ENGIN492, Senior Design Weekly Meeting #11

Meeting Minutes

04/07/2021 15:30 – 16:40

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- **Agenda**

  1. List of drone components
  2. List of data collection equipment to order
  3. SAR raw data collection automation coding

- **Notes**

1. Drone components

Item	Unit Price	Qty	Price	Notes
Crazyflie 2.1	**$195**	**1**	**$195**	https://store.bitcraze.io/collections/all
BigQuad deck	**$7**	**1**	**$7**	
Flow v2 deck	**$45**	**1**	**$45**	
Multi-ranger deck	**$80**	**1**	**$80**	
iFlight IX5 V3 X-hybrid	**$35**	**1**	**$35**	https://www.myfpvstore.com/quadcopter-frames/5-quadcopter-frames/iflight-ix5-v3-x-hybrid-fpv-racing-drone-frame/
BEC	**$6.90**	**1**	**$6.90**	Battery Eliminator Circuit (w/ PDB)
ESC	**$10.56**	**4**	**$42.24**	Electronic Speed Control module
Emax RS 2205 motor	**$7.25**	**4**	**$29**	
Propeller	**$14.99**	**1**	**$14.99**	
Battery	**$21.06**	**1**	**$21.06**	
Jetson Nano	$99	1	$99	
small reduction stepper motor	$4.95	2	$9.9	
PCB	N/A	N/A	N/A	
3D-printed parts	N/A	N/A	N/A	
IWR9843ISK	$135	1	$135	
ZED mini	$399	1	$399	
Total			$1119.09	**$476.19 (drone only)**

2. Second data collection equipment
   a. item to be ordered

Item	Unit Price	Qty	Price	Notes
IWR6843ISK	$135.00	1	$135.00	https://www.ti.com/tool/IWR6843ISK
ZED mini	$399.00	1	$399.00	https://www.stereolabs.com/zed-mini/
Ball screw slide 200mm, T6x1	$69.80	2	$139.60	https://www.amazon.com/Befenybay-Effective-Travel-Stepper-Actuator/dp/B08D3S5T1Z/ref=pd_di_sccai_4/133-6471739-6286943?_encoding=UTF8&pd_rd_i=B087NMCGPV&pd_rd_r=5997a8d5-a4c4-4c2c-9efe-17d21e29124f&pd_rd_w=MSMcH&pd_rd_wg=8QO5Q&pf_rd_p=541568 7b-2c9d-46da-88a4-bbcfe8e07f3c&pf_rd_r=KM5EZXTEPECDWVYC6FTB&refRID=KM5EZXTEPECDWVYC6FTB&th=1
5V, >=2A DC Barrel Jack power supply	~$10.00	1	~$10.00	for DCA1000, https://www.amazon.com/Outtag-Switching-Replacement-Raspberry-Enclosure/dp/B01M0ISMJ5/ref=sr_1_3?dchild=1&keywords=5V+2.5A+dc+power+supply&qid=1617838599&sr=8-3
Total			$683.6	

3. SAR raw data collection automation coding
   a. Finished the parts for (1) connecting mmWave studio to MATLAB, (2) slider movement with Arduino Uno and Adafruit motor shield v2, (3) organizing captured signal data file.
   b. MATLAB is used to tell mmWave studio what LUA script to run. Eventually, we need to write the LUA script that arms the DCA1000EVM and triggers frames for actual data collection.

- **List of Actions**

  1. Order second data collection equipment
  2. Check senior design room availability for multiple-view data collection.

- **Preliminary Agenda for Next Meeting**
  1. Multiple-view data collection setup
  2. Preliminary poster, video.