

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:	9/25/2013
Project Description:	A robot that paints a picture.
Cycle (1, or 2):	Cycle 1
Cycle Intent:	Construct a robot that can reliably paint a single color image from a supplied vector graphic file.

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	45%	10.5	10.5
2	Mechanical hardware - construction	1	43	43	99%	38.5	38.5
3	Stabilize paintbrush carriage	2	31	0	10%	3	3
4	Electrical hardware	1	25	25	99%	22.5	22.5
5	Embedded software - plotting	1	25	25	99%	20.5	20.5
6	Embedded software - brush control and stability	2	41	0	0%	0	0
7	Computer software - main Python functionality	1	34	34	100%	7	7
8	Computer software - setting up the Raspberry Pi	2	35	3	50%	3	3
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%	24	24
12	Image processing - vectorization	2	49	0	0%	0	0
13	Testing and integration	2	35	10	45%	32.5	32.5
14	Meetings	2	30	15	45%	41	41
15	Administrative documentation	2	30	15	45%	63.5	63.5
		Planned Total	550	250	Actual Total	266	266

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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	4	1	0	0	1.5	0	0	0	0	0	0	0	12.5	3.5	12.5	35	86	86
David Toledo	0	0	0	0	0	0	0	0	0	0	0	0	3	1.5	9	13.5	40	40
Drew Kerr	0	0	1	0	0.5	0	0	0	0	0	0	0	4	1.5	8.5	15.5	40	40
Kayla Frost	0	0	1	0	0	0	1	0	0	0	0	0	5.5	0.5	11	19	49.5	49.5
Peter Gartland	0	0	1	0	0.5	0	0	0	0	0	0	0	7.5	4	9	22	49	49
TOTALS	4	1	3	0	2.5	0	1	0	0	0	0	0	32.5	11	51.5	106.5	266	266

Accomplishments since last status report:

- Fix motor issues
- Update embedded software to work with the new Python code
- Refined painting motion to prevent erroneous strokes
- Fulfill Cycle 1 goal of painting a single-color picture
- Write Cycle 1 report
- Prepare Cycle 1 presentation

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

- Brush would create undesired strokes when lifting the brush.
 - Fixed.
- Paint dripping.
 - Use thicker paint, allow more time to remove excess paint from brush.
- IR distance sensor used for calibration occasionally falsely triggers.
 - Try moving the sensor to avoid triggering on the fishing line.

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

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Objectives for the next week:

- Enjoy the accomplishments of Cycle 1
- Develop multiple color support on the microcontroller
- List potential methods for vectorizing our filtered images
- List further improvements for stabilizing the paintbrush carriage

Notes: