

Robotics Worldwide - Affordable Robots Competition

Recorded Mail Collection Robot

Never miss an important delivery again!

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Recorded Mail Collection Robot

This robot would be installed to allow recorded mail deliveries to be received while the recipient is not available to receive them. The features of this robot would be very useful for people who are at work or otherwise unavailable during standard delivery hours. The system would also be advantageous to companies who would rather not tie up an employee with the task of receiving mail. Thus reducing staffing cost for companies and reducing the need to reschedule deliveries or make collections from depots for customers.

This is a problem I would love solved as I am constantly missing deliveries and having to collect them myself.

- Touch screen allows deliveries to be logged using information such as: package number, delivery company, time and date etc.
- PIR sensor on the front of the unit detects approaching delivery driver and starts the system and opens the touch screen.
- A camera mounted in the screen takes a photo of the delivery driver for security and authorisation.
- A label printing machine on the side of the unit prints a sticker with a unique ID number and the details of the delivery to be used instead of a signature.
- SMS message can be sent to recipients mobile informing the user that the delivery has been received. This feature could also be used to allow the driver to notify the recipient of a problem with the delivery.
- A similar label is printed on the package when it is taken into the machine for security and authorisation.
- Once the logging is completed a robotic arm extends from inside the machine and takes the package into the home.
- The arm also weighs the item and measures size to ensure the package has been inserted correctly and then passes the package past the internal label printer.



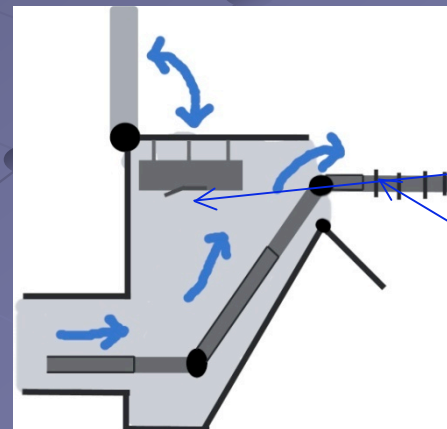
Camera

Touch Screen

PIR Sensor

Label Printer

Collection Area and Arm Storage



Internal Label Printer

Robotic Arm

Recorded Mail Collection Robot

- This robot would use widely available existing technologies for implementation reducing cost:
- Single touch screen with a simple GUI software system.
- Low to medium quality camera possibly using face recognition to capture delivery driver image.
- PIR (Passive Infra-Red) Sensor for detecting the approach of a delivery.
- Simple POS label printers for ID label printing.
- Sliding robotic arm with a force gauge for measuring weight and sensors for measuring the dimensions of an item.
- Possibly OCR (Optical Character Recognition) for reading barcodes and labels.
- The computing power for the robot and interface could be provided by a relatively modest setup which could be contained within the touch screen using a tablet PC inspired unit for the interface.

The estimated cost of this unit would be from £600 to £800 depending on features and exact cost of components.