

Drone Alone

A hexacopter drone with a high payload capacity capable of cleaning walls and windows which can be employed by buildings and organisations to clean inaccessible areas of buildings without the risk of safety due to manual labour.



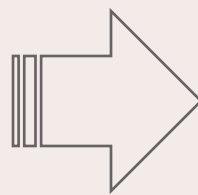
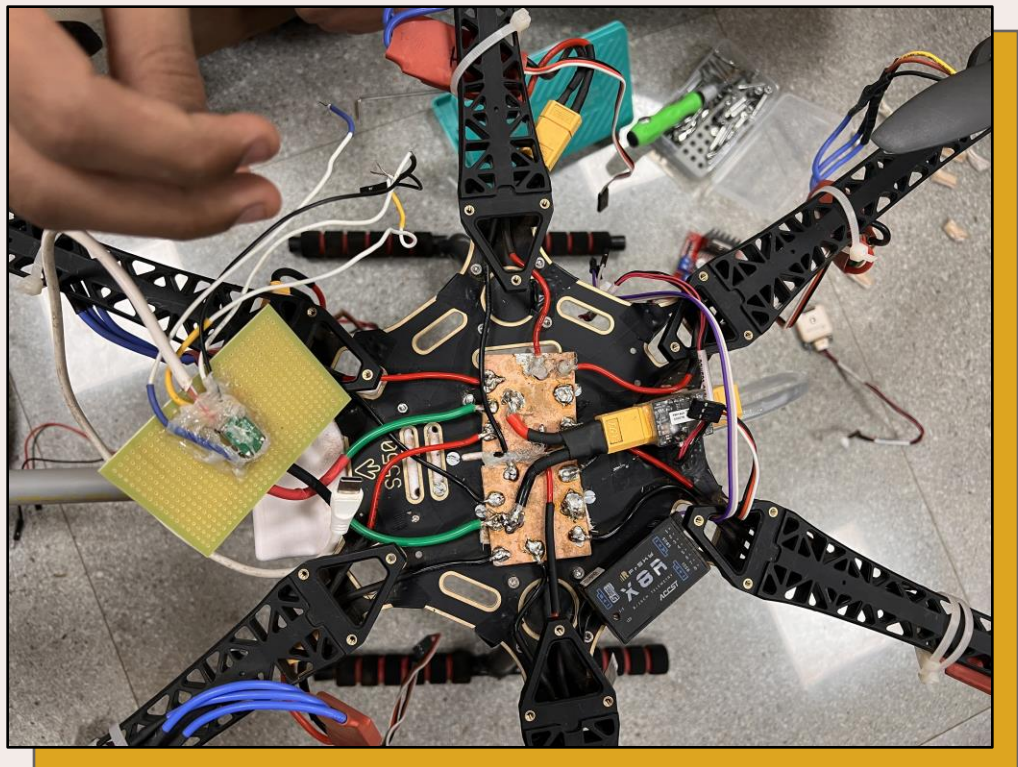
Status Report

Key Specs Proposed	Status	Remarks
2kg Payload Capacity	Complete	
Cleaning Mechanism – Spray Nozzle and Wiping Brush	Partially Complete	Wiping brush couldn't be done since it would result in imbalance in weight and result in an unstable vehicle
Operating Range – 100m	Complete	
FPV Navigation	Complete	
4hr Battery Life	Partially Complete	This would require a very high payload due to battery mass or a ground SMPS which would result in high power losses. Current Battery Life ~20 mins
Stable operation under windy conditions and efficient handling of recoil	Complete	

Mechanical Assembly

This shows the drone from various angles wherein the placement of the tank, the outlet pipe and the water pump can be seen clearly. The ESCs have been placed on the arms of the drone. No pipes or wires are left dangling to prevent entanglement with propellers.





This is the layout of the bottom plate of the drone where the main wiring of the drone, which distributes power to all components, is placed. The key focus is on modularity and ease of usage by adding connectors at almost all junctions. This makes it easy to change components without having to solder and desolder every time.

This shows the placements of all the components on the top plate of the drone. All the wires shown here fit inside the canopy and hence are safe from entanglement in the propellers. The PixHawk and GPS need to be placed in the centre of the drone for proper control and the battery is in the centre to prevent weight imbalance.

