Minutes 2019-06-05

PICO Test

- PICO sometimes drives backward. Why? [FIXED]
    - ODOM.reset() was not called after initialization.
- PICO does not yet plan using the mapping.
    - Enable this in RRT planning.
- Bram's avoidance algorithm works better right now, and we will continue working with this.
    - Marcel's algorithm requires at least too much tuning, perhaps more.
    - PICO moves correctly through hallways.
    - PICO moves correctly through doors.
    - PICO sometimes hits walls directly ahead.
- PICO returns to 0 after movements.
    - Update map and odometry after movement.
    - Update map accurately when in front of cabinet.
- Does PICO orient itself correctly in front of the cabinet, always?
- Is the positioning accurate enough? Margin in RRT path, margin in next point selection.
- Visualization doesn't work during movement.
    - Update room more frequently?
- Orientation-dependent emergency might be interesting.
    - PICO is wider than long.

Assignments

- Localization
    - Investigate particle filters (Jeroen)
    - Implement/finish filtering and map transformation (Bram & Jeroen)
    - Create quick map fitting based on known orientation (Bram & Jeroen & ?)
- Static obstacle avoidance (Martijn & Ruben)
    - Add objects to map (continually or only when relevant)
    - Remove objects from map
- Check orientation in front of cabinet (Marcel)
    - Atan2 results
- Add odometry reset and map update when emergency avoiding or arriving at cabinet (Bram & ?)
- Create initial orientation algorithm (Marcel)
- Create local movement towards cabinet (Marcel & Ruben)
- Process hospital JSON, create multiple height maps for simulation (Ruben)
    - Jeroen should know how to generate height map
- Tune parameters (All)