Control Report:

//WORK IN PROGRESS//

Sub-System Breakdown

Radar System

Drive System

Command System (WiFi, communication)

Vision System

Radar System:

The Radar sub system can be further subdivided into two constituent components. These are the servo component and the radar component itself.

ESP32 relevant information:

The servo is directly controlled automatically by the ESP32. It rotates in a 180 degree during the execution loop. This is to allow the Rover to detect any nearby fans with the accompanying radar module.

[insert code snippet]

The Radar detection system is purely circuit based. For this reason the only thing the ESP32 handles is a HIGH input from a digitalRead() function, to confirm that a fan has been detected.

Drive is subdivided into the Motor system and the Optic Sensor system.

The motors are controlled by outputs determined by commands sent to the ESP32 via command, causing the wheels to turn.

The Optic sensor sends location data to the ESP32, which in turn sends that location data to the Command module