****Cairo University

Faculty of Engineering

Electronics and Electrical Communications Engineering Dept.

|  |
| --- |
|  |
| DSP Car Assistant |
|  |
| Prof Dr . Nemat Abd Elkader |

Nemat2000@hotmail.com

|  |  |
| --- | --- |
| Student Names | Student E-mail Addresses |
| Alaa eldin gamal Mohamed Mohamed | Eng.alaa\_gamal@hotmail.com |
| Reda Mohamed ali agag | redaagag@yahoo.com |
| Abdel hamed Mohamed sedky | [eng\_ams2010@yahoo.com](mailto:eng_ams2010@yahoo.com) |
| Omar mokhtar Mahmoud | [omarmokhtar10@yahoo.com](mailto:omarmokhtar10@yahoo.com) |
| Eid Mohamed eid | [Eiddd89@yahoo.com](mailto:Eiddd89@yahoo.com) |
| Fadi fared fawzi | fadi\_farid1@hotmail.com |

DSP Car Assistant

Prof Dr . Nemat Abd Elkader

**Abstract:**

The project is divided into three main parts

**Part 1 :** road sign detection

that makes the car see and understand the road sign banner and take some reaction according to the sign.

In this part the is a hardware design that’s simulates some car reactions

**Part2 :** sleep alarm system

Detect the state of the driver if he fall asleep or he is attentive to the road . if he is sleeping we must alert him.

**Part3 :** distance sensor

A sensor in front of the car controlled by a microcontroller that measures the distance between the car and any faced obstacle in front of it and stops the car if the obstacle is very close to the car and passes certain threshold.

**Objective:**  
Make a step towards the goal of the smart car , and makes driving more safe in the future.