

# Initial design

## Embedded motion control group 3

Ayisha wafa    Aparnasri Sekar    Nick Peters    Jelte Borsboom

May 17, 2017

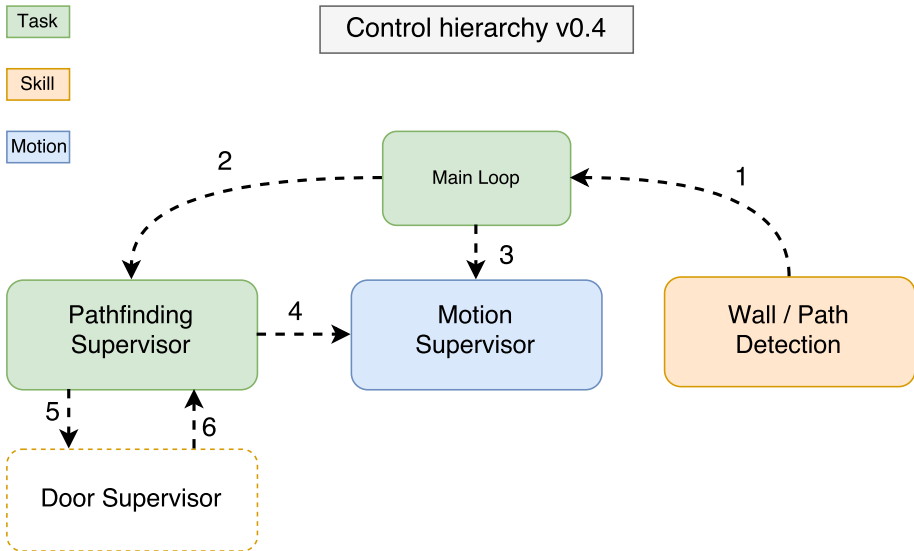
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# Design strategy

1. Keep it simple
2. separation of concerns
3. make it work, then make it nice
4. modular extensibility

# System design

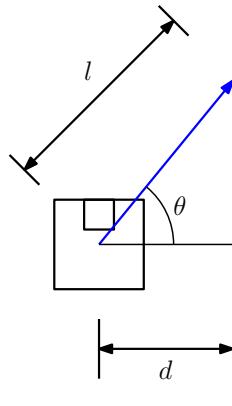


# Supervisors

1. Function blocks (Supervisors) are classes
2. Supervisors have iteration methods called every loop
3. Communication between supervisors is done by getter and setter functions (mostly in main loop)
4. Classes are compositions of methods → no difficult inheritance schemes

# Wall detection

1. Assume parallel to wall
2. Use trigonometry to find  $d$  for all points
3. If parallel to wall all  $d_i \approx d$
4. If non-parallel calculate angle with respect to wall



# Pathfinding

- ▶ Pledge algorithm
- ▶ Similar to wall follower
- ▶ Count turns
- ▶ Break from loops

