# COMP 417 – Assignment 2

## Part 1a – Uniform Sampling

Planning Phase Image

Final Path to destination

## Part 1b – Gaussian Sampling

Planning Phase Image

Final Path to destination

Discussion: A uniform distribution will create an even RRT tree, that is the tree expands in every direction of the map in the same way. On the other side a Gaussian distribution will tend to grow the tree quicker towards the goal state, while a large enough variance makes sure that obstacles can still be overcome.

Suggestion: Another heuristic would be take the goal /target as sample once in a while, for example once every ten times. This leads leads to much faster convergence in certain cases, but can also have negative effects that have to be weighted.

## Part 1c – Plots

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## Part 2a – Line Robot of size 50

Planning Phase Image

Final Path to destination

## Part 2b – Line Robot varying size

Discuss plots