

UCSI

University College Sedaya International



SCHOOL OF ENGINEERING

FINAL REPORT

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ABSTRACT

This report represents the project titled "Digital PC based Oscilloscope". This report is prepared to provide a good data presentation using PIC microcontroller to acquired signals as well as multiple graph displays and the use of oscilloscopes in today's Hi tech era.

The importance of this project is that it provides a better data presentation by comparing it to the analog oscilloscopes that have been used for decades in most of engineering aspects. Moreover, the system is based on PIC technology that provides a vivid flexibility in system design.

In order to generalize the work and make it flexible to the user, a graphical user interface has been designed. The user has the option to display the results in the time and frequency domains. In addition, the data can be imported to MATLAB Simulink for further analysis and simulation.

Practical design and analysis are included in the report, using the device parameters derived from manufactured datasheets. Instead of rigorous analysis methods, practical approximations are employed whenever possible.