Setup:

Robot instance

Motor instance

Gps instance

Import waypoints from excel

Loop:

1 - find next waypoint

Find index of the closest waypoint

Add one to its index, this is next waypoint

2 - Find goal on lookahead circle

Find distance to next waypoint

Find ratio (t) of lookahead radius to distance

Use formula to find the goal point on lookahead circle:

goal(x, y) = (1 - t)* gps(x, y) + t* next(x, y)

3 - Align with required heading

Find required heading to go toward goal point (using arctan2)

If (current heading is greater than required heading):

While (heading difference is > 0.1):

Turn clockwise

Elif (current heading is less than required heading):

While (heading difference is > 0.1):

Turn anticlockwise

4 – Go forwards

Set motor velocities to go forwards