Object Oriented Programming Lab Fall 2019

Project: **Access Control System**

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Introduction

RFID, Radio Frequency Identification is a fundamental and inexpensive technology that enables wireless data transmission. This project is design to authenticate the user before entering a secure space. It also keeps the record of check-in and check-out of the user. The main objective of this paper is to design and implement a digital security system which can deploy in secured zone where only authentic person can be entered.

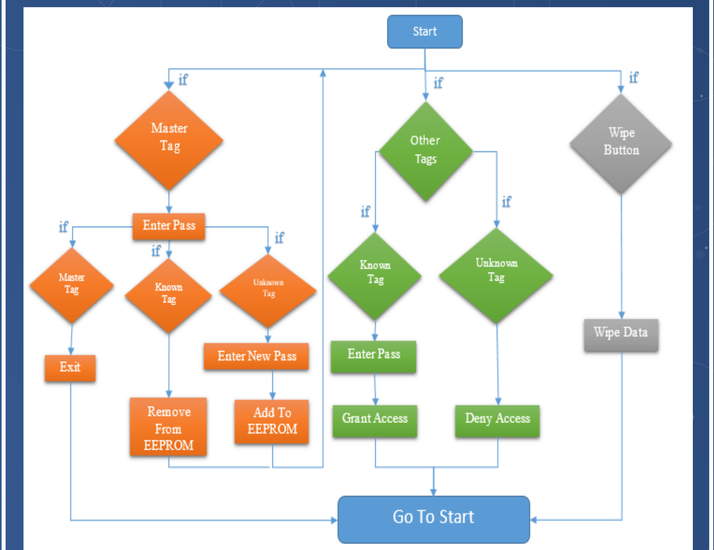
Language

C / C++

Algorithm

- Start
- Add these Libraries
  a) EEPROM
  b) MFRC22
  c) LiquidCrystal_I2C
  d) Keypad
  e) Servo
  f) SPI
  g) Wire
- Void Setup Function
- Initialize Arduino pins for LEDs, Buzzer & tactile switch
- Initialize bolean variables match, programMode, replaceMaster & successRead
- Initialize arrays as storeCard, readCard,masterCard, storepPass, password & masterPassVoid Loop Function
- Conditional statements
  a) Master Tag
    i) Enter Pass
    ii) If master tag scanned, then Exit
    iii) If known tag scanned, then Remove from EEPROM
    iv) If unknown tag scanned, Enter New Pass & ADD to EEPROM
  b) Other Tag
    i) If known tag scanned, then Enter Pass & Grant Access
    ii) If unknown tag scanned, then Deny Access
  c) Wipe Button
    i) Wipe Data
- Go To Void Loop Function

Flowchart



Components

Arduino IDE,
Firebase,
WeMos , Mega 2560