Title: RC-Car

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Intro

In this paper you will get a view over what my idea for scientific project is.

Information And Conclusion

My idea is to create a form of communication between cars driving in a straight line. The communication will pass through a smart 'hub' which knows the position, acceleration,.. of every car. The communication goes both ways, as the car needs to send all its information to the hub and the hub needs to be able to send controls back to the car.

The communication will be established through wi-fi. The cars will be equipped with a microcontroller containing a chip that can set up a wi-fi connection. The microcontroller will be discussed in another paragraph.
The 'hub' will exist of a laptop on which a server is running. The server will log the position of every car and will be able to send commands like break() or accelerate() to each car individually. Finally the hub needs to be 'intelligent' as it needs to automatically adjust the cars according to the first one which will be controlled by a remote.

Two or three RC cars are needed for this project. We will attach our microcontroller on top of the one already integrated in the RC car. We do this because replacing the integrated microcontroller would mean we have to figure out exactly how the RC car works (control the wheels, …) and this is not included in the scope of this project.
First, we'll figure out which pin does what on the RC car. We'll power each pin on the integrated microcontroller to see which does what. Once we figure out which pin causes acceleration, brake, …, we can just connect those to our microcontroller and work from there on out.

Referencelist

https://www.youtube.com/watch?v=aP38w8qssXU&t=526s