



# Auto Tracking and Following vehicle

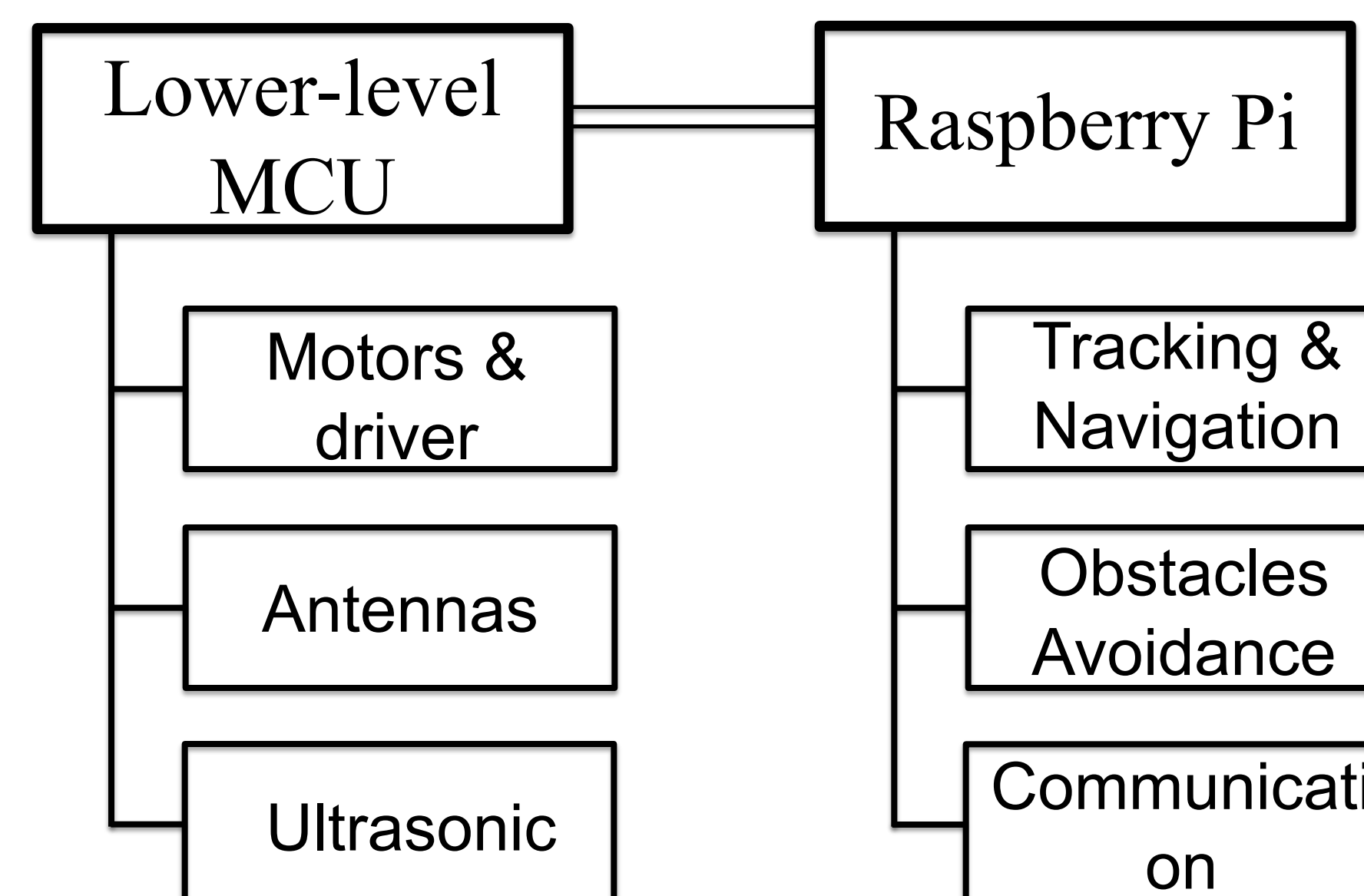
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## Goals

- A module that is able to track and follow targeting, moving object.
- A car that is able to dodge obstacles and deciding routes.
- Machine learning module that could learn over time for better navigation.

## Modules



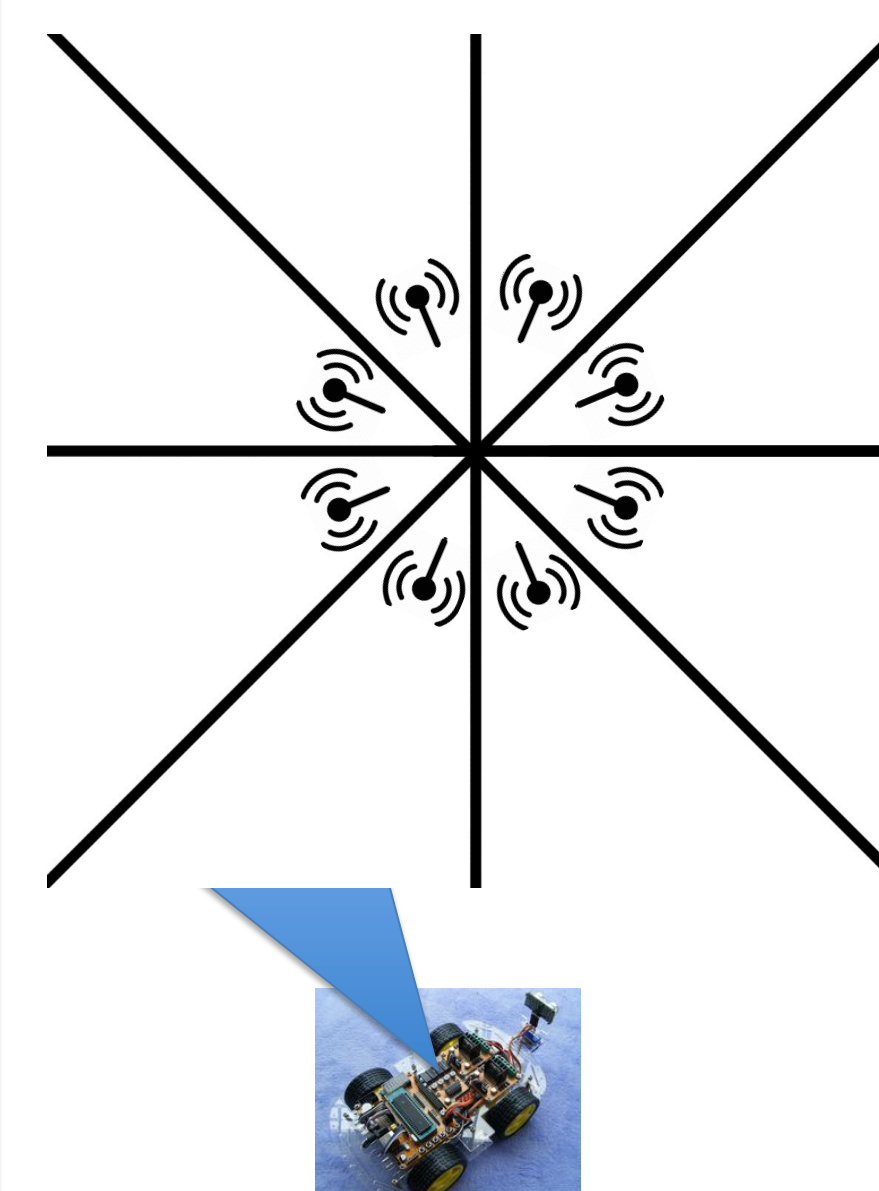
## Milestones


Almost There...  
Week 3 – 6: Finalizing Tracking module, and integrating obstacle avoiding.  
Week 7 - 9: Polishing.

## Background

There are cars could follow traffic or maintain in the lane and keep distance. We wish to design a module, that allow our vehicle to follow a target object in complex situation where there are interference from non-targeting objects. This module could then be implemented to other vehicles platforms such as drones.

## Antennas



 Beacon

Antenna will be divided into eight sections, which by comparing the strength of signal from beacon will give the tracking module the general location of the beacon.

## References

- Lange, M, and Detlefsen, J. "94 GHz Three-Dimensional Imaging Radar Sensor for Autonomous Vehicles." *IEEE Transactions on Microwave Theory and Techniques*, vol. 39, pp. 819-827, 1991.
- Thomas Troll, Jurgen Detlefsen, "Motion Monitoring with a Millimeter Wave Radar Sensor", Microwave Conference 1997. 27th European, vol. 1, pp. 39-44, 1997.
- GeekyShiva, Self-Driving-Car, (2017), GitHub repository, <https://github.com/GeekyShiva/Self-Driving-Car>



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