



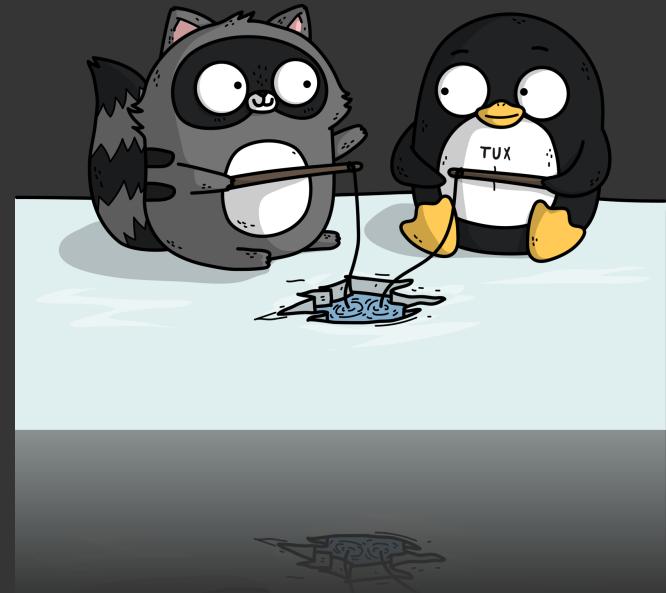
Go to the Edge

*Liam Hampton
Cloud Advocate @ Microsoft*



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



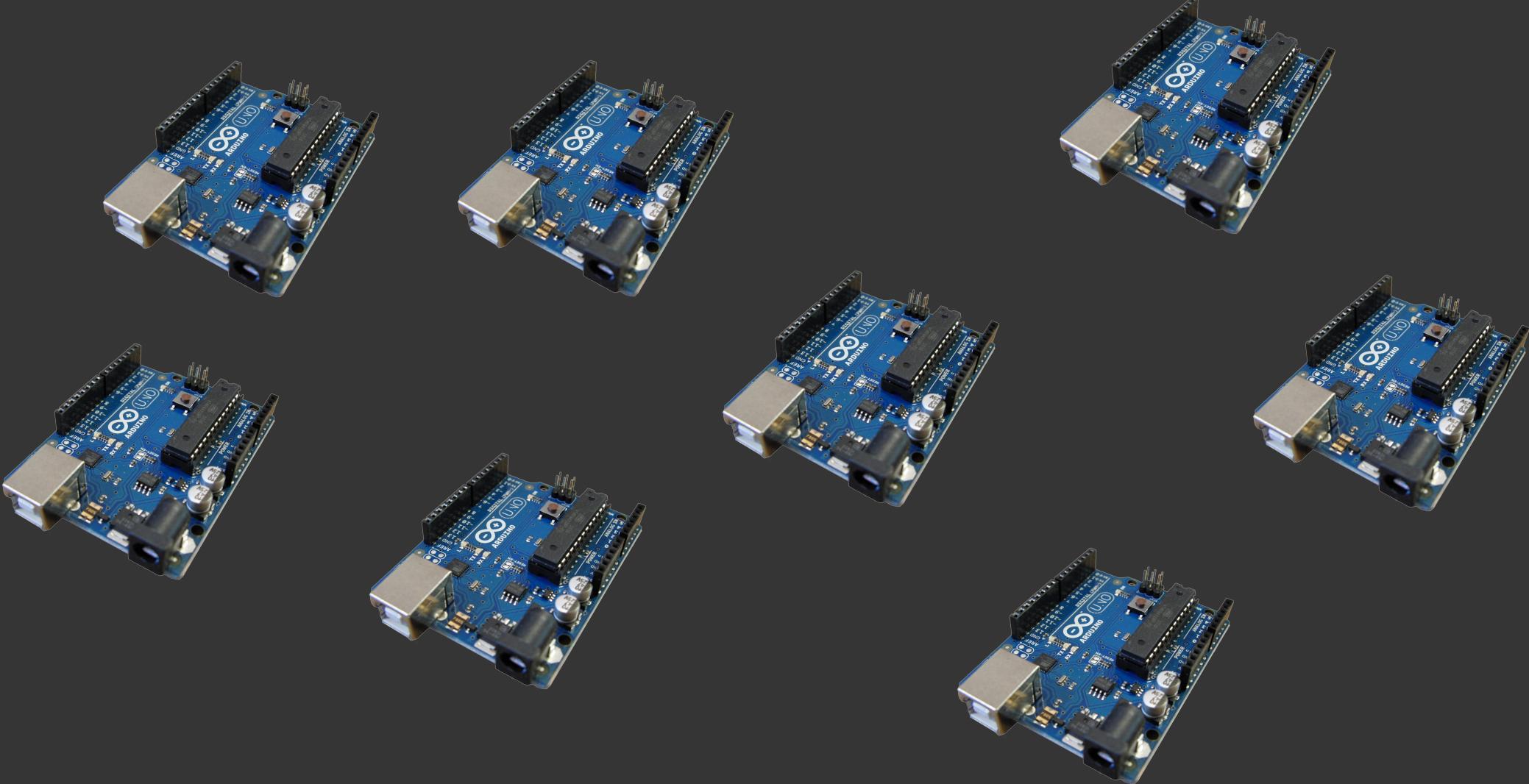
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How did I find TinyGo?

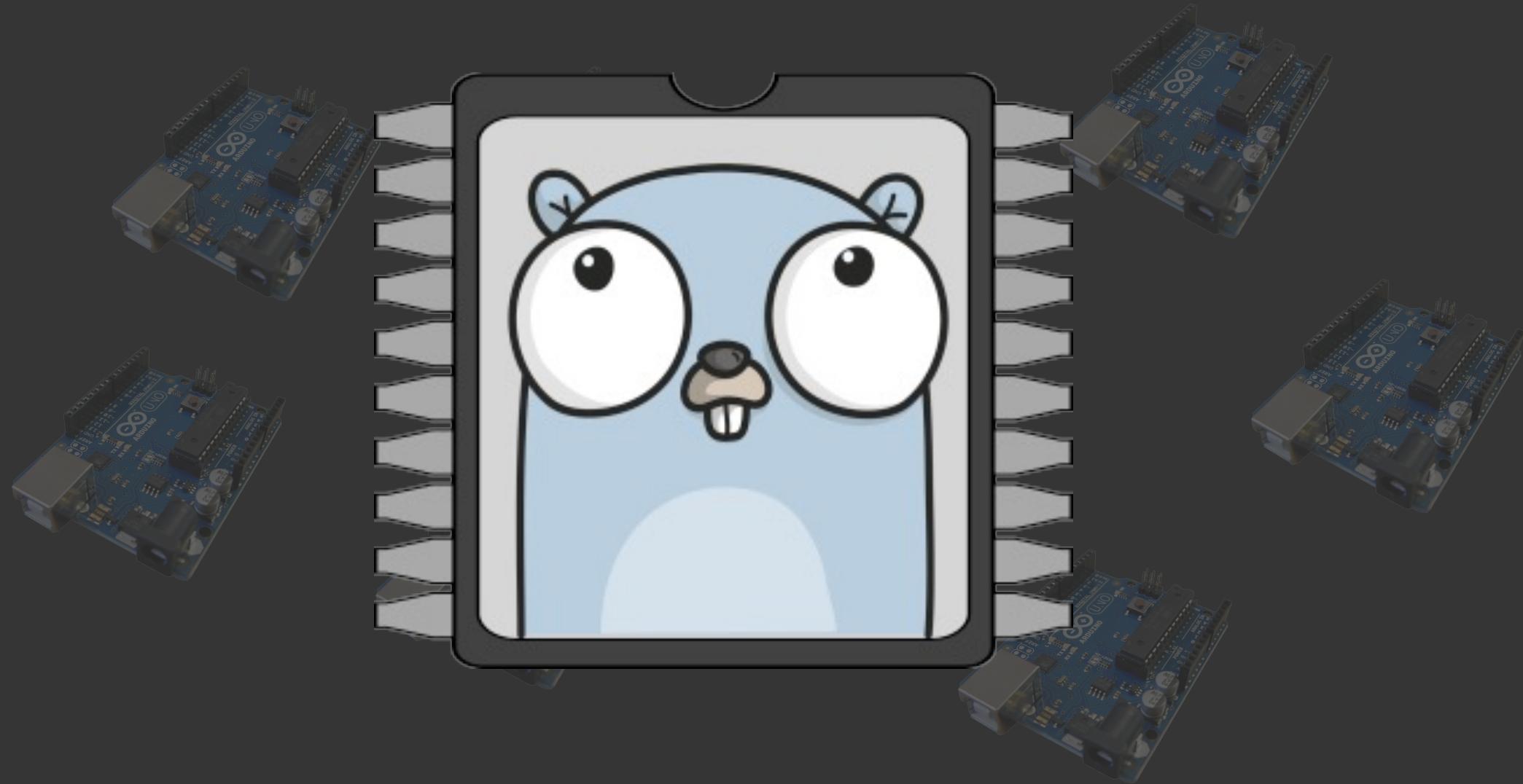


How did I find TinyGo?

How did I find TinyGo?



How did I find TinyGo?



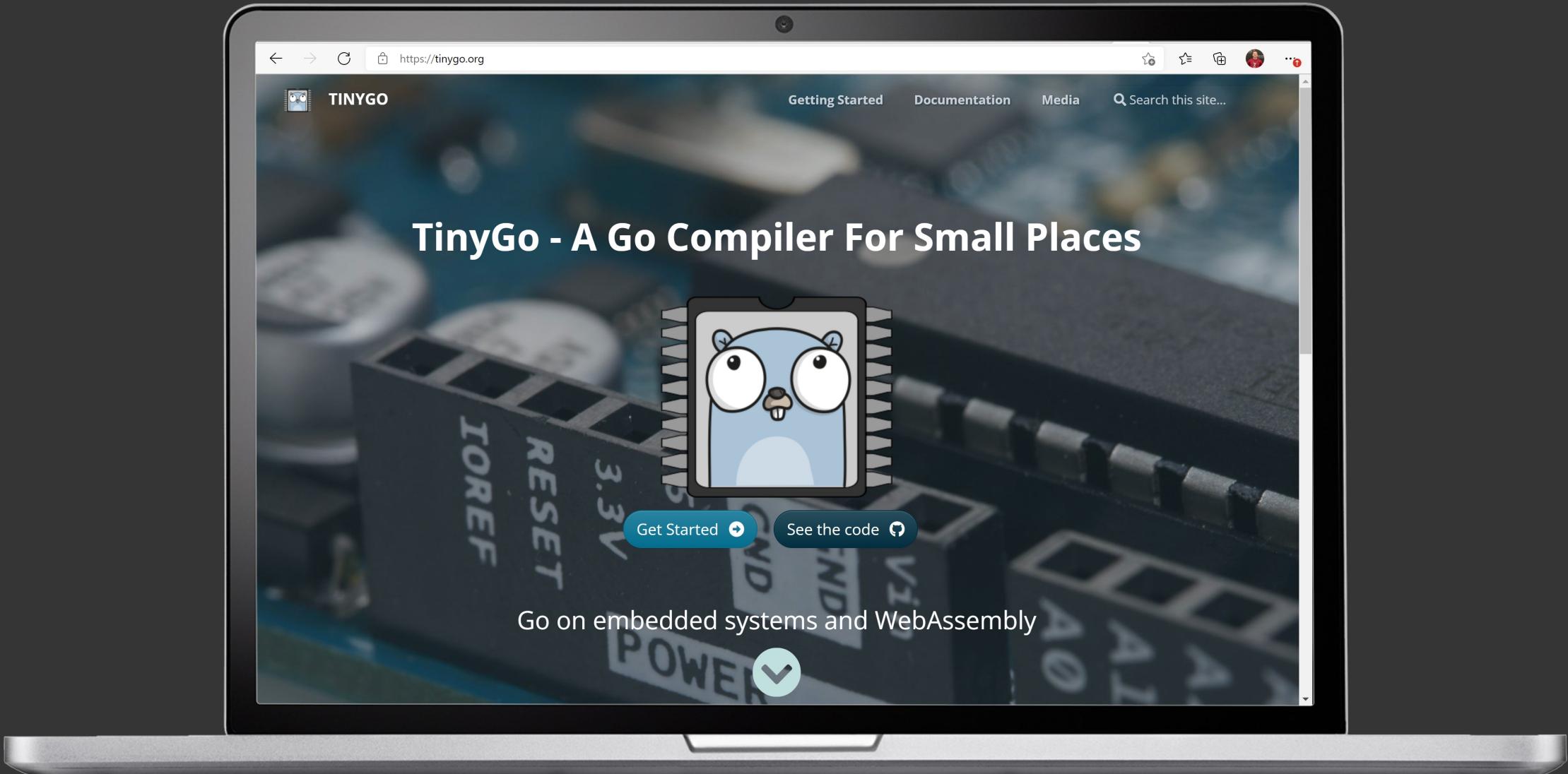
What is TinyGo?

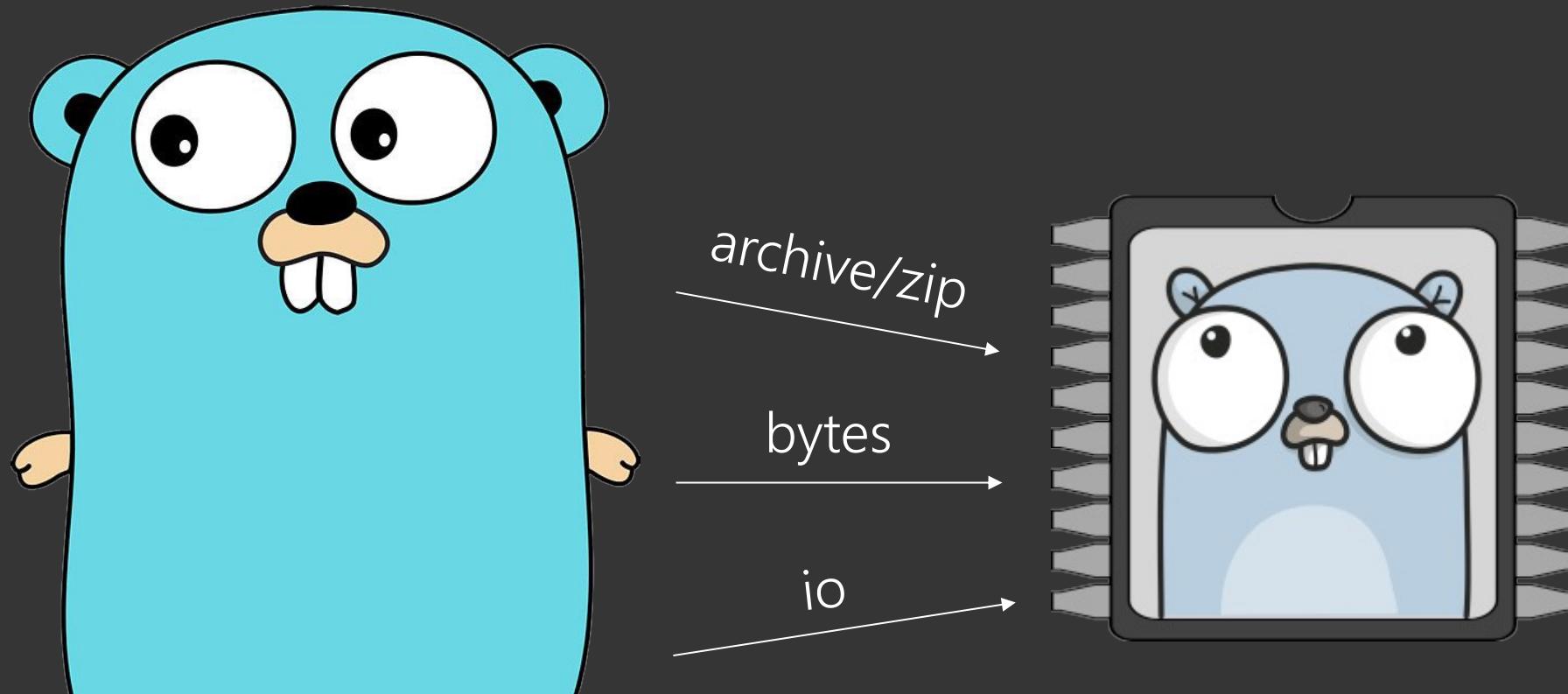


“A Go compiler for small
places”

- <https://tinygo.org>

TinyGo - <https://tinygo.org>





html/template

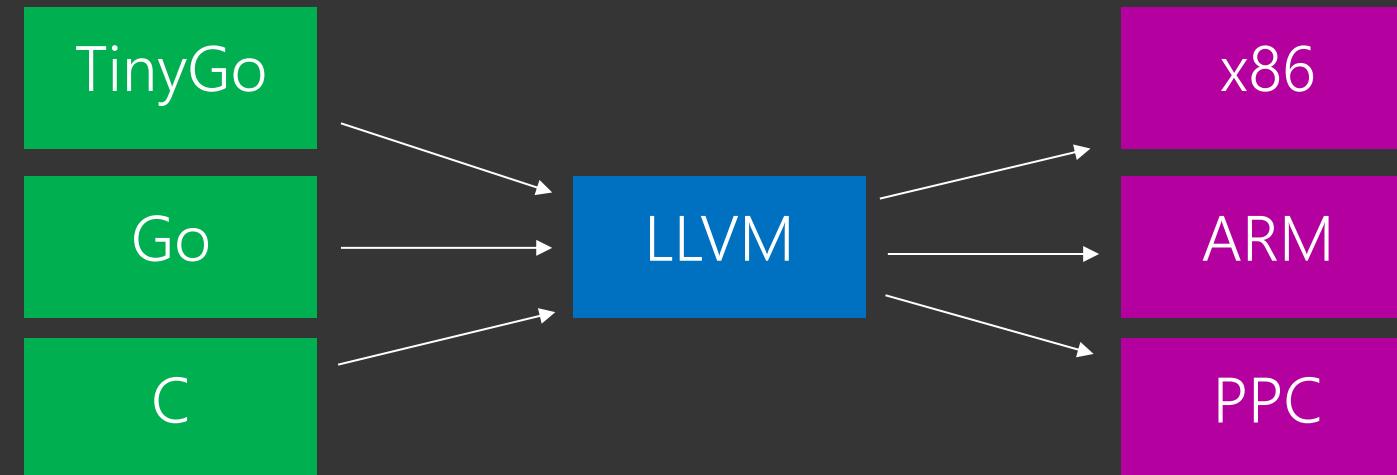
net



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LLVM

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



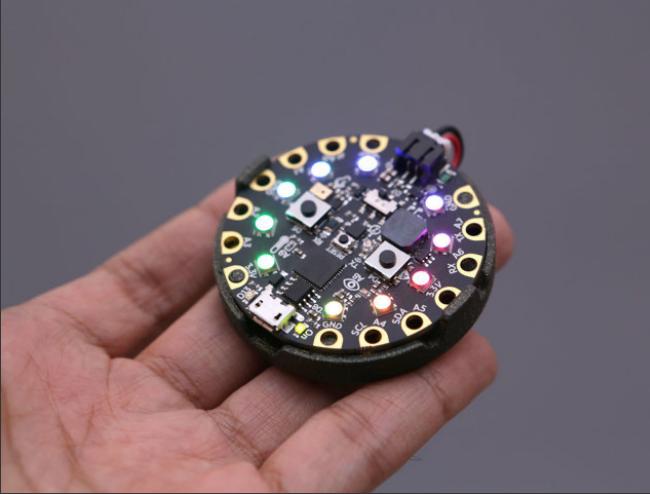
What is it used for?





Microcontrollers

Microcontrollers



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Microcontrollers

70+ Boards!!



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Microcontrollers

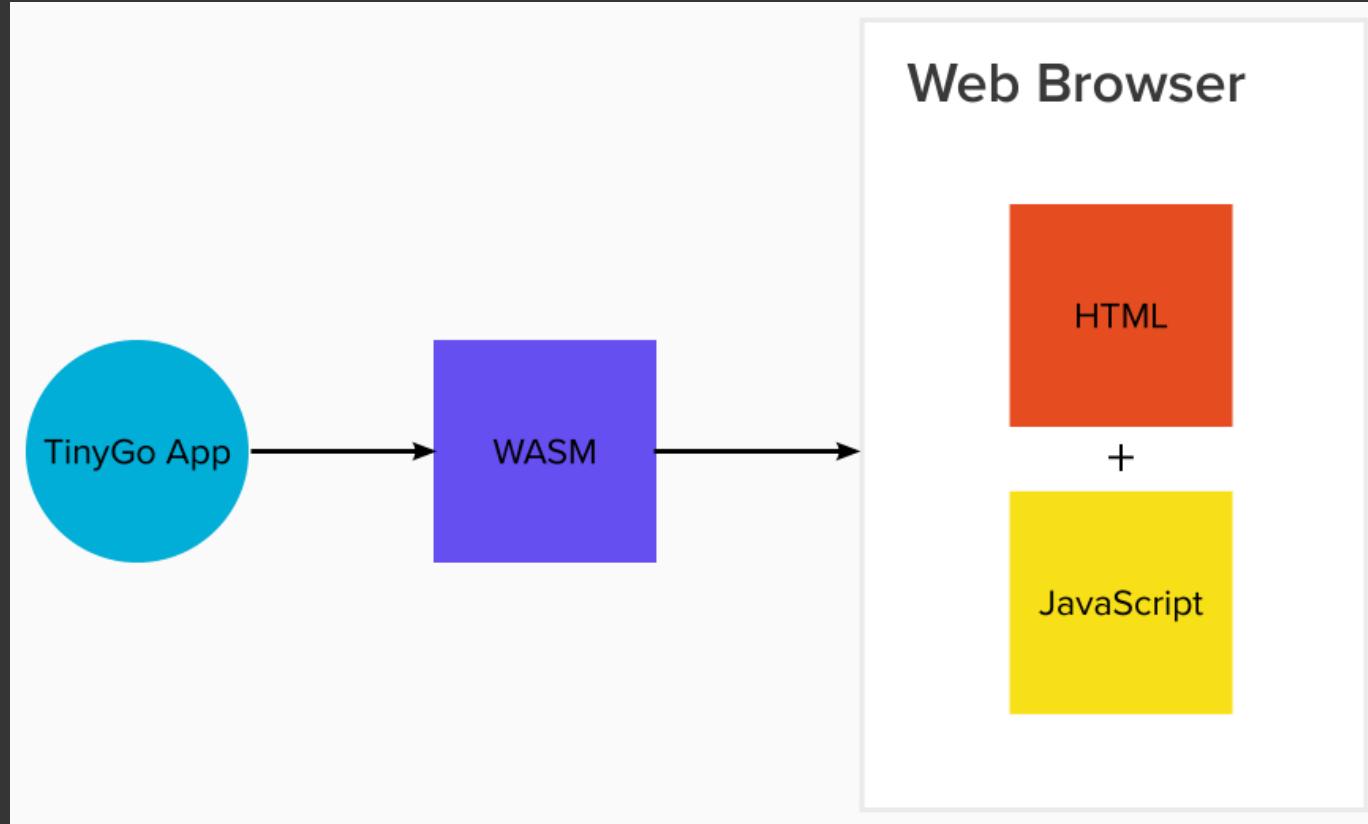


Web Assembly



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Web Assembly

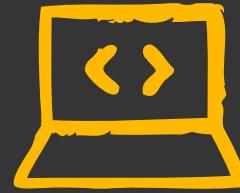




Microcontrollers



Web Assembly

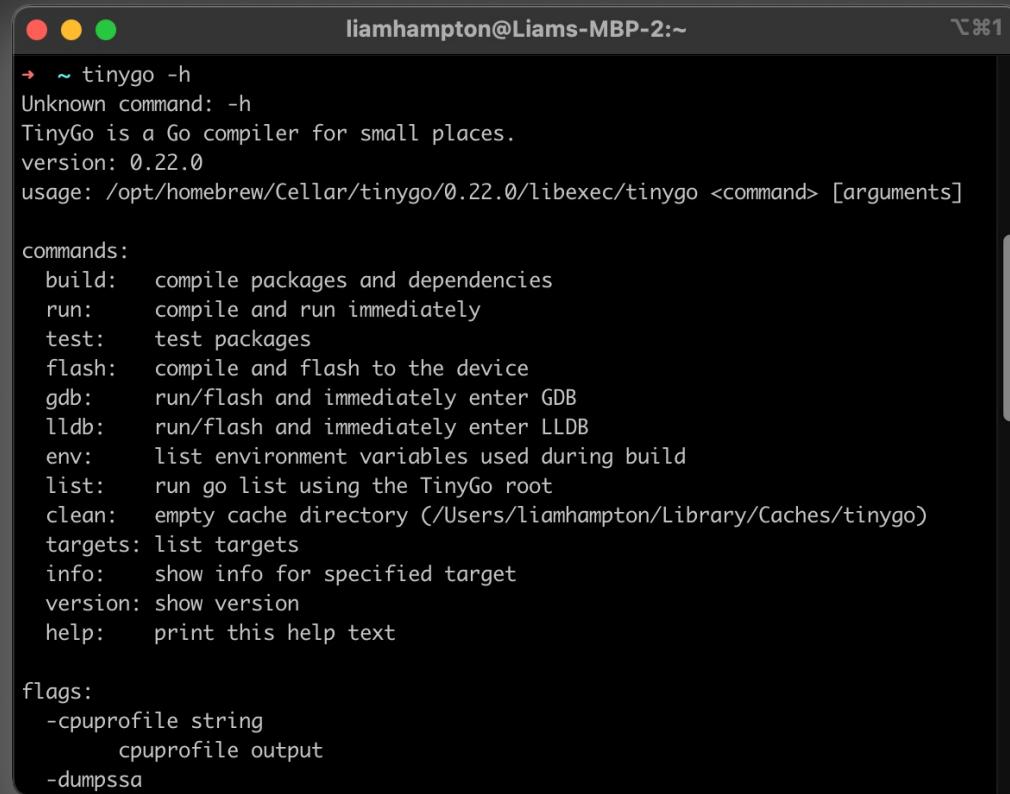


CLI



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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
```



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Where do I
use TinyGo?



To prevent this

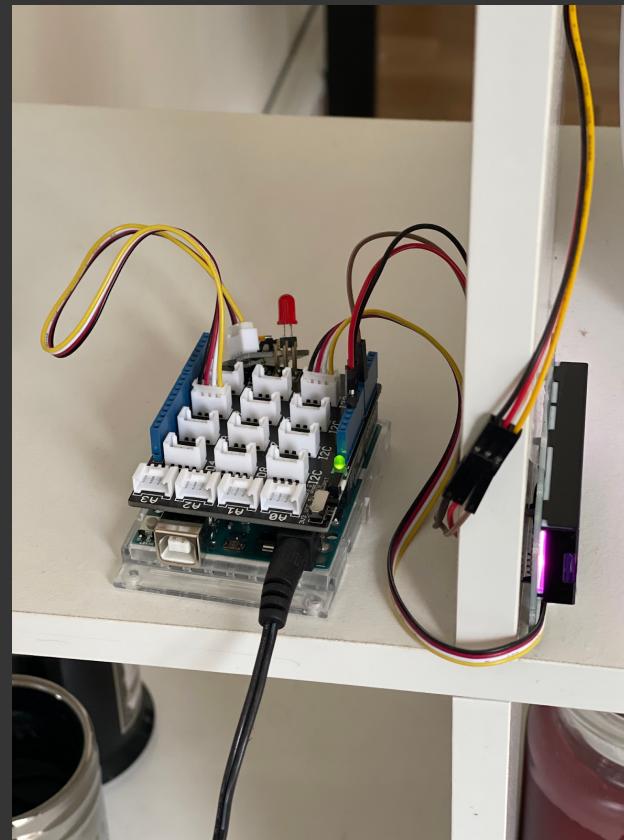


I made this..

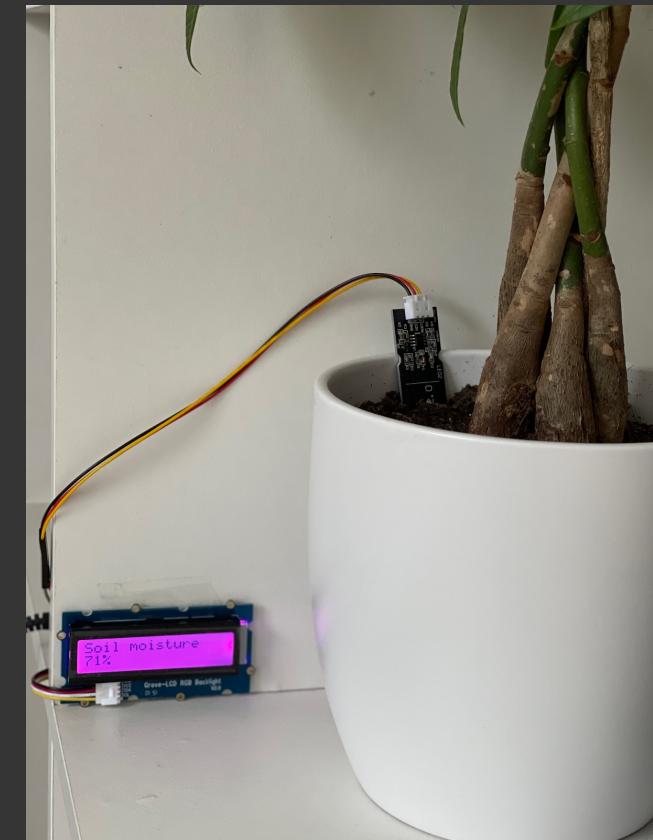
Input



Calculations



Output



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Keeps it looking fresh!



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Next step..



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Post notification



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Post notification



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Post notification



Post notification

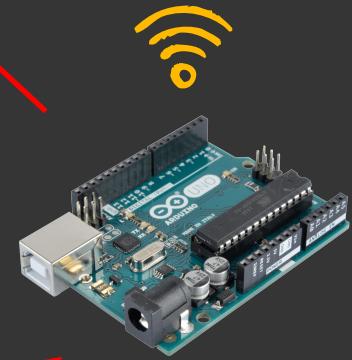


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Post notification



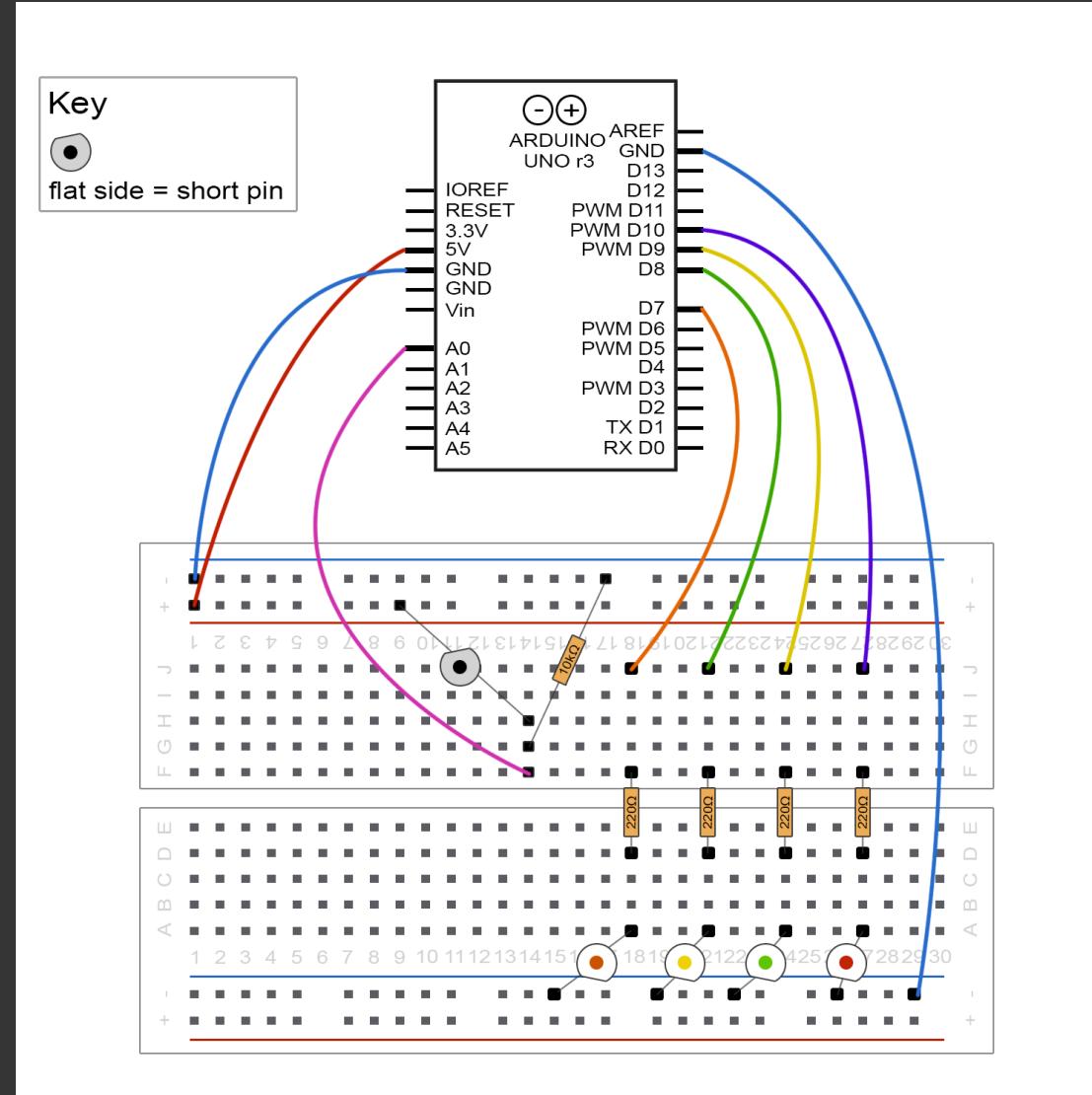
Post notification



Post notification



Post notification (Phase 1)



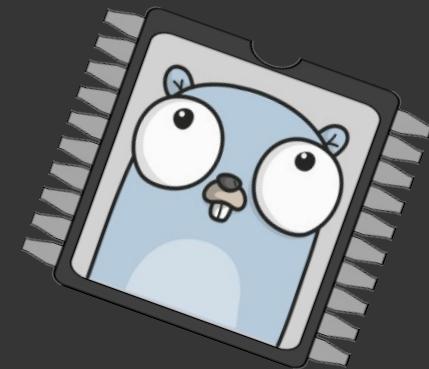
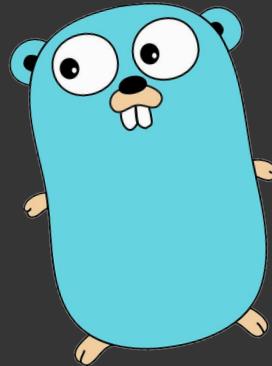
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Let me show
you..



Demo

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

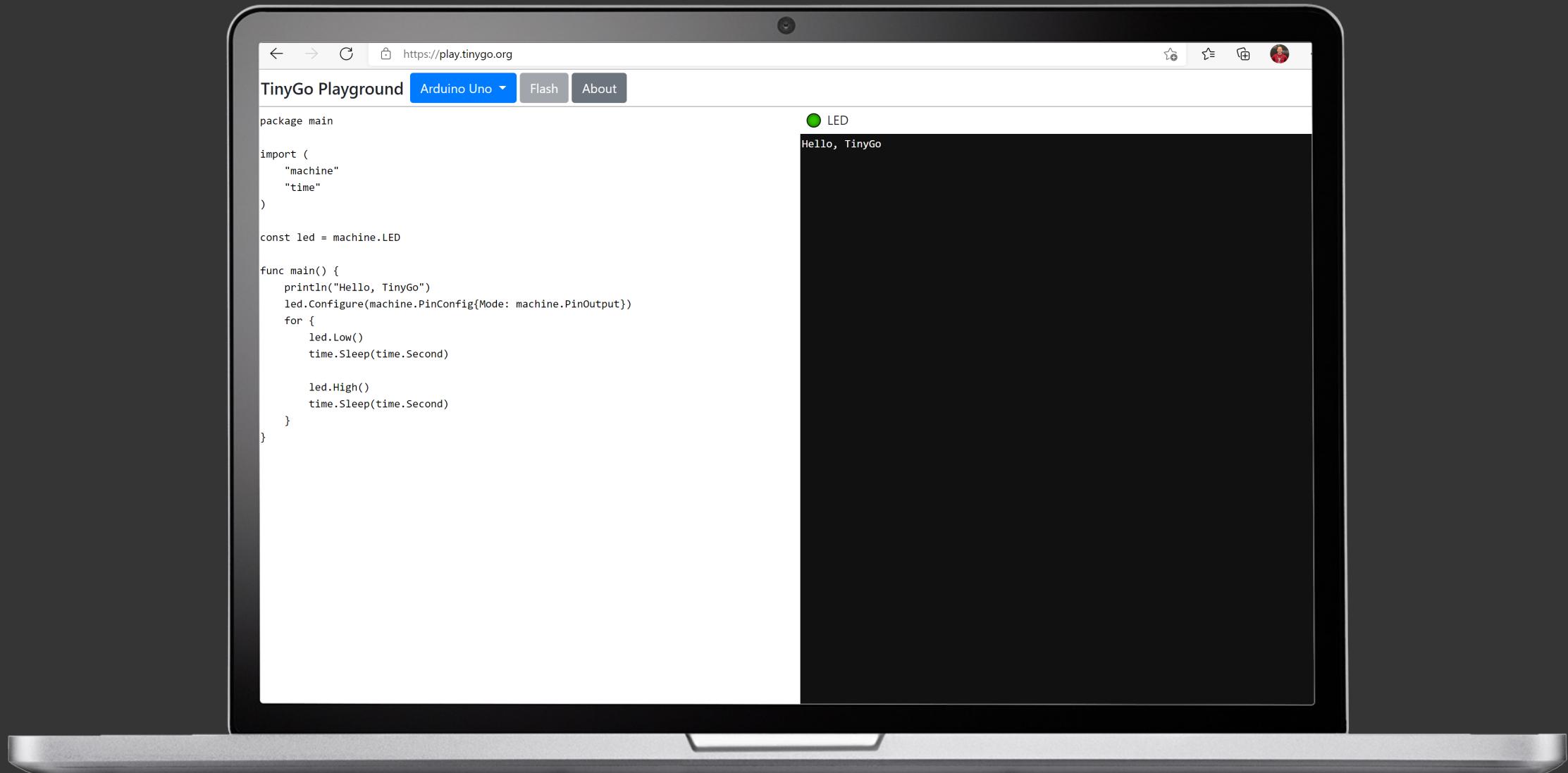


```
→ ~ go version
go version go1.17.6 darwin/amd64
→ ~ tinygo version
tinygo version 0.22.0 darwin/amd64 (using go version go1.17.6 and LLVM version 13.0.0)
→ ~ █
```

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!



/in/liam-conroy-hampton



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