# A Review Paper on Mechanism of Donation Box

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*Abstract: At religious places such as temples, gurdwaras and many others, devotees donate money in the donation box. It is a big deal to detect the reality of the donated money. As well as money counting has been a big task as it is carried out manually. Mistakes on counting happen most of the time due to many reasons such as eyes tiredness, losing focus, etc. Sometimes fiddle of money happens at the time of counting money. To prevail over all these problems Automatic Donation Box is designed. In this system the reality of note and coin is detected using image recognition and dimension calibration process. Then the currency notes and coins after some delay are sorted and are inserted into the respective allotted box with the help of the motor. All the information about the note and coin is sent to an LCD where value, reality, and count of note and coin are displayed. The total count of the midday and full-day is sent to the respective head person though the application. The benefit of this review paper for the reader is to gain knowledge about various technologies used for making this system.*
*Keywords: Image Recognition, IOT Technology, Dimension Detection.*

## I. INTRODUCTION

We are living in an epoch in which technology is budding very speedily. An automatic donation box is a need for a new era. At the temples it is a big question whether the donated money is real or fake then again money counting has been a big duty as it is done manually. The alternative for all these inconveniences is "Automatic Donation Box". In this system the veracity of note and coin is detected in the assistance of image recognition and calibration of the coin as well as a note.

Suppose if the coin or note fails to prove its veracity then it is returned. Then the note is sorted based on their value and coin is sorted based on their dimensions and values. The process of counting is done inevitably which overcomes the earlier problems of counting mistake due to manual counting and also reduce the required time for counting the money manually. This system gives the display of the value of money inserted, total money count, the reality of the money, and the number of coins and notes of different values over the LCD mounted on the system as well as on the application. It avoids the fiddle of money with the help of the application which is being handled by the desired authority or trustee of the temple where the system is placed. This is done in assistance with the IOT concept. In short because of this project temples' donation system will get easier.

## II. LITRETURE SURVEY

The paper [1] deals with various techniques of coin recognition systems in respective terms of their accuracy. Also concentrated on various coin recognition approaches have been studied by different researchers based on the image recognition method. It is categorized based on images from both sides as well as a radius of the coin. The paper [2] deals with different fake currency detection systems. The systems are urbanized using diverse methods and algorithms. The benefits of this study for the reader are that this study provides information about the diverse methods and algorithms used for detecting fake currency. They can compare the detection systems. Detection capability depends on the currency note characteristics of a particular country and the extraction of features. The paper [3] deals with the color sensor used for the detection of a particular note. If in the case note is fake then this will be detected by using a UV sensor. For better output purposes LCD display monitor is used in order to get all the information simultaneously and in a steady format. Classification of note based on value was done by analyzing statistical properties and connected components. For sorting purpose paper roll mechanism is used.

The paper [4] deals with the system that uses Image Processing to detect whether the currency is genuine or counterfeit. The system is deliberate entirely using Python programming language. It entails of the steps such as gray scale conversion, segmentation, edge detection, etc. which are achieved using suitable methods.

The paper [5] deals with a reliable coin recognition system that is based on Polar Harmonic Transform. Coins are broadly used by humans at various places like in research organizations, banks, grocery stores, automated weighing machines, vending machines and currency detectors. In these machines, an important process is to recognize the coins accurately and rapidly with the help of a coin recognition system. In this project, the coin recognition system is based on a new algorithm of Polar complex exponential Transform i.e. the type of Polar Harmonic Transform.

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## III.    METHEDOLOGY

The below fig 1 illustrate the basic block diagram of coin section. In this system is mainly divided into two sections coin section and note section. The coin is inserted into the coin module where it first detects the reality of coin. It also detects the value of the coin based on coin's dimensions, falling time, etc. This pulse information is sent to the controller that reads the value of pulse and matches it with the value in the program and sends pulse to the LCD. After the detection the coin is forward to the sorting section but here the speed of the coin is high so to control it coin stop mechanism is used. After this process the coin is forward to the coin separating mechanism which inserts a coin into the respective allotted block. Using the concept of IoT, the system sends messages to the respective person through the application. The whole system is provided with the Power Supply.
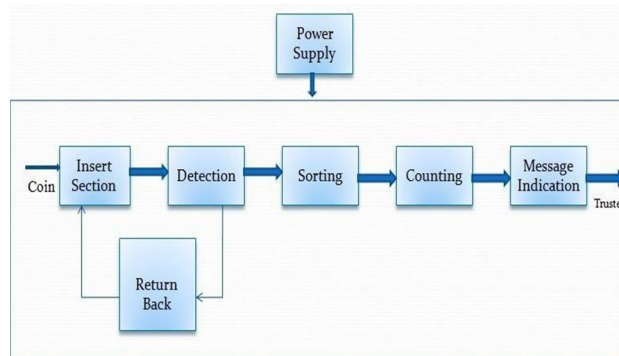


Fig. 1 Basic block diagram of Coin Section

The below fig 2 illustrate basic block diagram of note section. In this system note is inserted into the note detector where it detects the reality of the note. It also detects the value of the note using the image recognition process. After this process the note identification network sends an image pulse to the controller that reads the value of pulse and matches it with the images saved in the program and sends pulse to LCD where the value of the note, the note is real or fake, and the count is displayed. After the detection, the note is transferred to the sorting section using a conveyor belt and the note is inserted into the respective allotted block. Same as the Coin section concept of IOT is used for message indication. It sends messages to the respective person through the application. The whole system is provided with the Power Supply.
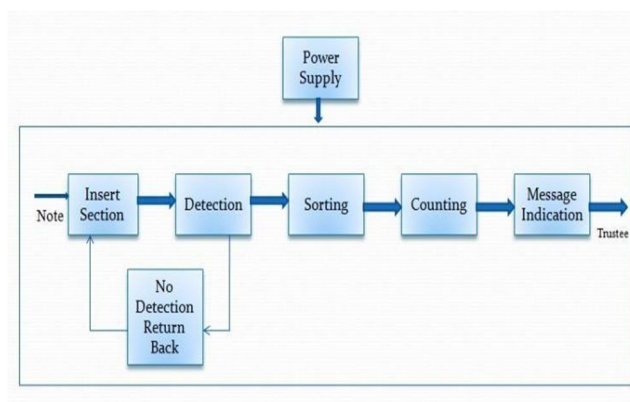


Fig, 2 Basic block diagrams of Note Section

## IV.CONCLUSION

The system "Automatic Donation Box" is one of the big steps towards Digital India. The whole operation of this system is performed automatically using electronic components. The designed system of Automatic Donation Box will save a lot of time, manpower and also tends to decrease any possibilities of miscalculations and prevents from the fiddling of money. It also stores and sends the information regarding calculations as well as a daily Collection to the respective head person through the application. This is a big improvement in the donation system. Another big benefit of this system is to detect the fake note and coin using a special process such as image recognition and dimension calibration.

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