How to plan & build your own LED project

Beginners workshop

Join us on Discord

discord.glowingkitty.com

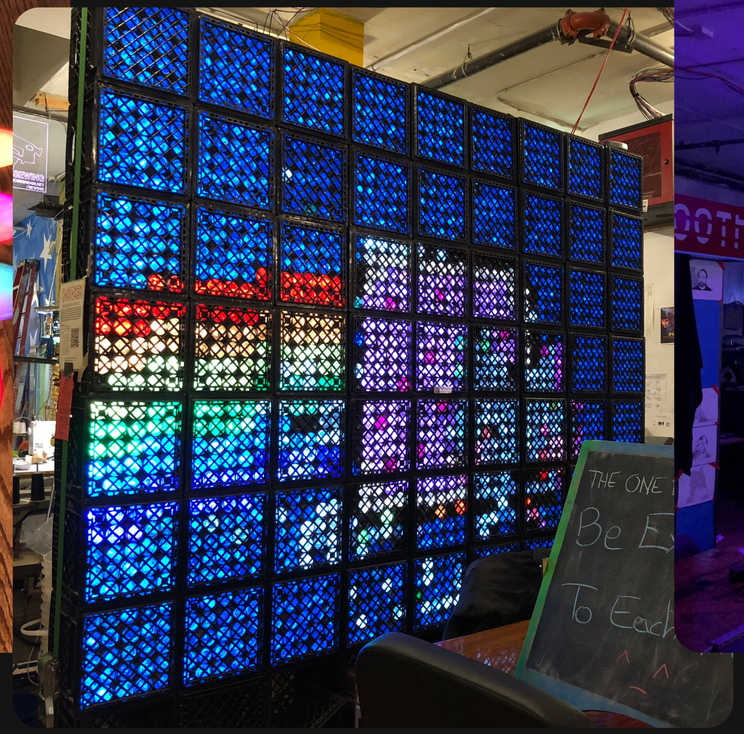
- share projects you are working on
- get help, inspiration & feedback
- meet other LED enthusiasts

What we do today:

- learn about LEDs
- practice time!
- learn how to continue afterward
- continue working on your project (open end)

A reminder,
why LEDs are awesome 🤩

They lift the mood & are magical!



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So many exciting possibilities!

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How to plan an LED project? With 5 questions...

1. What LEDs?
2. What diffuser?
3. What power source?
4. How to control them?
5. What structure/case?

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What LEDs?

Single color LEDs

RGBW LEDs

12V

24V

5V

RGB LEDs

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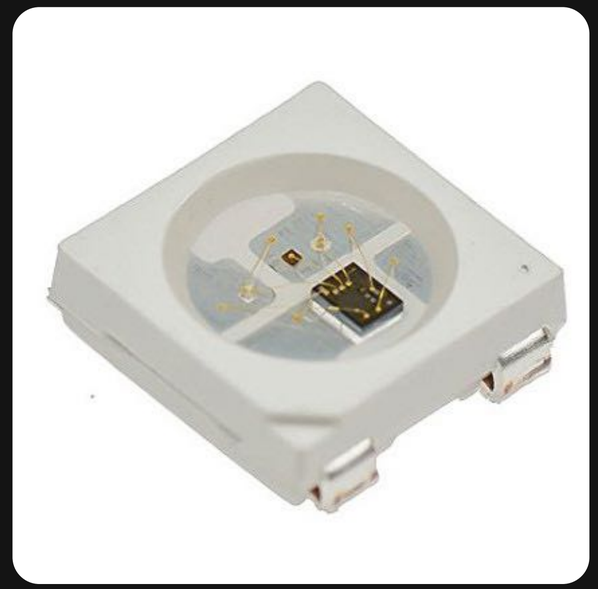
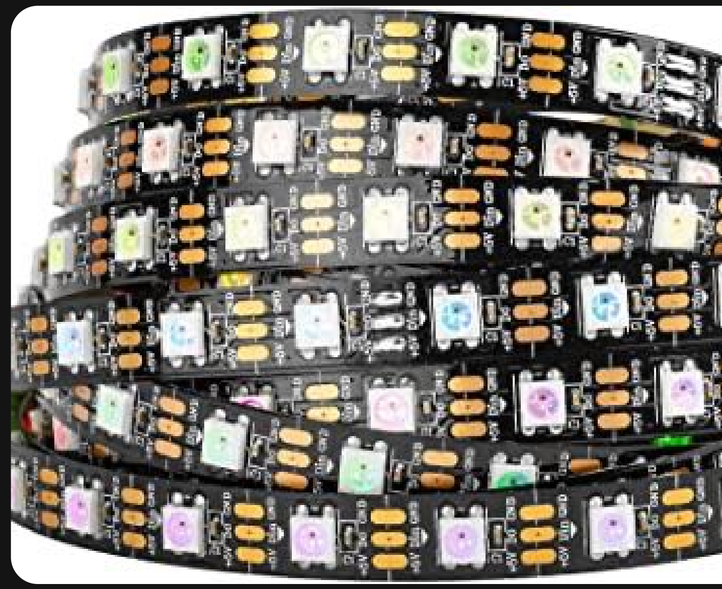
What LEDs?



Ideal for most projects:

WS2812B



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What diffuser?

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What diffuser?

3D print

flex rubber tube

cotton

acrylic

hot glue

epoxy resin

fabric

& many more ...

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What diffuser?

My recommendations:

3D print, acrylic & flex rubber tube

What power source?

Keep it simpel:

5V, from USB

or

5V, from DC power supply

How to control them?

microcontroller:

ESP32

most powerful, cheapest, best available

How to control them?

software:

WLED

upload & glow, no coding needed

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How to control them?

software:

micropython or circuitpython

for coding simple projects

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How to control them?

software:

C/C++ & Plattform.io

for coding more complex projects

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What structure/case?

acrylic

resin/SLA

MDF

epoxy resin

PLA or PETG

and many more...

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What structure/case?

My recommendations:

3D print with PLA/PETG or lasercutter with acrylic or MDF

What structure/case?

How to design/3D model it?

Fusion360

free for hobby users,
easy to use, very powerfull,
runs on MacOS & Windows

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What structure/case?

Alternative:

TinkerCAD

free, easy to use,
but limited functionality,
runs in web browser

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Let’s get specific:
how to make LEDs glow?

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Practise time!

Make an LED strip glow

events.glowingkitty.com

Upcoming events:

LED co-hacking evening

Learn PCB design with KiCad

and many more...

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Practise time!

Start planning & building your own LED project

With paper sketches, or directly in Fusion360 or TinkerCAD

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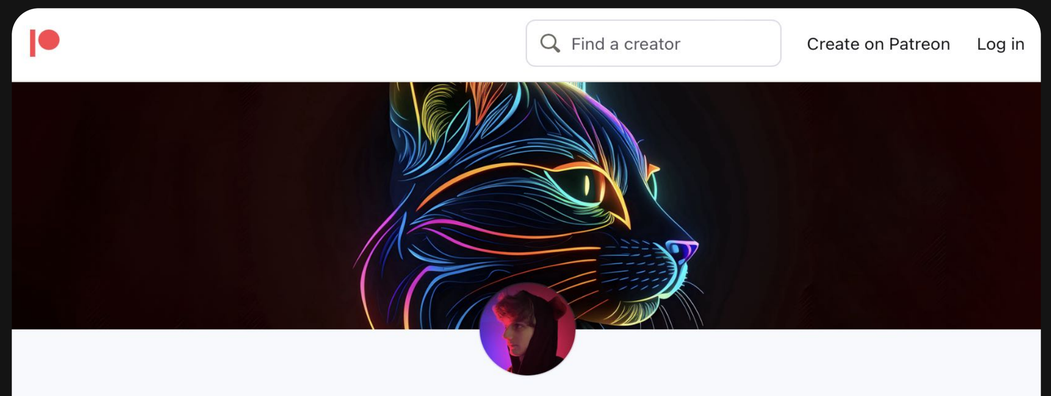

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