Personal Information:

* Student name: Dao Kha Tuan
* Student number: s3877347
* Background information: I am currently a student at RMIT university, and I used to be a student at Le Hong Phong High School for the Gifted. After a hard-working day, I usually relieve my stress by listening to music or playing various sports with my friends such as basketball, badminton, football, etc. Besides that, I sometimes spend my leisure time reading newspapers and documents about technological areas, including ones relating to Information Technology. I have interest in researching for newest knowledge about latest technologies, so I choose to become an IT expert to approach many innovations in Information Technology.
* IT experience and interest:

My first experience in IT was in a Computer Science class when I start to learn how to use a cloud storage called Google Drive to store my essential files and documents. This is the first time I figured out how advanced the IT Technology is, and it stimulated me to deepen my understanding in this area. There are various areas in IT Technology with applications in many different fields including finance, medical system, military, etc. such as AI, Internet of Things (IoT), Cloud Computing, etc. However, I found Cloud Computing the most fascinating one with its many advantages in software development and infrastructure construction. Many business models or healthcare systems were constructed with the help of cloud services and tools in many aspects including restoring and backing – up data, automation in updating software, etc. Cloud Computing impact in the progress and innovations of software development are the main reasons to its significant increase in the coming years. According to analytical agency Gartner, the global market for public cloud services [will reach $ 308.5 billion in 2021](https://www.gartner.com/en/newsroom/press-releases/2019-11-13-gartner-forecasts-worldwide-public-cloud-revenue-to-grow-17-percent-in-2020) (Bell, 2020). Other areas such as AI, Machine Learning, IoT also exploit Cloud Computing to optimize their functionalities. For instance, “a survey by LogicMonitor concluded that AI will drive two-thirds of public cloud use by 2020” (Iron Mountain n.d.). Cloud Computing will be an appropriate profession for me to approach the latest technologies in software development and other relevant areas with promising job opportunities and demand.

Overview:

* Topic:

Health is a major concern to the modern society as more and more serious illness and diseases exist, so a healthy and nutritional diet will be essential to many people to protect and improve their bodies. However, preparing a healthy and nutritional diet can be challenging due to many factors based on the health conditions of each person such as their weight, illness, eating habit, environment, etc. In order to solve this problem, we decided to create an application that is not only competent to offer an appropriate diet and health advices for each person but also user – friendly enough for everyone to use it. The application will have many features but still simple and effective. Some of these features including a diet table appropriate for each type of health condition such as obesity or for the specific purpose of each individual such as ones who want to lose weight. Moreover, there is also a calorie calculator for the users to calculate the number of calories in their food, or a BMI (Body Mass Index) calculator to measure the fat in their bodies. This feature is necessary to individuals who are suffering serious obesity to control the number of calories they put into their bodies and prevent them to eat food that has serious harm to their health. In addition, it can calculate the amount of specific nutrients in your food such as carbohydrates, fats, protein, vitamins, fiber, minerals, and water. Having a thorough understanding in the different types of nutrient in the food that we eat will be useful to create a healthy lifestyle and eating habit to improve our health. The application also gives some useful advices for some simple sickness such as cold or fever as well as keeping track of the health condition of the users such as heart rate, footsteps, etc. This will help doctors to keep track with the health conditions of their patients and relive the burden of the healthcare systems. This advantage will help the users to save a considerable amount of money on healthcare services. According to a report entitled [*The Digital Revolution Comes to US Healthcare*](https://www.massdigitalhealth.org/digital-revolution-comes-us-healthcare#:~:text=IoT%3A%20Unleashing%20the%20power%20of%20disruption%20on%20healthcare&text=This%20report%20aims%20to%20show,a%20fraction%20of%20current%20costs.) by Goldman Sachs, digital services can generate approximately $300 billion in healthcare savings (Designveloper, 2020).

The application will have an interface that is designed in an understandable way so that everyone, including the elderly can use it effectively. This will help the application to be approached by a wide range of users, which means that various patients with different health conditions can use it for their medical practice. When the application is fully developed and improved, it will be an indispensable tool for everyone who want to keep fit and live a healthy life. The potential of this application is unmeasurable, and its popularity can be extended when we upgrade it to totally function well in any device, enhance the user experience (UX) and turn it into a cross – platform application. We can also upgrade it to become a main communication method between patients and doctors so that the doctors can monitor the health of their patients in a meticulous way, help them to offer appropriate treatments as soon as possible, especially for patients with serious illness such as cardiovascular diseases or stroke. We also try to upgrade the application regularly in order to fix some unpredictable bugs and enhance the performance of the application.

* Motivation:

As “over 1 billion people are estimated to live with some form of disability. This corresponds to about 15% of the world's population, with up to 190 million (3.8%) people aged 15 years and older having significant difficulties in functioning, often requiring healthcare services” (World Health Organization, 2020). Thus, this health application will play a major role in encouraging many people to improve their health and increase the awareness of protecting their bodies. Equip the society with essential knowledge about health issues will bring benefits to all kinds of people and indirectly increase the development of the society in general. According to the Maslow’s hierarchy of needs, health is the located at the bottom of the triangle of needs, which indicates that health is the foundation of the society’s demand. So, proper healthcare will be the main motivation to boost the progress of the community, which emphasizes the necessity of the health application. Health application is the future of medical practice as it can minimize the preventable medical errors during diseases diagnosis and treatment decisions (Designveloper, 2020). This application also offers the patients a precious opportunity to monitor their health personally so they can detect and predict their health problems in the shortest amount of time. The application can be integrated with the latest innovations in Information Technology such as AI, Internet of Things (IoT) to enhance its performance and grant access to various patients and medical staffs including doctors and nurses as well. For instance, IoT connected healthcare applications offer real-time monitoring and smart medical IoT devices synced to a smartphone app that enables doctors to collect medical data of their patients at any given place or time (Murugan 2020). This project is an opportunity for us to exploit everything that we have learnt about software development and present to the future employers our hands – on experience in developing applications and ability to apply the cutting – edge technologies to solving a major problem. It will reflect our willingness to work with sophisticated projects and the capability to complete the tasks in a limited time.

Scope and Limits:

Our core objective is to deliver an application that is simple but still sophisticated enough to fulfill the users’ demand. The application will have basic features such as diet table, calorie, nutrients calculators, BMI, etc.

Below is the table indicating our priorities of the project:

|  |  |  |
| --- | --- | --- |
| **Priority** | **Feature** | **Description** |
| **High** | Diet table | A table showing the plan of drinking water and eating the specific kinds of food appropriate for different purposes such as losing weight, preventing heart diseases, etc. If the users cannot follow the diet plan for some reasons, it will automatically update to help the users achieve their targets. |
| Calorie calculator | The application will help the users to calculate the amount of calorie in their food so that they can have a diet plan suitable for their health |
| BMI test | The application can calculate the BMI based on the users’ age, height, and weight to help them have a suitable plan to lose weight and keep fit. |
| Nutrients calculator | The application will calculate the amount of carbohydrates, fat, water, and other essential nutrients in the users’ meal to help them monitor the nutrients they put into their bodies. |
| List of advices to improve health | The application will have list of advices for the users to strengthens their health based on the symptoms and health conditions of them. |
| **Medium** | History records of health conditions | The application will store information of the users’ health conditions and measurement to help doctors monitor the health of their patients better. |
| **Low** | Communication channel between doctors and patients | The application can offer a chatting channel for the users to reduce the inconvenience of communicating with the doctors. |

Although we tried to include as many features as possible, but due to the amount of workload and the limited understanding of software development so there will be some limitations in our project. Some features such as history records of health conditions and communication chat between doctors and patients may be omitted so we can concentrate more on features that can meet the basic requirements of the users such as diet table, calorie calculator, nutrients calculator, etc. Nevertheless, feature as list of advices to improve health may be applied to only some common symptoms such as cold or fever and it will not cover detailed information about other illness. The diet table will be simple and only a suggestion for the users if they want to have a nutritional and healthy diet. The menu design will not be complicated but still reflect every basic features of the application.

Reference:

# Bell, W 2020, *Is cloud computing the future?,* Server Space, 7 September, viewed 31 December 2020, <https://serverspace.io/about/blog/is-cloud-computing-the future/#:~:text=The%20demand%20for%20cloud%20computing,billion%20more%20than%20in%202019.>.

# Iron Mountain n.d., *CLOUD COMPUTING AND AI HAVE COMBINED TO FUEL EACH OTHER'S STUNNING GROWTH*, Iron Mountain, n.d., viewed 31 December 2020, <https://www.ironmountain.com/resources/general-articles/c/cloud-computing-and-ai-have-combined-to-fuel-each-other-s-stunning-growth>.

# World Health Organization 2020, *Disability and health,* World Health Organization, 1 December, viewed 1 January 2021, <https://www.who.int/news-room/fact-sheets/detail/disability-and-health>.

# Designveloper 2020, *The Advantages of Mobile Health Apps in the Future*, 30 July, viewed 2 January 2021, <https://www.designveloper.com/vi/blog/advantages-mobile-health-apps/>.

# Murugan, M 2020, *How IoT Applications Have Transformed the Way Healthcare Sector Works*, 5 July, viewed 2 January 2021, <https://blog.contus.com/iot-healthcare-applications-benefits/>.