.6 Task Sheet

Usability Test: What users think about the application's UX

Researcher: Tui Warihana, Tanaka Chitete

Research issues:

1. Users aren't aware they can scrub the stress hotspots timeline to view their daily stress movements. One's finger also obstructs the time of day.
2. Users don't know how to navigate to the calendar, reducing the use of an important app feature.
3. Users are experiencing frustration when they aren't able to reduce stress markers in the controlled breathing exercise.

Business Decision:

1. Revise the slider in the "Stress Hotspots" screen.
2. Implement a clickable calendar icon in the "Home" screen.
3. Implement an encouraging notification message from Amicia for when the user is finding it difficult to reduce their physiological stress markers in the controlled breathing exercise.

Hypothesis:

1. Revising the slider in the "Stress Hotspots" screen will improve the reported accessibility of the function and visibility of timestamps.
2. Adding a navigable calendar icon in the "Home" screen will reduce the time it takes for users to get to the "Calendar" screen.
3. Implementing an encouraging notification message from Amicia when the user is having difficulty with the controlled breathing exercise will reduce reported frustration.

Goals:

- 1.1. Determine if the user needs instructions.
 - 1.2. Look for a way to make the time of day more visible.
 - 1.3. Find ways to reduce ambiguity of function.
-
- 2.1. Learn why users can't find the calendar.
 - 2.2. Determine if the user flow to the calendar can be improved.
 - 2.3. Find where to make improvements in the user flow.
-
- 3.1. Find what can reduce the user's frustrations.
 - 3.2. Find opportunities to make the experience rewarding.

Objectives:

- 1.1. Find out how long it takes for users to begin scrubbing through the heatmap timeline.
 - 1.2. Ask users to rate the visibility of the timestamp between 1-10.
-
- 2.1. Find out how long it takes for users to navigate to the "Calendar" screen.
 - 2.2. Ask users to rate the intuitiveness, between 1-10, of selecting a date range in the "Calendar" screen to generate stress graphs.
-
- 3.1. Ask users to rate their frustration level between 1-10 after doing the controlled breathing exercise.
 - 3.2. Learn from users what they think would reduce their frustration levels in the controlled breathing exercise.

Participant profile:

Sophie Jong

- Designer at IT Works
- Small business
- University Student
- Studying Bachelor of Computing (Software Engineering)
- Age 20
- Assigned goals 1, 2, 3
- Assigned prototype A

Connor Kuljis

- Designer at IT Works
- Small business
- University Student
- Studying Bachelor of Computing (Software Engineering)
- Age 21
- Assigned goals 1, 2, 3
- Assigned prototype B

James McMullen

- Designer at Microsoft
- Small business
- University Student
- Studying Bachelor of Computing (Software Engineering)
- Age 20
- Assigned goals 1, 2, 3
- Assigned Prototype B

Script

Introduction

Hi <Participant name>,

How are you doing today?

Thank you for taking the time to talk to us today!

My name is Tui Warihana and I'm a Usability Researcher and UI/UX Designer at CPYou.

[Optional:] We're also joined by Tanaka Chitete who is the Project Manager and acting observer today at CPYou. I'll be chatting with you today, and Tanaka will be taking notes during our interview.

We'll start with some questions, and then I will give you some tasks to complete on the computer. We'll use the feedback we get from you and other participants to improve CPYou, so please share your honest thoughts as we go along. There are no right or wrong answers!

Do you have any questions for me before we get started?

Before we begin, could I just confirm that you're still okay with this session being recorded and shared in Curtin's HCI unit? [Wait for reply]

Awesome! I will start the recording now.

Warm up questions

1. What is your line of work?
2. What's your current role?
3. What are you studying?
4. How often are you stressed in a given week?
5. Do you currently use any apps that monitor stress?
6. Do you currently use any wellbeing techniques like meditation or controlled breathing?

Tasks

Tasks briefing

Now I'm going to ask you to carry out some tasks on the computer. There are a few things to keep in mind here:

1. **We're not testing you** - we are testing the site! If you encounter difficulties, it's never your fault, and it's always the site's fault. Finding these problems is good, because it will show us where we need to make improvements.
2. **Be as candid as possible.** If you don't like something, or think it's just plain stupid, please say so!
3. **Behave as naturally as possible.** (I know this can be tricky with me watching what you're doing, but still). If you get bored of something and you don't think you'd continue any further please let me know.
4. Please ask me any questions you wish, but for the purposes of this test I might not be able to answer them for you.
5. **Most importantly, please think aloud as you do this.** Share with me where you're going to click, why you're clicking there, and what you expect to see after you do so. It helps us understand what is going through your mind and allows us to take good notes.

Provide prototype sharelink to each participant depending on their assignment.

Prototype A:

<https://www.figma.com/proto/od8D9AWvSCDFVTbnJln9j/GUI?node-id=16%3A2&scaling=scale-down&page-id=0%3A1&starting-point-node-id=16%3A2>

Prototype B:

[https://www.figma.com/proto/uyCMIIpaWrqMpeM40g5dp9/GUI-\(Copy\)?node-id=16%3A2&scaling=scale-down&page-id=0%3A1&starting-point-node-id=16%3A2](https://www.figma.com/proto/uyCMIIpaWrqMpeM40g5dp9/GUI-(Copy)?node-id=16%3A2&scaling=scale-down&page-id=0%3A1&starting-point-node-id=16%3A2)

Task 1: Using the “Stress Hotspots” slider

Relevant research objectives:

- 1.1. Find out how long it takes for users to begin scrubbing through the heatmap timeline.
- 1.2. Ask users to rate the visibility of the timestamp between 1-10.

Scenario: *“Imagine that this morning you had a test at university and went home straight after. Then you came back for classes in the afternoon.”*

Task: *“Find out how stressed you were at university in the morning compared to afternoon.”*

1. How would you rate the visibility of the timestamp between 1 and 10?
2. Is the heatmap slider familiar and does it have a clear function?
3. *Single Ease Questions:* Overall, this task was...
 - Extremely difficult
 - Difficult
 - Neither easy nor difficult
 - Easy
 - Extremely easy
4. Single Ease Question follow-up: Why did you give this score?

Expectations: The user will navigate to “Stress Hotspots” screen and drag the slider to desired timestamps.

Task 2: Navigating to the Calendar

Relevant research objectives:

- 2.1. Find out how long it takes for users to navigate to the “Calendar” screen.
- 2.2. Ask users to rate the intuitiveness, between 1-10, of selecting a date range in the “Calendar” screen to generate stress graphs.

Scenario: *“Imagine that you just got back from a 2 week business trip.”*

Task: *“Find out how stressed you were during those 2 weeks you were away.”*

1. How would you rate the intuitiveness of generating a stress graph by selecting a date range in the calendar between 1 and 10?
2. How accessible is the calendar from the “Home” screen in the app?
3. How could the accessibility of the calendar be improved for you?
4. *Single Ease Questions:* Overall, this task was...
 - Extremely difficult
 - Difficult
 - Neither easy nor difficult
 - Easy
 - Extremely easy
5. Single Ease Question follow-up: Why did you give this score?

Expectations: The user will navigate to the “Calendar” screen and select a date range between two days to generate a stress graph.

Task 3: Performing Controlled Breathing Exercise

Relevant research objectives:

- 3.1. Ask users to rate their frustration level between 1-10 after doing the controlled breathing exercise.
- 3.2. Learn from users what they think would reduce their frustration levels in the controlled breathing exercise.

Scenario: “Imagine that you’re having a hard day and feeling like you don’t have as much control over your life as you’d like.”

Task: “How would you alleviate some stress or recompose yourself?”

1. Did you find the controlled breathing exercise beneficial to your mood?
2. Did you experience frustration at any time and if so why?
3. What was your frustration level out of 10 after the exercise?
4. How can the activity be changed or improved to make the experience less frustrating?
5. *Single Ease Questions:* Overall, this task was...
 - Extremely difficult
 - Difficult
 - Neither easy nor difficult
 - Easy
 - Extremely easy
6. Single Ease Question follow-up: Why did you give this score?

Expectations: The user will navigate to the “Breathing Exercise” screen and participate in the activity.

Wrap up questions

1. What do you think about this process you just went through?
2. How does what you just experienced with CPYou fare in comparison to what you're currently using?
3. Adjective rating scale (SUS): Overall, I would rate the user-friendliness of this product as:
 - Worst-imaginable
 - Awful
 - Poor
 - OK
 - Good
 - Excellent
 - Best imaginable
4. Adjective rating scale follow-up: Why did you give this score?

Closing words

These are all my questions for today.

Thank you very much for taking the time to speak with me. We'll be sharing your thoughts with the Product team here at CPYou. We're constantly trying to improve CPYou and your input today has been really valuable.

As a thank you, we'd like to give you a packet of Mee Goreng Noodles. You should receive the Mee Goreng on your way out. Thanks again!

1.7 Participants

CPYOU RESEARCH PARTICIPATION AGREEMENT

This Research Participation Agreement (“Agreement”) is between CPYou (“CPYou”, “us”, “our”) and the undersigned person or entity (“Participant”, “you”, “your”).

We are carrying out qualitative research on our website in order to gain insights into how users engage with our website and us as an organisation.

This research will be conducted by our UX Research resource Tui Warihana.

In consideration of your agreeing to participate in the Research, CPYou and you agree as follows:

1. **Information collected during Research:** CPYou may record you in any format during the Research, including recording your use of our website or services, measurements, eye movements, answers, communications, and voice through any means, including without limitation, audio, video, photography, and screen captures (“Recordings”). In addition to your information collected via Recordings, CPYou may also collect your information, including your name, age, gender, address, email address, phone number, opinions, response to Research questions, and personal background (this additional information, along with the Recordings, will be collectively referred to as “Personal Information”).
2. **How do we use this information:** The information gotten from this research will be used to improve the current experience and interface of our website and products.
3. **Ownership of Recordings and Research Data:** All information shared with us will be treated with care according to our information security policy. We will also welcome any request to delete your information if you feel uncomfortable.
4. **Voluntary participation:** You understand that participation in this Research is entirely voluntary and that you may at any time choose to stop participating in the Research by using the contact information provided in this Agreement.
5. **Incentives:** The sum of {enter amount or incentive value} will be provided to you at the end of the research project. This is to appreciate you for the time spent and effort in assisting us with our research project.

By signing this Agreement and participating in Research, you agree to: (i) comply with the terms of this Agreement; (ii) provide true, correct, and complete information about yourself; and (iii) ensure that you engage with the Research in an honest, transparent, and good faith manner.

ACCEPTED & AGREED;

I have read and understood this Agreement. I agree to participate in the Research in accordance with this Agreement.

NAMES: Sophie Jong, James McMullen, Conner Kuljis

SIGNATURE:

Sophie Jong

James McMullen

Conner Kuljis

DATE: 26/05/2022

2 Piloting

After piloting the tests we decided that test 3 “Performing Controlled Breathing Exercise” should also include a prelude question on the user’s frustration level during the activity as opposed to only after completing it. This gives the researcher’s a baseline to determine how much frustration is generated from unsatisfactory results in the controlled breathing activity.

It was also discovered that the researcher should provide some minor guidance if the user lingers too long on a certain screen or if they require further elaboration on the scenario considering the open nature of the task.

The openness of the tasks proved to be effective in examining the overall usability and quality of user flows.

It was noted that the researcher should engage in discussion with the participants while they perform their task to understand how they are feeling about their activity for research goals 1.2, 2.2, 3.1 and 3.2.

3 Simulated Experimental Data Collection

Task 1: Using the “Stress Hotspots” slider

Q: How would you rate the visibility of the timestamp between 1 and 10?

Sophie: 5, The timestamp is covered by my finger when using the slider

James: 9

Conor: 7

Q: Is the heatmap slider familiar and does it have a clear function?

Sophie: Once selected the sliders function is very clear although beforehand it's not readily apparent you can scrub with it.

James: The slider functionality was very clear and easy to use

Conor: The time label is not right next to the slider making it a little unclear what it does but you can figure it out straight away by moving the slider.

Q: Overall, this task was..."

Sophie: Neither easy nor difficult

James: Extremely easy

Conor: Easy

Q: Why did you give this score?

Sophie: Using the slider was easy but it was possible to get sidetracked by selecting the curtain location which you can't scrub through

James: It was very easy and simple to use there was no room for confusion

Conor: The slider was easy to use but the time label was not directly next to it which could lead to initial confusion

Relevant research objectives:

1.1. Find out how long it takes for users to begin scrubbing through the heatmap timeline.

It took users between 5-10 seconds from first interaction to scrubbing the heatmap timeline.

1.2. Ask users to rate the visibility of the timestamp between 1-10.

Visibility for the participant using prototype A was 5 while the participants on prototype B had higher ratings of 7 and 9

Task 2: Navigating to the Calendar

Q: How would you rate the intuitiveness of generating a stress graph by selecting a date range in the calendar between 1 and 10?

Sophie: 8

James: 9

Conor: 8

Q: How accessible is the calendar from the “Home” screen in the app?

Sophie: I can get to it in 1 tap but it's a bit unclear that the stress graph is how you get there

James: Very accessible as the calendar symbol is very clear

Conor: Very easy to access from the homepage with the clear icon

Q: How could the accessibility of the calendar be improved for you?

Sophie: Have some sort of symbol or icon showing the calendar as you have to assume that the daily graph has a calendar behind it to find it

James: I think the accessibility is about as good as it will get and any changes will only be a sidegrade

Conor: Having some way to access the calendar when not on the homepage would be good, potentially having a button in the navigation bar at the bottom.

Q: Overall, this task was..."

Sophie: Neither easy nor difficult

James: Extremely easy

Conor: Easy

Q: Why did you give this score?

Sophie: I initially had a moment of confusion in finding where the calendar was

James: The calendar was easily and clearly accessible and selecting a date time frame was very intuitive.

Conor: I didn't run into any issues completing the task

Relevant research objectives:

2.1. Find out how long it takes for users to navigate to the “Calendar” screen.

The participant on prototype A reached the calendar screen at around 10 seconds, the two participants using prototype B reached the calendar screen in under 5 seconds.

2.2. Ask users to rate the intuitiveness, between 1-10, of selecting a date range in the “Calendar” screen to generate stress graphs.

Participants on both prototypes rated 8-9 for intuitiveness of the stress graph date ranges.

Task 3: Performing Controlled Breathing Exercise

Q: Did you find the controlled breathing exercise beneficial to your mood?

Sophie: The exercise positively affected my mood, it's often hard to just slow down for a minute and take a break and the exercise helped provide this.

James: I didn't experience much of a change in mood from the exercise. I was already in a relaxed mood before it began.

Conor: The breathing exercise helped calm myself down a little from being on edge due to constantly working.

Q: Did you experience frustration at any time and if so why?

Sophie: No I did not.

James: The exercise got a little bit tedious after a bit as it's very repetitive.

Conor: Not during this task no.

Q: What was your frustration level out of 10 after the exercise?

Sophie: 1

James: 3

Conor: 2

Q: How can the activity be changed or improved to make the experience less frustrating?

Sophie: I don't think changing the experience would make it less frustrating.

James: Adding some more variety to the exercise to reduce its repetitiveness.

Conor: Changing the exercise to also have an audio part to it as well could help improve the effectiveness.

Q: Overall, this task was..."

Sophie: Extremely easy

James: Extremely easy

Conor: Extremely easy

Q: Why did you give this score?

Sophie: The task is very simple to complete due to the exercise being front and center with a clear icon

James: Uncomplex task with a clear flow so very easy to do

Conor: The breathing exercise symbol makes them very easy to identify and the breathing part of the task is very easy to follow.

Relevant research objectives:

3.1. Ask users to rate their frustration level between 1-10 after doing the controlled breathing exercise.

Participants reported frustration levels of 1-3 after doing the exercise. It is important to note that they were not stressed beforehand..

3.2. Learn from users what they think would reduce their frustration levels in the controlled breathing exercise.

Participants wanted the breathing exercise to be more engaging with suggestions for more variations or audio accompaniment.

Wrap up questions

Q: What do you think about this process you just went through?

Sophie: The process was fairly easy, there were a few things here and there that were a little confusing but overall nothing too difficult.

James: Things were very easy, nothing was difficult or complicated.

Conor: The process was simple and painless to do.

Q: How does what you just experienced with CPYou fare in comparison to what you're currently using?

Sophie: I do not use a similar application currently.

James: Currently I use an application that can track my heart rate, blood pressure and other metrics similarly to Amicia but that application does not provide a stress metric overall on a given day. Having these data points converted into a single understandable value is very useful.

Conor: The only equivalent application I use is based purely off user input data for stress levels. Amicia does not quite have the same in depth breakdown as this application but it does automatically collect the data which makes the process much easier.

Q: Overall, I would rate the user-friendliness of this product as:

Sophie: Good

James: Excellent

Conor: Excellent

Q: Why did you give this score?:

Sophie: There a few things that are initially a little confusing but become simple workflows once you have seen them once

James: The application is laid out in a very logical way with appropriate icons for each navigation option, there is very little room for confusion.

Conor: I was never confused about where something in the application would be located even when looking at it for the first time.

4 Usability Testing Report

4.1 Executive Summary

Usability testing was conducted with the following research issues in mind:

1. *"Users aren't aware that they can scrub the stress hotspots timeline to view their daily stress movements."*
2. *"Users don't know how to navigate to the calendar."*
3. *"Users are experiencing frustration when they aren't able to reduce stress markers in the breathing exercise."*

This section, comprising the Usability Testing Report, provides details in regards to the basis of our research, the associated results, and a brief list of recommended changes.

4.2 Goals

The goals in regards to Research Issue 1 are as follows:

1. Determine whether or not users need instructions.
2. Look for a way to make the time of day more visible.
3. Find ways to reduce the ambiguity of Amicia's functions

The goals in regards to Research Issue 2 are as follows:

1. Learn why users can't find the calendar.
2. Determine if the user flow to the calendar can be improved.
3. Find where to make improvements in the user flow.

The goals in regards to Research Issue 3 are as follows:

1. Determine what can be done to reduce user's frustrations.
2. Find opportunities to make the UX rewarding.

4.3 Participant Profiles

	Age	Education	Employment	Assigned Prototype
Sophie	20	BComp	-	A
Connor	21	BComp	IT Works	B
James	20	BComp	Microsoft	B

4.4 Testing Setup, Moderation and Post-Test Questions

Introduction

Participants Sophie, Connor, and James were each told that they would be asked questions about the product, and before commencement of testing, a few questions in regards to their background and stress management.

Tasks

The tasks our participants were asked to complete are as follows:

1. “Use the ‘Stress Hotspots’ slider.”
2. “Navigate to the ‘Calendar’ view.”
3. “Perform a breathing exercise.”

Post-Test Questions

After the tasks were completed by each participant, a few closing questions were asked in regards to the tasks themselves. Specifically, the questions were as follows:

1. “What do you think about the process you just undertook?”
2. “How does what you just experienced compare to what you’re currently using?”
3. “How would you rate the user-friendliness of Amicia?”
4. “Why did you give the user-friendliness the rating that you gave it?”

4.5 Results

Task 1

70% of participants viewed the heatmap slider as highly functional and familiar.

7 was the average rating associated with the visibility of the “Stress Hotspots” timestamp.

70% of participants thought that this task was easily completed.

30% of participants viewed the slider as unintuitive.

Prototype B received the highest ratings from participants.

Task 2

70% of participants thought that this task was easily completed.

8.3 was the average rating given to the intuitiveness of generating a stress graph.

The participants tasked with Prototype B reached the calendar twice as fast as those tested with Prototype A.

Task 3

100% of participants in a non-relaxed state viewed the breathing exercise as helpful.

8.3 was the average rating given to the intuitiveness of generating a stress graph.

33% of participants viewed the breathing exercise as repetitive.

Participants desire a more engaging breathing exercise experience.

4.6 Recommendations and Action Items

Stress Hotspots

1. The slider used in prototype B should be utilised in the final version as it received higher usability ratings from testers.

Calendar

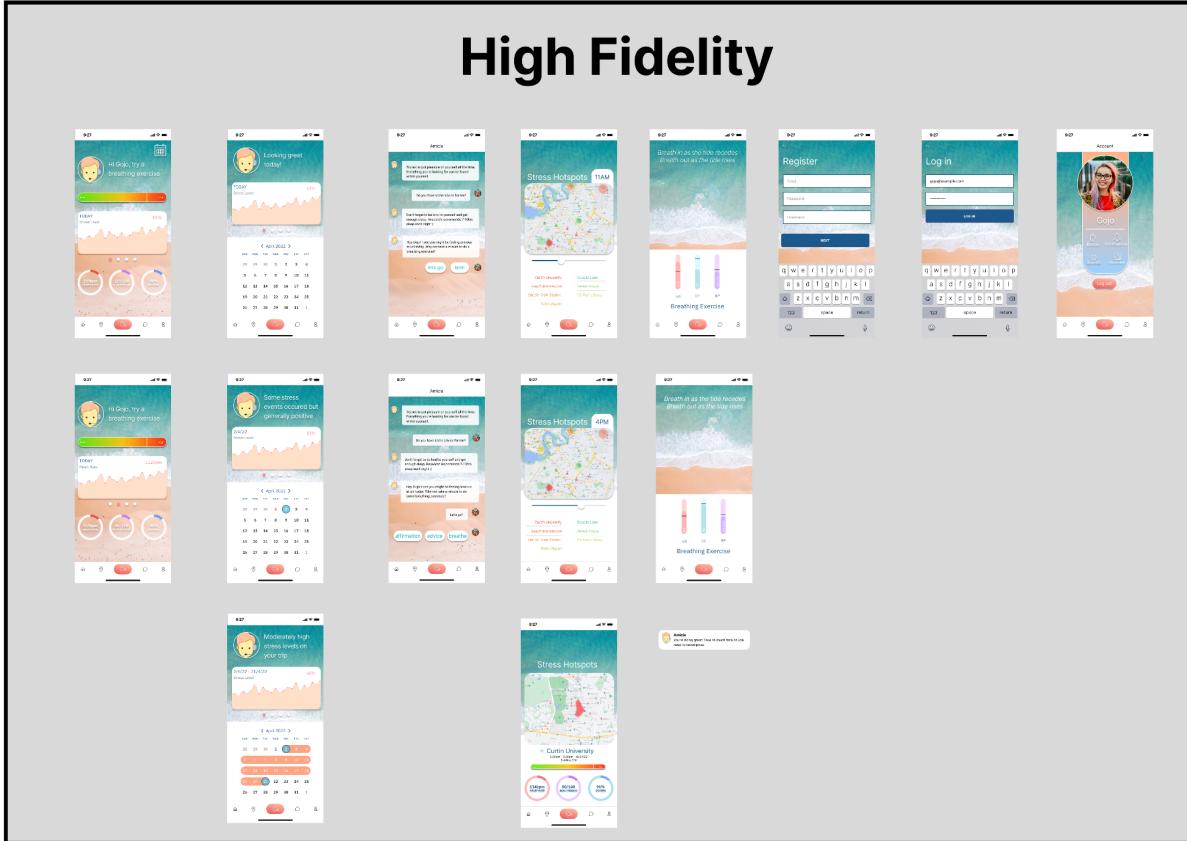
1. Locating the calendar should be made easier as 30% of testers found locating it to be confusing.
2. The calendar screen used in Prototype B should make it into the final version as users found it to be more user-friendly.

Breathing Exercises

1. Audio accompaniment should be implemented for breathing exercises; 100% of participants desire this addition
2. Setup to start the breathing exercises needs to be simplified as 30% of users find them tedious

5 Final High Fidelity Design

During the usability research, it was discovered that all three alternative work flows, outlined in 1.5 Alternative Work Flow Testing, brought significant improvements to the accessibility, visibility, familiarity and overall satisfaction of the prototype. As a result, the alternative work flows have been implemented into the final high fidelity design.



6 Handoff Report

6.1 UI/UX Design Principles

6.1.1 Design Principles

Visibility

In order to improve the visibility of key experiences, all of the core options are available in a *tab-bar menu* found at the bottom of the screen.



Pagination has been utilised so that users can search for a specific biofeedback graph and also so that they can keep a mental location of each graph. Moreover, this panel is repeated in the calendar so that the user can take their initial experience on the home screen in order to quickly locate the desired graph.



Feedback

The *slide upwards* transition animation for the calendar is used to implement behaviour feedback when the user clicks the calendar in the tab-bar menu. Considering the theme of the beach, it emulates the rising tide.



Affordance

By clicking and dragging along the timeline on the map, users are able to transition the day heatmap into a timestamp heatmap. A cursor and timestamp then emerges to help users search.

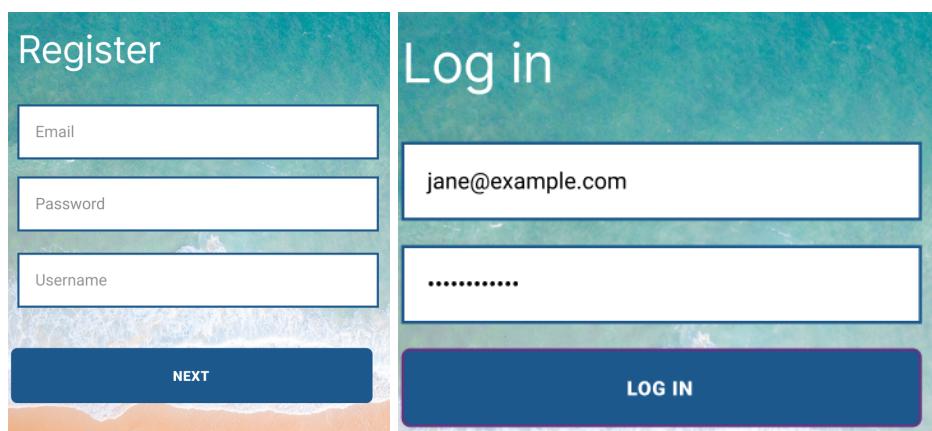
Metaphor

Metaphor used in the chat screen allows the user to interact with the virtual assistant in a convenient manner. Once the user begins typing, several responses will become available and once one has been chosen the text cursor advances so the user can continue interacting.



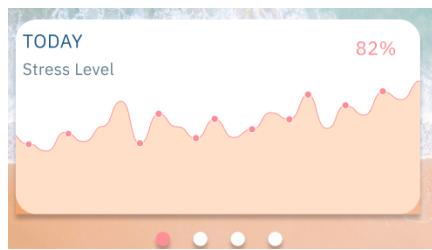
Constraints

Greyed out options are displayed in the register and login pages to prompt them to interact with Amicia.

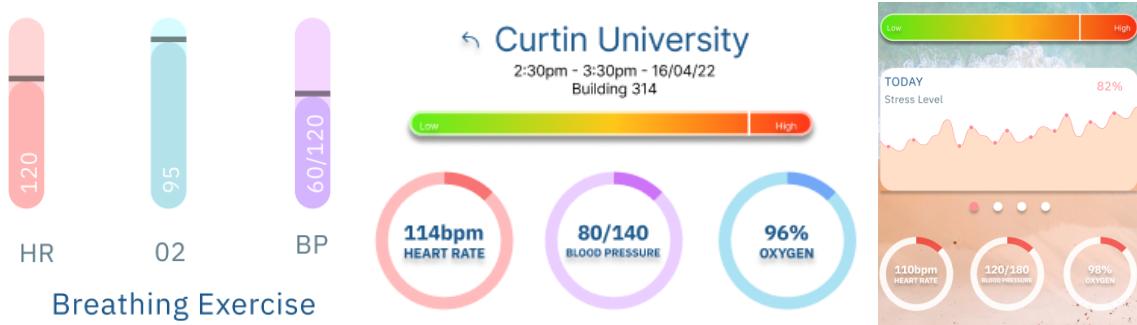


Consistency

The *colour palette* of Amicia is consistent across all pages. Elements have been matched with the colours of sandy brow, white water foam and sea blue. Even the dotted line graph on the home page has been coloured and smoothed to reflect the waves on the shore line.



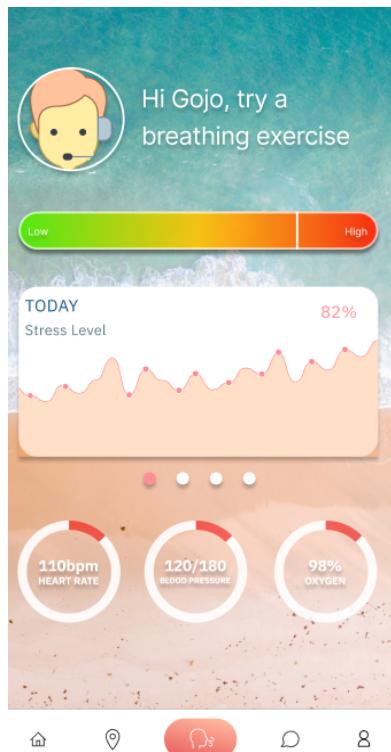
The *Dashboard layout* of biofeedback status is repeated so that the user can quickly glance at the app and consume all of its core information at once. In addition, colour coding different metrics also makes it easier to learn.



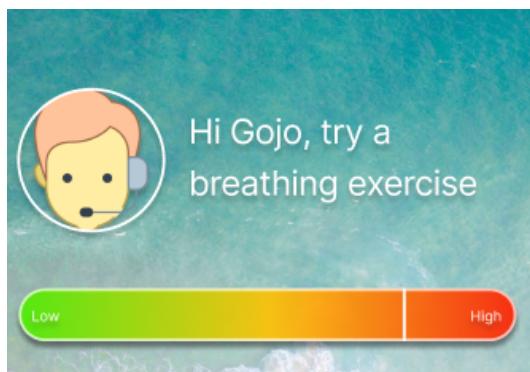
6.1.2 Visual Design Principles

Layout

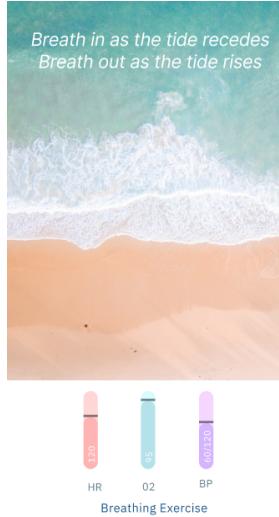
A *minimalist* design approach has been taken to make the user experience as clean, simple and decluttered as possible. There are few elements on each page and these elements are sparsely distributed and arranged *symmetrically* to convey *balance*.



Negative space has been used to draw attention to Amicia's individualised message on the homescreen. Amicia is a smart assistant whose advice is constructed from the user's biofeedback and location data. This personal care is at the heart of a highly targeted user experience.



Another instance of *negative space* can be found in the breathing exercise. The biofeedback display at the bottom and the instructions at the top *frame* the beach as the central focus. The negative space in the middle allows the user to observe and sync their breathing with the rising and falling of the waves. The absence of other elements contributes to a serene experience.

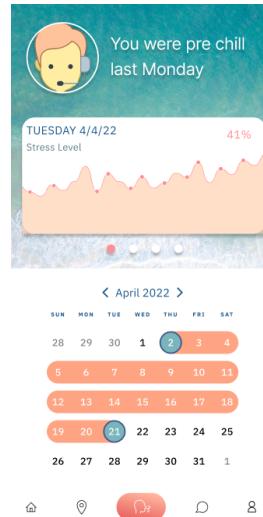


Hierarchy

Hierarchy of elements represents the importance of the data. The current relative stress measure is the highest priority and should be accessible to the user at a glance. This bar is also the most vibrant and captures the eye first. The next most frequently used feature is the daily stress dotted line diagram. Finally, a more macro inspection into the user's biofeedback inputs can be observed at the bottom of the page.



Calendar is positioned at the bottom of the screen because it has the *most interactivity* and is closer in proximity to the user's hand position on the mobile device. This makes it more *accessible* to interaction than the stress graph.



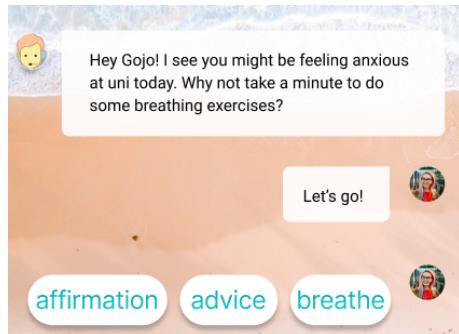
Colour

The green to red gradient is a familiar and fairly well established *colour coded rating system*. It allows users to interpret the type of hotspots on their heatmap (whether it was stressful or not) without forcing a massive volume of data upon them at once. Points of interests they've visited are added to either the stressful or relaxing location list. These lists can be identified without headers due to the pre-established association between rating and colour.



Typography

Sans serif is more readable on digital screen as accents on fonts such as serif or times new roman inhibits the users ability to read clearly.



Imagery and Copy

The background was selected to be familiar and simple as a busy background filled with icons or click art would cause cluttering and visual noise. Beaches are associated with recreation, relaxation and is a low stress environment.

7 Contribution Matrix

Task no.	Task Name	Completion	Tui	Scott	Tanaka
2.1.1	Define Research Goal				
2.1.2	Experimental Set-up				
2.1.3	Facilitator				
2.1.4	Task Scenario and Tasks				
2.1.5	A/B Testing				
2.1.6	Task Sheet				
2.1.7	Participants				
2.2	Piloting				
2.3	Simulated Experimental Data Collection				
2.4	Analysis of Usability Testing Report				
2.5	Final High-Fidelity Prototype Design				
2.6	Handoff Report				
2.7	Contribution Matrix				
2.8	Other (Document Handling)				
3	Submit Figma Files				
4.1	Conference Poster				
4.2	Advertising Poster				
5	Curtin Ignition Submission				
6	Gooey GUIs Showcase				
7	Peer Review Form				
Assignment 3	Create Presentation				
Assignment 3	Presenting				

8 Appendix

Thank you for your application to attend the Curtin Ignition Program 2022.

The program runs from **4th – 9th September 2022**.

Please ensure these dates are clear in your diary should you be successful in your application.

If you have applied for a scholarship, you will be advised of the outcome of your application on **Friday 22nd July 2022**.

Kind Regards,
CBS Executive Education
Curtin University
08 9266 3438