TECHNOLOGY FOR THE YOUNG · DBIT

2018-19
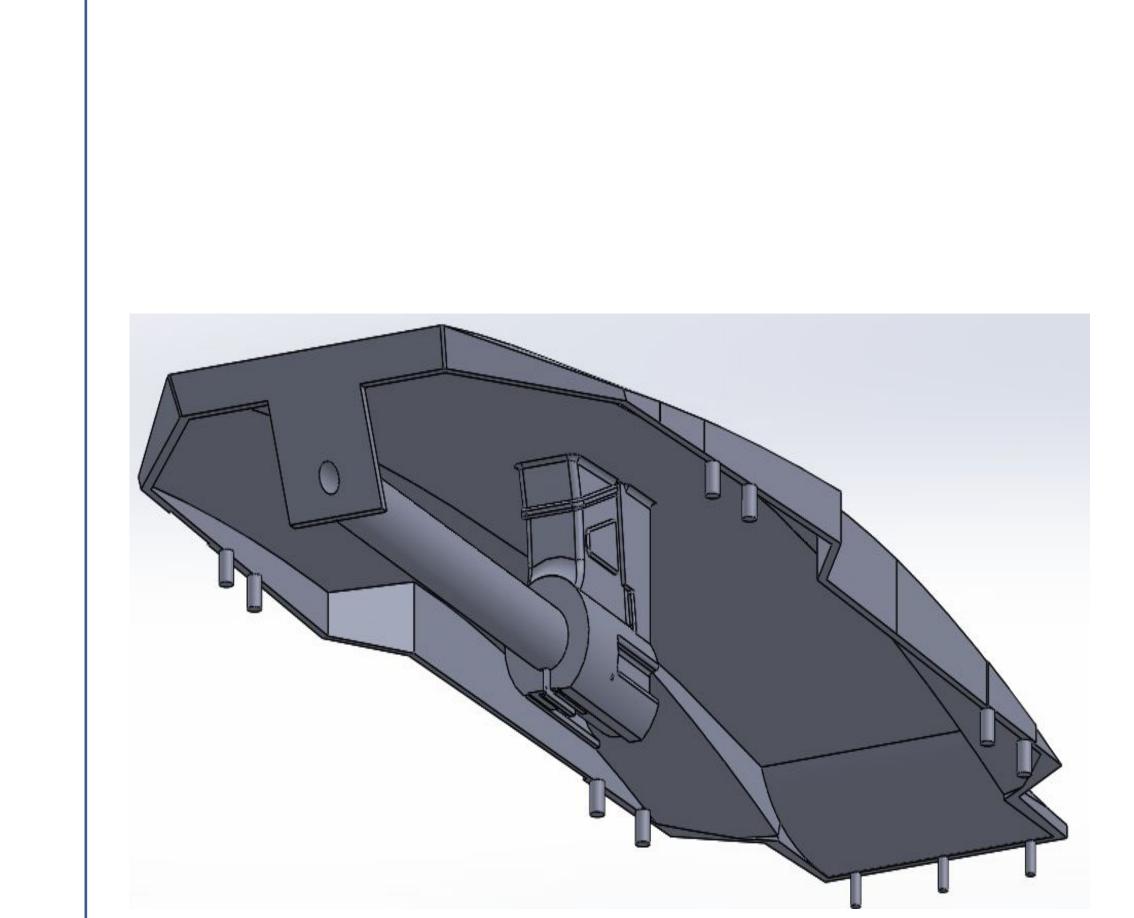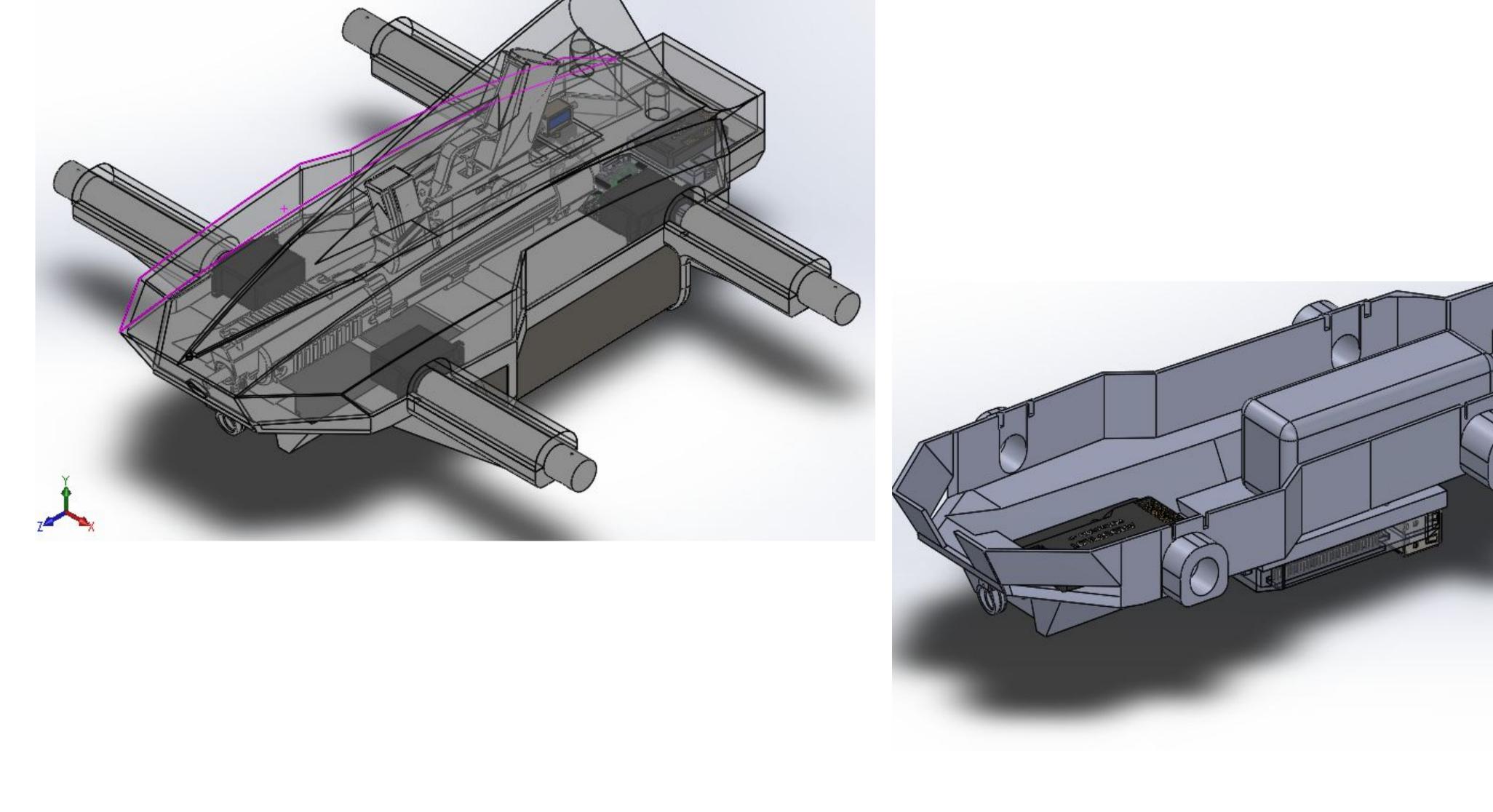
Gun recoil control system and application on UAV (Hoverdeck)
Rayan Lobo, Clive Lawrence, Mervin Lobo, Shraddhesh Kamal, Prof.Bajirao H Nangarepatil
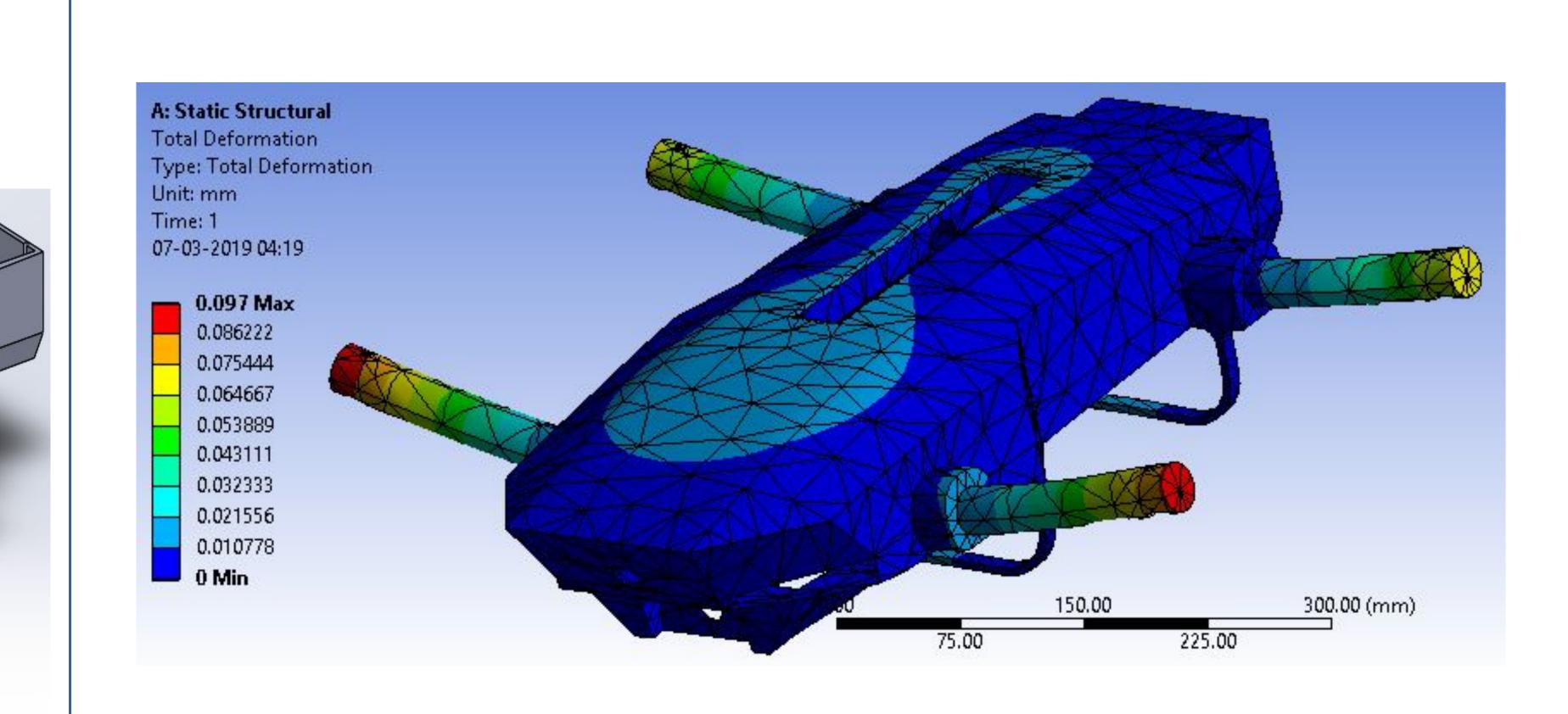## Department of Mechanical Engineering, Don Bosco Institute of Technology, Mumbai- 400070

Abstract

Architecture / Design Detail

Results

HD – 15 drone is a combination of an aircraft and a helicopter, that is equipped with a gun for elimination of undesirable situations, to be dealt with aerially. The recoil force of the gun selected is estimated to be of 2.6kN; this high magnitude force can have damaging effects on the drone body and the internal components, causing instability. The HD-15 drone has been designed in such a way, that it can handle and contain the recoil, as result of the firing of the gun, using a compressed air system.
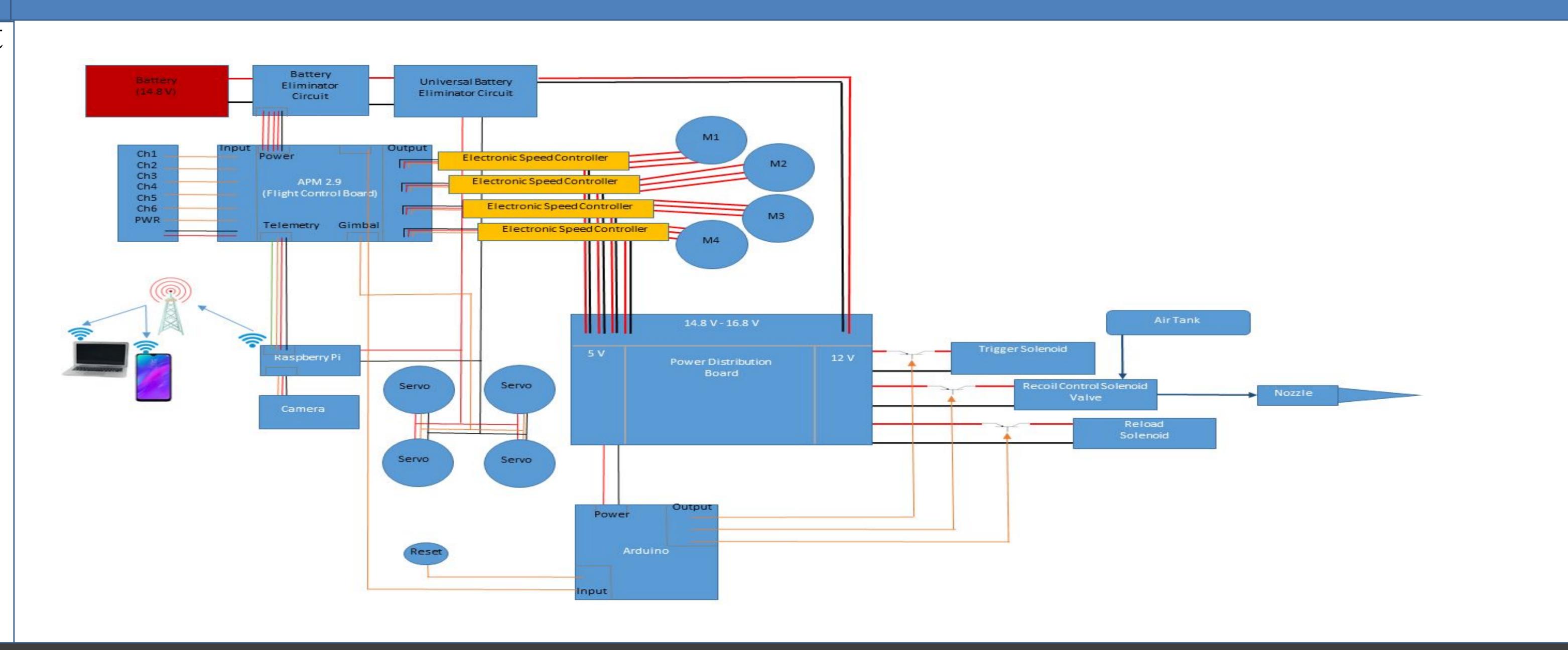
Background information

Methods/Algorithm/Pseudocode

References

Current UAVs such as the predator and the Fire scout have a very large wingspan which would not be suitable for urban environments. A new type of drone is needed to be designed so as to be suitable for use in the said environment. While reducing size, another problem arises, i.e. due to the drop in size and mass there isn't enough inertia to sustain the recoil force of a gun, without displacement. As a result, modifications to the drone and specially designed mountings for the drone need to be made to balance the recoil

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