Drone Security System

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Introduction

The drone security system would be a smaller handheld version that would be mounted on a commercial drone. The commercial drone platform can be quickly implemented and customized to handle an IR camera. The design would also have a beehive type home location that would automatically change the batteries as well as charge enough batteries to keep 3 different drones in the air at once.

Opportunity

The drone security system would be made primary for the military, law enforcement and border patrol. The system would be designed with those targeted customers in mind. The military would use the drone security system as a way to set security on smaller bases that do not have a set perimeter. The military, law enforcement and border patrol would use the IR camera to locate and track people by the heat signature they give off.

Figure 1. Nikola Motor Reckless

Design

The low cost of the DJI drone you can implement many different drones into the area. Another solution that can be implemented is to use many mini sensors that transmit motion and vibration diction back to the drone in each sector so the drone can fly over and get eyes on the suspect. The home docking station called The Hive will be able to recharge enough batteries for 6 different drones to be in the air at the same time. The Hive will also be able to automatically change the batteries with robotic arms.

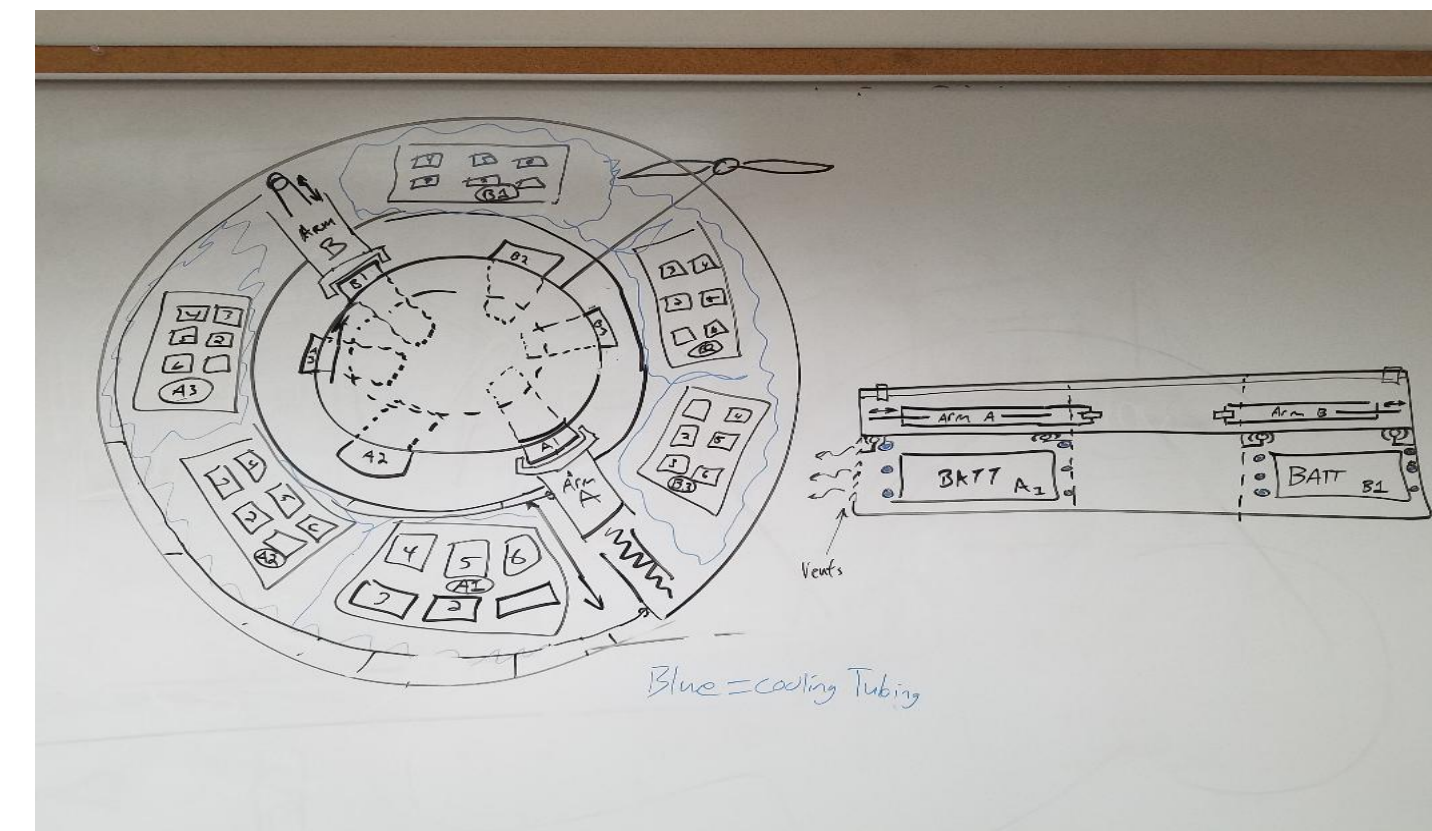Figure 2. DJI Matrice 600 Pro with Changeable Cameras

Figure 3. Beehive Design for Multiple Charging

Enabling Technologies

Existing enabling technologies is a large amount of my system already, it would just need to be implemented in a much larger scale for my idea. The drone platform is out on the market with a great company behind it and a low-cost budget for the drone. The IR camera is out and has been more or less perfected for the last decade. The mini sensor is out on the market through a different company, granted they would need to be tweaked quite a bit to fit my needs.

Social Impact

The value created by the drone security system can not be quantified. I say that from the standpoint of what is the value of a life. This system will be able to take troops out of the front line of combat. With the drone security system in place it will help remove the need of having personal roaming the grounds. As well as remove border patrol agents from having to roam blindly. Thus, taking away a huge amount of danger and uncertainty from what they do now.

Figure 4. IR Camera in White Hot Mode with People located in Red Box Tracking

References

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