| Project Name: | PICASSAU |
|---|---|
| Team #, Members: | Team 2: Ben Straub, David Toledo, Drew Kerr, Kayla Frost, Peter Gartland |
| Report Date: | 10/22/2013 |
| 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 | | Status (% complete) | Actual | Total hours |
|---|---|---|---|---|---|---|---|
| | | | Total planned hours | Planned hours this cycle | | Actual hours this cycle | |
| 1 | Team management | 2 | 55 | 20 | 64% | 2.5 | 13 |
| 2 | Mechanical hardware - construction | 1 | 43 | 43 | 99% | 5 | 43.5 |
| 3 | Stabilize paintbrush carriage | 2 | 31 | 0 | 50% | 4.5 | 7.5 |
| 4 | Electrical hardware | 1 | 25 | 25 | 100% | 1.5 | 24 |
| 5 | Embedded software - plotting | 1 | 25 | 25 | 100% | 0 | 20.5 |
| 6 | Embedded software - brush control and stability | 2 | 41 | 0 | 20% | 3.5 | 3.5 |
| 7 | Computer software - main Python functionality | 1 | 34 | 34 | 100% | 3 | 10 |
| 8 | Computer software - setting up the Raspberry Pi | 2 | 35 | 3 | 80% | 2 | 5 |
| 9 | Computer software - user interface | 2 | 35 | 0 | 0% | 0 | 0 |
| 10 | Computer software - optimization | 2 | 12 | 0 | 0% | 0.5 | 0.5 |
| 11 | Image processing - filtering | 1 | 60 | 60 | 100% | 0 | 24 |
| 12 | Image processing - vectorization | 2 | 49 | 0 | 10% | 14.5 | 14.5 |
| 13 | Testing and integration | 2 | 35 | 10 | 64% | 12.5 | 45 |
| 14 | Meetings | 2 | 30 | 15 | 64% | 11.5 | 52.5 |
| 15 | Administrative documentation | 2 | 30 | 15 | 64% | 2 | 65.5 |
| | | Planned Total | 550 | 250 | Actual Total | 40.5 | 329 |

## TEAM MEMBER HOURS

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

| Name | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Task 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | Week | Total Hours Cycle | Project |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ben Straub** | 1 | 0 | 0 | 0 | 0 | 2.5 | 0 | 0 | 0 | 0 | 0 | 4.5 | 0 | 1 | 0 | 9 | 15 | 101 |
| **David Toledo** | 0 | 0 | 2.5 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 2 | 1 | 0 | 9.5 | 14 | 54 |
| **Drew Kerr** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 5 | 8.5 | 48.5 |
| **Kayla Frost** | 0 | 0 | 0.5 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 2.5 | 2.5 | 1 | 2 | 10.5 | 14.5 | 65.5 |
| **Peter Gartland** | 0 | 0 | 1.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0.5 | 0 | 0.5 | 3 | 1 | 0 | 6.5 | 11 | 60 |
| **TOTALS** | 1 | 0 | 4.5 | 0 | 0 | 2.5 | 3 | 0 | 0 | 0.5 | 0 | 14.5 | 7.5 | 5 | 2 | 40.5 | 63 | 329 |

**Accomplishments since last status report:**
- Implemented multi-color support in embedded software
- Received and configured Raspberry Pi monitor
- Brainstormed image vectorization techniques
- Stabilized paintbrush carriage
- Developed MATLAB plotter
- Added water rinsing

**Obstacles encountered since last status report and actions to deal with same:**
- Issues integrating Potrace vectorization software
  - Read through more documentation
- Out-of-town team members
  - Drew got a job, so we he won't have to leave anymore

**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

**Objectives for the next week:**
- Develop basic GUI to run on the Raspberry Pi
- Refine brush motion
  - Stop flipping back and forth between 0 and 180 degrees
- Vectorize basic image
- Test multiple-color paintings with water dipping
- Brainstorm electronics housing designs for behind the canvas

**Notes:**