

Institiúid Teicneolaíochta Cheatharlach



INSTITUTE *of*
TECHNOLOGY

CARLOW

At the heart of South Leinster

Software Development 4th Year Project

Fitness Application and Website

Functionality Specification

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Objectives

I have a number of objectives I wish to complete for this project. Primarily I wish to design an application that will allow a user to easily improve their health and well-being, through a fitness and dieting regime specifically for that user. To do this I will have to create an algorithm that will take all the details entered by the user and generate a plan for the user using these details. However before I even consider discussing the application and what I have to do for it I must consider what deliverables I have for the project and when I must complete them in order to prevent myself from missing any deadlines. The first deliverable I had to write up was the Research Documentation. To develop a successful application in the field of fitness and health, I have to do my research on applications already out there. I could learn from these applications but I could also discover from them the shortcomings of said applications. In doing the research I will have gained a much better understanding of what people currently require in fitness and health and what they will require in the future. Also involved with the research document is the technology I will use for developing my application. Here I will answer questions such as: will I develop the application for IOS or Android mobiles or both? Where will I store the data entered by the user? What web server will I use to host my website? A very large amount of information will be required for the Research Document, therefore I must accommodate a lot of time for this document.

The next deliverable to cover is the Design Manual. Here I will roughly design the screens for my applications and briefly cover their functionality. In doing this I will be able to consult this document when I am developing the screens for my applications. This will make the screen development a lot easier as I will have a fair idea of what way I will design them. This document will also help me make final decisions on what functions I will implement into the application and what functions are surplus to requirements and are not worth the time in implementing them into the system. I can always go back and make changes to the design manual as the project develops as some elements may not be necessary for the application anymore or I may come up with new ideas that I want to put into the application. I will take an agile approach when creating the Design Manual and will consult it throughout the project.

Next up for the deliverables is the functional specification, here we will cover topics such as, the objectives of the project, the functionality of the project, the potential risks and issues involved with the project and the timeline of the project. I will cover the different deliverables that must be completed along with the goals involved with the application in the objectives section. The functionality of the project will cover in depth the interactions between the user and the application. In the potential issues and risks section I will try and predict any problems or difficulties I could run into and

how to I could potentially prevent them. Finally I will create a Gantt Chart in order to display the timeline for my project.

After I complete and deliver all of my deliverables I will start my first iteration of the project. This iteration will be between 3-4 weeks long and during it I hope to have set the foundations for my application. By this I mean I hope to have all the screens developed for the application, which I will do by consulting my design manual. I also hope that I will be able to login and create accounts for the application. To do this I will need to have connected the application to a database and the application must be capable of getting data from the database. I also want to have the early stages of the workout and diet plan generation working. To do this I will need the application to be able to take in details submitted by the user and using an algorithm create a plan based on the details inputted by the user. The plan will also have to be outputted for the user to view and use. I will like to have made good progress on this aspect in the first iteration as it is the most important part of the project. After I complete this iteration I will note what I have completed, what still needs work and what I need to start on in the next iteration.

For the second iteration, I will firstly finish off what I did not complete in the previous iteration. This more than likely being the algorithm for generating the user's plan, as it will be quite complex and time consuming. Once I complete that I will test that it works properly and after I am completely happy with that I will move onto actually implementing it into a calendar like system for the user to use. The second iteration will be the most important iteration as it involves the development of the most important part of the application. Again after I complete this iteration I will note what I have done in it, what still needs work and what I need to start on in the next iteration.

In the third iteration I will tidy up the rest of the application and make sure it works correctly. Next I will start on the web application. Here the user (Personal Trainer) will be able to add workouts and/or meals to the database. After this iteration I will note what I have completed for the project and what I wanted to complete if I had more time, if there was anything that I didn't complete that is.

Upon completing the final iteration I will hand up the final report which will contain project description, project outcomes, analysis of project success and a conclusion of the project. I will also design a powerpoint presentation to help showcase my project in a presentation scenario.

Functionality

Functionality Description

The purpose of this application is to allow a user to enter workout details onto a form. Once they enter these details a form will be generated from the data in the database and provided for the user to view and use at their leisure. The data is entered into the database through a web app. Only personal trainers will have access to this web app. Here they can enter details for workouts onto a form and once they complete the form, click a button to send the details to the database.

The exact same process can be carried out for the meal plan as well. For the user, they will enter the app like before, go to the meal plan section, enter the details required and click the button provided to generate meals suitable to the data they provided. Again the personal trainer will enter meal details in the meal creation section of the web app.

That is the main objective of the application and is what I want to have done for the project end time. I feel that I could add more to the app after the deadline, in my own free time to give it even more functionality.

User Interface Description

The User interface of the phone application will be simple and easy to follow in order to give the user a pleasant and frustration-free time when using the app. The Login screen will be straightforward as will the Register screen in order to lessen the potential mistakes a user could make while on those pages. The screens should also look bright and inviting on these opening screens in order to attract the user into using the app.

The main page will keep that inviting look and will have buttons that the user can tap to bring them to other screens in the app. The two main buttons to have will be those that bring the user to the Generate Workout screen and the Generate Meal screen.

On the workout and meal generation screens the user will have forms to fill out in order to generate their plan or meal. The forms will be well laid out with a mixture of text boxes and dropboxes where necessary. Once the user presses the workout or

meal generator button a workout plan or meal will be created. I have not decided whether this plan or meal will be displayed on the same page or a different page to the generation page. If it remains on the generation page it will be displayed under the form which will remain on the screen, in case the user would like to make changes to their plan. Alternatively, I can have the plan on a separate page, although the drawback in doing this is that the user will have to go back to the workout plan or meal generation page in order to change any details. For this reason, having it all on the same page seems like it may be the better approach.

For the web application, which personal trainers will have access to in order to add workouts and meals to the database, the layout will also be straightforward. A Login Page that the user will enter their credentials in order to gain access to the Main Page of the web application, There will be no Register screen as I do not want any person to be able to access the Main Page and enter data into the database. If a personal trainer wants to add data they must get in contact with me and provide proof that they are qualified personal trainers.

On the main page the user will have three buttons provided, one to logout, one to add a workout and one to add a meal. Clicking the Logout button will obviously log the user out of their account. Clicking the Add Workout button will provide the user with a form to add a workout to the database. They will be provided with text boxes and dropdown boxes in order to enter their details. Along with the form will be a button, that when clicked will save the data to the database, and another button that will return the user to the previous page if they changed their mind about adding the data. The same process goes for adding a meal plan into the database.

Potential Risks/Issues

There are always risks and issues when pursuing any project and this project will be no difference. The first issue, which is a main issue in almost all projects, is time management and meeting deadlines. In order to prevent myself from missing deadlines I must be organised and use my time effectively when carrying out the many objectives involved in this project. This issue can be prevented or at the very least lessened by using a planner to schedule when I have time to work on these objectives and when the deadlines are in order to meet them.

Another risk that could happen is that I may not be able to adapt and learn quickly any new technology that I might use for the development of my app. These technologies could prove to be too much of a learning curve for me in the limited time that I have to learn them. To prevent this from happening I could follow tutorials online on how these technologies can be used.

Yet another risk or issue that I may encounter on my endeavours is my inability not to leave a part of the project until it is perfect. This issue coincides with my time management issue. I will have to use my time wisely and not waste too much time trying to perfect a certain aspect of the project.

There are countless other problems I could encounter along the way with this project but I am embracing the challenges and am looking forward to overcoming them.

Project Timeline

