

15.11.2018

VEHICLES CHASING EACH OTHER STANDARD COMMITTEE

MEETING REPORT

This week, mainly the handshake protocol is discussed. There were several solutions about this protocol. The ideas and their reasoned responses are given in this report.

1. RF MODULES

The robots may have a communication via produced RF signals. The given sample for this protocol has 128 channels and according to the pairs in competitions, the channel may be set. The communication may be reached on different channels for each pair of vehicles.

Reasons for rejection: This protocol is not appropriate because the desired handshake necessitates a coded encryption instead of setting channels.

Therefore, a different approach for RF modules is made. According to that, the vehicles will have the same frequency but there will be some identification signals for each robot. Hence, any robot may send a signal but the signal will be filtered by the receiver. The receiver will know the ID of the transmitter. This solution will be considered.

2. AN APPROACH TO THE CONCEPT

According to a communication basics approach, the signal which will be transmitted includes "Control, ID, Type" informations. According to the ID the receiver may decide to answer or not. At first a start signal is sent with a control number. Then, if the receiver accepts the signal, the message will be answered by incrementing the gotten control number. Afterwards, the robots will decide to stop while keeping communication. This approach may be applied for all of those communication techniques and the attitude was positive towards it.

3. WIFI

This solution brings a need for a server. There will be a base where both vehicle connect with priority. Any vehicle that needs to communicate with another one, sends the message with the ID to the server. With an identification process the server sends the signal to the one that desired. Then, the answer is sent by applying the same process.

Reasons for rejection: The main thing is the indirect communication of vehicles. The committee decided that a handshake protocol needs a direct communication. For this purpose, a solution with a server or a mediator may not be accepted. Besides, some members of the committee are not sure

about the latency. Because of that, the committee decided to go further with some solutions with peer to peer communication features of Wi-Fi protocol.

Regarding these solutions and the committee did not decide the one yet. However, there was a pre-elimination for an information of the tendency. The results of the elimination is given below.

1) Bluetooth	2
2) RF Module	5
3) Wi – Fi	8
4) Abstention	3

These protocols are going to be searched until Tuesday and the instructors will be informed with the choice.

This Week's Assignments

The researches of last week's topics will be continued. The results of those researches are going to be reported to the design instructor in an appendices section of weekly report. Besides, the communication principle for handshake protocol should be determined by the committee members until 20.11.2018.