****Cairo University

Faculty of Engineering

Electronics and Electrical Communications Engineering Dept.

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| Smart parking car |
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| Dr: Ragia Badrie |

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Smart parking car

Dr: Ragia Badrie

**Abstract:**

This project introduces a smart car that parks automa cally in a garage which will be prepared with some leds and a microcontroller circuit. This project will solve many problems that happens inside garages like accidents and crimes of the ; also it will save a big area which is the very important thing especially in Egypt.

The user will choose its place at the entrance of the garage; then its car will go to park automatically and when he wants to take the car, he will press the switch of the place he chose it at the entrance and then the car will leave the garage automatically.

**Problems encountered and future work:**

1-ﬁrstly, the used line was the black line but there were two problems:

-the garage surface was white and this may be aﬀected by dust.

-the garage ground was dark that made the sensor high without any black lines

So, the used surface is black surface and the line is white

2-problems in driving motors as at first we used relays but we had to stabilize the input voltage of it, then we used thyristors but it had the same problem, so we used H-bridge driver(L293D)

3-selecting the proper voltage and current source as we need high current and low voltage, high current is needed to have high force for motors and low voltage is needed to allow sensor to work very well.

4-problems of selecting wheels as plastic wheels did not give the required balance, so we used rubber wheels and iron axes.

**FUTURE WORK:**

* The garage may consist of two or more ﬂoors, this can be done using an elevator at the end of each ﬂoor and this will save the area very well.
* Timer can be used inside the car to know number of hours that the car took inside the garage.
* Alarm siren can be added to detect vehicles which are against roles of the garage.
* Making the garage two ways instead of one way.