Welcome Robot

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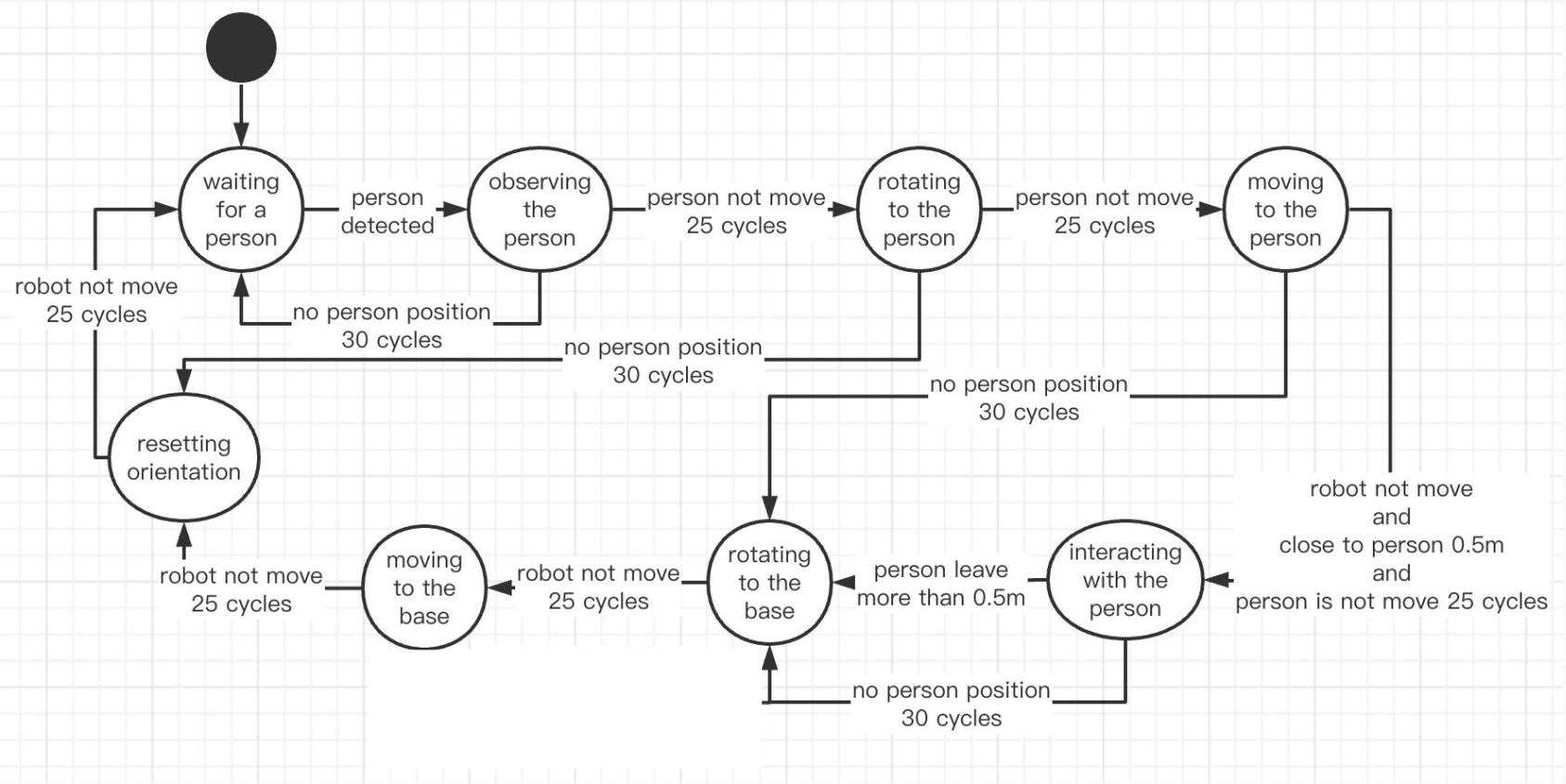
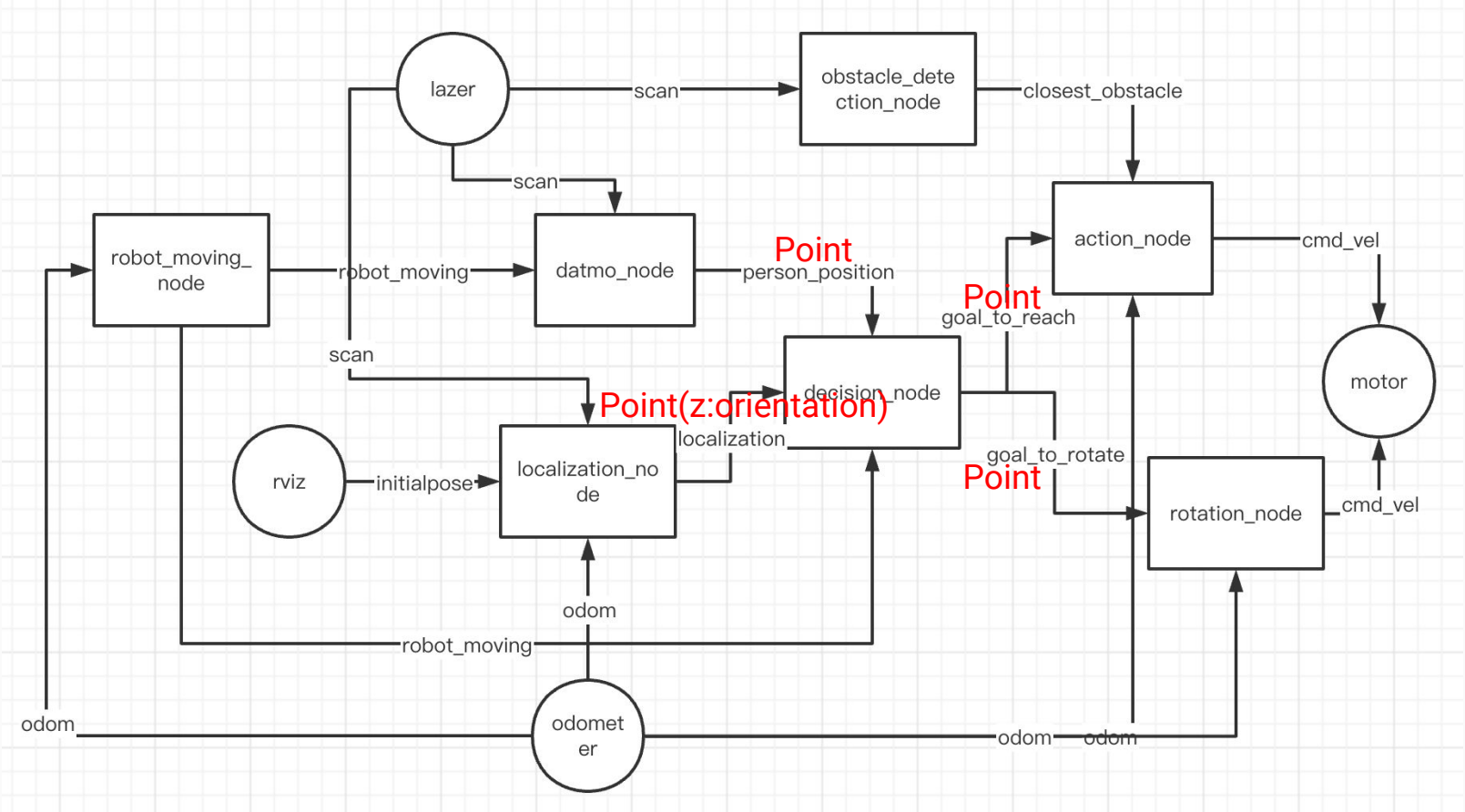
State Transfer



Node Relations



Finding the Person

Directly forward the person_position to rotation_node / translation_node, easy
frequency: about if person is moving
cycles_no_person: about if person is lost

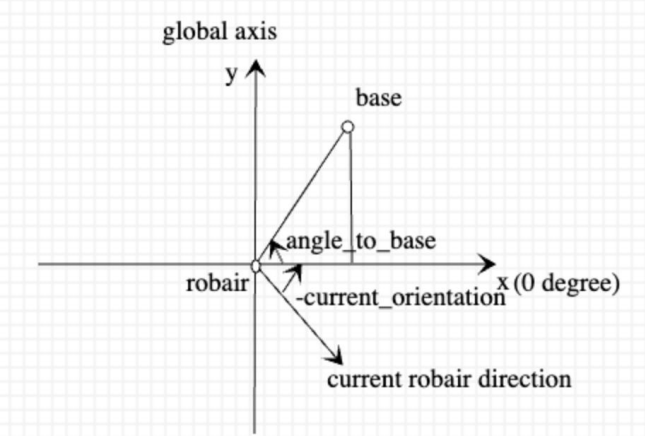
TEST SCENARIO 1 (OK):
Test “frequency”: If the normal process works.

TEST SCENARIO 2 (OK):
Focus on issue: When a person disappear, robot follows another person, if some (datmo_node)

TEST SCENARIO 3 (OK):
Test “cycles_no_person”: In every step, test the only person disappear -> see the state change

Finding the Base Position

rotation to the base:



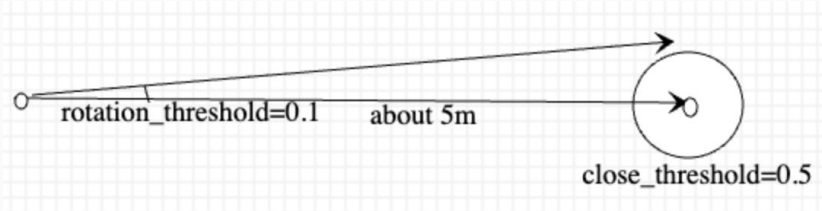

```
float xx = base_position.x - current_position.x;
float yy = base_position.y - current_position.y;
// angle_to_base: angle from global 0degree to the base
float angle_to_base = acos( xx / translation_to_base );
if ( yy < 0 )
    angle_to_base *=-1;
```

NOT WORK! rotating to arbitrary direction again and again…

translation to the base:

go straight line!

KNOWN ISSUE: rotation error may be a disaster



resetting orientation:

base_orientation - current_orientation

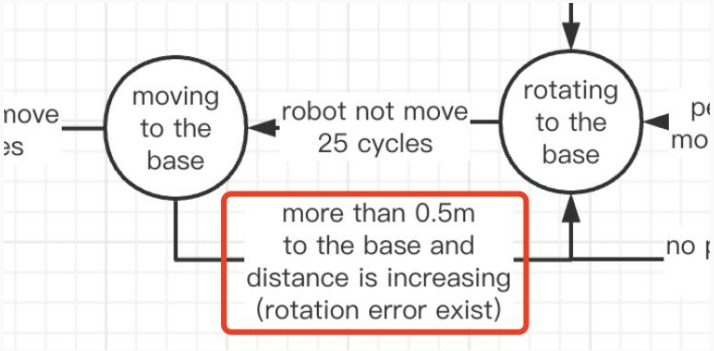
message to rotation node: Point

```
// dir_base_orientation: vector on a unit circle, used to rotate to the base
dir_base_orientation.x = cos(diff_angle_to_base);
dir_base_orientation.y = sin(diff_angle_to_base);
```

TODO

1. Debug finding the base part: create new marker in Rviz (debug log is hard to read)
   Possible bug reason: the frequency of localization message is low

2. To help the rotation error: add another state transfer: **(future Test Scenario 3)**



3. Change person lost logic: all person lost -> current person lost
   if (distanceBetween(cur_person_position, prev_person_position) > threshold)
   {...}