|  |  |
| --- | --- |
| Project Name: | MailBird: An Autonomous Delivery System |
| Team #, Members: | Team 1, Ben Smith, Hugh Dillon, Hunter Thorington, Rick Holloway, Zac Hawkins |
| Report Date: | April 16, 2014 |
| Project Description: | A landing system that can guide a vehicle using IR LEDs within 1 inch of a target. |
| Cycle (1, or 2): | Cycle 2 |
| Cycle Intent: | Use working prototype of IR module to mimic loiter behavior over LED station |

**TASKS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Planned |  |  | Actual |  |
| Task # | Task Description (Add rows as needed) | Cycle planned for completion | Total planned hours | Planned hours this cycle | Status (% complete) | Actual hours this cycle | Total hours |
|
|
| 1 | Team management | 2 | 60 | 20 | 90.00% | 4 | 12 |
| 2 | IR land control method | 1 | 120 | 20 | 80.00% | 151 | 251 |
| 3 | IR camera implementation | 1 | 40 | 20 | 100.00% | 18 | 83 |
| 4 | Ground Station control method | 1 | 40 | 0 | 100.00% | 0 | 26 |
| 5 | Landing station | 2 | 20 | 10 | 95.00% | 9 | 10 |
| 6 | Reports | 2 | 180 | 100 | 40.00% | 26 | 92 |
| 7 | Marketing display | 2 | 40 | 40 | 15.00% | 12 | 14 |
| 8 | Integration of components | 1 | 100 | 0 | 100.00% | 6 | 113 |
|  |  | **Planned Total** | 600 | 210 | **Actual Total** | 226 | 601 |

1Planned Total should equal (# of team members) x (10 hrs. per week) x (Cycle 1 weeks 6) + Cycle 2 weeks (6) = 12 weeks).

2Assumes 5 hours per week for 12 weeks. Should be mainly team leader(s).

**TEAM MEMBER HOURS**

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

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  | **Total Hours** |  |
| **Name** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **Week** | **Cycle** | **Project** |
| **Dillon, Hugh** | **--** | **16** | **--** | **--** | **--** | **--** | **--** | **--** | **16** | **49.5** | **136** |
| **Hawkins, Zac** | **--** | **8** | **--** | **--** | **--** | **2** | **--** | **--** | **10** | **41** | **102** |
| **Holloway, Rick** | **--** | **16** | **--** | **--** | **--** | **--** | **--** | **--** | **16** | **50.5** | **144** |
| **Smith, Ben** | **--** | **8** | **--** | **--** | **--** | **3** | **--** | **--** | **11** | **44** | **101** |
| **Thorington, Hunter** | **--** | **--** | **--** | **--** | **--** | **10** | **--** | **--** | **10** | **41** | **118** |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **TOTALS** | **0** | **48** | **0** | **0** | **0** | **15** | **0** | **0** | **63** | **226** | **601** |

**Accomplishments since last status report:**

* Completed final documentation and presentation: user manual, Cycle 2 Written Report, and the Cycle 2 Oral Presentation
* Continued to test and fine-tune IR tracking system
* Took video of quadcopter and worked on the display for the design fair

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

* It is difficult to create video that demonstrates how the IR guidance system works at the present, explaining both its current strengths and shortcomings. Additionally, it is difficult to find a good environment in which to shoot video that is both aesthetically pleasing and shows the quadcopter working. We took many videos in indoor facilities and attempted to shoot from the correct angles so we can see both the quadcopter and the landing pad and attempted to create video that shows that the quadcopter is responding to the IR LEDs even though it is not operating flawlessly.
* Even though the quadcopter is responding to the position of the IR LEDs, the pitch and roll of the quadcopter are sometimes in the correct direction (towards the center of the LEDs) and sometimes away from it. This seems to be due to the way our code calculates distance. Further testing will be done later this afternoon to tune this deficiency in our code.

**Risks facing the project and actions to deal with same:**

* The IR guidance system may not be adequately tuned before the design fair. If it is, we will show it working in our video; if it is not, we will take video that shows what it does do currently.

**Objectives for the next two days:**

* Prepare display for design fair