Universiti Teknologi MARA

NutriKidney: Mobile Application on Healthy Food for Kidney Failure

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Abstract

Kidney failure causes the function of the kidney to deteriorate and it will continue for 3 months which is would eventually affect a person health. The statistics in 2014 stated that the number of dialysis patients in Malaysia has increased. Healthy food is a food that is good for health especially high in fibre, natural vitamin and fructose. Kidney failure patient have been recommend to consume plant protein in their food rather than animal protein. This project propose a mobile application technology as a platform to encourage kidney disease patient to eat healthy food with sufficient nutrition in the body which is NutriKidney. The first objective of this project is to identify the user requirements by interview public. The second objective to design the mobile application using collaborative filtering design and the methodology for this project using Mobile Application Design Life Cycle (MADLC) and only cover identification, design, development, prototype and testing phase. Lastly objective for this project are to develop and demonstrate to public. The platform for this project is android. The application for kidney failure patient and public that willing to care their kidney. This application would suggest healthy food for kidney and using English language. The significance of this project to kidney failure patients to prevent their health become worst by eating healthy food that have been suggest in this application. Lastly, significance to the family patient that they feel ease because the application will persuade and encourage them to eat healthy food.

Keyword: Healthy food, kidney failure, statistics of kidney disease, food pyramid, collaborative filtering design and methodology.

CHAPTER 1

INTRODUCTION

Chapter Overview

This chapter contains a brief overview on the research background which comprises of project background, problem statement, objectives, project scope and limitations as well as significance of the project. This project background explains to the readers about the project to be proposed. Besides that, the objectives of the project consist of the goal and the expected outcome of the project. The scope of this project is that it is to be proposed for certain target users, platform for the project development and limitations of the project. Lastly, the significance of the project discusses on the advantages of implementing this project.

1.1 Project Background

Food is divided into two dominant themes which are the association of food practices with physical health and supporting the psychosocial well-being of family members (Gwen, Svetlana & Brenda, 2011). Apart from that, food is also divided into two categories; healthy food and unhealthy food. Healthy food is a food that is good for health, especially high in fibre, natural vitamin and fructose (Segen's Medical Dictionary, 2012). Besides that, according to Cynthia et.al (2011), healthy food includes fruits, vegetables and low-fat milk. Furthermore, according to Amber et.al (2011), unhealthy food includes soda, fast food, fried food and sweets or candy. This is supported by the research of Noraziah et.al (2012), who stated that Malaysian food are unhealthy food because it consists of sweet, oily and fatty ingredients which are the low aspects of health, even though it is delicious to eat.

Chronic kidney disease (CKD) causes the function of the kidney to deteriorate and it will continue for 3 months which would eventually affect a person's health (Pierre, 2017). Chronic kidney disease (CKD) or kidney failure is caused by high blood pressure, heart disease, obesity and a family history of CKD (National Chronic Kidney Disease Fact Sheet, 2017). Besides, according to Kelly et.al (2017), chronic kidney disease happens to a patient because of higher consumption of animal protein such as red meat. The higher