Cranes Varsity

'Where Technology Meets Excellence'

ELEVATOR(LIFT) OPERATION USING LPC2129 MICROCONTROLLER

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ABSTRACT

- The Elevator Control System Project aims to design and implement an efficient, safe, and user-friendly elevator control system for multi-story buildings.
- Elevators are an indispensable part of modern infrastructure, providing vertical transportation in high-rise structures.
- The project focuses to develop an application code that simulates using a keypad as an elevator control for building with 4 floors.

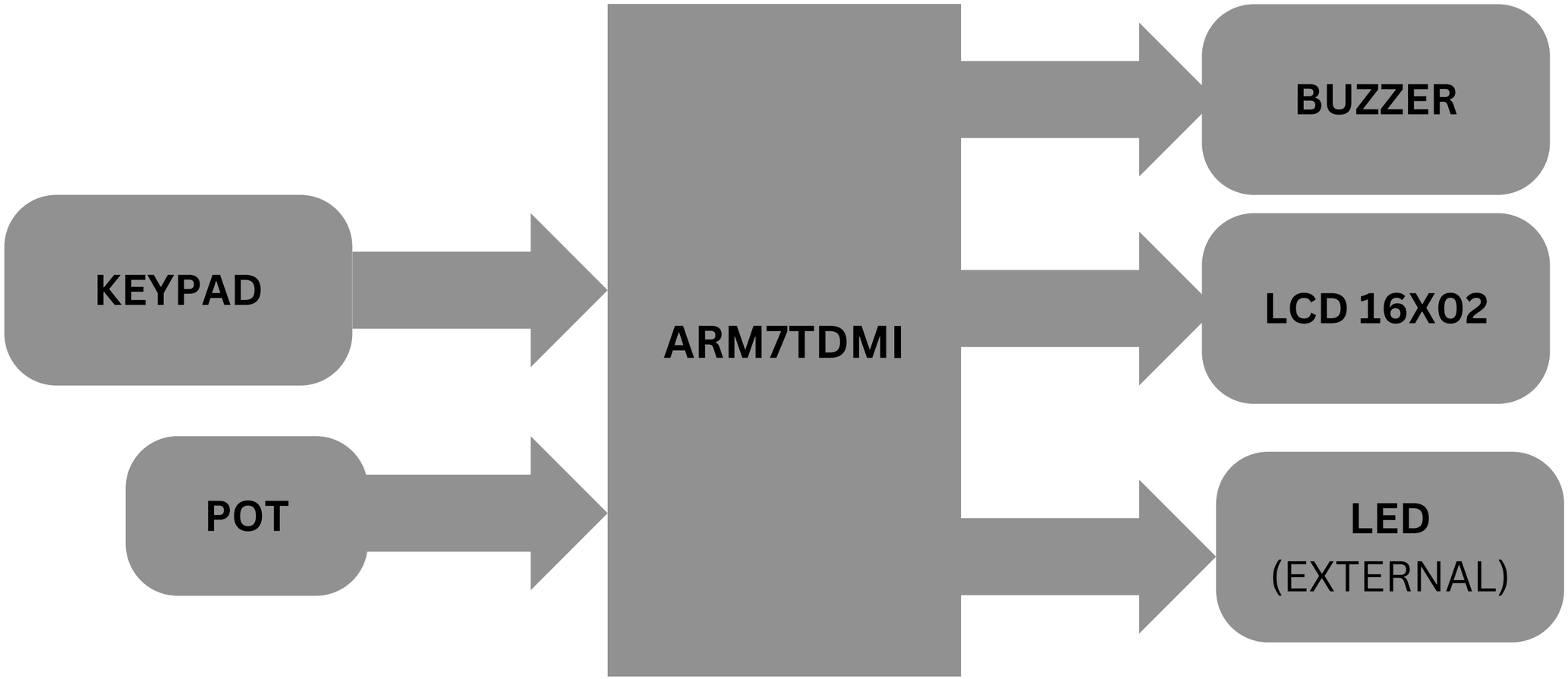
INTRODUCTION

- In urban landscapes and high-rise buildings, elevators are indispensable components of daily life, facilitating vertical transportation efficiently and safely.
- Elevator control systems play a pivotal role in ensuring smooth operations, optimizing energy usage, and enhancing user experience.
- The Elevator Control System Project aims to design, develop, and implement a sophisticated control system for elevators using keypad and incorporating algorithms for hardware and intuitive user interfaces.

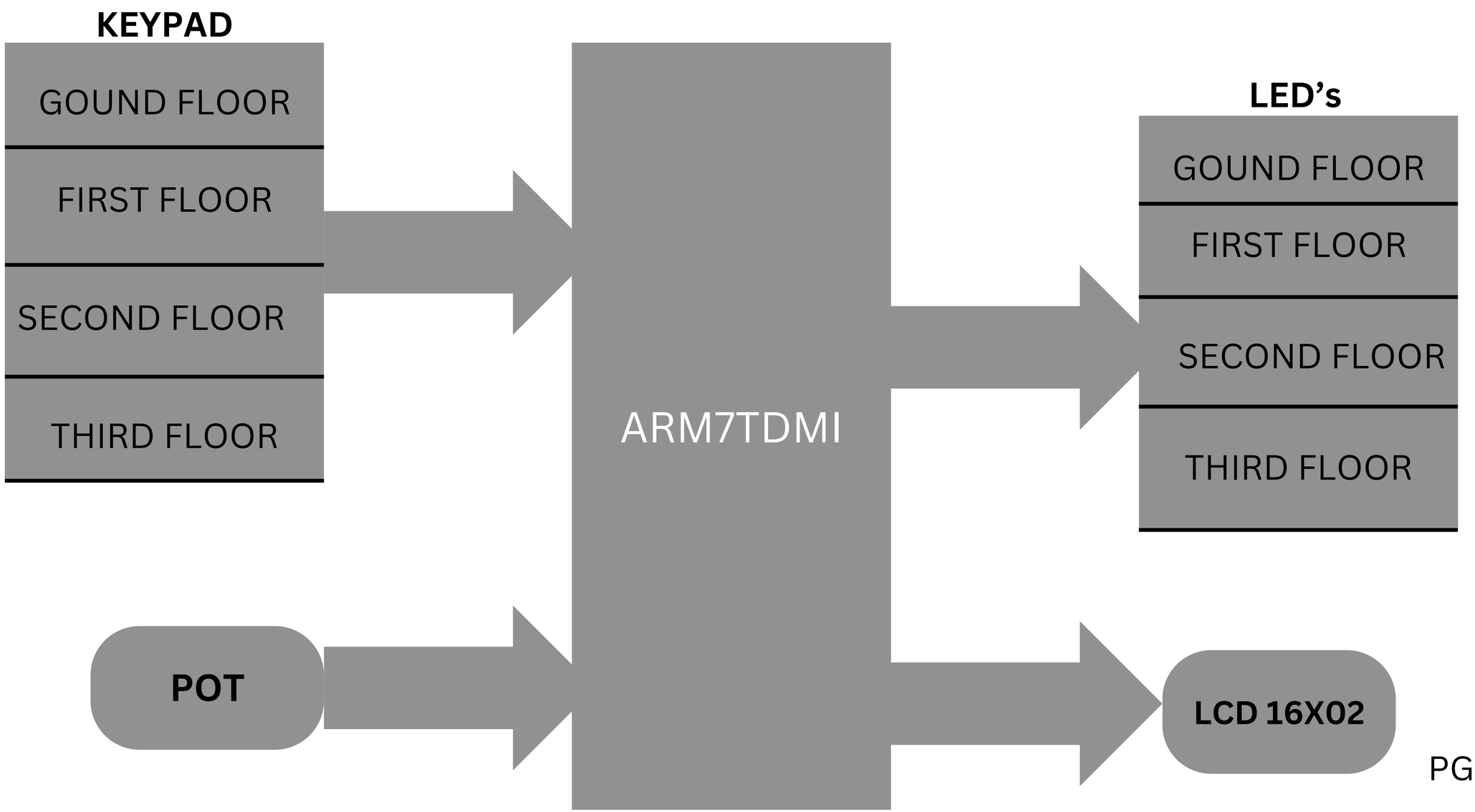
OBJECTIVES

- Our objective is to develop an application code that simulates using a keypad as an elevator control for building with 4 floors.
- For safe operation of the lift, we have included potentiometer value to calculate the threshold weight of the lift, and indicate through buzzer & lcd.

BLOCK DIAGRAM

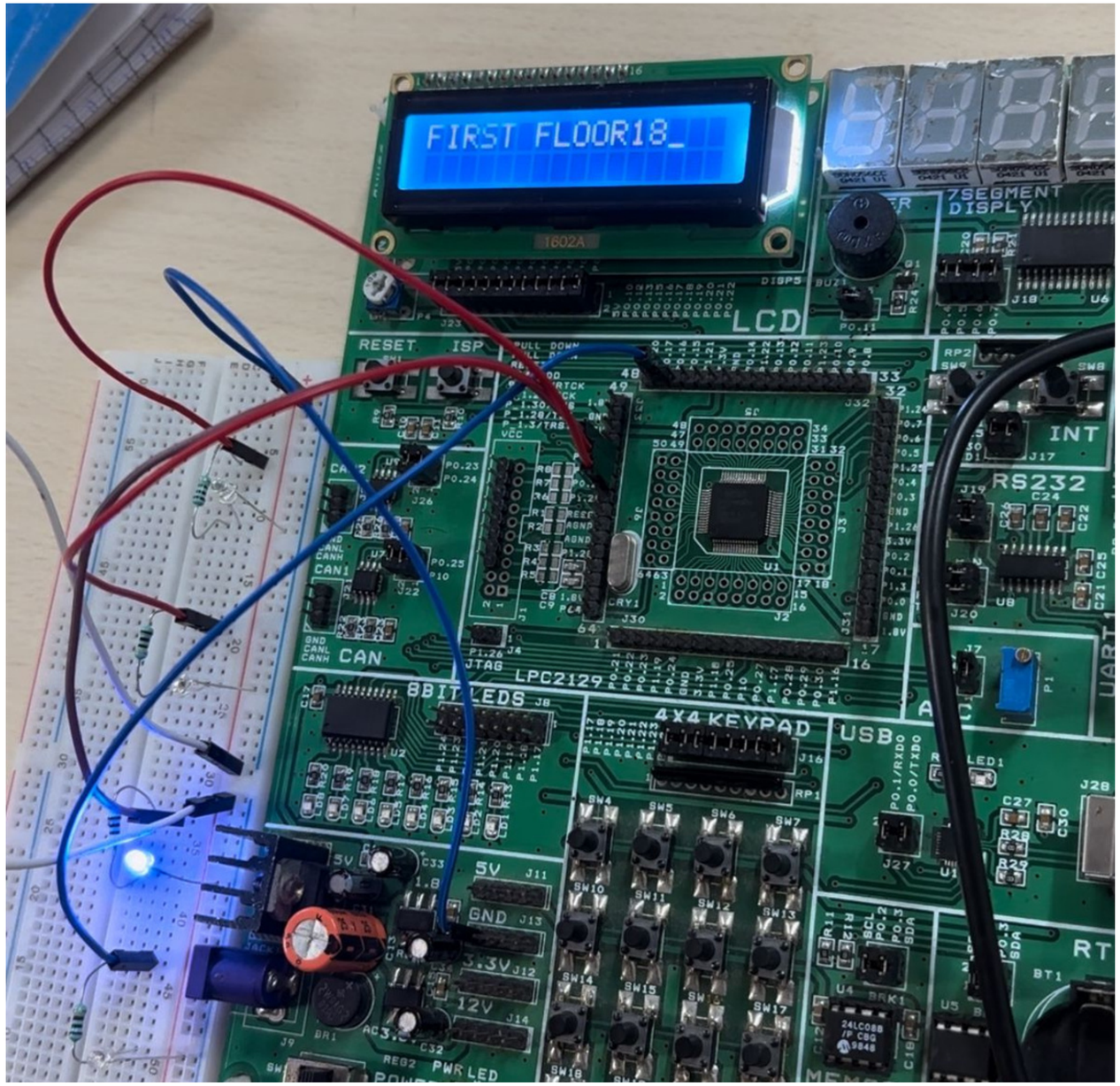


LIFT OPERATION BLOCK DIAGRAM



METHODOLOGY

- The input is taken from a keypad ,Potentiometer and the output is displayed using a LCD & LED’s.
- The floor number input from keypad is processed and displayed using LED’s on each floor.
- The code initializes the rows of the keypad as output and columns as input.
- The code uses conditional statements to check which key is pressed.
- The led function takes a floor number and illuminates the appropriate LED segments on the floor’s indicator to show the elevator position.
- The Led indication gradually lights up as you go through the floor.


FIRST FLOOR18_
1602A
LCD
7SEGMENT
DISPLY
RESET
ISP
INT
RS232
CAN
CAN1
JTAG
LPC2129
8BIT LEDS
4X4 KEYPAD
USB
5V
GND
3.3V
12V
PWR LED
24LC08B
/P CBG
9848

APPLICATIONS

- Bridges
- Colleges/Hospitals/ Offices
- Aeronautics

MERITS

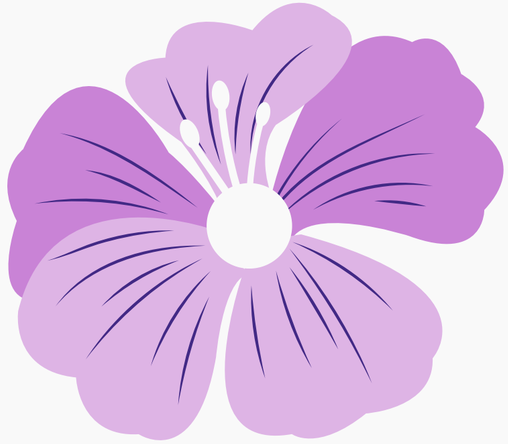
- Innovation: The study of llift continues to drive innovation in engineering and technology
- Infrastructure: Lift principles are applied in the design and construction of various structures, such as bridges and buildings.

DEMIRTS

- Energy consumption:
- Maintenance
- Design Limitations

CONCLUSION

- In conclusion, elevators are indispensable vertical transportation systems that have revolutionized urban architecture, enabling efficient movement within buildings and enhancing accessibility.
- Despite occasional safety concerns and energy consumption, their widespread adoption continues to shape modern cities and improve the quality of life for millions worldwide.



THANK YOU!