CareFit - An application to encourage exercise in informal carers, with an emphasis on accessibility.

Details

Scope	University dissertation project with approx. 10 weeks of programming & testing time.
Role	UX & UI designer, Programmer
Tools	Android Studio, Inkscape

Outline

The benefits of exercise are considered general knowledge. Still, most people cannot find time to get active. New tech and equipment makes it easier for us to keep up with an exercise routine, but the financial barrier for entry can be high.

One in ten people in the UK are informal carers, and for them, that barrier for entry may look even higher. Many carers dedicate 50 or more hours a week to unpaid care duties, and many are also low-income.

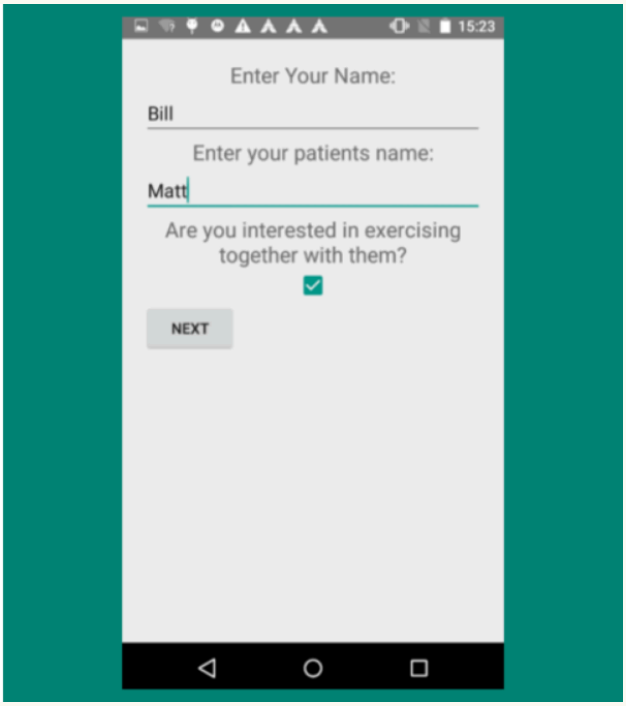
Declining health among informal carers has been reported, but it can be difficult for them to slot in preventative behaviours like exercise.

CareFit was designed to encourage those informal carers to use exercise as a means of looking after their own health. It focussed heavily on user-driven development and designing for older adults.

Process

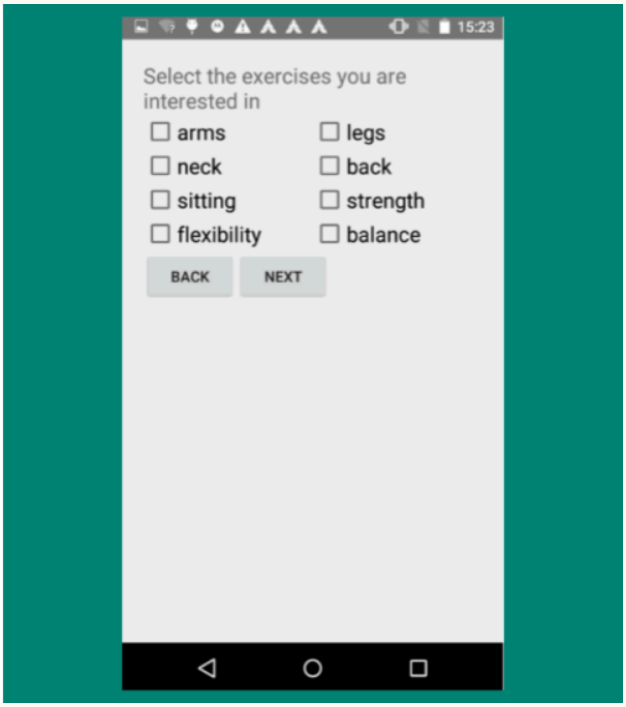
About You

- Users saw this screen on first opening the prototype.
- Users could input their name, the name of the person they were caring for, and whether or not they could exercise together.



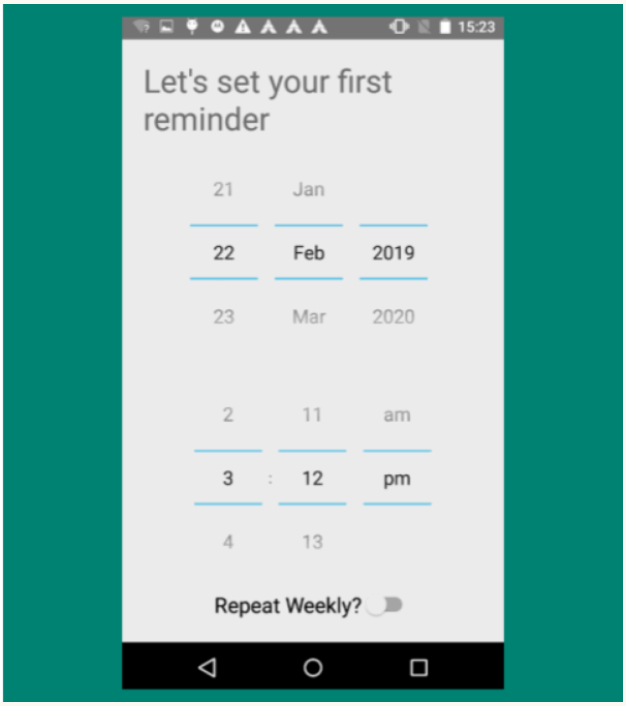
Preferences

- After entering names, users are asked to selected their preferred exercise types.
- Not everyone can exercise all parts of their body, and some only want to focus on certain areas. It was important that we accounted for this in our suggestions.



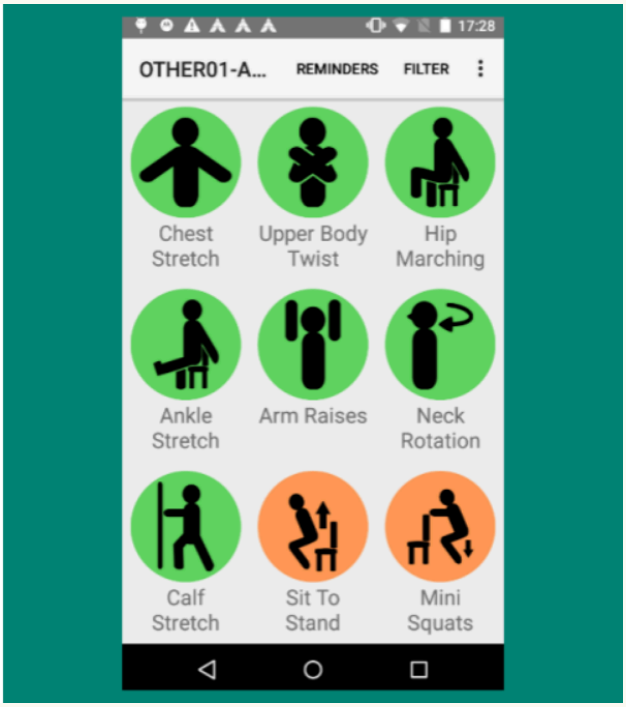
First Reminder

- After setting preferences, users are encouraged to set their first reminder.
- Users could set reminders by date and time, and repeat them on a weekly basis.
- It was noted that the specific date system was not intuitive, and users would prefer to set by the days of the week.



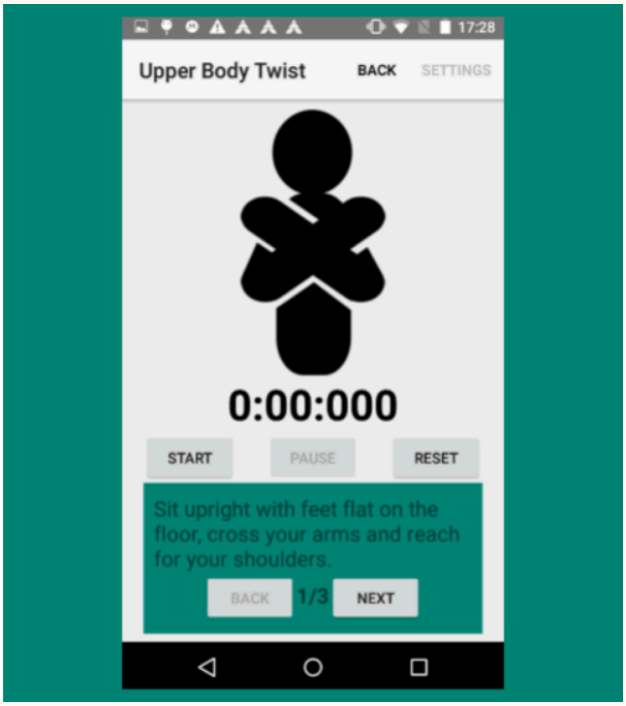
Home

- Initially a very simple screen featuring buttons for each exercise
- Text-based menu buttons would take users to different areas of the app.
- The three dots indicate where the settings and records buttons were meant to go, but they were too large for most screens.



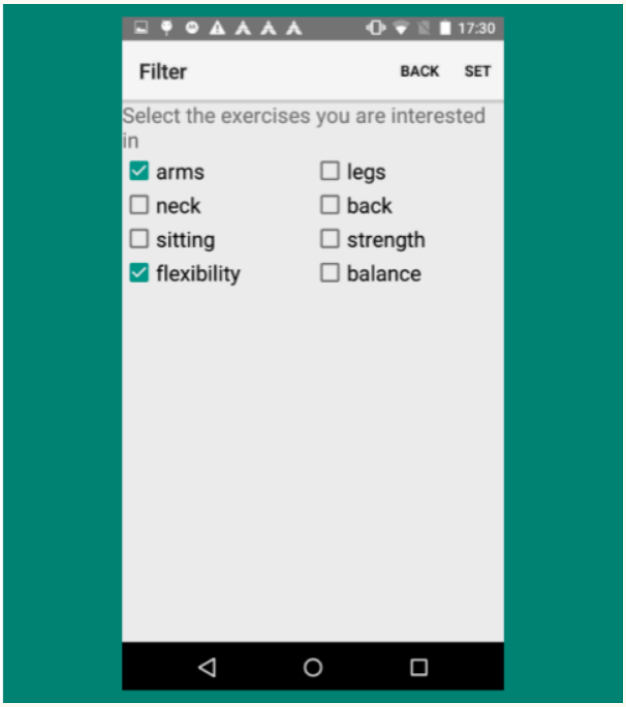
Exercise

- The prototype exercise screen.
- “START” begins the timer for the exercise
- “PAUSE” pauses the timer for the exercise
- “RESET” resets the timer for the exercise
- Simple instructions on how to perform the exercise are shown.



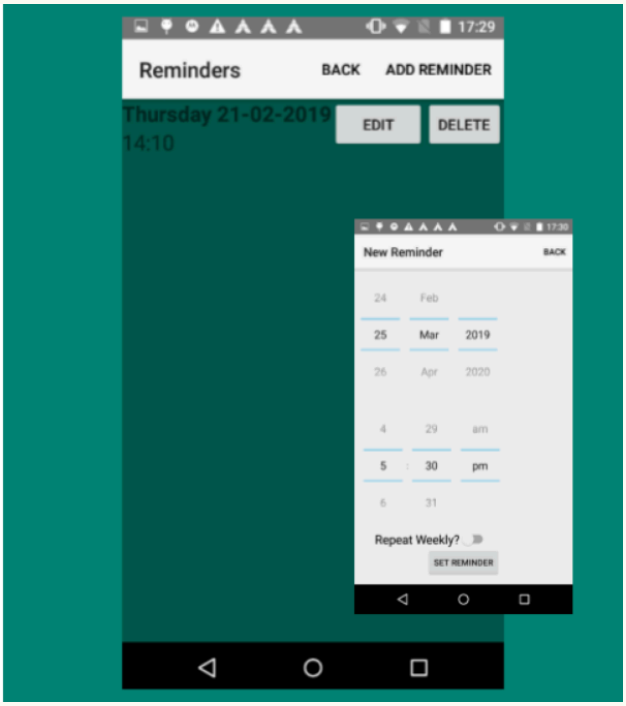
Filter

- Deliberately made similar to the exercise preference setting screen. It was assumed the similarity would help users recognise what they could do here.
- However, testers were unsure of how to set the filter, and some were unsure as to what filtering really did.



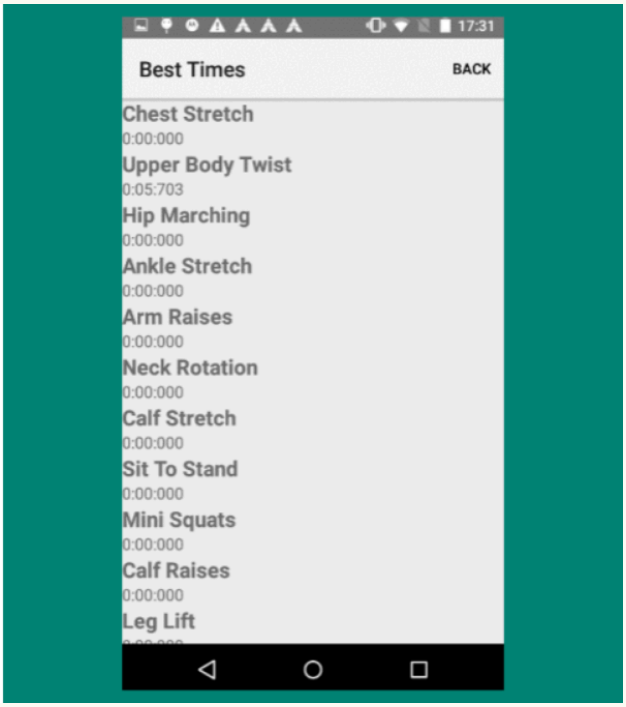
Reminders

- Users can set, edit and delete reminders here.
- The contrast on this screen was low, and made the actual reminders difficult to read.



Best Times

- Just shows the longest times spent on each exercise in a list.
- Very basic in it's presentation.



Rapid Prototyping

To facilitate fast usability testing, prototypes were created as quickly as possible. Going from the bare minimum wireframes – to account for the many changes that were requested by users – to the final product with each session.

User Testing

Two testing sessions were run over the 10 week period. Testers consisted of carers over the age of 45. Tests were conducted by myself and monitored by my supervisor.

Testing consisted of 5 tasks, revolving around the different features of the app for example: “Find a medium intensity exercise”, “Change your exercise preferences”, etc.

Notes were made of user remarks, and any pain-points that were found in the process. Afterwards, users were asked to provide feedback in an anonymised survey.

Constraints

Usability

The average carer in the UK is over the age of 50. Usability guidelines can only get you so far, and they would not cover aspects like what exercises to pick. Ideally, the exercises and the way they were presented would be tailored specifically to carers duties and needs.

Income

Many carers are low-income, so the application had to be suitable for older and cheaper models of mobile phone.

Motivation

Having the motivation to exercise requires more free time and energy than what a typical carer has to offer. We wanted to motivate carers in a way that appealed to their sense of practicality. Not overwhelm or patronise them.

Time

This was a solo project with a 10 week timeframe. Multiple roles had to be juggled.

Issues

At first, users said the application was visually appealing, and praised its vector illustrations. However, they found it difficult to navigate, and were confused by some of the features.

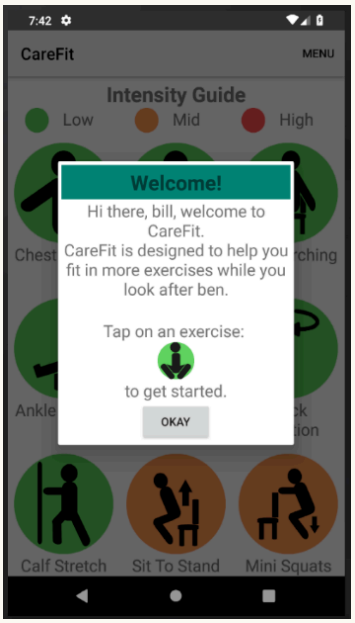
Users were unhappy with the initial reminder system. They stated that they would rather receive reminders on certain days of the week, routinely, instead of setting them for specific dates.

Users were also confused by the filter system, as many of them did not know what it actually meant to “filter” the list of exercises.

Suggestions

More high-intensity exercises were requested, so that users would not become bored if they became fitter as a result of the application.

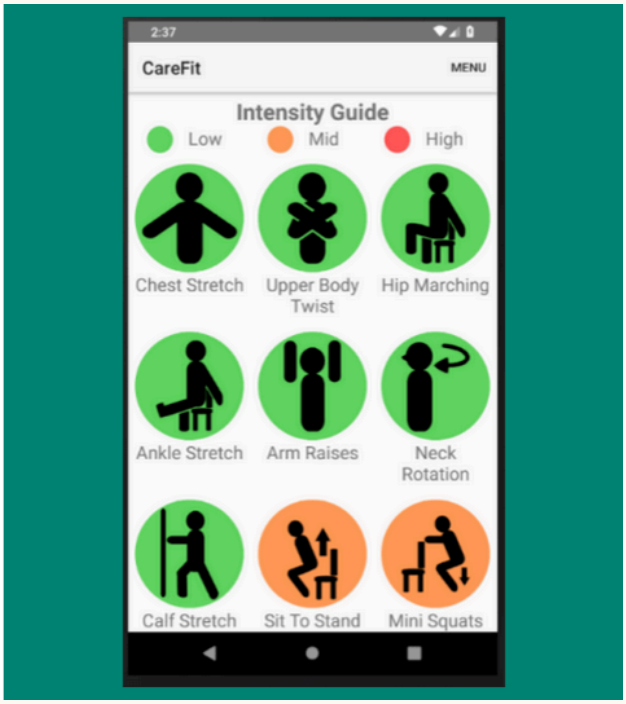
Built-in guidance was requested, in case the carer was less familiar with exercise apps, or had been unable to use the app for a while. In response to this, we tutorialised the onboarding process and created an option to revisit the tutorial at any time. During the tutorial, some options are greyed out to ensure users stay on the path.



Final Application

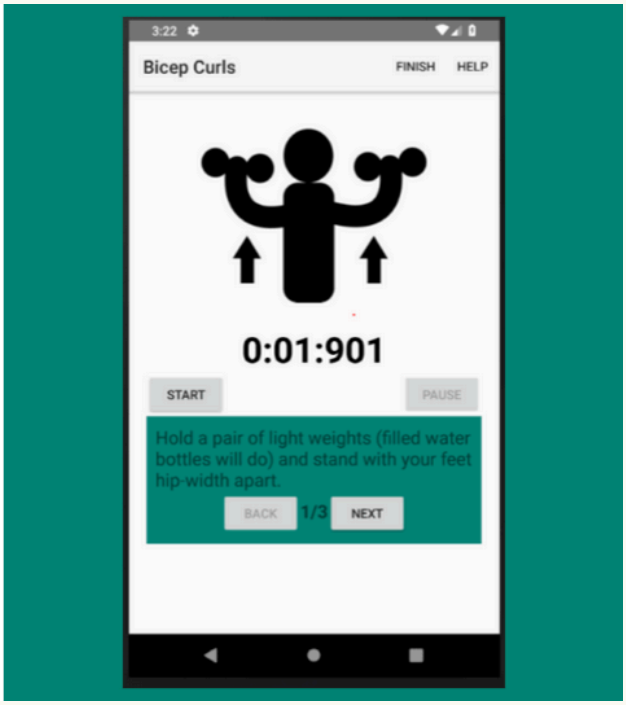
Main Screen

- Shows the list of exercises.
  - The full list can be seen by scrolling through the application
- Users found the newly implemented traffic-light system to be intuitive



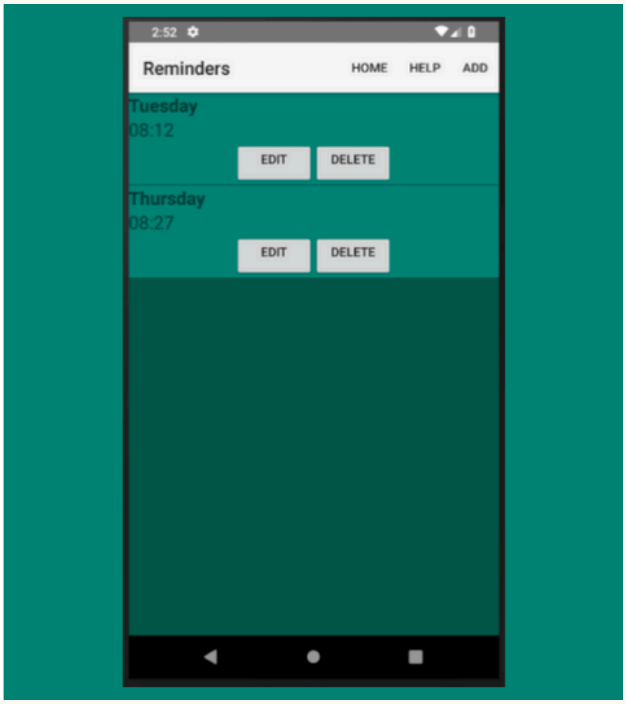
Exercise

- Removed the "reset" button from the prototype.
  - It was intended to correct users if they accidentally started an exercise.
  - Instead, it confused users and many pressed it after finishing each exercise.
- Users appreciated the vector graphic illustrations for each exercise.
- Users found the instructions simple to understand.



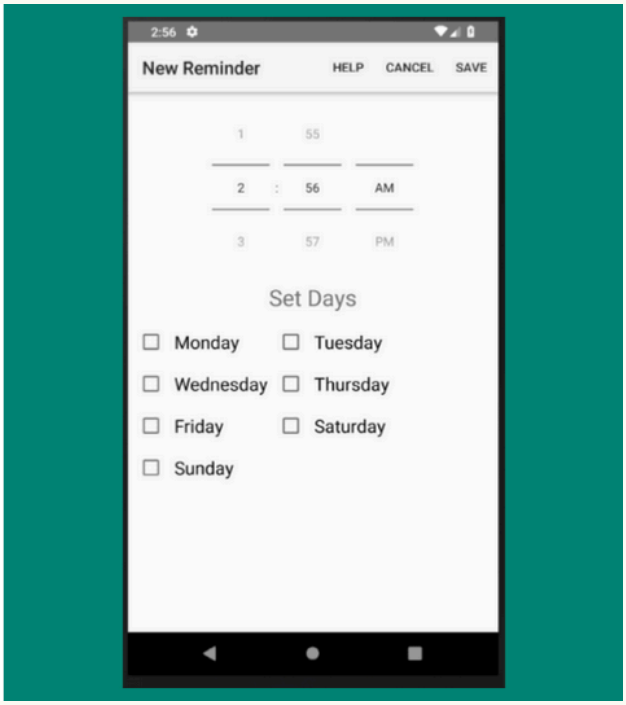
Reminders

- Users can set as many reminders to exercise as they require
- Reminders can be edited if the user makes an error
- The can also be deleted when they are no-longer needed
- Reminders were given a brighter background to aid readability.



Set/Edit Reminder

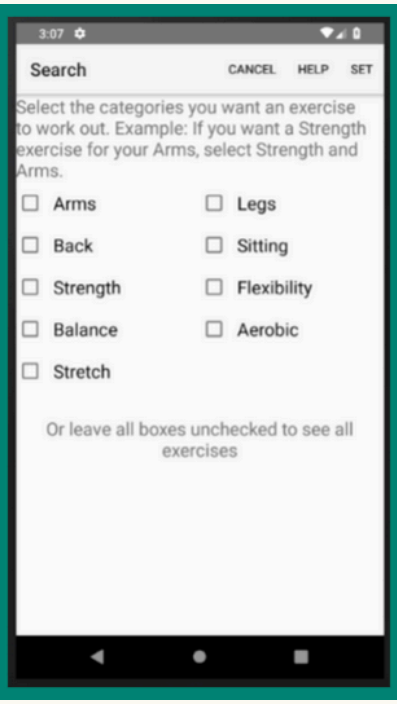
- Reminders can now be set by days of the week.



Searching

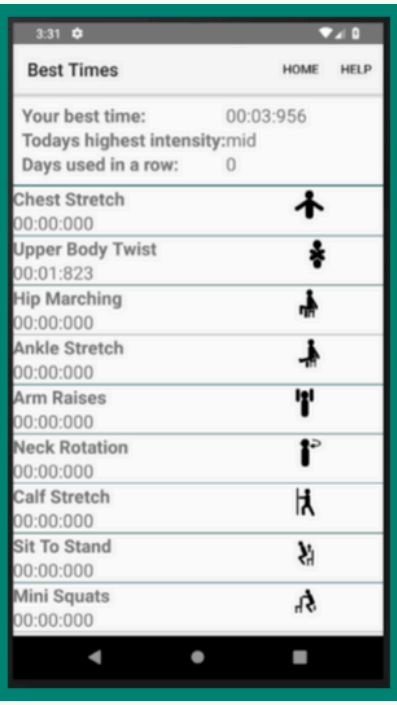
- Users can search for exercises from particular categories, and by intensity.
- Initially, this feature was called “Filtering”, but testers were confused about what it meant to filter exercises.

Aesthetically, it is the weakest page in the application. Ideally, the future iteration would be accessible without having to resort to this much text. However, time limitations meant that more focus was given to other features.



Records

- Users can see the longest amount of time that they spent on each exercise.
- More achievement categories were added to provide users with a better view of their progress.



Further Development

At the time, these were the ideas thought of for further development. Since then, the application has been picked up again, and further research has been conducted by a different student. Please contact Dr. Kieren Egan for further details.

Features

In this state, the application cannot determine if an exercise is being performed *correctly*. Potential hardware solutions would include motion-tracking via a wearable device, phone camera, or phone gyroscope. All options would require further research.

Testing

Testing with carers was an excellent start, but to further develop the actual exercise portion of the app, testing with fitness professionals should also be considered.

Aesthetics

This version of the application prioritised function over form. While this is not a bad thing, the application could benefit from some visual tweaks. Colours could be easier on the eyes, text could be spaced out better so that it feels less cramped.

Further iterations could also benefit from the use of video, or animations for exercise guidance.

Full dissertation available upon request.