REAL-TIME MONITORING WILDLIFE USING AUTOPILOT
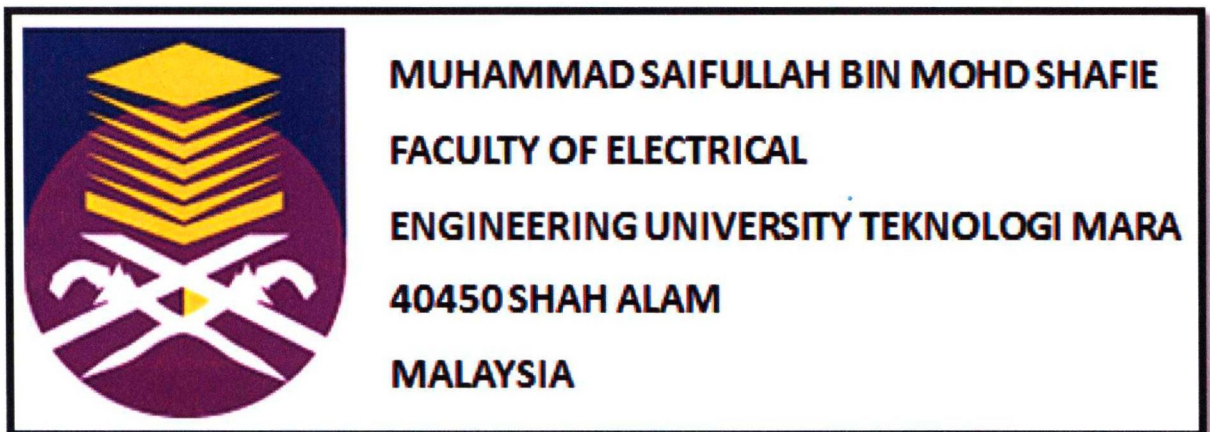
QUADCOPTER WITH WI-FI FACILTY

(AUTOPILOT QUADCOPTER)

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ABSTRACT

From the THE STAR newspaper 14th April 2015, at least five of Malaysia's mammal species, including the dugong and the Malayan tiger are now facing extinction [1]. This is due to many causes like human activities such as logging, over-development and poaching [1]. In Malaysia, there are no advance systems or method that can monitor the wildlife more efficient and effectively. The problem of current methods like survey on footprint and direct observation, there are no technologies on wildlife monitoring system that can visually monitor during real-time on illegal activities in remote locations [3]. On top of that, the information need to be informed quickly when illegal incidents occurred in the forest so that the relevant authorities can be assigned to stop the illegal activity. This project is a real-time monitoring wildlife which uses an autopilot quadcopter and provides WIFI facility for the forest rangers or to the jungle trekkers. The design implementation that are carried out is by applying Monitoring tools using high definition camera with WIFI supported and night vision capable and Global Positioning System(GPS). The system is capable to improve the monitoring work in the jungle and also improves care control on wildlife effectively.

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CHAPTER 1

INTRODUCTION

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UAV is an aircraft with no pilot on board. UAV's can be remote controlled aircraft or can be controlled autonomously based on pre-programmed flight plans. This project use quadcopter for the type of UAV. The Quadcopter is one of the most complex flying machines. It is equipped with a four brushless motor of equal size at the of four equal length rods. [6] There are many sensors that need to include in one quadcopter. One of them is sensor that provides information such as relative position like a height, velocity and orientation sensor. [5] These recent technological developments in microprocessor have made possible the complex dynamical control system necessary to balance a quadcopter. [5] An example picture of a quadcopter outfitted with features is shown in figure 1.1.