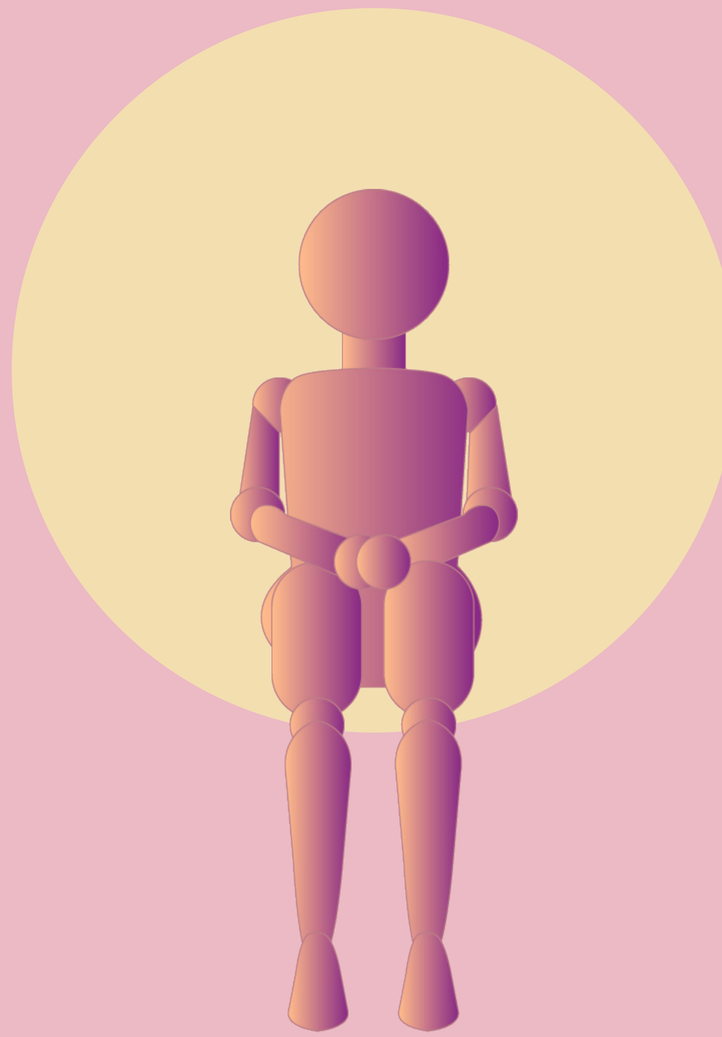
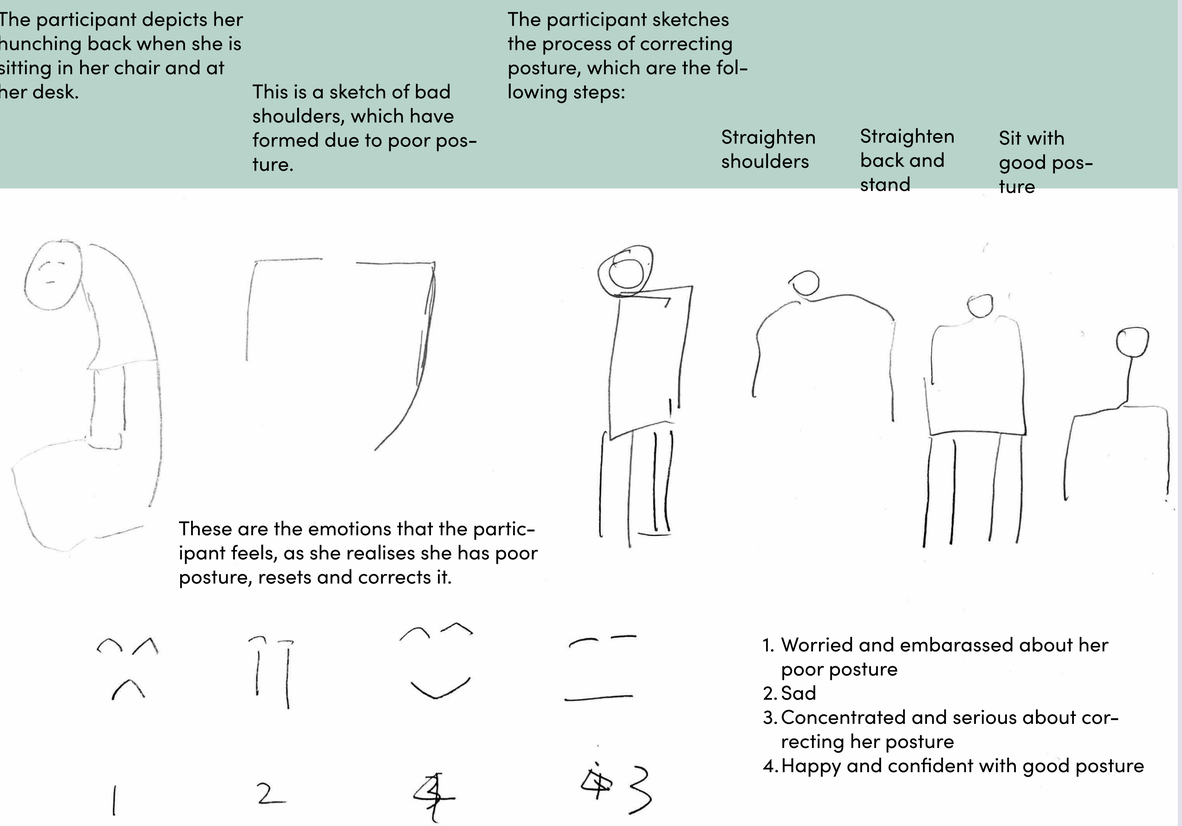
TECH-NECK-LOGY TIMER

Yizi Shao



Discovery and Planning

Participant 1



Participant's 'map' and cognitive sketch representing the task and its various parts (including areas she struggle with - poor posture).

What are causes of your poor posture?

Participant 1: "Due to my busy schedule, posture is not a matter that I usually pay attention to and dedicate a significant amount of time on. When I realise I have bad posture, I would quickly correct it, before continuing with my work and other responsibilities. I also did not practise maintaining good posture at a young age, so my muscles involved in maintaining posture have weakened over time. When I look at photos of myself, that is when I realise my poor posture. Sometimes, other people would also point it out, when I am walking."

What actions and motivations are involved in correcting your posture?

Participant 1: "The actions to this task include realising bad posture. I would stand up, if I am sitting. I would puff out my chest, straighten my back and look forwards. I would check that my limbs are in the correct place, before sitting back down. I want to hold myself well in photos, and prevent further weakening of my muscles, especially when I get older. This is a task that helps improve one's appearance, confidence and overall aura."

What goals are you trying to achieve by reseting and maintaining good posture?

Participant 1: “When I am reseting and maintaining good posture, my first goal is to appear more confident. I personally believe that not only one should be confident internally, you should also show this externally. Posture plays a major role in showcasing one’s self-esteem to others at first glance. My second goal is to be healthy. After all, when I get older, my posture will deteriorate further due to the ageing of muscles and bones. My third goal is to look good in clothes. I think fashion, especially when it is the elegant and classy style, looks best when the person is confident and that should be reflected in their good posture.”

Image of classy style and good posture via https://www.modedamour.com/blog/2020/7/25/monochrome

How do you feel before you are aware of your poor posture? How do these emotions change during and after you correct it?

Participant 1: “Before completing the task, I would feel uncomfortable with how ugly my poor posture looks. I would become inclined to change the way I hold myself. During the task, I would feel focused and motivated to correct my poor posture. This ensures I am targetting the key limbs that affect posture, which include my head, shoulders and back. I would also be practising good posture correctly. After I complete this task, I would feel accomplished, energised and younger. This makes me want to maintain my good posture and avoid slumping, slouching and hunching over.”

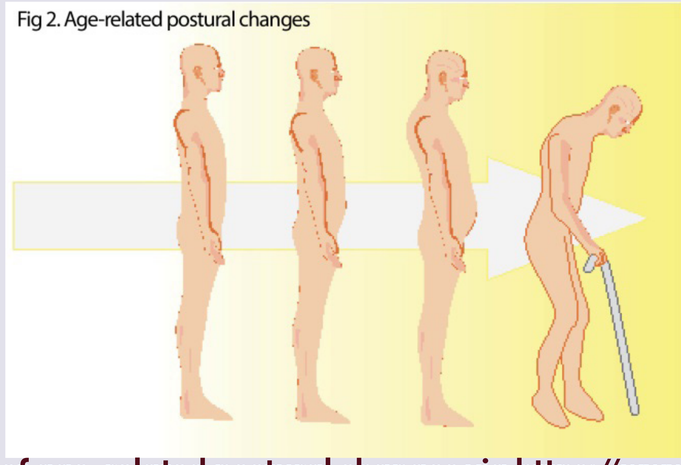


Image of age-related postural changes via https://www.nursingtimes.net/roles/older-people-nurses-roles/anatomy-and-physiology-of-ageing-10-the-musculoskeletal-system-30-10-2017/

What are your thoughts before you are aware of poor posture? What are you thinking, during and after you correct your posture?

Participant 1: “At the start, before I would reset my poor posture, I would think about how unsightly it must appear to be. I would think, “Why is it that when I sit for a long time, my posture goes back to hunching again?”

When I am practising good posture, I would think, “I am doing this to ensure I become photogenic and impressionable on others.” As well as, “I must puff out my chest when I am standing, walking or sitting.”

After the completion of the task, I would think, “I feel better and my back is healthy.””

What are the parts and phases in time of reseting and maintaining good posture? What are the objects and artefacts involved in this experience?

Participant 1: “Usually, this task takes place at a friend’s house, during lunchtime. This is around 12:00 to 2:00pm. The actors include friends, family, myself and other acquaintances. The artefacts involved are my phone, computer, food, table and chair.”

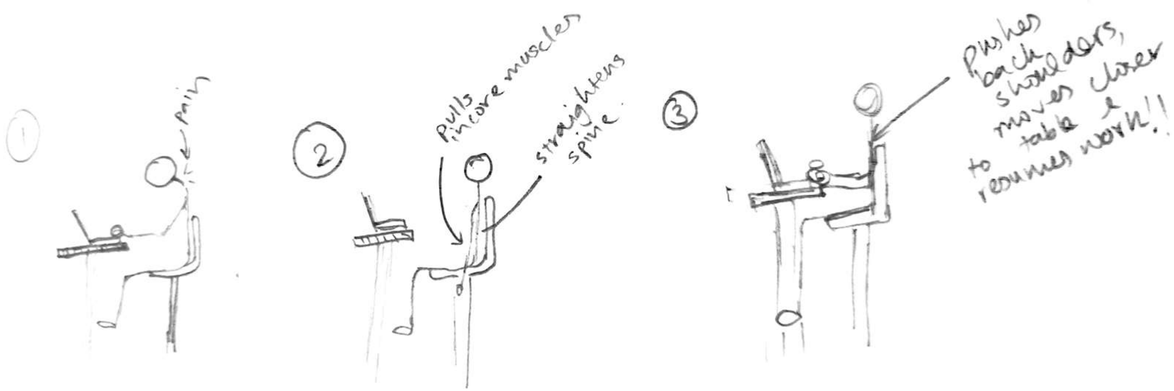
Discovery and Planning

Participant 2

The participant depicts her hunching back when she is sitting in her chair and at her desk. She also annotated neck pain.

The participant shows what actions she takes after becoming aware of her poor posture.

This is the stage where she resumes her work, after reseting her posture.



Participant's 'map' and cognitive sketch representing the task and its various parts (including areas she struggle with - poor posture).

What are causes of your poor posture?

Participant 2: "Personally, I have poor posture because I have university and work. I am required to be in front of computers for the entire day and if you do not have the right table and poor wrists, this can affect posture."

What actions and motivations are involved in correcting your posture?

Participant 2: "In order to correct my posture, I would strengthen my core. I pull my core in to immediately straighten my spine and push my shoulders back. I would also do some stretches when I am in one position for too long.

Recently this has been a frequent task for me, due to assignments and I am always in front of a computer. As a dancer, I also ensure I try to fix this habit as soon as possible when I feel off-balanced. I also realise I have poor posture when I am singing, as it hinders my ability to hit certain notes vocally. Poor posture can occur when I am doing work on my computer and my back starts to hurt."

What goals are you trying to achieve by reseting and maintaining good posture?

Participant 2: “My goals include getting rid of my back pain. I am determined to make sure I do not become a hunchback, when I get older. When I am practising good posture, I also aim to turn it into a short break. This way, I can refocus on studying. This short break is similar to using a camera (practising posture) and pressing on it again to refocus on the object (refocus on studying). My third goal is to be able sing high or long notes, which can be affected by my posture.”

How do you feel before you are aware of your poor posture? How do these emotions change during and after you correct it?

Participant 2: “Before the task, I would be unaware of my poor posture. I would usually realised from my back hurting. During the task, I feel determined to not become a shrimp, which is how people with poor posture are described as. After completing the task, I would feel relieved, since my back pain would disappear for that moment.”

What are your thoughts before you are aware of poor posture? What are you thinking, during and after you correct your posture?

Participant 2: “Before the task, I would think about how “I’m in pain”, due to how my back is ill-positioned, along with my head and shoulders. When I am practising good posture, I would think about how if I look like a shrimp now, I would look like one in the future, but permanently. In my head, I would repeatedly think about “Shrimp Shrimp Shrimp”. When I successfully reset my posture, I would cheer with a “Yay!”

However, I would also think about how I would revert to hunching over later anyways.”

What are the parts and phases in time of reseting and maintaining good posture? What are the objects and artefacts involved in this experience?

Participant 2: “One context that the task typically takes place in is the library or study room. This is during 9:30am to 2:30pm or 6:30am to 1:30pm. The actors involved include people with proper posture in the Brownless Biomedical library, parents, myself, university peers and friends. Artefacts include my laptop, phone, earbuds, shadow, chairs and table that the laptop is on. My shadow on the paper would indicate that my back is bending too much. The chairs play a part in how much my back is supported and the table affects how much my head tilts to see the screen and use the keyboard.

Another context would be set in the train. The timeframe would be 8:35 - 9:25 and 5:25pm to 6:15pm. Actors include train commuters, cyclists and myself. Artefacts include my phone, earbuds and train windows. The train windows can show my reflection and expose my poor posture.”

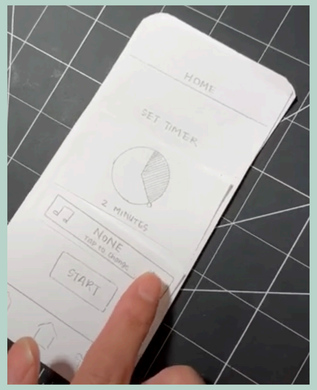
EXPERIENCE MAP

Timeframe: User is studying at the library. They are on their laptop, in a chair and table.	Before the user is aware of their poor posture.	User is aware of their current posture.	User takes actions to reset their current posture.	User takes actions to practise good posture.	User takes actions to maintain their good posture.	User forgets about maintaining good posture and repeats the process.
Thoughts	"Why am I feeling back pain?" "My body feels like it is off-balanced."	"My posture looks ugly in this photo." "I do not want to be a hunchback forever."	"I need to sit up, pull in my stomach and push back my shoulders and head so they are aligned."	"I need to sit up, pull in my stomach and push back my shoulders and head so they are aligned."	"I need to make sure to maintain my good posture, so I can look confident and keep my muscles healthy."	"Why am I feeling back pain?" "My body feels like it is off-balanced."
Emotions	🤕 Unaware Pain Struggling	😥😳 Embarrassed Self-conscious Uncomfortable	🧐 Concentrated Observant Analytical Serious	🧘‍♀️🧘‍♀️🧘‍♂️ Energised Relieved Satisfied	😌😎😆 Confident Motivated Energised	🤭😐 Confused Unaware Pain Struggling
Motivations	No motivation, as they are unaware of their poor posture.	Relieve the neck and back pain they ignored when they were focusing on their work.	Relieve neck and back pain and ensure they do not appear imbalanced in front of others.	Relieve neck and back pain and have balanced and confident body language.	Relieve neck and back pain and preserve healthy muscles.	No motivation, as they forgot about maintaining good posture and are focused on working on their laptop.
Actions	Sitting in a chair at a table, working on the laptop.	Stops work on the laptop.	Straightens back, pulls shoulders and head backwards, in line with the hips.	Keeps back, head and shoulders in the new positions.	Recognises and notes they need to maintain their good posture.	Forgets and relaxes their muscles too much, returning to their previous poor posture.
Challenges	Struggles with back pain.	Does not know why their posture is strange.	Lacks time to dedicate enough on practising good posture, and unable to identify all elements of poor posture.	Modifies posture excessively, making it unnatural.	Forgets about maintaining good posture.	Forgets about maintaining good posture.
Interactions	Other people notice poor posture User is working on their laptop	Other people point it out User checks reflection of their posture or feels their posture is off-balanced	User stops using their laptop to reset posture	User stops using their laptop to maintain correct posture	User sets mental reminder to maintain posture	User continues working on their laptop and forget Other people point it out
Context/Event	Library or Study 11:00am	Library or Study 11:05am	Library or Study 11:06am	Library or Study 11:06am	Library or Study 11:07am	Library or Study 11:10am
Opportunities	Ensure users are notified periodically, so they are constantly mindful of their posture	Ensure users are reminded at specific times of the day.	Two modes (one slow and one fast) to cater to those with limited time and different lifestyles.	Step-by-step tutorial with a 'Mirror' feature in the slow mode, so users can follow along. 'Mirror' feature that uses the camera lens to reflect the user and highlight elements of poor posture (back, head and shoulders)	Ensure users are reminded at specific times of the day.	Ensure users can be reminded in hourly intervals.

Iterate Design

Prototype Testing & First Iteration

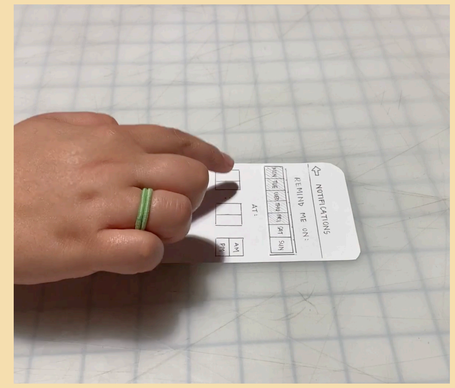
Participant 1 (video: https://youtu.be/wsvC7GRgSwE)



From the prototype testing, it can be observed that the participant skipped the intructions. This reduces the effectiveness of the app in reseting and practising good posture. In response, the instructions will be in the form of a carousel, instead of moving to the next sequence with a delay.

The participant moved back and forth from the Notifications page, due to confusion about the purpose of the app. She was also initially confused about the timer running, as she tapped on the 'Home' at the top of the screen. To mitigate this, there will be an Introductions page inbetween the Login and Notifications page. This way, the user will be given context about the app. There will also be brief text underneath features of the app, to explain to the user about their functions.

Participant 2 (video: https://youtu.be/KAyd0qJQSmQ)



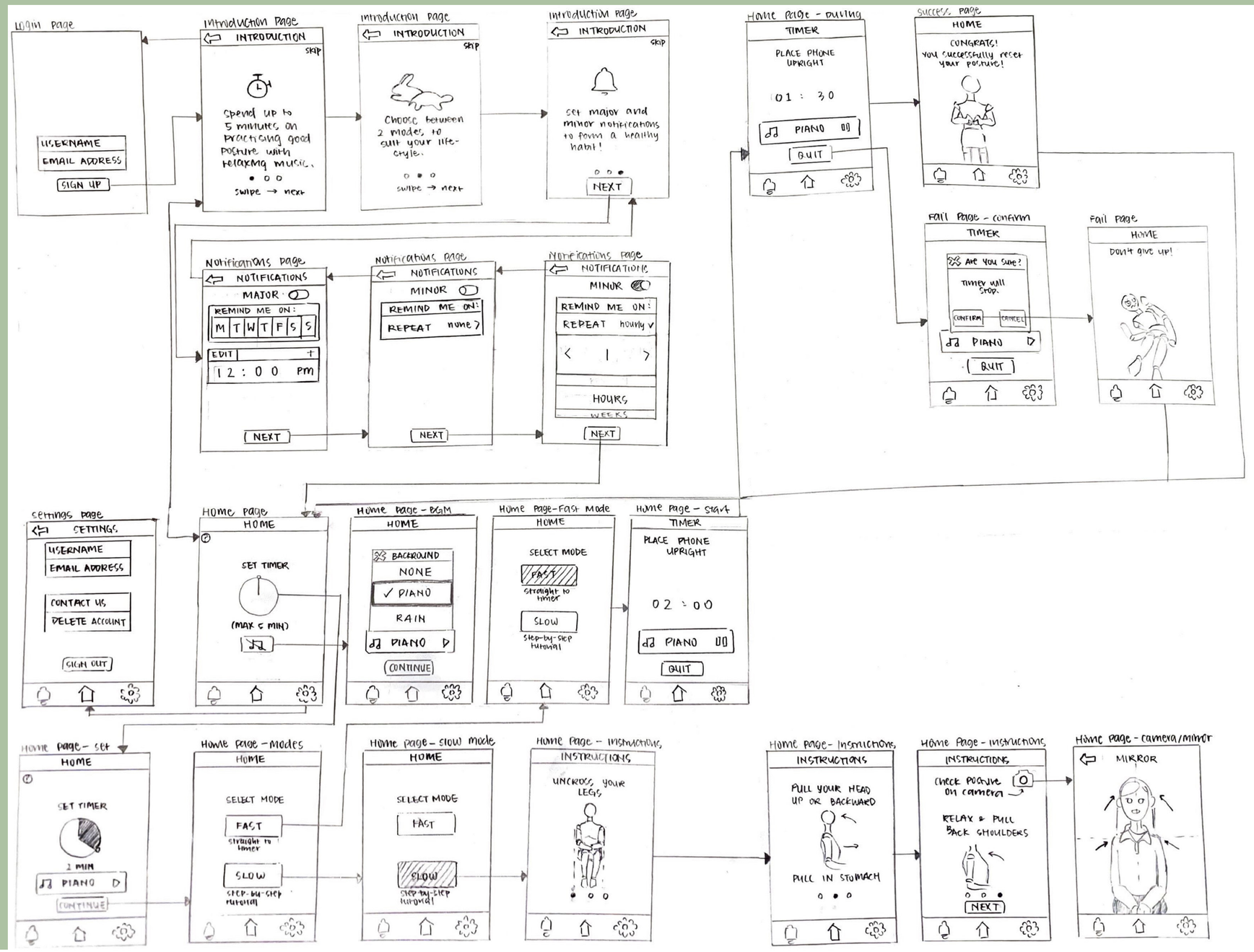
Throughout the paper prototype, the participant was able to smoothly navigate and use the app.

She provided thoughts on the Notifications page, which was that she has poor posture all the time. With the notification options being limited to only one time of the day, this diminishes the effectiveness of the app.

Addressing this, the Notifications page will include 'Major' and 'Minor' notifications. Major notifications will be certain times of the day that the user can set reminders for. For example, a notification set at 12:00pm from Monday to Friday. Minor notifications will be reminders that occur at certain hourly intervals. For instance, notifications every 2 hours within the timeframe of 8:00am to 9:00pm.

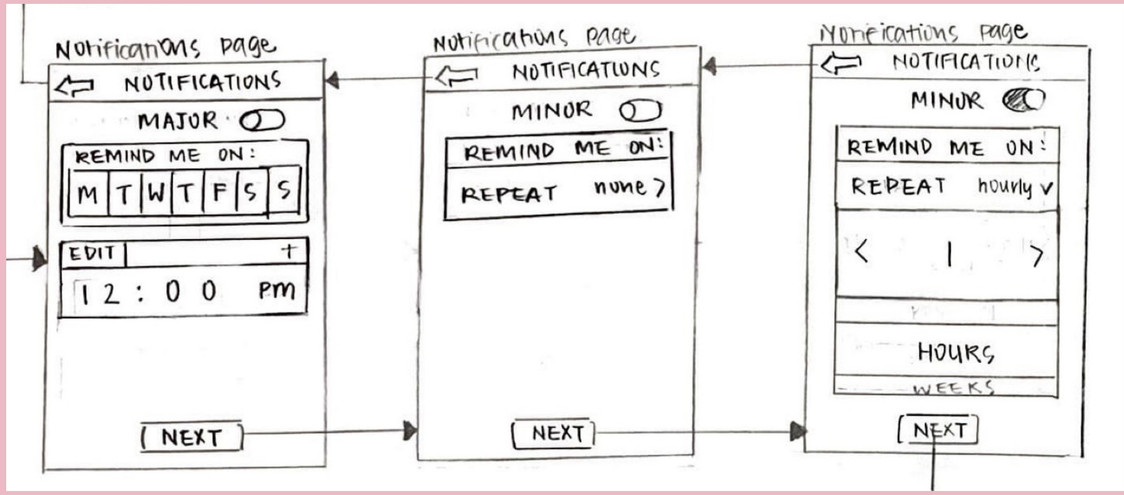
Iterate Design

First Iteration of Wireflows

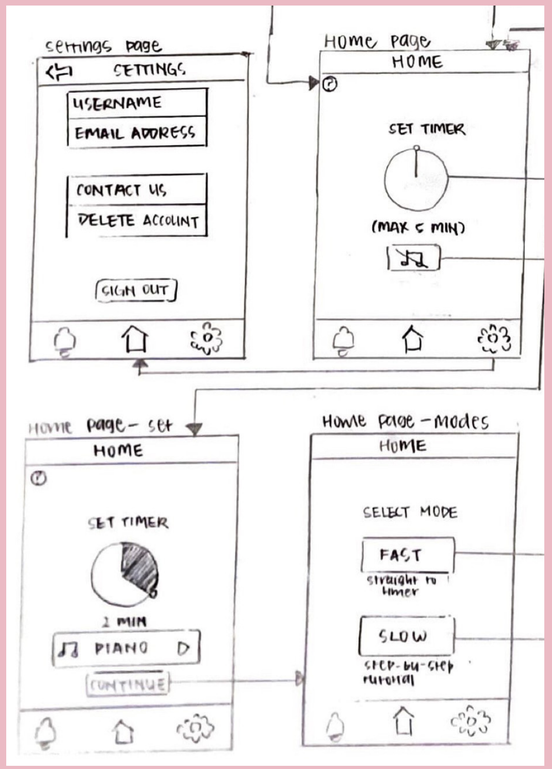


Iterate Design

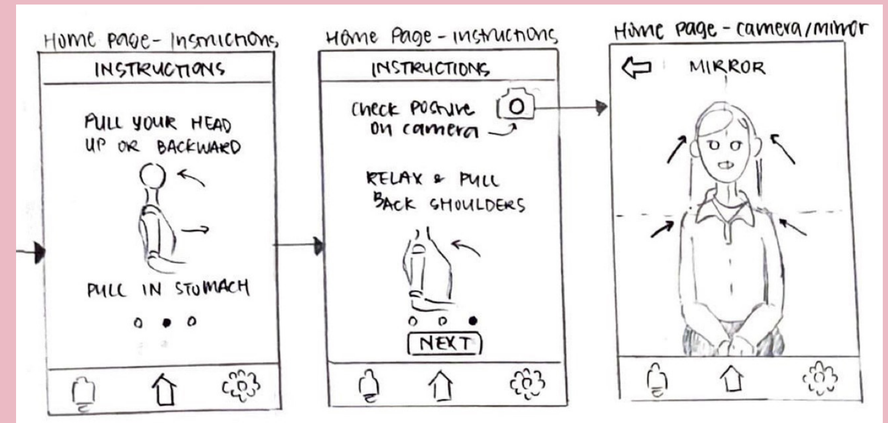
First Iteration of Wireflows



In the first iteration of wireflows, the Notifications Page contained 'Major' and 'Minor' reminders. 'Major' reminders would occur at specific times that the user sets and 'Minor' would occur at intervals. Users would have to set their major and minor notifications before continuing to the Home Page. This posed the issue of overwhelming the user, due to the wording of 'Major' and 'Minor', as well as prolonging the process of setting up notifications. These wireframes and flow were revised to optimise the user experience.



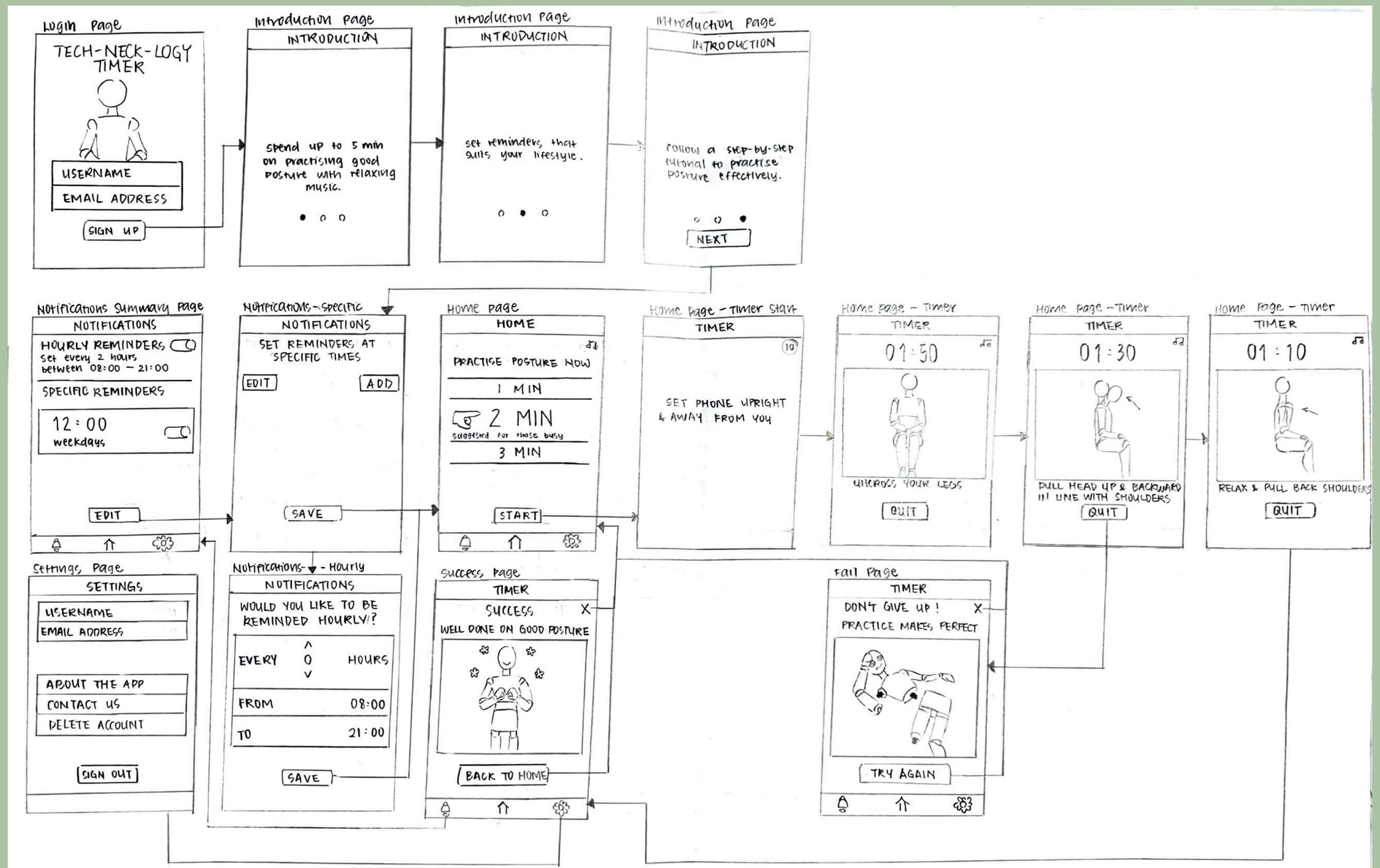
The wireflow originally contained two modes, 'Fast' and 'Slow', to accommodate users with limited time. However, the drawbacks of this feature was that it delayed the user in using the timer feature to practise good posture. Further, it could beset them, since they already had to make decisions and take action on the Notification pages. As the distinction between the two modes were the amount of features included, the design of the overall timer in the Home Page was changed to replace these modes.



In the 'Slow' mode, users could also access a 'Mirror'. This would be a page where they can see themselves on the screen, and elements of poor posture would be highlighted through a filter. In order to prevent too many features from overwhelming the user, this idea was removed. Since the intention of this feature was to improve the step-by-step tutorial experience, instead the tutorial has been ameliorated.

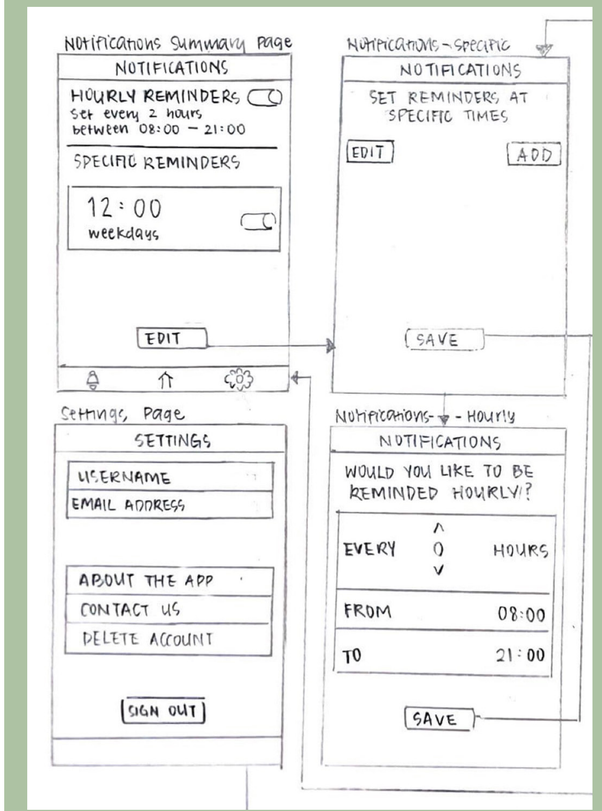
Iterate Design

Second Iteration & Updated Wireflows

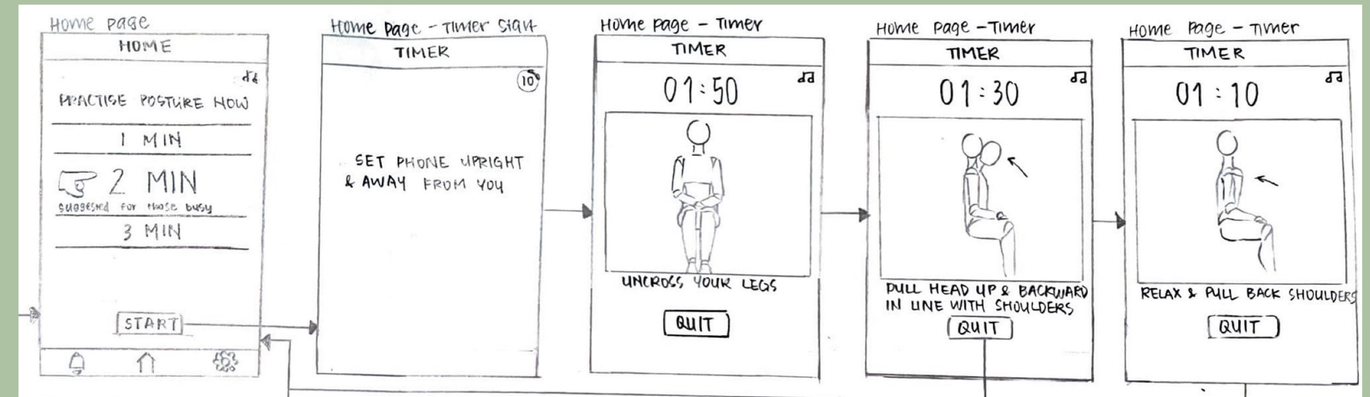


Iterate Design

Second Iteration & Updated Wireflows



'Major' and 'Minor' reminders were renamed to be 'Specific Reminders' and 'Hourly Reminders'. For both types, users are provided text that provides more context for what actions to take. This can be seen with the 'Set reminders at specific times' and 'Would you like to be reminded hourly?'. Since the original process of setting up notifications was long and overwhelming, it has been shortened. Users can set their Specific Reminders and go to the Home Page immediately. The Hourly Reminders is optional, appearing when the user chooses 'Yes' on an overlay asking them if they want to set it or not.

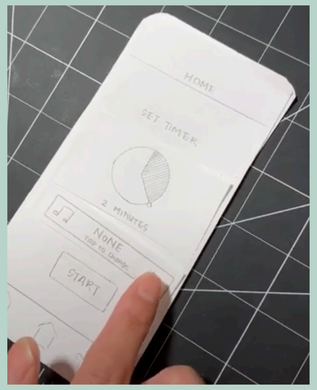


Replacing the two modes, 'Fast' and 'Slow', are the integration of the timer and its step-by-step tutorial. After the timer starts, instructions about setting the phone away from the user and a series of illustrations of improving posture play. This way, users do not have to choose between two modes and can use the timer immediately after setting up their notifications. The step-by-step tutorial has also been improved, by showing one step and its relevant illustration at a time.

Iterate Design

Prototype Testing & Second Iteration

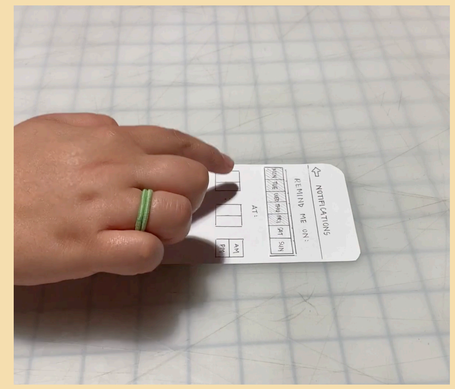
Participant 1 (video: https://youtu.be/wsvC7GRgSwE)



In the second iteration, the instructions are still in the form of a carousel, responding to the participant skipping the intructions. However, the wording of the instructions have changed to reflect the changes in the amount and type of features in the app.

To mitigate the confusion about the purpose of the app, there will still be an Introductions page that is inbetween the Login and Notifications page. The wording of the two types of notifications have been improved, from 'Major' and 'Minor' to 'Specific reminders' and 'Hourly reminders'. Further, there will also be Tips under certain durations of the timer. This is to recommend users on how long they can practise posture, based on how busy they are.

Participant 2 (video:https://youtu.be/KAyd0qJQSmQ)



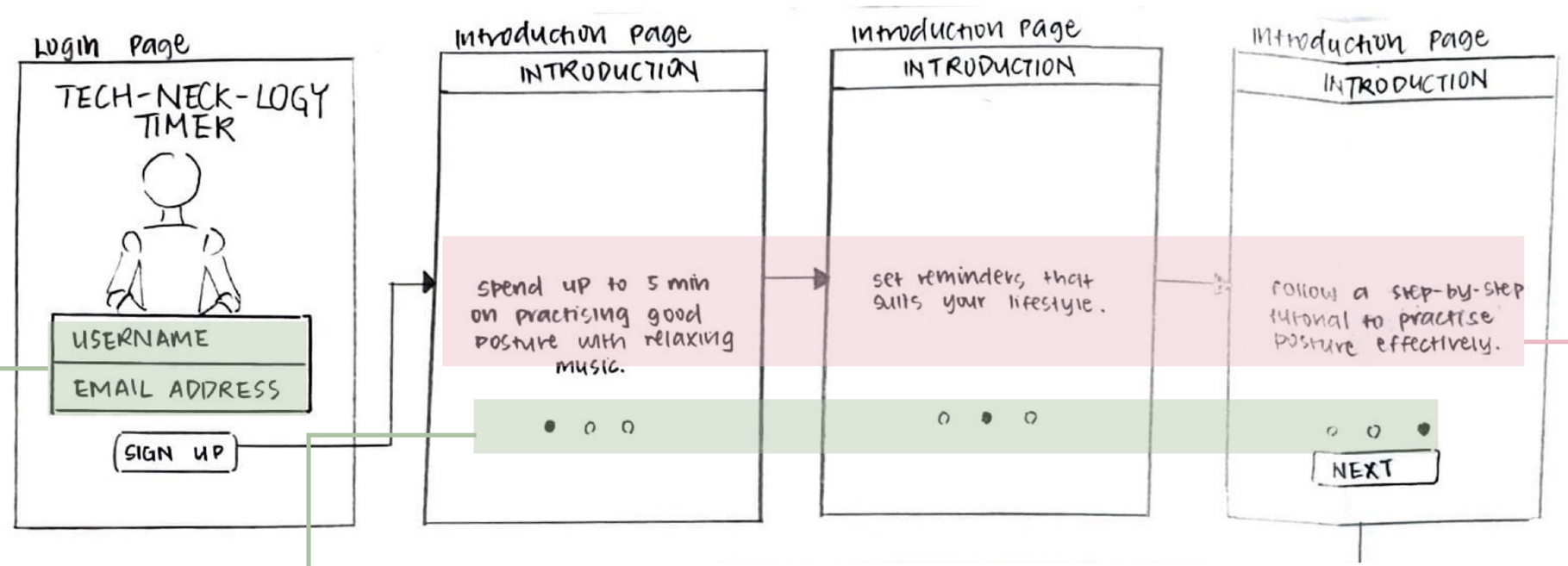
In the second iteration, the Notifications Page has been optmised, in terms of design, flow and wording.

There are still two types of notifications, however the 'Specific reminders' is the main wireframe that can flow to the Home Page. If the user chooses to, they can be redirected to the 'Hourly reminders' via an overlay. The 'Specific reminders' design is based on setting alarms and the 'Hourly reminders' design is based on setting reminders. There will also be a Notifications Summary Page that can be accessed on the navigation bar, via the 'bell' icon. This page summarises the types of reminders the user has set. They can quickly disable them via the toggle buttons, until they wish to activate them again. They can also edit the set reminders, which will send them to the Notification pages.

Information Needs & Patterns

Annotations

Information Needs: For users that are **exploratory seeking,** they may not know exactly what they are after in terms of improving their posture. Thus, they are introduced to three main features of the app, which are multiple entry points to achieving good posture. The Introduction Page also confirms to users who are **known item seeking,** that the app serves the purpose of correcting their posture. As the user knows their poor posture should be corrected, this information would let them know they can spend time reseting and maintaining good posture.



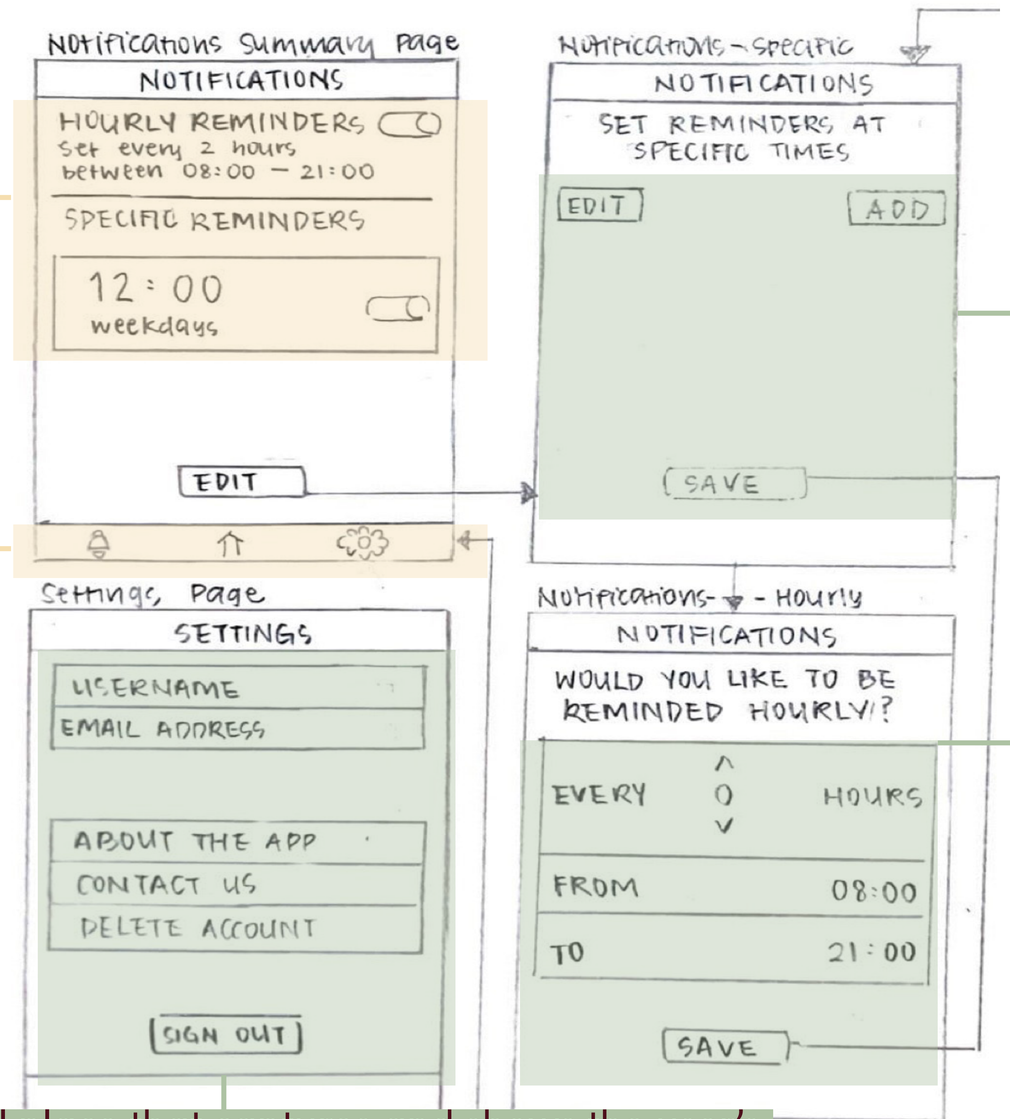
UI Pattern: **Input prompt** for users to enter their username and email address into the app.

UI Patterns: After users sign up, they are provided with an introduction to the app as the onboarding. Through a **carousel**, they can swipe and learn about the three main features, which are the timer, reminders and step-by-step tutorial on maintaining good posture.

Information Needs & Patterns

Annotations

Categorisation: The organisation by **time** can be seen in the Notifications Summary page, where the user can set reminders at certain times and hourly.



Categorisation: With **task,** users can access their notifications, home and settings in the navigation bar at the bottom. The Notifications page contains two types of notifications they can set. The Home page will contain the timer and music. The settings will contain the context for the app.

UI Pattern: **Settings** will be the central place that captures and shows the user's preferences. In this case, the Settings will show the user's username and email address. They can also view the Introduction pages again through 'About This App', contact and delete their account. They can also sign out.

UI Patterns: All pages and overlays for notifications will have a **structured format.** The format of the data will follow a predefined structure so users can quickly submit their data about their notifications.

As users set specific reminders, there would be a **modal** that overlays. The overlay would allow users to select the time and repeat on certain days of the week.

After they continue, there would be another **modal** asking them if they want to also set hourly reminders. If they choose 'Yes', they would be redirected to the Notifications Page for hourly reminders. As they select the parameters of the repetition, the 'From' and 'To' will become **expandable input** to allow them to scroll to the times they want. **Input feedback** will show after selection, displaying the set times.

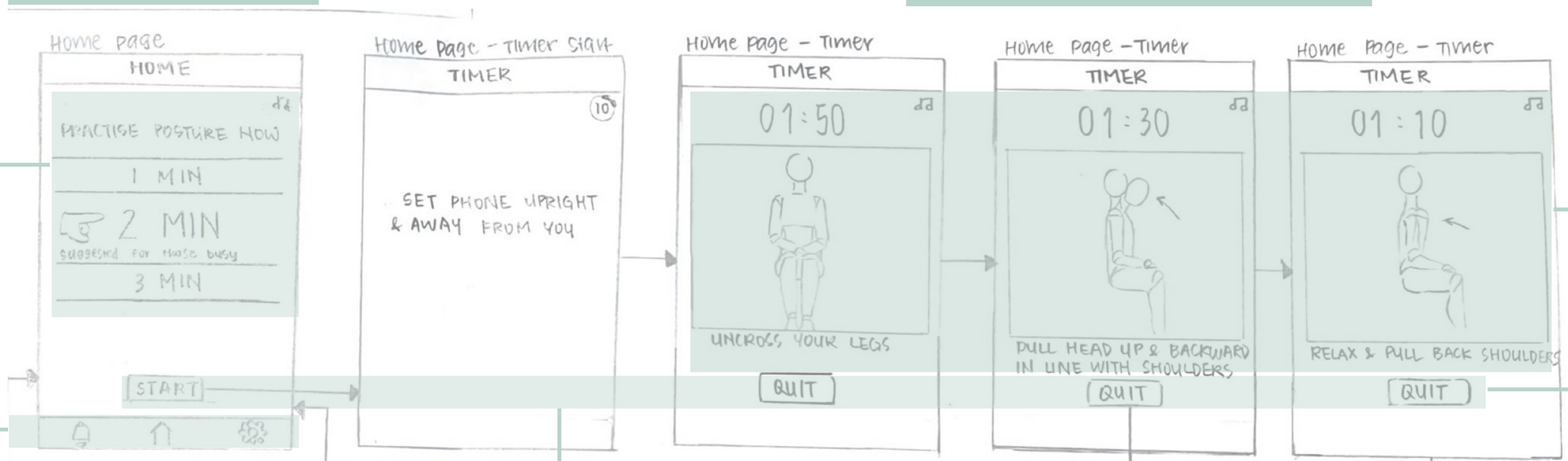
If they decide 'No', they would be directed to the Home Page.

Information Needs & Patterns

Annotations

Navigation: Within the **local** navigation of Home, users can use the timer and music.

Navigation: For the **contextual** navigation, the timer will include the option for background music, as well as accessing instructions once it starts.



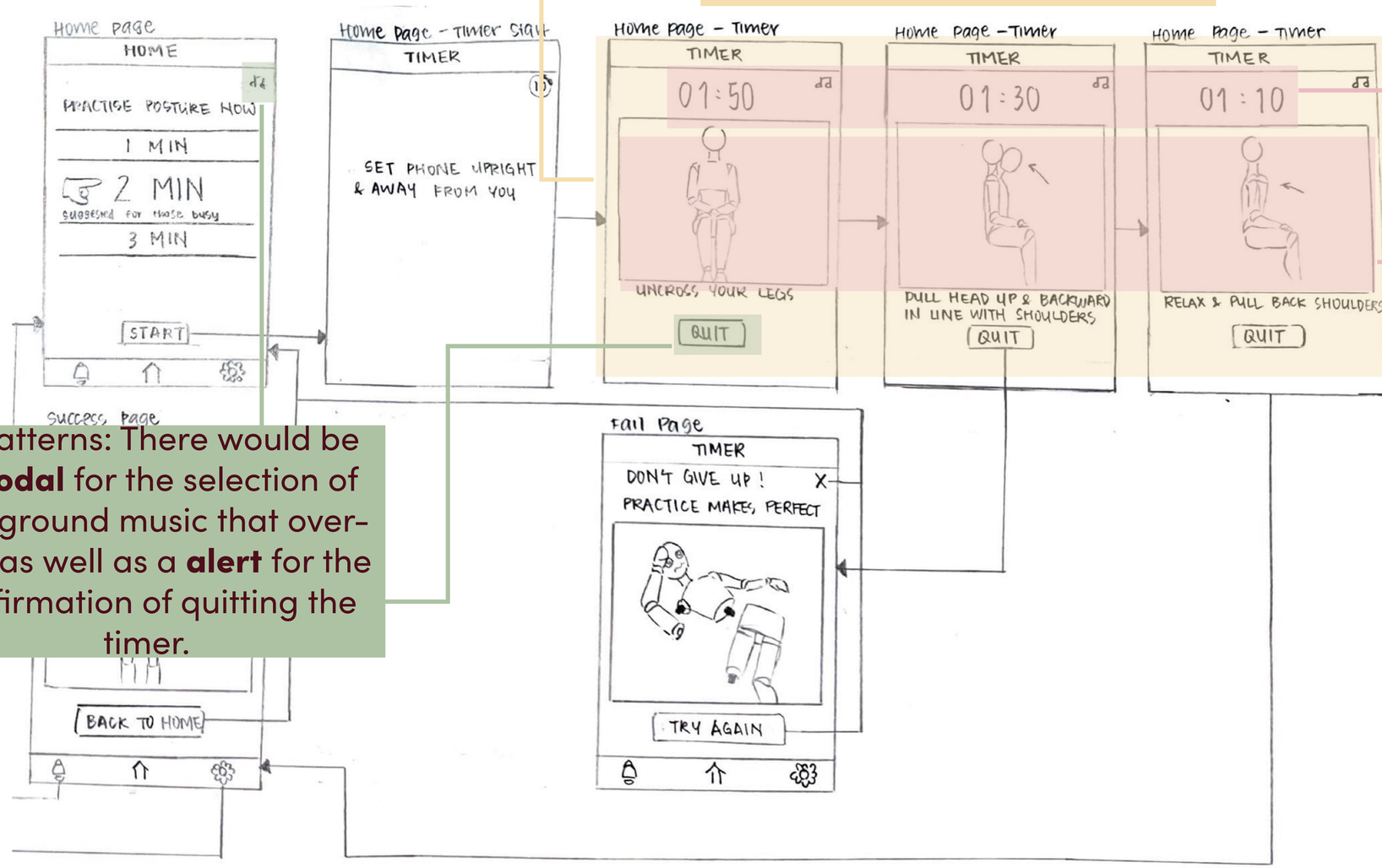
Navigation: For the **global** navigation, the high levels of categories include: Home, Notifications and Settings.

Since the timer and notifications will be the **most used,** the Notifications page will be at the start of the flow, after the users log in and view the introduction to the app. Following the notifications is the Home page, which has the timer, allowing users to use it quickly. Here are some **literal actions**, seen with clearly labelled buttons, such as 'Start' and 'Quit'.

Information Needs & Patterns

Annotations

Categorisation: With **time**, when the user uses the timer, the contents of the step-by-step tutorial also plays in that duration.

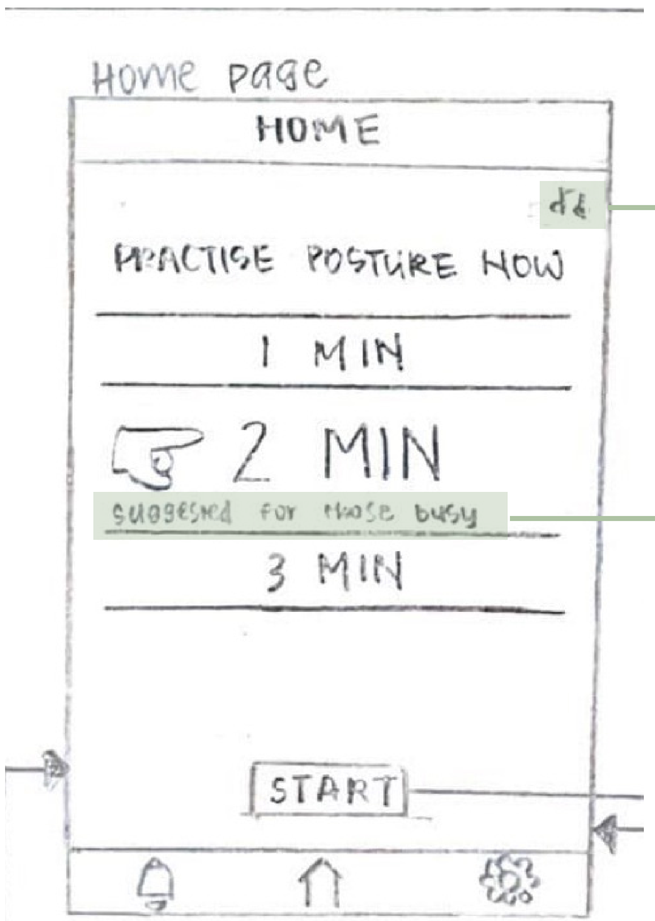


Information Needs: For users that are **known item seeking**, accompanying the tutorial is the timer, so they can immediately work on maintaining good posture.

Information Needs: For users that are **exploratory seeking,** the step-by-step tutorial will provide them with more information about reseting and maintaining good posture.

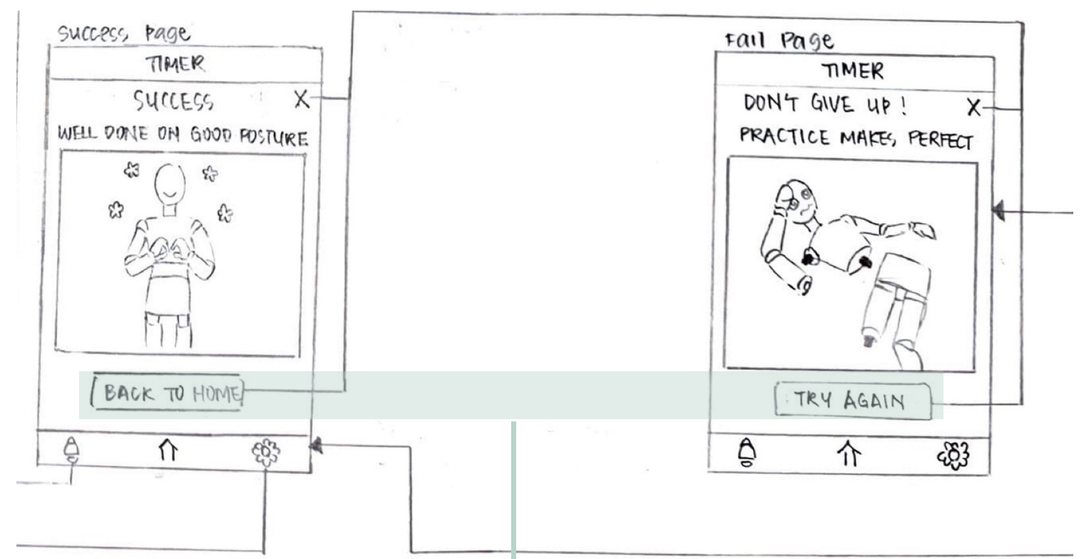
UI Patterns: There would be a **modal** for the selection of background music that overlays, as well as a **alert** for the confirmation of quitting the timer.

Information Needs & Patterns
Annotations



UI Pattern: **Morphing controls** is used on the music button. Once the user clicks on it, it will turn into a longer button that shows what music playing and the play/pause button. The user is also prompted by a **tip** to tap on the button to change music.

UI Pattern: **Tips** are provided, recommending certain timer durations that cater to the user's situation and lifestyle.



Navigation: Here are more **literal actions** for the Success and Fail pages, where users can return back to Home.

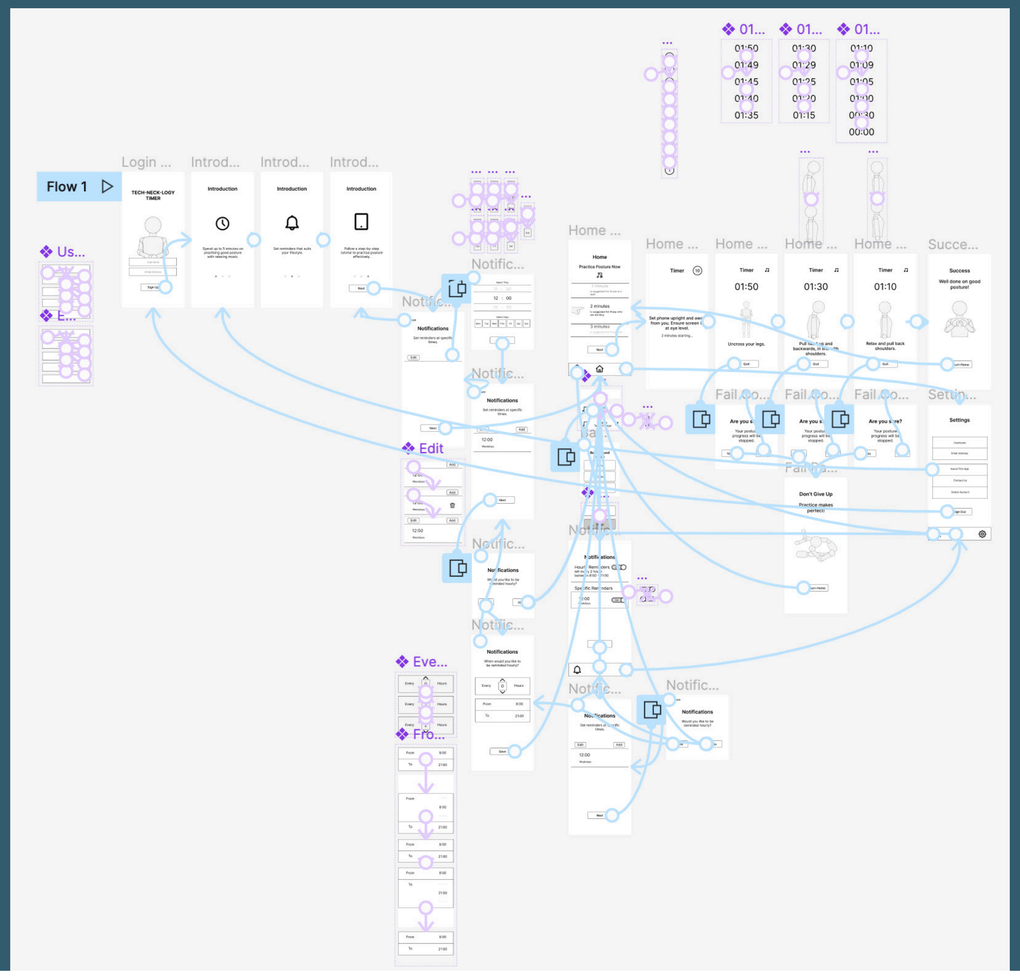
Prototype

Figma File:

https://www.figma.com/file/3tjYWeu9rpHQ3yYBJZPm1u/Yizi's-UX_A2_High-Fidelity-Prototype?type=design&node-id=0%3A1&t=GTjbSmawPOlkzHNf-1

Figma Prototype:

https://www.figma.com/proto/3tjYWeu9rpHQ3yYBJZPm1u/Yizi's-UX_A2_High-Fidelity-Prototype?page-id=0%3A1&type=design&node-id=1-2&viewport=258%2C232%2C0.12&scaling=scale-down&starting-point-node-id=1%3A2



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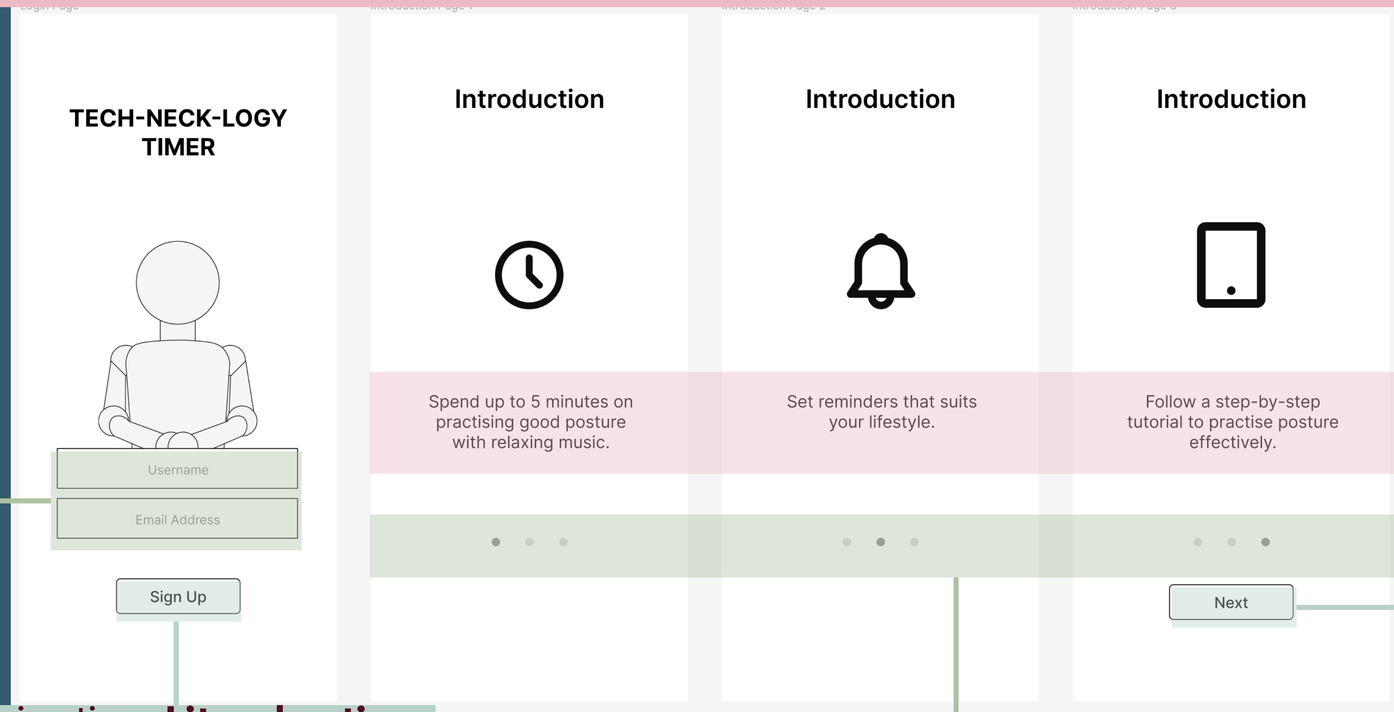
Information Needs: For users that are **exploratory seeking,** three main features of the app are introduced, so they can learn more and find support for maintaining good posture. For **known item seeking,** the introduction would inform them that this app serves the purpose of practising good posture.



UI Pattern: **Input prompt** for users to enter their username and email address into the app.

Navigation: **Literal action** for users to move to the next page after understanding the introductions.

Navigation: **Literal action** for users to sign up and move to the next page.

UI Patterns: Through a **carousel**, users are briefly introduced to the features of app and its purpose. The dots is a **completeness meter** that indicates how many pages there are and where the user is currently at.

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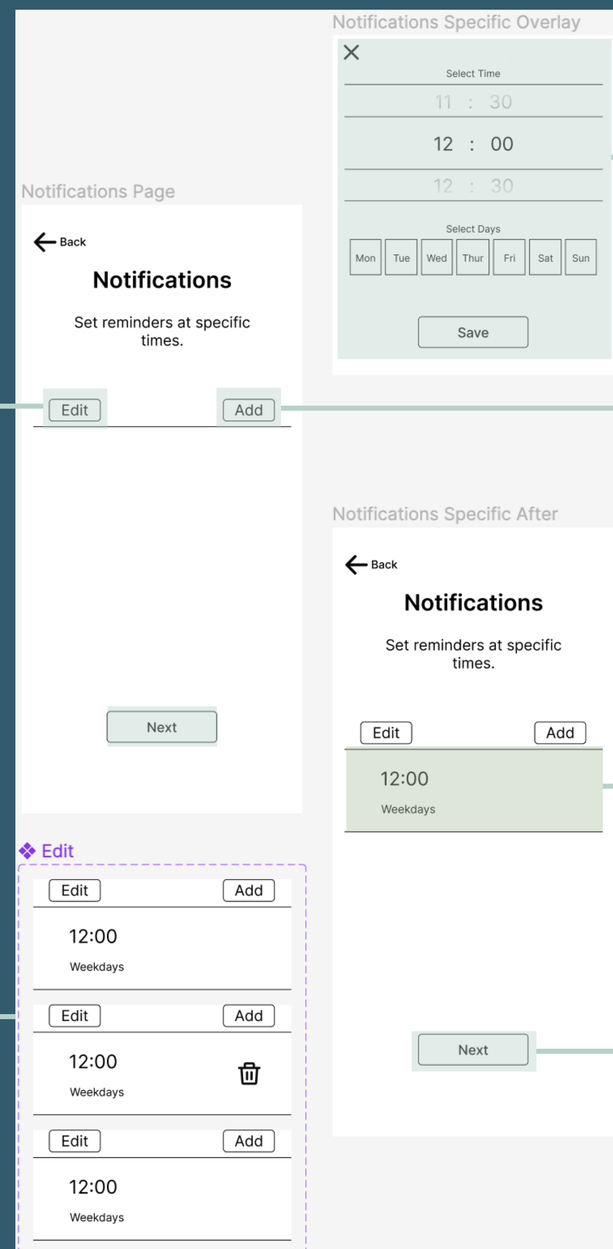

Navigation: **Literal action** for users to edit specific reminders. After interacting with the button, the 'bin' icon would appear on the right of the set reminders. Clicking on the 'bin' icon would delete the reminder.

Navigation: **Literal action** for users to add specific reminders. After interacting with the 'Add' button, the modal to select the time and day(s) appear.

UI Pattern: After saving with the 'Save' **button**, the page would be updated with the set reminder, providing **visual feedback.**

Navigation: **Literal action** for users to move to the next step, which is the modal asking if users want to set hourly reminders as well.

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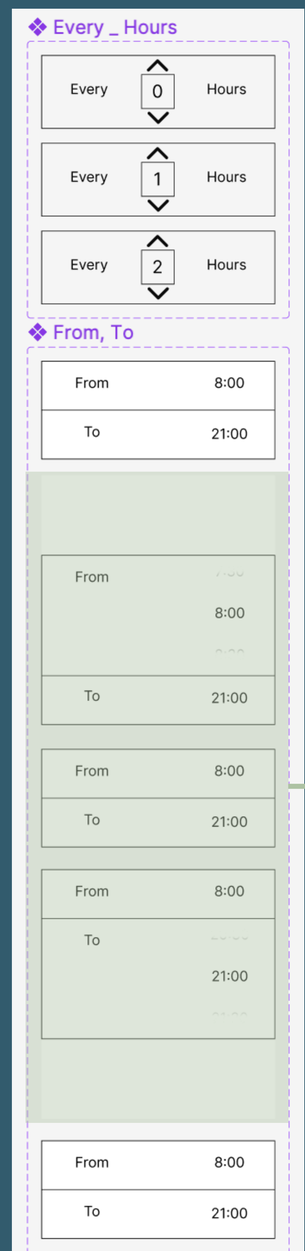
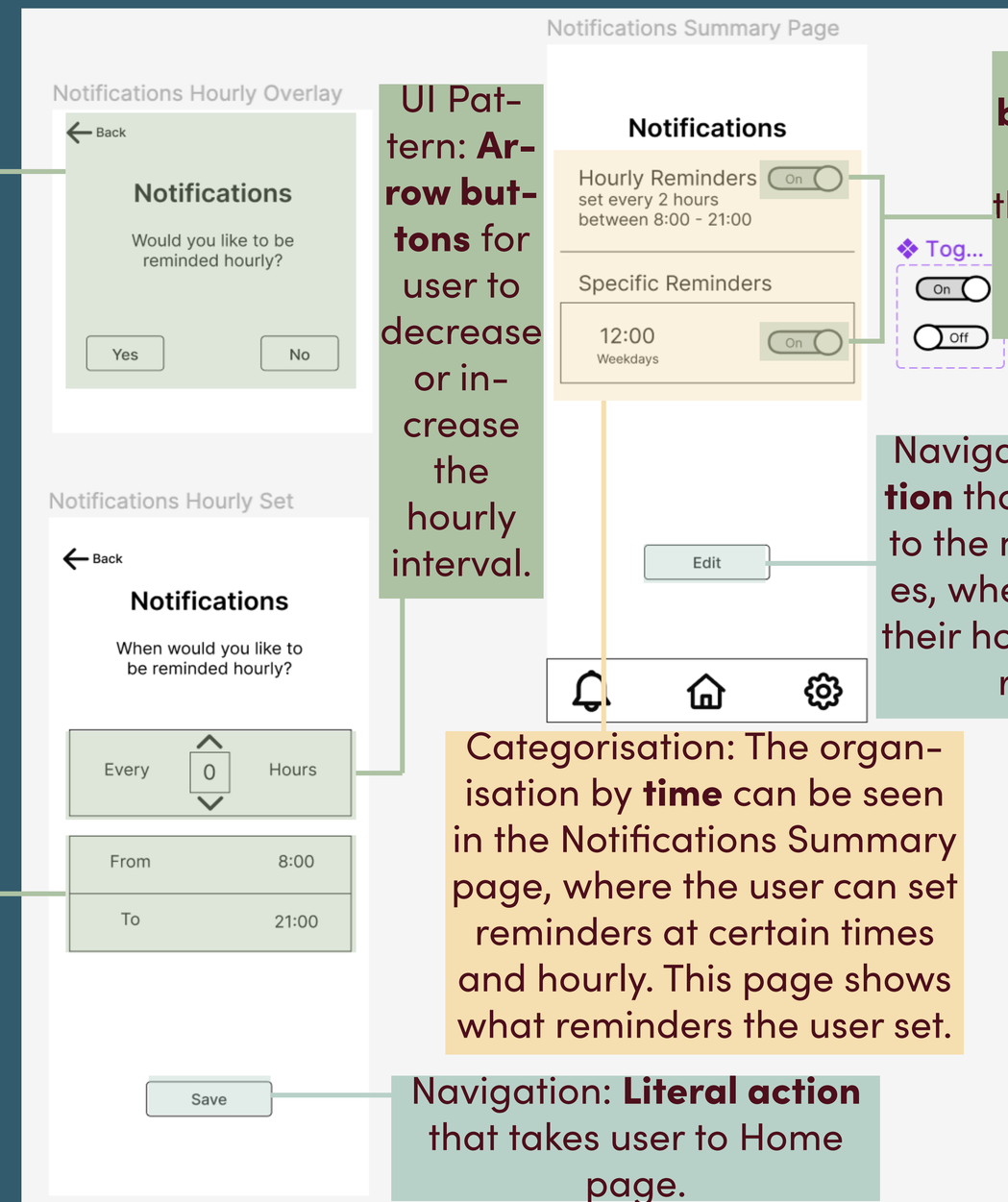


UI Pattern: **Modal** that overlays, asking users if they want to set hourly reminders as well. If yes, they are sent to the next Notifications page for customising the hours.

If not, they are sent to the Home page.

UI Pattern: **Expandable input** is implemented when users want to customise the parameters of their hourly reminders. They can tap on 'From' or 'To' and scroll for the times they want. This provides the page with greater screen real estate and minimal distractions, as a whole.



UI Pattern: **Arrow buttons** for user to decrease or increase the hourly interval.

UI Pattern: **Toggle buttons** so users can disable and enable the notifications conveniently.

Navigation: **Literal action** that navigates user to the notification pages, where they can edit their hourly and specific reminders.

Categorisation: The organisation by **time** can be seen in the Notifications Summary page, where the user can set reminders at certain times and hourly. This page shows what reminders the user set.

Navigation: **Literal action** that takes user to Home page.

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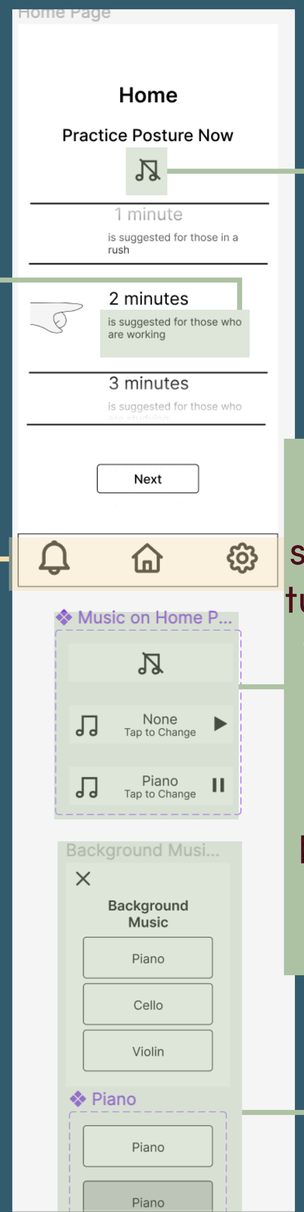
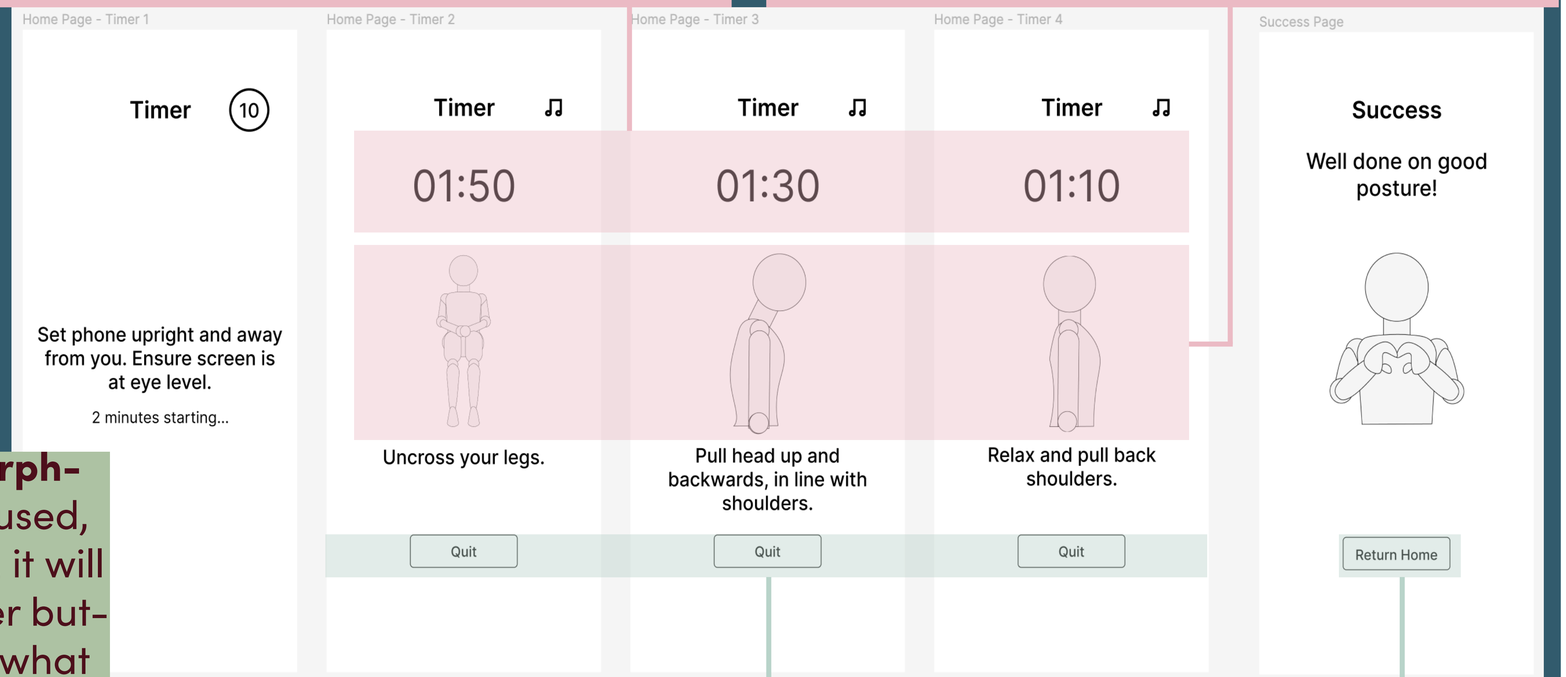
Information Needs: For **known item seeking**, the timer allows the user to practise posture.

Information Needs: For **exploratory seeking,** the step-by-step tutorial will support users in practising posture.





UI Pattern: **Tips** for the duration the user should set.

Categorisation: With **task,** users can access their notifications, home and settings in the navigation bar at the bottom. The Notifications page contains two types of notifications they can set. The Home page will contain the timer and music. The settings will contain the context for the app.

UI Pattern: **Morphing controls** is used, so once tapped, it will turn into a longer button that shows what music playing and the play/pause button. The user is also prompted by a **tip** to tap on the button to change music.

UI Patterns: There would be a **modal** for the selection of background music.

Navigation: **Buttons that are labelled** as 'Quit', which provides users a way to stop the practice and get back to the Home page. Although, there would first be an alert confirming that they wish to quit.

Navigation: Once users complete their practice and the timer ends, they can return to the Home page via the **button labelled** as 'Return Home'.

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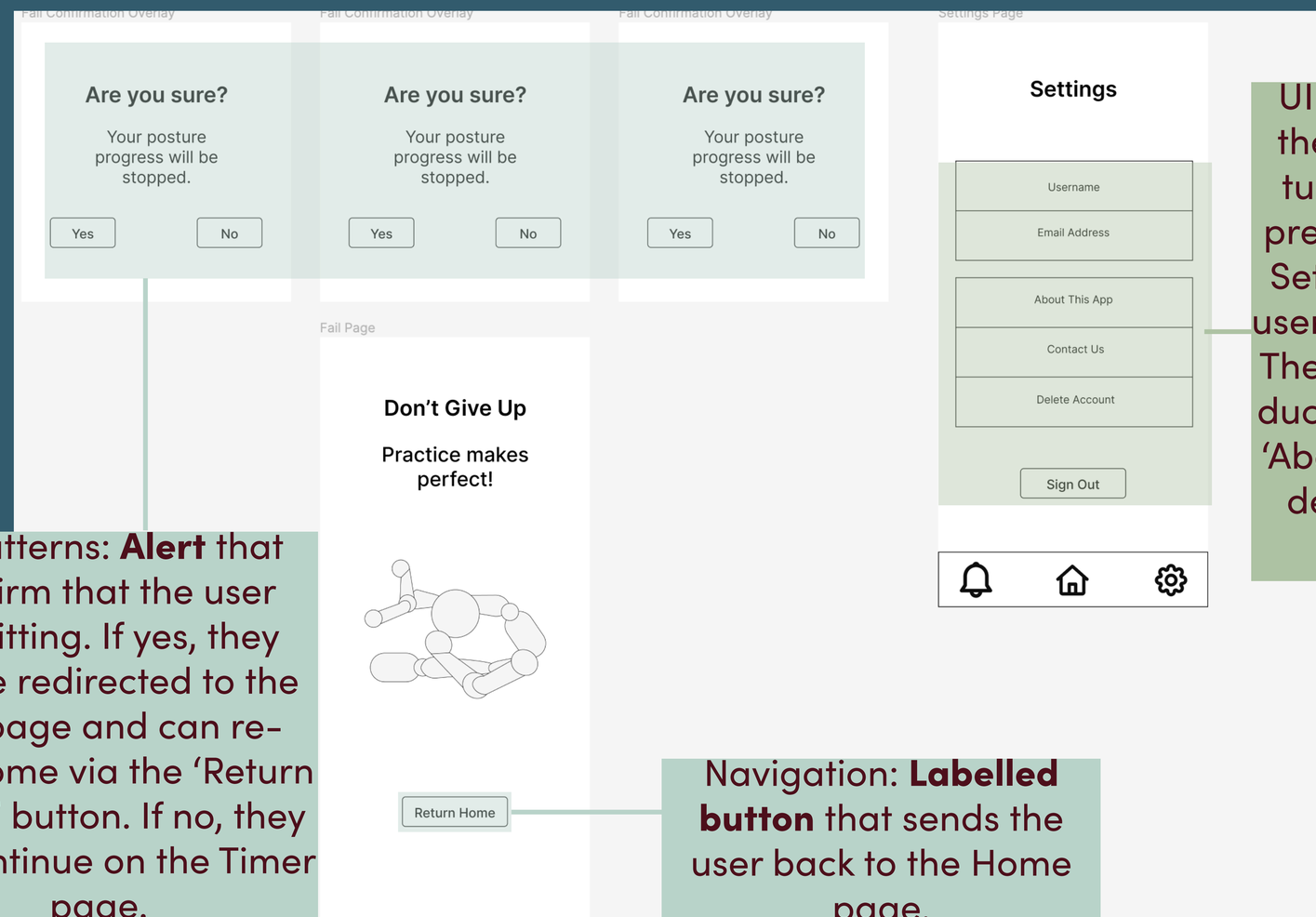

UI Patterns: **Alert** that confirm that the user is quitting. If yes, they will be redirected to the Fail page and can return home via the 'Return Home' button. If no, they will continue on the Timer page.

Navigation: **Labelled button** that sends the user back to the Home page.

UI Pattern: **Settings** will be the central place that captures and shows the user's preferences. In this case, the Settings will show the user's username and email address. They can also view the Introduction pages again through 'About This App', contact and delete their account. They can also sign out.