

Automatic Detecting and monitoring Device For Asthma Patient

¹ Amutha A

Head of the Department, Department of Electronics and Communication Engineering, Info Institute of Engineering, India

² Gowthami K

Assistant Professor, Department of Electronics and Communication Engineering, Info Institute of Engineering, India

³ Arun M, ⁴Bavandhananjan P, ⁵Roshini J, ⁶Kavipriya K

Student, Department of Electronics and Communication Engineering, Info Institute of Engineering, India

Abstract

Asthma is chronic airways disease characterized by recurring attacks of breathlessness and wheezing. Adherence to medication regimes is a common failing for asthmatic patients and there exists a requirement to monitor such patient's adherence. This paper is to develop smart asthma inhaler which is to monitor the asthma patients and number of counts of their intake of medicine. When the patient uses the inhaler counts more than the doctor prescriptions, it can cause side effect to the patient. Thus by this project the usage of inhaler is intimated to the doctors by IOT and GPS technology when the counts of intake exceeds the limit.

Keyword: GPS; IOT

1. INTRODUCTION

Asthma is a chronic disease that inflames the lungs and triggers frightening attacks characterized by difficulty breathing, coughing, wheezing, and tightness of the chest. Fortunately, the development of inhaler as a first line of defence for asthma treatment means that the acute signs of an attack can be treated right away. There are many different rescue methods for asthma medication, but inhalers are by far the most popular. Once the medication is administered, it is aspirated into the lungs. One group of drugs administered using an MDI called short-acting bronchodilators, can help asthma sufferers in the midst of an attack and provide immediate relief from symptoms. These drugs work by relieving the spasms in the lungs that are typical of an asthma attack. Typical short-acting bronchodilator prescribed to patients is salbutamol or albuterol. Their belongings can last for four to six hours.

2. PROPOSED WORK

ARDUINO IDE

The arduino incorporated development environment is a cross-platform application so as to written in the programming language Java. It is worn to write and upload programs to arduino board. The source code for the IDE is unrestricted under the GNU General Public License, version 2. The Arduino IDE ropes the languages C and C++ using special rules of code structuring. The Arduino IDE supplies a software library from the Wiring project, which provide many common input and output procedures. User-written code only want two basic functions, for starting the sketch and the main program loop that are compile and linked with a program stump main into an executable cyclic administrative program with the GNU tool chain, also included with the IDE distribution. The Arduino IDE employs the program avrdude to convert the executable code into a text file in hexadecimal encoding that is encumbered into the Arduino panel by a loader program in the board's firmware.



Figure 1: Arduino in inhaler

CARETRX

The system launched in 2014, called care TRx is a small cap equipped with sensors and on board memory that fits over the canister of most metered-dose inhalers. When a user presses down to transport a dose, the on-board memory stores that data. Then when the user is near the mobile device the cap automatically connects and syncs to the cloud. The product’s app, Lights around the cap illuminates when it is time for a dose. The app offers several features: a diary that tracks potential triggers, peak flow, and symptoms, miss-doses.

SMART INHALER

A database has to be created to keep track, the complete history of the medications given to the asthma patients. Monitor populations in one place and identify poorly controlled patients. Appraisal the trend for adherence, rescue use, peak flow, triggers and symptoms. Access aggregated data to help discover new insights and reduces the hospital expenses. When the count exceeds the limit of inhaler, it was intimated to the doctor through mobile web server



Figure 2: Smart Asthma Counter

3. BLOCK DIAGRAM

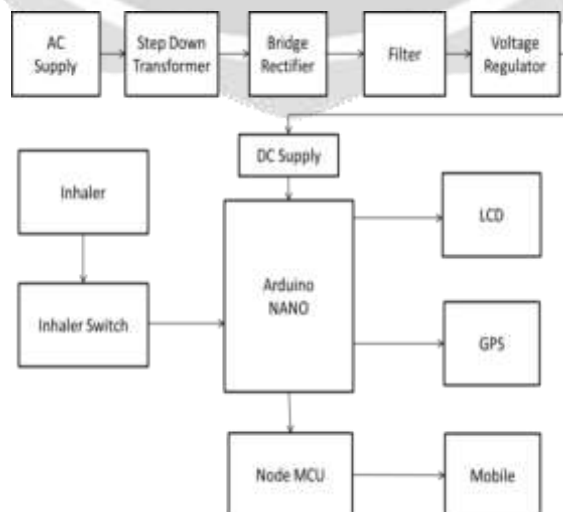


Figure 1: Block Diagram of proposed system

The usage of inhaler is intimated to the doctors by IOT and GPS technology when the counts of intake exceeds the limit. This block diagram consists of an inhaler, power supply, LCD display, GPS, arduino NANO.

4. FLOW CHART

The flow chart show organised process of our entire model based on IOT and GPS technology when count of intake exceeds the limit. We are considering different condition there is unique code which has been encoder in the tag. The inhaler was intimated to the doctor through mobile web server.

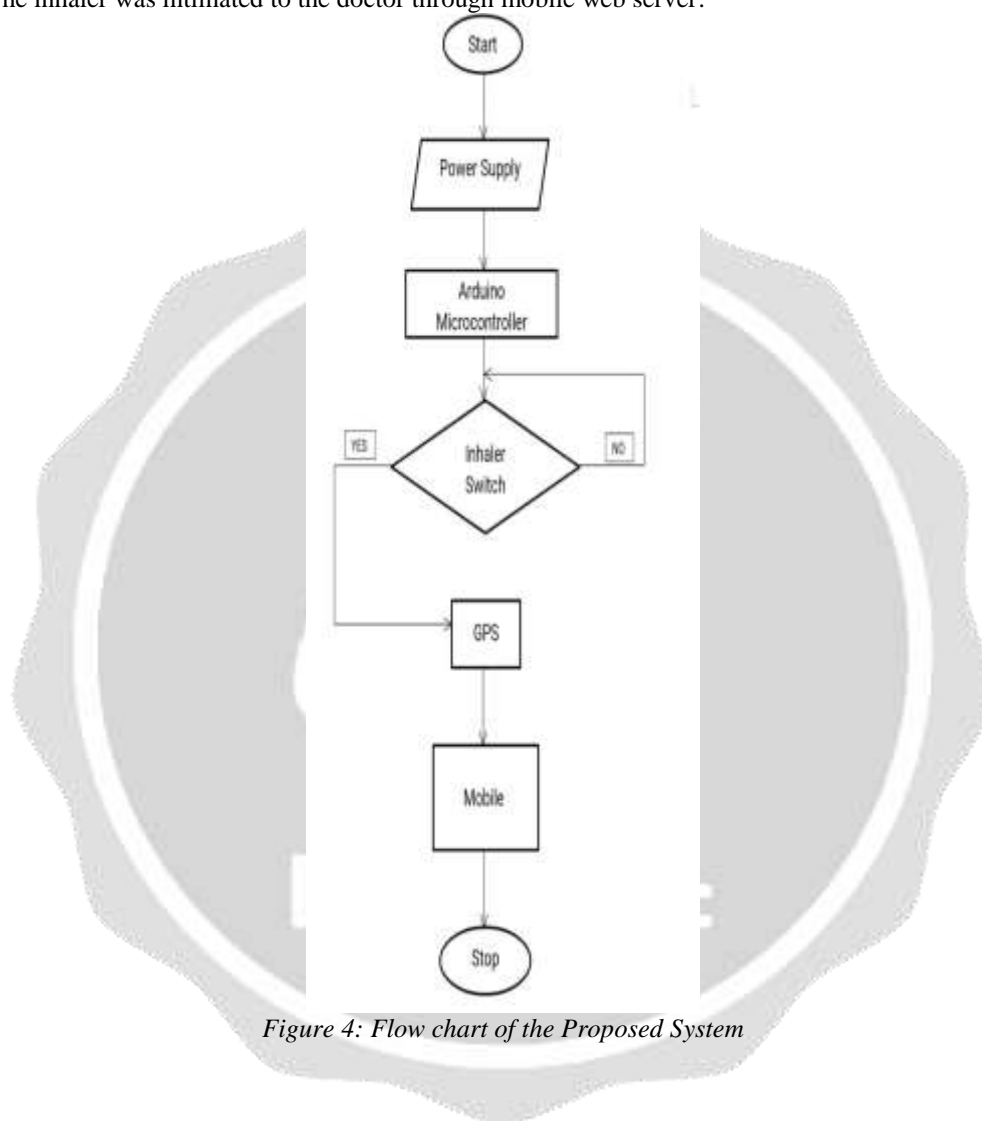


Figure 4: Flow chart of the Proposed System

5. CONCLUSION

An automatic detecting and monitoring device for asthma patient has been proposed. Database has to be created to keep track the complete history of the medication given to the asthma patients and it monitor populations in one place and identify poorly controlled patients. It review the trends for adherence rescue use peak flow triggers and symptoms. Access aggregated data to help discover no insights and it also reduce the hospital expenses.

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Authors Biography (Mandatory)



Dr. Amutha A, is a Professor and Head of the department, Department of ECE in Info Institute of Engineering/ Anna University. She completed her BE in department ECE at P.S.N.A college of Engineering and Technology. She completed her M.E in Applied Electronics at K.S.Rangasamy College of Technology. Her research interests are nanoscience, image processing, networks.

Authors Biography (Mandatory)



Gowthami K, is an Assistant Professor, Department of ECE in Info Institute of Technology/ Anna University. She completed her BE in ECE department at Anna University/ Adithya Institute of Technology. She completed her M.E in Communication System department at Kumaraguru College of Technology. Her area of interest is electronic devices, communication systems.