



PAF-Karachi Institute of Economics & Technology
(The Center of Excellence)
College of Computing and Information Sciences
Course Project Proposal Form

Sno.	Std. ID	Names	Course Name
01	11508	Muzamil Khan	Computer Architecture
2	11515	Zain Zahid	Computer Architecture
03	9843	Muhammad Ahmed	Computer Architecture

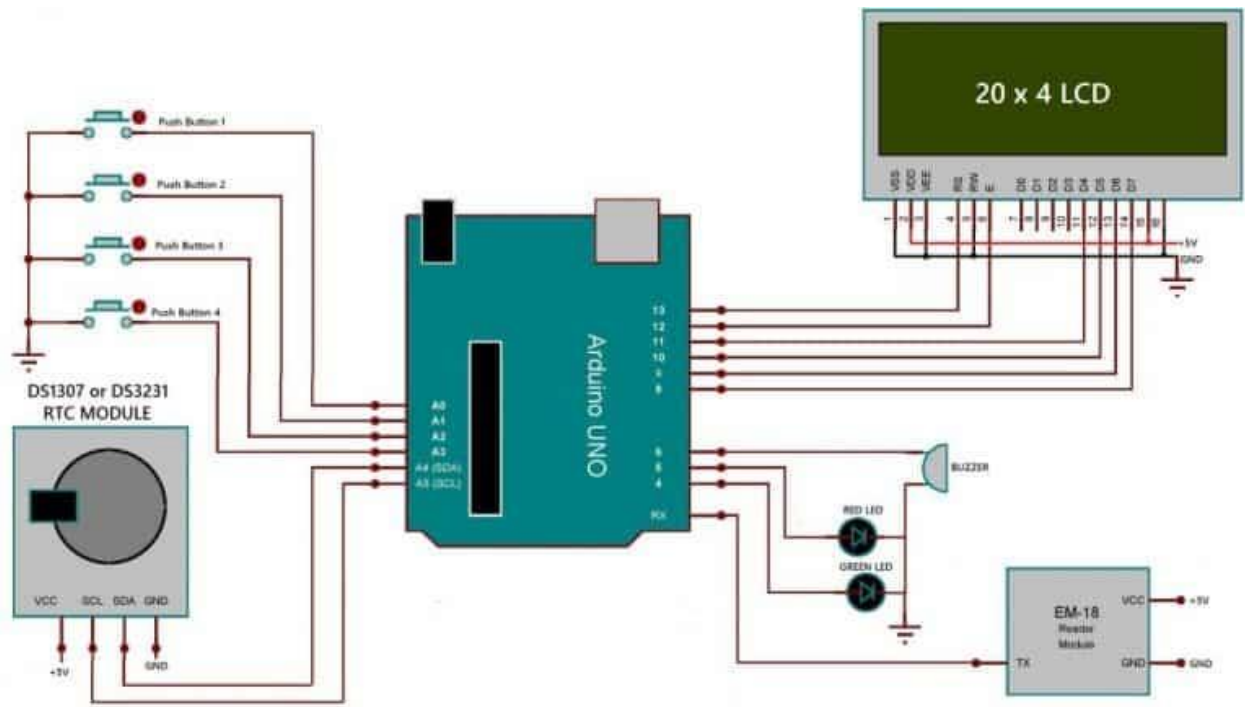
Project Title: RFID Based Attendance System

Description of the Project :

In this project, we have designed RFID Based Attendance System using Arduino. EM-18 RFID Reader is a very simple yet effective module. It is an RFID module and is used for scanning RFID cards. It's a new technology and is expanding day by day. Nowadays it is extensively used in offices where employees are issued an RFID card and their attendance is marked when they touch their card to the RFID reader. We have seen it in many movies that when someone places one's card over some machine then the door opens or closes. In short, its a new emerging technology which is quite useful.

In this project, we have interfaced RFID EM-18 Module with Arduino, RTC Module DS3231, and 20*4 LCD display. RFID Based Attendance System is a wonderful project for final year electronics & electrical students.

Circuit diagram:



Tools required:

S.N.	COMPONENTS NAME	DESCRIPTION	QUANTITY
1	Arduino Board	Arduino UNO R3 Development Board	1
2	RFID Module	EM-18 RFID Module	1
3	LCD Display	JHD204A 20x4 LCD Display	1
4	Potentiometer	10K	1
5	RFID Cards	125Khz RFID Cards	1
6	RTC Module	DS3231/DS1307 RTC Module	1
7	Buzzer	5V Active Buzzer	1
8	LED	5mm LED Any Color	2
9	Push Buttons	Push-to-On Tact Switch	4
10	Connecting Wires	Jumper Wires	20
11	Breadboard	-	1

Working of the Project:

Functioning **Principle of RFID Device** is explained below:

- **RFID** (radio frequency identification) is a technique facilitating identification of any product or item without the requirement of any line of sight amid transponder and reader.
- **RFID Structure** is continuously composed of 2 main hardware components. The transponder is located on the product to be scanned and the reader which can be either just a reader or a read & write device, depending upon the system design, technology employed, and the requirement. The RFID reader characteristically comprises a radio frequency module, a controlling unit for configurations, a monitor, and an antenna to investigate the RFID tags. In addition, a number of RFID readers are in-built with an extra interface allowing them to forward the data received to another system (control system or PC).
- **RFID Tag** – The actual data-carrying tool of an RFID structure, in general, comprise of an antenna (coupling element) and an electronic microchip.

Working of RFID Based Attendance System using Arduino:

In this project, we have designed an **RFID based attendance system using Arduino**. First, we store a set of RFID card data in our system. You can store any number of RFID data, but we have only stored 10 RFID tag numbers.

When the person with the correct RFID card comes & swipes his RFID card, his arrival time will be stored on the system using the **EEPROM** command displaying a “welcome” message on LCD. When the same person swipes his RFID card for the second time, the system will save it as his leaving time displaying “See You”. The interval between first card swap and second card swap is the total working hours that are stored as data.

😊😊 THE END 😊😊