Stepping Stone:

You need to know ...

- Basic knowledge of microcontrollers.
- Basic programming skills.
- Electric components (resistor- led- capasitor...).

You will be able to...

- Understand how RFID (Radio Frequency Identification) technology works, including how it reads data from RFID tags and transmits it to a receiver.
- Design and implement a basic circuit that incorporates an RFID reader and controls a servo motor.
- Program a Arduino to process RFID data and trigger the garage door mechanism.

let's Think

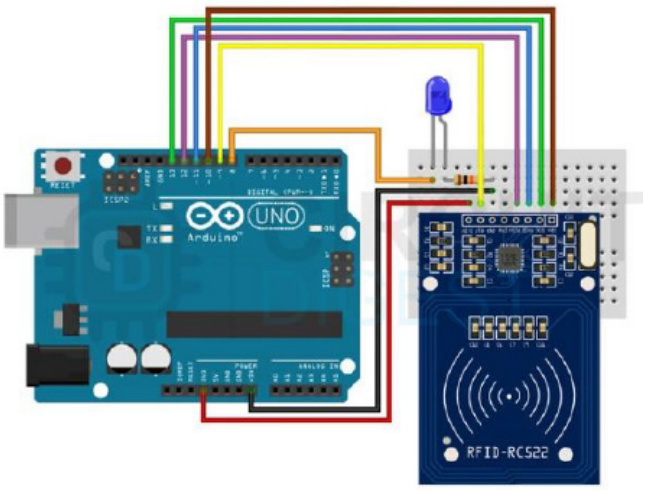
How can technology be used to create a secure and automated system for accessing private spaces, such as a garage?

Explore

do it

Connect the RFID with LED circuit.

Write the code and notice what will happen to the LED when using the RFID tag.



Watch it..

Let's watch this video to understand how we can use the RFID in our smart city.

Scan Here!

https://www.youtube.com/watch?v=GOO84CGBPz8

Read about it

Read this article to understand more about how the RFID works.

https://lastminuteengineers.com/how-rfid-works-rc522-arduino-tutorial/

Scan Here!

Assessment

Focus

Choose the correct answer:

1. What is the primary advantage of RFID technology over barcode technology?

   A) Lower cost.
   B) Line-of-sight not required
   C) Longer range.
   D) Higher data storage capacity.

2. Which of the following is NOT a common application of RFID technology?

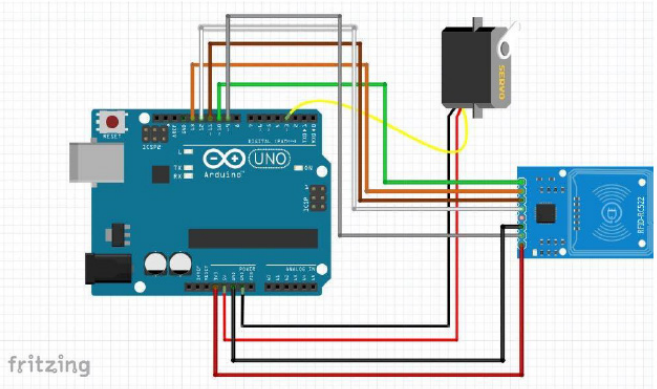
   A) Inventory tracking.
   B) Access control.
   C) Weather forecasting.
   D) Pet identification.

3. What type of RFID tag is most commonly used with the RC522 module?

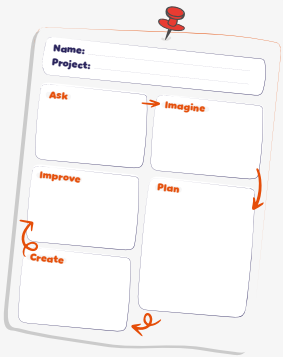
   A) Low Frequency (LF).
   B) High Frequency (HF).
   C) Ultra High Frequency (UHF).
   D) Microwave.

Practice

Connect the RFID to the servo motor to control the your door and add it to your city.



After we added energy sources in our city let's go back to the EDP and add it in create part.



Now I can...

- Understand how RFID (Radio Frequency Identification) technology works, including how it reads data from RFID tags and transmits it to a receiver.
- Design and implement a basic circuit that incorporates an RFID reader and controls a servo motor.
- Program a Arduino to process RFID data and trigger the garage door mechanism.