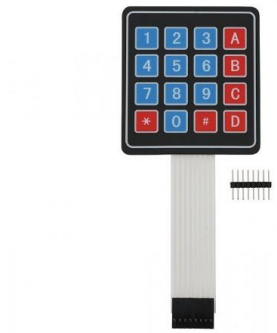
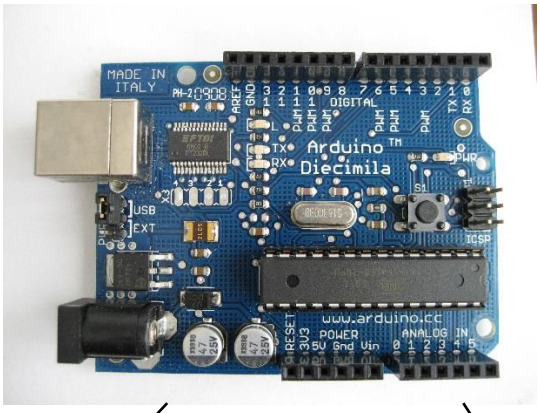
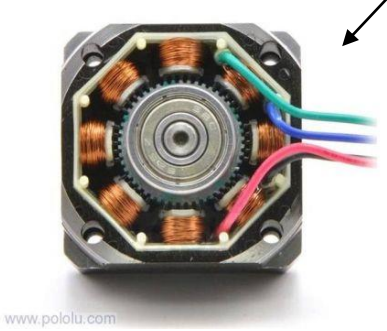
DIGITAL LOCK







By-

NAVNEET SEHARA(120260012)

BALAGOPAL K S(120260028)

RAKESH(120260015)

WORKING-

We have build an office(commercial) security lock which can used as a door lock ,lock box etc.Like everyother lock, our lock system has a particular input(code which is initially set to 1234) for it to open(displays on a LED output “OPEN” and “TRY AGAIN” if wrong attempt) and there is a maximum of three continuous attempts bar and after 3 attempts there is a time penalty of 9 seconds imposed before the next code attempt is made.
And there is a feature to change passcode, when lock is open by pressing “#” button on the keypad.We also have the keys pressed displayed on a LCD for the users visual aid.And if the attempt is succesfull the stepper-motor which acts as a mechanical lock rotates by 90° in a particular direction(signifying the lock being open) and it rotates back to its initial state before the next attempt is made(symbolizing the latch is locked).Pressing any key other than #, when lock open, makes it locked again.

INPUTS-Numerical Keypad

OUTPUT-LCD Display,Stepper-motor

TRIAL TEST-Input 1234 and the LCD should display open and the motor should rotate and it should rotate back to its initial position on pressing any key(other than #) and a display of “locked” indicating the system is locked.Any other attempt suppose 1111 results in a display of wrong and try again. When open, pressing # prompts for new code. User inputs code and then lock key is updated and the lock is automatically locked.

TASK DIVISION-

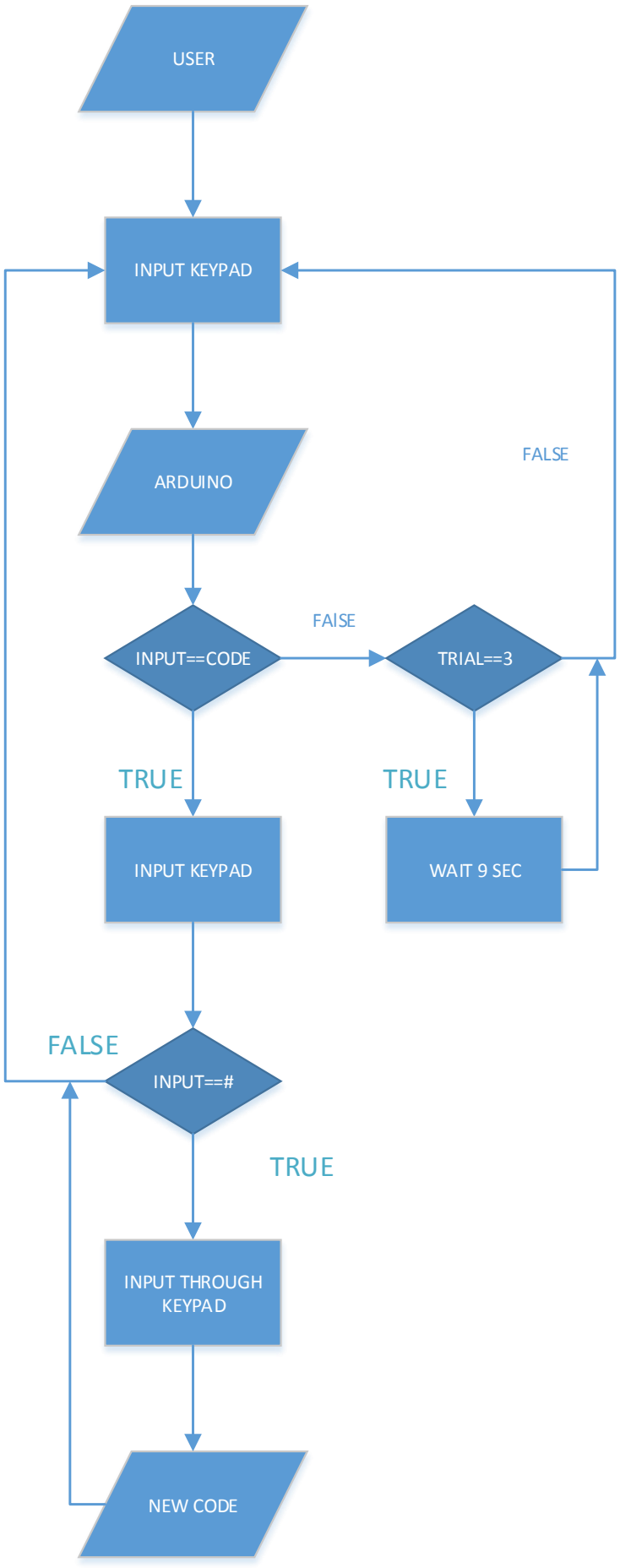
NAVNEET-LCD Display,Self-made keypad attempt,Connections and Component Availability.

BALAGOPAL-Coding,Keypad Working Study,Connections and components.

RAKESH-Stepper Motor and Digital Clock attempt(later removed as not suited for the project),Connections .

COMPONENT USED-

- Arduino Diecimila
- 12 key-4x3 matrix keypad
- Tamagawa TS3216N17E1 Unipolar Stepper Motor
- LCD Display


USER
INPUT KEYPAD
ARDUINO
FALSE
FAISE
INPUT==CODE
TRIAL==3
TRUE
TRUE
INPUT KEYPAD
WAIT 9 SEC
FALSE
INPUT==#
TRUE
INPUT THROUGH KEYPAD
NEW CODE