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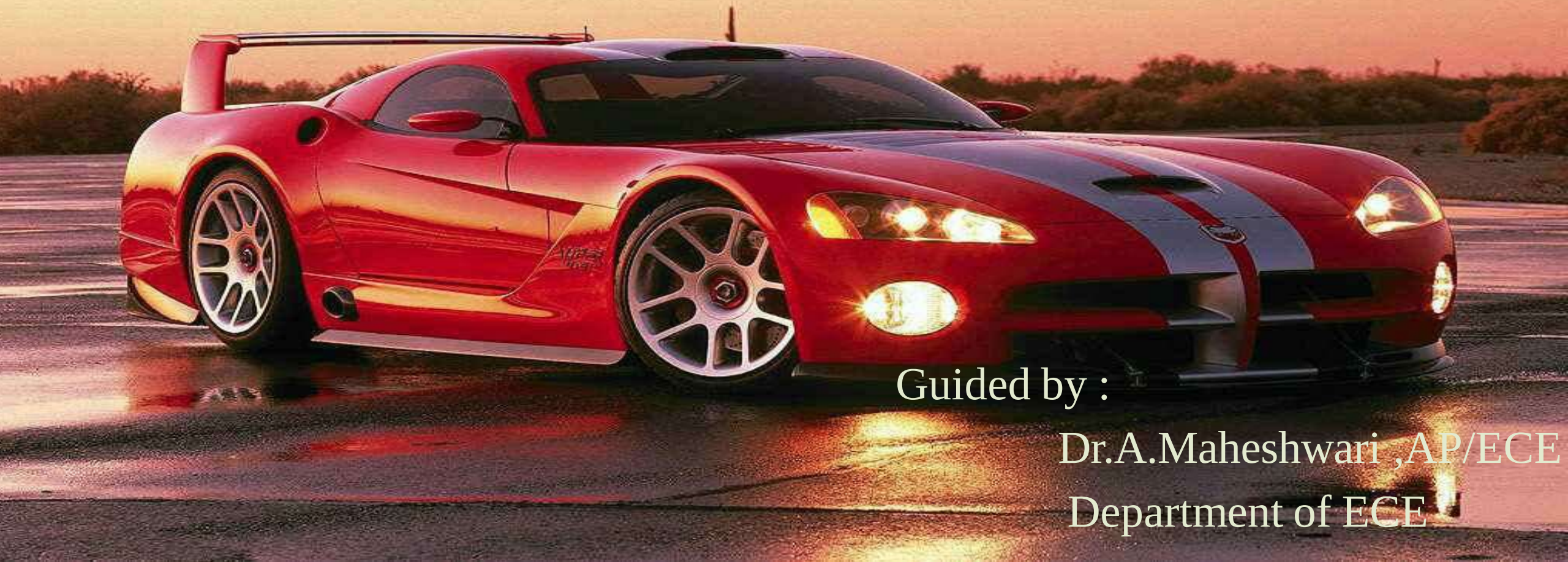
AUTOMATIC CAR HEADLIGHT DIMMER SYSTEM



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INTRODUCTION

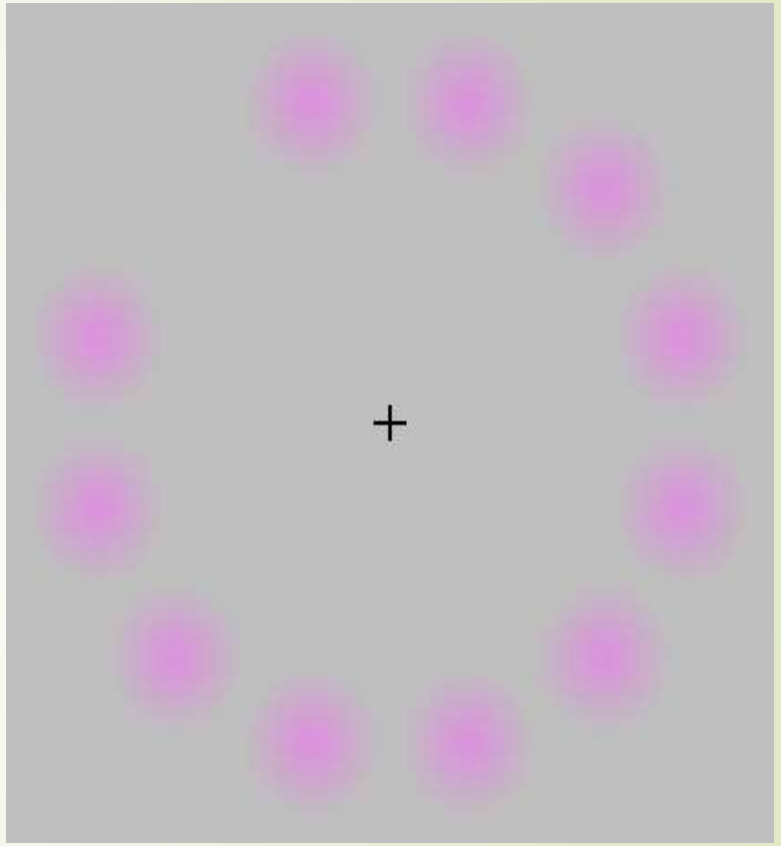
- Head lights are controlled manually.
- High beam causes Troxler effect.
- It leads to dangerous accidents.

ACCIDENTS DUE TO HIGH BEAM HEADLIGHTS

- 30% find the glare from oncoming headlights disturbing.
- Around 50% of fatal crashes occur at night.
- Functionaries of the Road Accident Action Forum claimed that 33% of accidents taking place at night were directly related to the misuse of high-beam lights

TOXLER EFFECT

- Troxler effect, is an optical illusion affecting visual perception. When one fixates on a particular point for even a short period of time, an unchanging stimulus away from the fixation point will fade away and disappear.



Problem statement

- Headlights of vehicles pose a great danger during night driving. The drivers of most vehicles use high, bright beam while driving at night.
- This causes a discomfort to the person travelling from the opposite direction and therefore experiences a sudden glare for a short period of time.
- This is caused due to the high intense headlight beam from the other vehicle coming towards the one from the opposite direction

OBJECTIVE

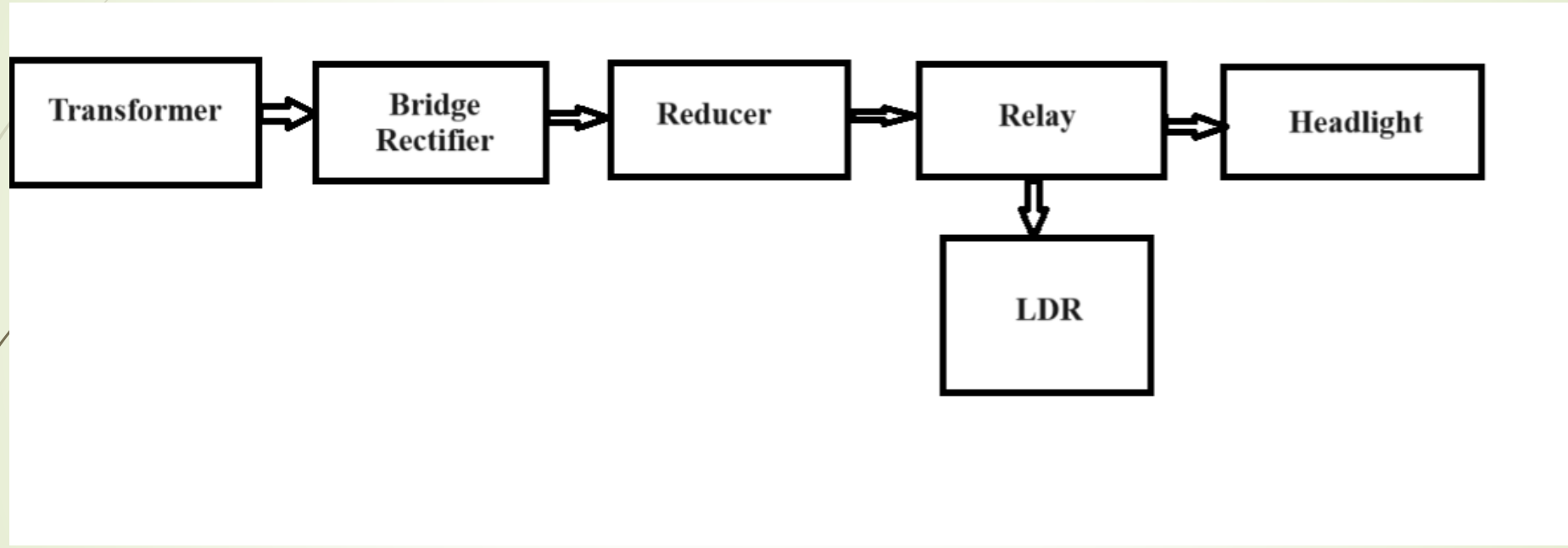
- These eliminate the need for the driver to manually switch on or switch off the headlamps in most driving situations.
- The automatic headlight switcher system reacts like the human eye to outside light levels and independently turns the lights on and off when needed.
- Such a system offers both safety and convenience.

PROTOTYPE COMPONENTS

COMPONENTS USED:

- LDR
- Two resistors
- Transistors
- Relay switch
- Supply Voltage
- Transformer
- Reducer
- Rectifier
- Bulbs

BLOCK DIAGRAM



FINAL PROTOTYPE

PROTOTYPE:

ADVANTAGES

- Auto-on headlight assists in determining a two-wheeler's exact location.
- It allows the rider to identify the two-wheeler's current position, even at high speed.

Cont…,

- As visibility decreases in rainy, foggy, and dusty conditions, AHO has the same advantages

- It decreases the rate of road accident.

CONCLUSION

- By installing this prototype in car we can reduce the number of road accidents as expected .We can also save lot of lives.
- Overall, this technology enhances the driving experience by promoting safer roads and reducing the likelihood of accidents caused by excessive headlight brightness.
- The adoption of such systems in modern vehicles is a step toward smarter and more responsive automotive technologies.

REFERENCE

1. AslamMusthafa R, Bala Krishnan T, Seetha Raman N, Shankar M, Swathi R, “Automatic Headlight Beam Controller” Special Issue Published in International Journal of Trend in Research and Development (IJTRD) 15th March 2017.
2. 2. M.Abdul Kader Riyaz, S.ArunJeyakumar, M.AbdulHameedSharik, A.Tamilarasi ,“Graphene Coated LED based Automatic Street Lighting System using Arduino Microcontroller” IEEE International Conference on Power, Control, Signals and Instrumentation Engineering (ICPCSI-2017).


Safe driving
Use
Automatic prototype
Thank you