The leftISR() is called when it detects a falling edge in the leftEncoder value, checks the direction of the left wheel. If the direction is forward, leftForwardTicks used to track the rotations in forward distance increases, and thus updates the forwardDistance travelled by the bot. If direction is backward, leftBackwardTicks used to track the rotation in backward direction increases, and thus updates the reverse distance travelled by the bot. If the bot is supposed to travel in the left direction we increase the leftReverseturns, which facilitates in swift movement in left direction. If the bot is supposed to travel in the right direction we increase the leftForwardturns, which facilitates in swift movement in right direction.

|  |  |
| --- | --- |
| LEGEND: | |
|  | Software Components |
|  | Hardware Components |
|  | Wheel Encoders (Feedback) |
|  | Environment Mapping |
|  | Wheel Control |

GNU Plot

1) Energy Efficient

2) We can use LIDAR to generate new GNU maps, hence always knowing the live location of ALEX

3)

<http://www.gperco.com/2015/06/hex-come-on-and-slam.html>