Objective

Design and implement a smoke or fire detector circuit using buttons, an encoder, and a decoder integrated circuit (IC).

Methodology

1.1 List of Materials

Materials used in this laboratory exercise are listed below.

No.	Material	Specification	Quantity
1	NE555 timers	Used in a variety of timer, pulse generation, and oscillator applications	2 pcs
2	Breadboard	Used to help connect components to complete the basic circuit	1 pc
3	Resistors	10k ohm, 1k ohm, 56k ohm, 4.7k ohm	5 pcs
4	Telephone Wire	3 – Colored Solid Wire	2 meters
5	Capacitors	10 microfarad 16v, 1 microfarad 16v, and 1 AEC Ceramic	3 pcs
6	Transistor	NPN BC 547	1 pc
7	Buzzer	3 – 34 V DC	1 pc
8	LED	white light	1 pc
9	Thermistor	30k Value	1 pc
10	Switch	6 pin push switch	1 pc

1.2 Schematic Diagram (Proteus)