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Abstract— There are around 85% people in the world forget to take medication properly because of the mentally pressure, work load, their busy schedule. And a missed dose of a day can cost them very seriously. There are many products which can help them to remind them about medication but none of them is this much flexible. They use simple day wise scheduling boxes, a speaker or display with the bottle or box which notifies the users about timing. Our system is quite easy to use and can be used in various environments. It provides features such as Pill reminding, remaining time for next pill, notify for new pill intake in pill bottle, SMS customer for pill. It can be used in various environments and situations like: Home, Office, while working, Anywhere in Any Situation.

Key words: Health Care, Pill Reminder, ESP 2866 Wi-Fi Module, Android Application, Arduino IDE

I. INTRODUCTION

Our main aim is to maintain health of our customers by reminding them about their medicines on time. People takes medicines daily for long and short time. Our products will remind them for their medicines daily by an application. Customers will be notified about intake of new medicine and purchasing of medicine. By our product they can take their medicines on time and their health can be maintain properly.

Nowadays people having many diseases and takes medicines on daily basis. Around 55% people in world are taking medicines for daily basis.

And 85% of people from them forget to take medicines on time because of busy schedule, work pressure, etc.

This is normal issue but can affect seriously to their health.

To overcome with this problem, we simply designed a chip which can be placed in pill bottle or pill box. This chip contains ESP module, battery cell, and switch. This module is connected with cloud server and this server is connected with mobile application

II. LITERATURE REVIEW

- 1) In this project we are trying to solve many problems and we are giving many functionalities which are listed below
 - a) Remaining time for next medication,
 - b) Total medication intake,
 - c) Battery level,
 - d) Remaining medication intake,
 - e) Notify via application and SMS,
 - f) Simple to use,
 - g) Users can change battery by themselves,
 - h) 5 months of battery backup,
 - i) Very low cost,
 - j) Portable and work anywhere.

- 2) Our system features a pipeline that consists of a hardware interface which can be directly controlled by user, mobile application and directly contacting with the chip functionalities.
- 3) When user wants to use any functionality, he or she just needs to open their android application and modify data and can view data about their medication.
- 4) This main whole circuit will be placed in the bottle cap and micro switch will be attached to the bottle cap in such a position that, it will be turned on when we connect the cap to the bottle and goes off when removing the cap from the bottle. When the switch is on it will power up the ESP Wi-Fi module. ESP module will be connected to the Wi-Fi and send some data to the cloud server (ubidots). Then it will go into the sleep mode for an infinite time.
- 5) When someone opens the bottle cap to take the medication ESP module will be disconnected from the power source. When he again closes the bottle cap after taking medication the switch will be close again and ESP module will be turned on again. It will send some data to the cloud and again goes to the sleep mode. So, every time someone opens and close the pill bottle, ESP module restarts, sends data to the cloud and goes to the permanent sleep.

III. STUDY FINDINGS

- 1) The ESP8266 is a System on a Chip (SoC), manufactured by the Chinese company Espressif. It consists of a Tensilica L106 32-bit micro controller unit (MCU) and a Wi-Fi transceiver. It has 11 GPIO pins* (General Purpose Input/Output pins), and an analog input as well. This means that you can program it like any normal Arduino or other microcontroller. And on top of that, you get Wi-Fi communication, so you can use it to connect to your Wi-Fi network, connect to the Internet, host a web server with real web pages, let your smartphone connect to it, etc. The possibilities are endless! It's no wonder that this chip has become the most popular IOT device available
- 2) The application must be use on mobile and display resolution will be HD Quality or 1920x1080. The application is developed using the MIT app inventor for all android devices. We will build app for the iOS devices in future.
- 3) Application helps users to easily check their medicine record and can modify it anytime anywhere by the admin.

IV. FUTURE ENHANCEMENT

We aim to build a system that can help people in many different environments and situations. This project is our first step towards this goal. We have found that we can add multiple users in single application features in this system. Some of the features that we have identified are as follows:

Custom Speaker in Device: We thought for people who can't afford android phone or visually enable to work with the application and decided to put a speaker in pill bottle so that it can rang and notify user.

Custom Display in Device: We thought for people who can't afford android phone or deaf and unable to work with the application, so we decided to put a speaker in pill bottle so that it can display and notify user.

Multiple Users Data in Single Application: We decided to create android and iOS application that can store multiple user's data. This can be helpful for old age homes to maintain health of their people.

V. CONCLUSION

Our main objective of this project is the health of the people. Major positive points about these concepts is cost effective and easy to understand.

People can easily depend on the product and worry less about their medication. We can modify the product regarding the user's needs. Our device is portable, so you can use it with any kind of pill bottle or pill box. People needs this kind of device which relates to their mobile phone. Hospitals should start giving their patient when discharging. And the most important thing is it can cost maximum 6\$ to users.

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