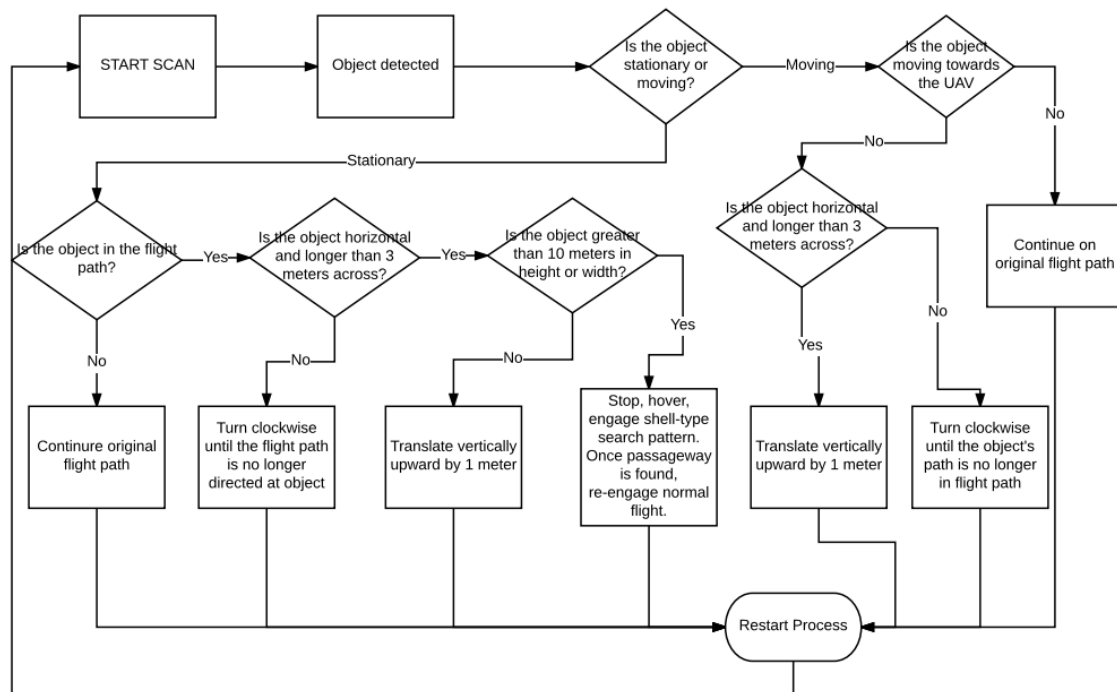
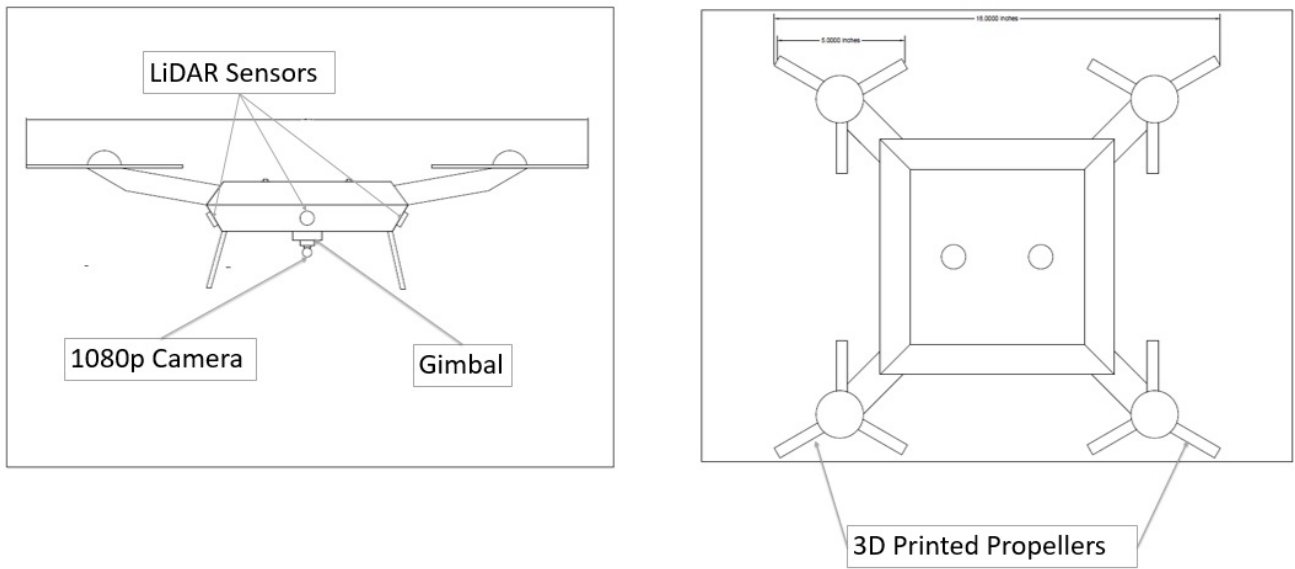


Student-Led Ideation Challenge: UAV “Sense and Avoid” Path B

Amaral, Greene, Steele, and St. Pierre

Abstract

The design and function of our UAV is the most important aspect to our success as a team. A major cause of UAV crashes is derived from human decision error. Humans are clumsy and often fly UAVs without any training, which ultimately leads to UAV crashes. In order to remove human factors from crashes, new systems must be implemented on the UAV to prevent humans from making senseless mistakes. The introduction of “sense and avoid” systems will decrease the number of UAV accidents. In order to eliminate human decision error, our design uses a combination of LiDAR and ultrasonic distance sensors to “sense” obstructive items in the UAV’s path. Through the Raspberry Pi, the decision algorithm (flowchart below) will determine the action taken in “avoiding” the obstructive items.



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