

# Moving Pepper

Localized move in environment, Paris october 2017



# Github

Warning: be sure to be on master branch.

[https://github.com/aldebaran/naoqi\\_navigation\\_samples/tree/master](https://github.com/aldebaran/naoqi_navigation_samples/tree/master)

# 0- Connection

```
import qi  
  
session = qi.session()  
  
session.connect("tcp://127.0.0.1:9559")  
  
navigation = session.service("ALNavigation")  
  
motion = session.service("ALMotion")
```

# 1- Setup

```
# Be sure Life and Basic Awareness are off before  
starting
```

```
navigation.startMapping()
```

```
navigation.stopExploration()
```

```
navigation.saveExploration()
```

## 2- Face customers

```
import almath as m

navigation.startLocalization()

pose = m.Pose2D(navigation.getRobotPositionInMap())

motion.moveTo(0, 0, -pose.theta)
```

## 3- Navigate in environment

(Example in navigateLoop.py)

Map loaded + robot localized :

```
path = navigation.getExplorationPath()
```

```
target = path[5]
```

```
navigation.navigateToInMap(target[0], target[1])
```

## Pepper world Japan (time lapse)



- 2 days
- 10 hours a day
- no swap
- no crash

## 4- Come back home

```
navigation.navigateToInMap(0, 0)
```

Non blocking call:

```
fut = navigation.navigateToInMap(1, 0, _async=True)
```

Stopping the call:

```
fut.cancel()
```



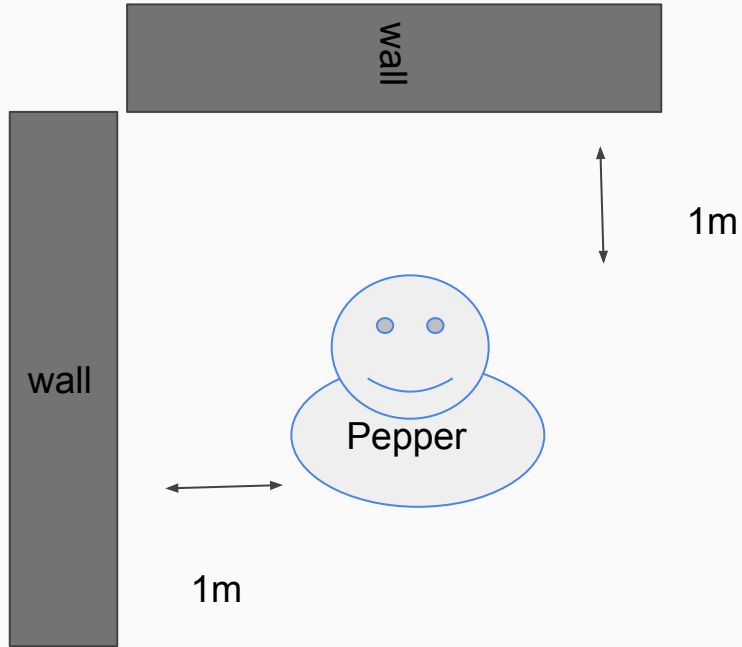
## 6- Relocalize

```
navigation.relocalizeInMap()  
  
navigation.startLocalization()
```

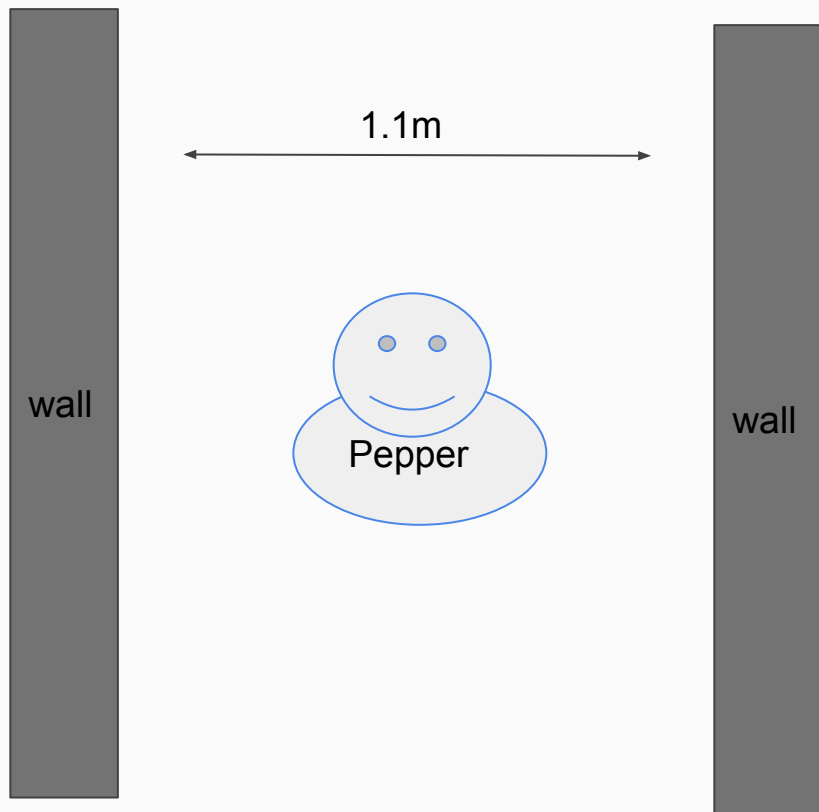
For more control during relocalisation (if your app knows exactly where your robot is).  
Note: Theta IS taken into account.

```
navigation.relocalizeInMapWithHint(knownX, knownY,  
knownTheta)  
  
navigation.startLocalization()
```

## Example of good setup to relocalize the robot



## Example of navigation setup



## Limitations 2.7

- laser only, so needs walls at less than 3m
- no loop closure

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