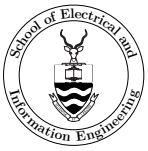

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
School of Electrical and Information Engineering
ELEN2006 Microprocessors

PROJECT: Signal generator

1 Introduction

Generating reference signals is critical in electrical engineering: these signals allow engineers to test various systems with pre-defined inputs to test the performance of analog and digital circuitry.

2 Requirements

You are required to implement a signal generator that can produce square, sine, saw-tooth, and triangular signals with a fixed amplitude between 0 V and 5 V. The signals should be user-selectable and the user must also be able to change the frequency of the signal; with the frequency and signal form displayed to the user.

It is critical that the performance of your device is adequately quantified in your report. Marks are awarded on the dynamic range and quality of signal.

2.1 Deadlines

The project is constrained by the following deadlines:

- 19$^{\text{th}}$ September 2014 - Laboratory testing and code submission.
- 22$^{\text{th}}$ September 2014 - Report hand in (electronic submission, 07h50 deadline).

3 Assessment

The report is to be submitted electronically (**only in pdf, maximum 5 pages**) and counts for 75% of the project mark. The laboratory testing, which verifies the operation of your controller, accounts for the remaining 25%. Circuit quality is assessed in addition to the operation of the controller. The assessment report is attached.

END

University of the Witwatersrand, Johannesburg
School of Electrical and Information Engineering
ELEN2006 - Microprocessor Engineering

Ver 4.3

COURSE PROJECT ASSESSMENT FORM
(INDIVIDUAL SOURCE CODE AND REPORT)

Student Name:
Student Number:

Final Mark:
(NB: Late?)

	Unacceptable	Poor	Acceptable	Good	Excellent	Brief description of outcome	Justification for outcome rating if NOT rated *Acceptable*
Background & Problem Understanding						Identification of requirements, assumptions, success criteria and constraints. Contextualisation with respect to relevant literature and existing solutions.	
Quality of Engineering Output						Quality of output achieved (functionality, maintainability, reliability). Evidence of insight, originality or attention to detail. Application of appropriate engineering methodology to arrive at output.	
Critical Analysis & Evaluation						Validation and critique of final output. Discussion of tradeoffs. Recommendations for future work and possible improvements.	
Technical Communication						Quality as a professional & technical document: target audience; logical structure; style, language and tone; support material (graphical/tabular/math); Format; citation & referencing.	

Rating	General Interpretation
Unacceptable	No evidence provided; invalid/irrelevant approach, method, execution; completely flawed.
Poor	One or more major flaws, otherwise complete; one or more components very poor.
Acceptable	No more than minor flaws, otherwise complete; no distinguishing features.
Good	Shows insight; some distinguishing feature(s).
Excellent	Exceptional insight and multiple distinguishing features.

All outcomes are weighted equally.
If any outcome is rated Unacceptable*, then the overall mark will be capped at 40%.*

Late Submission *(Penalty on Final Mark)*	**Submitted deliverables late?**
	Within 1 Hour: -5%
	Before 16h30: -15% **Penalty:** 0
	See School policy on late submissions.

Mark Adjustment *(Examiners Discretion)* ±2%	

Examiner's Overall Comments:		**Date:**	
		Signature:	