

(54) Title of the invention : IOT BASED AUTOMATED CONTROL SYSTEM FOR POULTRY FARM

(51) International classification :A23K0050750000, A22C0021000000, C05F0017000000, H04W0004380000, H04W0084180000 (31) Priority Document No :NA (32) Priority Date :NA (33) Name of priority country :NA (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)K.SRILATHA Address of Applicant :SATHYABAMA INSTITUTE OF SCIENCE & TECHNOLOGY, JEPPIAAR NAGAR, RAJIV GANDHI ROAD, CHENNAI-600 119, TAMILNADU, INDIA Tamil Nadu India 2)P. CHITRA 3)M.R. EBENEZAR JEBARANI 4)S. LAKSHMI 5)M. SUMITRA 6)P. KAVIPRIYA 7)GONUGUNTA SURYA TEJA (72)Name of Inventor : 1)K.SRILATHA 2)P. CHITRA 3)M.R. EBENEZAR JEBARANI 4)S. LAKSHMI 5)M. SUMITRA 6)P. KAVIPRIYA 7)GONUGUNTA SURYA TEJA
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(57) Abstract :

In contemporary world automation plays a vital role. It focuses on an automation of poultry farm by using wireless sensor network and mobile communication system. Chicken is the most favourite produce in today's world because it is a nutrient rich food providing high protein, low fat and low cholesterol than other poultrys. The environmental parameters of a poultry farm such as temperature, humidity, and ammonia gas are monitored and controlled automatically in order to increase the growth of chicken. Water level also controlled and monitored with the help of sensor module. By connecting all the sensor modules to the microcontroller all sensor values are acquired then using Wi-Fi module it will be uploaded to the web page. The person in-charge of the poultry farm can get the internal environmental situation of poultry farm through PC or mobile phone using internet. This system will control temperature, humidity, ammonia gas and water level with the help of cooling fan, exhaust fan, ventilation window and DC motor without any human interface. Based on the threshold values it will switch on the devices. Thus this system design provides automated poultry, reduces man power and increases production of healthy chicken.

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(54) Title of the invention : WEARABLE SMART DEVICES FOR THE SAFETY OF WOMEN AND CHILDREN

(51) International classification	:H04M0001725000, H04L0012660000, A61K0038550000, A63F0003000000, H04W0040120000	(71)Name of Applicant : 1)S.LAKSHMI Address of Applicant :SATHYABAMA INSTITUTE OF SCIENCE & TECHNOLOGY JEPPIAAR NAGAR, RAJIV GANDHI ROAD CHENNAI 600119 Tamil Nadu India 2)P. CHITRA 3)M.R. EBENEZAR JEBARANI 4)K.SRILATHA 5)M. SUMATHI 6)P. KAVIPRIYA 7)SUMITRA
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(57) Abstract :

Women represent the main economic force in most developing countries. As economies become more and more information-driven, the issues of womens access to and the use of information and communication technologies (ICTs) are growing in importance for both developed and developing economies. Some claim that women are rather technophobic and that men are much better users of digital tools while others argue that women enthusiastically embrace digital communication. This patent emphasis a novel technique for security of women using artificial intelligence and IOT.

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(54) Title of the invention : IOT BASED ADVANCED IRRIGATION SYSTEM

(51) International classification :G06Q0050020000, A01G0009240000, A01G0025160000, C05D0009020000, A01G0025000000 (31) Priority Document No :NA (32) Priority Date :NA (33) Name of priority country :NA (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)M.R. EBENEZAR JEBARANI Address of Applicant :SATHYABAMA INSTITUTE OF SCIENCE & TECHNOLOGY, JEPPIAAR NAGAR, RAJIV GANDHI ROAD, CHENNAI-600119, TAMILNADU, INDIA. Tamil Nadu India 2)S. LAKSHMI 3)K. SRILATHA 4)P. CHITRA 5)P. KAVIPRIYA 6)SUMATHI 7)KAUSHIK (72)Name of Inventor : 1)M.R. EBENEZAR JEBARANI 2)S. LAKSHMI 3)K. SRILATHA 4)P. CHITRA 5)P. KAVIPRIYA 6)SUMATHI 7)KAUSHIK
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(57) Abstract :

In competitive world where there is rapid growth in technology and advancement, automation has given scope to reduce working hours. Agriculture is emphasizing its development in highly populated countries. In India, most of the population depends on agricultural farming. Many issues are hindering the development of agriculture in developing countries. Hence the main aim is to make agriculture smart using automation and IOT technology. Nowadays water scarcity is a big concern for farming. It helps the farmers to irrigate the farmland in an efficient manner with automated irrigation system based on soil humidity. Automation of farm activities can transform agricultural domain from being manual and static to intelligent and leading to high production with lesser human supervision. This is to emphasize an automation message queuing telemetry transport (MQTT) protocol, and mobile parity communication, agriculture are most valuable resources and should be given more importance because of increasing in population, climate changes and concern over water due to minimal resource of at ground level and water bodies. The equipments used are sensors, raspberry pi and are controlled by mobile using IOT.

No. of Pages : 6 No. of Claims : 7

(54) Title of the invention : SMART GLOVES FOR VISUALLY IMPAIRED PEOPLE

(51) International classification :G09B0021000000, A61H0003060000, G01S0015930000, G01S0015880000, A41D0019000000 (31) Priority Document No :NA (32) Priority Date :NA (33) Name of priority country :NA (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number:NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)P.CHITRA Address of Applicant :SATHYABAMA INSTITUTE OF SCIENCE & TECHNOLOGY, JEPPIAAR NAGAR, RAJIV GANDHI ROAD, CHENNAI-600 119, TAMILNADU, INDIA. Tamil Nadu India 2)P.KAVIPRIYA 3)M.R.EBENEZAR JEBARON 4)S.LAKSHMI 5)K.SRILATHA 6)M.SUMATHI 7)LAKSHMI PRIYA (72)Name of Inventor : 1)P.CHITRA 2)P.KAVIPRIYA 3)M.R.EBENEZAR JEBARAN 4)S.LAKSHMI 5)K.SRILATHA 6)M.SUMATHI 7)LAKSHMI PRIYA
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(57) Abstract :

Smart gloves based Human Machine Interface (HMI) system can be developed for visually challenged people in order to help them walk more confidently. It is very helpful when somebody wants to convey a message to a person with blindness, the system consists of the smart glove to receive messages. On the other side, the unimpaired interlocutor sends and receives messages by means of a computer, i.e., a tablet or Smartphone, which implements a voice recognition system. The idea behind this system is to develop smart walking gloves that alerts visually-impaired people over obstacles, pits thus this device could help them in walking with less accident. The Smartphone is an afferent human-machine interface (HMI) for the unimpaired interlocutor. The stimulating smart glove is an efferent HMI for the blind individual. The wireless communication is done by Bluetooth link. Ultrasonic sensor can be fixed in the gloves which has an ability to determine the distance of the object with high accuracy. The signal from the sensor is send to the arduino micro board.-The Arduino board has Bluetooth which is used to link with the interlocutor. The sensor widely used for the blind because it does not affected by environmental noise. The wireless link to the HMI overcomes the noise limitations of the environment and even the lack of visual between sender and receiver.

No. of Pages : 5 No. of Claims : 2

(54) Title of the invention : DESIGN AND IMPLEMENTATION OF THERMO ELECTRIC GENERATOR FOR PACEMAKERS

(51) International classification	:A61N0001378000, H01L0035000000, H03K0003030000, H03K0007080000, G21H0001100000	(71)Name of Applicant : 1)M.SUMATHI Address of Applicant :SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY, JEPPIAAR NAGAR, RAJIV GANDHI ROAD, CHENNAI - 600 119. Tamil Nadu India 2)S.LAKSHMI 3)M.R.EBENEZAR JEBARANI 4)P.KAVIPRIYA 5)P.CHITRA 6)K.SRILATHA
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(57) Abstract :

A Pacemaker is a tiny device which is placed in the chest or abdomen used to monitor and control the abnormal heart rhythms'. It uses electrical pulses to prompt the heart to beat at a normal rate. It consists of a battery, a computerized generator and wires with sensors at their tips. The battery powers the generators and both are surrounded by a thin metal box. The wires connect the generator to the heart. It helps monitor and control heartbeat. The electrodes detect your heart's electrical activity and send data through the wires to the computer in the generator. Batteries are one of the main problems in pacemakers as the capacity of the battery is limited, they limit the lifetime of pacemakers. After a period of five years, a surgical procedure should be done to replace the battery of the pacemaker. 60% of the volume of the pacemaker is taken up by its batteries. Eliminating this battery effectively reduce the dimensions of the pacemaker. Harvesting thermal energy is one of the alternative procedures to power up an implantable pacemaker. Thermal energy harvesting technique could eventually replace battery in any electronic device. Harvesting ambient thermal energy using thermoelectric generators (TEG) is a convenient means of supplying power to implantable sensors, especially pacemakers. Micro-TEG is scalable and reliable and doesn't require any moving parts like vibration energy transducers. Thus, it is very suitable in micro scale energy harvesting systems, such as human body-powered biomedical devices. Recently, on-chip TE modules have been used to harvest electrical energy from waste heat. A total warm vitality reaping thermo electric generator design for an implantable pacemaker is proposed that incorporates an inside start up. The startup circuit incorporates a prestart up charge pump (CP) and a startup support converter. The prestart up CP comprises of an ultra low-voltage oscillator. The framework design of the proposed help converter is designed and a comparator is utilized to contrast the yield voltage and the coveted yield esteem. A PMOS transistor with its door and source terminals associated with each other is utilized. This transistor works in the sub edge area and has a consistent current. This consistent current moves through a resistor and fabricates a reference voltage. A high-to-low level converter is utilized to change over the yield voltage of the comparator into a lower voltage. The proposed system consists of digital controlled oscillators, a synchronous counter, a combinational reset and combinational comparison logic. DCO tunable strength is high comparing VCO. It stored the input word. Digital to analog converter is designed by the digital pulse width modulator and low pass filter. The proposed boost converter uses Peltier effect to convert body temperature into electrical signal. A digitally controlled pulse width modulator (PWM) comprised of a header circuit, ring oscillator and a duty cycle to voltage convertor. A voltage multiplier circuit with an internal startup is introduced that converts a minimum of 40-mV input voltage provided from a TEG into a 2.5V output voltage needed for a pacemaker to operate normally. The voltage multiplier circuit is a boost convertor based on a constant charge time structure (CCT).

No. of Pages : 6 No. of Claims : 5

(54) Title of the invention : SENSING THE GARBAGE LEVEL USING ULTRASONICS AND MONITORING ITS ODOR GASES USING IOT

(51) International classification :B65F0001140000, G06Q0010000000, G06Q0050300000, B65F0001160000, G08B0013160000 (31) Priority Document No :NA (32) Priority Date :NA (33) Name of priority country :NA (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)P.KAVIPRIYA Address of Applicant :SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY, JEPPIAAR NAGAR, RAJIV GANDHI ROAD, CHENNAI - 600 119 Tamil Nadu India 2)M.R.EBENEZAR JEBARANI 3)S.LAKSHMI 4)K.SRILATHA 5)P.CHITRA 6)M.SUMATHY (72)Name of Inventor : 1)P.KAVIPRIYA 2)M.R.EBENEZAR JEBARANI 3)S.LAKSHMI 4)K.SRILATHA 5)P.CHITRA 6)M.SUMATHY
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(57) Abstract :

The regular trend of manually collecting the wastes in waste bins is a complex process and involves more human effort. For this purpose, a smarter way of conventional waste management using sensors is used to gather garbage and to maintain high level hygienic surroundings. Here, Arduino acts as main controlling body which is interfaced to Ultrasonic sensor which continuously uploads the statistical values of garbage levels to the output sensing elements and this information is also conveyed to municipality office as well as truck driver via SMS alert. The continuous increase in population, garbage management becomes the most alarming concern of today's world mainly the countries with high population rate. Excess garbage in disposal area or overflow of garbage in the dustbin may aggregate different harmful diseases for the neighboring people. Hence the disposal and clearance and monitoring of garbage needs Garbage level Monitoring and its location based analysis using IOT which will help to maintain hygiene and cleanliness of surrounding area. This work proposed the IoT based smart garbage monitoring and clearance alert system in which led display will be attached with the bins as the indicator of the garbage level to the people who throw garbage in that. After disposal of garbage, the sensor present within the bin will monitor the level of the garbage. When the garbage level will meet the maximum capacity level it will send alert to the municipal authorities and if the level is not crossed but the garbage is being cleared for more than two days then also a clearance alert will be generated. A GSM module is installed to send the alerts from the microcontroller used in the system to the management. The whole procedure is reducing the human labor of monitoring. The total system will be used for replacement of the filled

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