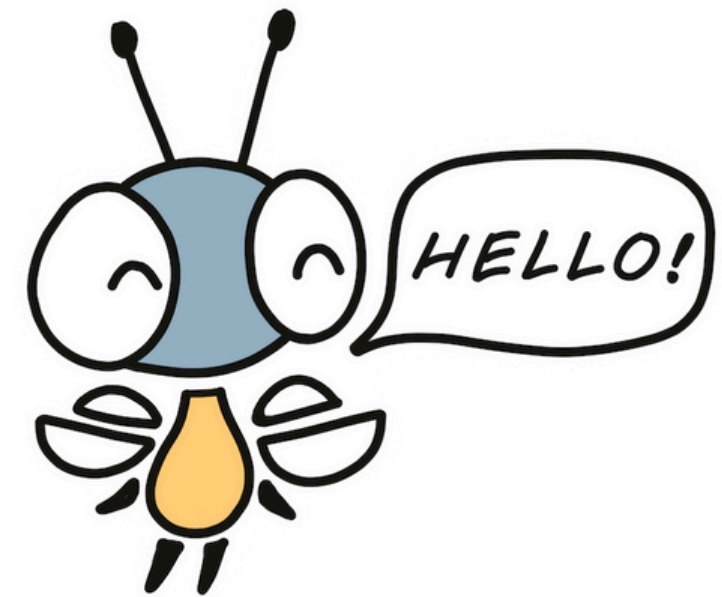


# Firefly Zero

WebAssembly-powered game console

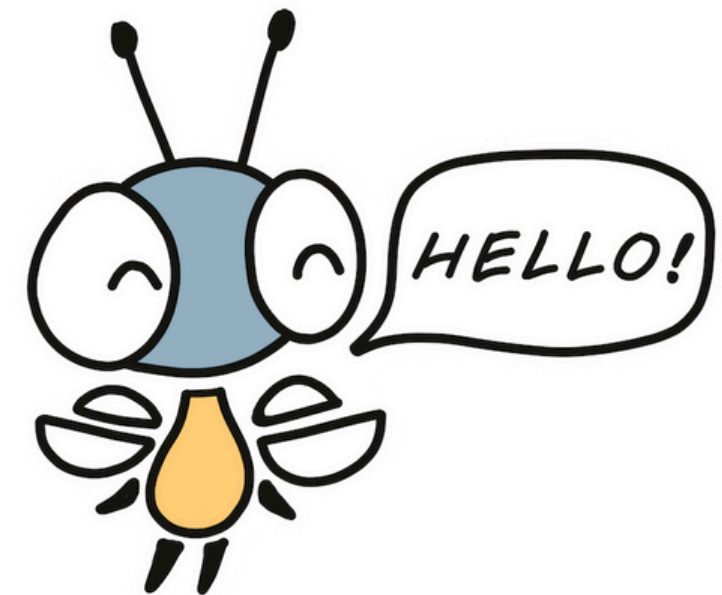
[orsinium.dev](https://orsinium.dev)

# What is WebAssembly?

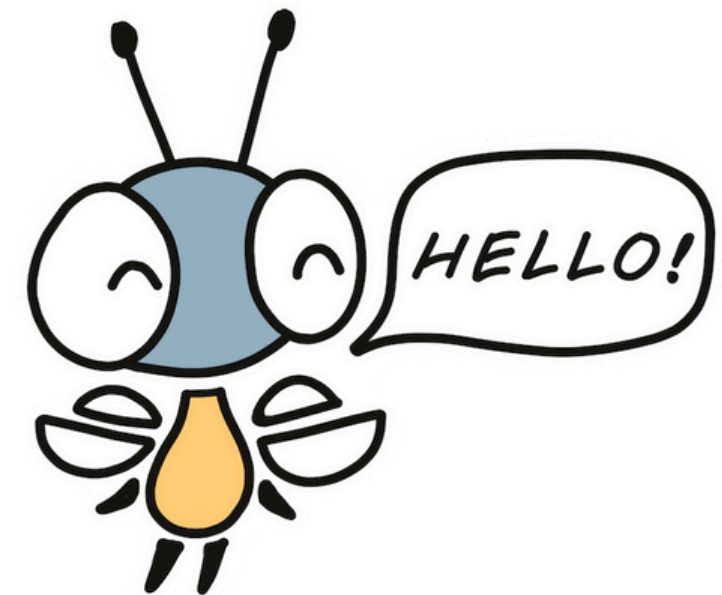


It's just web without JS.

Or is it?



WebAssembly is not just web



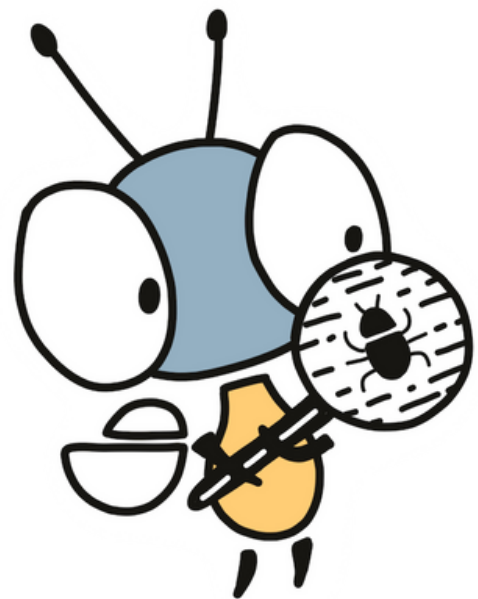
- Lots of languages
- Fast
- Fuel metering
- Security & isolation
- Observability

# WASI

The WebAssembly System Interface

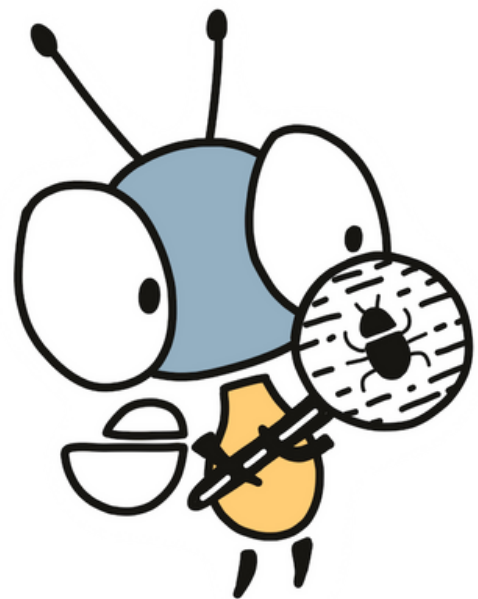


# TinyGo



# wazero

[github.com/tetratelabs/wazero](https://github.com/tetratelabs/wazero)

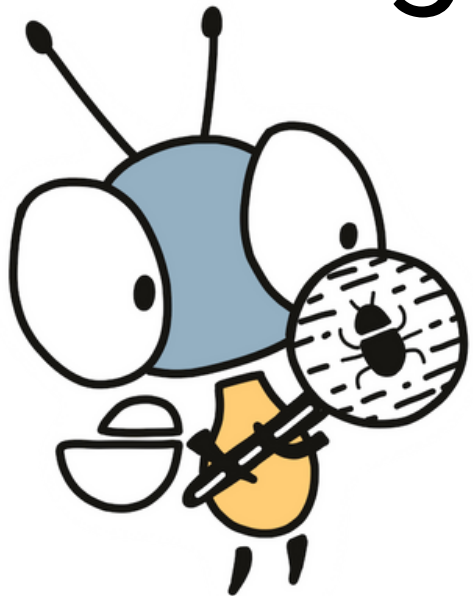






**MECHANOID**

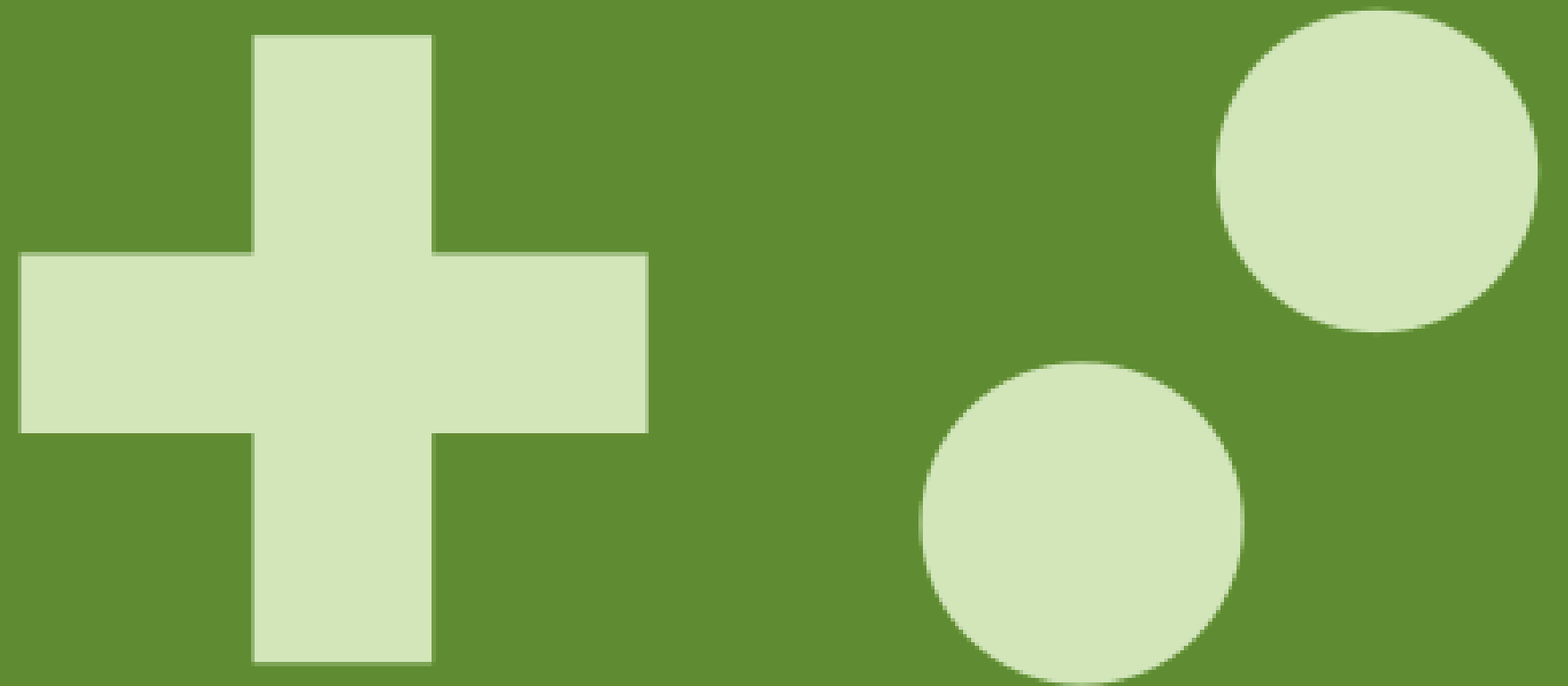
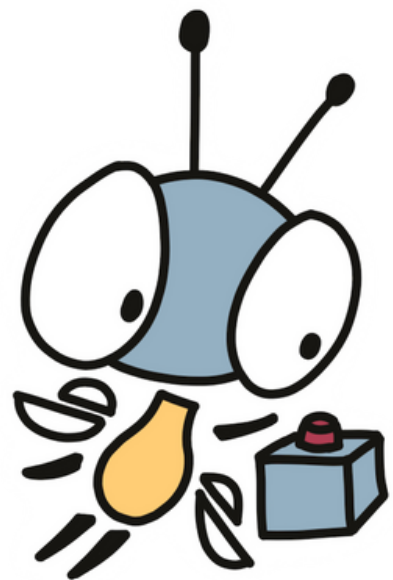
[github.com/hybridgroup/mechanoid](https://github.com/hybridgroup/mechanoid)

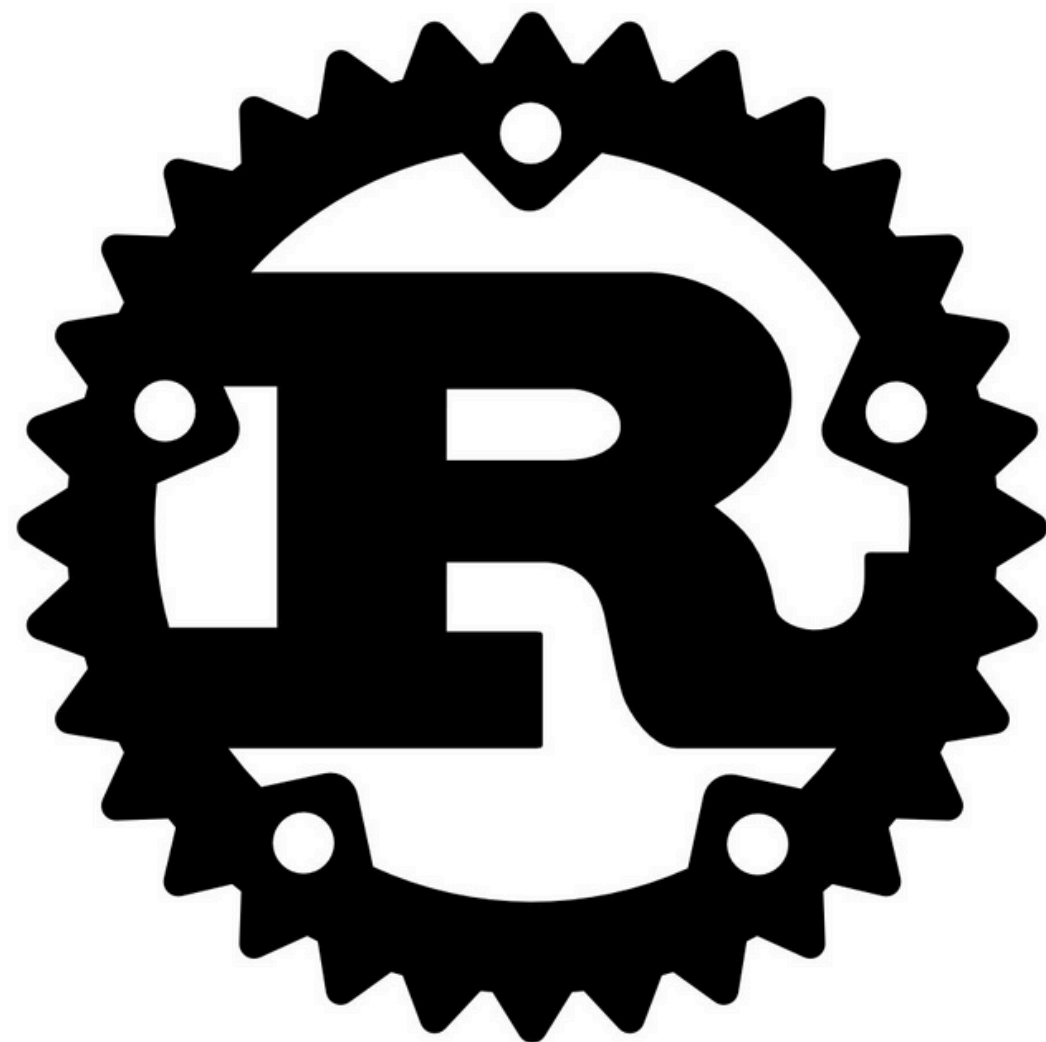




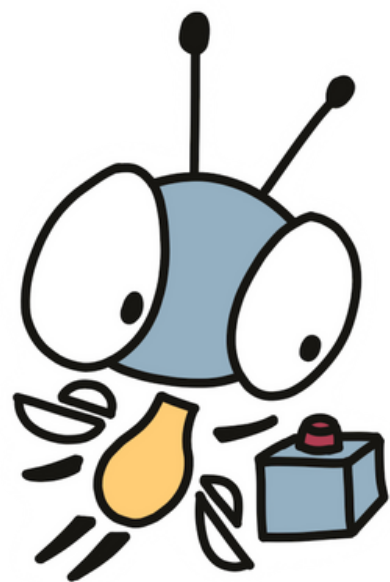


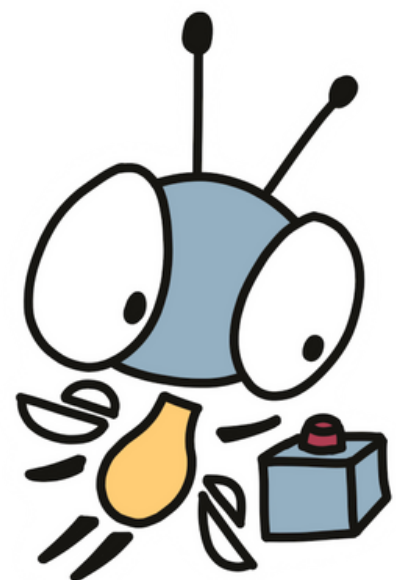
wasm4.org



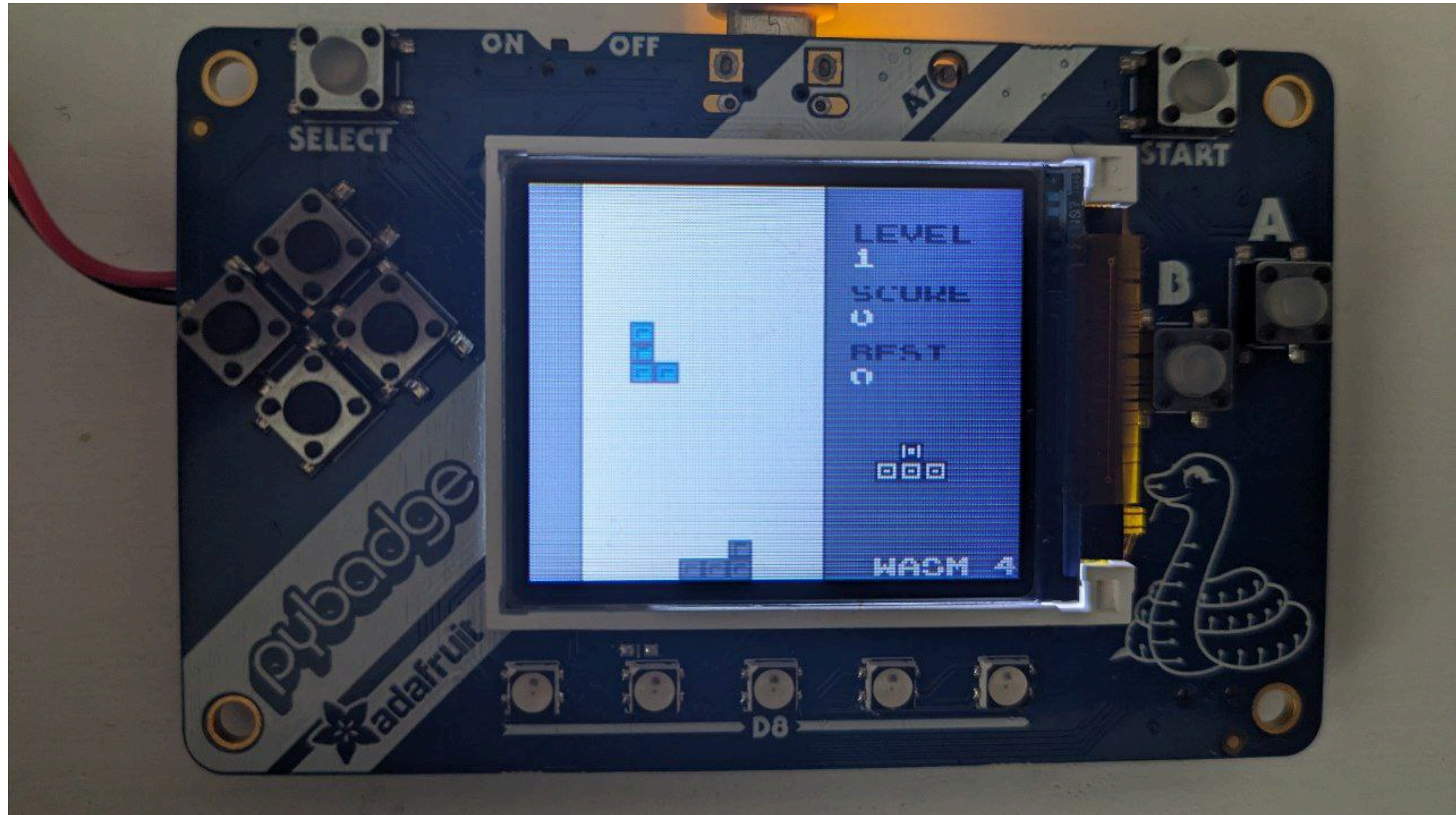


# **The Rust Programming Language**

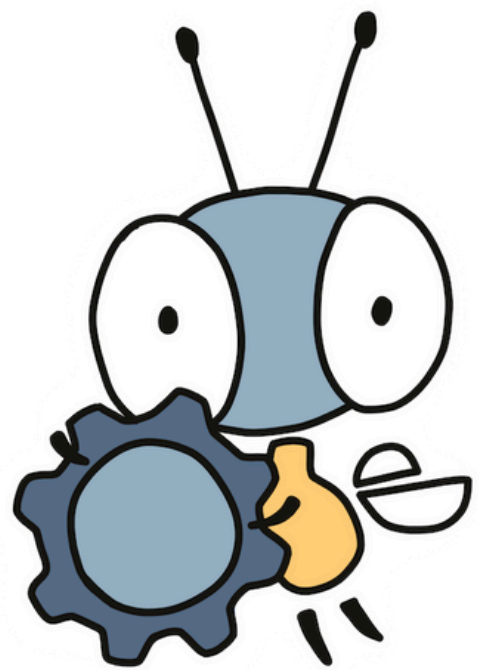
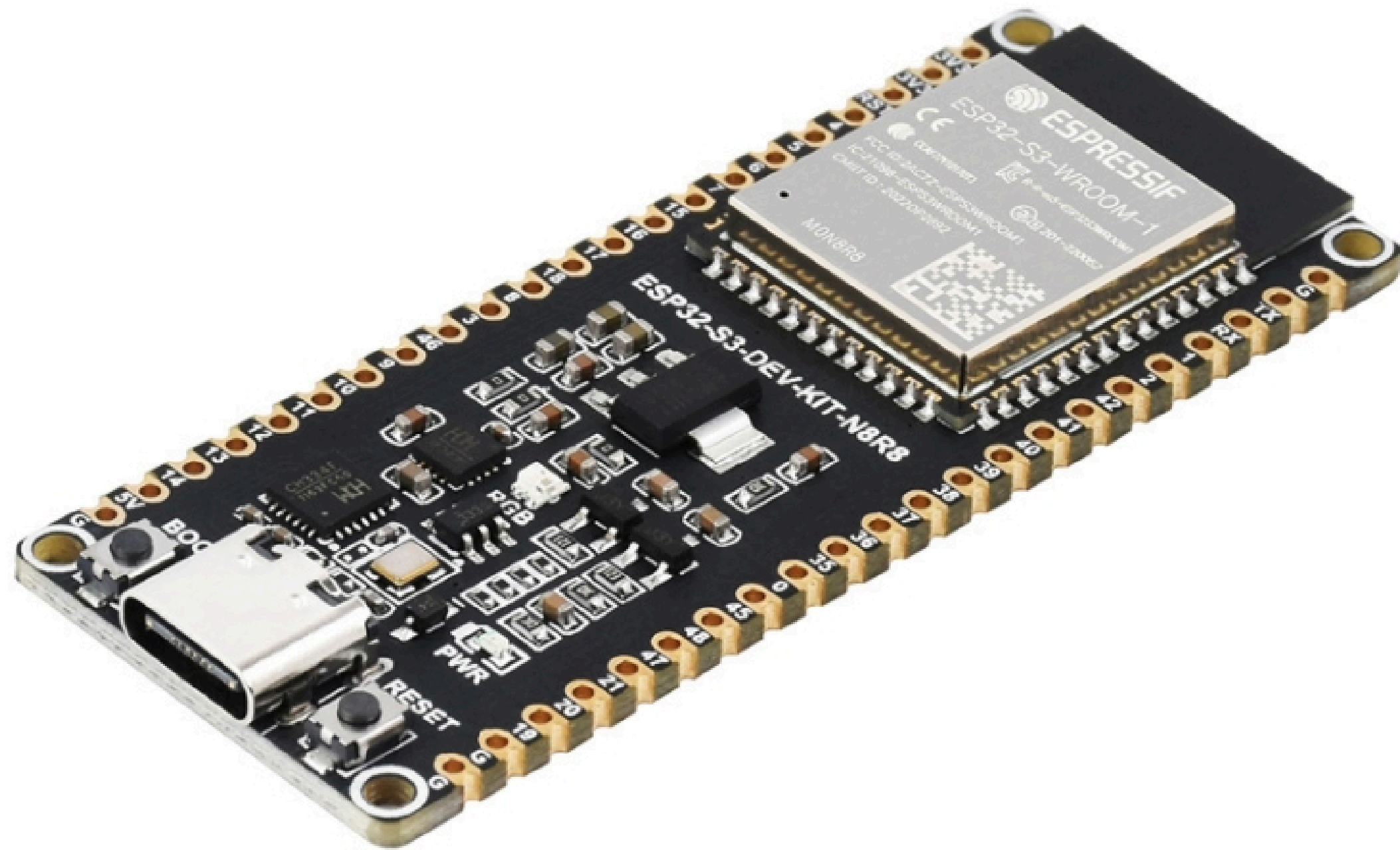




[github.com/wasmi-labs/wasmi](https://github.com/wasmi-labs/wasmi)



[github.com/orsinium-labs/gamgee](https://github.com/orsinium-labs/gamgee)

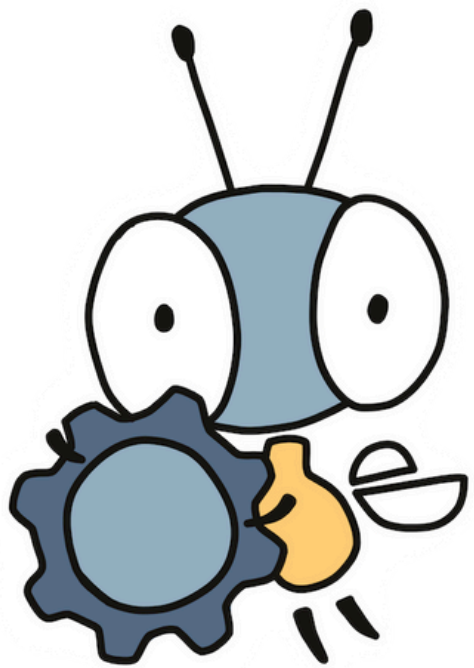


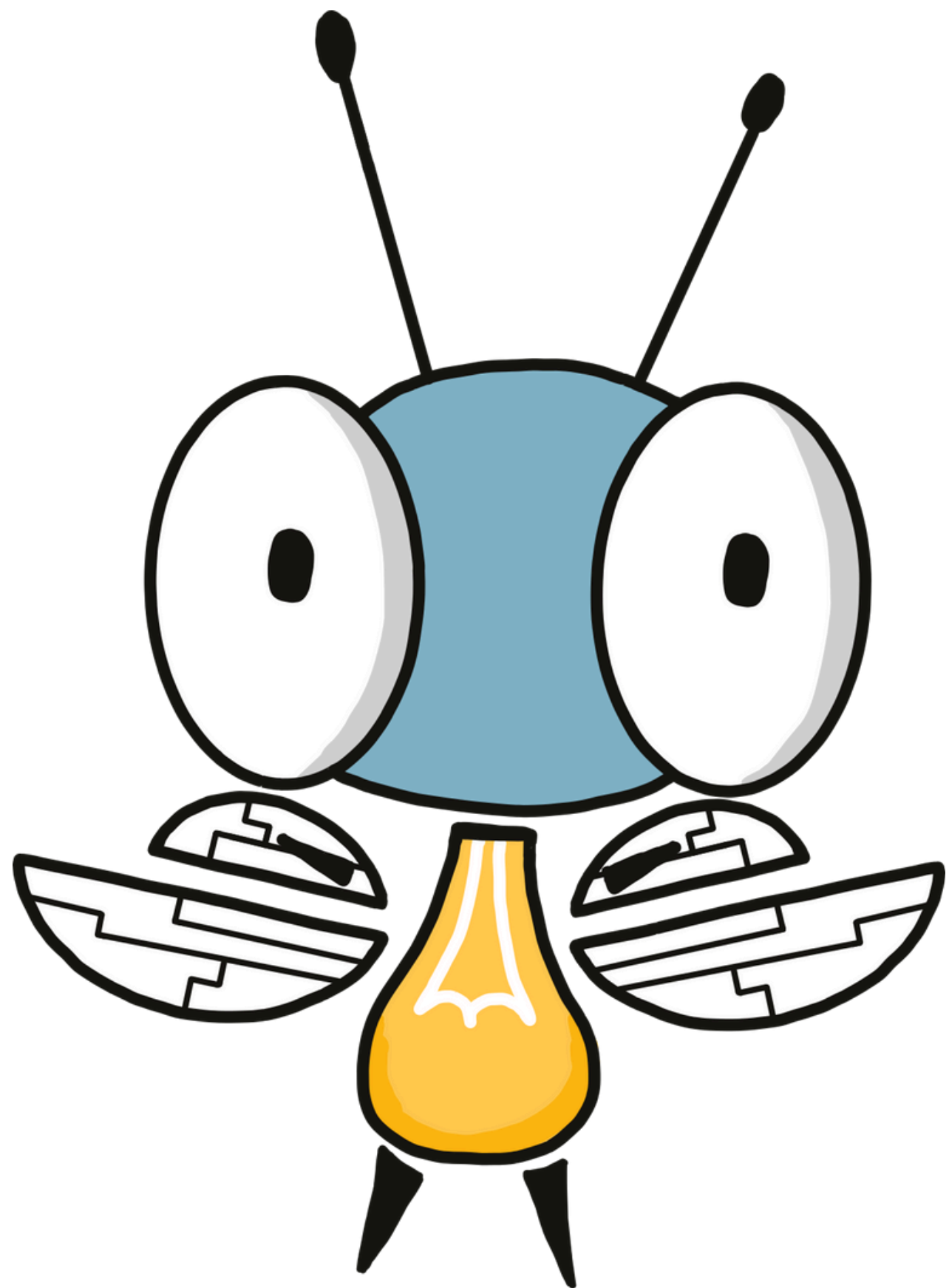
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esp32s3



esp-idf





Firefly Zero



2510277R\_Y13\_250102

FIREFLY ZERO!

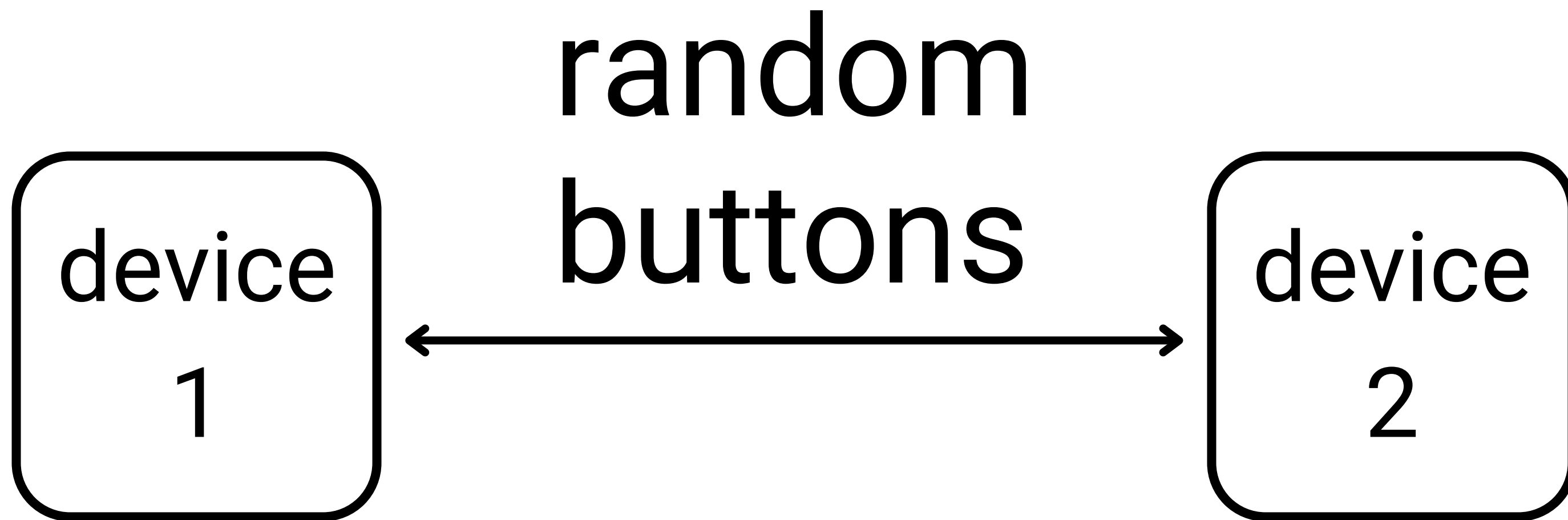
FIREFLY ZERO!

random



buttons



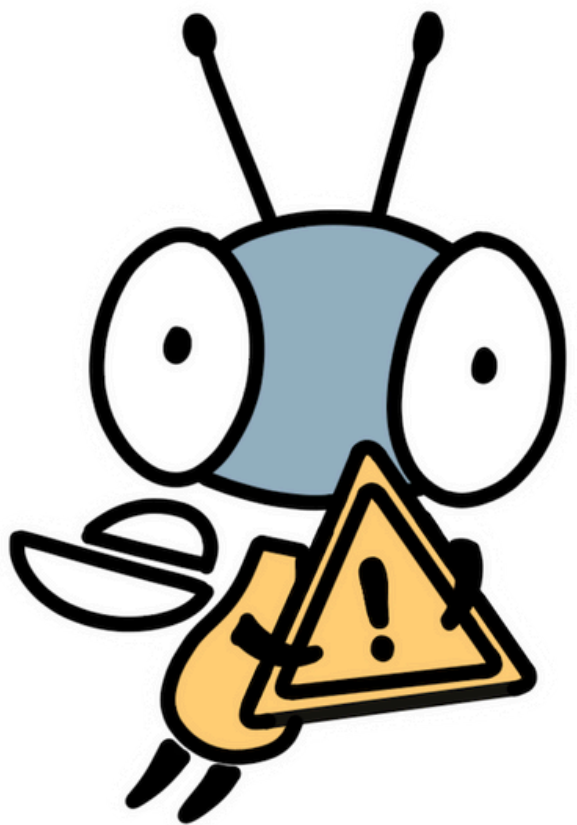


```
func boot() {  
    font = firefly.LoadFile("font", nil).Font()  
    apple = NewApple()  
    peers := firefly.GetPeers()  
    snakes = make([]*Snake, peers.Len())  
    for i, peer := range peers.Slice() {  
        snakes[i] = NewSnake(peer)  
    }  
    score = NewScore()  
}
```

```
from firefly_test import App

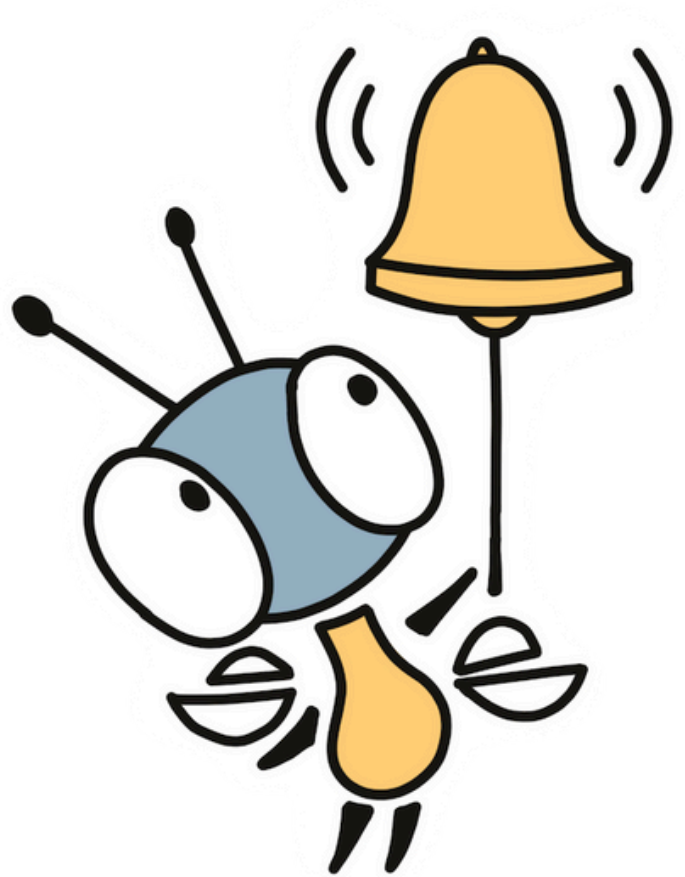
app = App( 'sys.input-test' )
app.start()
app.update()
circle = app.frame.get_sub(
    x=160, y=100,
    width=20, height=5,
)
circle.assert_match( """
    WWWWW○○○○○○○○○○○○○○○○○○WWW
    WWW○○○○WWWWWWWW○○○○WWW
    WW○○○○WWWWWWWWWWW○○○○WW
    W○○○○WWWWWWWWWWW○○○○W
    ○○○WWWWWWWWWWWWWW○○○○
    """ )
```

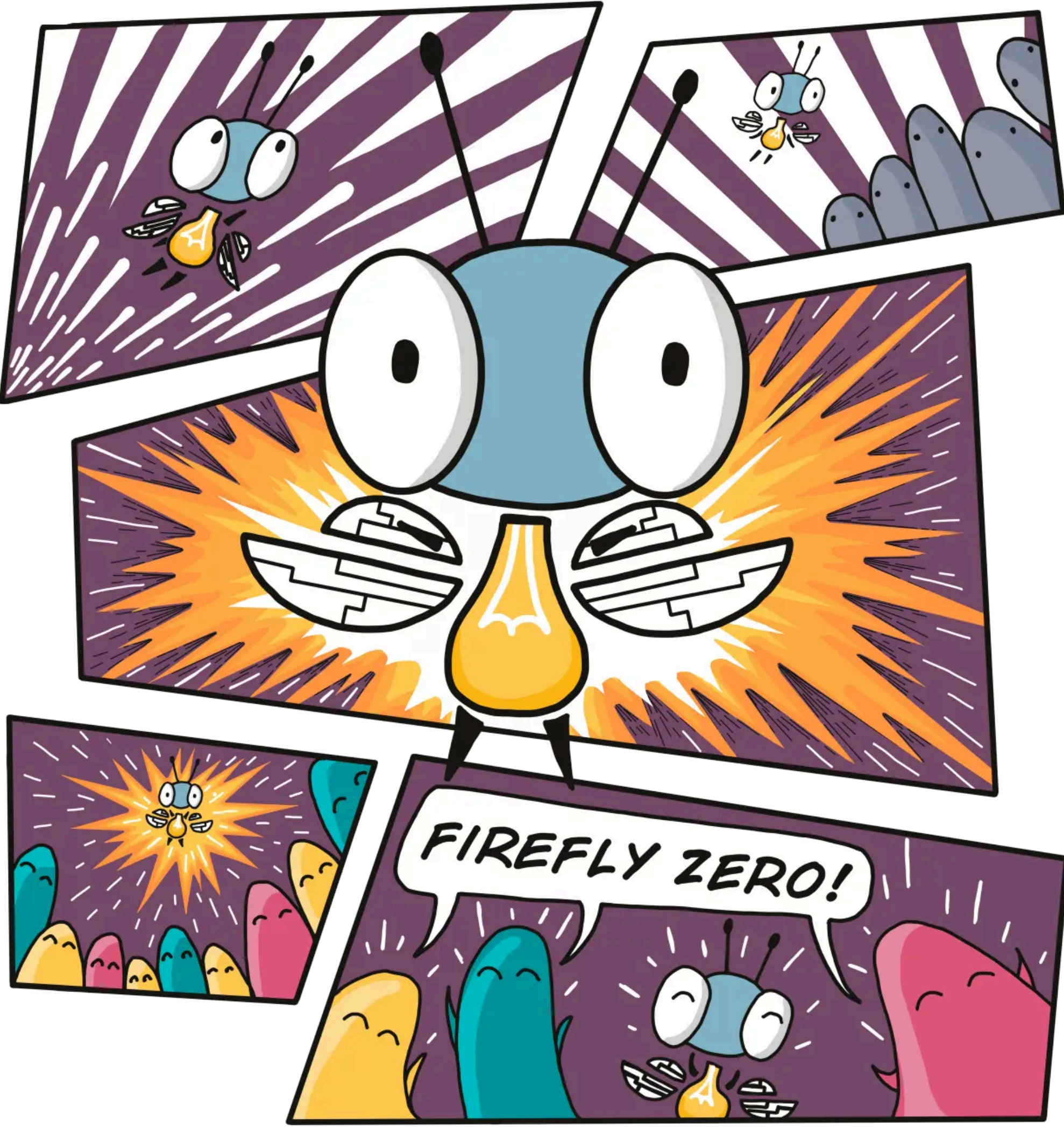
- complex types
- allocations info
- interpreted languages
- multiplayer
- limited resources





- wasm is great
- rust is love-hate
- embedded is pain





[fireflyzero.com](http://fireflyzero.com)