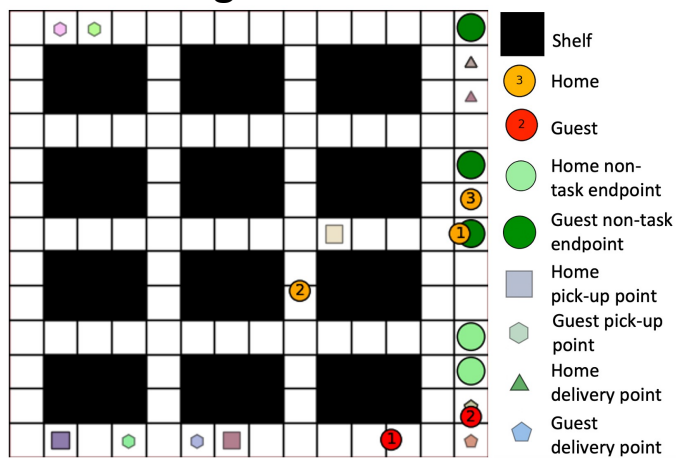


Modelling Other Agents: a MAPD Variant for a Team of Guest Robots

Problem Formulation

- Shared environment
- Team of **guest robots**
- Team of **home robots**
- Teams perform two distinct **Multi-Agent Pickup and Delivery** (MAPD) problems
- Teams do **not communicate**
- Guests must not interfere with home agents

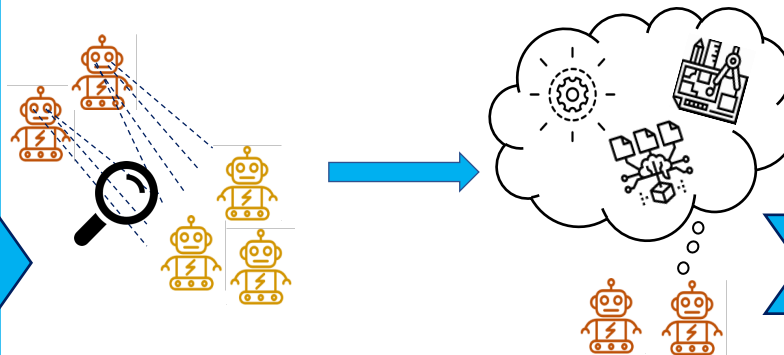


⚠ Many **potential collisions**

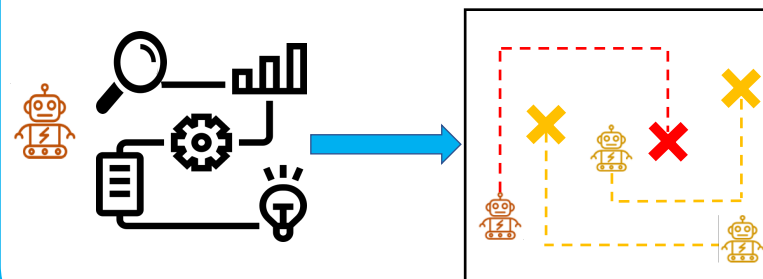
⚠ Frequent **replans** for guests

Proposed Approach

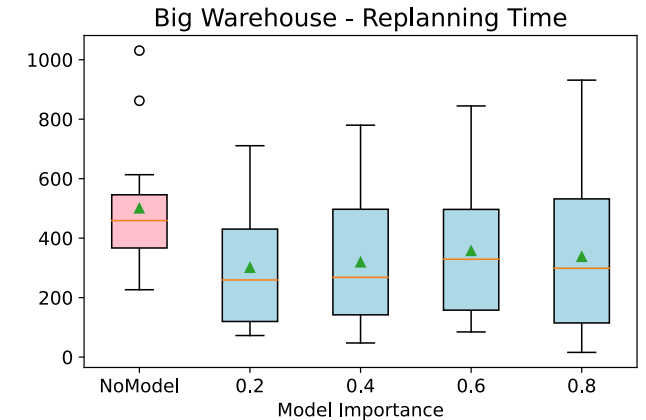
Guests **observe** and build a **model of home agents' behaviour** using a **probabilistic** approach



Guests **integrate** home agents' **model** in their **planning phase**



Results



Decrease in guests' **replanning time** and in guests' **makespan**

