

# APP-RAS

# Warehouse Task and Path Planning



**Milestone 2 Presentation**

17. December 2018

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# Agenda

The overview of our presentation

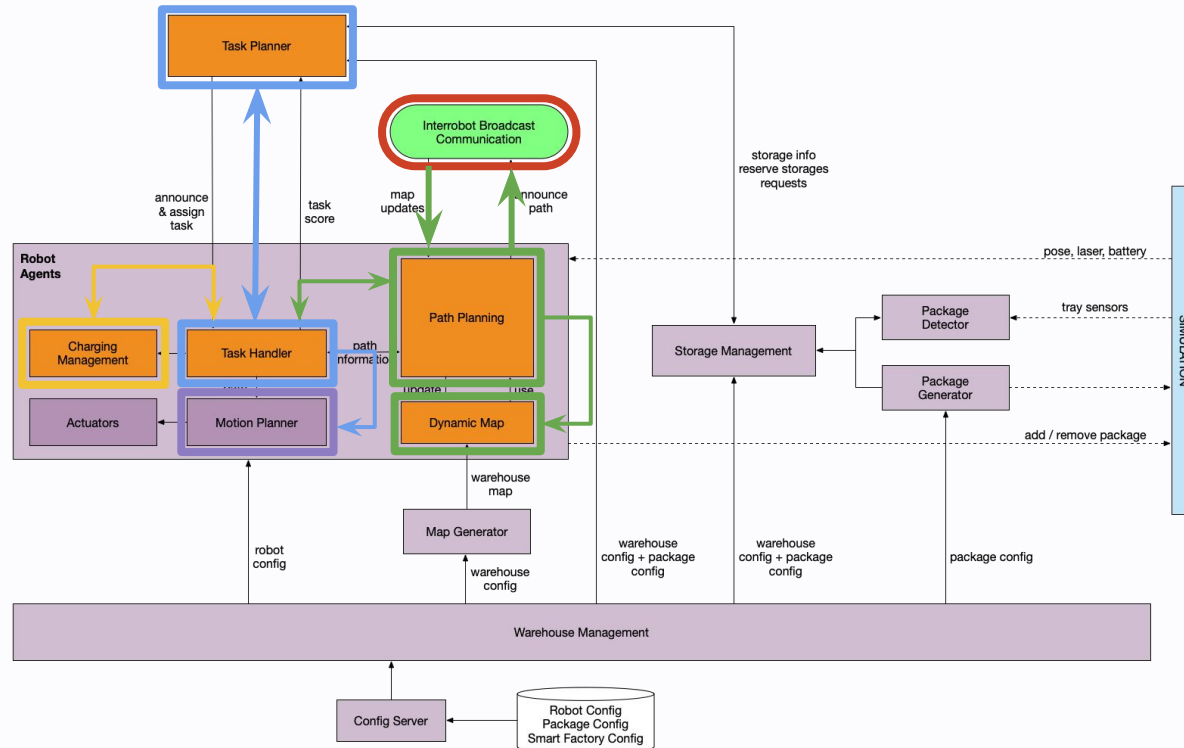


- ▶ **System Architecture**
- ▶ **Motion Planner**
- ▶ **Pathfinding**
- ▶ **Task Planning**
- ▶ **Timeline**

# System Architecture

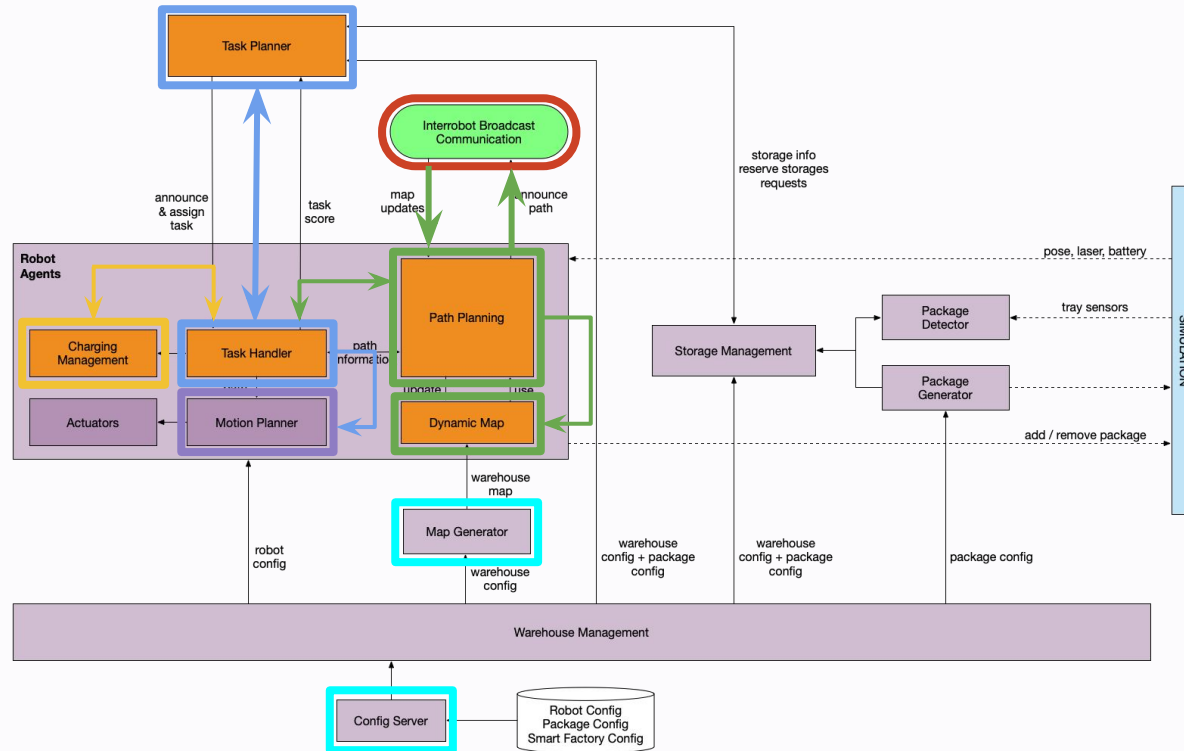
# System Architecture

The block diagram illustrating the design of our system



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The block diagram illustrating the design of our system



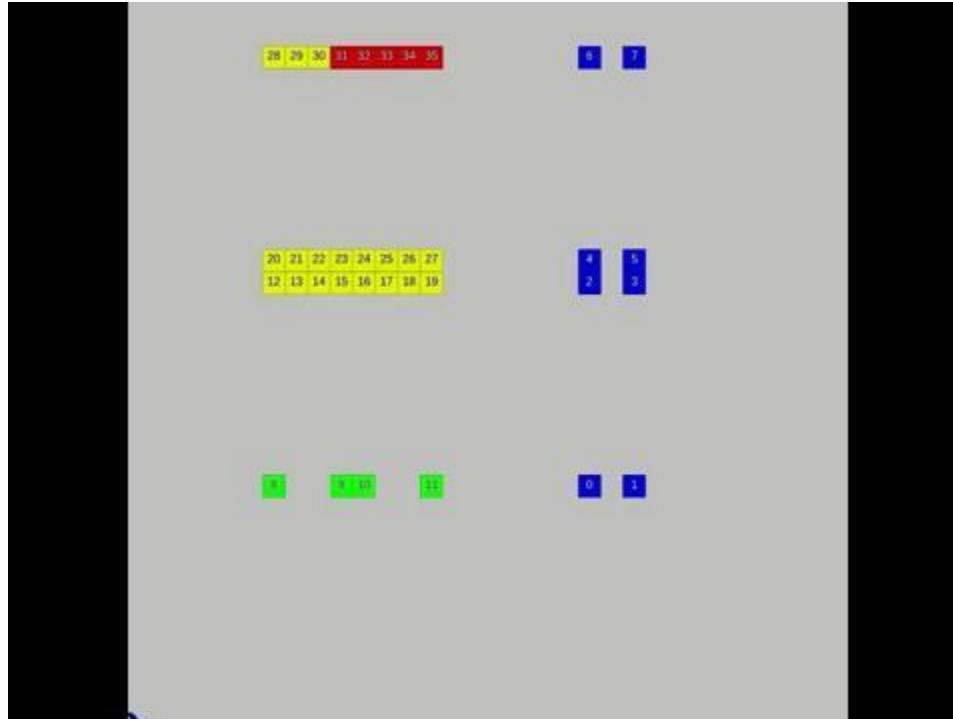
# Motion Planner

# Motion Planner

The issue with the existing motion planner



## Initial Motion Planner

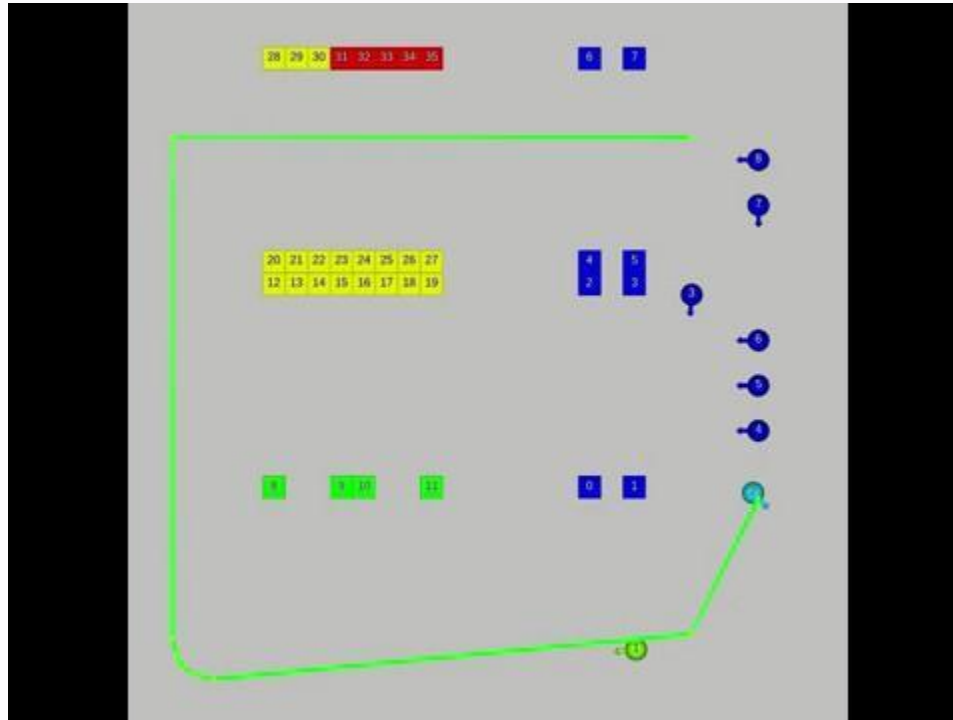


# Motion Planner

The first improvement of the motion planner



## Improved Motion Planner



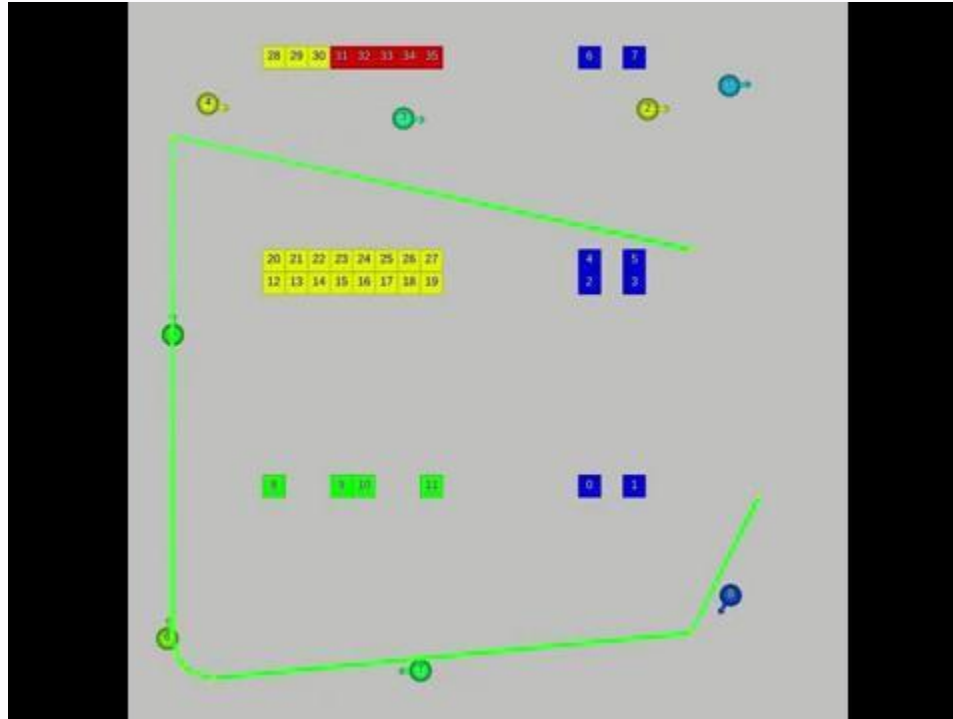


# Motion Planner

The current version based on a pid controller



## PID-based Motion Planner



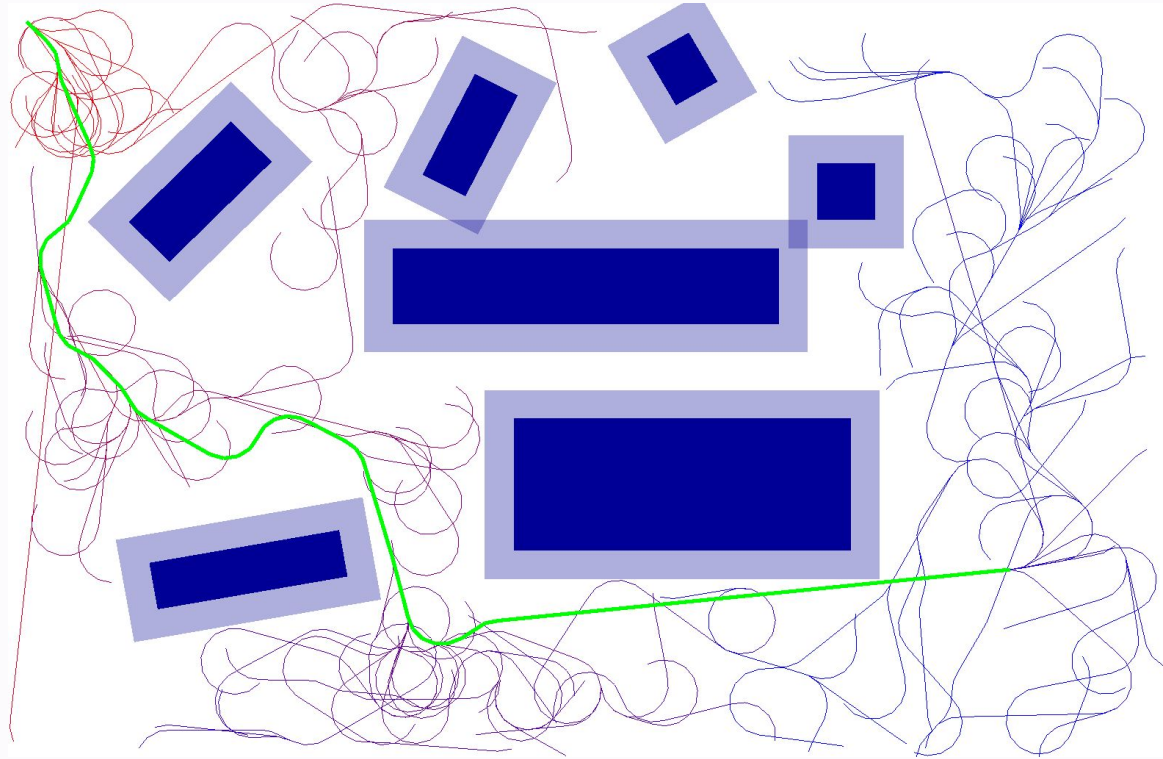
# Pathfinding

# Progress: Pathfinding

The current state of our project in terms of pathfinding

RRT\*

Length: **158.7**

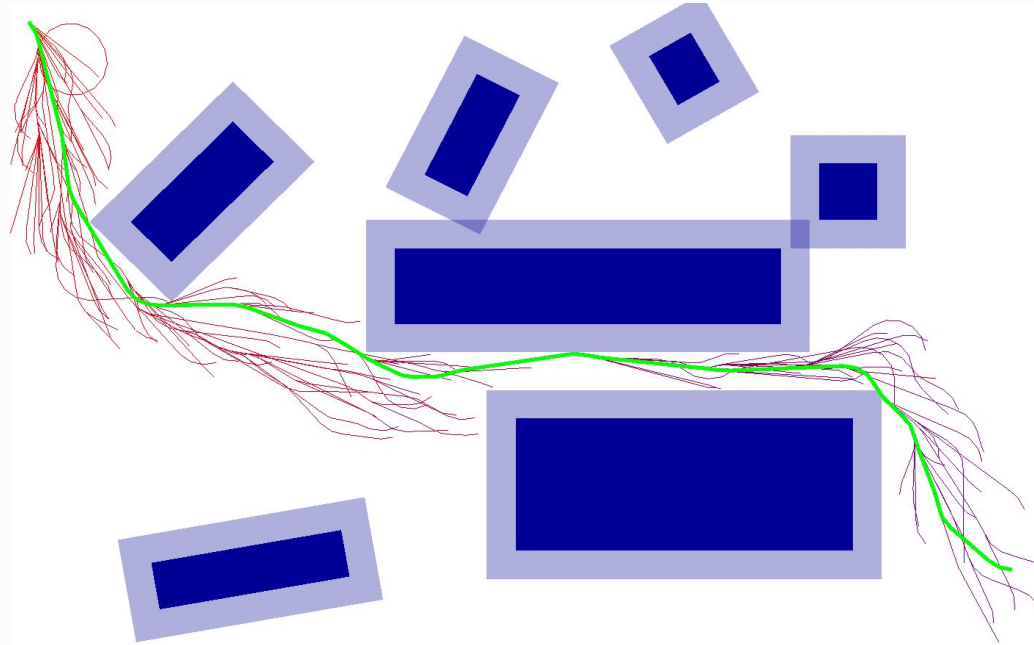


# Progress: Pathfinding

The current state of our project in terms of pathfinding

## Theta\*-RRT\*

Length: **136.7**

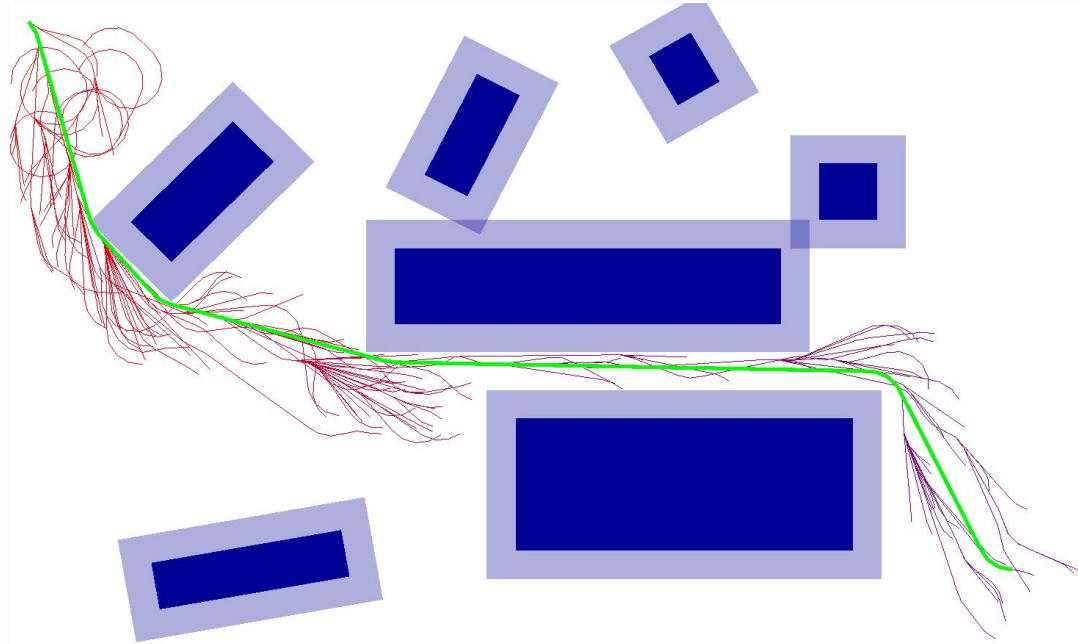


# Progress: Pathfinding

The current state of our project in terms of pathfinding

**Theta\*-RRT\***  
with smoothing

Length: **134.4**



# Progress: Pathfinding

The current state of our project in terms of pathfinding

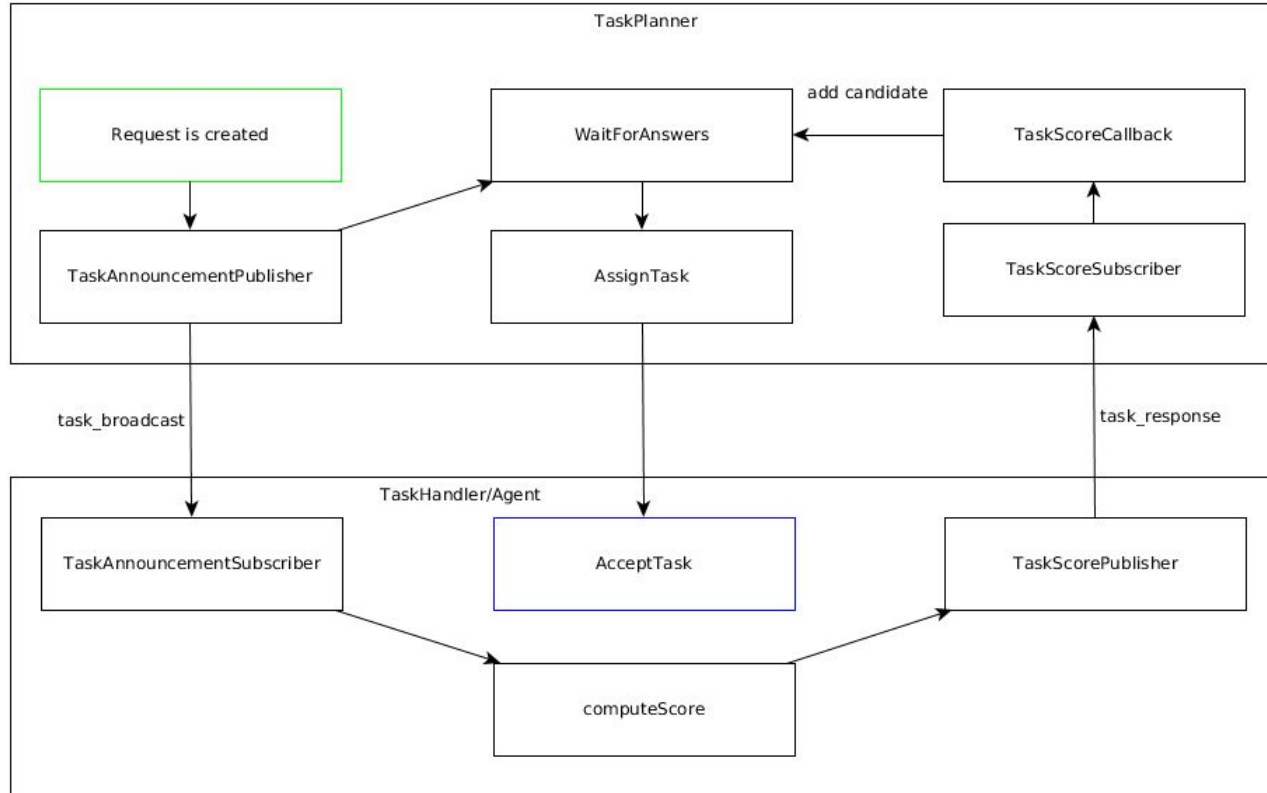


## Live Demo

# Task Planning

# Progress: Task Planning

The current state of our project in terms of task planning





# Timeline

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An overview of our short- and long-term goals



**Questions?**