**Background**

Icarus ONE is truly the culmination of all the learning and work I’ve done with microcontrollers, circuit design, and programming over the last 4 years. A year and a half ago, I started my first high-altitude balloon project. I basically completed all that I had intended to accomplish, both hardware and software, but I wasn’t able to launch with the move of my Ph.D. laboratory from Houston, TX to Bloomington, IN at that time. Now, I couldn’t be happier that my first prototype now sits in a storage unit, as this second attempt revealed too many coding blunders and potential hardware problems to count, but hey…I’m self-taught, and that’s part of learning!

**Rationale**

**Overview**

**Hardware**

**Code**