

Light Motion Sensor

with Manual Override

Ate Co.



About this project

This project aims to assist in illuminating areas automatically or manually based on the user's preference and records data each time the LDR (Light Dependent Resistor) detects a change in light levels.

Functions and Features



- Manual or automatic operation of LED.
- Automatically turns on LED when change in light levels is detected by the light sensor.
- Manual overriding of lights to either turn on or off.
- Counter for alarm LED and buzzer
- Data Logging of:
 - date when the LED was triggered
 - triggering of alarm
 - manual and automatic status

Devices and Applications Used

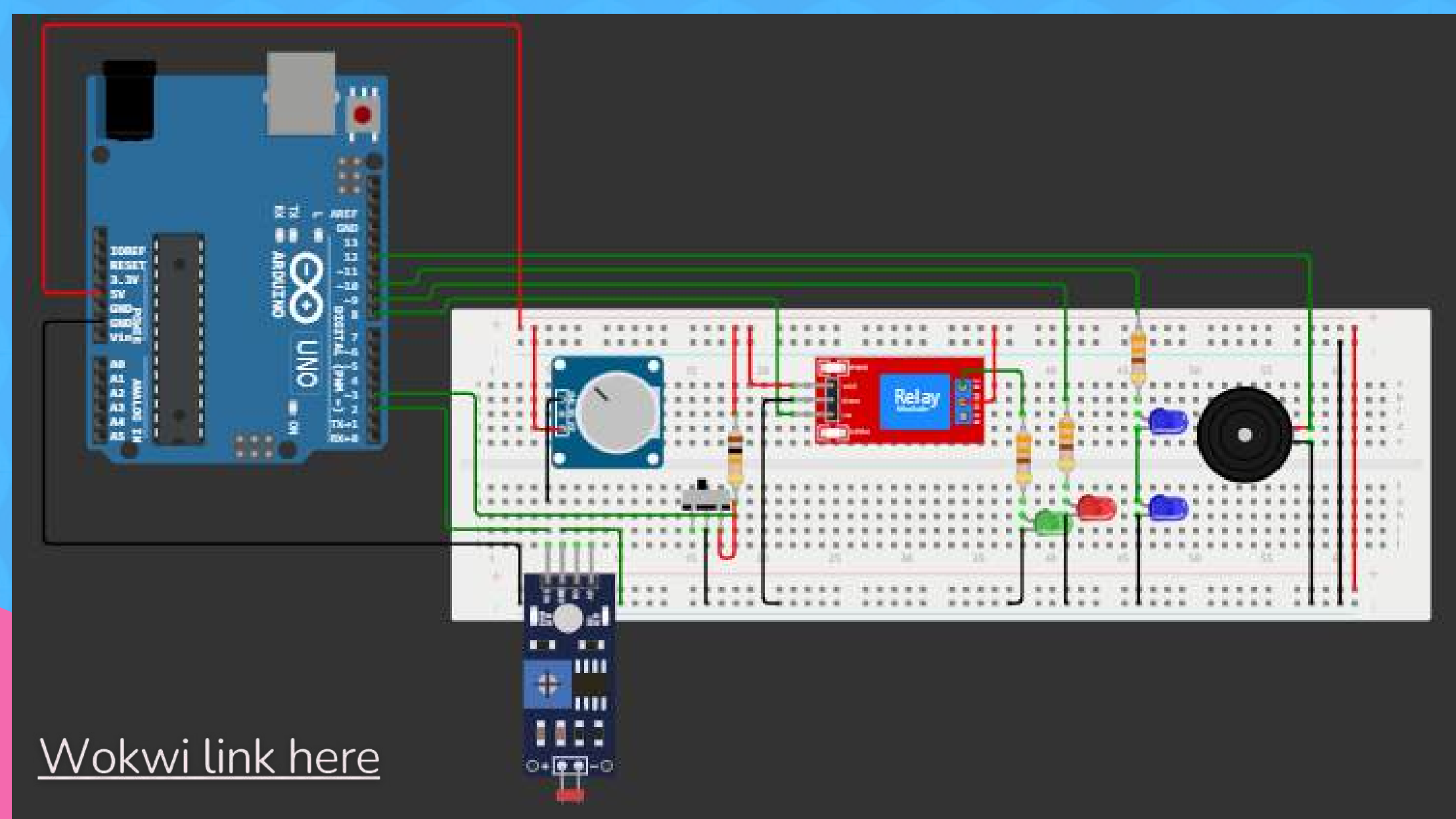
- Wemos D1 board
- Light Dependent Resistor
- Potentiometer
- Relay Switch
- SPDT Switch
- LEDs
- Buzzer

- Visual Studio 2022 (C#)
- PHP
- MySQL
- XAMPP
- Arduino IDE

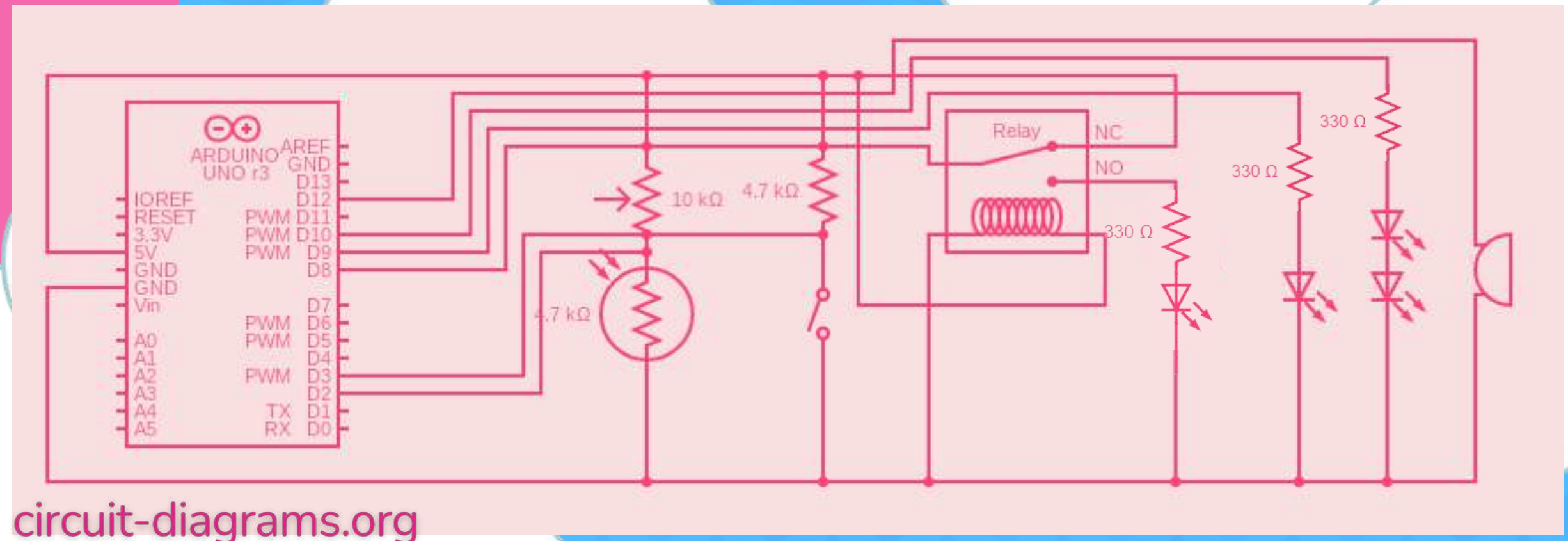


Circuit & Pictorial Diagram

- D2 - Light dependent resistor
- D3 - SPDT switch
- D8 - Green LED
- D9 - Red LED
- D10 - Blue LEDs
- D12 - Buzzer

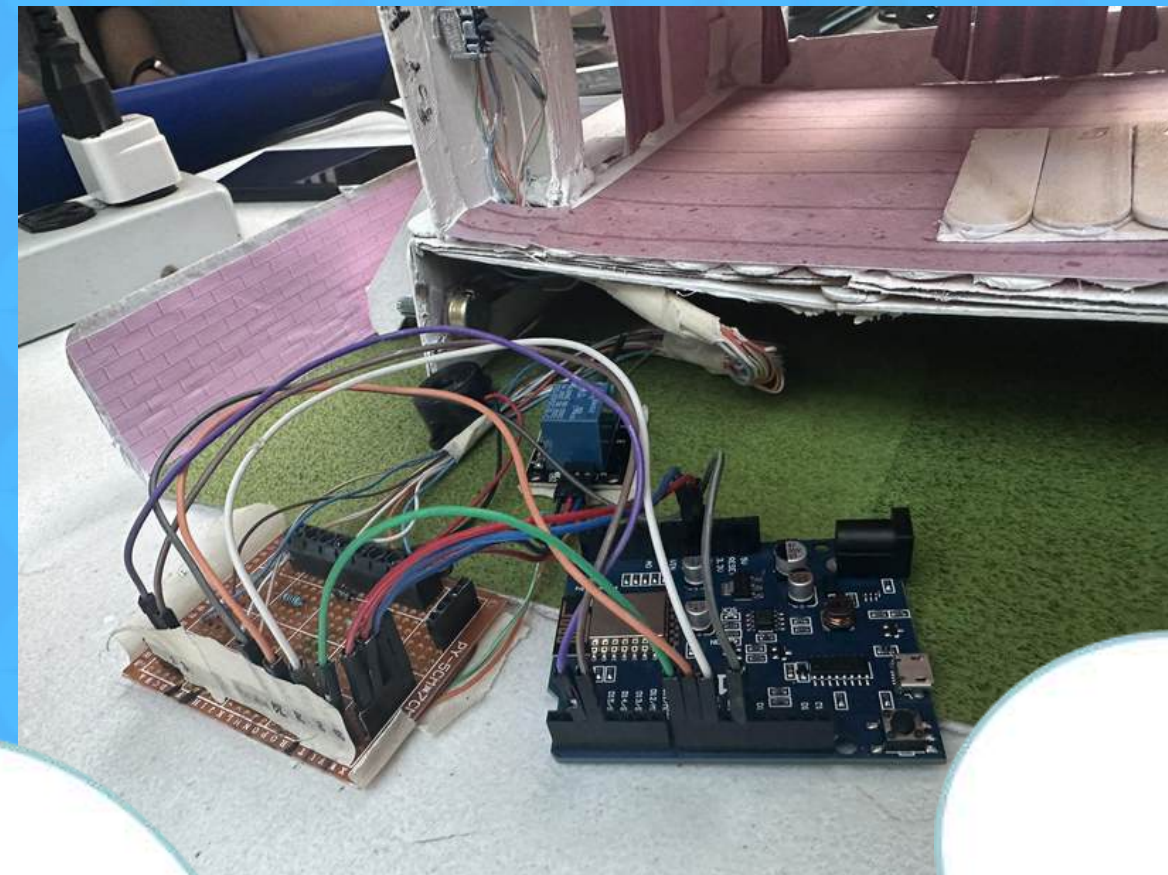
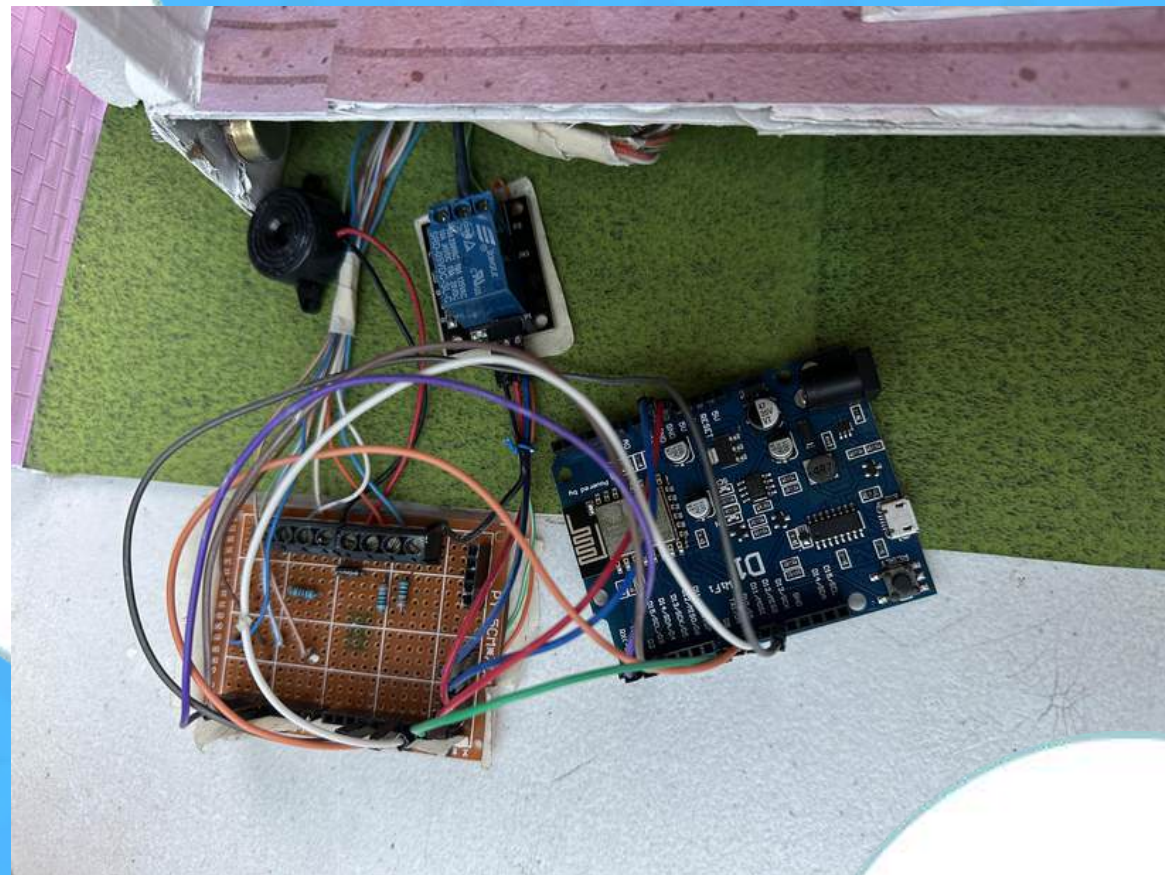
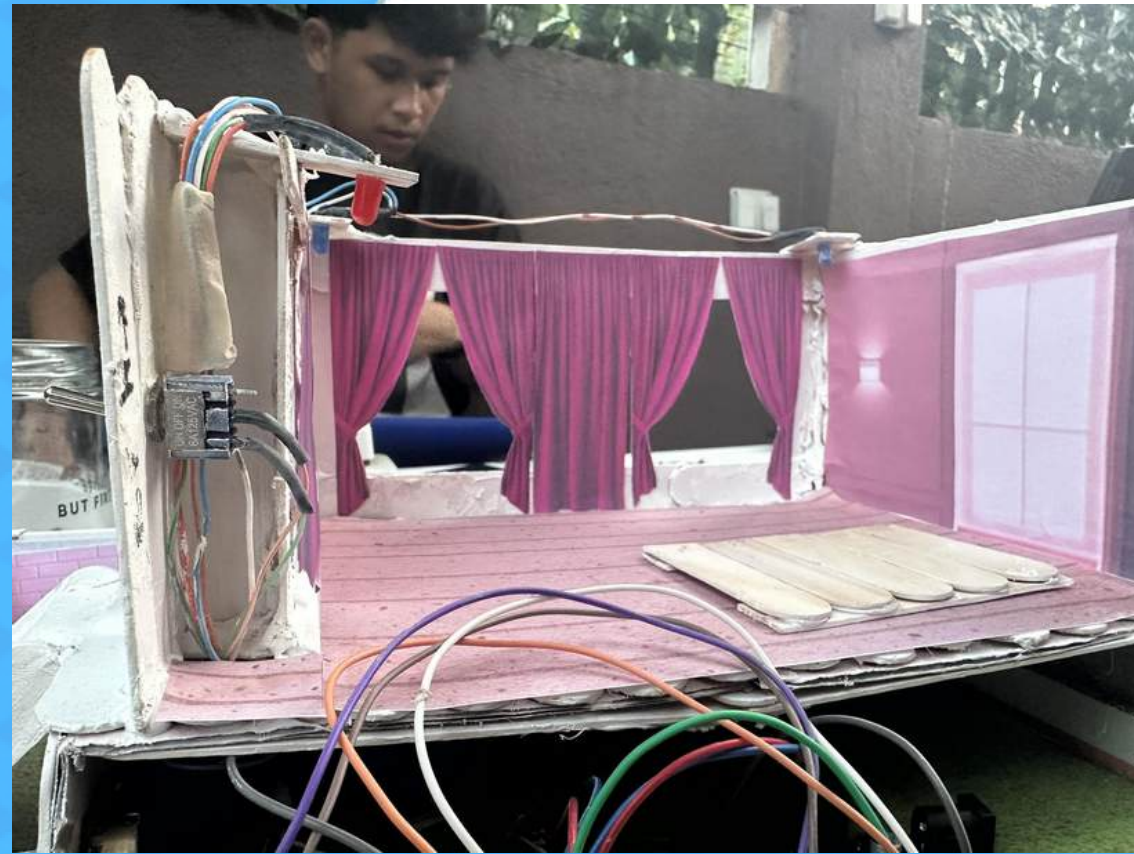


[Wokwi link here](#)



circuit-diagrams.org

Actual Circuit



Ate Co. - Light Motion Sensor

Ate Co. - Logs

localhost:44309/LogPage.aspx

Paused

LOG

17:28:18

Date	Time	Mode	Alarm
03/22/2024	17:08:44	Manual	--
03/22/2024	16:39:25	Automatic	Alert
03/22/2024	16:39:18	Automatic	--
03/22/2024	16:38:55	Automatic	Alert
03/22/2024	15:20:24	Automatic	Alert
03/22/2024	14:39:43	Automatic	Alert
03/22/2024	14:33:39	Automatic	Alert
03/22/2024	14:33:30	Automatic	Alert
03/22/2024	14:33:23	Automatic	--
03/22/2024	14:33:19	Automatic	--
03/22/2024	14:33:00	Automatic	Alert
03/22/2024	14:27:39	Automatic	Alert
03/22/2024	14:27:33	Automatic	--
03/22/2024	14:24:31	Automatic	Alert
03/22/2024	14:24:23	Automatic	--
03/22/2024	14:24:03	Automatic	Alert
03/21/2024	19:27:02	Automatic	--

Stop Live

Database Preview

localhost / 127.0.0.1 / ate_co / logs

phpMyAdmin

Server: 127.0.0.1 » Database: ate_co » Table: logs

Showing rows 0 - 24 (75 total, Query took 0.0005 seconds.)

SELECT * FROM `logs`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

1 > >> | ☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

		logs_pk	month	day	year	log_time	mode_status	alarm_status		
<input type="checkbox"/>	Edit	Copy	Delete	2	03	20	2024	17:21:05	1	1
<input type="checkbox"/>	Edit	Copy	Delete	3	03	20	2024	17:21:16	1	0
<input type="checkbox"/>	Edit	Copy	Delete	4	03	20	2024	17:21:26	1	1
<input type="checkbox"/>	Edit	Copy	Delete	5	03	20	2024	17:45:52	1	1
<input type="checkbox"/>	Edit	Copy	Delete	6	03	20	2024	17:46:05	1	0
<input type="checkbox"/>	Edit	Copy	Delete	7	03	20	2024	17:50:16	1	0
<input type="checkbox"/>	Edit	Copy	Delete	8	03	20	2024	17:51:23	1	1
<input type="checkbox"/>	Edit	Copy	Delete	9	03	20	2024	17:51:38	1	1

Console

Press Ctrl+Enter to execute query

```
>UPDATE `power` SET `power_state`='0',`mode_state`='0',`alarm_state`='0';
>UPDATE `power` SET `power_state`='1',`mode_state`='0',`alarm_state`='0';
>SELECT * FROM `logs`
>
```

localhost / 127.0.0.1 / ate_co / power

phpMyAdmin

Server: 127.0.0.1 » Database: ate_co » Table: power

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 0 (1 total, Query took 0.0007 seconds.)

SELECT * FROM `power`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

power_state	mode_state	alarm_state
0	0	0

☐ Show all | Number of rows: 25 | Filter rows: Search this table

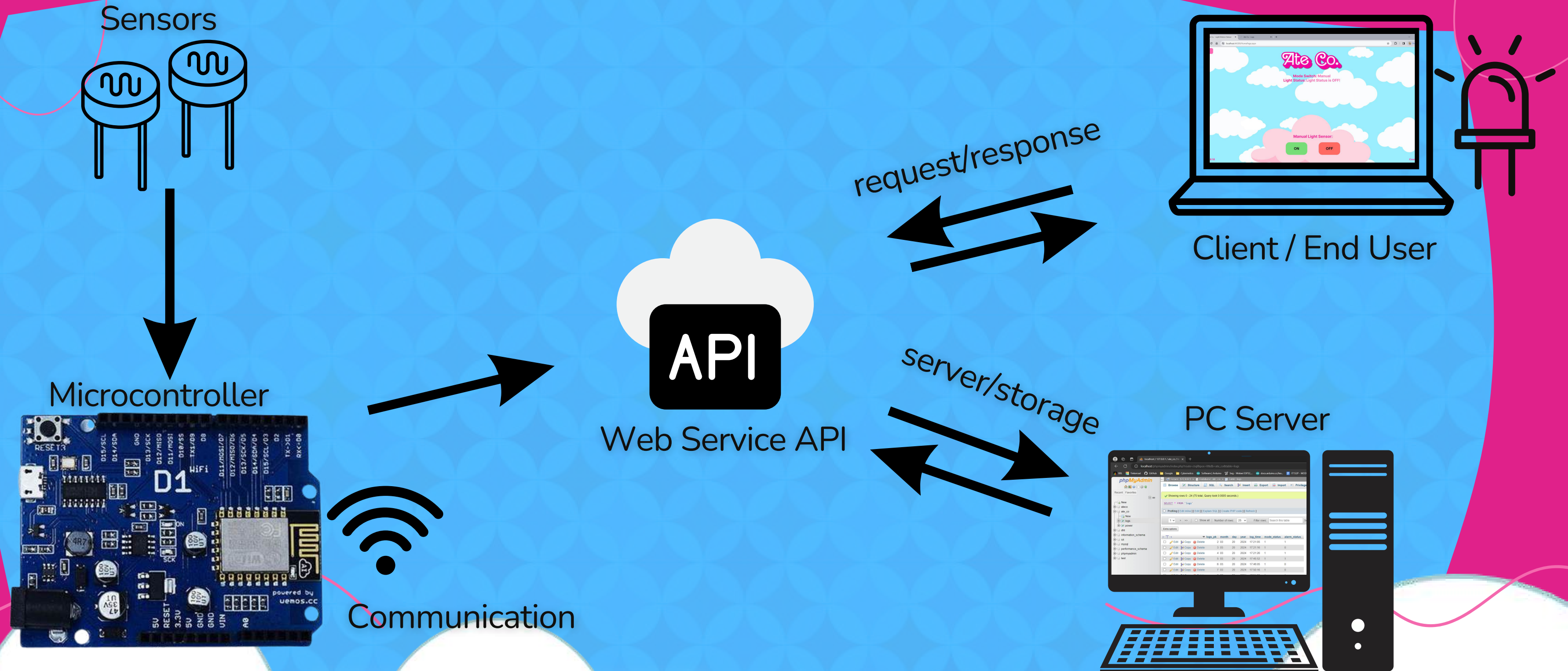
Query results operations

Console

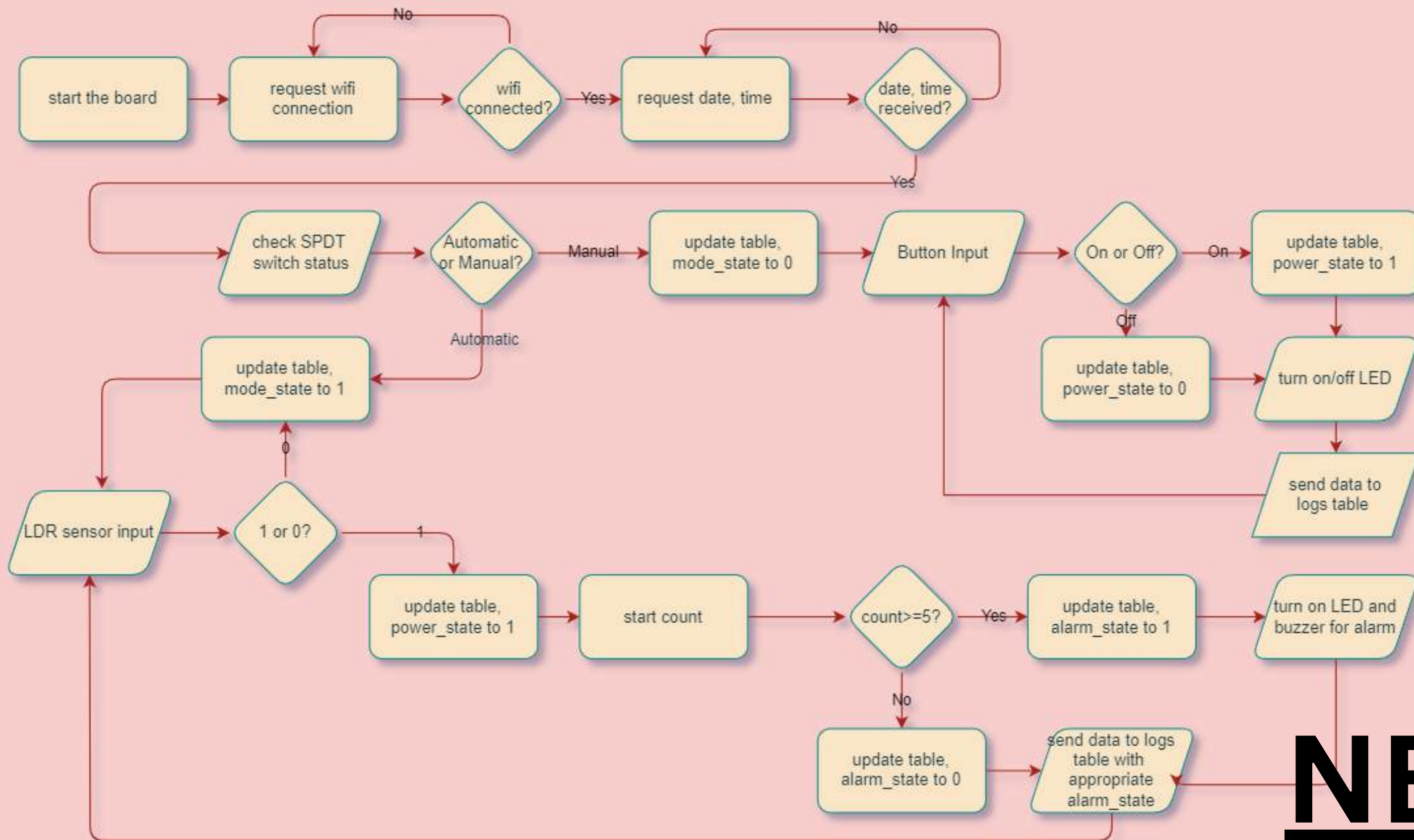
Press Ctrl+Enter to execute query

```
>UPDATE `power` SET `power_state`='0',`mode_state`='0',`alarm_state`='0';
>UPDATE `power` SET `power_state`='1',`mode_state`='0',`alarm_state`='0';
>SELECT * FROM `logs`
>SELECT * FROM `power`
>
```


System Architecture




Sensor and LED Function Flowchart



NEXT

logs Table Data Attributes

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1	logs_pk 	int(255)			No	None		AUTO_INCREMENT
<input type="checkbox"/>	2	month	varchar(10)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	3	day	varchar(10)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	4	year	varchar(10)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	5	log_time	varchar(10)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	6	mode_status	varchar(10)	utf8mb4_general_ci		No	None		
<input type="checkbox"/>	7	alarm_status	varchar(10)	utf8mb4_general_ci		No	None		

power Table Data Attributes

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1	power_state	varchar(10)	utf8mb4_general_ci		No	<i>None</i>		
<input type="checkbox"/>	2	mode_state	varchar(10)	utf8mb4_general_ci		No	<i>None</i>		
<input type="checkbox"/>	3	alarm_state	varchar(10)	utf8mb4_general_ci		No	<i>None</i>		

Breakdown of Project Cost

ITEM	QUANTITY	COST
Wemos D1	1	181
LEDs	4	20
Relay Switch	1	42
SPDT Switch	1	16
Jumper Wires	20	70
Circuit Board	1	49
Potentiometer	1	19
Buzzer	1	15
LDR	1	15

= 427

ITEM	QUANTITY	COST
Popsicle Sticks	3	180
Paint	1	150
Glue	3	35
Glue Sticks	4	196
Printed Designs	15	75

= 636

Gantt Chart (Progress Report)

Task Name:	Days to Complete	Start:	Finish:	TIMELINE																																																								
				February	29	March	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26																												
Review of Initial Project	1	2/29/2024	2/29/2024		1																																																							
DEVELOPMENT	23	3/5/2024	3/14/2024																																																									
Review of Initial Progress	1	3/5/2024	3/5/2024																																																									
Identifying Input and Output for Database Integration	1	3/5/2024	3/5/2024																													2																												
Creation of Gantt Chart and PPT	11	3/7/2024	3/17/2024																													2	3	4	5	6	7	8	9	10	11	12																		
Discussion for Wemos Application	1	3/7/2024	3/7/2024																													4																												
Development of HTML Website	14	3/7/2024	3/22/2024																													4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19													
Integration of Wemos and MySQL Database	14	3/9/2024	3/22/2024																													4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19													
Database Creation	2	3/9/2024	3/10/2024																													6	7																											
Module 3 Short Lab Task	1	3/14/2024	3/14/2024																																											10														
Verifying Buttons and Switches	12	3/11/2024	3/22/2024																																											8	9	10	11	12	13	14	15	16	17	18	19			
Taking Values from the Database	7	3/16/2024	3/22/2024																																															13	14	15	16	17	18	19				
Database Update and Fixes	13	3/10/2024	3/22/2024													7	8	9	10	11	12	13	14	15	16	17	18	19																																
FINALIZATION	6	3/21/2024	3/26/2024																																																									
Assembling the Project	5	3/21/2024	3/25/2024																																																									
Preparation of Presentation and Materials	5	3/21/2024	3/25/2024																													18	19	20	21	22																								
Final Presentation Date	5	3/26/2024	3/26/2024																																	23																								

Main Cast of Ate Co.



Ivan Alvarez



- as Barbie



Jason Miran



- as Ken



Reiner Valdez



- as Barbie



Xavier Hipolito



- as Ken

Thanks

