Fitness Helper

Systems that are Interactive

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# ABSTRACT

Fitness Helper is a web-based application that provides users with the ability to track their runs and cycling sessions, and to see how they are progressing with their exercise. The application lets the user view and create personal goals to work towards, plan out runs and view details about past runs. These details include the route taken on a particular run and graphs tracking statistics on performance and progress. Statistics we show the user include: heart rates, cadence, terrain elevation throughout the run.

Users must log in to be able to use the Planner page (for planning runs and setting goals) and view a more personalised home page. However, any user can still use the Map page to view information about one run, for which they must upload a GPX file containing information about that run.

We tested our prototype using a Google Form, and received six anonymous responses. The responses are varied but the general gist of opinions was that the design was clean and simple to understand, but the functionality was incomplete.

# INTRODUCTION

Our application is based on the idea that users appreciate being able to track their exercise and watch themselves progress. This led us to have a goal-oriented design, giving users the ability to reach personal goals and plan to achieve them in the future.

We decided to design the application around viewing a completed route on a map, as this allows users to view their performance and statistics after their period of exercise, meaning they don’t have to keep checking how they’re doing during the session. They can then see how their performance is changing over time. We also designed graphs to allow users to have a clear visual indication of their progression.

Once we agreed on these core design influences, we created the template of the application using wire-frames. However, we decided upon a different design once we actually began implementing the application. We wanted to have a focus on visualising exercise results and, as such, the graphing of statistics was key to our implementation.

As a result, our application contains a large map that displays the route from a GPX file, as well as graphs underneath it which display the most important aspects of the route. These aspects of the application are very visual, which we believe makes it easier for the user to understand the information about their sessions.

# Project Concept

The concept of the application is to provide a simple user experience for tracking progress towards fitness goals. This is done by allowing users to create goals, track runs and view detailed graphs comparing their progress from one run to the next.

There are four main tabs in the navigation bar at the top that take the user to pages with different functionality. In our original design, the navigation bar was on the left side of the screen, and the buttons were very large. We decided that this wouldn’t look best on a desktop web browser, and switched to a simple bar along the top, with the logo on the top left, and page buttons on the top right.

The home page explains the functionality of the application to users who are not logged in, and personalised information (about the user’s top achieved stats so far) when the user logs in.

The map page contains a large map centered on Glasgow by default. Once the user uploads a GPX file from their computer, the map displays the route taken on that run in green. We also extract relevant statistics from the file to help the user see their performance throughout the route. Graphs underneath the map display the user’s heart rate, cadence and terrain elevation at different points of the route. The graphs are interactive, so you can hover over a particular time on the route and view the current statistic recorded at that time.

The login page is self-explanatory. We have some test login details to help demonstrate the application’s added functionality for users who have an account.

The planner page consists of two parts: the goals page and the exercise planner page. With the exercise planner, the user can schedule new exercise sessions on a date of their choosing, write a description for it, and view all the exercises they have previously scheduled. The goals page allows the user to document whatever they feel they need to achieve, and add the date they want to achieve that goal by.

## Implementation

For our application we used Materialize CSS as our styling framework, which helped us make the application faster and better-looking. For our charts we used Chartjs, which has built in functions, like animations and colours, so we didn’t have to worry about implementing basic features to help it look nice. Since there is no back-end to our application, it is all static. We imitated a back-end by emulating the login page with a button called “LOGIN AS TRACY”. The drawback to this is the horrible file structure that had copies and repetition of code like the navbar. This could have been avoided if we used a different framework, so that is something to look into for the future. We also have an easter egg pong game implemeted for fun.

## Peer Assessment

We received three reviews written by three other teams. The following is the most notable comments we received from each team, and discussion on how our prototype reflects them.

Lucky Twinkies: It wasn’t clear from the wireframes how a user would upload a GPX file, as the map page design didn’t include any buttons to upload files. We also mentioned in our project proposal that the user would be able to check the weather on the day of a scheduled session, and did not include this in the design. Since then, we have included an “Upload” button at the top of the map page, so the user cannot miss it, and decided to drop the weather feature, as we felt it was not a core aspect of our application’s functionality.

MacBook Graveyard: A positive aspect was our proposition of splitting up features through different screens, which would allow the user to use many features without getting overwhelmed by them. We have continued with this, as our prototype contains tabs in the navigation bar for the separate features we have implemented. As a result, all the pages are uncluttered and exist for only one purpose each. Another positive comment was that the design is visually appealing. We have since changed our design, but it has remained just as simple and visually appealing as it was in the wireframes. Something this team felt we lacked was that there was no option to compare previous runs to each other. So, the planner page now retains information from the runs you have previously scheduled, so you can view all the sessions ever recorded on one page, one after the other.

Pikachu: The feedback on our design was that the layout is simple and intuitive, but lacked colour (as it was a dull, greyish colour scheme). Our application now has a simple, soft green and white colour scheme, which doesn’t hurt the eyes from contrast, but also doesn’t look boring.

# Evaluation

We created a Google Form with questions tailored to help us understand how visually appealing and simple to use our application was. Participants were given a brief, informing them that no personal information is asked of them, and that their responses will be used purely to evaluate and improve upon our application. Then we gave them free reign of our website, allowing them to explore the functionality on their own. After they had no more curiosity, they filled out our short questionnaire.

## Results

Here, we outline the average responses received in order to draw an idea of the general opinions on different aspects of our application.

## Ease of understanding the application functionality from the information on the home page

Two thirds of the responses leaned towards being able to understand what the application is for.

## Ease of navigation between pages

Two thirds of the responses said that tab names were very clear and they knew what sort of page to expect from clicking on it. One person said they didn’t know what each tab meant at all, and one person said they could guess what each tab was for.

## Ease of uploading a GPX file into the map

Two thirds of responses reported that it was pretty easy or very easy to load in a GPX file from the computer.

## Stats readability

Half of the responses said that they could not find the stats on the map page at all. Two people reported that they were clearly visible. One person reported that they had to search for them a little bit.

## Knowing where on the map the exercise session began

One third of responses said it began at the green marker, and one third said that it didn’t begin anywhere at all (due to technical problems near the beginning of the map not working at all). One person said “The start”, and one said “Australia” (also due to the map being broken). We fixed the map halfway through our testing, because we realised we wouldn’t be able to get any sort of meaningful feedback if our most important aspect doesn’t even work.

## Knowing where on the map the exercise session ended

The results here were the same and opposite as with the previous question. The same problems with the map applied here.

## Opinions on logo design

All of the respondents liked the design of the application logo.

## The Easter Egg

Five out of the six respondents found and enjoyed the Easter Egg. The remaining person found it but did not want to say that it was awesome.

## Additional comments about design or functionality

One third of respondents commented positively on the design of the website. One person just said “bad”. One person said that the Easter Egg was good. One person recommended us to “Focus on HCI, visibility of input boxes” as it was apparently unclear to the user. One person gave no response.

# Discussion

The general feedback was very varied, mostly due to the fact that our file browsing did not work. We fixed it halfway through because we figured there was not much point gathering feedback purely on the visuals without having any functionality at all. After fixing the issue, our respondents had an easier time using our application, and so the responses became more positive.

From the feedback regarding our home page, we decided that we should improve on the welcome message, so that anyone arriving on this page would instantly understand the purpose of the application. This involved adding a simple slogan, a short sentence describing the application and icons with descriptions to illustrate the types of functions our application supports.

There is no reason to change our tab names, as we thought there was no way to make their meaning any clearer without adding icons next to each tab button. We thought that would just clutter up the navigation bar, which goes against our principle of simplistic visuals.

Because of the broken file browsing, not all of the participants could successfully load in a GPX file. However, we did have a large input button above the map, so it is unlikely that a user could miss it. The same issue applied for viewing run statistics and knowing where a route began and ended. We also did not have any graphs implemented to help with visualisation. We have since then included graphs to display the heart rate, cadence and terrain elevation underneath the map. In the future, it may be a good idea to further think about the layout of the graphs relative to the map. For example, the user should not have to extensively search the map page or the whole application for the graphs; the user should be notified in some way that the graphs have been loaded and are ready to view. The map now displays a green marker to indicate where the exercise session began, and a red marker indicating where it ended. In the future, we could improve on the shape of the markers, or just scale them smaller, because sometimes when the beginning and end are the same, the markers overlap and so they are unclear.

Due to our focus on simplistic design, our text and input boxes consisted of a single black line, with no further indication that a section for input was present. In the future, it would be a better idea to include grey placeholder text in the boxes where the user can interact. This would make it more obvious to the user where on the page they can input information.

# Conclusion

In conclusion, our application ended up easy-to-use, with simple functionality spread out over different sections so as not to clutter up any particular page.

Users can upload GPX files that contain information they gathered during their exercise session. The map then displays the route the user took, and the change in their heart rate, cadence and terrain elevation throughout the route. The start and end of the route is shown with a green and red marker respectively. Users can log in to plan their future workouts and create/view fitness goals that they set for themselves. The home page provides short information on the function of the application, and logged in users see their best stats so far.

We responded to our peer feedback and user testing feedback, and as a result, have a fully functioning prototype with focus on visualisation, as we intended from the very beginning.

# REFERENCES

1. Materializecss.com – This was used as inspiration for creating a simplistic design
2. Run Keeper application on Android – This app’s functions and simple design also inspired our simple colour scheme and use of icons on the home page