STREETLIGHTS THAT GLOW ON DETECTING THE VEHICLE MOVEMENT

GROUP-14:
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ABSTRACT:

Basically, our project focusses on switching on the street lights when there is vehicle movement and switching them off when there are no vehicles on the road.

This saves a lot of power, unlike the present situation in which the street lights remain on all the time.

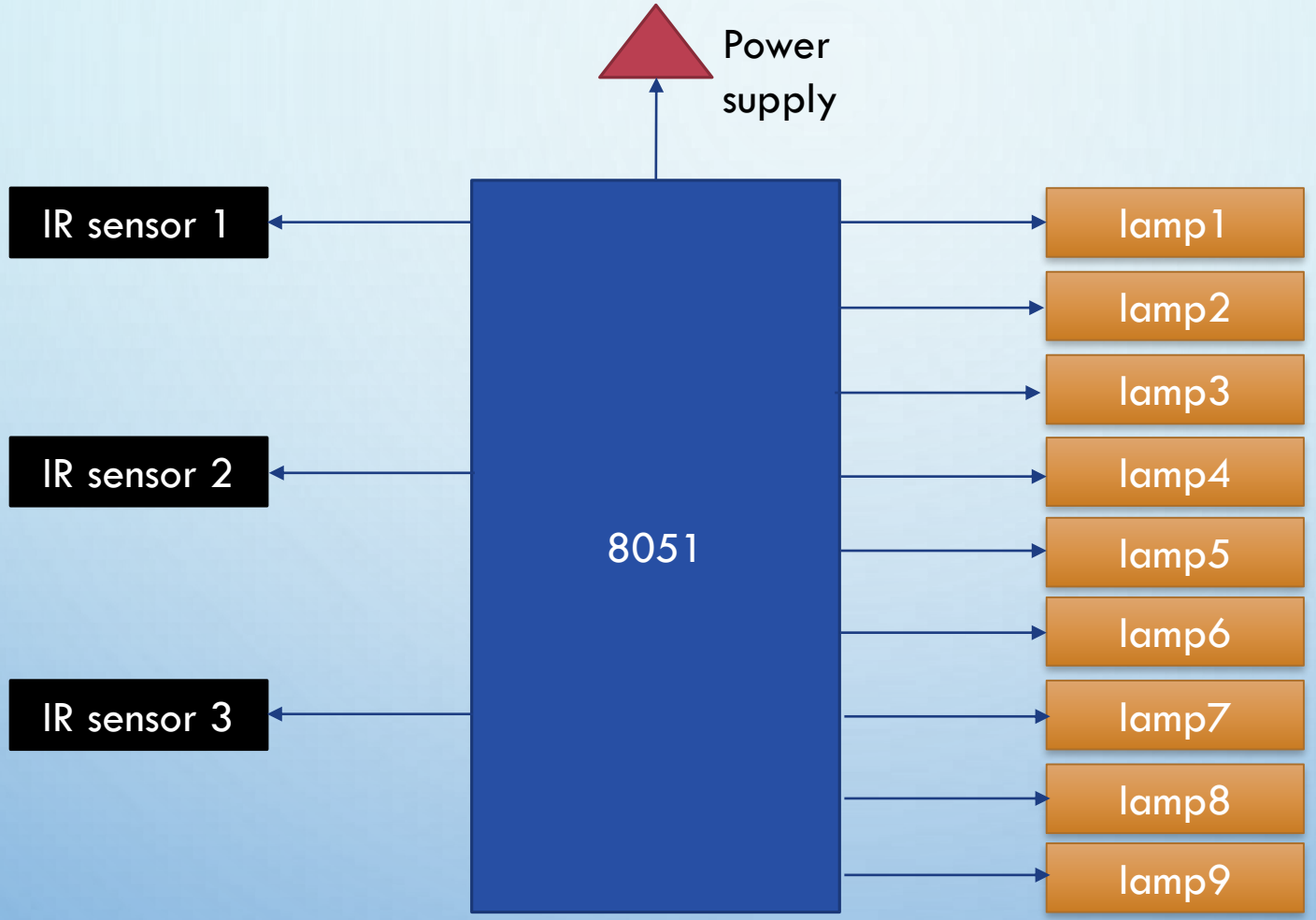
OBJECTIVE:

The main objective of our project is “power saving”.
This can be implemented in the places where we find less crowd or at late hours.

CHALLENGE FACED:

- The main challenge faced is regarding providing equal voltage to all the leds (which are assumed to be street lights in our case).
- To overcome this, we introduced npn transistors to amplify the voltage, thus providing equal voltage to all the leds.

BLOCK DIAGRAM



COMPONENTS USED:

- 8051 IC – AT89S52
- Leds – 9
- IR sensors – 3
- Npn transistors – KSP2222A – 9
- Bread board
- Jumper wires

CODE:

```
#include<reg51.h>
//3 IR's
sbit IR1=P2^0;
sbit IR2=P2^1;
sbit IR3=P2^2;

//SET 1
sbit led1=P3^5;
sbit led2=P3^6;
sbit led3=P3^7;
//SET 2
sbit led4=P3^4;
sbit led5=P3^3;
sbit led6=P3^2;
//SET 3
sbit led7=P1^0;
sbit led8=P1^1;
sbit led9=P1^2;
```

```
void smallDelay();
void delay();
void OFFALL();
void main()
{
    while(1) {
      if(IR1 == 0) {
            led1= 1;
            smallDelay();
            led2 = 1;
            smallDelay();
            led3 = 1;
            smallDelay();
            delay();
       }
      else if(IR1 == 1 ){
            led1= 0;
            led2 = 0;
            led3 = 0;
      }
```

```
if(IR2 == 0) {
        led4 = 1;
        smallDelay();
        led5 = 1;
        smallDelay();
        led6 = 1;
        smallDelay();
        delay();
        }
else if(IR2 == 1 ){
        led4 = 0;
        led5 = 0;
        led6 = 0;
}
```

Continued…….

```
if(IR3 == 0) {
        led7 = 1;
        smallDelay();
        led8 = 1;
        smallDelay();
        led9 = 1;
        smallDelay();

        delay();
}
else if(IR3 == 1){
        led7 = 0;
        led8 = 0;
        led9 = 0;
}
OFFALL();
}
    }
}
```

```
void OFFALL(){
                led1=0;
                led2=0;
                led3=0;
                led4=0;
                led5=0;
                led6=0;
                led7=0;
                led8=0;
                led9=0;
}
void smallDelay()
{
    unsigned int i;
    for(i=0;i<1000;i++);
}
void delay()
{
    unsigned int i;
    for(i=0;i<10000;i++);
}
```

Link to Video:

https://drive.google.com/file/d/1KtKPKvqGzO_niUpcyccP2f5o6cWMUfst/view?usp=drivesdk

Working of Project:

We use IR sensors to detect any vehicles on the road and if at all vehicles are detected, we turn on three street lights at a time.

THANK YOU