The D-Team

Milestone 4:

Prototype Fabrication Start

ENES 100 Sec. 0401

Materials Required for Fabrication:

|  |  |  |  |
| --- | --- | --- | --- |
| **Item Type Description** | **Quantity** | **Cost Per Unit** | **Total Item Cost** |
| Levitation Fan | 1 | $60.78 | $60.78 |
| Levitation Fan Guard | 1 | $2.03 | $2.03 |
| Propulsion Fan | 2 | $29.95 | $59.90 |
| Propulsion Fan Connectors | 2 | $2.75 | $5.50 |
| Propulsion Fan Guard | 5 | $5.20 | $5.20 |
| Arduino "Sidekick" Kit | 1 | $18.00 | $18.00 |
| Continuous Rotation Servo | 3 | $14.99 | $44.97 |
| Micro Servo Motor | 1 | $12.99 | $12.99 |
| Photo Resistor | 4 | $0.95 | $2.85 |
| Foam | 2 | $5.48 | $10.96 |
| RF Reciever | 1 | $20.00 | $20.00 |
| Rip Stop Nylon | 2 yrds | $5.59/yrd | $11.18 |
| Battery Charger | 1 | $18.99 | $18.99 |
| Battery | 2 | $25.99 | $51.98 |
| Sqaure Dowel 3/4" x 36" | 1 | $2.78 | $2.78 |
| Square Dowel 1" X 36" | 1 | $3.48 | $3.48 |
| Whisker Wire | 1 | $3.65 | $3.65 |
| 9 Volt Duracell Alkaline Batteries | 3 | $8.69 | $8.69 |
| Gorilla Glue | 1 | $4.97 | $4.97 |
|  |  |  |  |
|  |  | Total Cost: | $348.90 |
|  |  |  |  |

Machines, Fasteners, and Adhesives Required for Fabrication:

|  |  |
| --- | --- |
| **Machine/Fastener/Adhesive/Tools** | **Quantity** |
| CNC Mill | 1 |
| Gorilla Glue | 1 |
| Lab Computer | 2 |
| Exacto Knife | 1 |
| Soldering Iron | 1 |
| Calculator | 2 |
| Airflow Tester | 1 |
| Misc. Other tools | 1 |

Task Assignments:

Propulsion and Power-

|  |  |  |
| --- | --- | --- |
| **Task** | **Assigned To** | **Required Materials** |
| Attach fan guards to propulsion fans and test the airflow  | Michael | Propulsion Fan Guards, Propulsion Fans, Computer/Calculator |
| Attach the battery  | Julie | Battery, Deck, Fan System |
| Test the power of all devices to make sure the battery is suitable | Brian | Circuit Diagram, Calculator, Battery |
| Install the servo motor and propulsion fans | Michael | Servo Motor, Propulsion Fans, Completed Deck |

Sensors and Control-

|  |  |  |
| --- | --- | --- |
| **Task** | **Assigned To** | **Required Materials** |
| Code for sensors, servos, and tests | Charles | Computer |
| Implement code that works with sensors | Alexa | Computer |
| Code for payload system. Construct payload system | Kushal | ComputerWood, Servos, Wire, Sidekick Kit |
| Determine good sensor positionsImplement code that works with sensors and servos | Steve | RF receiver, Photo Resistor, Sidekick Kit, WhiskersComputer |

Structural and Levitation-

|  |  |  |
| --- | --- | --- |
| **Task** | **Assigned To** | **Required Materials** |
| Create Deck | Josh and David | CNC Mill, foam |
| Create Cardboard Under Deck | Mike | Cardboard, adhesive |
| Insert Levitation Fan | S&L Team | Assembled Deck, Levitation, Fan guard  |
| Create Skirt | S&L Team | Rip stop nylon, adhesive |
| Deck Modification (If Necessary) | S&L Team | Blades, rulers, simple tools. |