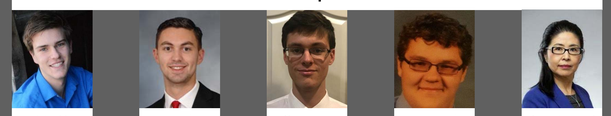
SLAYSTATION

Group 4



Matt Maertz | Josh May | Chase Pownell | Jared Willwerth | Advisor: Dr. Janet Dong

TASK

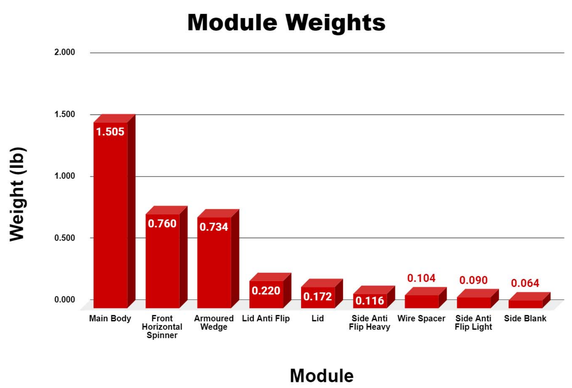
Build a beetle weight battlebot, to use at the UC Battlebots Club competition.

REQUIREMENTS

- Max weight 1.5Kg (3.3 lbs)
- Adhere to beetlebot competition rules
- Use a Raspberry Pi & a PS4 Controller
- Make our battlebot design modular

COMPETITION DETAILS

- 3min, 1 V 1 matches, in a round robin style
- Beetlebot weight class only
- Ties will be decided by the club advisor



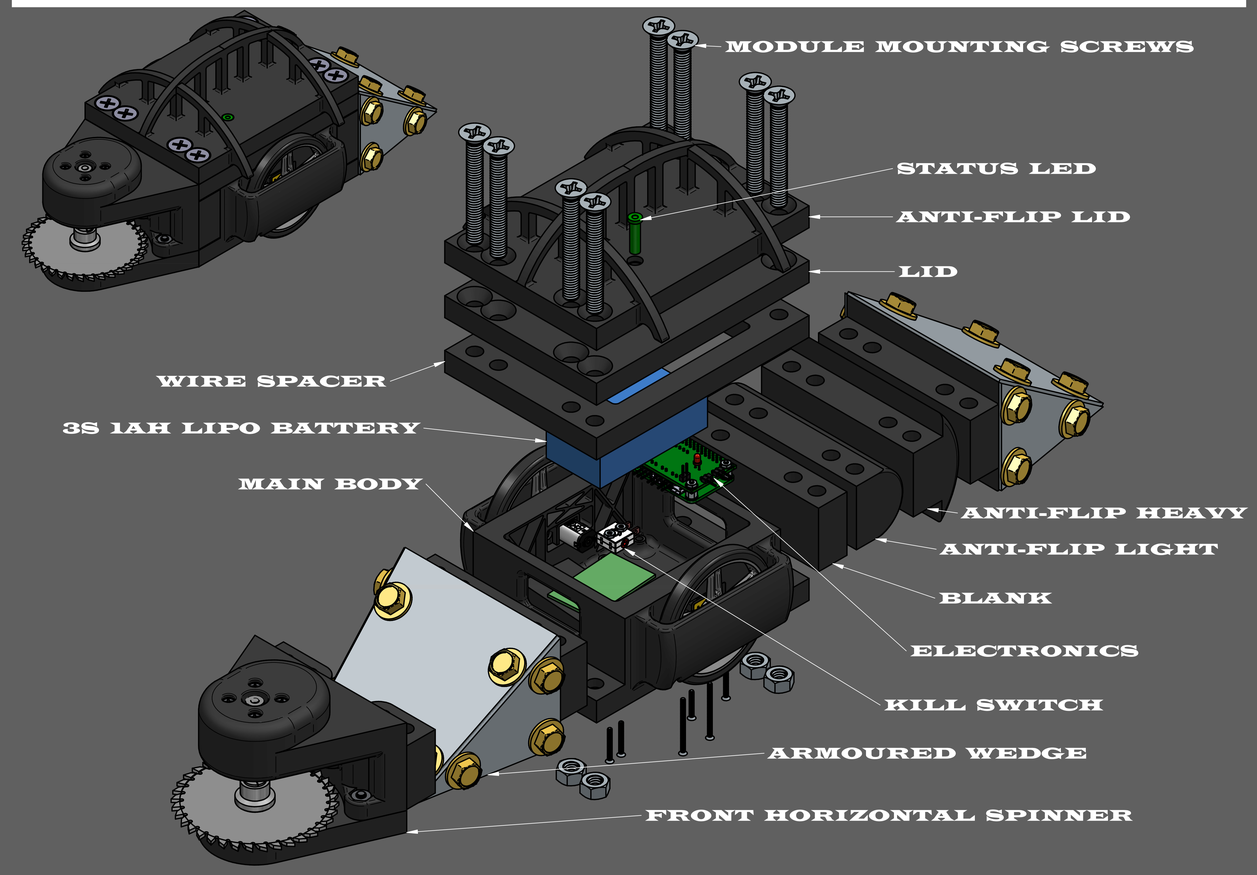
Pros & Cons

Pros

- Can pick the best modules for each fight
- Controls are very customizable
- New modules can always be designed
- PS4 controller makes controls intuitive
- Easy to repair mid match
- Battery charge lasts two full matches (6 mins total)

Cons

- Susceptible to horizontal spinners
- More modules means more expensive
- Relatively small wheel surface area = not as much pushing power compared to other beetleweight bots

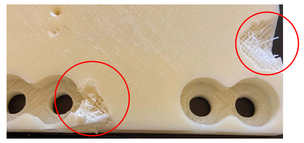


TESTING

MATERIAL STRENGTH TEST

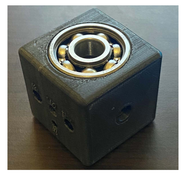
Using the UC Battlebots Club's 15 lb battlebot Jeff's titanium weapon, we tested how two different materials took a hit way out of their league

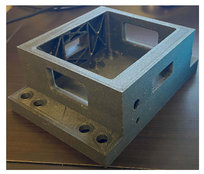
Glass infused nylon 20% gyroid infill

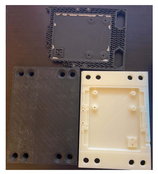


ABS 90% grid infill

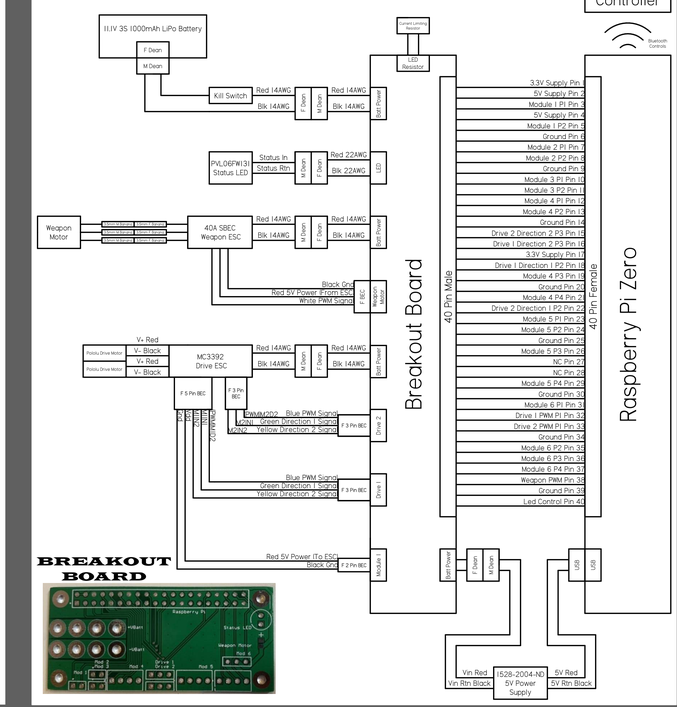
PROTOTYPES



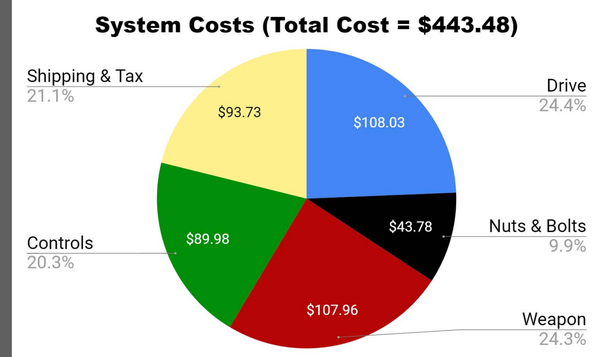


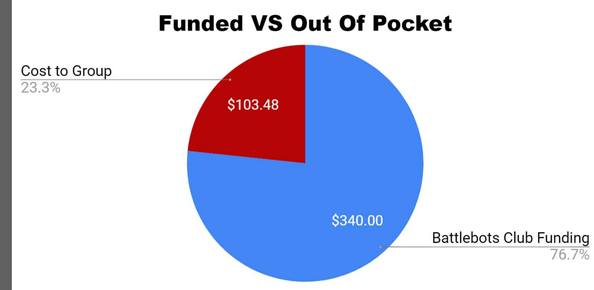


ELECTRONICS



BUDGET





CONTRIBUTIONS

Matt Maertz

- Bluetooth and drive code
- Breakout board design
- 3D printing parts
- Raspberry Pi tutoring

Chase Pownell

- Group leader
- Designed prototypes
- Poster designer
- Electrical transparent block diagram
- Solid Edge tutoring
- Designed main body, lid, anti-flip lid, blank, anti-flip light, anti-flip heavy, and wire spacer modules

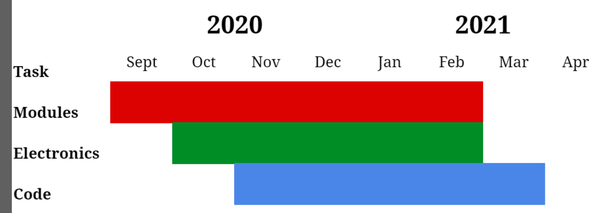
Josh May

- Weapon code
- Gantt chart
- Weekly task reports
- Designed armoured wedge and front horizontal spinner modules

Jared Willwerth

- Updating our design history file (DHF)

GANTT CHART



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