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MECHATRONICS ENGINEERING PROJECTS

Theory and Applications

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Editors

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1. DEVELOPMENT AND CONTROL OF UNMANNED AERIAL VEHICLE (UAV)

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ABSTRACT

Today, the unmanned aerial vehicle (UAV) has been found very useful in many applications, from defense, down to agricultural sector. However, the UAV is usually very expensive and not accessible for public. This chapter describes a UAV designed to accomplish specific objectives at a lower cost to make it affordable for personal use for research and farming purposes. The UAV is able to fly based on the command signal to the designated location coordinate and able to report back to ground station its current position; longitude and latitude as well as altitude from the embedded global positioning system (GPS) unit. In addition, the UAV has the ability to capture video through wireless camera and send the image data to the ground station for real time streaming. It would communicate the information to the ground control for analysis. The project also discusses the proposed experimental and testing methods for the performance analysis of the design. It could be observed that this project was a success as all of the objectives were met. In addition, this project obtained 2 bronze medals from prestigious events; IRIIE 2010 and MTE 2010.

Keywords: Unmanned aerial vehicle, global positioning system, surveillance