MARA UNIVERSITY OF TECHNOLOGY

INTELLIGENT GARMENT SYSTEM
USING
FUZZY EXPERT SYSTEM

Amal Nabilah Md Amin

2004329596

Thesis submitted in fulfillment of the requirements for
**Bachelor of Science (Hons) Intelligent System
Faculty of Information Technology And
Quantitative Science**

MAY 2007

APPROVAL

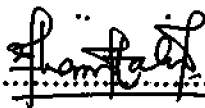## INTELLIGENT GARMENT SYSTEM
USING FUZZY EXPERT SYSTEM
BY·
AMAL NABILAH MD AMIN

This thesis was prepared under the direction of thesis supervisors, Mdm Shamimi A. Halim and Miss Norzaidah Md Noh. It was submitted to the School of Information Technology and Quantitative Sciences and was accepted in partial fulfillment of the requirements for the degree of Bachelor of Science Honors Intelligent System.

Approved by:

Date: 29th May, 2007

....

Mdm Shamimi A. Halim

Thesis Supervisor

Faculty of Information Technology & Quantitative Sciences

Universiti Teknologi MARA,

40450 Shah Alam,

SELANGOR DARUL EHSAN.

DECLARATION

I declare that this thesis and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

MAY 29, 2007

AMAL NABILAH MD AMIN
2004329596

iii

ABSTRACT

Body measurement is the most important thing that need to be considered in order to find the best fit size clothes. Traditionally, manual taking measurement by tailor has been applied. However, this conventional method requires more time and energy. This method also involved highly cost which may give a huge impact to the garment company. Therefore, a new system should be developed to measure human body based on the data (image) given by the customers. It will help to search and decide the best fit cloth(es) as a result. This research use one of the artificial intelligence techniques, **Fuzzy Expert System**. The type of fuzzy inference applied to the system is **Mamdani with hedges**. The first step applied is by defining the range of body measurement for each clothes size which was determined by the relevant expertise (tailor). Then fuzzy rules and fuzzy sets are determined. Next, coordinate point used for the image before the system gathers the measurement of the body. After that, the measurement will become an input to the knowledge base. The system will then be able to determine the match clothes size. This project was restricted to the Quppy's Garment Sdn Bhd for the shoulder, chest, waist and hip range measurement. This project is significant to the garment industry whereby, in defining clothes sizes using intelligent systems may make process faster and decrease the cost. The system have been tested base on 30 images and 95% of the output generate are consistent.

TABLE OF CONTENTS

CONTENT   PAGE