SEDAYA INTERNATIONAL COLLEGE

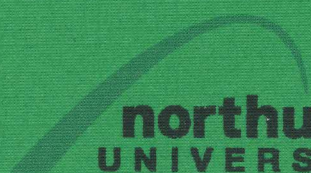## FACULTY OF ENGINEERING AND INFORMATION

TECHNOLOGY

SCHOOL OF ENGINEERING

FINAL REPORT

FINAL YEAR ENGINEERING PROJECT 2002

Project title : MICROCONTROLLER FOR MOTOR CONTROL

Name : NG YEE KEAT

Student ID : 99006443

First supervisor : MR. EYAD RADWAN

Second supervisor : DR. KHEDR

Project coordinator : DR. KHEDR

northumbria
UNIVERSITY

Abstract

This documentation presents the final report of the project title "*Microcontroller for Motor Control*". The main objective is to design a general-purpose microcontroller system for variable speed for different motor types. The microcontroller implements both motor control and interface functions of the application.

In this motor control scheme, the control was implemented in such a way that motor speed is changed via the microcontroller. The microcontroller is able to interface with the personal computer and to receive the information from it in order to generate the required pulse with modulation waveforms for drive the power electronic circuits (H-Bridge). Beside that, it will also be able to compare the actual speed with the reference speed and generate an error signal. The proportional-integral controller is used to minimize the error signal and to obtain an optimum performance for this microcontroller control system. This proportional-integral controller is handled by using Visual Basic coding. The final design and implement stage of this project is presented in this report.