AUTOMATIC REMINDER USING ARDUINO

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Abstract—The principle motivation behind this paper is to propose the essential thought of programmed medication update in view of ARDUINO which will help the patients to take their endorsed pharmaceutical at fitting time. Programmed medication update is clever plan to help the patient to take as much time as is needed and consequently may lessen an opportunity to recoup from their malady. Here and there, the matured patient takes the wrong drug and their wrong measurement mistakenly causing the serious issue. This framework isn't only useful for an individual yet can likewise have significant commitment in doctor's facilities. In the present occupied, focused and planned life, individuals are experiencing heaps of sickness yet are not ready to recollect their medication and timing of it and here this framework can be of genuine utilize. This framework utilizes LCD (fluid precious stone show), keypad (push catch), ARDUINO module, RTC framework and caution framework. This versatile and practical framework would be useful to each age gathering.

Index Terms—ARDUINO module, LCD, alert framework, RTC.

I. INTRODUCTION

The number of inhabitants in individuals is expanding quickly, and as individuals develop more seasoned they create memory challenges. In this way, more seasoned individuals may neglect to take as much time as necessary, or overlook that they have effectively taken their prescriptions. Therefore, they miss measurements of medications, or take overdoses. To take care of this issue, we outlined and assembled an electronic framework, which can be introduced in a drug bureau to monitor a man's admission of medicines. The framework criteria has take after (a) minimal effort, (b) convenience, (c) unwavering quality, and (d) similarity with various bureau writes, and drug bottles More especially, the creation gives strategies and frameworks to dealing with a man's solution bureau with a PC framework associated with the database alongside the sensor.

Common pharmaceutical cupboards simply give an instrument to putting away a man's drug. At the point when the prescription bureau is situated in a house in which a family lives, it isn't surprising for the solution bureau to contain pharmaceuticals for various individuals from the family unit. This exhibits the likelihood that one individual may take prescription accidentally that is recommended for an alternate individual. Likewise, it isn't surprising that a man will neglect to have a medicine refilled until the point that he takes the last pill of his solution. With the present occupied ways of life, individuals frequently take their drugs at the wrong time or in the wrong sum. Moreover, individuals are frequently not mindful of new notices about antagonistic impacts and medication communications for various solutions. It gives assistive signs to patients as prompts and updates and portrays our equipment and programming outline contemplations of this medicinal framework for dealing with solution of people.

Fig 1- Arduino Module
The materials being researched incorporate an arduino unit, sensor and drove lights for experimentation with the pill bottles. For programming, php and Java have been chosen to make GUI instruments that can likewise interface with both the equipment and MySQL database.
Arduino program meddling for the arduino kit. One of the difficulties identified with home visits is dealing with an everyday plan that can be effortlessly gotten to, comprehended and adjusted. For the most part this framework can created in clinic for tolerant care as opposed to review the manual solution of a patient and recover the data of a patient from the database.

II. LITERATURE SURVEY

In this method, an Android based application is used for the patients. This application will remind their customer to take correct solutions at appropriate time by setting the updates in the compact which is a modified way. These updates will be abruptly set by the application as indicated by the drug. This refresh will remind the patients to take drug capably. This methodology will help only for adolescents who are having Android compact. In any case, for senior obliviousness people it is extraordinarily difficult to work and grasp it. The device used as a piece of this system is over the top and the path toward making the application in android flexible is tedious. Priyadarshini, Ramya, Kalaiyarasi, have inquired about a novel approach of microcontroller based Automatic Medication Reminder (AMR) structure for patients. In this approach gear worked using microcontroller is used for the patients. This application will give a refresh using ringer and LCD will demonstrate the name of pharmaceutical. The 4*4 cross section is used to incorporate the data. This structure is negligible erratic as it relies upon microcontroller which is difficult to embed. Corey McCall, Branden Maynes, Cliff C. Zou, Ning J.Zhang have proposed an Automatic Medication Self-Management and Monitoring System for Individually Living Patients . This paper depicts the progression and appraisal of RMAIS (RFID-based Medication Adherence Intelligence System). This structure gives a modified errand to basic medicine by using worked in scale for measurement estimation and a motorized insurgency plate to obtain the correct medication compartment front of patient. This model involves five segments which consolidates a motorized turn arrange, scale, RFID peruser, Microcontroller, UI board. The method used as a piece of this system is dull and the RMAIS is an in-home device which is useful exactly when the patients are in home itself. It can reinforce simply up to seven remedies. The device would not know and it may display goofs or wrong cautions until the point when the moment that the plate is checked a great part of the time. The scale used as a piece of this model is expensive and this RMAIS needs skilled individuals to work beneficially.

III. SYSTEM IMPLANTATION

This compact unit is customer server correspondence. The client can enter the solution of patient in framework and designate the time. Client characterized information are put away in the server end. USB link is utilized For refreshing information into the arudino then the pack alarm to remind the patient to take the pharmaceutical at fitting time as client indicated. At that predefined time the alert will be in the dynamic state until the point that the client opens the unit.

![Fig 2- System Implantation](image)

The MySQL database fills in as an archive of data. All the data about each solution bottle and when it was identified is put away in this database. The information put away in the database are isolated into various classes as indicated by their opportunity to live. A portion of the information composes are disposed of by the day's end, though other are kept for longer periods for later utilize. In exploratory trials the database get to time was roughly 0.00004 seconds which is very quick for the expected application and does not raise any issues with respect to the immediate access of the database each time an Lithium cell of 5v is utilized to keep the time...
Occasion happens. Additionally when vital, the running information put away in the database could be changed over to some other configuration for investigating the information further.

![Fig 3-Block Diagram](image)

**IV. EXPERIMENTAL ANALYSIS**

The most straightforward test was made utilizing this framework. This framework is utilized to give the data about the correct measurements of solution at perfect time as recommended in the remedy. At first the information that is the name of solution and calendar of prescription can be entered by the administrator of the framework or can even refresh the framework himself. The present time and date can be followed utilizing RTC. For instance the measurements time is 11 am and drug name is ibuprofen as recommended by the specialist. The patient just needs to go to the administrator who will refresh the ARDUINO concurring t the solution and give it to the patient. The keypad that is three push catches are given to refresh the time in hour, moment and second as per remedy and the name of drug should be refreshed in the program. After culmination of the procedure the yield gadget that is caution framework and show framework will get alarm. As indicated by the time entered the bell will give a beep and the LCD will show the name of pharmaceutical.

(i)RTC: RTC remains for ongoing clock and used to keep the framework refresh with current time and date. This is one of the highlights of ARDUINO along these lines just library and few orders are required to incorporate RTC into the framework. The

![Fig 4-Prototype of Medicine](image)

Reminder

```c
#include <Wire.h>  #include<EEPROM.h>  #include <RTClib.h>  #include <LiquidCrystal.h>
LiquidCrystal lcd(7, 6, 5, 4, 3, 2);  RTC_DS1307 RTC;
int temp,inc,hours1, minut,add=11;  int next=10;
int INC=9;
int set_mad=8;
```

(ii)LCD: LCD in the proposed framework is utilized to show the present time, time of admission of pharmaceutical and the name and gathering of drug. A fluid precious stone show is a level board show or other electronic visual show that uses the light-balancing properties of fluid gems.

![Fig 5: Liquid Crystal Display](image)

The LCD is a yield gadget which gives wanted yield to the given info. In this manner the LCD is interfaced with ARDUINO. To interface the LCD the ARDUINO program incorporates the LCD library that is `#include<liquidcrystal.h>` to give the yield at LCD. The stick of ARDUINO that are utilized to
interface the LCD are advanced pins 2, 3, 4, 5, 6, 7 and ground is normal at control stick 4.

(iii) Alarming System: The caution framework comprises of a ringer. The ringer utilized as a part of proposed framework is piezoelectric signal. A bell is a mechanical, electromechanical, attractive, electromagnetic, electro-acoustic or piezoelectric sound flagging gadget. A piezo electric bell can be driven by a swaying electronic circuit or other sound flag source. A tick, beep or ring can demonstrate that a catch has been squeezed. The signal is additionally yield gadget and gives a beep when current time meets the set time. The writing computer programs is done to interface the bell with ARDUINO. The stick of Arduino used to interface the ringer is advanced stick 11 and ground is basic at control stick 4.

V. CONCLUSION AND FUTURE SCOPE

There are numerous frameworks which are filling for a similar need. Be that as it may, these frameworks are hard to utilize, non portable, costly and complex process. The proposed framework defeats these issues. The Arduino Based Medicine Reminder is easy to utilize, moderate, better exactness. This framework is useful for each age gathering and can likewise be utilized as a part of healing facility for a gathering of individuals. This framework will decrease the awful impact caused because of wrong admission of medication. This framework can be made more successful by redesigning its few highlights. In future because of manual work, the accessible framework can turn out to be additional tedious. So in the give future, an endeavor can be made to execute completely programmed prescription update framework in light of written by hand character acknowledgment. This is accomplished with the assistance of fake neural system. Neural system is extremely compelling to decode any character of any dialect. The precision of character acknowledgment is more vital. So precision of characters needs to enhance by adding likelihood to each character. For instance, a character Q is less simple to discover in light of the fact that character Q is all the more frequently mixed up with O in the greater part of the OCR frameworks. The proposed framework will just set the updates in the inherent logbook utilization of the versatile. This update reminds client about their drug in-take plan. The framework which we are actualizing will likewise give the update about specialist's next arrangement. It will likewise tell the client of the finish of the pharmaceuticals. The planned update won't propose any sort of prescription, measurements of pharmaceutical, and so on. One more component can be added to the present gadget that is GSM (worldwide framework for versatile). By interfacing a GSM shield with ARDUINO module and altering the program, the framework can be made more viable and easy to utilize. The medication update can be refreshed utilizing GSM module. The new remedy given to the patient can be send by specialist from versatile to GSM module utilized as a part of medication update and the framework will get refreshed itself.

REFERENCES