

# Collaborative System Coordination Design for Urban Crisis: Resolution Using Multi-Agent Technology

Team 05

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# Introduction

- **Objective:** Design the cooperation and coordination mechanisms that will be used to solve the emergency response for fire-related emergencies in Lloret de Mar, Girona.
- **Teams Involved:**
  - Emergency Services
  - Firefighters
  - Medical Services
  - Public Communications
  - *Forensics*
- **Overview:**
  - For each crew: process definition and Pydantic outputs.
  - Agent interactions: flows and routers.

# Emergency Services

## Task 1: Receive and Assess Call

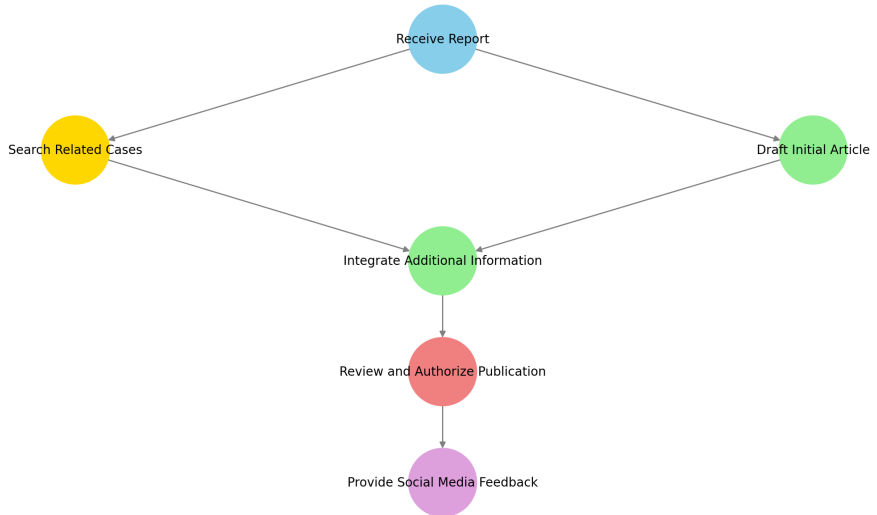
- What type of fire is it?
- Where is it?
- Is anyone injured? How badly?
- How severe is the fire?
- Are there hazards?
- Is it an indoor or outdoor fire?
- Is anyone inside or trapped?

## Task 2: Notify Other Crews Decision

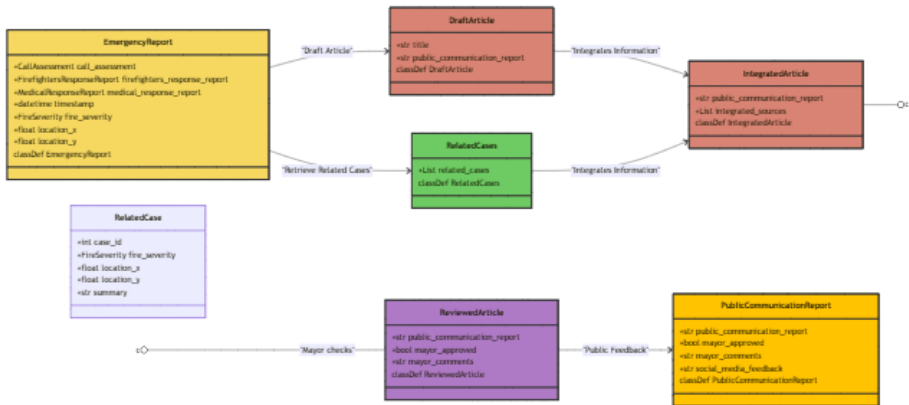
- Receive the details about the emergency situation
- Decide whether the medical services are required or not

# Public Communications Process

Sequential Process Flow with Agent Responsibility



# Public Communications Outputs



# References

- Wooldridge, Michael. An Introduction to MultiAgent Systems. 2nd ed., John Wiley & Sons, 2009. ISBN 978-0-470-51946-2.
- Wooldridge, Michael. "Properties of Intelligent Autonomous Agents." YouTube, 26 Feb. 2010,  
[https://www.youtube.com/watch?v=vID-\\_uIfAvg](https://www.youtube.com/watch?v=vID-_uIfAvg).