EE322: Embedded Systems Design - Project

Laser Communication System

Project Progress Report - 3

20/08/2021
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Laser Communication System
Progress from 30th July 2021 to 20th August 2021

Overall percentage progress

0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100

Introduction

In Industrial applications, transmitting and receiving signals with higher precision and accuracy is the prime goal. For the embedded system project, we have designed a model to approach this using a laser beam. The system can transmit 4-bit simplex signals efficiently with a low-cost setup and display the received signal. To approach this, a transmitter and a receiver will be designed separately. For demonstration purposes, the transmitter is input with a 4-bit digital signal and the receiver displays the relevant signal. We aim to achieve this goal using two PIC16F84A microcontrollers for the hardware and Assembly language for scripting.

In this stage, we have completed the assembly script.

Progress for the period from 30th July 2021 to 20th August 2021

Note
- [Progress report 2](#)
- The PCB layouts were completed and ready for fabrication. Due to the pandemic situation, some components were not available in the local market and components could not be imported from overseas. Therefore the hardware prototyping has been delayed.

Assembly script.

The completed assembly script for the transmitter and receiver are shared as a Github gist document. Please find the link below.

https://gist.github.com/vanowarna/6c151d04444bd93fa6a898c67d00a578

Timeline (Gantt chart)

Table 1 :Timeline

Task	JUNE		JULY				AUGUST			
	3rd Week	4th Week	1st Week	2nd Week	3rd Week	4th Week	1st Week	2nd Week	3rd Week	4th Week
Creating project groups	■									
	■									
Registering the project Title	■									
	■									
Preparing the project proposal		■								
		■								
Simulation and coding UML Diagram			■							
			■							
Progress Report 1				■						
				■						
Prototype development and testing (Progress Report 2)					■	■				
					■	■	■			
Progress Report 3 and							■	■	■	
							■	■	■	

■ Planned execution time of the task as of the initial proposal
■ Actual execution time of the task due to delays etc.