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Solar Powered Hover Board for Future Individual Transportation

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Abstract: ***In today's world fossil fuel is the main Power source as it provides Energy for Auto Mobiles, fossil fuel has cause Environmental problems by emitting CO2 into Atmosphere. To overcome this problem, we are engaged with this Project. The objective of the project is to develop a Solar Powered Hover Board with Zero Auto Exhaust for future transportation. The Solar cells can directly transfer to Electric Power, This Electric Power is stored in the Battery which is used to power the hover board (The Battery can also be charged from the AC mains). By using Solar panel the Battery life is increase in the transportation. Power source is available for charging other portable devices (mobile, laptop etc.…). Mainly ATMEGA328 microcontroller is used to control the movement of the Hover board via Bluetooth. The voice controlled android app used to send commands to controller via Bluetooth (HC-05) and it is open source and available in play store for all android mobiles. The Helmet is used in this Project, which safe guards the user from accidental and environmental effects. With this Project low cost, easily portable and pollution free transportation can be achieved for the future generation.***

Keywords: Microcontroller, Bluetooth, DC Motor, Solar panel and Battery.

I. INTRODUCTION

Electric vehicles have their history since early 20th century even before the IC engines came along. Even Though the IC engines have dominated for most of the 20th century, electric vehicles have emerged again quite firmly, mainly due to the environmental concerns related with fossil fuels. The fossil fuel used in automobiles and it causes environmental problems by emitting CO2 into atmosphere. To overcome from environmental problems, electric vehicles can be used.

A hover board is a fictional levitating board used for personal transportation. Hover boards are generally depicted as resembling a skate board without wheels.one of most popular gifts this holiday season was the hover board those two wheeled, self-balanced battery powered scooters that can move more 10miles per hour.

II. BLOCK DIAGRAM

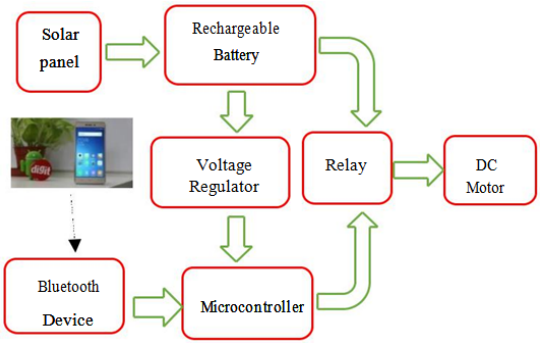

Fig 1. Block diagram of the solar powered Hover Board

The Solar panel is placed above the Battery. Solar panel carries Photovoltaic cells make use of the renewable Energy from the Sun. Solar cells can directly transfer into Electric Power; This Electric Power is stored in the Battery which is used to power the hover board (The Battery can also be charged from the AC mains). By using Solar panel the Battery life is increase in the transportation.

The DC motors are connected to the Hover board wheels, this motor will run with the help of Electric Power from the Battery.

The hover board wheels are connected to a DC motor for the movement, mainly ATMEGA328 microcontroller is used to control the movement of the hover board via Bluetooth. The voice controlled android app used to send commands to controller via Bluetooth (HC-05) and it is open source and available in play store for all android mobiles.

Power source is available for charging other portable devices (mobile, laptop etc.…). The Helmet is used in this Project, to hold the Solar panel which safe guards the user from accidental and environmental effects. With this Project low cost, easily portable and pollution free transportation can be achieved for the future generation.

III. PROTOTYPE

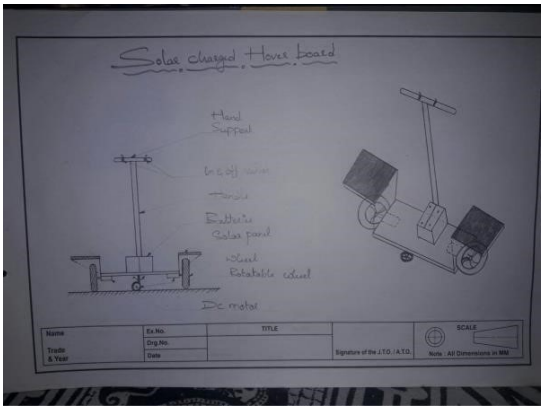

Fig 2. Prototype

IV. EXISTING SYSTEM

- The existing hover board is not solar powered hover board.
- Microcontroller is not used to control the movement of hover board via voice controlled wireless Bluetooth device.
- Power source is not available to charge Portable devices.

V. PROPOSED SYSTEM

- The proposed system is solar power hover board.
- Microcontroller is used to control the hover board by the wireless device (Bluetooth).
- And also power source is available to charge the portable devices

VI. ADVANTAGES

- The unit will be developed so that requirement of the petroleum can reduced with zero Auto Exhaust and reduce the traffic in the cities.
- This Unit is very helpful for the college students and young age peoples.
- The unit is environmental friendly and pollution free transportation can be achieved for the future generation.

VII. APPLICATIONS

- Future individual transportation for the next generation.

VIII. CONCLUSION

The objective of the project is to develop a Solar Powered hover board with Zero Auto Exhaust for future transportation. By using Solar panel the Battery life is increase in the transportation. Power source is available for charging other portable devices (mobile, lap top etc.…). The Helmet is used in this Project, to hold the Solar panel which safe guards the user from accidental and environmental effects. With this Project low cost, easily portable and pollution free transportation can be achieved for the future generation.

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