Week 3

Zeren (George) Li

Date: 1/28/2022

Total Hour: 8 hours

Over the past week, BoHang Ni and I worked on powering up a motor based on the force we applied to the joystick. The code is shown in Figure 1. So far, the algorithm will linearly convert the joystick digital value (0 - 4096) to a value in range 0 – 100. That value will be sent to the Compare Register (CCR) in Timer 1 of the Vehicle MCU. As the result, the motor is able to change its speed based on how much force we apply to the joystick. We are planning to re-design the algorithm due to the fact that our joystick is very sensitive to the force. As we applied a little force to the joystick, it will generate almost the maximum speed. We have to push the joystick very gently to generate medium-level speed, which is a bad driving experience. We order some better-quality joysticks this week. But if the new joysticks won’t meet our requirement, we will re-write the algorithm so that as long as the joystick is pushed, the motor will rotate in the maximum speed.

Currently, we are trying to implement the algorithm of Mecanum Kinematics so that the Vehicle is able to move to any direction as the joysticks moves.

文本

描述已自动生成

Figure