

ELEC 4000 Senior Design Status Report – Page 1 of 3

Project Name:	PICASSAU
Team #, Members:	Team 2: Ben Straub, David Toledo, Drew Kerr, Kayla Frost, Peter Gartland
Report Date:	10/16/2013
Project Description:	A robot that paints a picture.
Cycle (1, or 2):	Cycle 2
Cycle Intent:	Produce a robot that can reliably paint a multi-color image produced from a webcam image.

TASKS

Task #	Task Description (Add rows as needed)	Cycle planned for completion	Planned Total planned hours	Planned hours this cycle	Status (% complete)	Actual hours this cycle	Total hours
1	Team management	2	55	20	55%	1.5	12
2	Mechanical hardware - construction	1	43	43	99%	5	43.5
3	Stabilize paintbrush carriage	2	31	0	10%	0	3
4	Electrical hardware	1	25	25	99%	1.5	24
5	Embedded software - plotting	1	25	25	99%	0	20.5
6	Embedded software - brush control and stability	2	41	0	10%	1	1
7	Computer software - main Python functionality	1	34	34	100%	0	7
8	Computer software - setting up the Raspberry Pi	2	35	3	55%	2	5
9	Computer software - user interface	2	35	0	0%	0	0
10	Computer software - optimization	2	12	0	0%	0	0
11	Image processing - filtering	1	60	60	100%	0	24
12	Image processing - vectorization	2	49	0	0%	0	0
13	Testing and integration	2	35	10	55%	5	37.5
14	Meetings	2	30	15	55%	7.5	48.5
15	Administrative documentation	2	30	15	55%	0	63.5
		Planned Total	550	250	Actual Total	23.5	289.5

ELEC 4000 Senior Design Status Report – Page 2 of 3

TEAM MEMBER HOURS

Record # of hours each person spent on each task this week, then total by week, cycle, and project.

								task									Total Hours	
Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Week	Cycle	Project
Ben Straub	1.5	0	0	1.5	0	1	0	0	0	0	0	0	0.5	1.5	0	6	6	92
David Toledo	0	1.5	0	0	0	0	0	1	0	0	0	0	0.5	1.5	0	4.5	4.5	44.5
Drew Kerr	0	1.5	0	0	0	0	0	0	0	0	0	0	1	1	0	3.5	3.5	43.5
Kayla Frost	0	0	0	0	0	0	0	1	0	0	0	0	2	1	0	4	4	55
Peter Gartland	0	2	0	0	0	0	0	0	0	0	0	0	1	1.5	0	4.5	4.5	53.5
TOTALS	1.5	5	0	1.5	0	1	0	2	0	0	0	0	5	6.5	0	22.5	22.5	288.5

Accomplishments since last status report:

- Moved calibration sensor to fix inconsistent calibration.
- Ordered Raspberry Pi display.
- Fixed poor quality mounts and wiring.
- Fixed fishing line adjustability.
- Added brush rotation.

Obstacles encountered since last status report and actions to deal with same:

- Burn out from the end of cycle 1
 - We took it easy this week.
- Many tests and midterms
 - The midterms are almost over.

Risks facing the project and actions to deal with same:

- Illness of team members
 - Ensure that there is always someone capable of picking up another member's tasks
- Breaking hardware could put the project behind schedule / overbudget
 - Be careful with the hardware and be ready to order replacements if need be
- Incorrect hardware could put the project behind schedule / overbudget
 - Have multiple members double check the item before it is ordered
- Processor speed on Raspberry Pi may not allow real-time previewing of filtered camera feed

ELEC 4000 Senior Design Status Report – Page 3 of 3

Objectives for the next week:

- Develop multiple color support on the microcontroller
- List potential methods for vectorizing our filtered images
- List further improvements for stabilizing the paintbrush carriage
- Develop MATLAB script to simulate painting.
- Set up the new display to work with the RPi.

Notes: