five_mobile Experiment Report

Matthew Swartwout

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This is a summary of the data from the five_mobile experiment.

Shown below is the summary of the error of all robots combined for both x and y coordinates, and also the error in total distance.

```
summary(continuous$x_error)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##
```

```
summary(continuous$y_error)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##
```

```
summary(continuous$dist_error)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##
```

```
summary(discrete$x_error)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##
```

```
summary(discrete$y_error)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##
```

```
summary(discrete$dist_error)
```

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##
```

```
summary(external_data_averages)
```

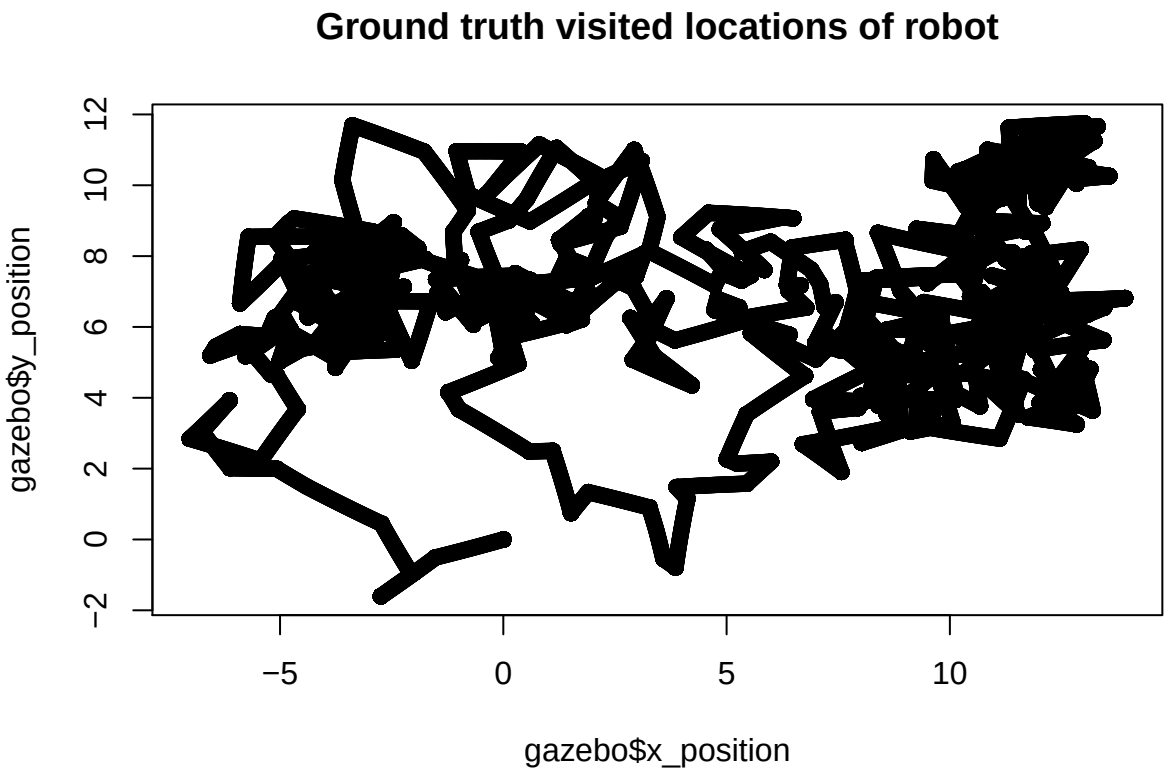
```
##      Length Class  Mode
## [1,] 1      -none- numeric
## [2,] 1      -none- numeric
## [3,] 1      -none- numeric
## [4,] 1      -none- numeric
## [5,] 1      -none- numeric
```

Shown below are plots representing the robot's motion and error over time.

```
message("ground truth")
```

```
## ground truth
```

```
plot(gazebo$x_position, gazebo$y_position)
title("Ground truth visited locations of robot")
```




```
message("dist from origin")
```

```
## dist from origin
```

```
#plot(gazebo$dist_from_origin)
#title("Distance from origin vs. time")

message("continuous x")
```

```
## continuous x
```

```
#plot(continuous$x_error)
#title("Continuous x_error over time")

message("continous y")
```

```
## continous y
```

```
#plot(continuous$y_error)
#title("Continuous y_error over time")

message("continuous dist")
```

```
## continuous dist
```

```
#plot(continuous$dist_error)
#title("Continuous total distance error over time")

message("discrete x")
```

```
## discrete x
```

```
#plot(discrete$x_error)
#title("Discrete x_error over time")

message("discrete y")
```

```
## discrete y
```

```
#plot(discrete$y_error)
#title("Discrete y_error over time")

message("discrete dist")
```

```
## discrete dist
```

```
#plot (discrete$dist_error)
#title("Discrete total distance error over time")
```