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Scenarios for Trust Management in Swarm Robotics

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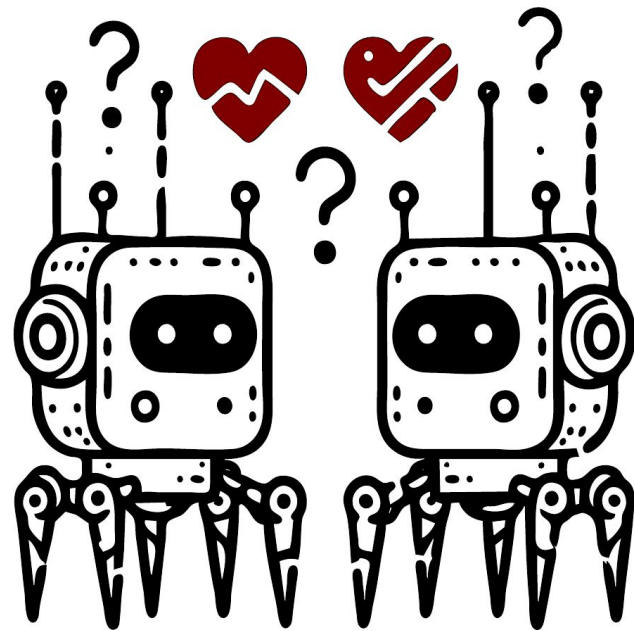
Trust in Intelligent Ecosystems

- Sociology definition of trust:

Subjective probability that another party will perform an action that will not hurt my interest under uncertainty or ignorance.

- Characteristics of trust:

- Subjective
- Asymmetric
- Transitive



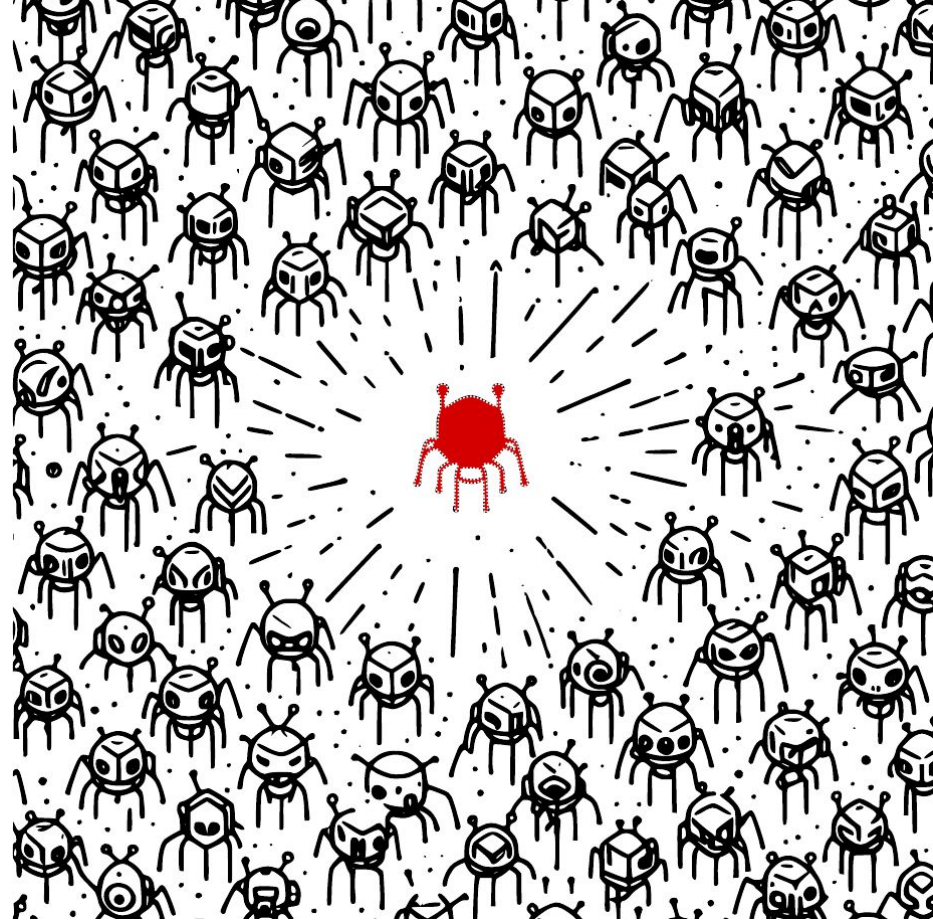
Swarm Robotics

- Large amount of simple robots
- Inspired by nature
(insect societies)
- Decentralized coordination



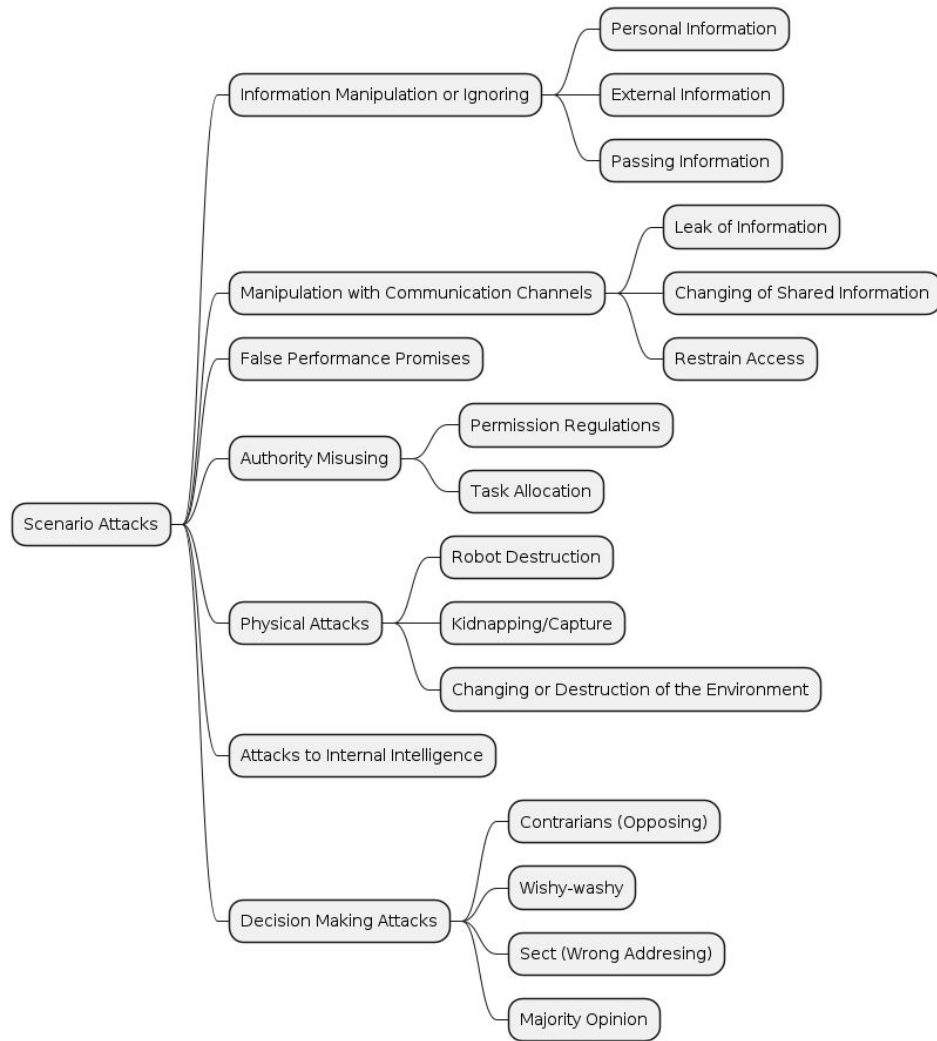
Why and How?

- Undetected malicious member of the society can destroy the mission
- To propose usable solutions we need to detect possible threats

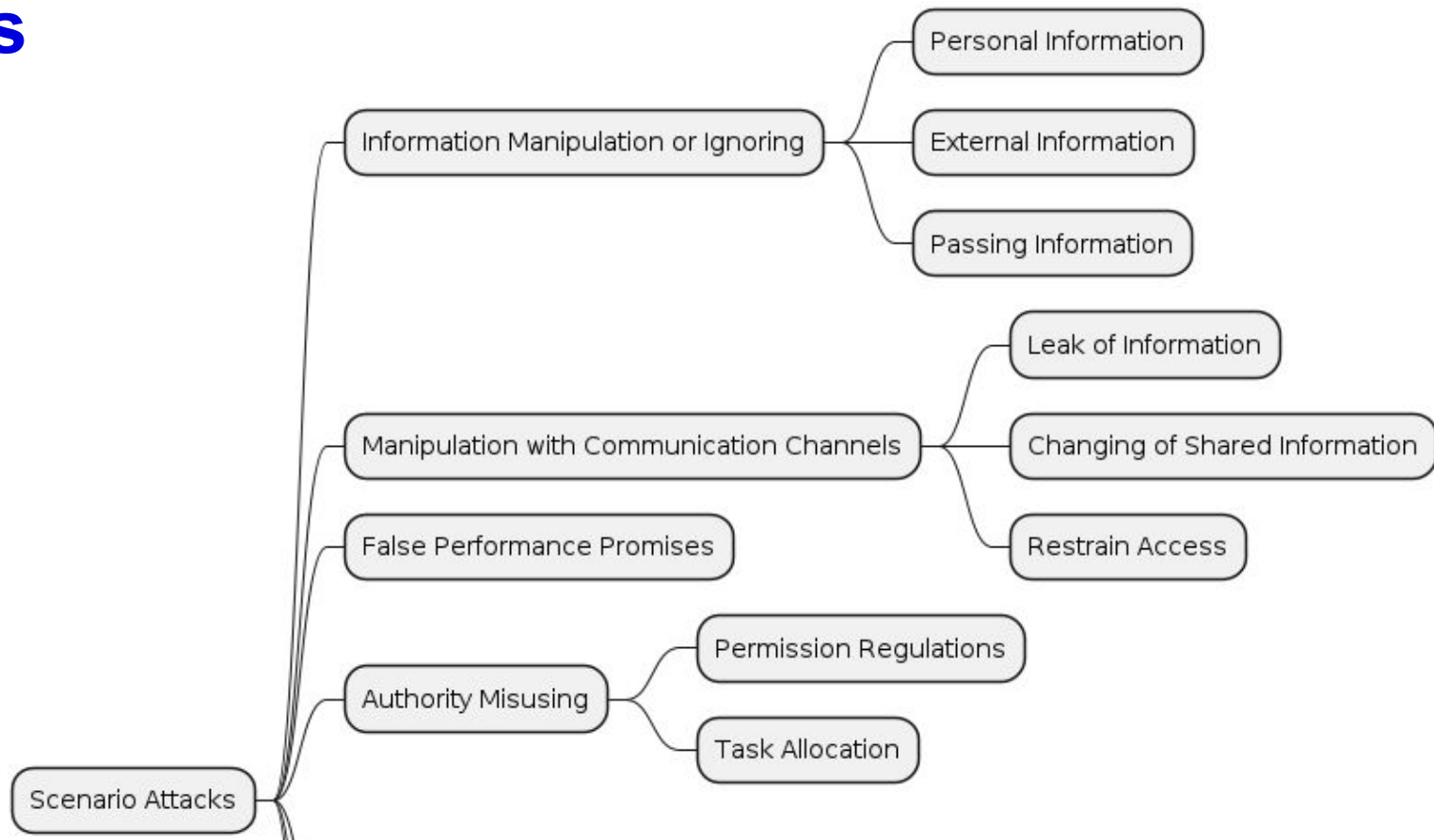


Scenarios & Attacks

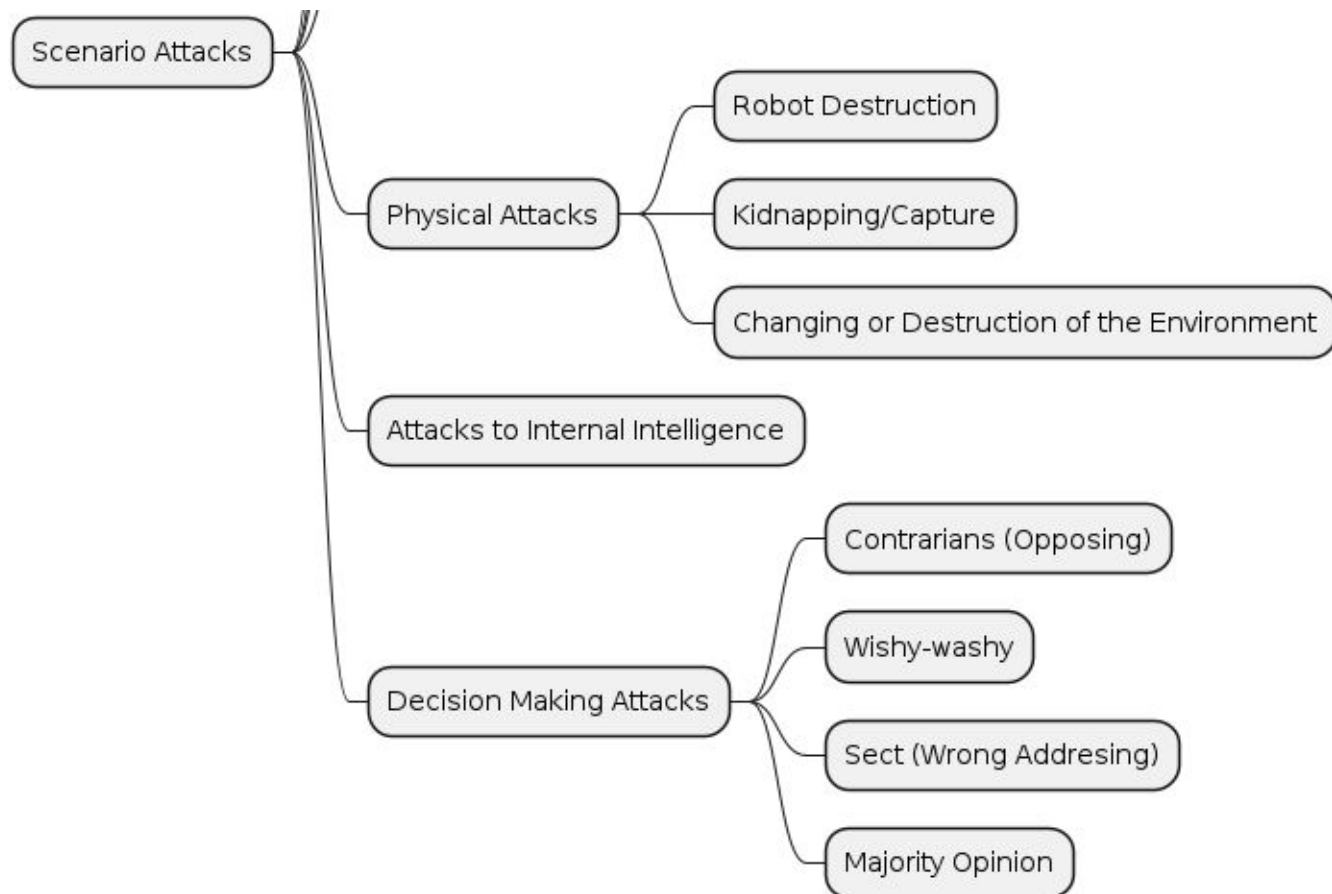
- we collected possible scenarios of swarm robot missions
- our proposition of attacks taxonomy →



Attacks

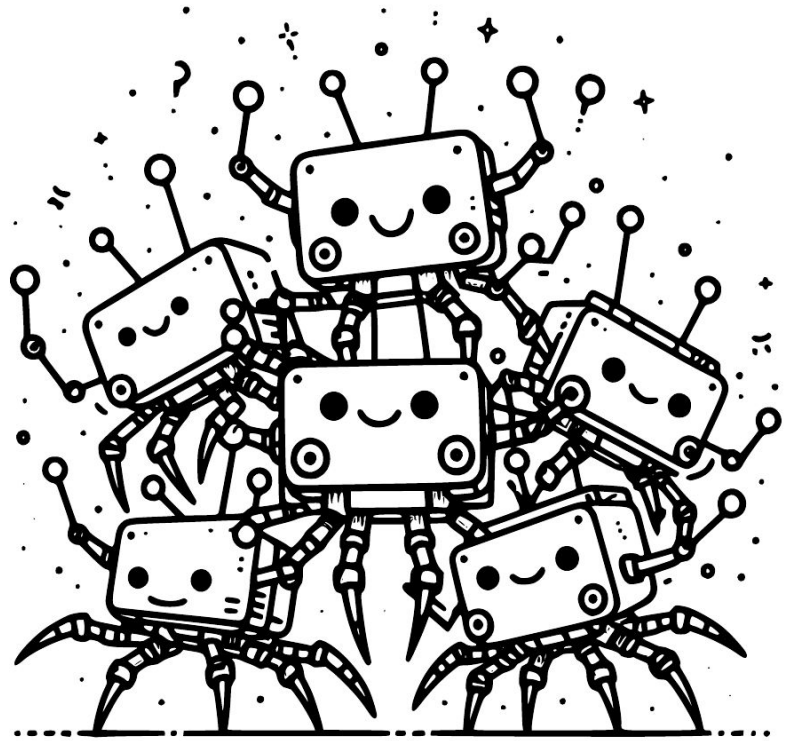


Attacks



Next Steps

- More detail of trust mechanics to prevent attacks
- Applications to modular robotics
- Simulations
- Trust indices mining from data



Thank you for your attention