

# Design Of Postman Delevering A Letter With GPS Address Locator And RFID

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**Abstract—** Postmans have an problem to identify the exact location of address which is present in the letters. Sometimes it is hard to find the building number especially when they are not written on the buildings for post an letters, postcards or couriers. To overcome this problem, GPS Address Locator is used. GPS (Global Positioning System) Address Locator is able to give an information in very simple way. GPS will shows langitude and latitude and it shows an exact location of the address. Based on the GPS performace this system will shows address in the form of numerical codes in the letter it has presents both sender and destination location in the form of numerical codes. The letter will sends to the corresponding post office (sender area) they will covert that numerical codes into bar codes by using system application and the letter will moves to destination side. From, the destination side postmans will seperate location as per bar codes present in the letter by using RFID scanner through smartphone. Each Id will have an seperate location. The RFID and GPS are present inside the postman's Smartphone. while scanning the ID in each letter in there mobile that will be saved in GPS location. From the current location of postman will identify the near by location of destination address based on the ID scanned in each letter. It have an advantage as certain people only see their sender and receiver address because of using bar codes and numerical codes, it helps to identify the exact location and it is very useful for postmans, Post will easily received by this method, Less Time consumption, Less cost, Compact size, Less power consumption.

**Keywords—**RFID; GPS; Letter; Postcards; GPS Address Locator; Barcode; Numerical value; converter; Source and Destination Address; Smartphone.

## I. INTRODUCTION

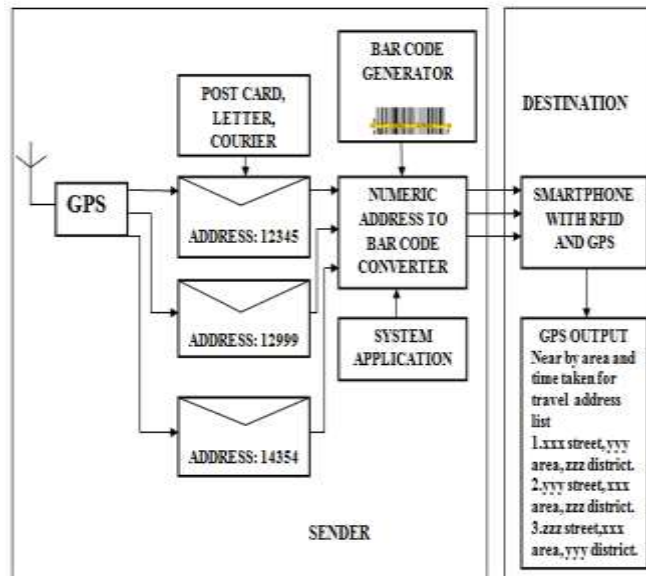
A postman also said as postal carrier, letter carrier is a person who delivers letter and parcels to the destination address. A postman works at the Postal service department that is commonly known as post-office. India has a large postal system with over 150,000 post offices. Postman are familiar figures in all localities. They have an priority to go at least twice every day in around busy metropolitan and urban cities. But, they unable to move suburbs and villages area because of longer distance and improper location identifier. The postman while delivering a letters and couriers at outside door step, they completes there work properly. For an proper letter delivery that should be presents of address on letter in way that is legible. Postmans have an major problem to identify the exact location of address which is present in the letter. Sometimes it is difficult to find the building number especially when they are not written on the buildings for post an letter, courier. This large amount of caution on part the postman to avoid a lot of unnecessary trouble while delivering the letters. The rural area peoples having an major problem for receiving the letter. It is not a problem of postman they difficult to analysis a location for deliver the letters. To overcome this problem. In the previous the designed GPS where used for locating an address which is present in the letter or courier it an be used for mobile for monitoring an location of the address. This paper only locate an address it does in't have any codes to hide the address and there is no usage of system application. The device consists of a processing section which takes input, processes it and provides output. This system requires base station should near to the mobile.

In this paper an hardware implemented by using GPS1(system) and GPS 2 (mobile) based on GPS location the sender and destination address where decided it is measured by latitude and langitude value. Each value will be varied as per the location. Location value is represented in the form of Numerical. The sender and destination numerical value to be written on the letter or courier and that letter will be send to the sender post office in there place is to convert numerical codes to barcodes and barcodes will be presents in the form of lable by using system application. In the system application they have stored entire address based on the GPS location with corresponding numerical number. Then letter will sends to destination address using barcodes in the destination post office (post man) will have smartphone with RFID and GPS. The RFID is used for make scan an bar codes in letter and GPS will locate the bar code in there destination address. while scanning the ID of each letter in there mobile that to be saved in GPS Address locator. From the current location of postman will identify the near by location of destination address based on the ID scanned in each letter. It have an advantage as certain people only see their sender and destination address because of using bar codes and numerical codes, it helps to identify the exact location.

## II. SYSTEM DESIGN

Smart Tracking System helps to postman to locate a letter in correct location by using GPS, RFID, numerical to bar code converter, System application . It has an Less Time consumption, Less cost, Compact size, Less power consumption, High Efficient . From the fig:1, The main hardware is GPS, post card, Numerical to bar code converter, System application in source side and destination side mobile with RFID and GPS , listed as per the near by location.. The block diagram of the complete

system. The detailed functioning of the systems will be discussed here with the description of all the subsystems. The functioning of every subsystems built with the necessary components will be. This paper based on Address tracking system. so, In future looking forward to without help of postmans the letter will send to one end to another end in Robotics at cheaper and easier ways.



**Fig 1 : Block diagram of proposed System**

#### A. GPS (GLOBAL POSITIONING SYSTEM): (GPS 1)

A Global Positioning System (GPS) is a space system that provides location and time information in all weather conditions. The Global positioning system basically consists of two parts: Transmitter and Receiver. The transmitter's job is to track the location with the help of information from satellite. The satellite information is taken and this is sent to the receiver where the place is found. The GPS information will be represented in the form of longitude and latitude based on the value each address can be justify in a different numerical value that value to be stored for future usage. From fig 2; The location value will be only knows Government , post office, post man, senders and destination address holders. That value to be return in the post cards. In sender post office they converts numerical values into bar codes and sends to destination address by using barcodes label return in postcards .



**Fig 2 . GPS(Global Positioning System)**

#### B. GPS ADDRESS LOCATOR: (GPS 2)

GPS Address Locator is a used easy locate and simple method to use application in smartphone , devices and system. From fig 3; It is present in the smartphone for listing the near by location as per the RFID scanned letter. Based on scanning the list will be varied. It gives priority to near by area to locate the letter. It provides the following functionality :

- Locate and display address at your current position.
- Open Google Map at your current position
- Open Google Street View at your current position (if available)
- it can Shares an current location with latitude and longitude.
- used to search an address and displays an map and street view from its location. it is also used for sharing this location.
- it gives information of GPS status (if enabled) and shows an position accuracy.

- it gives current position Altitude , Latitude, Longitude and it shows a movement speed. If it is necessary it is able to copy this information and paste in other system applications.

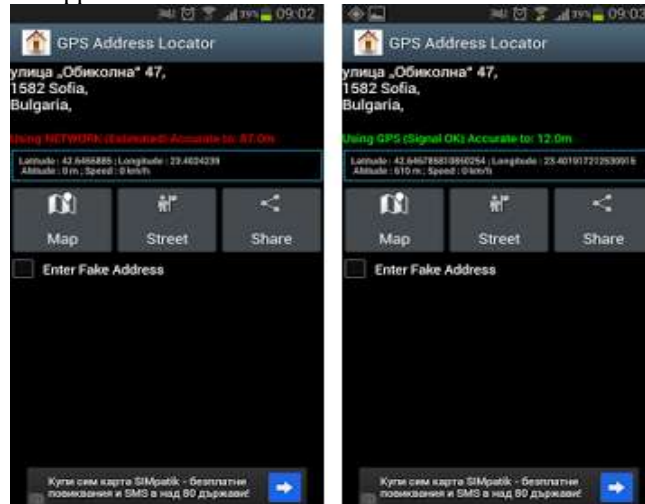


Fig. 3. GPS Address Locator: (GPS 2)

C. NUMERIC TO BAR CODE CONVERTER

A barcode is used to gives to an machine-readable, optical scanner, it is represents the data in the form of barcodes, that data are usually describes about the object that carries the barcode each object carries different codes and the barcodes carry the information about the object, letter etc.,. From fig. 4 . Traditional barcodes represent data in systematically barcodes three different represent such as widths and parallel lines, by changing the widths and spacings of parallel lines, and first usage is to be referred to the linear or one-dimensional (1D). Next developed, two-dimensional (2D) have some difference then the one-dimensional such as rectangles , hexagons, dots and other geometric patterns it is said to be as matrix codes , although they do not use bars as such. Basically, barcodes are only scanned by special optical scanners called barcode readers. Later software application is developed that became available for some devices that could read images, such as smartphones with cameras through the smartphone the barcodes are moves to GPS. In the post cards have an numerical value is based on the GPS location of sender and destination address. That value could not understand in both sender and destination post mans and that numerical value to be converted to the barcodes by using an system application. In system application used for identifying the exact address and location of number which is return in post cards or letter or courier and gives an suitable barcodes of sender and destination address.

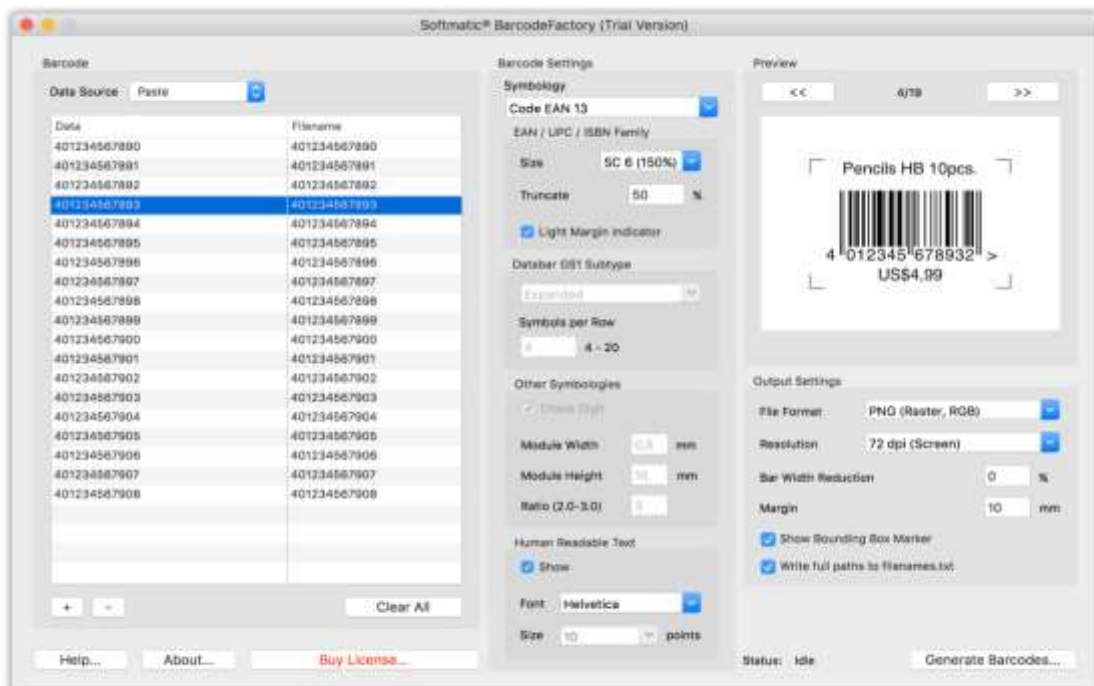


Fig . 4 . Numeric To Bar Code Converter

#### D. SMARTPHONE WITH RFID AND GPS ADDRESS LOCATOR

The smartphones have an read passive high-frequency (HF) RFID tags it is based on the Near Field Communication (NFC) protocol. NFC tags have a read range of within a few inches. It is able to read tags at a distance of 2 to 3 meters, that should be attached to the Smart phone with camera then only RFID tags or label will scan. Some of the NFC devices can read passive NFC tags, and some NFC devices are able to read passive HF RFID tags that are compliant with ISO 15693. From fig 5; In the destination location post man will have smartphone with RFID to read barcodes and send address to the GPS address locator based on this process the near by location will be identify and listed postcards will be deliver as per the near by area by a current location. The detection range of various harmful gas sensors like carbon monoxide, Hydrogen sulphide and Methane it can be varied depends on level of gas occurred in drainage total detection range of sensor are noted below the table:1 based on sensor used detection will be varied.



Fig .5. Smartphone With RFID And GPS Address Locator

#### III. FUTURE SCOPE

In future looking forward to without help of postman the letter will send to one end to another end in Robotics at cheaper cost and easier ways.

#### IV. CONCLUSION

GPS is the safest tool for locate exact address which given both source and destination, it is especially in Location identifying purpose. All these systems completely integrated and possible solution for giving exact location of address. without any needs of others help the location can be identify. This system keeps control on location purpose for delivering a letters, and help workers in post office. Basic modules need for these systems are GPS and RFID for measure the location of destination address from the barcodes with respective numerical values. With the help of this system user can determine the location of source and destination address, can get distance information from destination point. This system can be easily upgradable with any module to make it efficient.

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