# Initial Plan – Drone Forensics Investigation

Author: Peter Snook

Supervisor: Shancang Li

Module: CM3203 – One Semester Individual Project

Credits Available: 40

# Project Description

This project will involve researching and investigating various makes and models of drones to extract as much information that can be found on the devices. Drones are becoming more accessible to the general public and their capabilities are improving which creates a need for resources on how to extract import information that could ultimately be used in a forensic investigation.

Drones contain a range of components where evidence can be obtained which includes cameras, GPS, connected devices (mobile phone and controllers). These are the main components I will be investigating.

I will have access to various mirror images taken from drones which can be used for the investigation. Real drones which I could examine and extract an image of would be best case scenario. They are not provided for this project, but I will attempt to obtain one in which I can experiment with.

# Project Aims and Objectives

Given a mirror image taken from a drone, I will attempt to extract the following:

## GPS

* Initial location
* Final location
* Path taken
* Altitude

## Sensors Data (Camera)

* Image description
* Make and model
* Creation date / time
* Location of drone when picture is taken

## Connected Devices

* What and how the devices connected to the drone
* Any data that might be sent from the drone

With the data collected a timeline can be created which describes each step of the drone’s flight.

# Work Plan

## Week 2 – 3

### To-do:

* Explore existing research in this field
* Note issues / problems that others have encountered
* Obtain a range of materials that can be helpful towards investigation

## Week 4

### To-do:

* Meet with supervisor to discuss materials found and initial approach
* Investigate the images provided, not focused on obtaining evidence items, simply to view and make sense of what is on the image

### Milestone:

* Have a better understanding of how data is organized on the drone image

## Week 5 – 6

### To-do:

* Extract evidence items (GPS, sensor, and connectivity data) and put into a clear format that can be used for an investigation
* Meet with supervisor in week 5 if problems occur, otherwise discuss the extracted data in week 6

### Milestone:

* Extract all or most of the data described in aims and objectives
* Format all the data into a clear

## Week 7 – 8 (Optional)

If the extraction and formatting take longer than expected use these weeks.

If the extraction is done by week 6:

* Write a program to help extract and format the data (If extraction is too complicated focus on the formatting)
* Meet with supervisor to demonstrate progress

## Week 9 – 10

* Explore other areas of drone forensics:
  + Mapping GPS coordinates onto a map
  + Other data items that can be found

## Week 11 – 12

* Write up report