Universiti Teknologi MARA

Utilizing Expert System in Lean Bulking Tracker

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Thesis submitted in fulfillment of the requirements
for Bachelor of Information Technology (Hons.)
Intelligent Systems Engineering
Faculty of Computer and Mathematical Sciences

February 2015

ACKNOWLEDGEMENTS

"In the name of Allah, the most Gracious and the most Merciful"

Foremost, I thank Allah SWT - the Most Compassionate, the Most Merciful and Most Gracious for endowing me with complete health, strengths, opportunities and loves in completion of this final year project report.

I'm deeply grateful to my supervisor, Dr Shuzlina Abdul Rahman for her concern, guidance, patience and relentless support even with all the trouble I faced thought the 2 semester she supervised me. I consider myself very fortunate for being able to work with a very encouraging supervisor such as her from the beginning of the journey of this final year project up to the completion of this report. Without her support, completion of this report would be close to impossible.

My sincere appreciation also goes to my family especially my father, Ameruddin Abdul Rahman who never stopped motivating me. My mother, who believes on my capabilities. My brothers and sister, Aiman Asyraf, Muhammad Hafiz and Arina Amerah who always keep a faith in anything that I am doing and going through to complete this piece.

I also would like to thank my friends, and those involved with/out purposes in getting this piece done – may Allah SWT bless you all. Upon completing of this project, I have learnt so many things regarding the knowledge of Artificial Intelligent and I would love to learn more in improving myself for my future undertakings.

ABSTRACT

Somatotype, human body shape and physique type. The term somatotype is used in the system of classification of human physical types developed by U.S. psychologist W.H. Sheldon. In Sheldon's system, human beings can be classified as to body build in terms of three extreme body types: endomorph, or round, fat type; mesomorph, or muscular type; and ectomorph, or slim, linear type. Based on this three body type, ectomorph are having difficulty on bulking or knows as hard gainer because of their fast metabolism. Moreover each body type have different sets and repetitions of exercise since their body shapes and physiques are different. Due to this problems and in connecting to the future demands of the intelligent applications, this project featured Expert System to create well-developed of mobile web environment that serve the needs of the future users. This system will ease skinny people who had difficulty on gaining weight to gain their desire muscle. Perchance by implementation of Artificial Intelligence technology in solving this project will help the user instead of having the human expertise. The hope are this system will serve the needs of the users while helping them bulking and guide them with suitable exercises as well as manage their health lifestyle.

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CHAPTER 1

INTRODUCTION

This part portrays the center parts of the project. The components of the project contains the background study, problem statements, research questions, objectives, project scope, significances and outline of the project.

1.1 Background of Study

An ectomorph is a lean body type identified by the American psychologist, William Sheldon, in his book, The Atlas of Men, first published in 1954. According to Sheldon, ectomorphs aren't just thin, but have a certain fragility to them. The ectomorph is said to have small shoulders and some muscle, but not enough musculature to have much definition in the body's shape. Ectomorphs tend to have difficulty on gaining weight because their usually have a fast metabolism, which means that they process food energy quickly before it turns into excess fat.

The other two body types in Sheldon's theory are the mesomorph and the endomorph. Endomorphs are the opposite of ectomorphs; they have naturally fuller bodies and tend to have short limbs. Endomorphs gain weight easily and have a more difficult time losing excess pounds than the other two body types. Mesomorphs gain muscle much easier than endomorphs or ectomorphs. While the mesomorph usually has a high fat-burning metabolism, he or she will gain weight easier than the ectomorph. According to Moideen (2014) individual Rest Metabolic Rate (RMR) varies from one individual to the other due to factors such as muscle build, genetic factors, insulin sensitivity and other factors. Thus it is important to identify the appropriate predictive equation for Asian people with their calorie intake.