CSC385 – Fall 2017

Project Proposal Form

After ensuring that your project idea is unique, you will use this form to describe your project (point form acceptable), assess its difficulty, and outline what you expect to achieve each week of your project work. You **must be ready to discuss the filled form with your instructor or TA at the beginning of the first project lab session.**

We will advise you if changes are needed to your project proposal so it is sufficiently, but not overly, challenging. After you implement the changes, **we will then approve your project proposal.** You will then make **two copies** of the final filled form: one will be held by us, and the other one will be for your reference. Your ability to successfully implement all that was approved in your proposal will determine your project functionality marks

Group Info

Station Number	First Name	Last Name	Contribution [0..100] (filled during final lab)
89	Paulo	Ruberto	
89	Musa	Talluzi	

One Sentence Project Description (as posted)

Motor Controlled Launcher Unit with Light Sensing Targets

Technical Description of the Project

Describe your project in more technical details and include a system block diagram.

Assessment of Project's Difficulty

Please check off each accomplishment you propose in your project and indicate whether that accomplishment was interrupt-driven (if applicable). For accomplishments with multiple units such as the LEDs, switches, motors, etc., indicate the number of such units used. For example if you are using two Lego motors place the number 2 in the column instead of a checkmark.

Accomplishment	Proposed?	Interrupt?	Demonstrated? (to be filled by your instructor or TA)
LEDs/Switches	1	N/A	
Push buttons	3	YES	
Digital protoboard			
VGA		N/A	
Custom random number generator		N/A	
Lego motors	2	N/A	
Lego sensors	3	YES	
Linking C with assembly	YES	N/A	
JTAG UART transmit	YES		
JTAG UART receive	YES		
Timer 0			
Timer 1	YES	YES	
Hexkeypad (rows or columns only)			
Hexkeypad (rows and columns)			
RS-232 UART transmit			
RS-232 UART receive			
DMA transfer			
Nios II Custom Instruction		N/A	
Audio Codec output to speakers	YES	NO	
Audio Codec input from microphone			
PS/2 Keyboard	YES	YES	
PS/2 Mouse			
SD Card Reader			
Custom Bus Component			
Ethernet			

Please describe any other devices or complex software algorithms you will use. Remember to keep this relevant to CSC385 (not fancy electronic circuits or complex mechanical systems).

Project Milestones

Describe what parts of your project you will have fully implemented in each of the project lab sessions. Keep in mind that you will have to demonstrate your completed project during the final project lab session. The key here is to design incrementally: get something working quickly, test it, and keep adding to it. We will not accept the "integrate everything the last day" approach.

First & Second Project Lab Session

Finalizing project proposal, main loop setup, initalization, hex display, timer setup.
Ensure that a value in a register can be displayed on the hex display (so that the score can be seen)
Test timer + hex display together
Modularize the code from previous labs for easier access.

Build the launcher out of lego.
Implement launching the projectile.
Implement push buttons, steering control, motor control, etc.

Third Project Lab Session

Set up for hitting a target:
- Sensor ISR
- Audio beep
- Increment score

Fourth Project Lab Session

Implement two player mode
Integrate the keyboard for controlling the launcher
Enable selecting between timed & untimed modes for a two player game
Start button to indicate that a player is ready for their turn

Instructor/TA Notes

Final pages are to be filled by us.

Approval

Approved by _____

Date _____

First Project Lab Session (November 14)

Second Project Lab Session (November 21)

Third Project Lab Session (November 28)

Final Project Lab Session (December 5)

Notes on Final Result

Extra Notes