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:NA
:NA

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(57) Abstract :

Due to scarcity of fossil fuel in future and its detrimental effect on the environment, an alternative energy has to be discovered. Wind power is clean and sustainable natural resources that has yet to be fully utilized in the automotive industry. Also the sun is probably the most important source of renewable energy available today. The hybrid system has been designed and installed to generate power which combines wind turbine and solar panel. The hybrid model system is renewable energy system, which helps conserve energy by reducing the use of fuel in vehicle. Hence developing a new method for the economical evaluation of Hybrid Systems for electricity production. As we know that road accidents are increasing nowadays in order to reduce road accidents we place obstacle finding and braking system. For convenient control of vehicle mobile, we use to connect vehicle with mobile by Bluetooth.

No. of Pages : 7 No. of Claims : 5

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D. NO: 20979



FORM I THE PATENTS ACT 1970 (39 of 1970) and THE PATENTS RULES, 2003 APPLICATION FOR GRANT OF PATENT (See section 7, 54 and 135 and sub-rule (1) of rule 20)				(FOR OFFICE USE ONLY)			
				Application No. 202041009040			
				Filing date: 03.03.2020			
				Amount of Fee 1750/-			
				paid: 7573			
				CBR No:			
1. APPLICANT'S REFERENCE / IDENTIFICATION NO. (AS ALLOTTED BY OFFICE)				3/3/2020			
2. TYPE OF APPLICATION [Please tick () at the appropriate category]							
Ordinary (<input checked="" type="checkbox"/>)		Convention ()		PCT NP ()			
Divisional ()	Patent of Addition ()	Divisional ()	Patent of Addition ()	Divisional ()	Patent of Addition ()		
3A. APPLICANT(S)							
Name in Full		Nationality	Country of Residence	Address of the Applicant			
Dr.Nirmal Kannan.V		India	India	Professor Department of Mechanical Engineering V.S.B Engineering College, Karudayampalayam,Karur-639111			
3B. CATEGORY OF APPLICANT [Please tick () at the appropriate category]							
Natural Person (<input checked="" type="checkbox"/>)		Other than natural person ()					
		Small Entity ()	Startup ()	Others ()			
4. INVENTOR(S) [Please tick () at the appropriate category]							
Are all the inventor(s) same as the applicant(s) named above?			Yes ()		No ()		
If "No", furnish the details of the inventor(s)							
Name in Full		Nationality	Country of Residence	Address of the Inventor			
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Akash.P		India	India	Fourth year B.E -MECH V.S.B Engineering College, Karudayampalayam,Karur-639111			
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Dr.M.Sundaram	India	India	Professor Department of Electronics and

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OFFICE CHENNAI 04/03/2020 11:02

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Mrs.R.Dhayabarani	India	India	Associate Professor Department of Electronics and Communication Engineering Karudayampalayam, Karur-639111		
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Driverless Renewable Energy Hybrid Vehicle with Bluetooth control					
6. AUTHORISED REGISTERED PATENT AGENT(S)			IN/PA No.	NIL	
			Name		
			Mobile No.		
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			Postal Address	Professor Department of Mechanical Engineering V.S.B Engineering College, Karudayampalayam, Karur- 639111	
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8. IN CASE OF APPLICATION CLAIMING PRIORITY OF APPLICATION FILED IN CONVENTION COUNTRY, PARTICULARS OF CONVENTION APPLICATION : NIL					
Country	Application No.	Filing Date	Name of the Applicant	Title of Invention	IPC (as classified in the convention country)
9. IN CASE OF PCT NATIONAL PHASE APPLICATION, PARTICULARS OF INTERNATIONAL APPLICATION FILED UNDER PATENT CO-OPERATION TREATY (PCT)					
International application number			International filing date		
NIL			NIL		
10. IN CASE OF DIVISIONAL APPLICATION FILED UNDER SECTION 16, PARTICULARS OF ORIGINAL (FIRST) APPLICATION					
Original (first) application No			. Date of filing of original (first) application		

NIL	NIL
-----	-----

11. IN CASE OF PATENT OF ADDITION FILED UNDER SECTION 54, PARTICULARS OF MAIN APPLICATION OR PATENT

Main application/patent No.	Date of filing of main application
NIL	NIL

12. DECLARATIONS

(iii) Declaration by the applicant(s)
 I/We the applicant(s) hereby declare(s) that: -

- . We are in possession of the above-mentioned invention.
- . The provisional/complete specification relating to the invention is filled with this application.
- . The invention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be submitted by me/us before the grant of patent to me/us.
- . There is no lawful ground of objection(s) to the grant of the Patent to me/us.
- . We are the true & first inventor(s).
 - We are the assignee or legal representative of true & first inventor(s).
- . The application or each of the applications, particulars of which are given in Paragraph-8, was the first application in convention country/countries in respect of my/our invention(s).
- . We claim the priority from the above mentioned application(s) filed in convention country/countries and state that no application for protection in respect of the invention had been made in a convention country before that date by me/us or by any person from which I/We derive the title.
 - Our application in India is based on international application under Patent Cooperation Treaty (PCT) as mentioned in Paragraph-9.
- . The application is divided out of my /our application particulars of which is given in Paragraph-10 and pray that this application may be treated as deemed to have been filed on 03/03/2020 under section 16 of the Act.
- . The said invention is an improvement in or modification of the invention particulars of which are given in Paragraph-11.

1. FOLLOWING ARE THE ATTACHMENTS WITH THE APPLICATION
 (a) Form 2

Item	Details	Fee	Remarks
Complete/ provisional specification)	No. of pages - 5		
No. of Claim(s)	No. of claims - 5 No. of pages -1		

03-Mar-2020/20979/202041009040/Form 1

Abstract	No. of pages - 1		
No. of Drawing(s)	No. of drawings - 3 No. of pages - 3		


- (b) Complete specification (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies).
(d) Drawings (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies).
(g) Statement and Undertaking on Form 3
(h) Declaration of Inventor ship on Form 5
(j) Request for publication on Form 9

Total fee in Cash/ Banker's Cheque /Bank Draft bearing No.....
Date.....on Bank.

We hereby declare that to the best of my/our knowledge, information and belief the fact and matters slated herein are correct and I/We request that a patent may be granted to us for the said invention.

Dated this 3rd day of March 2020

Signature:


3/3/2020

Name: Dr.Nirmal Kannan.V

To
The Controller of Patents
The Patent Office, at Chennai

Note: -

- * Repeat boxes in case of more than one entry.
- * To be signed by the applicant(s) or by authorized registered patent agent otherwise where mentioned.
- * Tick () /cross (x) whichever is applicable/not applicable in declaration in paragraph-12.
- * Name of the inventor and applicant should be given in full, family name in the beginning.
- * Strike out the portion which is/are not applicable.
- * For fee: See First Schedule”;

03-Mar-2020/20979/202041009040/Form 1

ABSTRACT

Driverless Renewable Energy Hybrid Vehicle with Bluetooth control

Due to scarcity of fossil fuel in future and its detrimental effect on the environment, an alternative energy has to be discovered. Wind power is clean and sustainable natural resources that has yet to be fully utilized in the automotive industry. Also the sun is probably the most important source of renewable energy available today. The hybrid system has been designed and installed to generate power which combines wind turbine and solar panel. The hybrid model system is renewable energy system, which helps conserve energy by reducing the use of fuel in vehicle. Hence developing a new method for the economical evaluation of Hybrid Systems for electricity production. As we know that road accidents are increasing nowadays in order to reduce road accidents we place obstacle finding and braking system. For convenient control of vehicle mobile, we use to connect vehicle with mobile by Bluetooth.



700318344

FORM 2 THE PATENTS ACT, 1970 (39 of 1970) & The Patent Rules, 2003 COMPLETE SPECIFICATION (See sections 10 & rule 13)		
1. TITLE OF THE INVENTION		
Driverless Renewable Energy Hybrid Vehicle with Bluetooth control		
2. APPLICANTS (S)		
Name	Nationality	Address
Dr.Nirmal Kannan.V	India	Professor Department of Mechanical Engineering V.S.B Engineering College, Karudayampalayam,Karur-639111
3. PREAMBLE TO THE DESCRIPTION		
COMPLETE SPECIFICATION		
The following specification particularly describes the invention and the manner in which it is to be performed.		

Driverless Renewable Energy Hybrid Vehicle with Bluetooth Control

TECHNICAL FIELD

Our innovation discloses in the field of automobile which uses renewable energy like solar and wind as fuel.

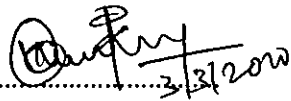
BACKGROUND

The fossil fuel such as diesel and petrol are very expensive way to be extracted and used. The huge demand for the fossil fuel is the one of major reason for the extraction and usage of renewable energy As per the International Organization of Motor Vehicle about 17000 motor vehicle are increasing in every year. In this about 96% of vehicle are using fossil fuel. Unfortunately between 2000 and 2020 fuel cost increase 3 times. This causes a concern for us to solve one of the major issue faced by people. Air pollution contributes to the premature death of 2 million Indians every year in this 30% of pollution is due to fossil fuel vehicles.



700318345

FORM 3
THE PATENTS ACT, 1970
(39 of 1970)
and
THE PATENTS RULES, 2003
STATEMENT AND UNDERTAKING UNDER SECTION 8
(See section 8; Rule 12)

1. Name of the applicant(s).	We Dr.Nirmalkannan.V hereby declare:
2. Name, address and nationality of the joint applicant NIL	(i) that We have not made any application for the same/substantially the same invention outside India
3. Name and address of the Assignee NIL	(iii) that the rights in the application(s) has/have been assigned to that I/We undertake that upto the date of grant of the patent by the Controller, I/We would keep him informed in writing the details regarding corresponding applications for patents filed outside India within six months from the date of filing of such application.
4. To be signed by the applicants	Dated this 3rd day of March 2020 1. Signature.  3/3/2020
5. Name of the natural person who has signed.	Dr.Nirmalkannan.V
	To The Controller of Patents, The Patent Office, at Chennai

03-Mar-2020/20979/202041009040/Form 3



700318346

FORM 5
THE PATENT ACT, 1970
(39 OF 1970)
&
The Patents Rules, 2003
DECLARATION AS TO INVENTORSHIP
[See section 10(6) and Rule 13(6)]

1. NAME OF APPLICANTS

Dr.Nirmal Kannan.V
Professor
Department of Mechanical Engineering
V.S.B Engineering College, Karudayampalayam,Karur-639111

hereby declare that the true and first inventor(s) of the invention disclosed in the complete specification filed in pursuance of our application numbered _____ dated _____ are

2. INVENTOR (S)

1. (a) Name Dr.Nirmal Kannan.V
(b) Nationality India
(c) Address Professor
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2. (a) Name Mr.Akash.P
(b) Nationality India
(c) Address Fourth year B.E -MECH
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3. a) Name Mr.Alwin Geo Johnson
(b) Nationality India
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4. (a) Name Mr.Allen Vijay.V.N
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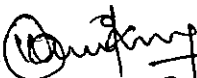
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12. (a) Name Dr.Umamaheswari.K
(b) Nationality India
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13. (a) Name Dr.Elamurugan.P
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14. (a) Name Dr.Kavitha.V
(b) Nationality India
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(b) Nationality India
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16. (a) Name Dr.Gomathi.P.S
(b) Nationality India
(c) Address Professor
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V.S.B Engineering College, Karudayampalayam, Karur-639111
17. (a) Name Mrs.R.Dhayabarani
(b) Nationality India
(c) Address Professor
Department of Electronics and Communication Engineering
V.S.B Engineering College, Karudayampalayam, Karur-639111

Dated this 3rd day of March, 2020

Signature: 
3/3/2020

Name: Dr. V. Nimal Kannan

3. DECLARATION TO BE GIVEN WHEN THE APPLICATION IN INDIA IS FILED BY THE APPLICANT (S) IN THE CONVENTION COUNTRY:-
-NA-

To,
The Controller of Patent
The Patent Office, at Chennai.



700318347

CBR : 7573

date : 03/03/2020

Amt : 2750/-

Ar
3/3/2020

FORM 9
THE PATENTS ACT 1970
(39 of 1970)
&
THE PATENTS RULES, 2003
REQUEST FOR PUBLICATION
(See section 11A(2);rule24A)

I, (i) Dr.Nirmal Kannan.V, Professor, Department of Mechanical Engineering,
V.S.B Engineering College, Karudayampalayam,Karur-639111, India

Here by request for early publication of my application for patent No.....
dated 3rd March 2020 under section 11A(2) of the Act.

Dated this 3rd day of March 2020

Applicant:

(i) Name ;Dr.Nirmal Kannan.V

Signature:*Ar*.....
3/3/2020

To
The Controller of patents,
The Patent Office,
At Chennai

03-Mar-2020/20979/202041009040/Form 9

ABSTRACT

Driverless Renewable Energy Hybrid Vehicle with Bluetooth control

Due to scarcity of fossil fuel in future and its detrimental effect on the environment, an alternative energy has to be discovered. Wind power is clean and sustainable natural resources that has yet to be fully utilized in the automotive industry. Also the sun is probably the most important source of renewable energy available today. The hybrid system has been designed and installed to generate power which combines wind turbine and solar panel. The hybrid model system is renewable energy system, which helps conserve energy by reducing the use of fuel in vehicle. Hence developing a new method for the economical evaluation of Hybrid Systems for electricity production. As we know that road accidents are increasing nowadays in order to reduce road accidents we place obstacle finding and braking system. For convenient control of vehicle mobile, we use to connect vehicle with mobile by Bluetooth.

Driverless Renewable Energy Hybrid Vehicle with Bluetooth Control

TECHNICAL FIELD

Our innovation discloses in the field of automobile which uses renewable energy like solar and wind as fuel.

BACKGROUND

The fossil fuel such as diesel and petrol are very expensive way to be extracted and used. The huge demand for the fossil fuel is the one of major reason for the extraction and usage of renewable energy As per the International Organization of Motor Vehicle about 17000 motor vehicle are increasing in every year. In this about 96% of vehicle are using fossil fuel. Unfortunately between 2000 and 2020 fuel cost increase 3 times. This causes a concern for us to solve one of the major issue faced by people. Air pollution contributes to the premature death of 2 million Indians every year in this 30% of pollution is due to fossil fuel vehicles.

Solar and wind energy is best alternative fuel in automobiles. As they are renewable energy and produce 0% pollution. Thereby our study involved in understanding different way to combining wind and solar energy in a car with the obstacle detecting sensors to produce safety to the pedestrian and vehicles.

This project leads to less usage of fossil fuel by using the renewable energy(solar and wind) in the effective way. This will also helps to reduce the fuel cost.

OBJECTS OF THE INVENTION

An object of the present disclosure is to provide two renewable energy as vehicle fuel.

An object of the present disclosure is to provide an intelligent Automatic braking system to avoid accidents.

An object of the present disclosure is to develop zero pollution vehicle.

DESCRIPTION

The foremost idea of the prototype is to effective usage of renewable energy like solar and wind in the vehicle. This prototype consist of solar panel and wind turbine the solar panel is used to receive solar rays and wind turbine work with the help of wind energy. In order to reduce the accidents it consist of obstacle sensing mechanism.

This prototype consists of a battery which produces 12V, 12Amps. It is used to store energy from solar panel and wind turbine. At the moderate climate solar panel can produce 19.25V in a minute and at the constant rotation of turbine it can produce 24V. The battery is connected to the Arduino. For the best utilization of energy and other circuit we use Arduino UNO. The wheels of the vehicle are connected with the motor which is placed in rear wheels. For the greater pushing force we use two motors, one motor each for two rear wheel. The motors are connected to the Arduino board. The motors will works with 12V each from the Arduino board. From Arduino board motor is connected with the help of relay which will convert the high voltage to 12V which is appropriate for motor.

The front end and back end of vehicle consist of IR sensor and UV sensors respectively. The sensors are used for the purpose of automatic stopping during obstacles. The two sensors are connected to the Arduino board. These sensors need 5V for correct function.

Automatic braking will happen when the obstacle is in front or back side. When the sensors sense any obstacles they will transfer signal to Arduino board. The Arduino board will transfer the signal to the braking system. The braking is achieved by using an electric actuator which is connected to the braking system.

For the movement of vehicle to front and back can also is controlled by using mobile. By using the HC-05 Bluetooth module is connected with the Arduino thus the total movement of vehicle can controlled using mobile.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG.1 Block diagram for automatic braking.

FIG.2 demonstrates the working model to control vehicle using mobile.

FIG 3 Block Diagram for total setup.

INNOVATIVE FEATURES

- Combining of two renewable energy
- Zero pollution
- Ease of maintenance
- Obstacle finding and braking system
- No fuel cost

We claim

1. Hybrid vehicle with combined renewable energy source (solar and wind).
2. Automatic braking system in renewable energy hybrid vehicle.
3. Obstacle detection by using UV sensor in front and PIR sensor in back.
4. Energy from solar panel and wind turbine is stored in battery and used for the working of two motors in rear wheels.
5. Renewable energy hybrid vehicle is controlled by HC-05 Bluetooth module and mobile.

BLOCK DIAGRAM:

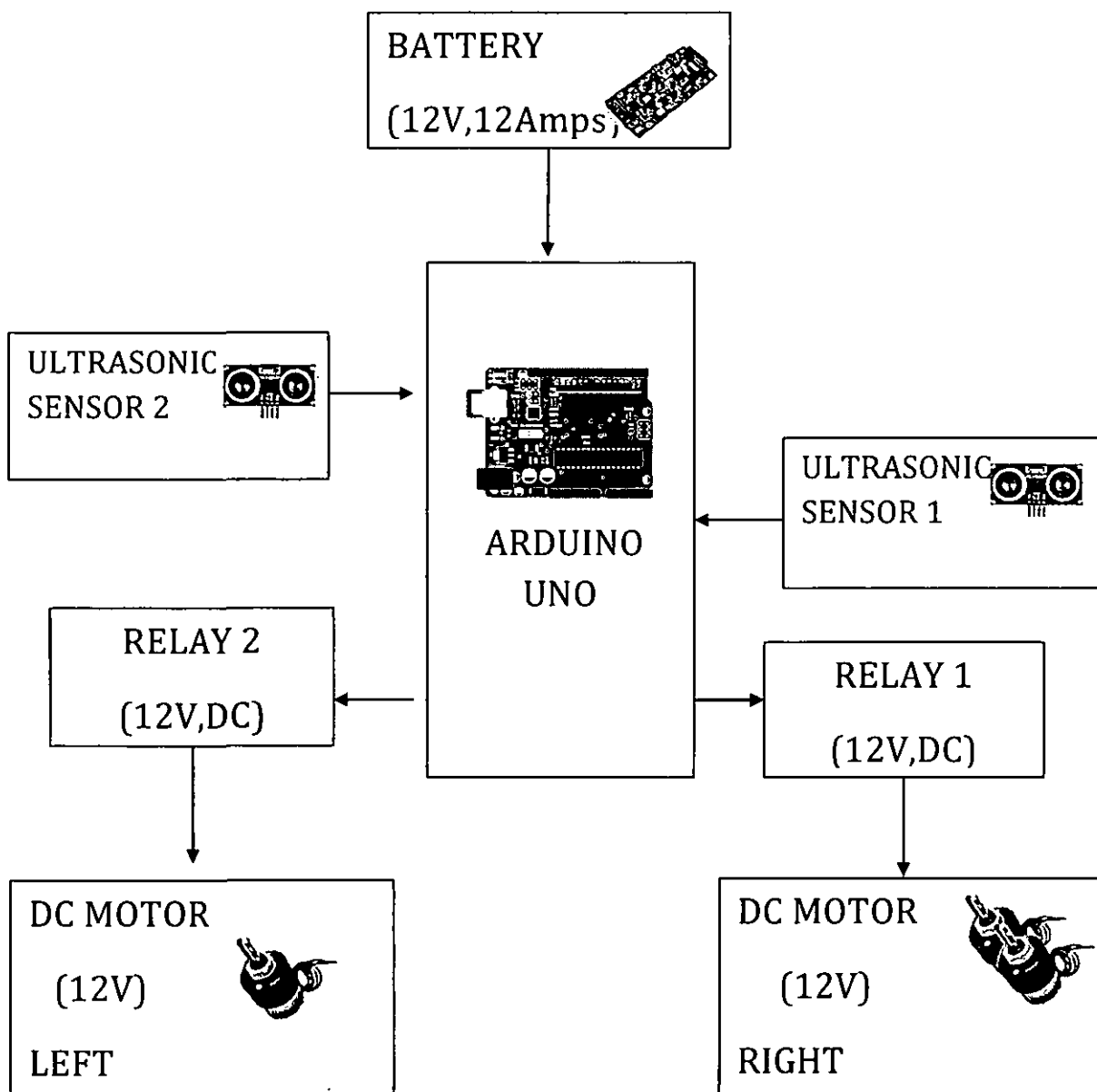


FIG-1

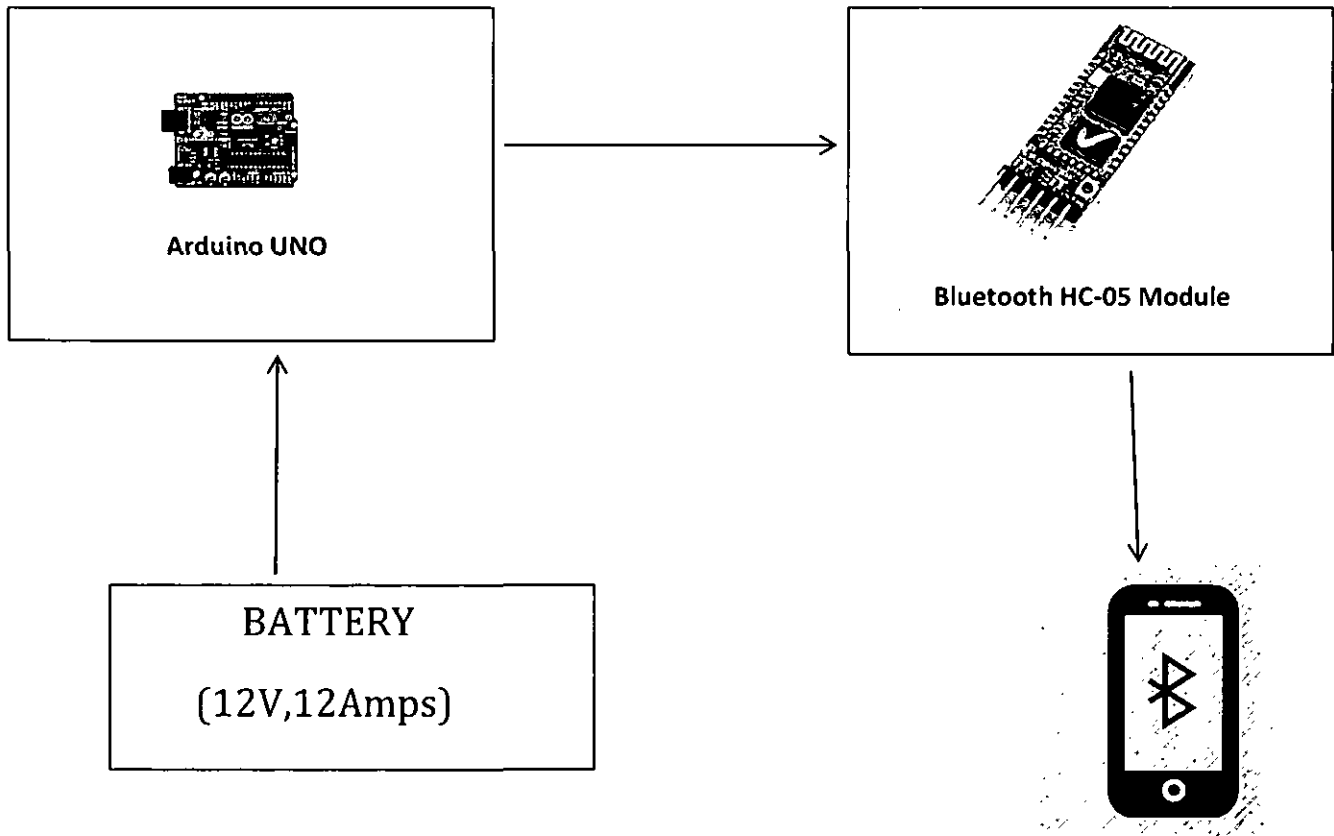


FIG-2

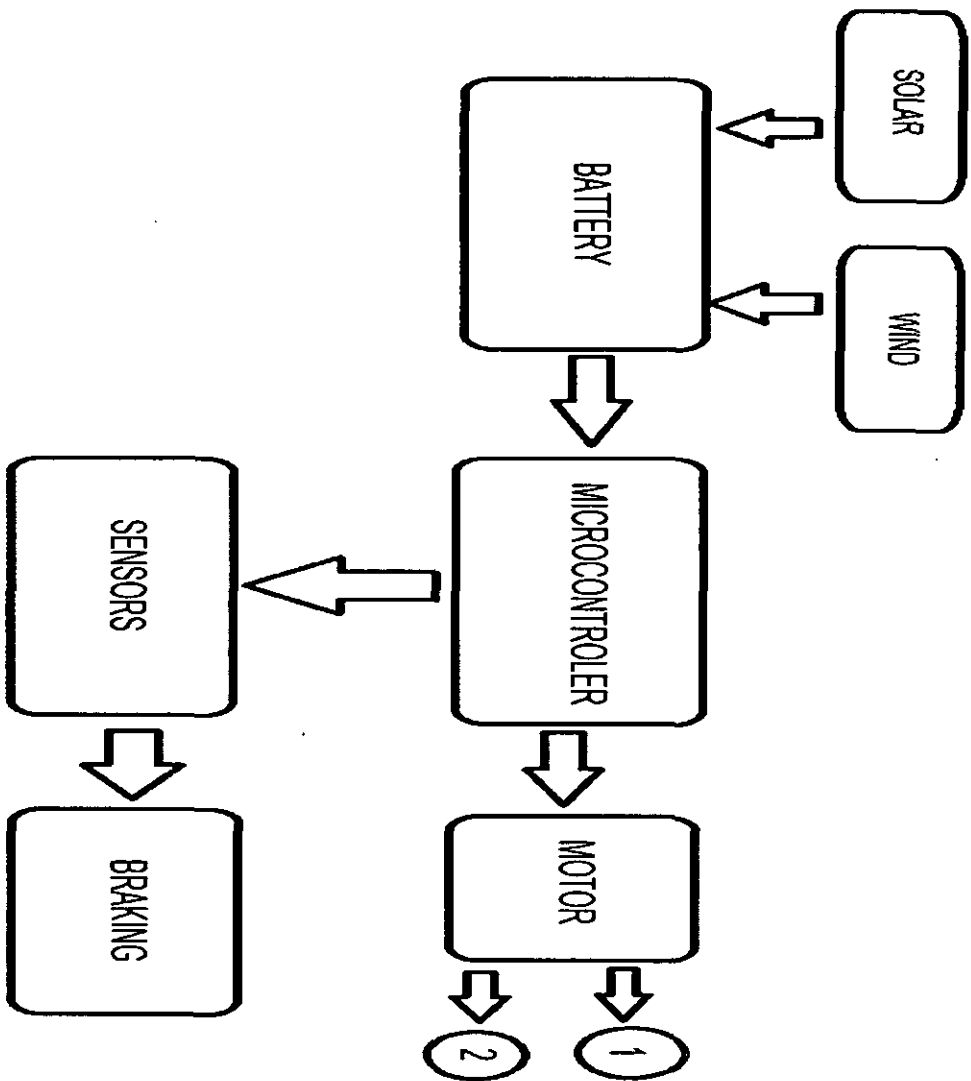


FIG-3