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CONTROLLING THE INJECTION OF FUEL FROM HUMAN LIQUID EXCREMENT THROUGH ARDUINO

Sabari Janath.B.P[1], Devendran.R[2], Rohin.K[3], Maheswari.D[4]

UG Student, Dept. of ECE, Agni College of Technology Chennai, Tamilnadu, India[1,2,3]

Assistant Professor, Dept. of ECE, Agni College of Technology Chennai, Tamilnadu, India[4]

Abstract: Environmental as well as economical issues provide a compelling impetus to develop clean, efficient and sustainable vehicles for urban transportation. Automobiles constitutes an integral part of our everyday life, Yet the exhaust emissions of conventional internal combustion (IC) engine vehicles are to blame for the major source of urban pollution that causes green house effect leading to global warming. The dependence of fossil fuel as the sole source of energy for automobiles and also it has economical and political implications. The crisis will inevitably become acute, as the oil reserve of world diminishes. The number of automobiles on our planet doubled to about a billion and so for the last 10 years. The increasing number of automobiles introduced on road every year is only adding the pollution problem. There is also an economic factor inherent in poor energy conversion efficiency of combustion engines and also the fuel conservation is becomes poor. In future we won't able to get an sufficient fuel in earth. Due to this issue some companies have started to research for the fuels and some companies have invented electric powered cars depends upon the problem comes in future and some people have also discovered the engine which is powered through water. Every who ready to powered through water are facing an issue that storing of hydrogen. It is not an easy task to store the hydrogen it needs to be given a lot of energy to store as a solid state because hydrogen is highly flammable. Instead of storing gaseous state is has been stored in the solid state. In this case they faced an issue of wastage of electricity for converting gaseous state to solid and again solid state to gaseous state for the hydrogen powered cars using the concept of fuel cell. To overcome these limitations, here in the CONTROLLING THE INJECTION OF FUEL FROM HUMAN LIQUID EXCREMENT THROUGH AURDINO is introduced to reduce the electricity wastage ,drive an automobile vehicles eco-friendly and drive an vehicles using human waste this device is working based upon the electric power not with any kind of fuels and it is eco-friendly and user friendly

Keywords: Future fuel resource, embedded system, real time, microcontroller, eco friendly.

I.INTRODUCTION:

"A nation that can't control its **energy sources** can't control its future", Fuel resources places a major role for the development of countries. Fuel resources nation can be a wealthy nation. Over 95% of the worlds countries have the started resource problems. In the past 23 years, the leading causes of resource loss have hardly changed. Increases Motor vehicles, Low fuel amount, lack of fuel, fuel price got increase rapidly it resulted in the largest overall resource lossworldwide.

Motor vehicles were approximately 25% of the population are being supplied to people worldwide .Fuel is a major resources in the world Environmental as well as economical issues provide a compelling impetus to develop clean, efficient and sustainable vehicles for urban transportation. Automobiles constitutes an integral part of our everyday life, Yet the exhaust emissions of conventional internal combustion (IC) engine vehicles are to blame for the major source of urban pollution that causes green house effect leading to global warming. The crisis will inevitably become acute, as the oil reserve of world diminishes. The number of automobiles on our planet doubled to about a billion and so for the last 10 years. The increasing number of automobiles introduced on road every year is only adding the pollution problem. There is also an economic factor inherent in poor energy conversion efficiency of combustion engines and also the fuel conservation is becomes poor

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II. FUTURE RESOURCE:

Against this background, there are increasing calls for new fuels to replace conventional fossil fuels in coming decades. It has been argued that the calls for new fuels have added urgency as there may be rapidly growing shortfalls in the supply of conventional natural gas and mineral oil, necessitating a rapid and massive phase-in of new energy sources. Also, a rapid phase-out of conventional fossil fuels as currently used (without CO_2 sequestration), has been advocated in view of the expected impacts of climate change.

2.1 TYPES AND METHODS:

The new fuels, which are currently considered for near term application and will be discussed here, include unconventional fossil fuels. These are: shale oil, oil from bitumen, or 'tar sands', and coal-derived liquids. Other fuels to be discussed here, are methane hydrates, 'modern biofuels' (such as ethanol from sugar, starch and lignocellulose and oil from terrestrial oil crops and algae), and H_2 (hydrogen). Together these will be called 19th century Ethanol from sugar and vegetable oil were used to power early motor cars Shale gas, currently considered to be unconventional, was actually in 1821 the first commercially produced gas in the United States. And substantial amounts of liquid fuels from coal were produced in Germany during World War II and The method to produce hydrogen are electrolytic cell ,steam methane reforming.

III. PROBLEMS IN EXCITATION PROJECTS:

The main problem is storage of hydrogen gas which is highly flammable. Even though if we try to store we can only store in the solid state format or liquid state format. Not in the gaseous state. If we store into solid are liquid in fuel cell car more electricity needs to be given to convert solid in to gas or gas into solid state so battery power may get drained soon in the hydrogen fuel cell cars .and also have some other general problems The fuel which is produced from water to run the auto mobiles such as cars, Bikes, trucks etc. Recently a man who discovered the bike which runs in the water.

But there is huge difference between the normal water and the sea water, since it is present only in the sea shore areas. But the states and countries which is present without sea shore areas which is very difficult to use that device in such areas. For example: (Africa) there are so many difficulties of getting water for the regular uses. If they use that device, they need to transport the sea water. For the transportation they need some fuel, which is the problem I have seen on it.

IV. SHORT DESCRIPTION OF PROJECT:

Here we are trying to solve the problems which have been occurred in the future fuel resource instead of storing we came up with an idea of controlling the production and the injection of the hydrogen gas in the auto mobile by using the arduino and also producing the fuel from urine through electrolysis process.

4.1 MOTIVATION:

The fuel which is produced from the water is a good thought and action for future resources. But my thought is totally different from it .The fuel which is produced from urine to run the auto mobiles is the idea, which I have generated. And also I came up with a solution for storage problem

SOLUTION:

COMPOSITION OF URINE

0.05%= AMONIA
0.18%= SULPHATE
0.18%=PHOSPHATE
0.6%=CHLORINE
0.01%=MAGNESIUM
0.015%=CALCIUM
0.6%=POTASSIUM
0.1%=SODIUM
0.1%=CREATININE
0.03%=URIC ACID
2%=UREA

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95%=WATER

From this problem I have taken a solution that the fuel which is produced by urine. Urine is a natural resource this .can be easily collected from all living organisms in earth. And also instead of storing we can control the production of hydrogen gas depending upon the throttle action of the automobiles such as bikes, cars etc… except plants ,so the main thing is cost efficient, natural resource, renewable resource. If we use this device in the country, then there won't be any necessity of getting fuels in tons of barrels from other countries by exchanging gold. So due to this the gold value is increasing in India and fuel such as petrol, diesel, pure petrol etc.. is becoming expensive nowadays..

V. DETAIL DESCRIPTION OF THE PROJECT:

5.1 BODY:

The basic outline of our device:

This paper addresses the continuous rising concern initiated to generate fuel from living organism waste i.e. Urine. The liquid waste which contains hydrogen ions in sufficient amount, when filling into the fuel tank which will goes into the dry cell. Depending upon the distance of the throttle wire which is measured by the UV sensor voltage may vary in the pwm (pulse with modulation) When power supply is given to the cell which will split the hydrogen gas . The production of Hydrogen gas is depending upon the controllers. This energy source model is developed using both dry cell and wet cell. A comparative study is done for battery source, fuel cell storage and the living organism liquid waste

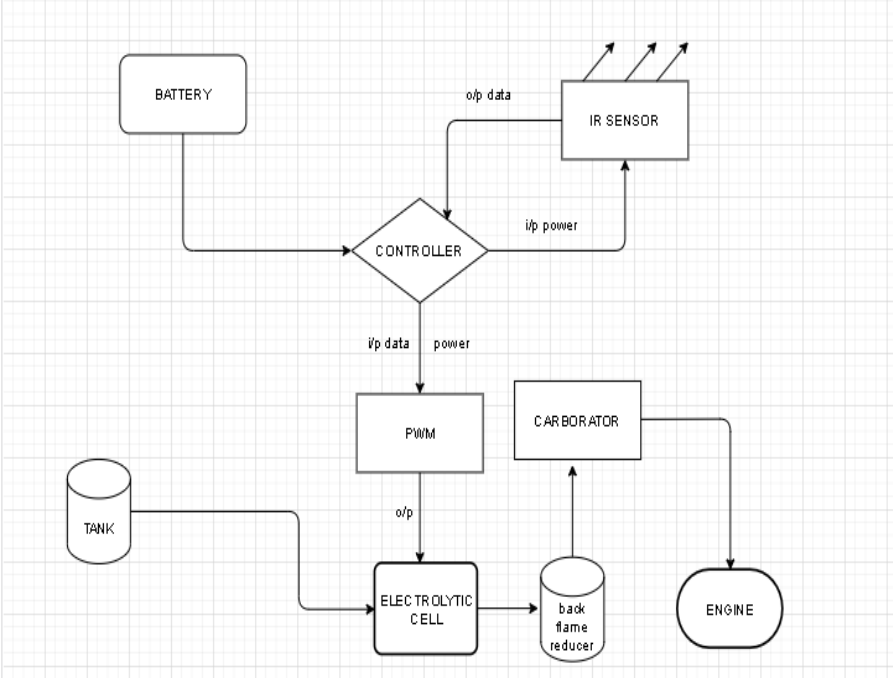

FIG.1 BLOCK DIAGRAM OF SYSTEM

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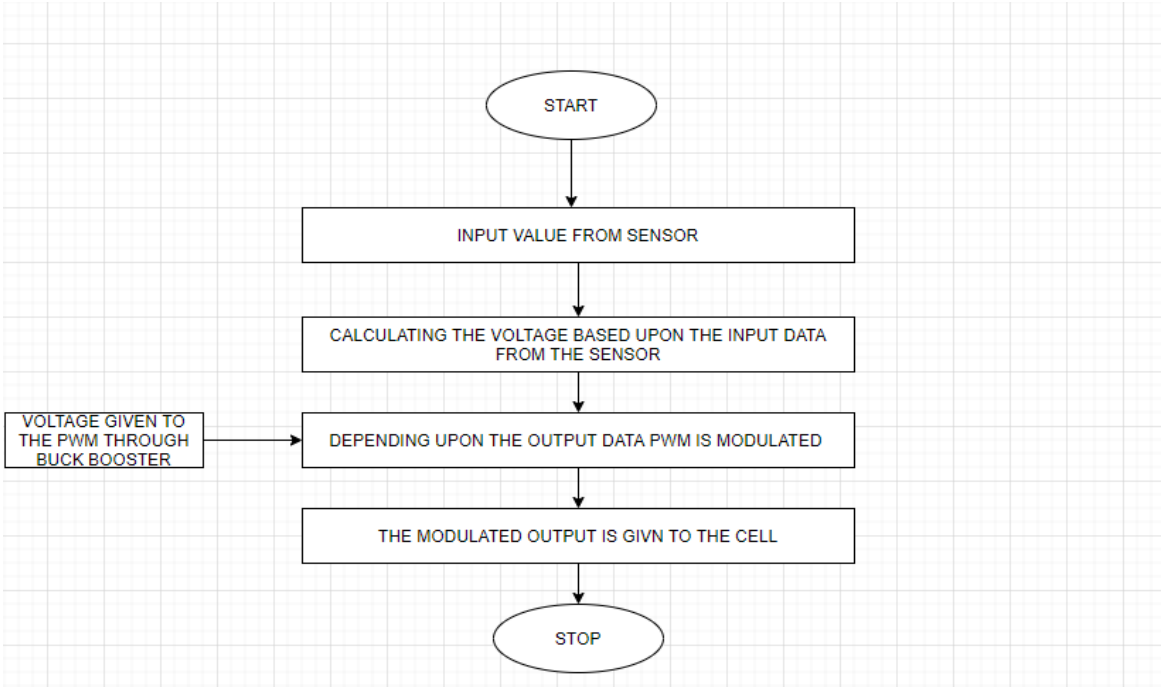


FIG.2 FLOW DIAGRAM OF CONTROLLING UNIT

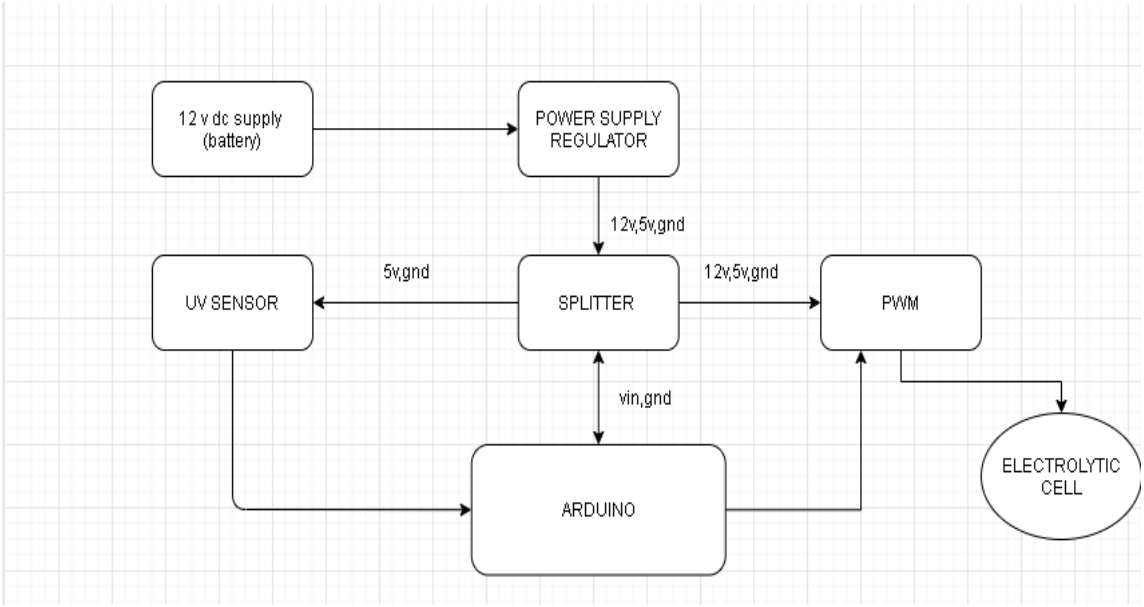
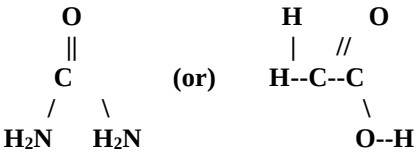


FIG.3 BLOCK DIAGRAM OF CONTROLLING UNIT

5.2 The chemical equation of urine :

URINE → 2(NH2)+co



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THE ELECTROLYSIS EQUATION OF WATER:

CATHODE: $2H_2O+2e^- \rightarrow H_2+2OH^-$
ANODE: $2H_2O \rightarrow O_2+4H^++4e^-$
OVERALL: $2H_2O \rightarrow 2H_2+O_2$

THE ELECTROLYSIS EQUATION OF CRETANINE:

CATHODE: $6H_2O+6e^- \rightarrow 3H_2+6OH^-$
ANODE: $Co(NH_2)_2+6OH^- \rightarrow N_2+5H_2O+CO_2+6e^-$
OVERALL: $Co(NH_2)_2+H_20 \rightarrow N_2+3H_2+CO_2$

THE ELECTROLYSIS EQUATION OF SODIUM CHLORIDE:

REDUCTION: $Na^++e^- \rightarrow Na$
OXIDATION: $2Cl^--2e^- \rightarrow Cl2$
OVERALL: $2NaCl \rightarrow 2Na+Cl2$

THE ELECTROLYSIS EQUATION OF AMMONIA:

CATHODE: $2NH_3+6OH^- \rightarrow N_2+6H_2O+6e^-$
ANODE: $6H_2O+6e^- \rightarrow H_2+6OH^-$
OVERALL: $2NH_3 \rightarrow N_2+H_2$

THE ELECTROLYSIS EQUATION OF URINE:

OVERALL: $3H_2O+Co(NH_2)_2+2NaCl+2NH_3 \rightarrow 6H_2+2N_2+2Na+O_2+Co_2+Cl_2$

Here we are filling urine into the tank, then which will enter into the cell where the power source is given to it Through the controller depending upon the acceleration of the auto mobiles. The uv sensor detects the object distance which is placed in the string based upon the object distance which is measured by the uv sensor is sent to the arduino .Based upon the distance sent by uv sensor the arduino starts processing using the predefined program which have feed into the ic of arduino. Depending upon the distance the pulse is produced in the pwm (pulse width modulation) depending upon the pulse the voltage get varied. And the power source is given to the cell .After giving power source the hydrogen gas starts to produce because urine contains 95% of water, which is the combination of 2 hydrogen ions and one oxygen ions, Urine contains urea ,(NH2) 2CO,which has four hydrogen atoms in each molecule. Most importantly these are easier to remove than in water because nitrogen-hydrogen bonds are weaker than oxygen-hydrogen bonds, but the problem if it is continuously giving supply to the cell it starts to produce heat . If it produce lot of heat then the production of hydrogen gas becomes less efficient and demands more electrical current to maintain the same level of hydrogen gas production. Every cell has its optimum efficiency of production of hydrogen gas defined as amp hours/litres of hydrogen gas and also every gas/diesel engine, given a range of RPM and torque of said engine, has an optimum amount of hydrogen gas measured to achieve that engine's maximum efficiency of power production of supplemental hydrogen gas. So for this we have add pulse width modulator(PWM) is used in a variety of applications including sophisticated control circuitary here we are using it for the purpose of allowing one to control not only the amount of electrical voltage delivered to produce the hydrogen gas but also the amount of hydrogen gas produced by cell is become dynamic of the acceleration

2(NH2)+co

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From above equation we are extracting the hydrogen gas Theoretically the cell voltage for the electrochemical conversion of urea to hydrogen is only 0.37v , whereas water electrolysis ,a popular electrochemical method to produce hydrogen requires 1.23v to split water into hydrogen and oxygen ., the UV sensor is attached to the micro controller. Where we have already pre- programed. if the distance of accelerometer cable is reached to the maximum limilt the full efficiency of voltage is delivered this has been pre programed in the micro controller. then the sensor intimates to the micro controller. Where the output voltage of pwm is based upon the distance of the UV sensor . the voltage is increase or decreased depends upon the throttle action here there won't be any problem for power supply and there is no need to implement of battery here because normally in cars, bikes etc… has a battery so from that battery we have using as power supply. Here u may ask a question then the battery will drain soon. Here is the reason normally in bikes cars, trucks the battery will charge automatically with the help of running coil which is present inside the engine.so there won't be any need to charge the battery and also the required power of producing hydrogen gas is 1.2 v so there won't be any wastage of electricity. This was purely a zero emission. method while driving in the water While the burning of hydrogen will gives H20.and while driving in urine some other compounds may exhibit in the emission.

CONCLUSION:

This device plays a major role on production hydrogen gas from urine and also it solve the major problem of storing hydrogen gas .it is the method(prototype) of Future fuel resources If this device comes in public uses then there won't be any fuel problem, there won't be any need of buying fuel from other countries by giving gold to them, if it comes the GST becomes less. The rate of gold becomes low. There is no need feel about the hydrogen storage ,and its explosion . in this device gives safety of using hydrogen powered vehicles

This paper introduced the smart hand gloves for disabled people. It will provide more reliable efficient easy to use and light weight solution to user as compare to other proposed papers. This will responsible to create meaning to lives of disable people.

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