

# Design of Smart Product Delivery System

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**Abstract**— The problem of undelivered products results in loss of man power, money and time. In order to have a more efficient product delivery system a model is proposed in this paper. Boxes will be installed in public areas. Products shopped online will be delivered to nearby boxes instead of homes. Boxes works on Twitter API and are controlled by Raspberry Pi. Once the product is placed in the box and the box closes a unique code will be sent to respective phone number. Whenever the customer has time he will come to the box and will tweet the code, the box will open and he will get his product delivered. It is highly economical since a single Raspberry Pi can control multiple boxes at a single time. Apart from this the twitter API can also be a revolutionary step in Remote Industrial Automation. It can also be used in online voting and home automation.

**Index Terms**— API, Industrial Automation, Raspberry pi, Twitter.

## I. INTRODUCTION

In today's scenario, as online shopping is growing at a rapid rate, the problem of undelivered product is growing as well. Specially, in metropolitan cities, people are not always available to receive the product they ordered online. So, lots of products go undelivered which results in wastage of manpower, money, time and energy.

In order to ensure proper utilization of available time and resources, a prototype for smart delivery system using twitter API is manufactured. Smart Delivery System boxes will be installed in public areas just like ATM machines. Whenever there is any undelivered product, it will be placed in Delivery System Box as per its locality. The deliveryman will send a unique authentication code on respective mobile number. Whenever the person have time and want to get his delivery, he will simply reach the Delivery System Box and tweet his unique code, the box will open and he will get his delivery as per his convenient time. This delivery system works on twitter API with the help of Raspberry pi. Once, the authentication code is sent by the deliveryman the box will get locked and will open when that particular code is tweeted Raspberry pi is coded in such a way that the tweets are continuously streamed and matched.

When the authentication code is tweeted and it is matched, Raspberry pi will send a signal which will unlock the box and the product will get delivered. There is no compromise with the security of the product as the box will only open with the unique authentication code.

This smart Delivery System will help online companies save a lot of money, time and manpower.

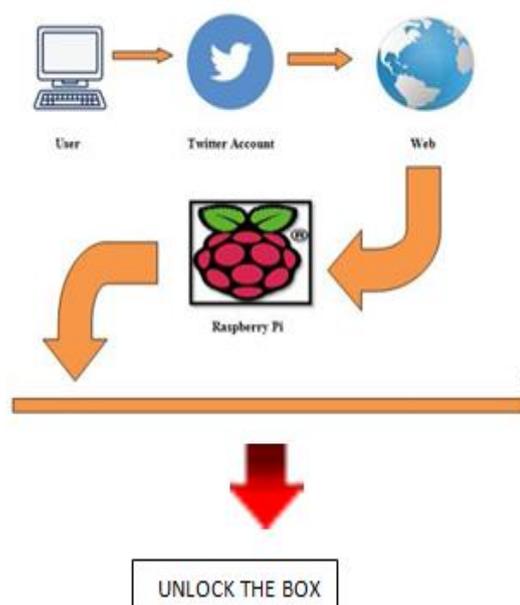


Fig. 1. Smart Product Delivery System

The people who buy online and are not available to receive their product will get their deliveries as per their busy schedule. It is a cheap, effective and efficient method of minimizing the number of undelivered products as well as with the help of this Smart Delivery System, online companies will be able to increase their profit and customer satisfaction rate.

## II. PROBLEM IN DELIVERY

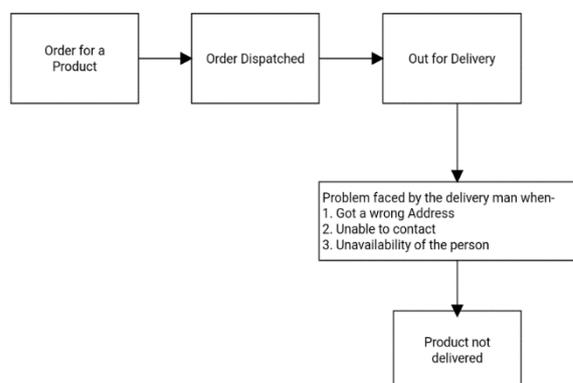


Fig. 2. Block diagram of problem in delivery

### III. SOLUTION OVERVIEW

This delivery system works on twitter API with the help of particular code is tweeted. Raspberry pi is coded in such a way that the tweets are continuously streamed and matched. When the authentication code is tweeted and it is matched, a signal will be sent which will unlock the box and the product will get delivered.

### IV. WORKING OF API

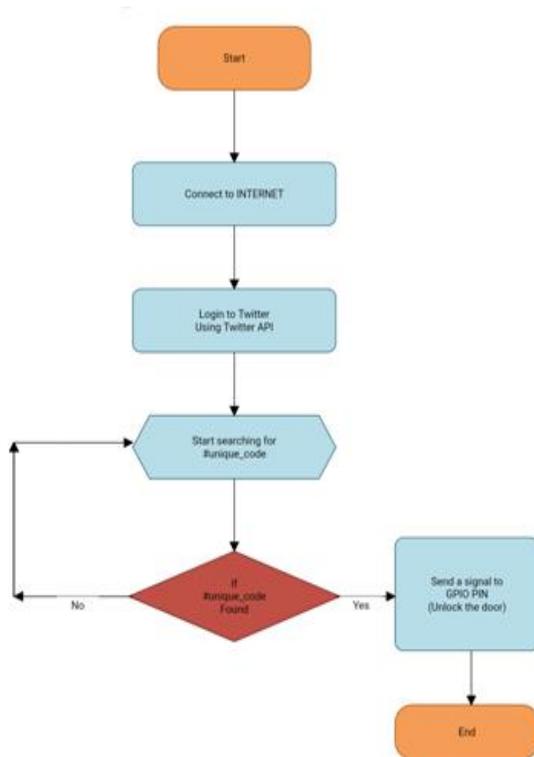


Fig. 3. Flowchart showing the working of API

### Hardware Details:

- Raspberry pi 3 b
- Keyboard
- Mouse
- Display
- HDMI Cable
- SD Card (class 10)

Raspberry pi. Once, the authentication code is sent by the deliveryman the box will get locked and will open when that

- Power adopter (5V & 12V)
- Relay(5V)
- Solenoid lock or Actuator lock (12V)

In order to start the system you first need to connect to internet. Then you need to login to Twitter using its API. When the authentication code is tweeted and it is matched, Raspberry pi will send a signal which will unlock the box and the product will get delivered.

### Advantages:

- Every product will deliver.
- Saves time, cost, manpower
- Customer Satisfaction.
- High Security.
- Low Power Consumption.
- No maintenance required.
- Highly Economic.

### V. CONCLUSION

This product delivery system if implemented properly, will reduce wastage of money, time manpower and the product will get delivered on time.

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