



## COLLEGE OF ENGINEERING & TECHNOLOGY

Department: Electronics and Communications Engineering, Cairo

### Graduation Project Description Form

Project Supervisor(s): Dr Sherif Fadel , Dr Hanady Hussien

Project Title: Design and implementation of the control unit of prototype Unmanned Aerial Vehicle

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Duration from 9/2013 \_\_\_till 7/2014 \_\_\_\_\_

#### Product Category

Algorithm\_\_\_ Hardware✓\_\_\_ Software✓\_\_\_

#### Standards:

Safety: UL, CE\_\_\_\_\_ IEEE ✓\_\_\_ FCC\_\_\_

Other \_\_\_\_\_

#### Practical Realization Form

PCB \_\_\_\_\_ Firmware\_\_\_ Embedded CPU Kit (ARM, ..etc): ✓\_\_\_\_\_

PC Software ✓\_\_\_ Ready-made Package\_\_\_ DSP Kit\_\_\_ FPGA Kit\_

VLSI Schematics \_\_\_ VLSI Layout \_\_\_ VLSI Silicon (ASIC)\_\_\_\_\_



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#### Language

VHDL/Verilog      Matlab      ✓      C/C++/Java      ✓ \_\_\_\_

#### Productization

Finished Product Form: \_\_\_\_      Possible Commercialization      \_\_\_\_

Amount of funds needed for buying components:      \_\_\_\_

IEEE GOLD Made-In-Egypt/Engineering Day:      \_

ITAC (ITIDA) or NTRA Funding Application:      \_

#### Testing

Functional\_\_✓      Simulation✓\_\_\_\_      Parameters\_\_      Final Hardware✓\_Other:

#### Lab Test Setup

EMC      \_\_\_\_      Environmental\_\_\_\_      Microwave      \_\_\_\_      Analog Lab\_\_\_\_  
Other:

CAD Tools *(No unauthentic software is allowed)*:



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Elective Classes Required:



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#### Abstract

The control system of aerial vehicle consists of two segments: onboard control system and operator's control station situated on the ground. It was assumed that the segments communicate with each other by means of radio transmission. The onboard system is responsible for control and sending information to the operator's control station

Onboard control system consists of camera for tracking, receiver to receive the control signal to move the plane. Control station connects to computer to display the data, it consists of transceiver to receive data from plane and transmit the control signal. It could be used in the fields of Artificial intelligence and Military Applications.

The aim of this project is to design and implement the whole system. The system suppose to implemented on a embedded system.



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References and Links