MEAM620 - Project 3

Multi Robot Systems

Code:

1) C-CAPT(2D): This folder contains the C-CAPT implementation on 2D circular robots with simulation.

Run the 'run\_ccapt' to execute the file.

2) C-CAPT(3D)-Goals-More-Than-Robots: As required, we have 2 different test cases for 3D-C-CAPT. One having more/equal robots and goals and the other having

less robots than goals. The simulation is done using the quad simulator used in project 1.

Run the 'mainGoalsmorethanBots.m' file to execute the above algorithm.

3) C-CAPT(3D)-Goals-Less-Than-Robots:

Run the 'mainGoalsmorethanBots.m' file to execute the above algorithm.

This folder contains the code to run the 3D quadrotor simultion of the DCAPT algorithm

4) D-CAPT (2D) – Run this file ‘run\_dcapt\_2d.m’ to see simulation.

5) D-CAPT (3D ) – Run this file ‘run\_dcapt\_3d.m’ to see simulation.

Tunable parameters :

In script run\_dcapt\_3d.m

1) var.nbots = number of robots

2) var.bound = a vector of 3 elements with the x, y, z boundaries in meters

3) var.vmax = maximum velocity

4) var.h = The communication range of each of the robot in meters

Videos:

The videos of our project are in the folder named 'Videos'. Within this folder, one can find all the simulation videos with self descriptive titles.