THE SKY IS THE LIMIT
WHAT YOU GET

» Drone Kit

» 3S LiPo

» ESP32-CAM DevModule

» DWM1001

» Additional useful resources
WHAT YOU HAVE TO DO

» Build up the drone from the hardware given; connect CC3D flight controller, ESP32-Cam and DWM1001 Development Board

» Make the drone controllable over webinterface: create webserver and see if drone responds to inputs

» Get the drone to fly stable and hold altitude

» Let drone fly autonomously to one DWM1001 DEV Anchor point

» Scanning of QR Codes in order to receive the coordinates of the next QR Code
WiFi connection with webserver

Communication with DWM1001 Tag to get position of the drone

Goal: Drone is controllable over webinterface and can fly autonomously by scanning QR Codes to know the position of the next QR Code
THE JURY EXPECTS YOU TO:

» Apply the principles of good engineering design, in particular design features that should serve a real function and be part of an overall design strategy.

» Include all key HW elements received

» ESP32-CAM.has to be the central controller of your drone

» Pay proper attention to wireless data security.

» Design for efficient use of available battery power
HOW WILL THE JURY ASSESS YOUR WORK?

» A design brief by 10:00am Tuesday and a final summary document by 8:00am Friday. PDFs on paper and by email.

» Jury visit of about 15 minutes to your lab on Wednesday to view work – in-progress

» Final test and public demonstration on Friday morning
» Flight zone delimited by 4 DWM1001 configured as Anchors.
   » Needed interfaces will be available in the training flight zone.

» Get the drone flying in the flight zone to collect the QR Code information for next check point.
   » 4 QR-codes in total
   » QR-codes contains ASCII characters

» Fly the drone through all check-points and log the flight data into web server/app.

» During the drone flight live monitoring of the flight information shall be available on the webservice or app.
JURY

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