

الآية

قال تعالى :

(مَا أَصَابَ مِنْ مُصِيبَةٍ فِي الْأَرْضِ وَلَا فِي أَنْفُسِكُمْ إِلَّا فِي كِتَابٍ مِنْ قَبْلِ أَنْ نَبْرَأَهَا إِنَّ ذَلِكَ عَلَى اللَّهِ يَسِيرٌ * لِكَيْ لَا تَأْسَوْا عَلَى مَا فَاتَكُمْ وَلَا تَفْرَحُوا بِمَا آتَاكُمْ وَاللَّهُ لَا يُحِبُّ كُلَّ مُخْتَالٍ فَخُورٍ)

صدق الله العظيم – سورة الحديد (22 - 23)

DEDICATION

To ruminating cup empty to drink drop love to the tired fingers to give us a moment of happiness to reap the thorns from derby to pave me through science .

Big heartAnd my dear father to those who taught me love and compassion.

A symbol of love and healing balm to the heart as pure white ...Beloved mother to thin pure hearts and souls of innocentmy brothers and my friends and my family.

ACKNOWLEDGMENT

I would like to thank my project advisor Us. MohannadAljack for assigning us very interesting project of line following car. He has always encouraged us to work hard . It would be impossible to finish this project without his valuable time , help , timely guidance and mortal support. his timely advice helped us reach our goal and finish this project on time .i would like to thank my family members ,especially my parents for supporting me during the time of the project ,and providing constant support and warmth for me to continue and successfully finish the project.

ABSTRACT

With the recent rapid development in communications and processing capabilities ,more functionality ,and efficiency can be achieved by microcontrollers .this project aims to introduce and implement a line following car ,Arduino Uno will be used to control the car and its peripherals .the car has 2 LDR module sensors implemented on its front side which send light pulses that should be reflected off surface .the reflected light intensity determines the color of the object and hence the track to follow .DC motor along with gears will be used to control the wheel movement and direction.

المستخلص

أدى التطور السريع في مجالات الاتصالات الحديثة و قدرات المعالجة ، إلى المزيد من التقنيات التكنولوجية مما أدى إلى رفع كفاءة الإنتاج بالإضافة إلى تعدد الوظائف و الموثوقية و الإغتمادية في المجالات الصناعية المتعدده، و ويهدف المشروع إلى التحكم في سير عربة تتبع مسار معين تستخدم المتحكم المتعالج الدقيق للسيطرة على السيارة و الأجهزة الطرفية .

السيارة لديها العديد من حساسات المقاومة الضوئية (LDR module sensor) الموضوعة في الجانب الأمامي السفلي حيث يرسل جهاز الإرسال الأشعة إلى السطح ومن ثم تنعكس هذه الأشعة ، وشدة الضوء المنعكس تحدد لون السطح الذي تسير عليه العربة واستخدمت محركات التيار المستمر للتحكم في حركة العربة و اتجاهها.

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LIST OF ABBREVIATIONS

Abbreviation	Title
LFRV	Line Following Robotic Vehicles
LED	Light Emitting Diode
IR	Infrared
I/O	Input/Output
ALU	Arithmetic Logic Unit
VCC	Digital Supply Voltage
GND	Ground
CPU	Central Processing Unit
DC	Direct Current
AC	Alternating Current
LDR	Light Dependent Resistor
IDE	Integrated Development Environment
USB	Universal Serial Bus
MCU	Microcontroller Unit
SOC	System On Chip
RAM	Random Access Memory
ROM	Read Only Memory
TTL	Transistor Transistor Logic
DO	Digital Output
PM	Permanent