Smart complaint Box System Using Voice Module (ISD1000A) to Notifies the User by Voice Message

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Abstract **- This project presents a cost efficient, accurate, safe as well as effective implementation of Smart complaint Box System through the voice module IC (1000A) which makes the use LDR. The working principle of an LDR is photoconductivity, which is nothing but an optical phenomenon. When the light is absorbed by the material then the conductivity of the material enhances. It results that the object is detected. In existing system user need to manually check for the complaints present in the box, but here we introduce voice module which gives the notification through the pre-recorded voice. The paper illustrates the description of this device. This system reduces the ignorance of complaints. The additional component of the system is a battery backup which is used to avoid power failure of the system. The final aim is to minimize the ignorance of complaints, human efforts, reduce cost.**

Index Terms **- Smart complaint Box, LDR, Voice module.**

1.INTRODUCTION

Smart complaint box is the cutting-edge and the latest technology that has been involved in recent problems occurring due to ignorance of complaints.

The use of complaint boxes can be seen in colleges, offices, societies, and on average a person checks the complaint box once in 10 days of the month in such cases the important, emergency complaints get ignored easily.

This smart complaint box system involves a circuit that generates the high output on detection of the letter inside the box and generates one voice message as "New complaint received" through the speaker so the authority gets notified immediately.

The hardware kit includes an LDR sensor, which is nothing but an optical phenomenon (photoconductivity). When the light is absorbed by the material then the conductivity of the material enhances. It results that the object is detected then the notification is sent to the user using voice module IC (ISD1000A).

The existing system reduces human efforts, ignorance of complaints as well as cost. This system is the best approach to automation.

Also this circuit has great scope in designing future as per requirement. (Ex: - use of GSM Module).

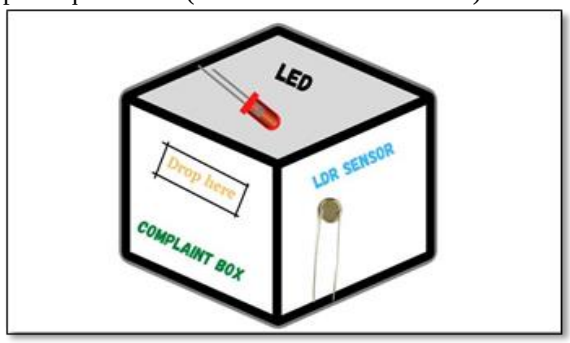


Fig:Basic diagram of complaint box

2.RELATED WORK

A. Hardware Circuit Description

The hardware circuit of smart complaint box system is very easy and common. There are four major parts in this system.

Used components are: - LDR, LM741, ISD1000A (Voice Module), Speaker to give output.

1.Sensing circuit: Sensing circuit is a comparator which is build using LM-741 IC. Output of this comparator is directly connected to the digital pins numbered as 23, 24, and 27. In this circuit light dependent resistor and LED are placed in letter box in the same direction when any letter or inserted into the complaint box comparator detects the letter then it send signal to ISD1000A.

2. Comparator: - After getting signal from LDR, comparator sends command to voice module (ISD1000A) for sending a notification voice message to a surrounding.
3. Voice Module: - 23, 24, 27 pins of voice module are directly connected with output of OP-AMP 741 at pins no.6 respectively and ground pins of both modules should be connected to each other.
4. Speaker: - The speaker is connected at the output pins 14 and 15 of voice module to give the desired pre-recorded voice message.

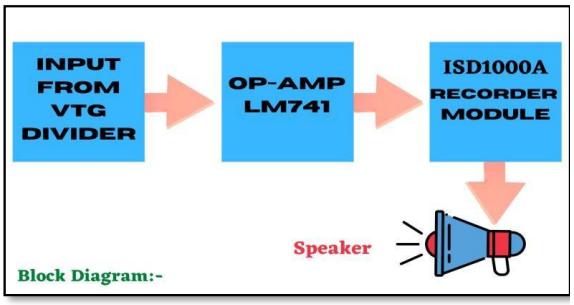


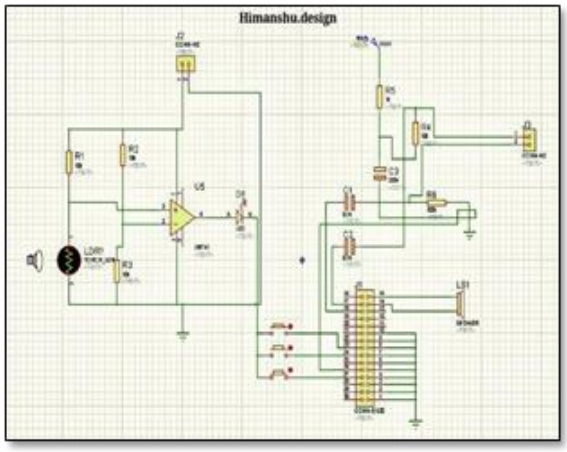
Fig: Block diagram of smart complaint box

B. Working

- The circuit is powered by a 12V DC battery. However, an AC to DC adapter can also be used.
- For identifying the letter the LDR is connected along with LED that will act as a source of light in the box.
- The resistance of the LDR is inversely proportional to the intensity of light which means greater the intensity of light, lower the resistance of LDR. When there is no light the resistance of LDR is very HIGH and when as soon as the light starts falling on the LDR the resistance of LDR decreases.
- The position of the LED is adjusted in such a way that when the light emitted by the LED directly falls on the LDR and the letter that is dropped is a box obstructs the light from falling on LDR.
- This change is detected by LM741 the LED is used to indicate the presence of a letter.
- The output of the LED is given to pin number 23, 24, 27 of ISD 1520A via switches.
- Pin number 23 is chip enable input is taken LOW to enable all playback and record option.
- Pin number 24 is power down input. When not recording or playing back, this pin should be pulled high to place the part in very low power mode.
- Pin number 27 is playback and record input. A high level selects a playback cycle while a low level selects a record cycle.
- The mic is connected to pin number 17 and 18 and speaker is connected to pin number 14 and 15 for output message.

3.LITERATURE SURVEY

The smart complaint Box system is specially designed for immediate responding to the complaints that are placed inside the box by producing a voice message



whenever there arrives a complaint letter in the complaint box Ref [3]. It works using on the principle of photoconductivity of an LDR.
In this arrangement LED and LDR are placed near to each other, whenever any impediment (i.e. Letter) comes in between the LDR sensor and LED the resistance of LDR gets HIGH thus the letter has been detected in the complaint box.
In the old day's postman comes to our house to deliver the letters, couriers, and parcels.
Because the things courier and parcels cannot be sent via email and by any other electronic media, so to get information of complaint delivery in our complaint box here we design an intelligent complaint box that provides notification of delivery of grievances in our complaint box through the voice message to the surrounding.
LED is configured to indicate that the letterbox is empty or not. ISD1000A voice module is used to record the voice messages which we want as an output, so with the help of LDR, LED, and ISD1000A we can detect the presence of letter/ complaint in the box then

we can collect the complaint letter if possible otherwise after some time.
Also, this circuitry can be further extended by adding a GSM module or adding a database to store the address, etc. which you can try by yourself.

4.PROPOSED SYSTEM

In the system we implemented a smart system complaint box, in which the kit is used to notify user that complaint is received. Here the LDR sensor is used to detect the object (letter). The LED is used to show the status of the complaint box. ISD1000A (Voice Module) is used to send the notification through voice message and confirms that the letter has been received. We have used voice module ISD1000A in this system which has lot of features integrated in it such as record, loop, playback etc.

5.CONCLUSIONS

Nowadays, the technology and science is in progress day by day new technologies are invented and new things are created by human. In this system we have studied a smart complaint box system that notifies the complaint is received in the complaint box. In our daily life it is not possible for us to check the complaint box we proposed this system that the system notifies the user by generating voice message that complaint is received. We conclude that science is non stoppable, new things arrive and growth of smart system.

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