CHENNAI INSTITUTE OF TECHNOLOGY
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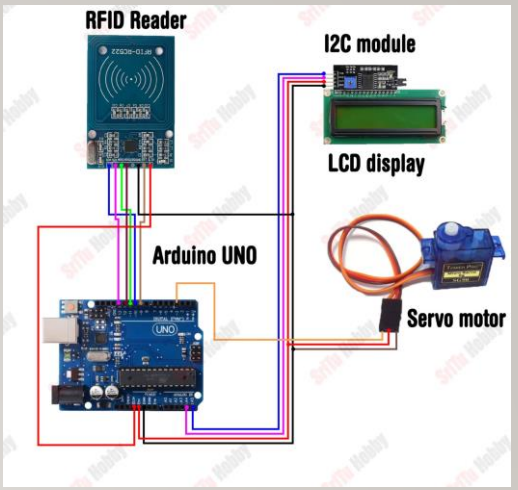
CITCOS' 23
STOP READING , START DOING...

Presents…

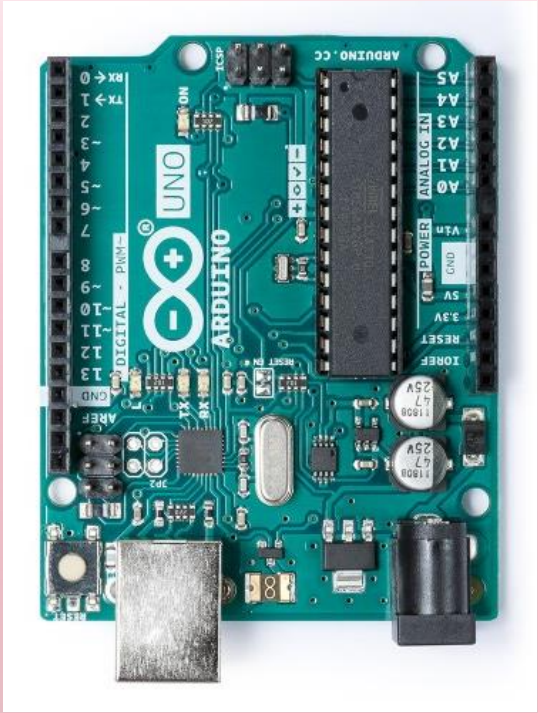


RFID BASED SMART DOOR LOCK SYSTEM

- **RFID is an acronym for Radio Frequency Identification. This refers to a non-contact technology in which electromagnetic fields within a reader automatically identify digital data encoded within RFID tags. In the case of an RFID door lock, the key (usually in the form of a card or fob) is the tag.**

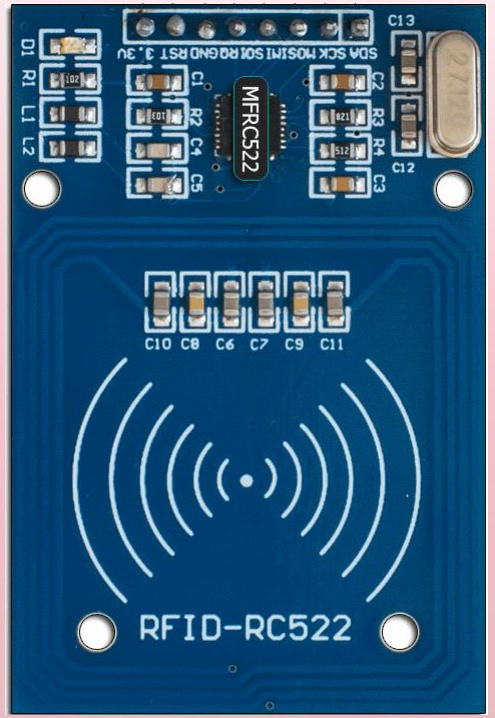
ARDUINO UNO BOARD

Arduino is an open-source hardware and software company, project, and user community that designs and manufactures single-board microcontrollers and microcontroller kits for building digital devices.



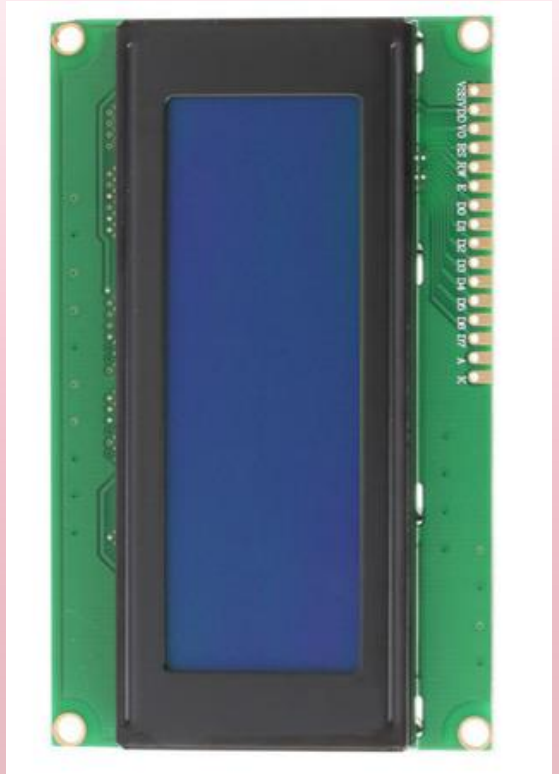
RFID –RC522

The RC522 RFID Reader/Writer Module (Transceiver) is based on a highly integrated reader/writer IC MFRC522 from NXP Company. It is used for contactless Multi-communication at 13.56 MHz. The RFID stands for Radio Frequency Identification. This module uses electromagnetic waves in radio frequency to transfer data .



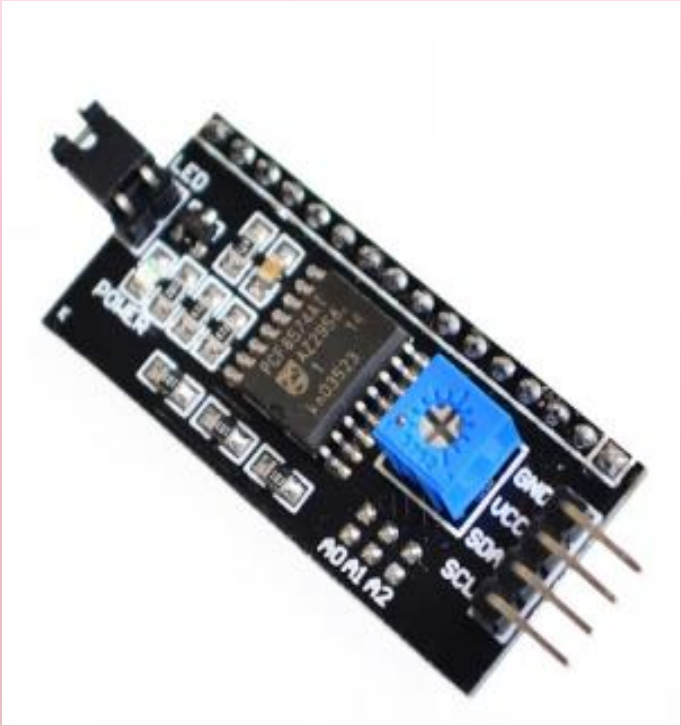
LCD DISPLAY

A liquid-crystal display (LCD) is a flat-panel display or other electronically modulated optical device that **uses the light-modulating properties of liquid crystals combined with polarizers**. Liquid crystals do not emit light directly but instead use a backlight or reflector to produce images in color or monochrome.



I2C MODULE

I2C stands for Inter-Integrated Circuit. It is a bus interface connection protocol incorporated into devices for serial communication. It was originally designed by Philips Semiconductor in 1982. Recently, it is a widely used protocol for short-distance communication. It is also known as Two Wired Interface(TWI).



Benefits of RFID keyless entry locks

There are many advantages to using keyless entry locks for businesses over traditional lock and key entry. Electronic door locks using RFID technology offer convenience and added security benefits for users, including:

Security
RFID key cards are much harder to copy than traditional keys, so offer peace of mind where unauthorised users are concerned. For example, if a former member of staff had an extra key cut they could gain access to the building without authorisation once they had returned their original key. Key cards can also be deactivated to prevent an unauthorised user gaining entry to a building or access to a storage locker.
Some RFID electronic door locks, like the ones available from Lowe & Fletcher, also feature a mechanical override lock for emergency access.

Convenience
Due to the non-contact nature of the keyless entry lock system, the issue of fumbling around for keys is avoided. This is especially beneficial when someone has their hands full and needs to open a door. The key can be slotted into a lanyard which can be waved in front of the reader, hands-free.

Size
The size of the card is almost identical to that of a regular bank or ID card, making it easy to store. As we generally carry these cards with us most of the time, it makes it less likely that the card will be forgotten when going to work, or anywhere else where card access is required.

Diversity
As RFID locks come with a range of different cams and spindle lengths, they can be fitted to a wide range of doors and furniture. This makes them suitable for use in many different businesses and applications.

Cost Savings
For applications where access is required for a large number of people, for instance gym members, getting traditional keys cut can be very expensive. This also comes with the extra cost if locksmith services are required in the instance of lost or misplaced keys. With an RFID key card, replacements and cheap and easy.

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