

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:	10/30/2013
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	35	73%	2.5	13
2	Mechanical hardware - construction	1	43	0	90%	10.5	49
3	Stabilize paintbrush carriage	2	31	31	50%	4.5	7.5
4	Electrical hardware	1	25	0	100%	1.5	24
5	Embedded software - plotting	1	25	0	100%	0	20.5
6	Embedded software - brush control and stability	2	41	41	30%	6.5	6.5
7	Computer software - main Python functionality	1	34	0	100%	4	11
8	Computer software - setting up the Raspberry Pi	2	35	32	80%	2	5
9	Computer software - user interface	2	35	35	0%	0	0
10	Computer software - optimization	2	12	12	0%	0.5	0.5
11	Image processing - filtering	1	60	0	100%	0	24
12	Image processing - vectorization	2	49	49	45%	17.75	17.75
13	Testing and integration	2	35	25	73%	30.25	62.75
14	Meetings	2	30	15	73%	21.5	62.5
15	Administrative documentation	2	30	15	73%	4	67.5
		Planned Total	550	250	Actual Total	105.5	371.5

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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	0	1	0	0	0	2	0	0	0	0	0	0.5	3.5	1	0.5	8.5	23.5	109.5
David Toledo	0	1.5	0	0	0	0	0	0	0	0	0	0	1.5	1	0	4	18	58
Drew Kerr	0	2	0	0	0	0	0	0	0	0	0	0	5	1	0	8	16.5	56.5
Kayla Frost	0	0	0	0	0	0	0	0	0	0	0	1.75	1.75	1	0	4.5	19	70
Peter Gartland	0	1	0	0	0	1	1	0	0	0	0	1	6	1	1.5	12.5	23.5	72.5
TOTALS	0	5.5	0	0	0	3	1	0	0	0	0	3.25	17.75	5	2	37.5	100.5	366.5

Accomplishments since last status report:

- Tested multi-color painting with rinsing
- Decided on electronics housing design
- Refined brush motion to prevent flipping between 0 and 180 degrees
- Able to obtain an svg file from an image using Potrace

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

- Rinsing current brush in water does not get all the paint out
 - Experiment with different brushes
- Issues parsing svg file generated from Potrace
 - Read through more documentation

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 / over budget
 - Be careful with the hardware and be ready to order replacements if need be
- Incorrect hardware could put the project behind schedule / over budget
 - 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:

- Develop GUI to run on the Raspberry Pi
- Be able to translate vectorized image into coordinates that PICASSAU can read
- Brainstorm carriage redesign for 3 brushes

Notes: