

*Report on*

**‘Arduino Alarm Clock’**

*By*

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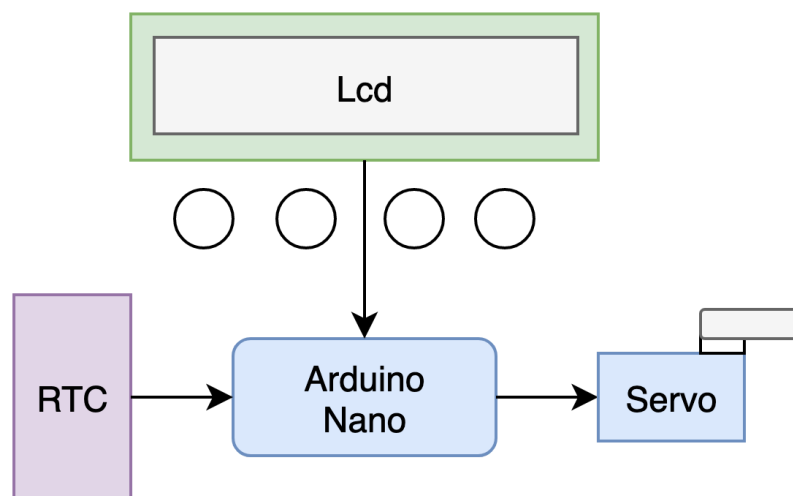
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**Objective:**

To construct an alarm clock device that can wake people up by producing loud music and controls servo to splash water on the face.

**Description:**

Many people think to wake up early but it is difficult for them to wake up when the alarm rings as they feel too lazy. This would be a dream alarm clock for such people. With this alarm clock, we just need to set the time and it does the work of ringing a loud alarm and pouring/ splashing water on the face. This reduces the comfort level of the person and makes him fresh so he wakes up at his desired time.

**Block Diagram:****System Requirement Specification****Hardware Requirement:**

- LCD Screen
- Arduino Nano
- Button Switch x 4

- RTC DS3231
- Micro servo
- Jumper cables

### **Software Requirement:**

- Arduino IDE
  - Library: 1. DS3231.h
  - 2. LiquidCrystal.h

### **Working Principle:**

First, we set the alarm time using the buttons and check it with the LCD screen. The RTC is used to provide the current time. When the current time is equal to the alarm time, the buzzer produces a loud sound, the Arduino controls the servo motor in a way to pick up water in a spoon, which is connected to the servo. Then the servo pours/splashes water on the person's face. So, he can wake up.

### **Circuit Connections:**

- Connection of Arduino to RTC DS3231:
  - 7 - SDA
  - 8 - SCL
  - 5v - Vcc
  - Gnd - Gnd
- Connection of Arduino to LCD:
  - 12 - RS
  - 11 - EN
  - 5 - d4
  - 4 - d5
  - 3 - d6
  - 2 - d7
- Connection of Arduino to Button
  - 6 - set

- 9 - hour
- 13 - min
- 10 - save & exit
- Connection of Arduino to Servo Motor
  - 1 - Signal
  - 5v - Vcc
  - Gnd - Gnd
- Connection of Arduino to Buzzer
  - 0 - Signal
  - Gnd - Gnd

### **Result:**

The result of the project Alarm Clock with servo is verified and it satisfied all my requirements without any exceptions.

