Remote and Local Survelliance Drone

Aanchal Khanna[1], Aayush[2], Anup Pillai[3], Manish Giri[4]

B. E Student, Dept. of Computer Engineering, MIT Academy of Engineering, SavitribaiPhule Pune University Alandi, Pune, India[1,2,3]

Asst. Professor, Dept. of Computer Engineering, MIT Academy of Engineering, SavitribaiPhule Pune University Alandi, Pune, India[4]

ABSTRACT: Our efforts are based on full spectrum aerial surveillance drone. This drone can intercept many wireless technologies like cellular Wi-Fi, Bluetooth visual and audio. With the power of cloud more analysis on data can be done and mined. A surveillance aircraft is an aircraft used for surveillance-collecting information over time. They are operated by military forces and other government agencies in roles such as intelligence gathering battlefield surveillance, airspace surveillance, observation (e.g. artillery spotting), border patrol and fishery protection. This article concentrates on aircraft used in those roles, rather than for traffic monitoring, law enforcement and similar activities. A surveillance aircraft does not necessarily require high performance capability or stealth characteristics. It may be modified civilian aircraft moored balloons (e.g. TRAS) and Unmanned aerial vehicle (UAVs).

KEYWORDS:Full spectrum; aerial; surveillance; drone; battlefield, artillery spotting, law enforcement.

I. INTRODUCTION

A quad copter, also called a quadcoptor helicopter or quad copter is a multicolor helicopter that is lifted and propelled by four rotors. Quad copters are classified as rotorcraft, as opposed to fixed-wing aircraft, because their lift is generated by a set of rotors (vertically oriented propellers). Unlike most helicopters, quad copters use two sets of identical fixed pitched propellers; two clockwise (CW) and two counter-clockwise (CCW). These use variation of RPM to control lift and torque. Control of vehicle motion is achieved by altering the rotation rate of one or more rotor discs, thereby changing its torque load and thrust/lift characteristics.

Applications: - 1.Precised signal triangulation and monitoring
         2. Wireless parameter profiling
         3. Interception and recovery of data from foreign networks 4.Military and law enforcement

A quad copter is multi-rotor copter with four arms, each of which has a motor and a propeller at their ends. Quad copters are similar to helicopters in some ways, though their lift and thrust comes from four propellers, rather than just one. Also, helicopters have a pitch or tail rotor that helps stabilizes the craft, whereas quad copters do not. In a quad copter, two of the propellers spin in one direction (clockwise) and the other two spin the opposite direction (counterclockwise) and this enables the machine to hover in a stable formation. Quad copters are great fun for folks of all ages, from kids playing around to adults utilizing them for photography and video filming. Additionally, quad copters and multicolor have been utilized in disaster management and recovery efforts, police operations, military engagements, and agricultural applications. As technology has advanced and costs have come down, many industries are finding that quad copters can offer innovative solutions to their problems and help them reduce costs as well! One of the main companies pushing into the quad copter market is DJI with its Phantom line of quad copter. The Phantom is the Cadillac of consumer quad copters, offering video capability, GPS integration, insane control and smoothness, and ability to program waypoints and have the quad copter operate nearly autonomously. The Phantom models are serious pieces of technology with professional capabilities, but packaged into a very easily understandable and usable interface. Highly recommend it to anyone interested in doing amateur or professional aerial video work. The Phantom comes in various different options. Best Quad copter Reviews for All Skill Levels: Every quad copter pilot needs high-tech equipment and the best quad copter that works perfectly for their skill level. There are hundreds of different types of radio controlled helicopters such as quad, hex, tri and DIY quad copters so there is bound to be one that fits your skills perfectly. I myself started at the bottom flying beginner level copters. Since then I have worked my way up to advanced level copters, giving myself knowledge of the features and skill level necessary to fly a variety of quad

copters and radio controlled helicopters. Over my years of flying I have flown some of the most simply built quads to the most intricately designed allowing me to put together an in-depth compilation of the best quads for novice, intermediate, and professional fliers. Every quad copter has specific features that make it better suited for a beginner versus a professional or vice versa. After all the times I've crashed and burned, I can definitely put my two senses in on the quads that are more difficult to fly than others. Regardless of what skill level you're shopping for you will have much more knowledge when it comes to finding the best drone for you by reading our quad copter reviews. From mounts and gimbals, to DIY and RTF quad copters, we have it all

II. PROPESED ALGORITHM

A. *Design Considerations:*

- Mount the apparatus on a quad copter or any aerial commuter .
- Set the path of the flight
- Keeping track of previously used paths.
- Activate all the surveillance software defined radios .
- Log all the wireless traffic acquired by the software defined radios on the beaglebonememory .
- Transfer all the log files from the beaglebone to the base station for further analysis.
-

B. *Description of the Proposed Algorithm:*

Aim of the proposed algorithm is to intercept all the wireless traffic among all the wireless communication technologies in India.

Step 1: Calculating Flight Path :
To calculate the flight path a line rastorzational algorithm is used .

Step 2: Selection Criteria:
The target is selected by the user over the Linux shell of the beagle bone.

Step 3: Interception Equipment
As a design is modular so the equipment can be switched on the go .

PROJECT IDEA

A surveillance aircraft is an aircraft used for surveillance-collecting information over time. With the power of cloud more analysis on data can be done and mined. They are operated by military forces and other government agencies in roles such as intelligence gathering battlefield surveillance, airspace surveillance, observation others. (e.g. artillery spotting),border patrol and fishery protect- tion.Theapplicationsofthesekindsofequipmentsarelimitedtoarmedforces only but we have applied it for civilian purposes such as perimeter protection, wireless infrastructure.

III. SIMULATION RESULTS

The simulation studies involve a small deterministic network which comprises of 3 wifi access points 12 wireless clients which access the network resources over an encrypted channel (wpa2) . The apparatus is stationed towards the network which enables the incoming and outgoing traffic from   and towards the network ,one of the clients is smuggling the data and network resources from the network and other clients via many network based attacks and zero day attacks . The presences of the apparatus enables us to monitor the entire transmission from within and outside the network and hence the data smuggling is checked.
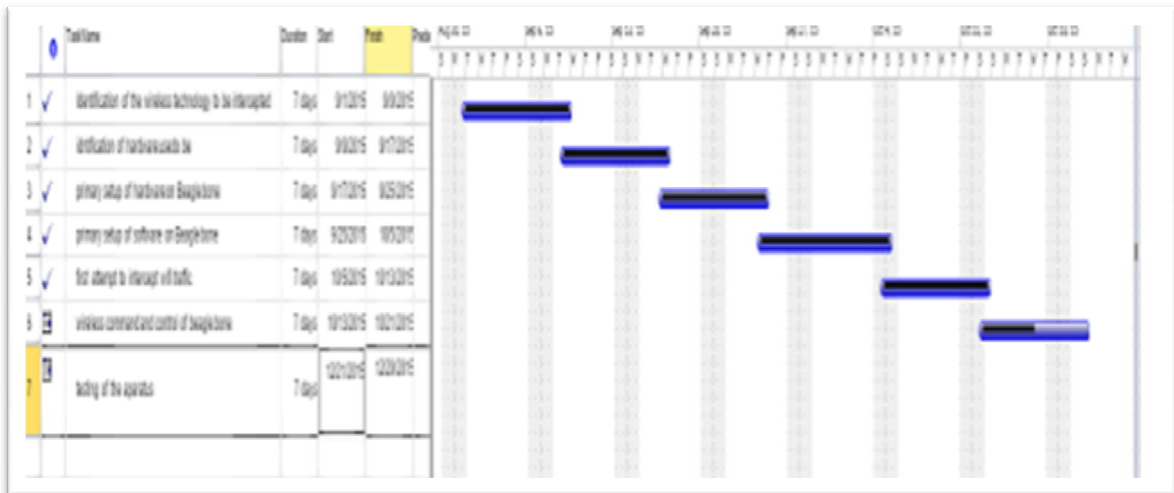
IV. CONCLUSION AND FUTURE WORK

The drone capable for full spectrum remote and local surveillance. The drone can interceptmanywirelesstechnologieslikecellularWi-Fi,Bluetoothvisualandaudio. With the power of cloud more analysis on data can be done andmined.

Our efforts are for full spectrum Arial surveillance drone.ThisdronecaninterceptmanywirelesstechnologieslikecellularWi-Fi,Blue- tooth, visual andaudio.With the power of cloud more analysis on data can be done and mined.

Asurveillanceaircraftisanaircraftusedforsurveillance-collectinginformation overtime.They are operated by military forces and other government agencies in roles such as intelligence gathering battlefield surveillance, airspace surveillance, observation (e.g. artillery spotting),border patrol and fishery protection.

REFERENCES

[1]A. A. Siddharth S. Rautaray, *Real time hand gesture recognition System for dy- namic applications*. 2012.
[2]R. A.-Z. ManarMaraqa, *Recognition of Arabic Sign Language (ArSL) Using Recurrent Neural Networks*. IEEE First International Conference on the Appli- cations of Digital Information and Web Technologies, ICADIWT, 2008.
[3]P. K. B. Shweta K. Yewale, *Artificial Neural Network Approach For Hand Ges- ture Recognition*.
[4]McKinsey, "Big data: The next frontier for innovation, competition, and pro- ductivity," tech. rep.
[5] "Digital competition:http://www.mckinsey.com/insights."
[6]"Government website to support entrepre- naurs:http://msme.gov.in/mob/home.aspx."

BIOGRAPHY

MISS AANCHAL KHANNA pursuing her BE Graduation degree from MIT-AOE,Pune University, India in 2016.
Master ANUP PILLAI pursuing his BE Graduation degree from MIT-AOE,Pune University, India in 2016.
Master AAYUSH pursuing his BE Graduation degree from MIT-AOE,Pune University, India in 2016.