

DEVELOPMENT OF INTERFACING PROGRAM USING LABVIEW SOFTWARE.

MOHD HUSNI BIN ON (2002241787)

A thesis submitted in partial fulfillment of the requirements for the award of Bachelor Engineering (Hons) Mechanical

Faculty Of Mechanical Engineering Universiti Teknologi Mara (UiTM)

NOVEMBER 2005

ACKNOWLEDGEMENT

In the name of Allah Most Benevolent and Most Merciful,

Praise to Allah S.W.T. I have completed this project. I am grateful to many individuals for their assistance in the completion of this project. Firstly, I would like to convey my utmost sincere appreciation to my project advisor, Puan Nor Hayati Binti Saad for being very supportive and for his guidance, advice, comment, assistance and patience upon the completion of this project.

I also would like to thank Puan Zuriati Janin, Azham and technicians of FKE's laboratory for their help and cooperation. Many thanks also to Mr. James Lai and Mr. Ian from National Instrument Malaysia for their technical advice and support. It could not have been done without their help and assistance.

Last but not least, I am remarkable thankfulness to many people especially to my family and friends for their support. To those who had given their cooperation directly or indirectly to the success of this project, I also want to thank you for all your help.

ABSTRACT

This paper discuss about the application of a LabVIEW software in practical. The LabVIEW software is an industry-leading software tool for developing design, control, and test the system. In LabVIEW, we build a user interface which known as the front panel by using a set of tools and objects. We then add and generate program code using graphical representations of functions to control the front panel objects. The block diagram contains this code. Therefore, the aim of this project is to propose a program that can be used to interface with the mechatronic instrumentation. The instrument that has been used to interface is simple anemometer. In this case, Lab View software is proposed to be used as interfacing software to develop the interfacing program. The basic idea of this project is to have or get a good, smooth and ergonomic measurement and display from the results of developed instrument. To achieve this motive, the interfacing system, which uses fiber optic as a sensor, will be used.

TABLE OF CONTENTS

(PAGE				
	PAG	i			
	ACKNOWLEDGEMENT ABSTRACT				
	LE OF CONTENTS	iv			
	LIST	OF TABLE	viii		
	LIST	ix			
	LIST	xi			
CHAPTER I	INT				
	1.1	Introduction	1		
	1.2	Objectives	2		
	1.3	Scope of Project	2		
	1.4	Methodology	2		
	1.5	Significance of Project.	3		
CHAPTER II	LITE				
	2,1	Propeller Anemometer	4		
	2.2	2.2 Measuring Dc Voltage Using Ni-DAQ			
		Device	7		
		2.2.1 Traditional NI-DAQ Method	8		

		2.2.2	Averaging Scan	9	
	2.3	Measuring Analog Frequency			
		2.3.1	Using NI-DAQ VIs to		
			Measure Analog Frequency	10	
		2.3.2	Traditional NI-DAQ Method	11	
		2.3.3	NI-DAQmx Method	12	
		2.3.4	Measuring Frequency Using		
			Instruments	13	
CHAPTER III	INSTR	UMEN	TATION OF SIMPLE ANEMOMET	ER	
·	3.1	Introdu	action	15	
		3.1.1	Slotted Disc	16	
		3.1.2	Disc with Different Depths	17	
	3.2	Instru	19		
		3.2.1	Circuit Design of a Speed		
Ç			Measurement Instrument	19	
			3.2.1.1 Signal Conditioning Circuit	19	
			3.2.1.2 Block Diagram of Signal		
			Conditioning Circuit	20	
		3.2.2	Circuit Design of a Direction		
			Measurement Instrument	21	
			3.2.2.1 Block Diagram of Direction		
			Measurement Instrument	22	
CHAPTER IV	V DEV I	ELOPM	ENT OF INTERFACING PROGRA	M USING	
	LAB	VIEW S	OFTWARE		
4.1		Introdu	24		
		4.1.1	What is LabVIEW?	24	
		4.1.2	What consists in LabVIEW?	25	
		4.1.3	Applications of LabVIEW	25	