**Smart lock**

Objective: Collect data of people opening and closing a door, such as Name, Time and Date and send the data to the Webserver to manage

Function:

* Keyless entry: Keycards and Password
  + Keycards: Using Student ID cards and Staff ID cards
  + Passwords: Initialize 5 different passwords for each lock, each password will be associated with a person.
* Emergency lock: For emergency cases (fire safety) – One card can be opened at every door at school.
* Sign up for schedule on Webservers:
  + There will have a Staff to approve the schedule on the Webserver.
  + ID card or Password will be valid in a period, otherwise it will be locked.
* There will be OTP to confirm.
* LCD to display.
* Sound to recognize correct password and incorrect password.

A diagram of a computer system

Description automatically generated

**Select components**

Microcontroller

GPIOs requirement:

* 7 pins Keypad 3x4
* 4 pins LCD