



**SOFTWARE DEVELOPMENT OF WELDING
PROCEDURE SPECIFICATION FOR FLUX CORED ARC
WELDING**

HUZAYMI BIN ZAMRI

(2001351656)

**BACHELOR OF ENGINEERING (HONS) MECHANICAL
MARA UNIVERSITY OF TECHNOLOGY (UiTM)**

NOV 2006

“I declare that this thesis is the result of my own work except the ideas and summaries which I have clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any degree.”

Signed : 
Date : 6/12/06
The signature is a cursive script that reads 'Huzaymi Bin Zamri'. The date is written as '6/12/06'.

Huzaymi Bin Zamri
UiTM No: 2001351656

ACKNOWLEDGEMENT

Praise be to Allah, the Beneficent and the Merciful for giving me the strength to finish my final year project paper.

I would like express my deepest gratitude and appreciation to my supervisor, Assoc. Prof. Sunhaji Kiyai Abas for his invaluable guidance, patience, encouragement and assistance for the completion of this project.

Without a doubt, my family that have been the largest supporters throughout my academic career. I must say a special 'thank you' to my wife and my two kids for their continuous love and words of encouragement. The successes I have achieved did not come without certain sacrifices, which they all endured in some form.

I would also like to express my greatest gratitude to all EDP staff of SME Aerospace, who spent time to teach me Visual Basic programming. Special thanks to Mr. M.K. Lee the engineer of Aker Kvaenar for the technical assistance and for being so helpful and patience throughout the period of this project paper.

To all my course-mate, thanks for always be there for me, no words best can describe my appreciation except thank you.

ABSTRACT

The development of Welding Procedure Specification (WPS) using computer programming was given in order to overcome the inefficiency made by traditional means. The project involves preparation of WPS format and acquisition of data. Theoretically, it's a continuation of previous work in GTAW, GMAW, SMAW, Spot Welding and SAW. All the welding processes and data from previous works had been restructured and the job was to continue with Flux Cored Arc Welding (FCAW).

The welding software was developed using Visual Basic 6.0 programming Language with Structured Query Language (SQL) so that welding parameters can be obtained quickly while the programming of data are in action. To make it as a user friendly and flexible, the software has been developed based on Microsoft Operation System Platform. This software will display at lease the basic parameters required in FCAW welding processes in form screen. The user only needs to key in the variables for the relevant welding processes and the welding parameter will be automatically displayed. This software is suitable to be used by skillful and qualified welder and those personnel involved in welding activities such as welding engineers and so on.

Once the parameters are accepted or have been qualified they may be used, saved, updated, deleted, retrieved or printed out in the form mode. The flexibility on making this WPS will makes life easy and welding preparation will become more efficient.

TABLE OF CONTENTS

| CONTENTS | | PAGE |
|-----------------------|---|-------------|
| PAGE TITLE | | i |
| ACKNOWLEDGEMENTS | | ii |
| ABSTRACT | | iii |
| TABLE OF CONTENTS | | iv |
| LIST OF FIGURES | | viii |
| LIST OF ABBREVIATIONS | | x |
| CHAPTER I | INTRODUCTION | 1 |
| | 1.0 General | 1 |
| | 1.1 Background of the project | 2 |
| | 1.2 Project objective | 2 |
| | 1.3 Project planning | 3 |
| | 1.4 Project methodology | 3 |
| CHAPTER II | LITERATURE STUDY ON COMPUTER PROGRAMMING | 4 |
| | 2.0 Introduction. | 4 |
| | 2.1 Techniques | 5 |
| | 2.2 Structured programming | 5 |
| | 2.3 Programmers | 6 |
| | 2.4 Procedural language | 7 |