SCHOOL OF ENGINEERING

EN312 FINAL YEAR PROJECT REPORT
DESIGN OF MATLAB MEASUREMENT MODULE

STUDENT'S NAME : CHAI KIEN SHENG

STUDENT'S ID : 99208016

MAJOR : B.ENG (HONS) ELECTRICAL & ELECTRONICS ENGINEERING

FIRST SUPERVISOR'S NAME : MR. GILBERT THIO

SECOND SUPERVISOR'S NAME : MS. SHAMINI

PROJECT COORDINATOR : DR. KHEDR M. M.ABOHASSAN

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ABSTRACT

This report describes a direct measurement systems using MATLAB software. As for this project, instead of designing a system which utilizing an older PLC technology, this project will use the power of microcontroller sophistication as the hardware backbone, with the assistance of MATLAB, a high level technical computing software, as the software backbone. Data acquisition extracts the desired information from an unknown source. The objective is to preserve the original real world values with as little alteration to the original information as possible. As data is taken from an unknown source with an unpredictable behaviour, data acquisition system has to be flexible when conditioning the external signals. Since it is the gateway between the real world and computer system, data acquisition system has to be connected to computing system through isolation circuitry, in order to prevent damage to both the systems by external sources.