



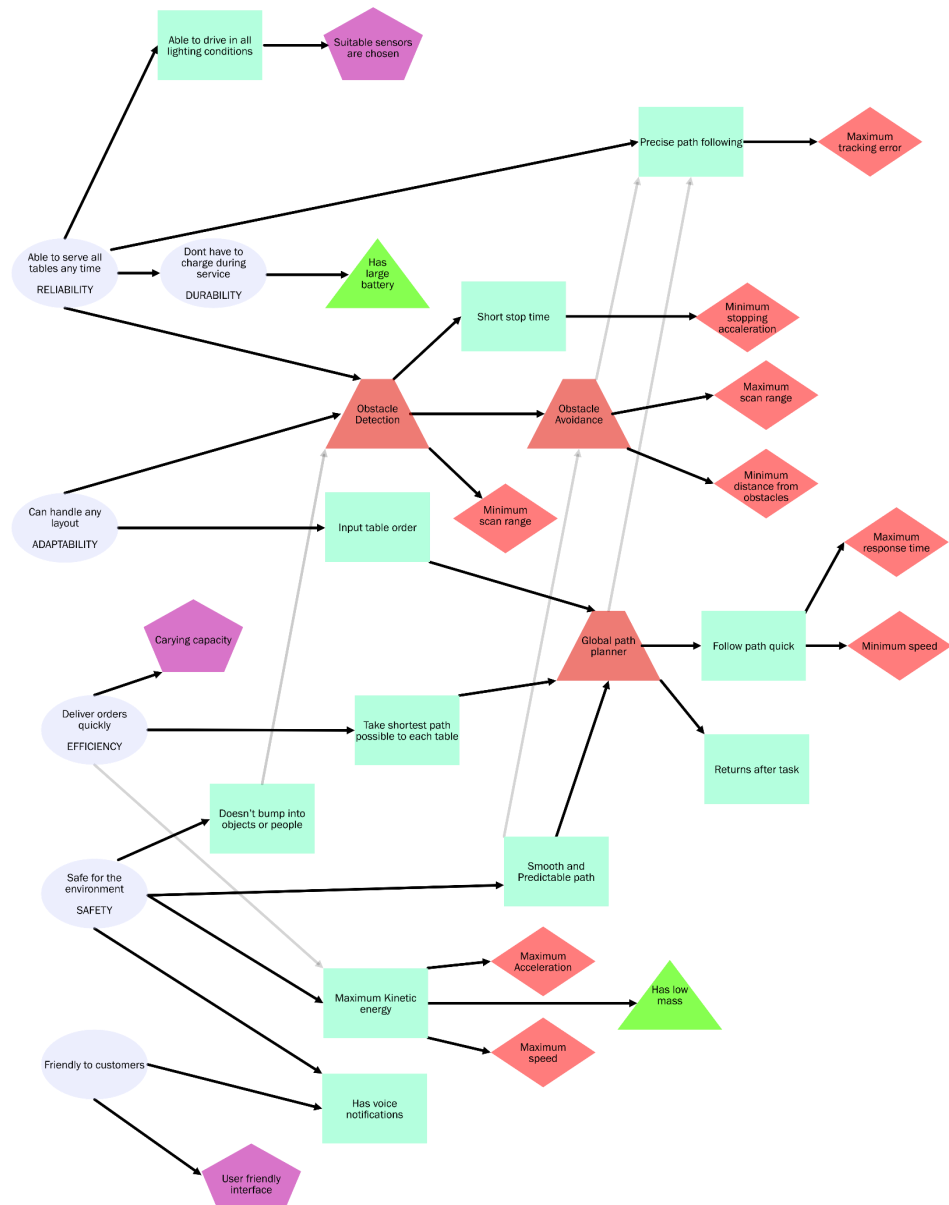
# Midterm Presentation Restaurant Challenge

**Team Rosey**

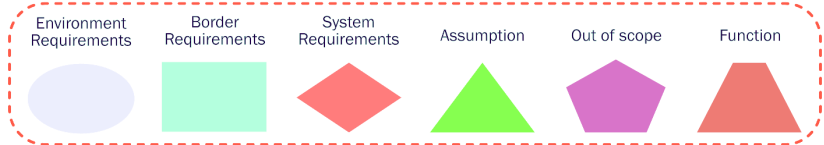
Rainier Heijne, Lotte Rassaerts, Tom Minten, Lowe Blom, Marijn Minkenberg, Eline Wisse

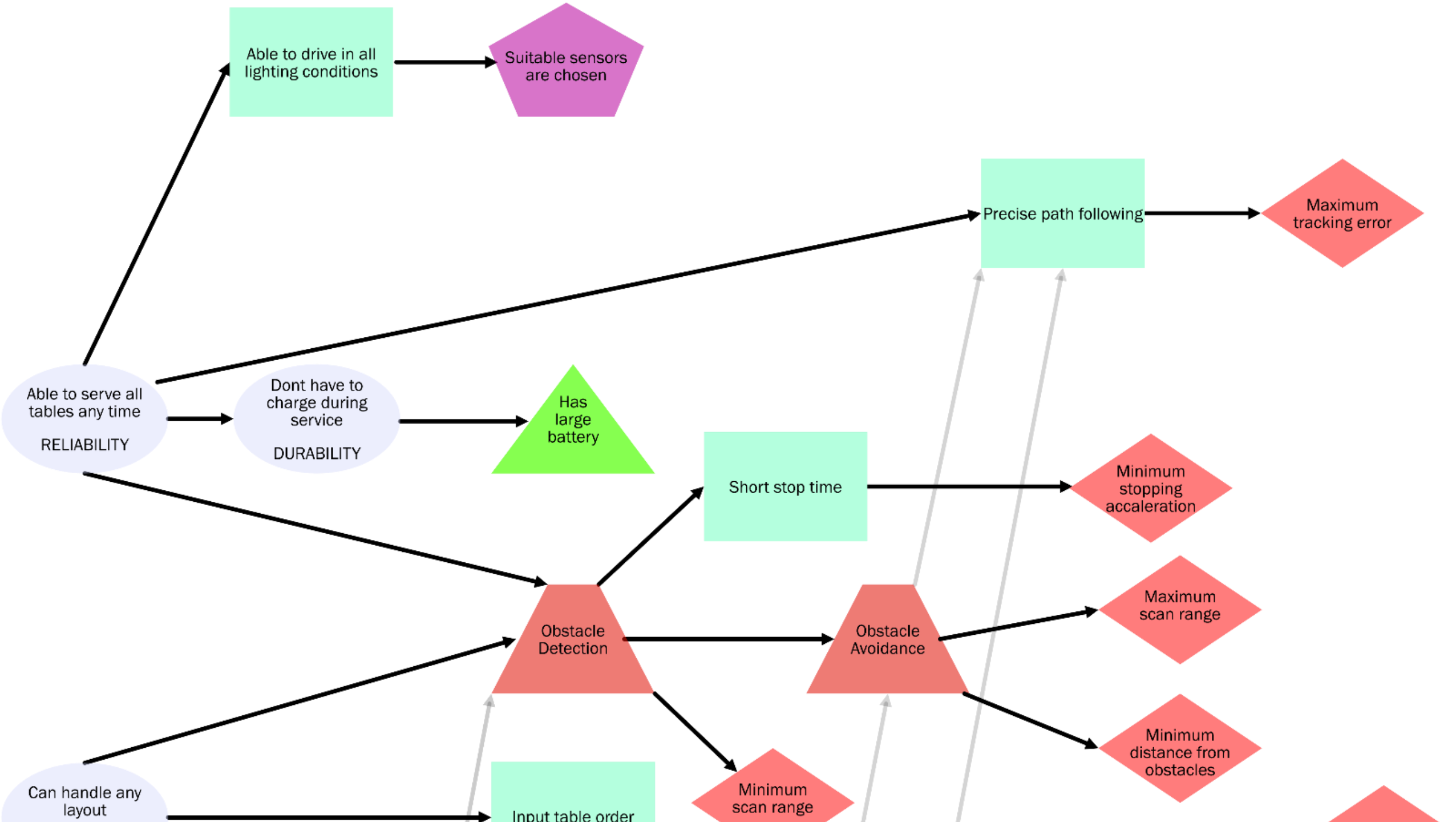
- 4SC020 - Control Systems Technology group

# Requirements

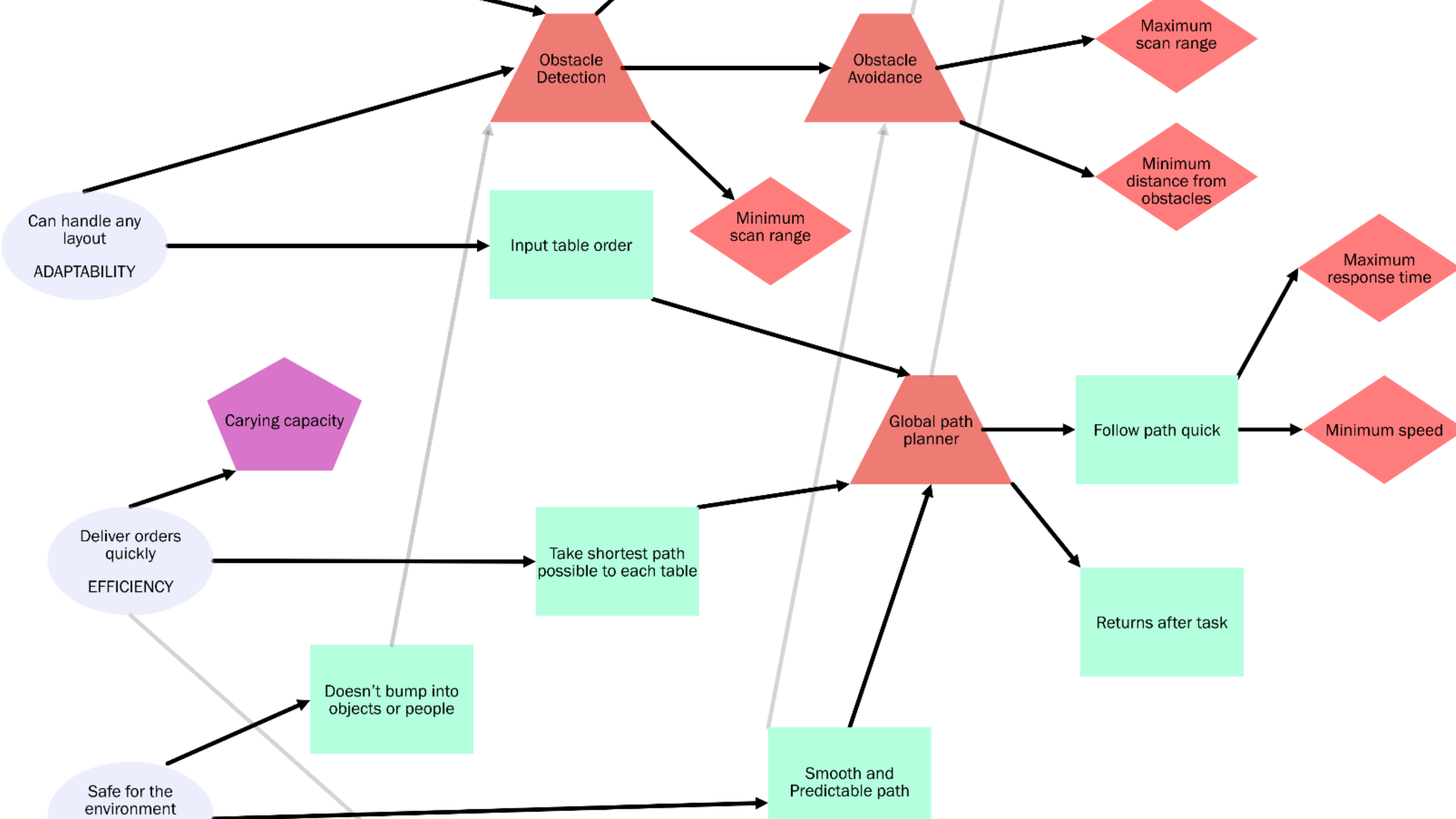


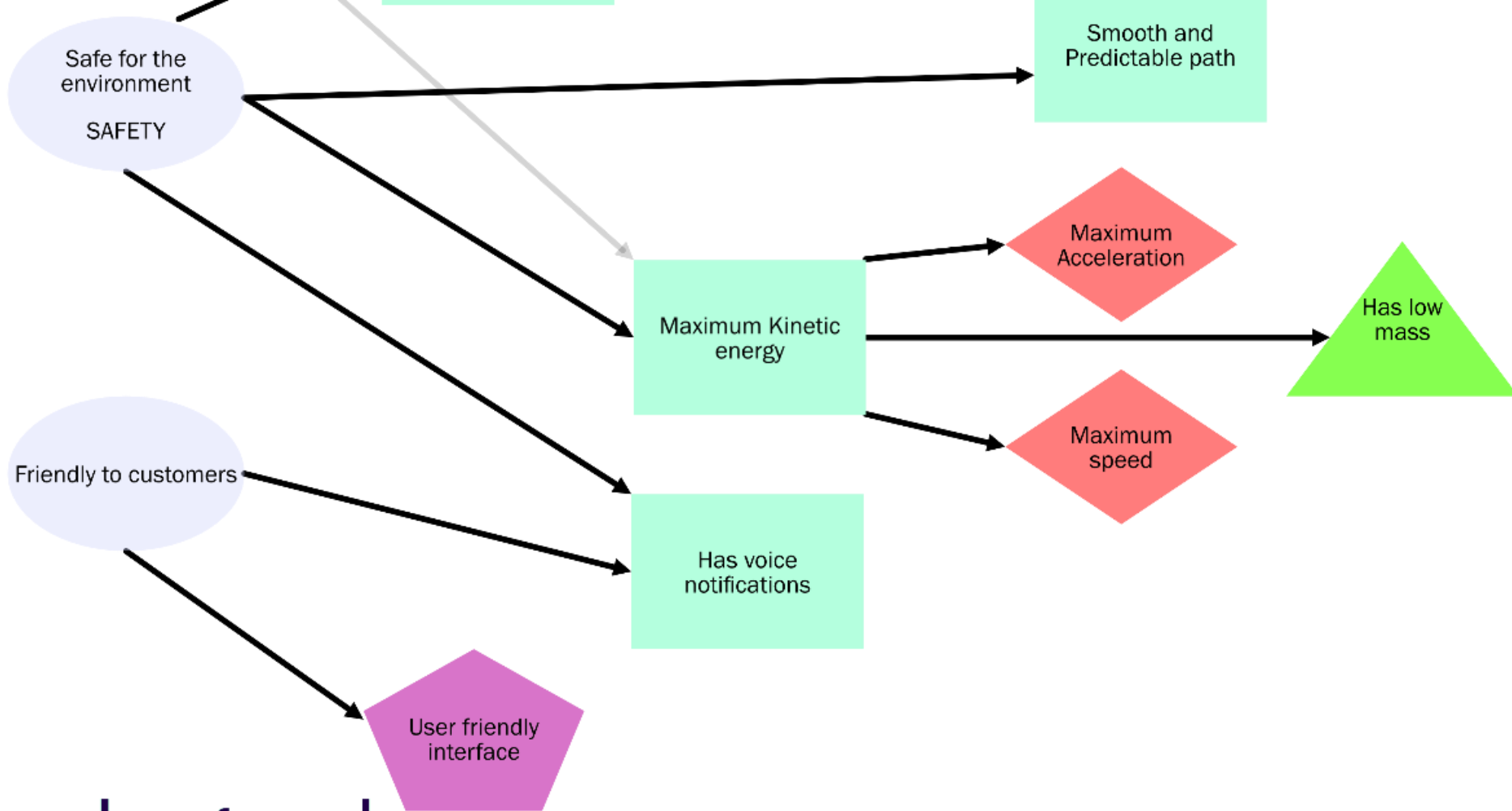
## Legend:



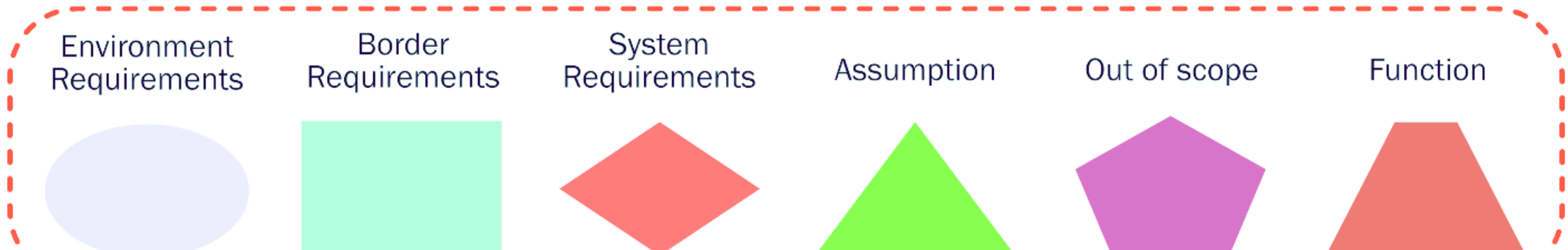








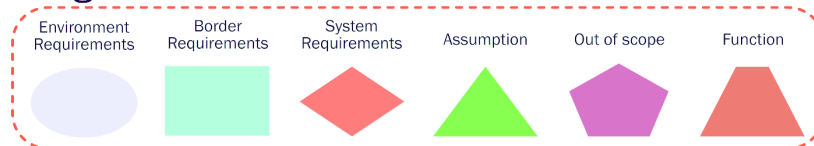
## Legend:



# Requirements

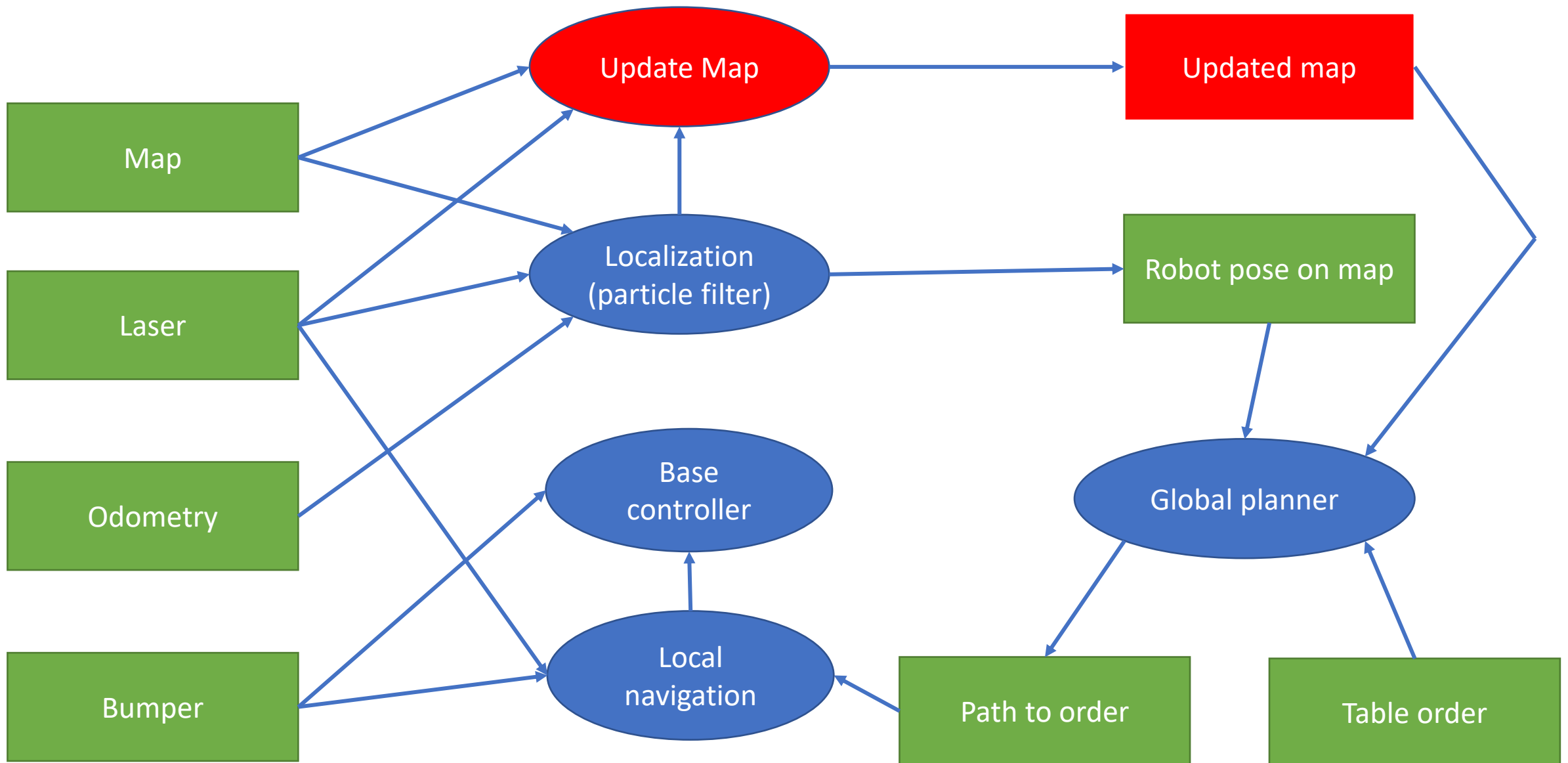


## Legend:





# Data flow diagram





# Design choice

- Global Path planner → A\*
  - + Fast
  - + Optimal for given grid
  - + Easy implementation
- Local path planner → Open space with potential field
  - + Relatively simple concept for object avoidance
    - Heading determined through Open space → fast
    - Driving using potential field → smooth
  - + Only uses positive sides of each method
- Localization → Particle filter
  - + Fast implementation
  - + Fast convergence in case of unknown position
- Supervisor that handles the state flow

# Nice to haves

- Return to base after job
- Update “true” world map based on measurements
- Anticipate on dynamic objects
  - Change direction when moving object is detected

Questions?

# Discussion

- Nice to have: Update “true” world map based on measurements
  - Is this even possible with dynamic subjects?
  - When to update world map?
  - When to delete parts of map?