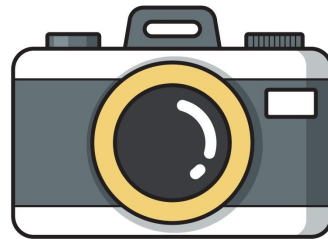# EEC136 Digital Camera

Week 8 Project Update

Waylon, Cassandra, Viktor, Alina, Angel

Overview

1. Put together Photodiode board PCB
2. Worked on code for converting the values and displaying into an array
3. Put together beta prototype with modifications.
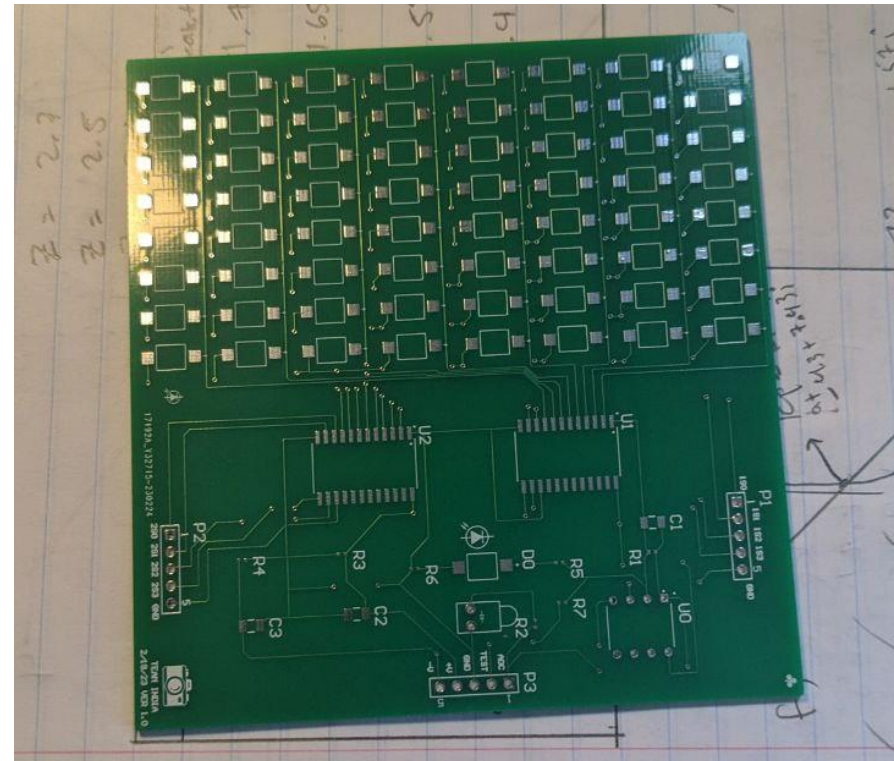4. Came up with ideas of future improvement of a camera

Waylon

This week:

- Received photodiode PCB after weather delays
- Ordered missing resistor values

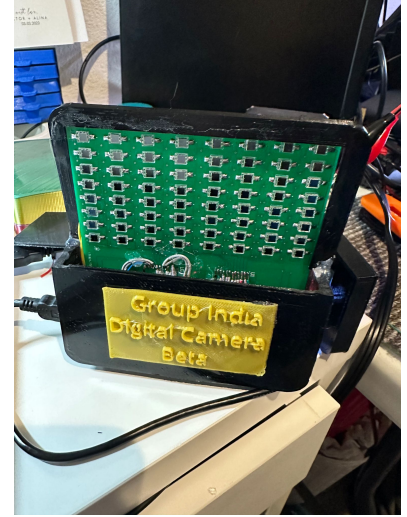Next week:

- Assemble PCB
- Test PCB

Alina

This week:

- Edited the design of enclosure with Viktor, since the first design was too compact for everything to fit.

Plans for next week:

- Think how to install a flash into the camera so that it has better lighting when capturing
- Hardware - Find the errors why 1st column is behaving wrong

Viktor

This week:

- **Troubleshooting**: Wired up the PCB layout, soldered multiplexer individually, insert 8 photodiodes on the PCB to do testing
- **Design:** Modified 3D model with Alina
- **Troubleshooting**: Work with the team for alternatives for possibles errors.
- **3D**: Printed the model.

Plans for next week:

- **Hardware** : Try to make the PCB and Psoc more compact to fit into the design perfectly
- **Code:** Work on the code to modify reading from photodiodes

Angel

This week:

- **Hardware:** Made sure connections from prototype can be read accordingly with the code. Soldering parts to newly received PCB on this upcoming Saturday.
- **Code:** Fixed the logic to change the multiplexers position and changed features of LCD to display correct messages.
  - Made sure the readings are actually being sent out through UART for MatLab connection.

Plans for next week:

- Focus on soldering the new PCB that was sent to manufacture, now we received it.
- Start testing both PCB to make the final product enclosure.
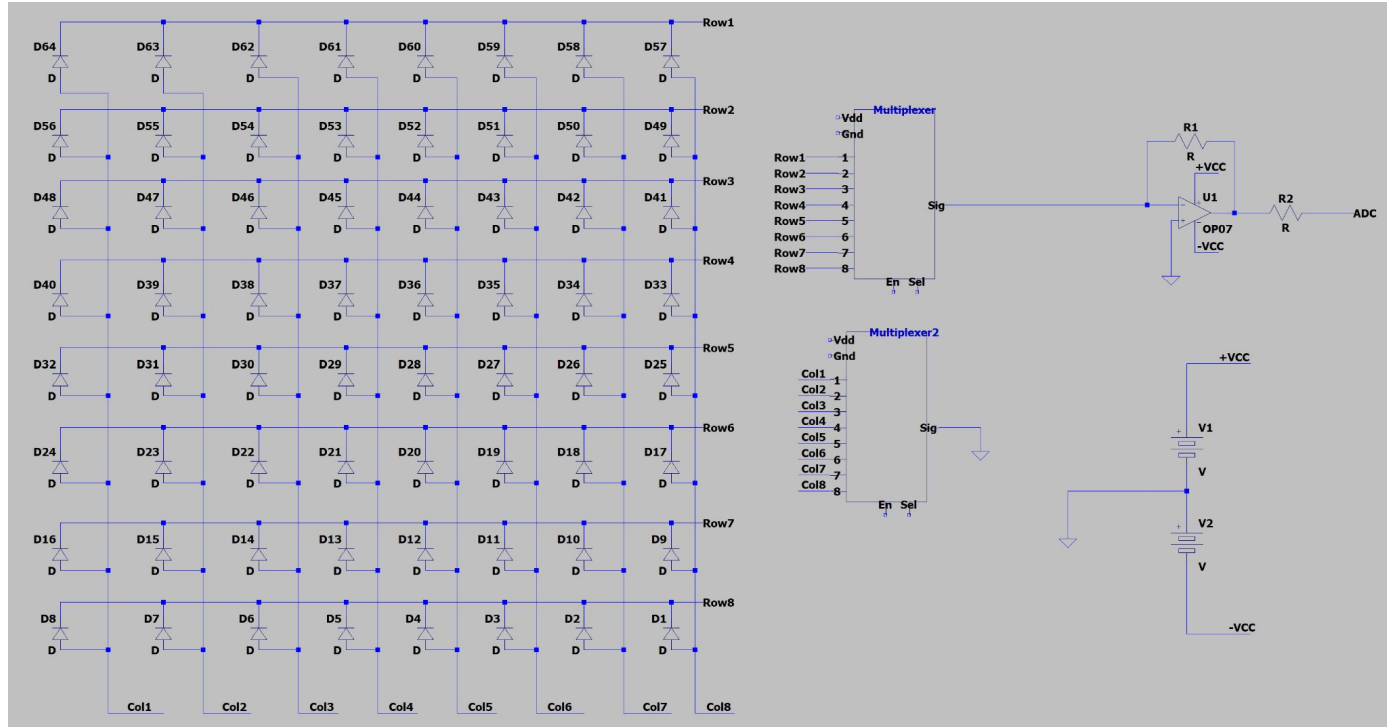
Cassandra

This week:
- Nothing :(

Plans for next week:
- Hardware - assist with PCB assembly, testing, and troubleshooting
- Documentation - update documentation

Reference Images

Fig 1.4 Sensor PCB Schematic

GANTT CHART

PROJECT TITLE	Digital Camera			COMPANY NAME	EEC136B	
PROJECT MANAGER	Waylon			DATE	2/10/23	

WBS NUMBER	TASK TITLE	TASK OWNER	START DATE	DUE DATE	DURATION	PCT OF TASK COMPLETE
1	Project Conception					
1.1	Concept Design	Casandra	1/9/23	1/27/23	18	100%
1.1.1	Bill of Materials	Vic/Way	12/1/22	1/13/23	42	100%
2	Circuit Design					
2.1	PSOC Programming Board	Angel	1/9/23	1/27/23	18	80%
2.2	Photo Diode Board	Alina	1/13/23	2/10/23	27	90%
3	Software/Coding					
3.1	Reading charge on pixels	Cassandra	1/21/22	2/18/22	27	100%
3.2	Processing Data	Cassandra	1/21/22	2/18/22	27	100%
3.4	Displaying Files	Angel	2/4/22	2/25/22	21	80%
4	PCB Assembly					
4.1	Parts Order Placed	Waylon	1/13/23	2/3/23	20	100%
4.2	PCB Boards Order Placed	Angel	1/13/23	2/3/23	20	100%
4.3	Soldering	Waylon	2/11/22	2/18/22	7	50%
4.4	Continuity Testing	Waylon	2/25/22	3/4/22	9	10%
5	Enclosure Design					
5.1	3D Model	Victor	1/14/22	2/11/22	27	15%
5.2	3D Print	Victor	1/28	2/11/22	13	5%
5.3	Assembly	Waylon	2/11/22	2/18/22	7	0%

Timeline columns:

PHASE ONE: WEEK 1 - Jan 9-13, WEEK 2 - Jan 16-20, WEEK 3 - Jan 23-27

PHASE TWO: WEEK 4 - Jan 30 - Feb 3, WEEK 5 - Feb 6 - 10, WEEK 6 | Feb 13 - 17

WEEK 7 | Feb 20 - 24

(M T W R F for each week)

Gantt Chart Google Slides Link

Bill of Materials Page 1 of 2

Item	Part No.	QTY	Cost	Received
Photodiode	VBPW34S	64	$54.00	X
Button	474-COM-08720	5	$5.25	X
Header Pins	HDR100IMP40M-G-V-TH	10	$4.95	X
PSOC	CYBLE-416045-02	2	TBD	X
Crystal Oscillator	ECS-2520MV-250-CL-TR	1	TBD	
Battery	LIPO Battery (3.7V)	1	$10.95	X
OLED Display	LCD-13003	2	$35.76	X
Tri-LED	HSMD-C191	5	TBD	X
Multiplexer	BOB-13906	2	$5.90	

Bill of Materials Page 2 of 2

Item	Part No.	QTY	Cost	Received
10KΩ Resistor	3503G2B10K7FTDF	4	$6.56	
0Ω Resistor	MCT0603HZ0000ZP500	10	$6.10	
1KΩ Resistor	RA73F1J143RBTDF	2	$3.88	
10uF Capacitor	GMK316BJ106KL-T	1	$0.33	
22pF Capacitor	12065A220JAT2A	2	$2.80	
4.7KΩ Resistor	263-4.7K-RC	2	$0.20	
330Ω Resistor	CMP0805-FX-3300ELF	1	$0.21	
220KΩ Resistor	CRGCQ2512F220K	8	$3.68	
470Ω Resistor	CRG0603F470R	1	$0.14	