

# DroneRelay:

Aerial Drone Platform  
with relays for scenarios of  
limitation and emergency

Project in informatics engineering  
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- Prof. Miguel Luís
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## Group 8:

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# Context

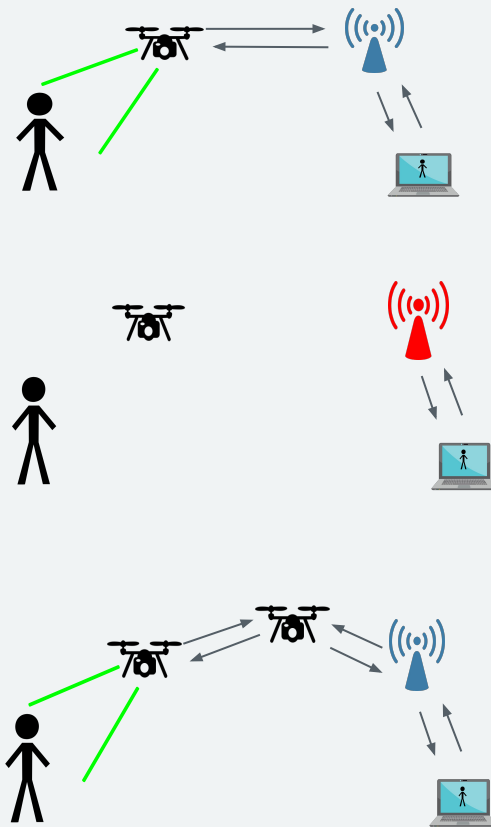
- Many investigation projects have been developed due to the importance of UAVs in Surveillance and monitoring tasks.
- This project is going to be developed with the foundation of a mission planning project.

# Problem

- Relay drone positioning in existing missions is static and based on distance which is inefficient.
- Need to dynamically adapt the quality of the communication between drones based on system conditions.

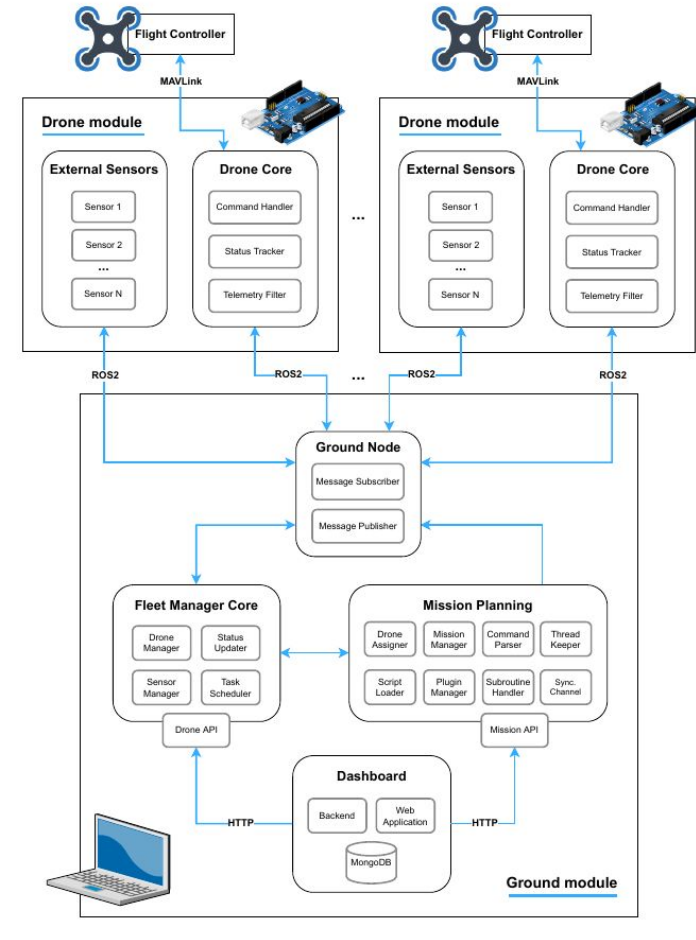
# Goals

- Relay drone adopts an optimal position through some parameters like network, video quality etc. This position is dynamically updated
- Dynamically adapt telemetry frequency, transmission ratio and video quality according to the current communication quality



# Architecture

- Ground module responsible for controlling and receiving data from drones.
- Drone module that receives data from the base station, and controls the flight controller.



# Tasks

1

## Analysis and Planning

- Analysis on previous project implementation
- Study Technologies



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2

## Network Monitorization

- Development of a network monitoring sensor.
- Network statistics analysis



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3

## Relay And Video System

- Improve drone relay
- Automatically adapt frequency and quantity of telemetry, sensors and video quality information



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João, Diogo**

# Tasks

4

## Dashboard Implementation

- Dashboard for drone control, mission planning and displaying live camera feed.



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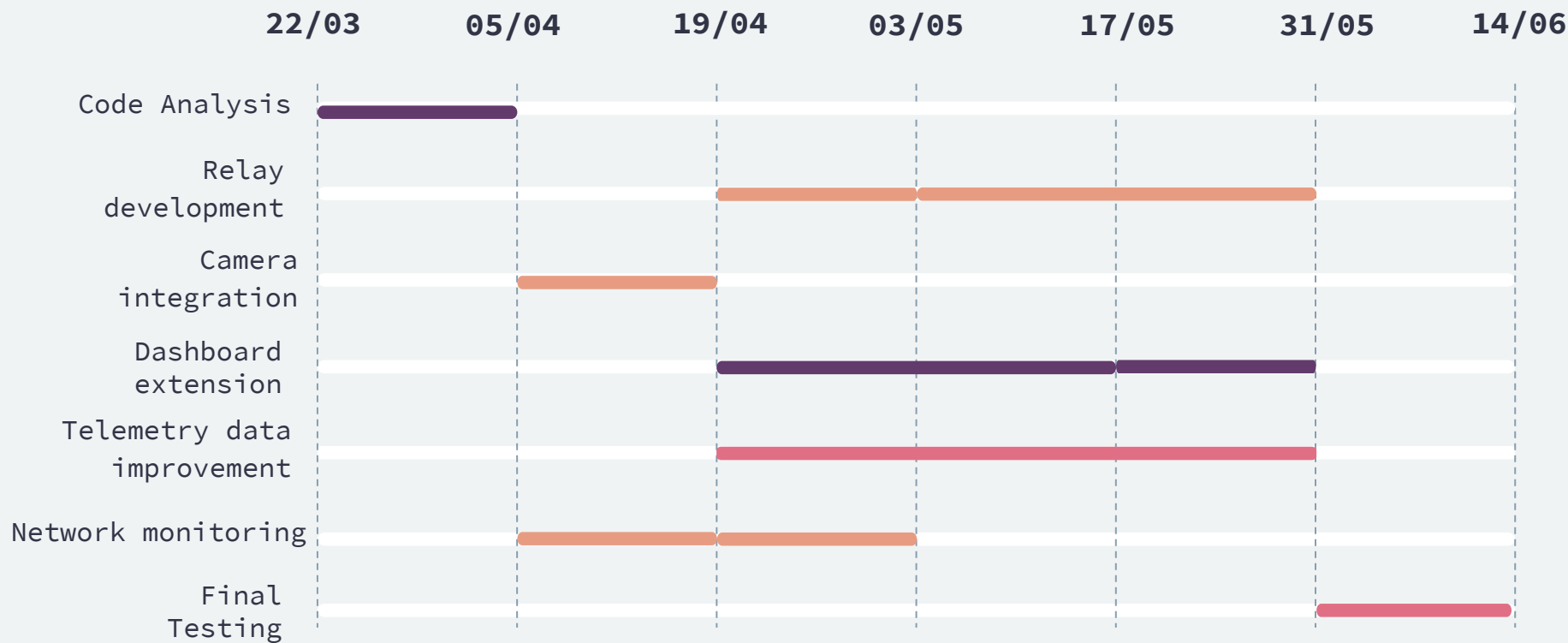
## Field Testing

- Live testing of relay and video transmission via dashboard
- Live mission with all working components



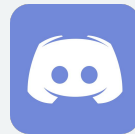
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# Project schedule

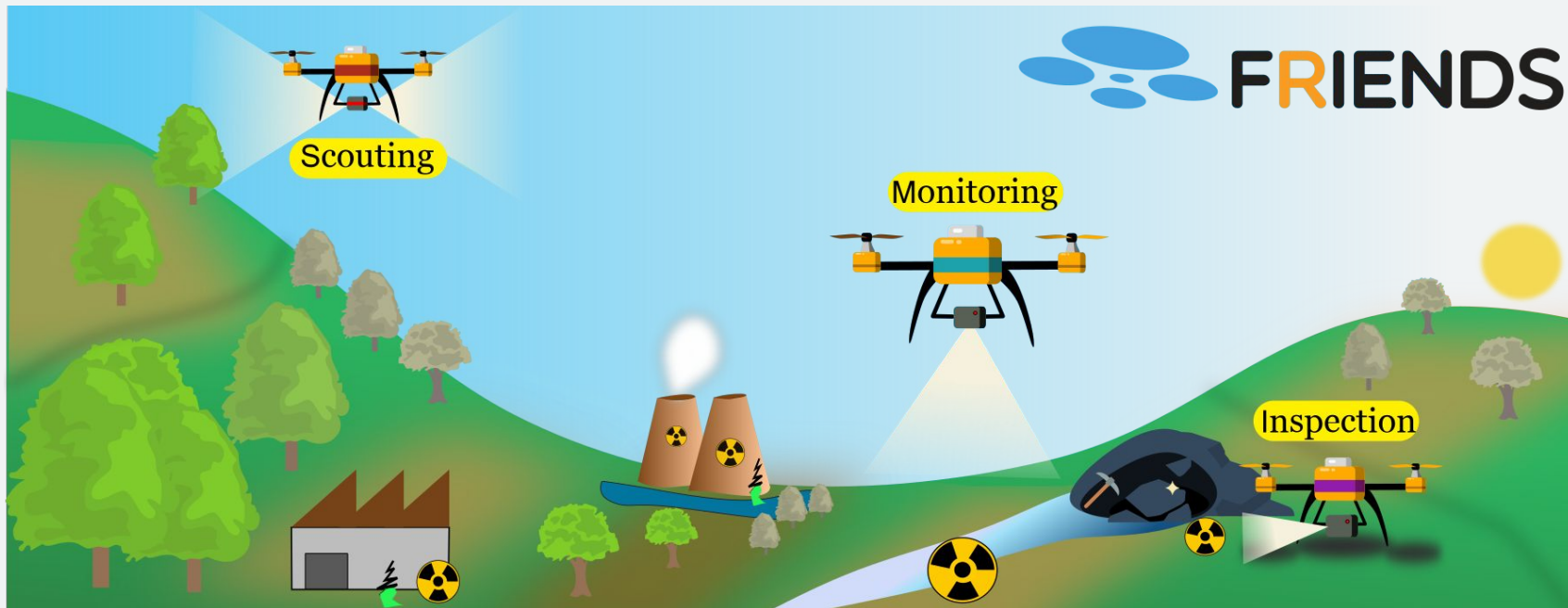




# Communication tools



# Related work



Projeto FRIENDS: <https://www.ipfn.tecnico.ulisboa.pt/FRIENDS>

# Thanks!

Do you have any questions?

Micro site github  
Micro site

