

IOT based Solar powered Cooling System for Car cabin

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Abstract

The fan inhales fresh air from outside into the vehicles inside chamber and exhales warm air outwards. Solar power can be used on a sunny day to operate the ventilator while simultaneously charging the battery. The fan can be powered by the battery during a cloudy day. This article examined the thermal transfer and energy balance of the vehicle. Furthermore, it examined engine energy consumption, solar panel electricity, and radiation effect and battery charge time. This research indicates that a high-speed engine should substitute the engine in the current ventilator. More energy is required in an enhanced ventilator for the high-speed engine. A sold-only fan has been altered to enhance its efficiency in this article. Air flow rate has been improved from 20 cfm to 110.5 cfm. At least 11% better than the current one, the enhanced fan resulted in decreasing the temperature in a vehicle.

Keywords-ventilator, solar panel

INTRODUCTION

In the modern era, most individuals drive vehicles, and sometimes during driving they park in the open air where they are subjected straight to the sun. The air in the automobile becomes very warm when the vehicle parks for too long to expose the sun[1]–[4]. Inside the vehicle the temperature can be up to 60 degree Celsius. The temperature in the car can easily reach 55 degree Celsius even in a rather cloudy day[3], [5]–[11]. There is hardly a vehicle that has been subjected to solar radiation for several hours. In the first 10 minutes, the heat inside the vehicle makes the driver feel uneasy (Mezrhab and Bouzidi, 2005). On a sunny day, the comfort circumstances in the wagon rely greatly on the exchange of thermal radiation between the vehicle and the surroundings and the inner radiation in the wagon. The most immediate phenomena of the energy transfer are without doubt radiation. To persuade you, you need to consider the instant impression or relief you experience after you drive a sunny day on a shady highway. In summertime, riders can find it hard to sit in the vehicles comfortably in their vehicles, if the temperature outside the car becomes too big or too low. A solution to this issue is provided through this project. The project is designed to maintain the vehicle interior comfortable while parking the vehicle on a parking lot or on the driveway. A solution to this issue is provided in this project. Project is designed to maintain the interior of the vehicle for comfortability, while the vehicle is parked on the driveway.

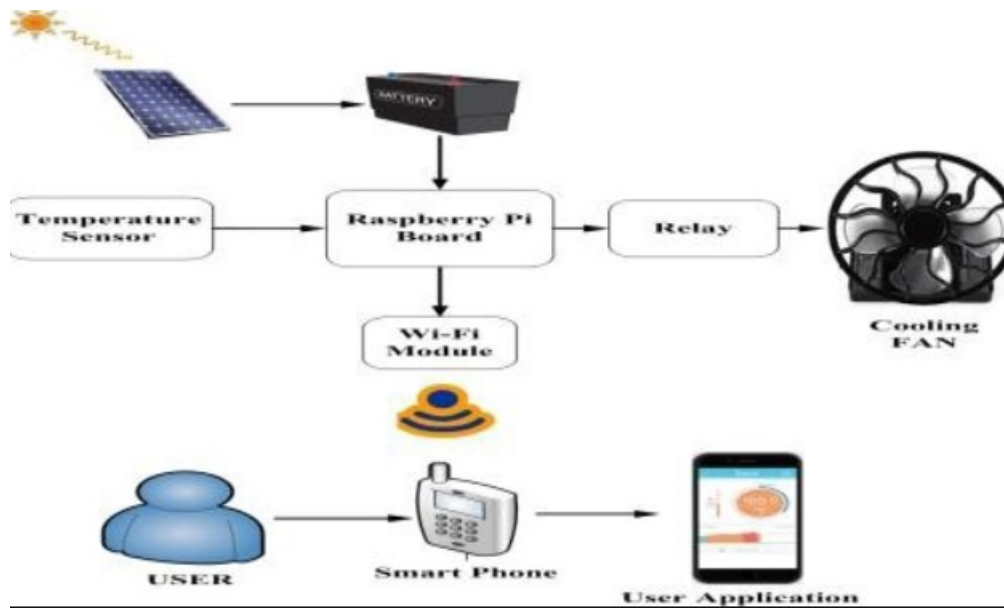


Figure1- Schematic representation of cooling system

RESULT AND CONCLUSION

The cooling system of cars makes it possible to maintain the cabin cool, according to the user's requirements, and enables the system to be controlled by a mobile phone. The back camera is fixed and allows the background to be viewed while reversing, making it easier for the driver to drive.

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