

# Étude et réalisation d'un système embarqué pour le Contrôle et l'aide à la navigation d'un quadri-rotors.

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**Abstract:** This work consists firstly in the realization of an autopilot board for Quad-rotor based on the ARDUINO MEGA development board. The latter must be able to acquire and process information from sensors: MPU6050 (The accelerometer, the gyroscope, the magnetometer) and the GPS sensors in real time to command and control the Quad-rotor. The results obtained by the sensors must be displayed on a graphical interface representing the ground station. The second part is to realize and embark of a navigation aid system based on ultrasonic sensors.

**Keywords :** Quad-rotor, autopilot, Arduino MEGA, GPS, MPU6050, ground station, real time, Ultrasound