DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

18EEP301L-MINOR PROJECT-III

FIRST REVIEW

AUTOMATIC CLOAK ROOM

YEAR/SEMESTER – III/V

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ABSTRACT

Now-a-days theft become more popular in common places like temples, malls, shops, etc. To reduce these thefts we had introduced a project title "**Automatic Cloak Room**''. This project aims to reduce theft over common areas which has more security and humans are not needed to use that system with help of software like IOT we can enhance this system.

OBJECTIVE

The main objective of this project is to build more security. As the humans all facing this difficulty ,we use this system to work efficiently without human need .This system is more user – friendly which we can everywhere.

PROPOSED SYSTEM

First, we securely store our belongings in a designated locker. Once the items are placed inside, the system automatically sends a notification containing the locker number and a unique access code to the user via SMS or app When the user is ready to retrieve their belongings, they simply enter the access code into the system and pay the required fee based on the duration of storage. This system enhances security and convenience, providing users with a hassle-free way to store and retrieve their valuables. Additionally, the automated process minimizes the risk of unauthorized access and ensures that payment is efficiently handled.
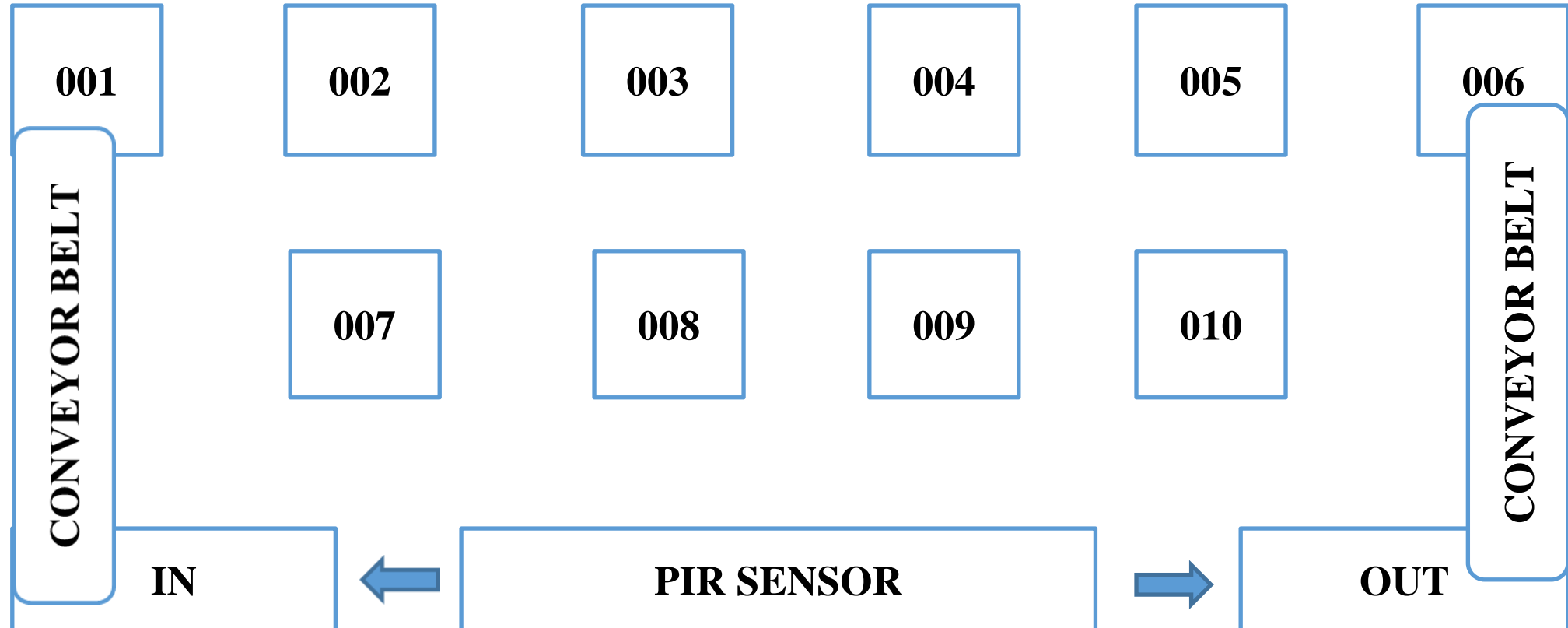
COMPONENTS USED

- PIR Sensor

- Lockers

- Conveyor Belt

- Servo Motor

- Keypad

- QR Code Scanner

PIR SENSOR

- The PIR (passive infrared) sensors utilise the detection of infrared that is radiated from all objects that emit heat.

- This type if emission is not visible to a human eye, but that operate using infrared wavelengths can detect such activity.

LOCKERS

- Lockers provide a safe place to store belongings, such as personal items.

- They can be used in offices, schools, to store their items like phones and bags.

- They can also be used for deliveries and handoffs between people with different schedules.

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SERVO MOTOR

- Servo motors can provide precise speed control, which is useful in conveyor systems.
- Servo motors can increase automation in conveyor systems, such as with automatic guide rail systems.
- Servo motors are ideal for positioning over long distances because they have a flat torque characteristic from low to high speeds.
- Servo motors are easy to operate and can provide smooth operation with large inertial loads and belt mechanisms.
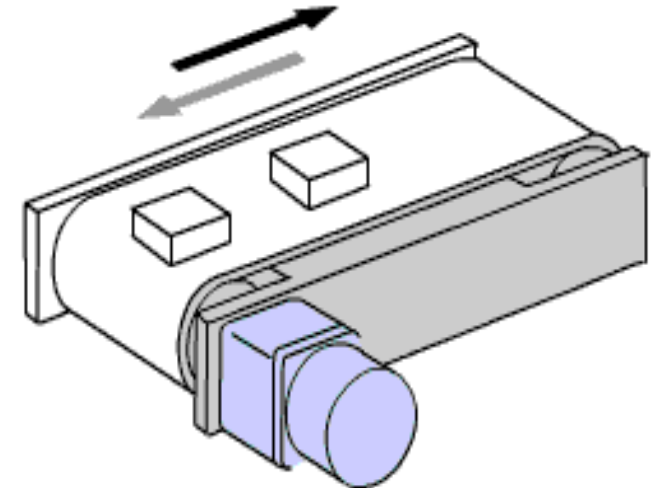
KEYPAD

- Keypads are designed for numeric input, and are often used for tasks that involve a lot of numbers. For example, numeric keypads are commonly found on calculators, computers, and other devices that require mainly numeric input.

- Keypads are a common component of security systems, such as those used for access control in buildings.

WORKING EXPLANATION

The **"Automatic Cloak Room"** operates as a smart and automated system designed to efficiently handle the storage of personal items. When a user approaches the cloakroom, a Passive Infrared (PIR) sensor detects their presence by sensing the infrared radiation emitted by the human body. Once detected, the system assigns an available locker for the user's belongings. The user places their items on a designated platform, which triggers the activation of a conveyor belt powered by a servo motor.

The conveyor belt smoothly transports the items to the assigned locker with precise control, ensuring the safe and secure transfer of the objects. After the belongings are placed into the locker, the system automatically locks it, and a verification method, such as a unique code or token, is provided to the user for future retrieval. This fully automated process eliminates the need for manual intervention, streamlining the experience by offering a hassle-free, secure, and efficient method of storing personal items in a cloakroom setting.

- RFID (Radio Frequency Identification) usage on the key side.
- WiTricity – Wireless Electricity Transfer to reduce power consumption.
- Integration with portable devices like mobile phones.
- GPS for key tracking.
- Biometrics and Touch Screen Interfaces.

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COST ESTIMATION

S.NO	COMPONENTS	QUANTITY	COST
1	PIR Sensor	1	300
2	Lockers	Few	300
3	Conveyor Belt	1	200
4	Servo Motor	1	200
5	Keypad	1	350
6	Micellaneous	Few	750
		Total	1800

APPLICATIONS

- Banks, Malls and high security buildings where single entry is permitted.

- It can be used in jewellery or money boxes.

- Used in secured offices and wherever security is needed.

- This is most prevalent form of digital lock as it uses numerical code for authentication.

- It helps the locking system to be more secure.

- Also, we can keep a count for wrong entries of passkey, such that the lock will be permanently locked if the count reaches and it can't be opened until the owner resets it.

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Thank You!