Progress Monitoring Web Application

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1 Introduction

This dissertation will cover the whole process behind the building of the progress monitoring web application. The application will allow a user to track their current and goal weight, goals, and fitness log. The application will focus on these three main points and not distract the user away from their progress with other features, such as social media sharing. While some may argue that people want to share their progress with their friends on social media, this application focuses on the user and the user alone. More information on these choices can be found in the design section of the paper. The literature review chapter will focus on current fitness progress monitor application that are already available for use. It will discuss both the good and bad points about each application and what this application will do differently. The design chapter will also cover the reasoning behind most of the design choices that were made during the planning of this application. For example, which font was chosen and why. After that, the development chapter will talk through the development process. It will go into detail about which tools were used and why, the problems and challenges that were faced during development and how they were over come, and also deployment of the web application to the internet.

2 Literature Review

3 Design

Franco (2002) states that the concept of minimalist architecture is to strip everything down to its essential quality and achieve simplicity. The design of the application was to follow this simple rule. The bare essentials were the only things that needed to be displayed the user. The set up of the website is to have three blocks displayed in the centre of the screen, laid out on a 6 column grid. Grid design is important in web design as it add continuity to each page. Each page will have the relevant information in a similar position to the last, allowing the user to be able to extract the information more quickly. A grid layout also makes it easier to design for other devices. Walkers & Digital (2013) found that their mobile traffic was up to 29% in Q2 2013. From this, we can see that more and more people are browsing the internet from the mobile devices. 43% of this traffic was from iPhones, so as web designers we need to make sure that our web applications look as good on a 320px width devices as it does on a laptop monitor. This leads to the design of the application being based on a 6 column grid. This was for two main reasons: the first reason to keep consistency through the sizing of different areas of the website and the second being it makes it much easier to scale the design down for mobile traffic. Due to the fact that mobile traffic is increasing, and also that my application will mainly be used on mobiles, responsiveness was very important when design my application. It need to have the same feel on a 1920px screen as it would on a 320px mobile device screen.

Simple designs were sketched up in a notebook to get a feel for how each of the pages would look on both a normal monitor and a mobile devices. After sketches were complete, they were then drawn up in Sketch (Coding 2013) where colour, text, and images can be added to get an even better feel for how the application is going to look and work. Once colour could be applied to the design, user ability could be thought about. Colour blindness affects 1 in 12 men and 1 in 200 women (ColourBlindAwareness n.d.). If the design was not to cater for their needs then that would be a percentage of the population that cannot use my application. Colour should never be the primary cue for information. During the design process, changes were made so that any occurrence where colour was the primary cue would also have a visual cue, for example: when the user checks off a goal, the text will have a strike through it as well as turning red. Also, a large percentage of the population have a visual impairment. A few steps were taken to keep the site safe for the visually impaired. The font size and weight is kept at a easy to read level so that it is not taking up to much space but still easily readable. Also, the colour of the font has to contrast with that of its background. From a previous design, the background of the cards and headers was too dark and the font colour was too light which would be quite difficult to read for a visually impaired person. Since then, the background colour has had its alpha reduced and the colour of the text has been made a darker shade of grey. As for the typeface, I went with Helvetica as san-serif fonts are easier to read for the visually impaired. Where there is any large amount of text that the user will need to read, a line height of 1.5 will be used to make it easier to read for visually impaired people. Also, using ARIA HTML5 landmarks, such as header, footer and nav tags, will increase the usability of my website on screen readers.

Most of the design for the application was drawn up, but some of the easier designs were made directly in the browser. This was to speed up the process by cutting out unnecessary tasks. As opposed to the original plan, development begin during the design stage. This was because there was enough of a design to begin developing some of the application. Once development was underway some things had not been designed yet, for examples; the forms for signing in and out. There was a clear vision of what the forms should look like, so instead of wasting time making the wireframe and mock up of them, they were just designed on the fly, in the browser. This allows for rapid prototyping of the applications looks and lessens the work load on the design front, and even if the design does not work there is no reason why another design cannot be drawn up and implemented.

As well as design the application, the design of the backend will need to be done before development takes place. For the backend, Ruby on Rails (Hansson n.d.) will be used. Reasons for this will be discussed in the development chapter. A number of attributes will be store about the user and will be split up over a number of tables all with a one to many relationship with the user tables. The other tables will be current weight, which will store the current weight of the user, goal weight, which will store the goal weight of the user,

fitness log, which will store information about what exercises they did and how they did, and the goals table, which will store the user?s goals. All of these will link back to the user?s ID. Originally, there was going to be a user?s weight table, which store both the current and goal weight but it was moved to two different tables because it?s unlikely that the user will be updating the goal weight as much as they were going to update their current weight. All of these tables will have depend upon their user, so if the user is removed from the database so will all their data.

4 Development

This chapter will discuss the development stage of the production of the progress monitoring web application. It will cover a number of topics, from development tools used during this stage to development methods uses whilst building this application. It will also walk through, step by step, of the building process highlighting problems and how they were overcome.

A number of tools were used during development, some were used more and others but all of them played a key role in development. The main tool that was used is Sublime Text 2 (Skinner n.d.). This was the text editor that was used to build both the static mock up of the site and the full functioning web application. Sublime Text was chosen because of it's vast amount of plugins. This makes it very versatile and efficient when it comes to building productions applications. There were a number of other editors considered for the job, for example; Vim (Moolenaar n.d.) was going to be chosen on due to its rapid development capabilities from all of the navigation being done on the keyboard. But it was not chased due to the steep learning curve as this would eat into development time. The time investment into learning Vim would probably not be beneficial to such a small project but will be a consideration for future projects. The second main tool that was used was iTerm 2 (Nachman n.d.) using the oh-my-zsh (Russell n.d.). Using the command when building a Ruby on Rails application is absolutely necessary. It's used to generate controllers and models, start the Rails server, interact with the database, and a number of other key features. The terminal emulator is not really that important but the use of the Zsh shell was very useful to the development stage. It has a number of excellent features like displaying the current Git (Torvalds n.d.) branch that I was working in and if there was any changes that haven't been committed and also highlighting in the terminal. Seeing as a lot of the time was spent in the terminal, it was important to make that time as productive and as efficient as possible.

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