Week 10

Keel Bone Chicken Project

Date

PURDUE UNIVERSITY | College of Engineering

This Week

Progress this week

- CSV Script for Data
- Visit to Agriculture Farm
- Modifications to Battery System

CSV Script for Data

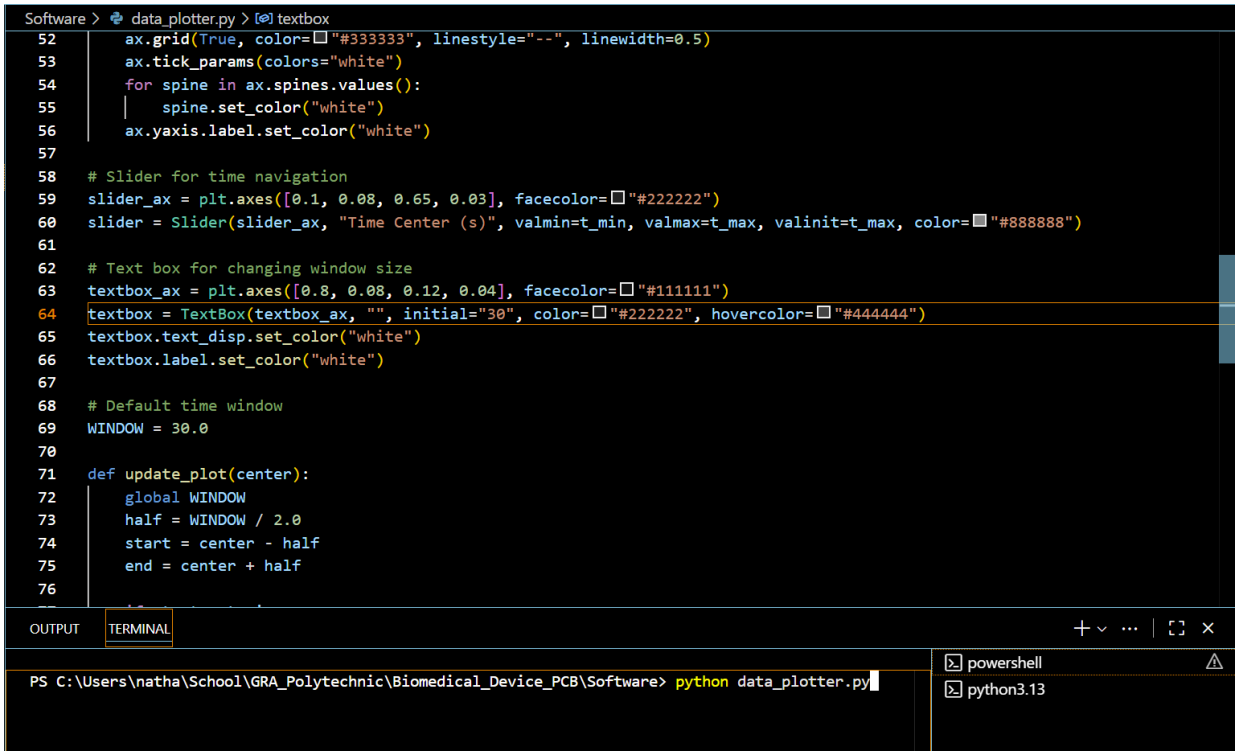
Original .CSV file from last week:

	timestamp	temperatu	humidity_h	pressure_p	acceleron	acceleron	acceleron	gyroscope	gyroscope	gyroscope	led_R	led_G	led_B	quaternior	quaternior	quaternior	quaternior	bsec_bsec	co2_co2
2	2025-10-2	29.43	28	1000.779	897	3441	1799	64	-413	-30				0.225707	-0.44409	-0.64545	0.578917	25	5(
3	2025-10-2	29.44	28	1000.802	898	3451	2106	-3	47	20				0.238159	-0.43231	-0.64148	0.587157	25	5(
4	2025-10-2	29.44	28	1000.802	852	3502	1695	-5	-189	35				0.248657	-0.41858	-0.63904	0.595335	25	5(
5	2025-10-2	29.46	28	1000.779	646	3489	2046	64	-821	-29				0.256286	-0.40985	-0.63464	0.602904	25	5(
6	2025-10-2	29.45	28	1000.779	655	3434	2075	-76	-524	-18				0.26947	-0.39807	-0.62567	0.614317	25	5(
7	2025-10-2	29.45	28	1000.802	645	3430	1719	98	-1139	-227				0.292907	-0.36395	-0.61456	0.635557	25	5(
8	2025-10-2	29.44	28	1000.826	672	3440	2296	276	-1151	52				0.260131	-0.40741	-0.60724	0.630431	25	5(
9	2025-10-2	29.44	28	1000.826	-38	3124	3647	-1675	4626	-1552				0.177612	-0.58063	-0.58258	0.54016	25	5(
10	2025-10-2	29.43	28	1000.802	1845	3736	83	-1982	7519	-17				0.163818	-0.59912	-0.61889	0.480712	25	5(
11	2025-10-2	29.43	28	1000.826	457	3209	-2346	4066	-5675	1714				0.301147	-0.37537	-0.64032	0.59857	25	5(
12	2025-10-2	29.42	28	1000.826	-1261	3149	3844	1642	-8413	534				0.34027	-0.31354	-0.61535	0.63806	25	5(
13	2025-10-2	29.41	28	1000.826	-1982	3422	4711	-598	3301	-1331				0.117981	-0.66833	-0.59033	0.436827	25	5(
14	2025-10-2	29.41	29	1000.802	2991	3480	-3422	-219	716	803				0.232787	-0.49023	-0.64612	0.53662	25	5(
15	2025-10-2	29.41	29	1000.826	-934	3004	2072	2870	-12329	1866				0.371703	-0.30847	-0.61078	0.627318	25	5(
16	2025-10-2	29.4	29	1000.826	-1026	3754	3772	542	-2062	-36				0.334594	-0.34741	-0.61346	0.625181	25	5(
17	2025-10-2	29.39	29	1000.802	-1843	3541	4672	-1217	7018	-1440				0.143493	-0.63611	-0.59564	0.468932	25	5(
18	2025-10-2	29.39	29	1000.802	1925	2990	-1951	-3222	9453	-543				0.231262	-0.55224	-0.643	0.477416	25	5(
19	2025-10-2	29.39	29	1000.802	-1367	2779	410	5003	-11777	2880				0.372436	-0.34497	-0.63336	0.583983	25	5(
20	2025-10-2	29.39	29	1000.802	-1640	3355	3561	1277	-3636	357				0.363524	-0.34259	-0.61853	0.606383	25	5(
21	2025-10-2	29.39	29	1000.826	-1779	3540	4028	-778	2248	-1984				0.279784	-0.50317	-0.58746	0.568602	25	5(
22	2025-10-2	29.38	29	1000.802	581	2866	1319	-4275	8045	-2812				0.177856	-0.68994	-0.55469	0.429564	25	5(
23	2025-10-2	29.37	29	1000.802	2411	3966	-2949	-624	1652	278				0.42932	-0.37311	-0.56213	0.60034	25	5(

CSV Script for Data

Able to extract data for longer quantities

- Longer periods than available on the WebBLE interface
- Run and analyze data for 24+ hrs
- Run Python script below.



CSV Script for Data

Generates the following Matplotlib file

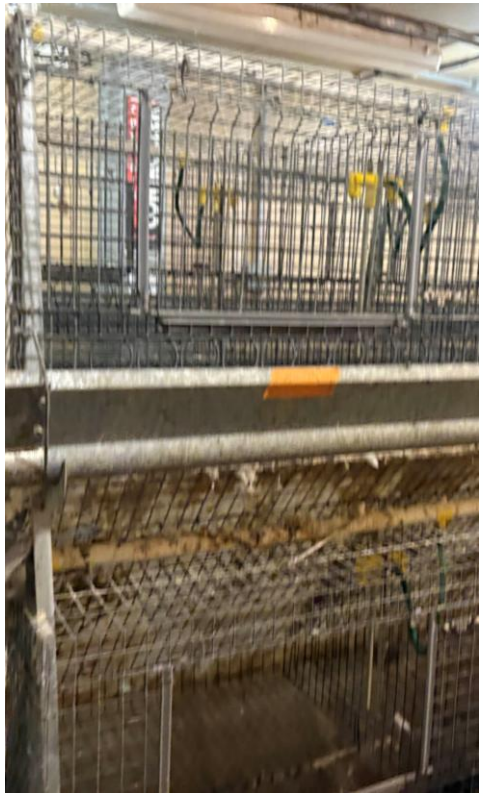
- Sliding window for time analysis
- All plots (Strain, Force, Temperature, Gyroscope) can be generated

Visit to Agriculture Farm

Understanding of testing conditions for chickens

- Cages arranged in rows
  - 1, 2, 3 rows for testing

3-Tier Testing System

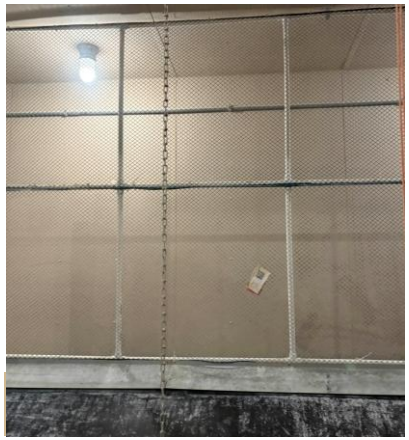


Approximate Volume

Visit to Agriculture Farm

Modifications to Battery System

- Very little capacity for Solar charging (artificial light)
- Small space for RFID charging with remote power near wall?
- Need to find alternative solution within testing constraints, or larger battery is needed



Next Week

Blockers & Next Week's Work

- Analysis of Solar/RFID range charging
- Verify Charge amplifier circuit
- Obtain testing data from agriculture department
  - Train agriculture representative on how to obtain data

Blockers:

- Thinking of alternatives to supply energy to the device

Thank You

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