RFID Based Parcel Tracking System For E-Commerce Goods

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Abstract: This paper outlines to track the parcel to find the location where exactly it is at an instance of time, from the time of shipment to the time of delivery, using RFID and GSM technologies. Radio Frequency Identification (RFID) Card Readers provide a low-cost solution to read passive RFID transponder tags up to two inches away. The RFID Card Readers can be used in a wide variety of commercial applications, including access control, automatic identification, robotics navigation, tracking, payment systems, and car immobilization. The RFID card reader read the RFID tag in range and outputs unique identification code of the tag. The data from RFID reader can be interfaced to be read by microcontroller or Personal Computer. The parcel will be attached with an RFID tag. This tag contains a unique number. As the parcel travels many stages of postal nodes in various regions before reaching the destination, it will read in every region. Whenever the card is read, the information of the parcel is updated with the new location and status, and the same information is sent as an SMS to the user.

Index Terms: RFID, GSM, Transponder, Navigation, Identification, Immobilization.

I Introduction:

Radio-Frequency Identification (RFID) uses electromagnetic fields to automatically identify and track tags attached to objects. An RFID system consists of a tiny radio transponder, a radio receiver and transmitter. When triggered by an electromagnetic interrogation pulse from a nearby RFID reader device, the tag transmits digital data, back to the reader.

This number can be used to track inventory goods.

There are two types of RFID tags:

- Passive tags are powered by energy from the RFID reader's interrogating radio waves.

- Active tags are powered by a battery and thus can be read at a greater range from the RFID reader, up to hundreds of meters.

Unlike a barcode, the tag does not need to be within the line of sight of the reader, so it may be embedded in the tracked object. RFID is one method of automatic identification and data capture. RFID tags are used in many industries. For example, an RFID tag attached to an automobile during production can be used to track its progress through the assembly line, RFID-tagged pharmaceuticals can be tracked through warehouses, and implanting microchips in livestock and pets enables positive identification of animals.

II Existing Work or Literature Survey:

This paper proposes a **tracking system**, also known as a **locating system**, used for the observing of persons or objects on the move and supplying a timely HYPERLINK

"https://en.wikipedia.org/wiki/Time_series" HYPERLINK

"https://en.wikipedia.org/wiki/Time_series" ordered   sequence   HYPERLINK "https://en.wikipedia.org/wiki/Time_series" of location data for further processing.

The GSM Modem used can accept any GSM network operator SIM card and acts like mobile phone with its own unique phone number. The advantage of using this modem is that user can use its RS232 port to communicate and develop embedded applications. Applications like SMS Control, data transfer, remote control and logging can be developed easily. The modem can either be connected to PC serial port directly or to any microcontroller.

III Proposed Work:

The proposed system provides RFID tags which can be attached to physical money, clothing, and possessions, or implanted in animals and people. The possibility of reading personally-linked information without consent has raised serious privacy concerns. These concerns resulted in standard specifications development addressing privacy and security issues. RFID use on-chip cryptography methods, which provide tag and reader authentication, and privacy. The ISO/IEC specifies a digital signature data structure for RFID and barcodes providing data, source and read method authenticity enhancing automatic identification and data capture techniques. Tags can also be used in shops to expedite checkout, and to prevent theft by customers and employees.

IV Results:

This paper titled with "RFID Based Parcel Tracing System" for E-Commerce Goods is designed and tested successfully and finds applications in schools, colleges, industries and corporate offices.

References

- www.national.com
- www.atmel.com
- www.microsoftsearch.com
- www.geocities.com