

Electronics

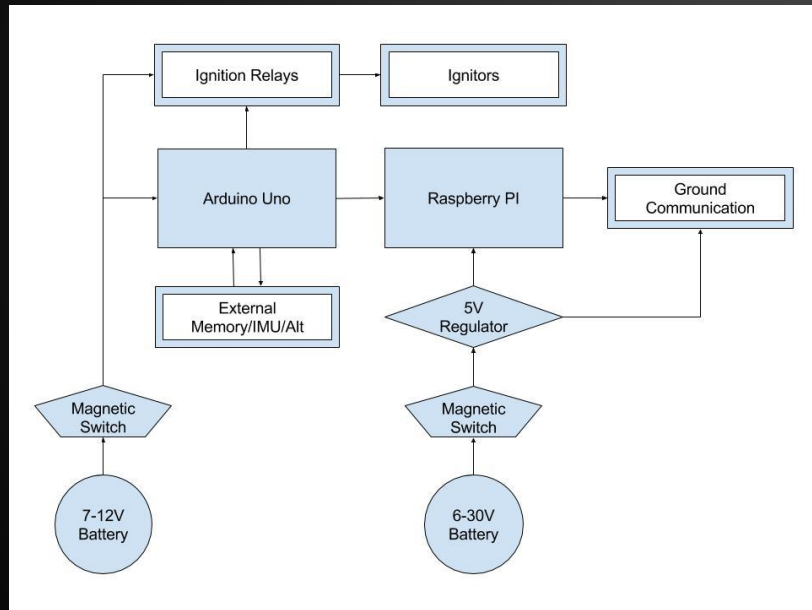
2016 IREC Brainstorm

Ideas for competition

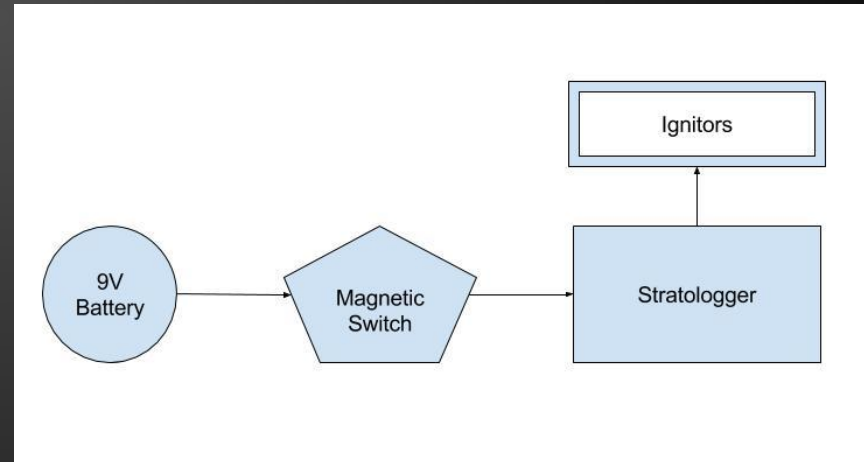
- Arduino Controlled Deployment And Data Acquisition With RPI Telemetry
 - Use of last years design as back-up/secondary
- Visual Feedback
 - Lights or display to confirm armed/disarmed circuits
- “Professional Looking” Design
 - Make the bay look good!
- Phone Controlled Rocket Ignition
 - Potential side-project
- Access Door For Bay
 - Ease of access on launch rail

Ejection Systems

Primary Safety Critical Circuit



Secondary Safety Critical Circuit



Required/Potential Parts

- Arduino Uno
 - Could buy a Micro to save space
- 1-2 RPI's
 - 1 required, 2 optional
- 22 Gauge Wiring
- GPS Unit
 - Recovery telemetry
- IMU
 - Gyros, accel, bar, etc..
- Soldering Equipment
- Magnetic Switches
 - Woووو!!!! Hall Effect FTW!
- Memory Units
 - Data acquisition with Arduino
- Wifi-Dongle
 - Ground communications
- USB Powered Hub
 - Communication power req.
- Batteries
 - 9V, Lipo
- Flexible Solar Cells
 - Last till sundown
- RPI Camera

Pending Questions

- Dimensions/Location of Electronics Bay?
 - How much space can we work with? (rocket diameter)
 - Must be located a certain distance away from the nose of the rocket.
- Can we mount external fixtures?
 - Solar cells, lights, etc...
 - Is an access door plausible?
- Ejection Event Type?
 - Black powder or CO₂?

Any Questions?