

# Emergency Evacuation Smart System

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# EMERGENCY!



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- What would you do?



# Emergency Evacuation Smart System Introduction

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## BACKGROUND:

1)How it all started.

2)The Design.

# Reasons for the EESS

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The Emergency Evacuation Smart System is designed for:

- Big Businesses
- Power Losses
- Poor Eyesight

# Emergency Evacuation Smart System Objective

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- The objective of this project is to obtain a proper functioning system that will identify, analyze, and conduct a safe evacuation path for all personnel.

# The EESS Vision

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- The proper execution of this system with cooperating personnel will save lives.
- Proper training and monthly fire drills will train the employees and personnel to exit the building.



# The EESS Vision cont.

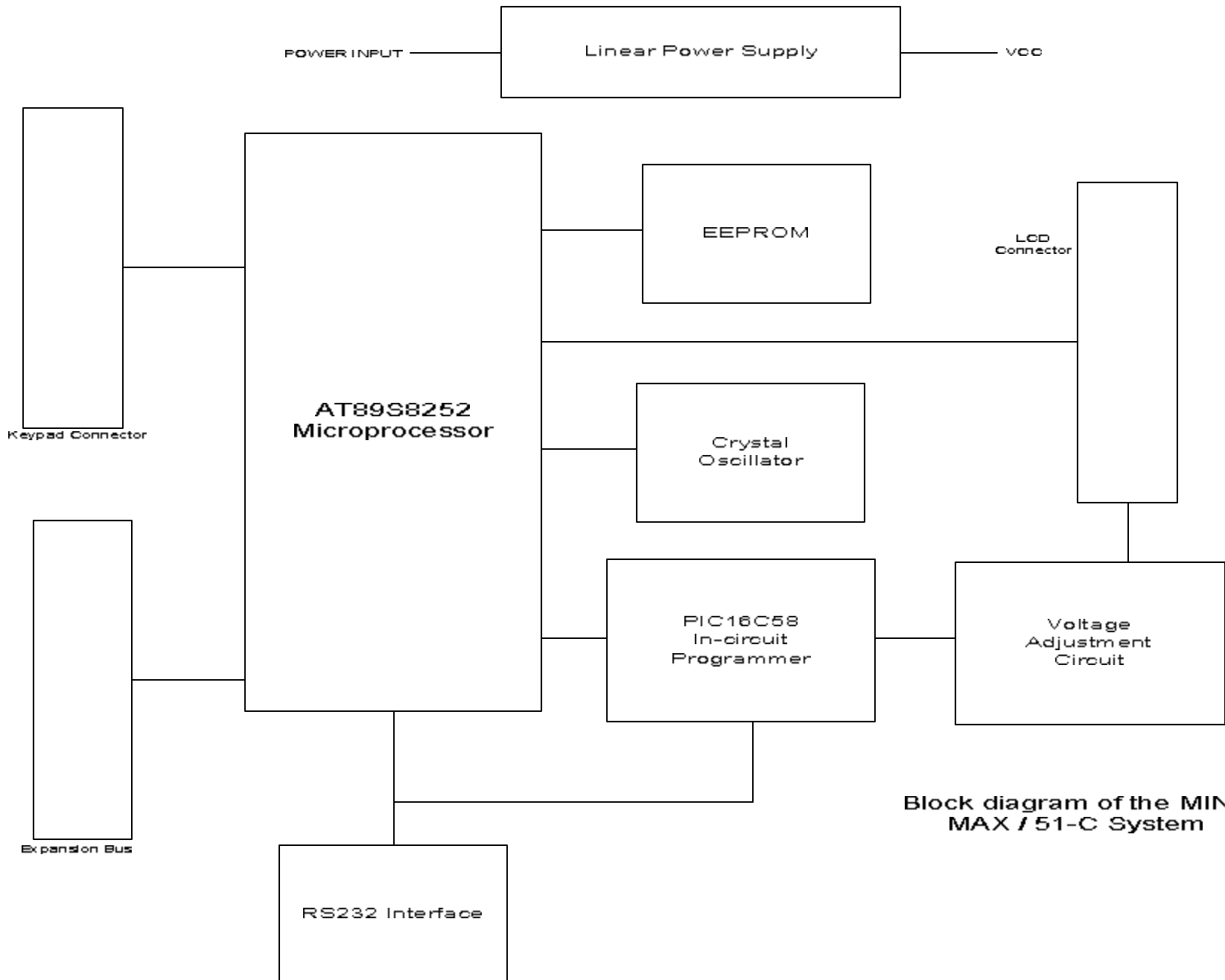
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- The system will identify smoke, fire, and dangerous gases if requested.
- Interfaced system will acknowledge the risk factors and allow for safe guidance in the quickest possible manner.

# EESS Description

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- Activation of EESS will be initiated by panic button or the hazard sensors.
- LEDs, Exit signs, and Voice Guidance Alerts will all be initiated upon recognition of hazard locations.
- System will receive data and allow for calculation of best possible exit
- Personnel will exit with instructions



**Block diagram of the MINI-MAX / 51-C System**

# 8051 Microcontroller

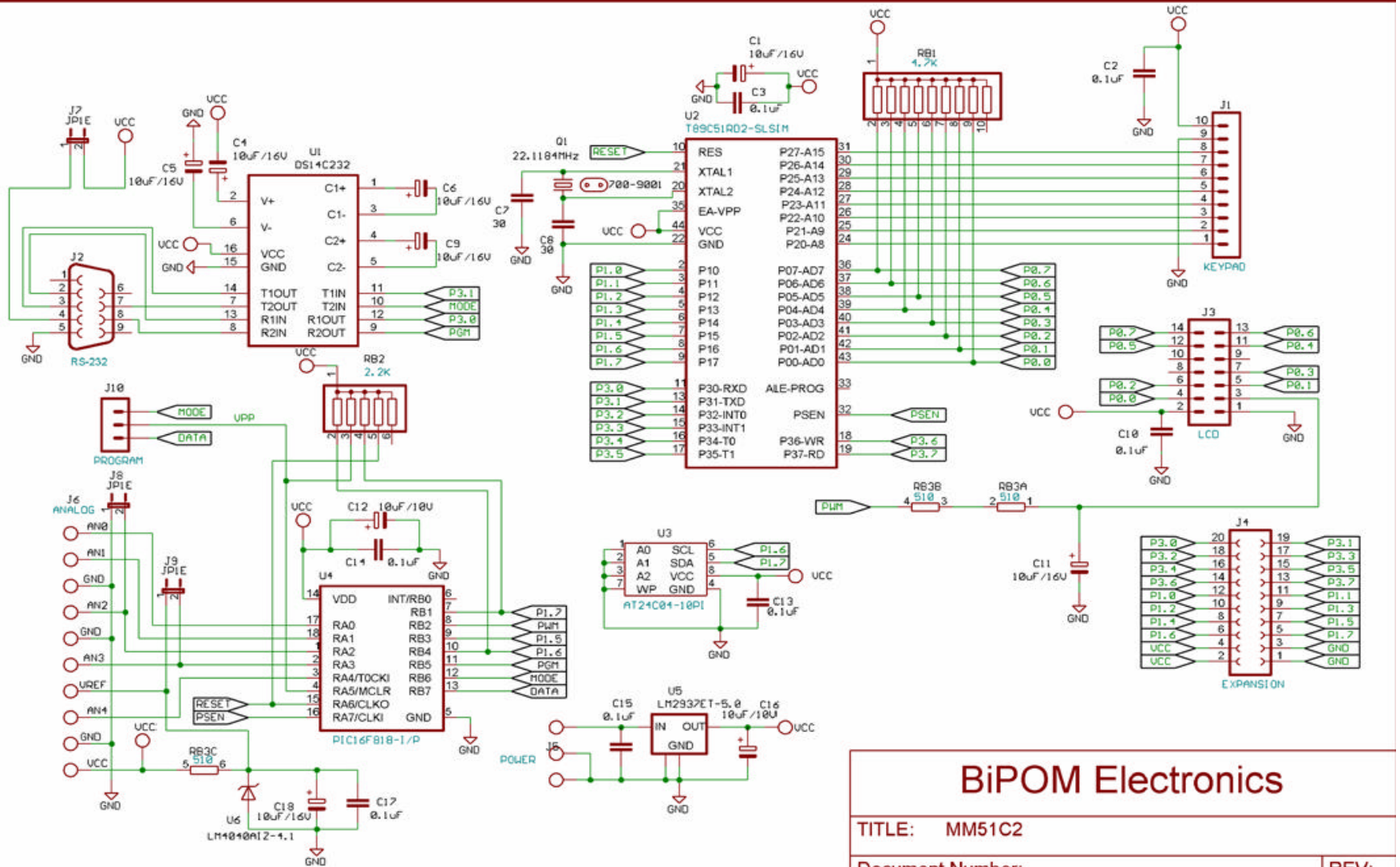


Figure 1B

**BiPOM Electronics**

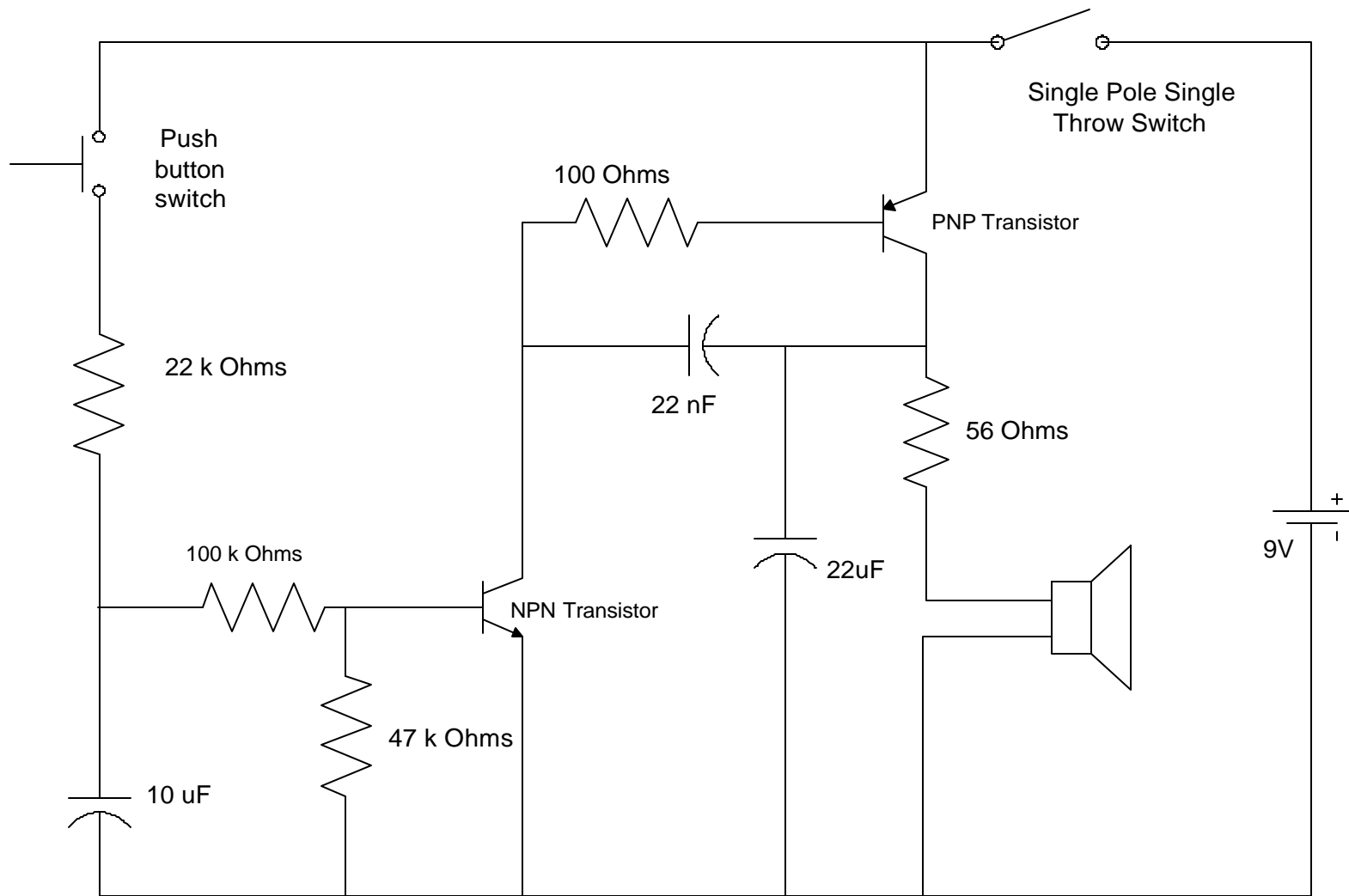
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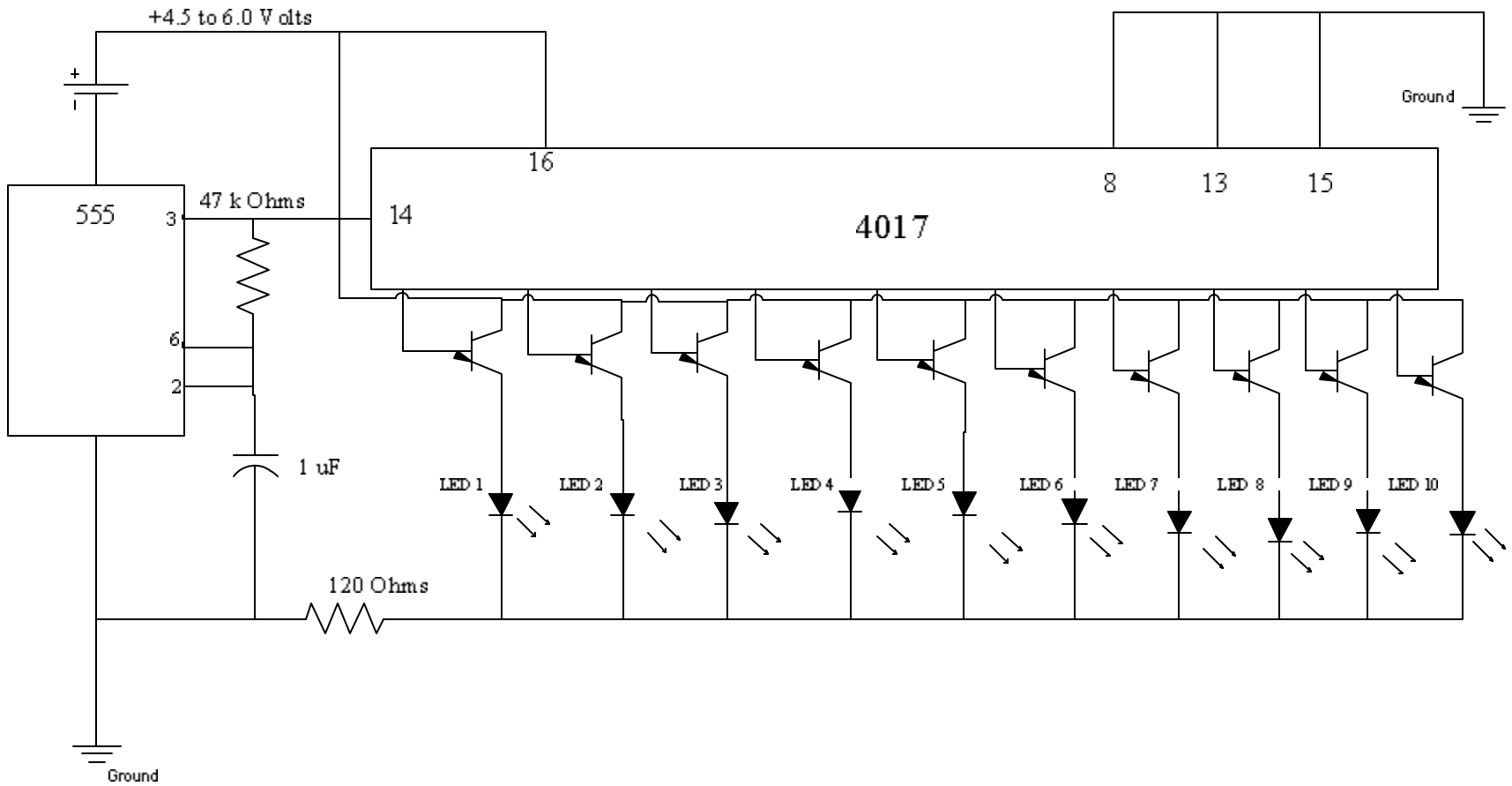
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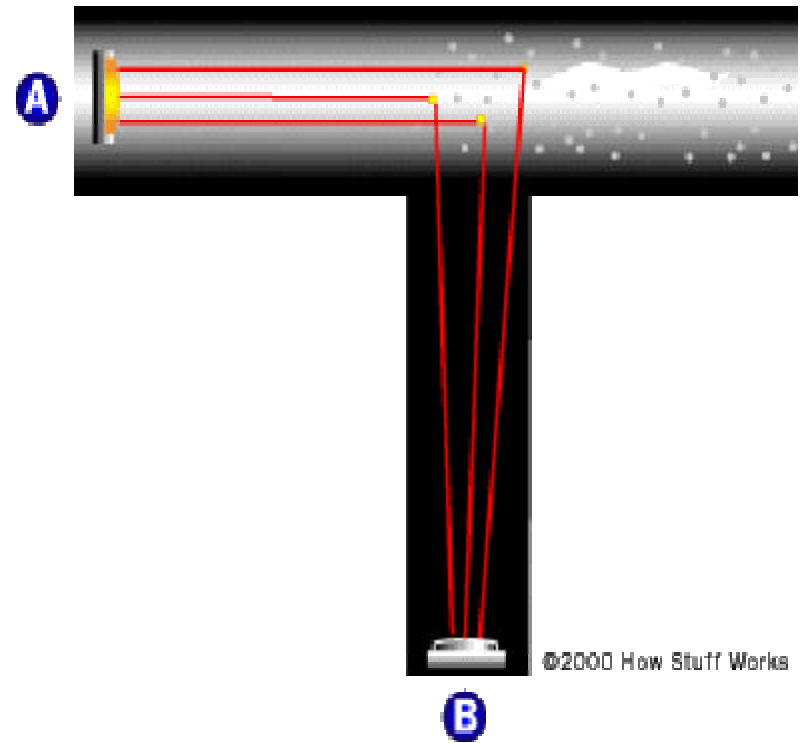
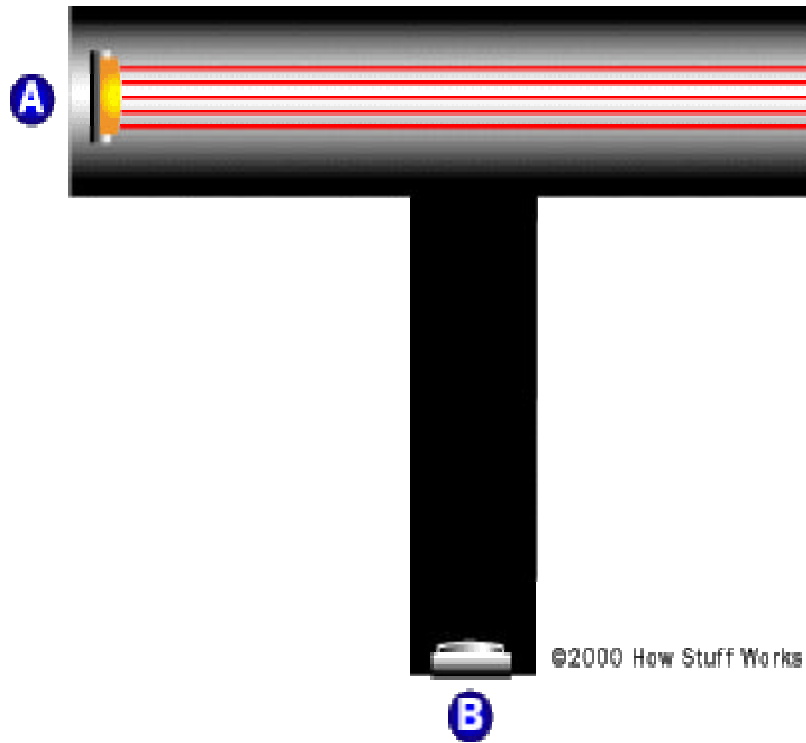
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Electronic Siren – Figure 2



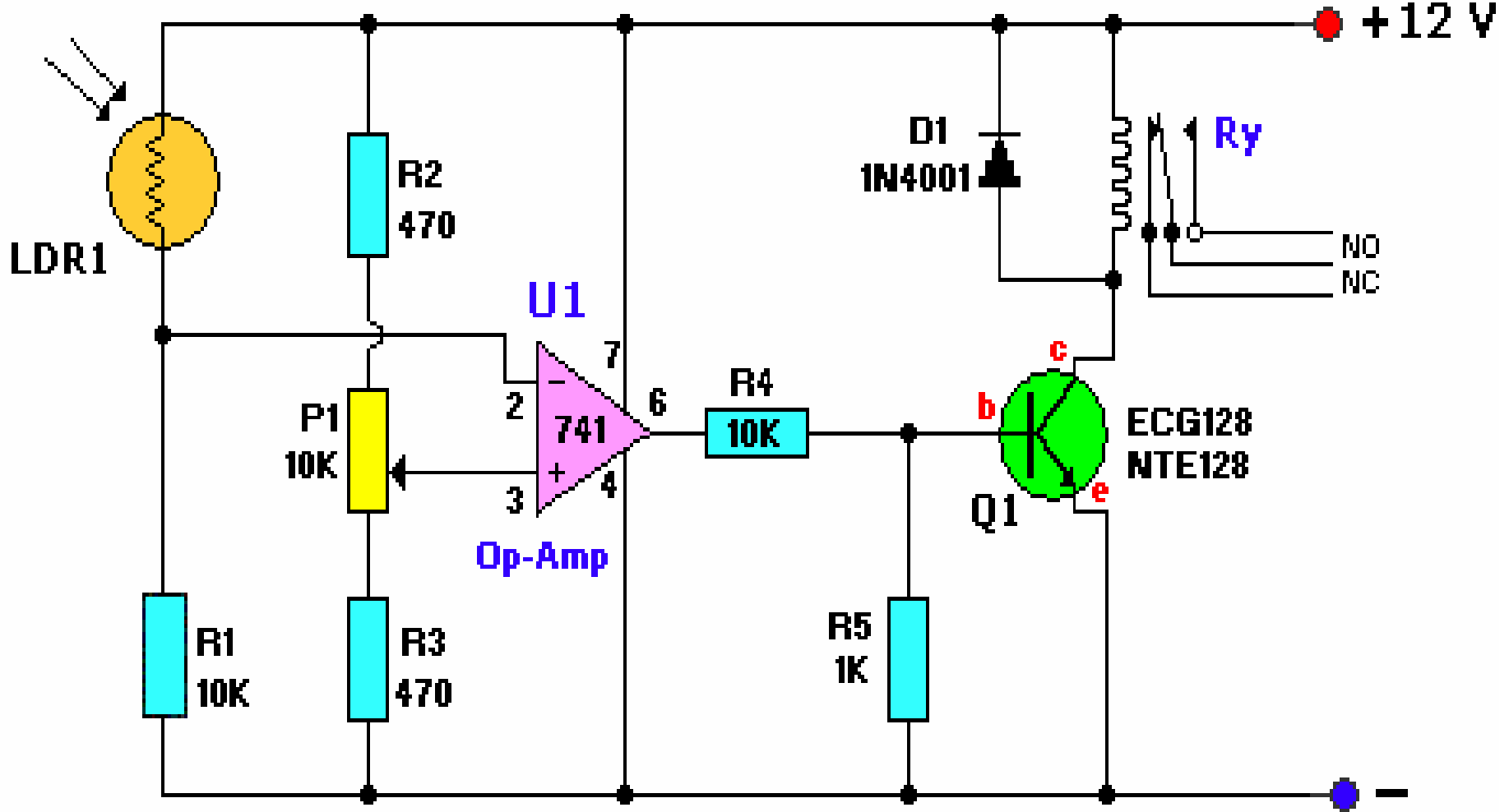
Multi channel LED - Sequencer Figure 3



Photoelectric Architecture - Figure 4A

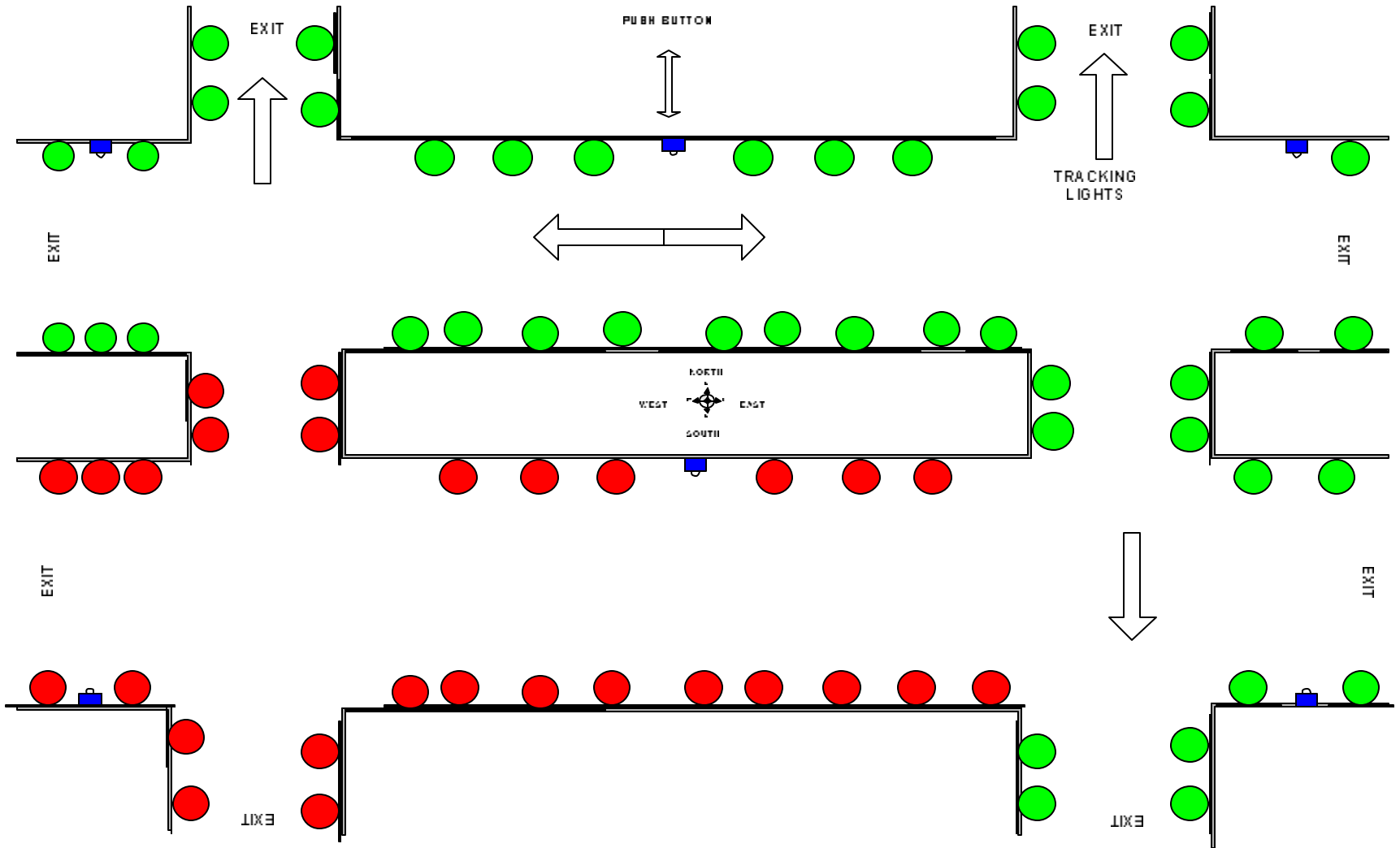
# 741 Light/Dark Sensor

Photo Resistor



Photoelectric Circuit - Figure 4B





EESS Sample Platform - Figure 5

# Cost Analysis

## Multi-channel LED Sequencer

<b>Product</b>	<b>Quantity</b>	<b>Cost</b>	<b>Total Cost</b>
LEDs	10	\$ 1.00	\$ 10.00
4017 IC	1	\$ 2.00	\$ 2.00
1uF Capacitor	1	\$ 0.20	\$ 0.20
555 Timer IC	1	\$ 0.20	\$ 0.20
47kO Resistor	1	\$ 0.07	\$ 0.07
120O Resistor	1	\$ 0.07	\$ 0.07
Smoke Detector	1	\$ 20.88	\$ 20.88
Microcontroller	1	\$ 69.95	\$ 69.95

# Cost Analysis cont.

## Siren

<b>Product</b>	<b>Quantity</b>	<b>Cost</b>	<b>Total Cost</b>
Single Pole Single Throw Switch	1	\$ 0.50	\$ 0.50
Buzzer	1	\$ 2.95	\$ 2.95
NPN Transistor (2N3702)	1	\$ 0.26	\$ 0.26
PNP Transistor (BC108B)	1	\$ 0.26	\$ 0.26
2uFCapacitor	1	\$ 0.20	\$ 0.20
22nF Capacitor	1	\$ 0.20	\$ 0.20
10uF Capacitor	1	\$ 0.20	\$ 0.20
100kO Resistor	1	\$ 0.07	\$ 0.07
47kO Resistor	1	\$ 0.07	\$ 0.07
22kO Resistor	1	\$ 0.07	\$ 0.07
100O Resistor	1	\$ 0.07	\$ 0.07
56O Resistor	1	\$ 0.07	\$ 0.07

# Cost Analysis cont.

## Misc. Parts

<b>Products</b>	<b>Quantity</b>	<b>Cost</b>	<b>Total Cost</b>
4x 8 Plywood	1	\$ 11.95	\$ 11.95
White Spray Paint	2	\$ 0.96	\$ 1.92
Nutmeg Spray Paint	2	\$ 3.17	\$ 6.34
Screws	1 box	\$ 3.72	\$ 3.72

# Cost Analysis

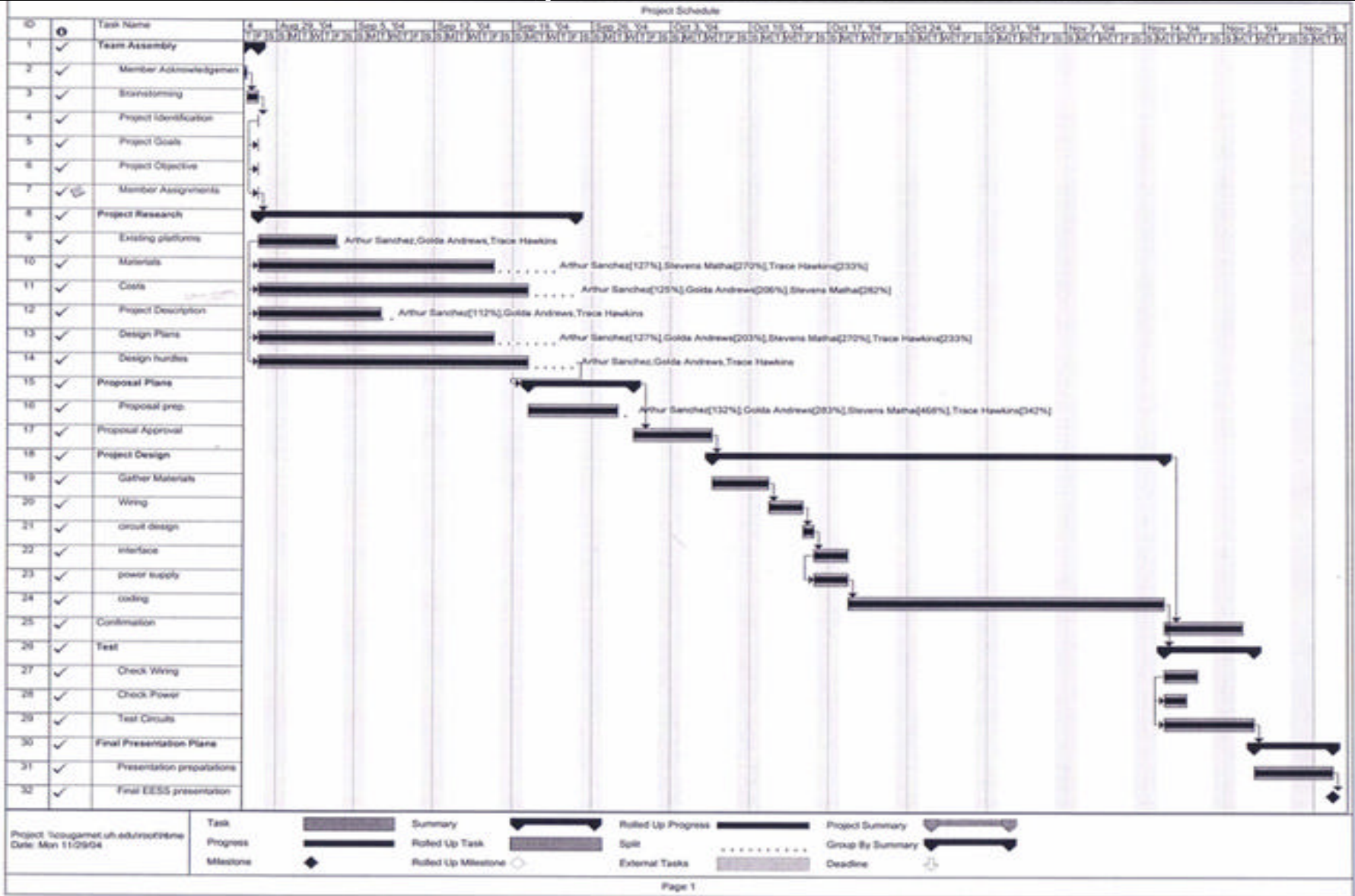
Names	Role	\$/hr.	Hrs. worked	Total
Golda Andrews	Research Design Asst. Team Leader	\$15.00	229	\$3,435.00
Trace Hawkins	Team Leader	\$15.00	219	\$3,285.00
Stevens Mathai	Materials Design Cost	\$15.00	225	\$3,375.00
Arthur Sanchez	Research Design Materials	\$15.00	223	\$3,345.00

# Cost Analysis

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Total Cost of Materials:	\$ 132.15
Total Cost of Labor:	\$13,440.00
Total Cost of Project:	\$13,572.15

# Project Schedule



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# END OF PRESENTATION

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Stevens Mathai, and Arthur Sanchez