Part 1

# 1. Introduction

## Project Background

I had the benefit of growing up with parents who knew the difference between healthy food and unhealthy food (healthy food would contain the necessary nutrition’s needed for the body). However, I know many people who did not get this knowledge. According to a guardian article in 2018, “Almost 20% of deaths worldwide are attributable to an unhealthy diet”. By knowing this, I aim to create the technical resources to assist them in obtaining the knowledge of why they should undergo a healthy diet.

According to Health Education Research, “There is ample evidence that printed, computer-tailored nutrition education is a more effective tool for motivating people to change to healthier diets than general nutrition education”. In their results, which catered to a test group and control group, those whom were tested have been more likely to return to the computer medium than any other unless they were computer-illiterate and were more likely to change. Because my application will be simplified and personalised to the users’ needs, they would get the necessary information more immediately, impacting their lives more quickly.

Through the work of Philip Lew, Luis Olsina and Li Zhang, User Experience and Web Quality are coming in “increasing interest”. This is due to “Web applications (WebApps), a combination of information content, functionality and services are fast becoming the most predominant form of software implementation and delivery today”. As such, usability, UX, learnability and overall system quality would allow “evaluators to make sound design recommendations and ultimately better decision-making for improving the user experience as a whole”. The users of my application should find the application simplistic to use, intuitive experience and minimal difficulty within the application. To ensure this, the approach to develop the app should match min operation standards. While the area of my application is mobile, the UX is no less important.

In the area of nutrition, the American Dietic Association supports “appropriately planned vegetarian diets, including total vegetarian or vegan diets”. This is as a result of being “shown to be healthful, nutritionally adequate, and may be beneficial in the prevention and treatment of certain diseases”. This ties to my application as one of many options for people whom want to employ a healthy diet as a proven method to undertake.

John, in his writings, explicit states that “Circadian and diurnal rhythms affect food intake, and earlier research has suggested that meal sizes increase, where the after-meals intervals and satiety ratios decrease over the day”. It was found that “when individual subjects ate a larger than the mean proportion of their total intake during the morning, they ate significantly less over the entire day. Conversely, when these same subjects ate a high proportion of their total intake during the evening, they ate significantly more over the entire day”. This would highlight the need to users of my application what part of their diet is a necessity, such as breakfast, as many people often go without, which impacts their diet for the remainder of the day.

## Project Description

I will development this using the C# programming, modern website architecture tools (HTML5, CSS3 etc), JavaScript libraries (jQuery, Bootstrap, Angular) in visual studios. The overall tasks will be completed on a windows environment.

Since I am using a Microsoft IDE from the development, the middleware I will be using is ASP .NET framework to separate the back-end logic from the front-end. Since this is a web application, any device that has internet access can access the site through the appropriate engines such as Firefox. I will also look into other APIs, such as RESTful, to optimise my application.

The feature driven development software methodology will be employed for this application designed using the client - server Architecture design pattern.

From scratch, I will outline the main business requirements using various reviewed iterations of prototypes. To complete each part of the business, which I set myself, I will research the various techniques and technologies that would best handle the different requests for the web application.

On regular intervals, I will document my works on a weekly basis to ensure I stay on track with my works combined with tests of the configuration of the application to ensure it follows the design pattern I have chosen.

To obtain the necessary layout and information requirements for the app, I will speak to various people whom are in the health/nutrient field for their input into the application development.

I will also hope to use similar professionals to manual test the system as well as potential users to ensure the application layout is minimal in learning curve. As part of this, I hope to have a feature that will allow the user to fix any minor errors the application may come across.

In my regular meetings with my supervisor, I plan to his guidance and knowledge to ensure my application stays in track in the documentation or the development phase. If he suggests any small features that I may find intriguing, I will look more depth into them for their viability for the application.

In the ongoing development of the application, I will use the git server control to assist me in managing the application.

Once each part is completed, I will use a combination of the Selenium (Front-end testing) Framework, Nuit (Business Logic Testing) and DbFit (Database Testing) to run the tests on the system features. I will also get peers to manually test the system to get feedback.

The evaluation phase would incorporate the feedback of the peers whom have tested the system, using the 10 heuristics and comparing with similar technologies to ensure it matches the minimum operation standards

## Project Aims and Objectives

Overall aim and some milestones along the way to achieve the aim

## Project Scope

Project scope, what the project isn’t about

## Thesis Roadmap

One sentence summary of the following chapters