Requirement Analysis

March 9, 2017

Contents

Abstract

This document will analyse the requirement of this project. All the functional requirement will be defined in this document. In the beginning, I will refer to basic functional goals in the system.More complex requirements will be added soon.

1 Basic Functions

This section will define the basic function of this project. Upon finishing these functions,we can use the app to control the movement of a car.

1.1 Sending Command

This app can send commands from a mobile phone to a car via bluetooth and control the movement of it.These commands should control the speed and direction of the car.

1.2 Message Exchange

This app can exchange messages between two mobiles via WIFI connection. Only simple messages representing commands need to be exchanged between mobiles.

1.3 User Interface

A simple user interface that contains several buttons, which represents directions of the car.

To understand it,assume the user press "FORWARD" button,the car will run forward in a constant speed.

If the user press "LEFT" button,the car will always turning left in the same speed. "RIGHT" button will do the opposite.

If multiple buttons are pressed,"LEFT" and "RIGHT" works before "FORWARD".If both "LEFT" and "RIGHT" are pressed, the car will run forward.

2 High Order Functions

This section will define the rest of the functions.They are more complex and may need third-party libraries.

2.1 Mobile as Sensor

This app can use mobile as a sensor. The client end can sense gravity, sound and gestures. The server end can sense the movement of the car.

2.2 Sound Recognition

The client end can recognize sounds and change them into commands.

2.3 Sensing Gravity

The client end can sense the gravity change and control the movement of the car.

2.4 Obstacle Recognition

The server end can recognize the movement of the car and send a message to the client when the car didn't run as expected.

3 Revision History

data	version	comment
2017-03-09	v0.1.0	initialize the first version