



# Go to the Edge

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Cloud Advocate @ Microsoft*



 @liamchampton



# Agenda

- About me
- How did I find TinyGo?
- What is TinyGo?
- My projects
- Demo



- Microsoft Regional Cloud Advocate
- Open source contributor
- Golang & Node.js Software Engineer
- Technical blogger
- IoT Enthusiast
- Public speaker

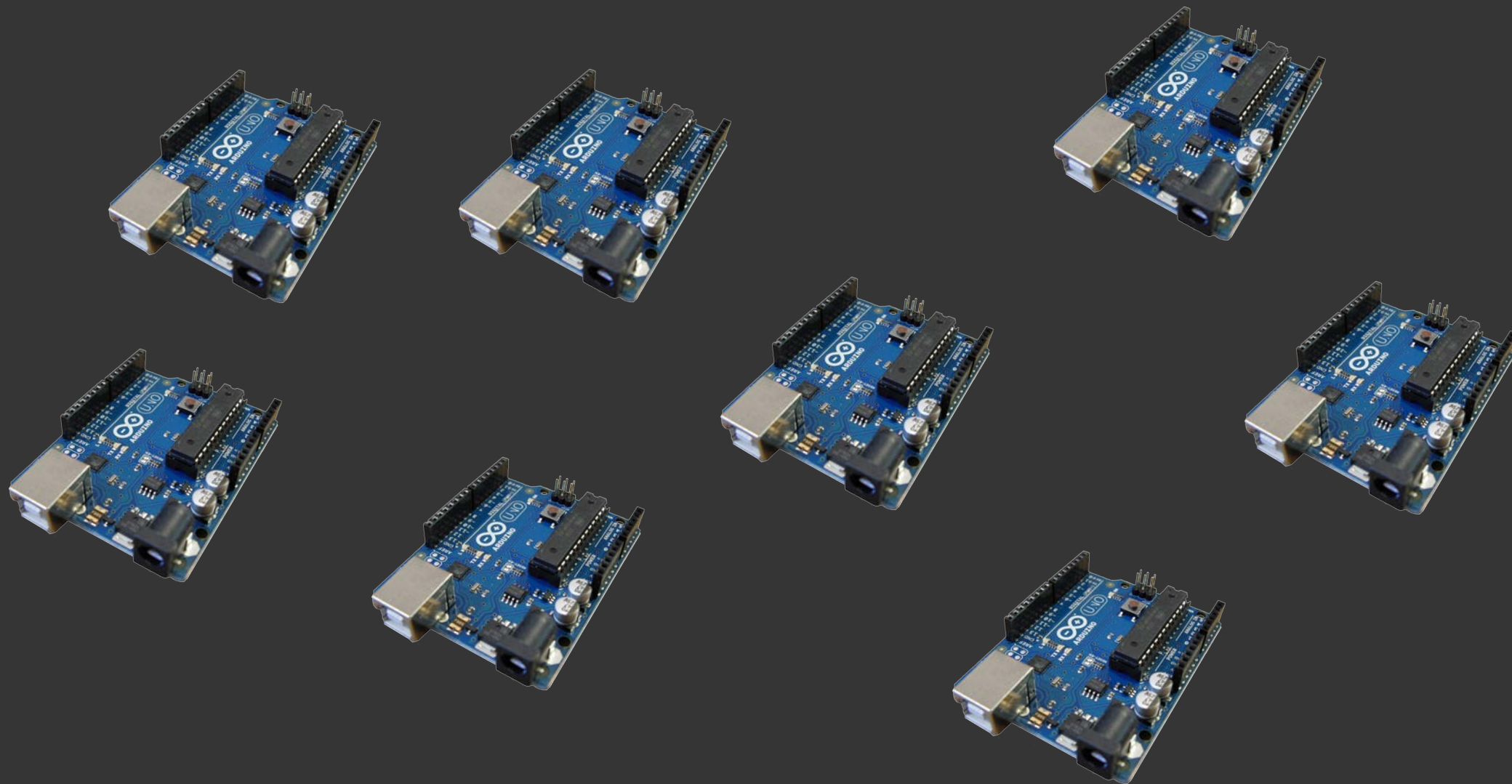


How did I find  
TinyGo?

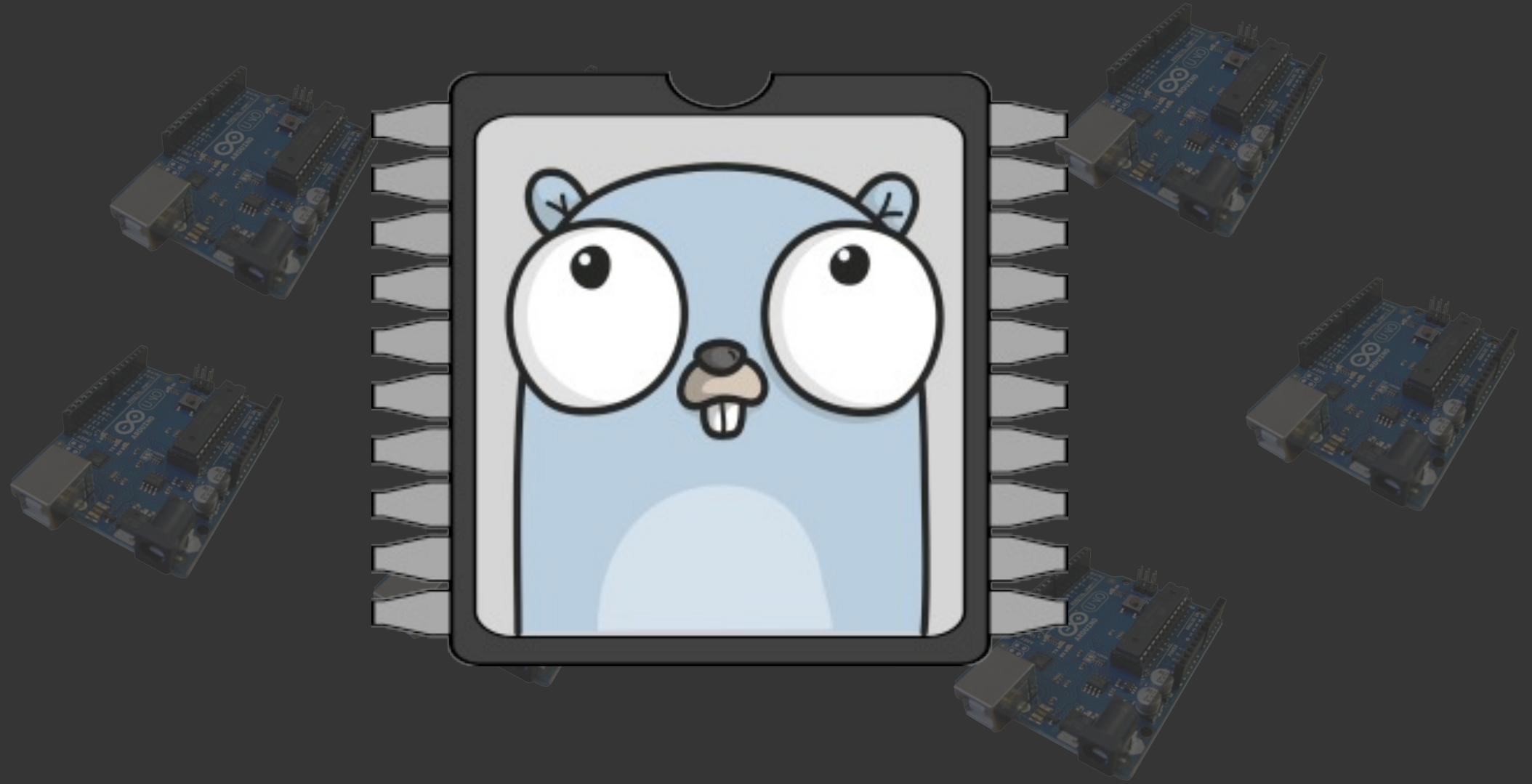


How did I find TinyGo?

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# How did I find TinyGo?



# What is TinyGo?

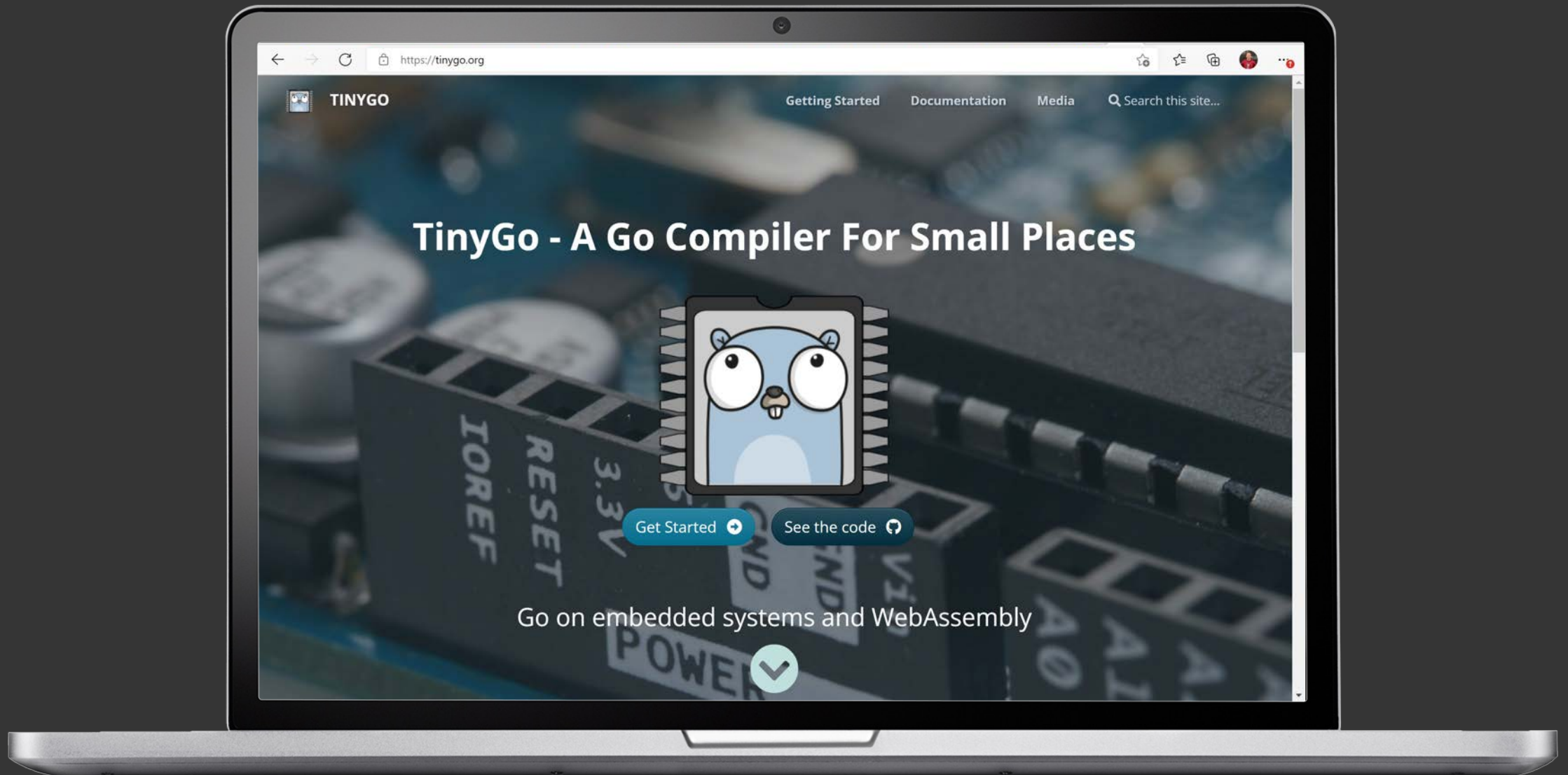




“A Go compiler for small  
places”

- <https://tinygo.org>

# TinyGo - <https://tinygo.org>





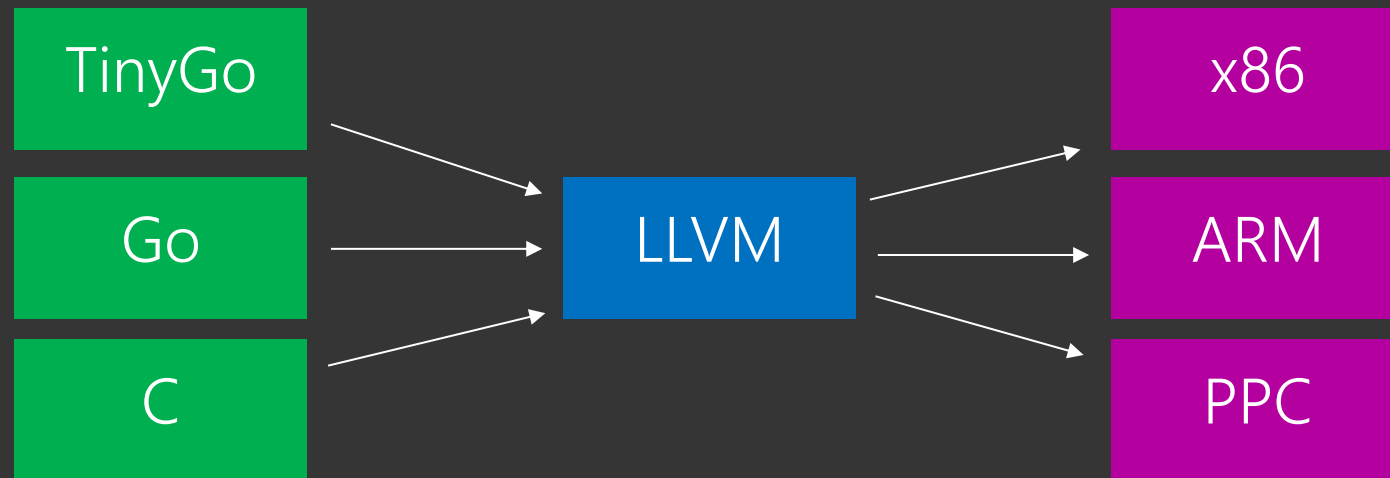
archive/zip  
bytes  
io



- html/template
- net

# LLVM

- Strategy to support static and dynamic compilation
- Collection of compiler and toolchain technologies
- Open source
- <https://llvm.org/>



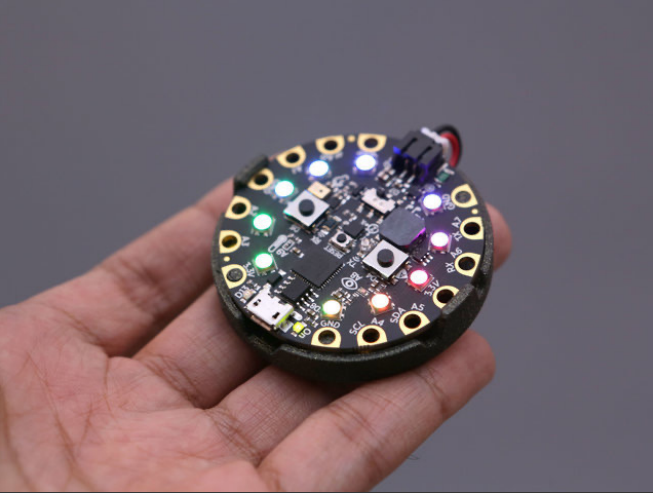
What is it  
used for?





Microcontrollers

# Microcontrollers



# Microcontrollers

**70+ Boards!!**



@liamchampton



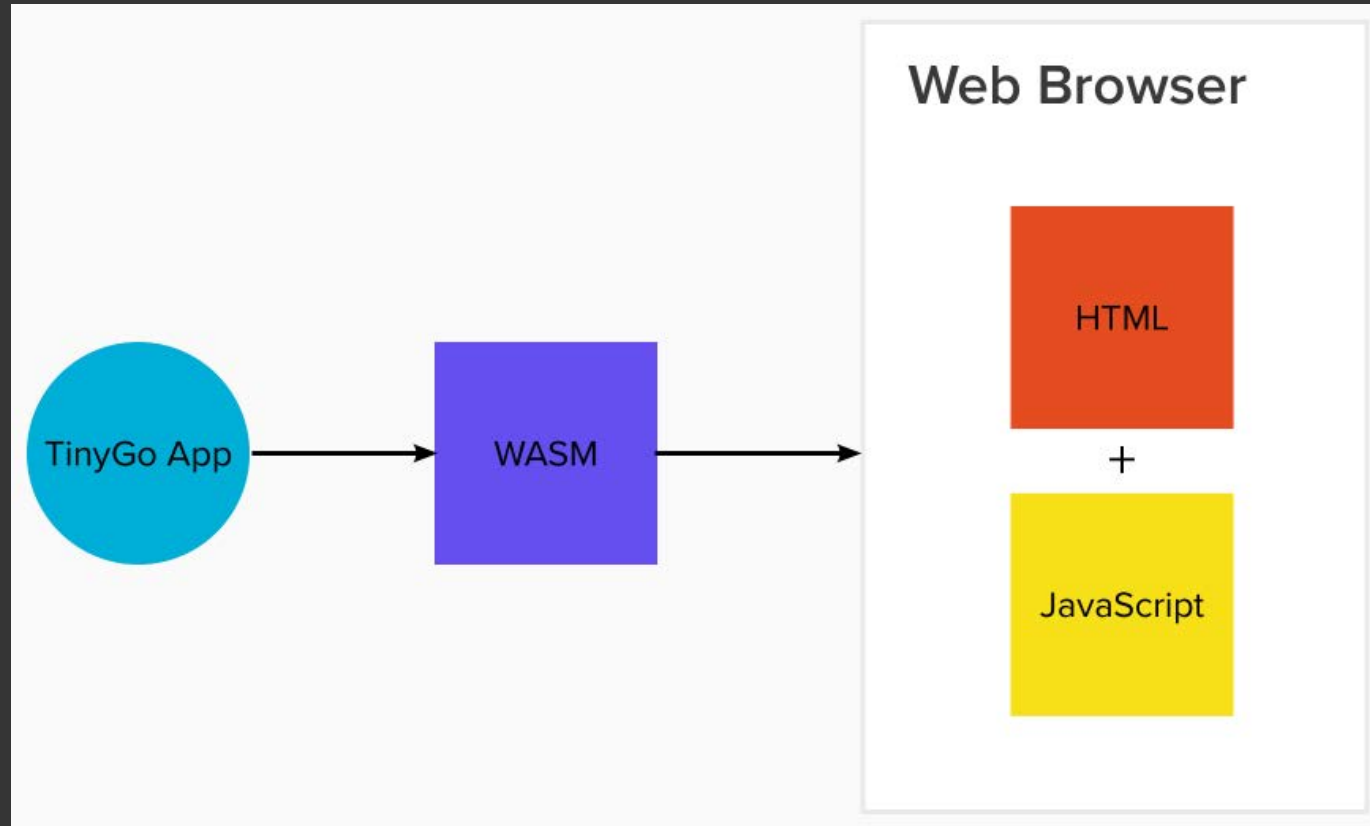


Microcontrollers



Web Assembly

# Web Assembly





Microcontrollers



Web Assembly



CLI

# Command Line Interface (CLI)

```
liamhampton@Liams-MBP-2:~  
→ ~ tinygo -h  
Unknown command: -h  
TinyGo is a Go compiler for small places.  
version: 0.22.0  
usage: /opt/homebrew/Cellar/tinygo/0.22.0/libexec/tinygo <command> [arguments]  
  
commands:  
  build:  compile packages and dependencies  
  run:    compile and run immediately  
  test:   test packages  
  flash:  compile and flash to the device  
  gdb:    run/flash and immediately enter GDB  
  lldb:   run/flash and immediately enter LLDB  
  env:    list environment variables used during build  
  list:   run go list using the TinyGo root  
  clean:  empty cache directory (/Users/liamhampton/Library/Caches/tinygo)  
  targets: list targets  
  info:   show info for specified target  
  version: show version  
  help:   print this help text  
  
flags:  
  -cpuprofile string  
    cpuprofile output  
  -dumpssa
```



Where do I  
use TinyGo?

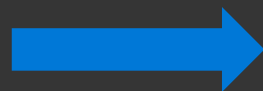


To prevent this

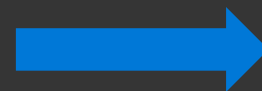
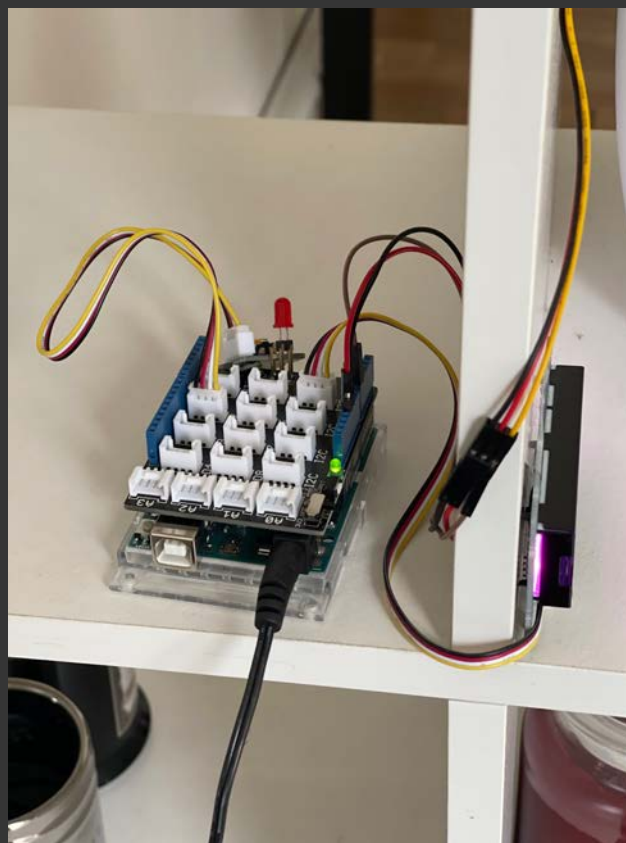


# I made this..

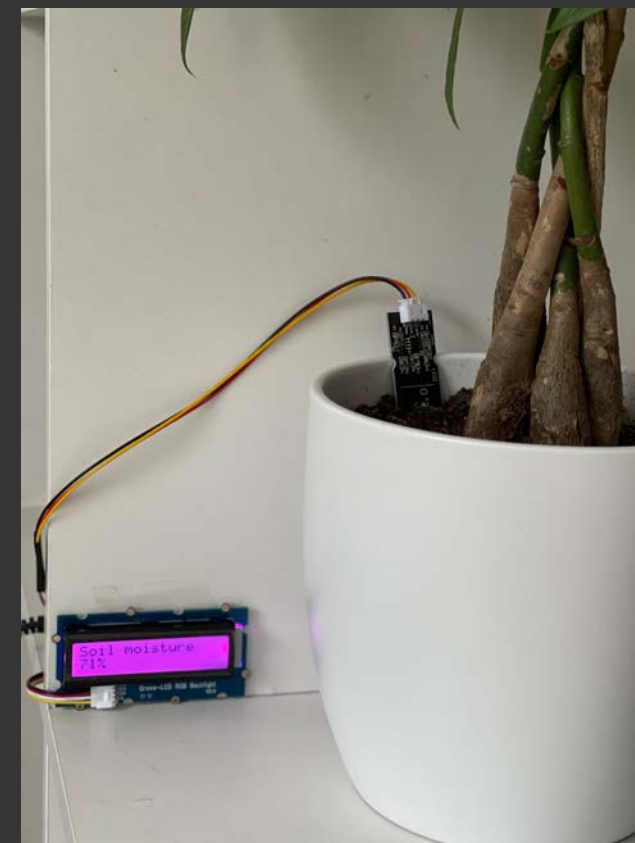
Input



Calculations



Output





Keeps it looking fresh!





# Next step..



# Post notification



# Post notification



# Post notification



@liamchampton

# Post notification



# Post notification

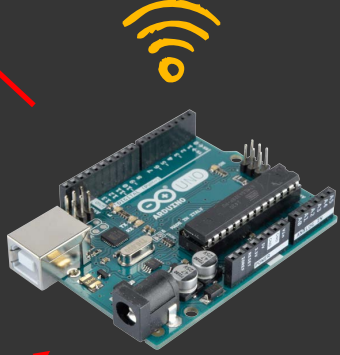
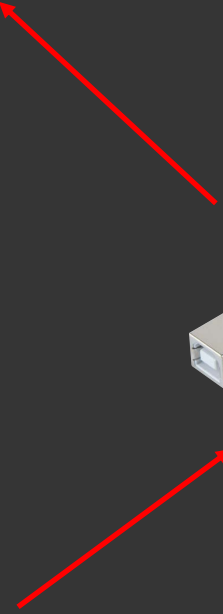




# Post notification

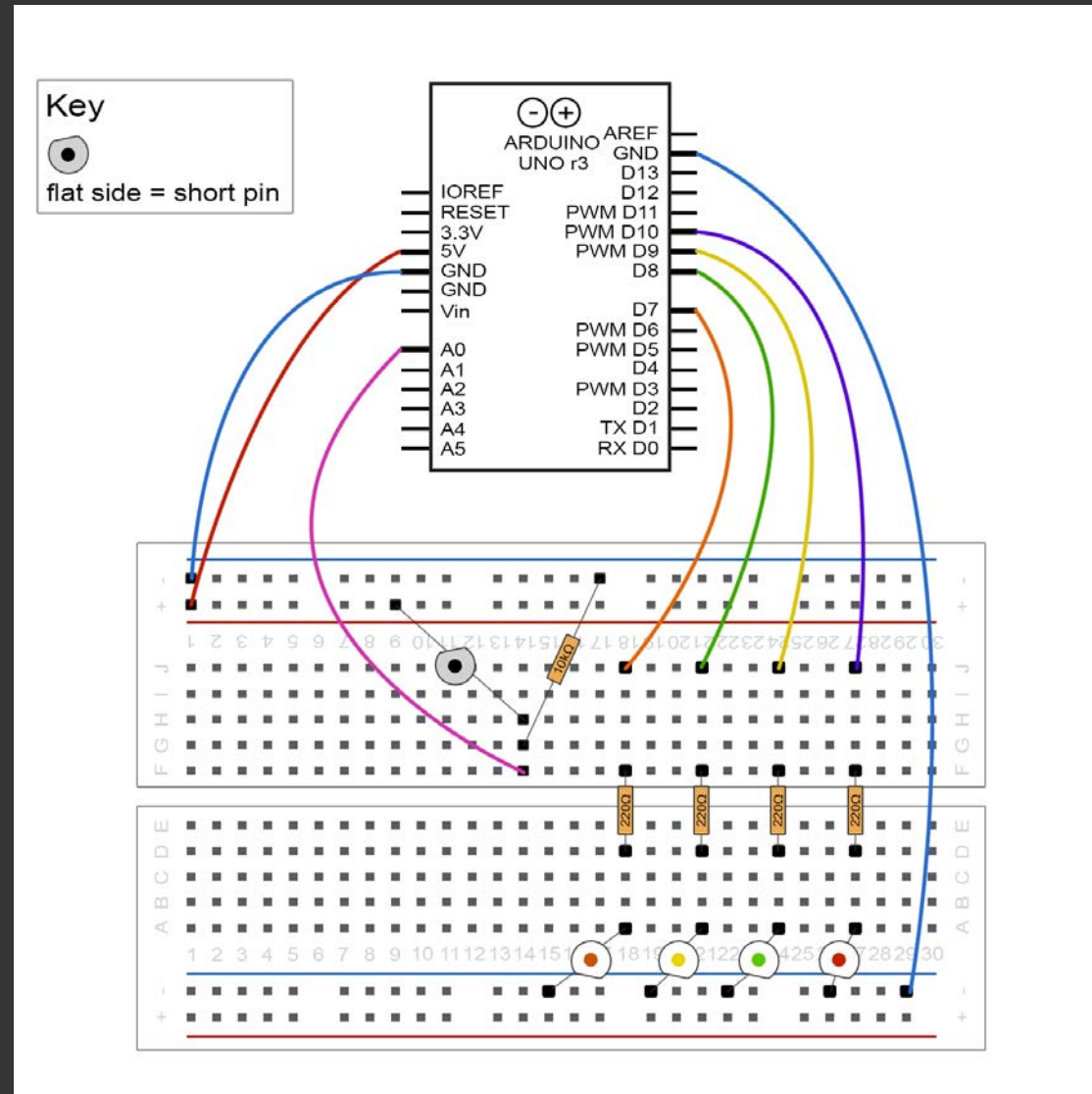


# Post notification





# Post notification (Phase 1)

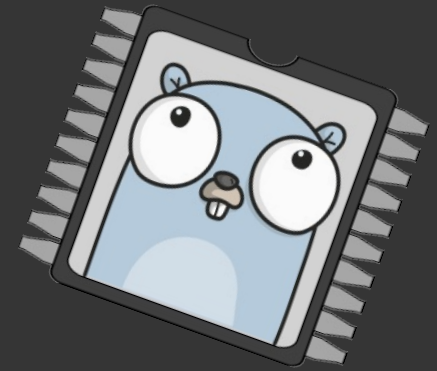
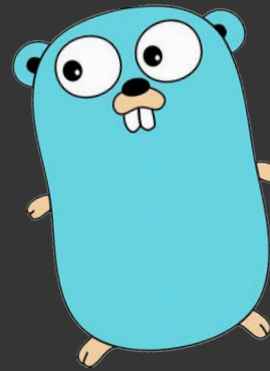


Let me show  
you..



# Demo

- Syntax is no different to Go!
- Arduino Uno R3
- Visual Studio Code
- TinyGo VSCoDe plugin

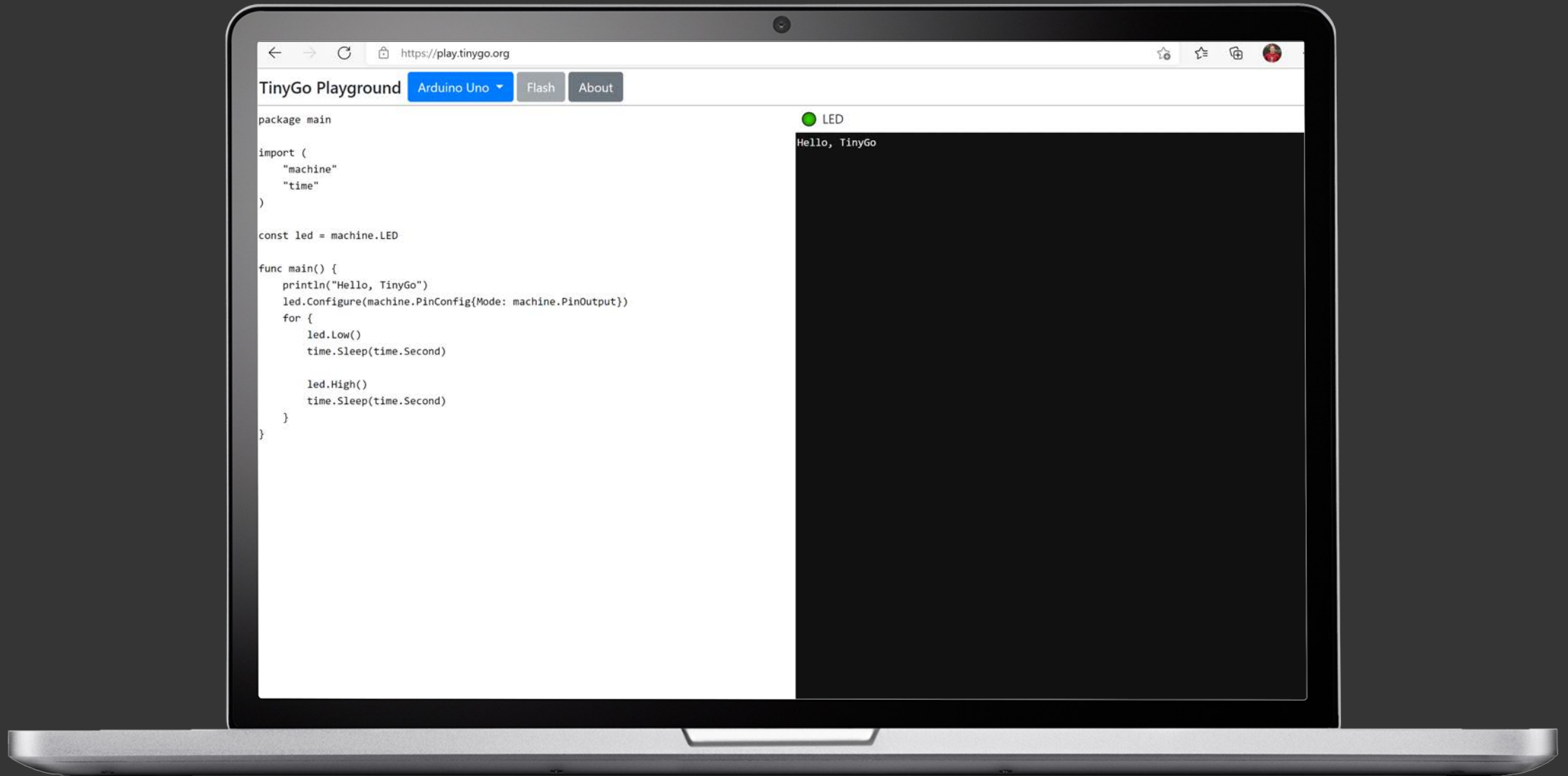


```
→ ~ go version
go version go1.17.6 darwin/amd64
→ ~ tinygo version
tinygo version 0.22.0 darwin/amd64 (using go version go1.17.6 and LLVM version 13.0.0)
→ ~ █
```

# What are my upcoming projects?

- Macropad for streaming (RP2040)
- A Lego wheel for GitHub notifications
- Dashboard with home sensors

# TinyGo Playground - <https://play.tinygo.org>





Thank you!

