**RC Car Ideas Research**

**Easy Driving Application:**

* **Use a 4 Wheeled Car Design, the 2 rear wheels are connected to two 12V DC motors, which would give the car enough power and speed, and 2 front wheels connected together, and connected to a servo motor for steering as in the video :** <https://www.youtube.com/watch?v=3MbcSvyb8U8>
* **Also we can use the L298 Dual H-Bridge Motor Driver for driving the 2 DC motors** <https://store.fut-electronics.com/products/l298-dual-h-bridge-motor-driver-dc-and-stepper-motors>
* **For obstacles avoidance there are 2 choices : 1- To Connect 3 ultrasonic sensors on car one on**

**the front heading forward always reading distance and when the distance is less than a specific distance the two other ultrasonic sensors on the sides will read distance. Comparing the two distances then deciding in which direction to move.**

**Comment:  
I think that 3 ultrasonic are too many to achieve this Task  
-What About IR and PIR sensors?**

**2-To mount 1 ultrasonic sensor on top of a servo and when it reads a specific distance the servo will rotate 90 degrees to the left and stop for the ultrasonic to take a reading and then rotate 180 degrees to the right to take another reading, then comparing the two readings to decide in which direction is to move.**

**Comment:  
This a good idea but I think that makes time response.  
The same Idea can be achieved by LIDAR sensor…google it**

**Line Tracking Application:**

**I recommend using a line Tracker module (3 Channels) for better line tracking accuracy and for competition and for sharp curves:**

<https://store.fut-electronics.com/products/line-tracker-module-3-channels>

**Comment:**

**It's A good choice…but this module has a few leds for detection.**

**Competition:**

**Lithium batteries should be used and the degrees control must be coded on site by trial as how much power given to each motor for the car to move a single degree then make a loop in the code which ends with the specific number of degrees entered**

**Great Algorithm**

**Accurate Movement Application:**

**Mostly we will draw the tracks ourselves on the ground with the dimensions and run the car through it and then writing the code of each path on site with trial so when we do a specific action as to make a specific path later the code of that path will be executed.**

**PS: There was another way that is to connect the car to a mobile and then draw the path by hand on the touch screen like project Alice:**

<https://www.youtube.com/watch?v=izkAtyGmQyA>

**But in my opinion, it’s not practical as the paths have specific dimensions(2mX2m) no more no less.**

**That's Great, Good Job**

**Bonus:**

* **We can use a gyroscope to move the car by hand gestures**
* **We can use an LDR to make headlights for the car which only light up at darkness**
* **We can use a PIR sensor to detect moving people and then stop the car if someone is passing in front of it and we may also install a buzzer that buzzes when someone is passing in front of the car.**
* **We can also see if we will be able to install voice control to the mobile app.**

**Comment:  
These Ideas don't satisfy our Advanced Applications.**