UML Activity Diagram

Mushty Sri Sai Kaushik - 116917094
Sri Manika Makam - 116697415
Gautam Balachandran - 116079495

Receive input

Compute the Look-Ahead distance

Calculate controller gain values (K_p, K_d)

Initialize the orientation error as the difference in the current and target orientation.

Calculate the required trajectory.

Desired orientation has been achieved. No more changes to orientation required.

Calculate the positional error as the difference in the current position and the position of the next set point in the trajectory.

[False]

Calculate the Tuning parameter K for the maximum steering angle.

[True]

[True] ->If current orientation not equal to the desired one.
[False]->If current orientation equal to the desired one.

Calculate and steering angle and update the position and orientation to the next set point in the trajectory.

Recalculate d_e and orientation error with the next set point in the trajectory

[True] ->If d_e greater than a threshold value
[False]->If d_e less than a threshold value

While

[True]

[False]

Exit the loop and display the final calculated parameters.

Compute the value of Drive wheel velocities from ICRI & ICRO