

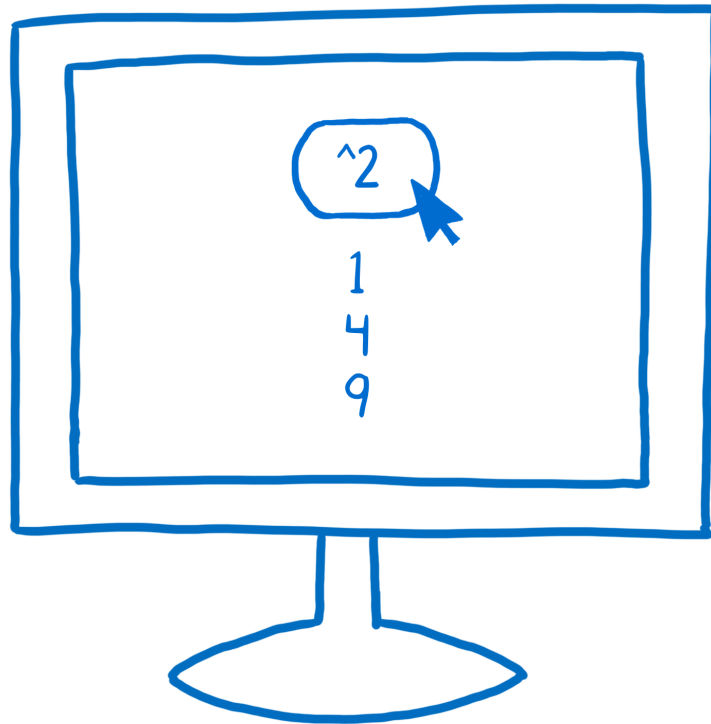
Leveling up WebAssembly itself

Going from MVP to brave new world

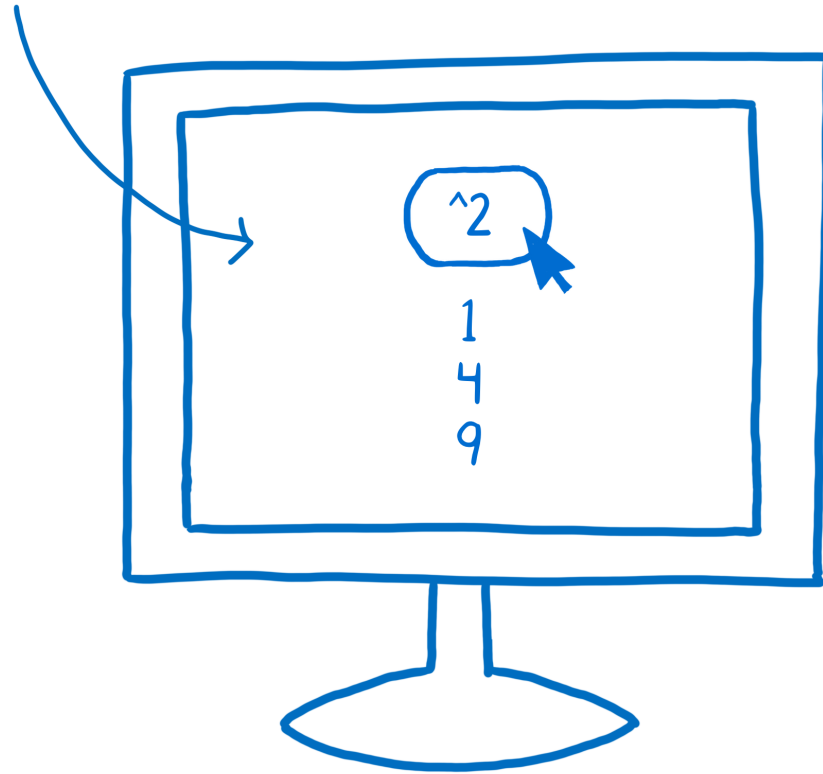
Hi, I'm @linclark and I make
@codecartoons.



moz://a

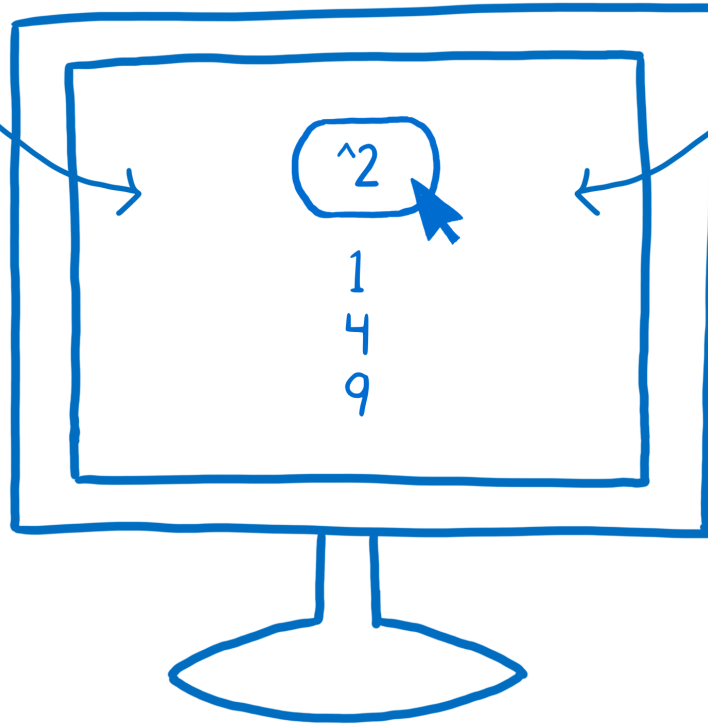


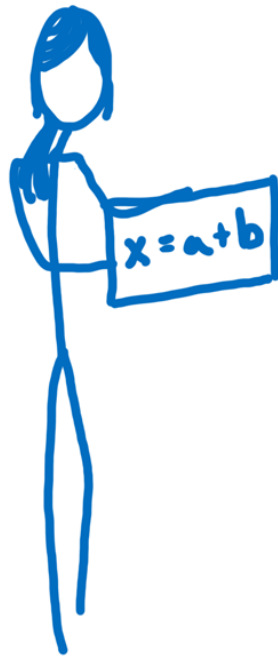
JS



JS

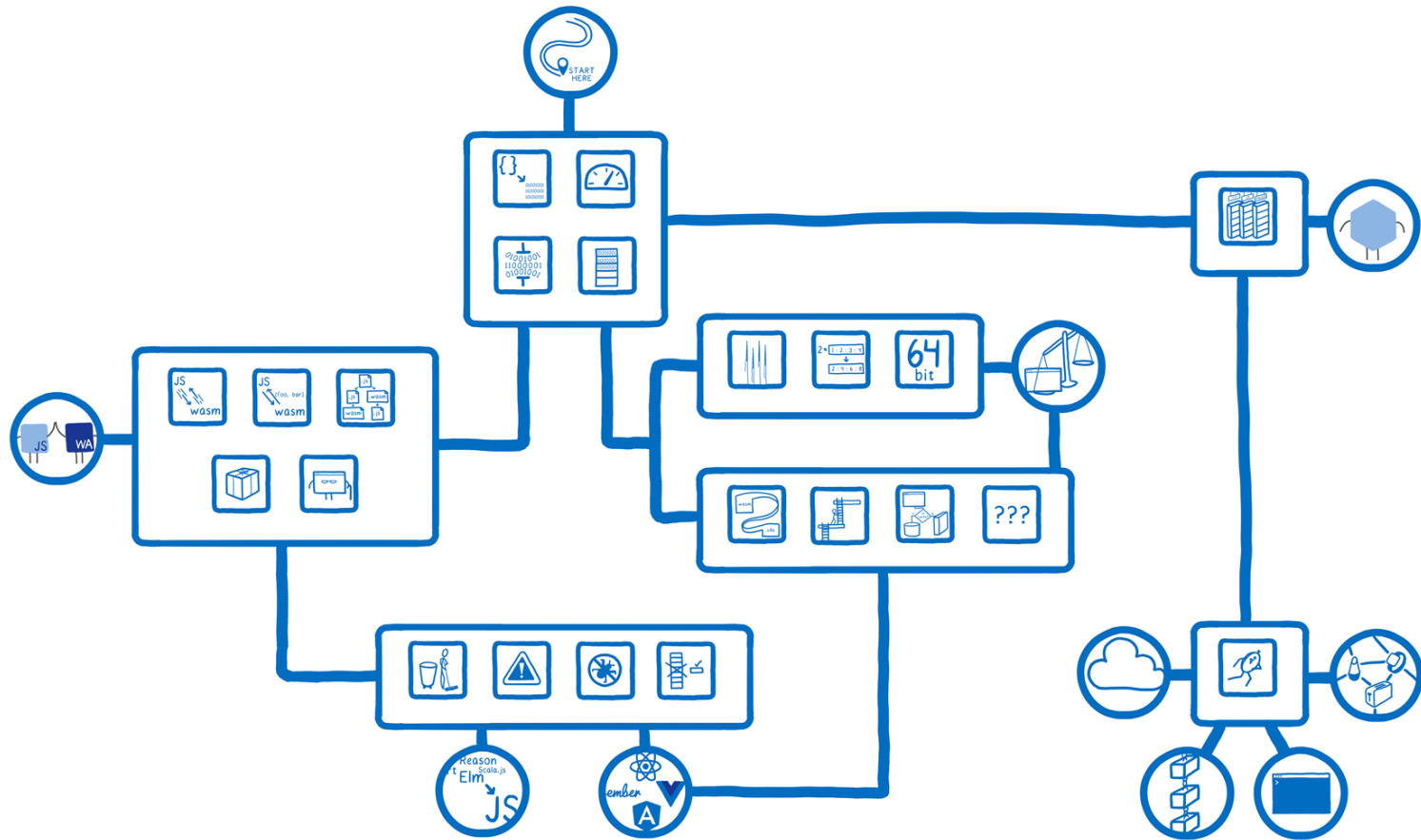
C/C++/etc



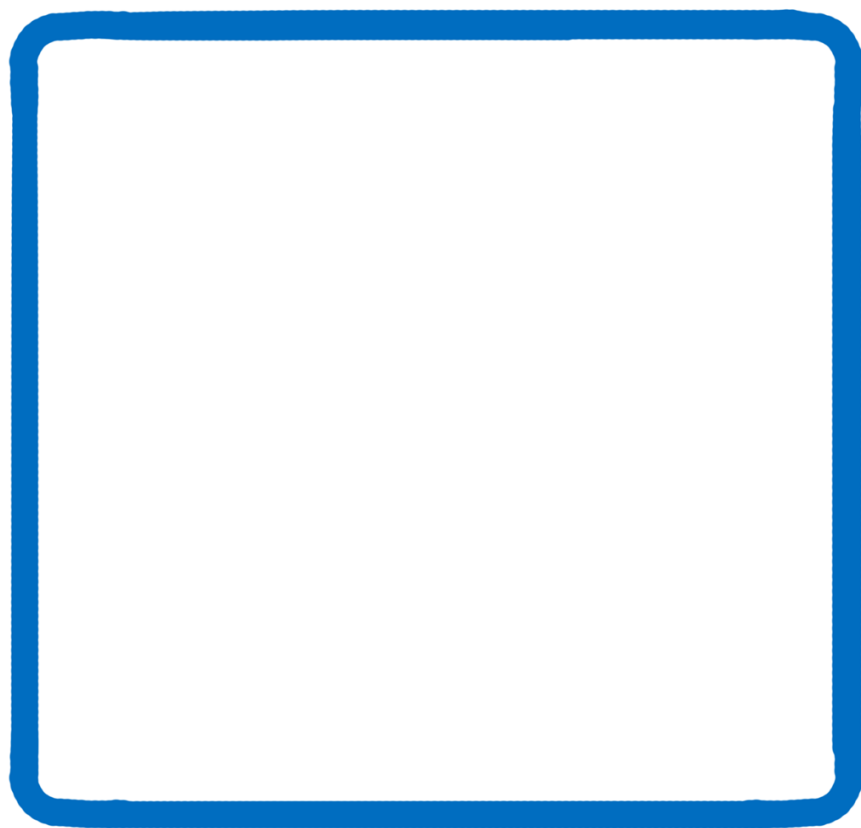


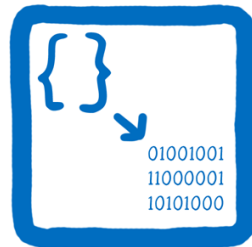
11101010100101



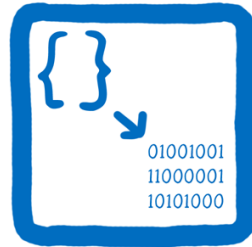








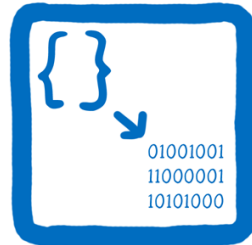
compilation
target



compilation
target



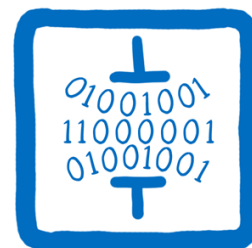
fast
execution



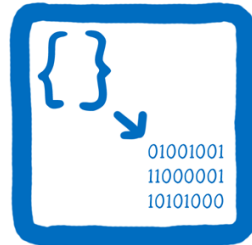
compilation
target



fast
execution



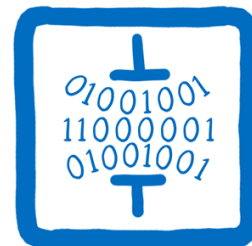
compact



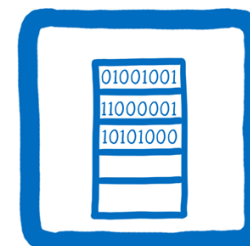
compilation
target



fast
execution

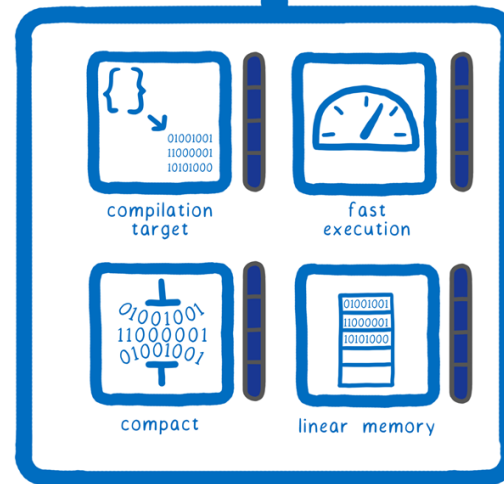


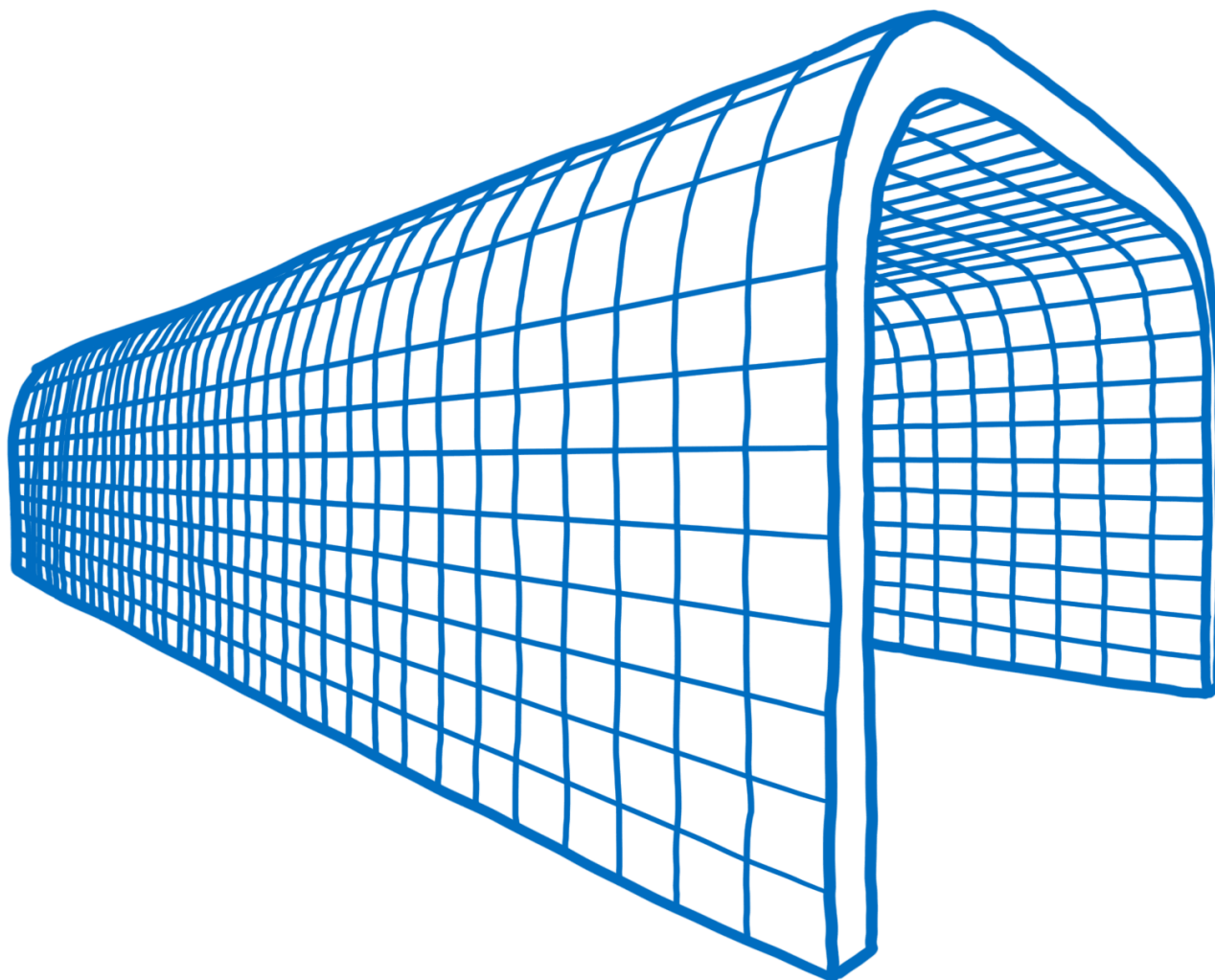
compact



linear memory

MVP



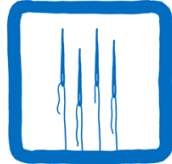




MAKING USE OF MODERN HARDWARE

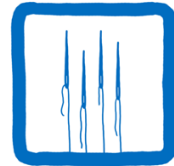


MAKING USE OF MODERN HARDWARE

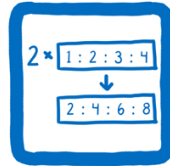


threading

MAKING USE OF MODERN HARDWARE

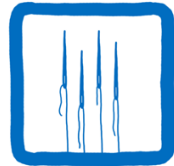


threading

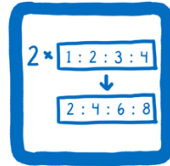


SIMD

MAKING USE OF MODERN HARDWARE



threading

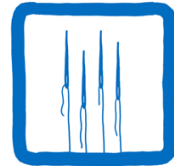


SIMD

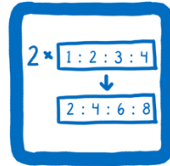


wasm64

MAKING USE OF MODERN HARDWARE



threading



SIMD

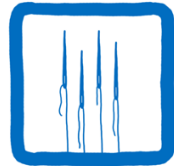


wasm64

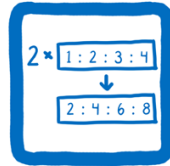
LOADTIME IMPROVEMENTS



MAKING USE OF MODERN HARDWARE



threading



SIMD



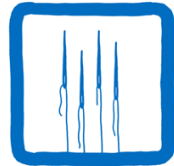
wasmp64

LOADTIME IMPROVEMENTS

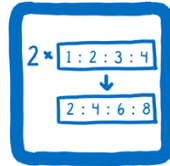


streaming
compilation

MAKING USE OF MODERN HARDWARE



threading



SIMD



wasm64

LOADTIME IMPROVEMENTS

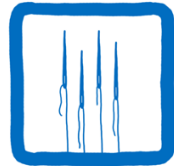


streaming
compilation

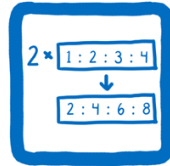


tiered
compilation

MAKING USE OF MODERN HARDWARE



threading



SIMD



wasm64

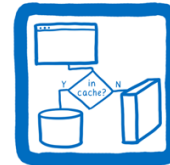
LOADTIME IMPROVEMENTS



streaming
compilation

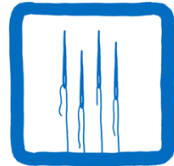


tiered
compilation

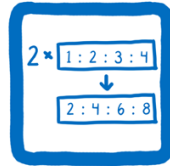


implicit HTTP
caching

MAKING USE OF MODERN HARDWARE



threading



SIMD



wasm64

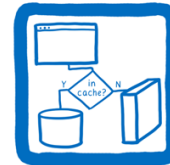
LOADTIME IMPROVEMENTS



streaming
compilation



tiered
compilation

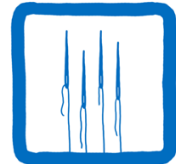


implicit HTTP
caching

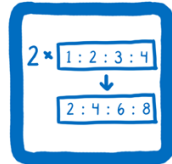


other
improvements

MAKING USE OF MODERN HARDWARE



threading



SIMD



wasm64

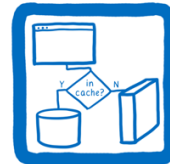
LOADTIME IMPROVEMENTS



streaming
compilation



tiered
compilation

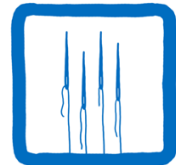


implicit HTTP
caching

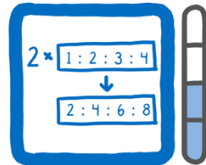


other
improvements

MAKING USE OF MODERN HARDWARE



threading



SIMD



wasm64

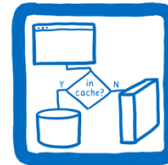
LOADTIME IMPROVEMENTS



streaming
compilation



tiered
compilation

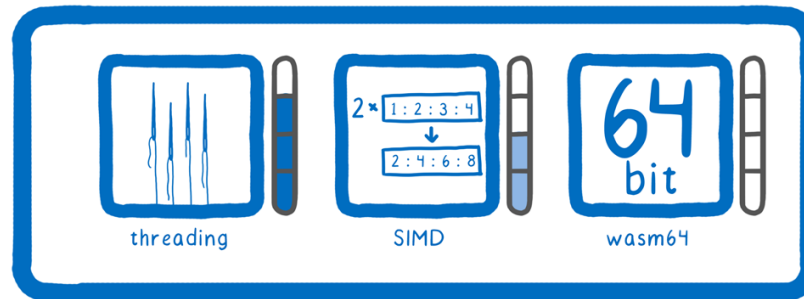


implicit HTTP
caching

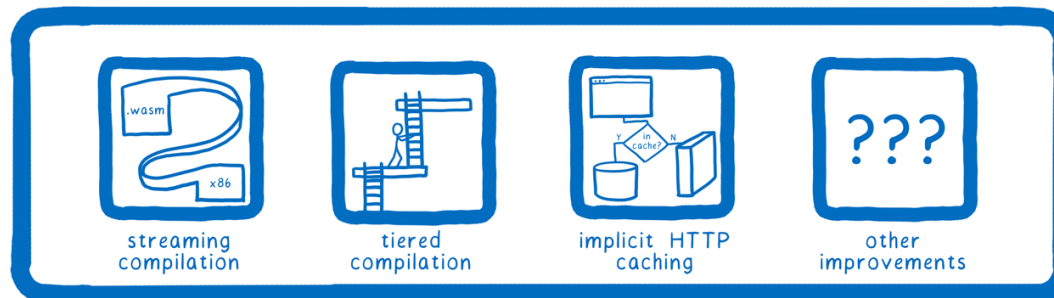


other
improvements

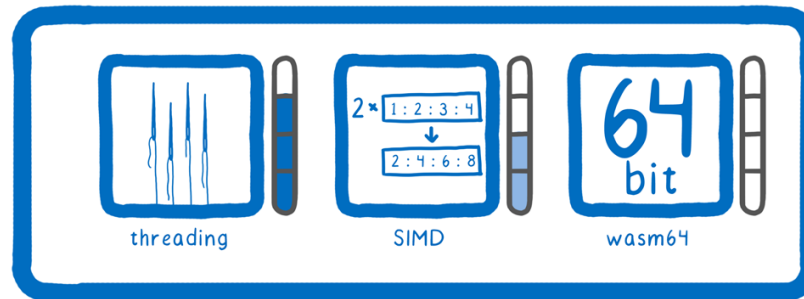
MAKING USE OF MODERN HARDWARE



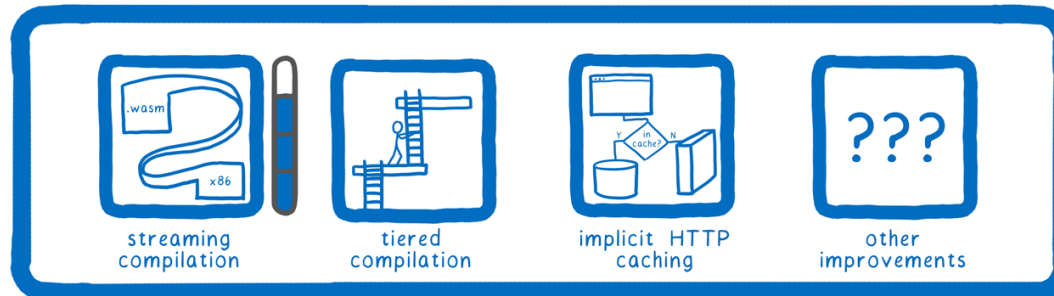
LOADTIME IMPROVEMENTS



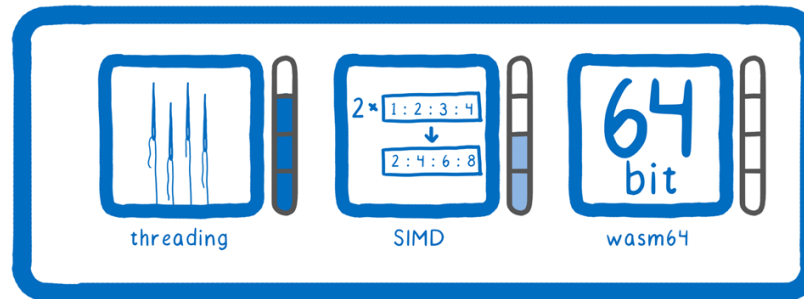
MAKING USE OF MODERN HARDWARE



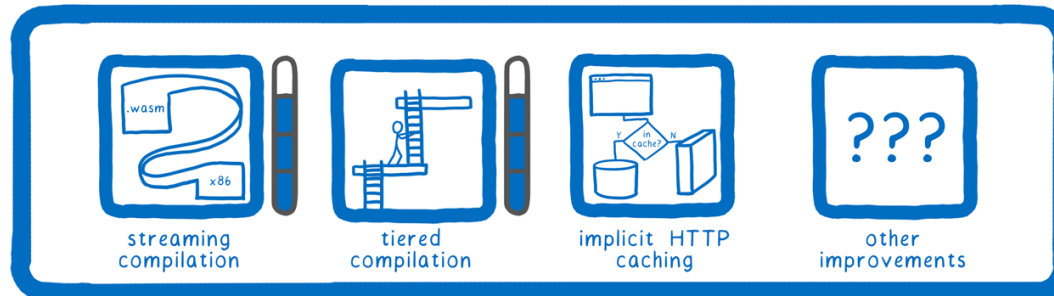
LOADTIME IMPROVEMENTS



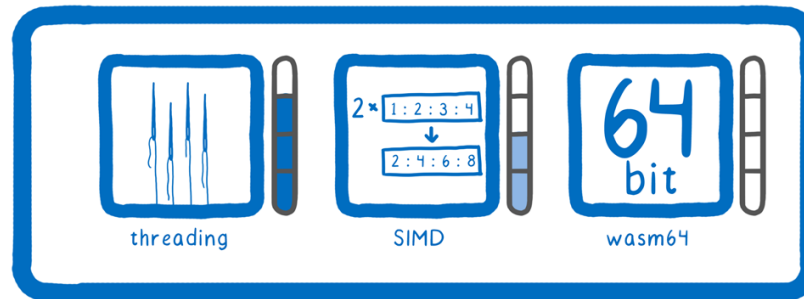
MAKING USE OF MODERN HARDWARE



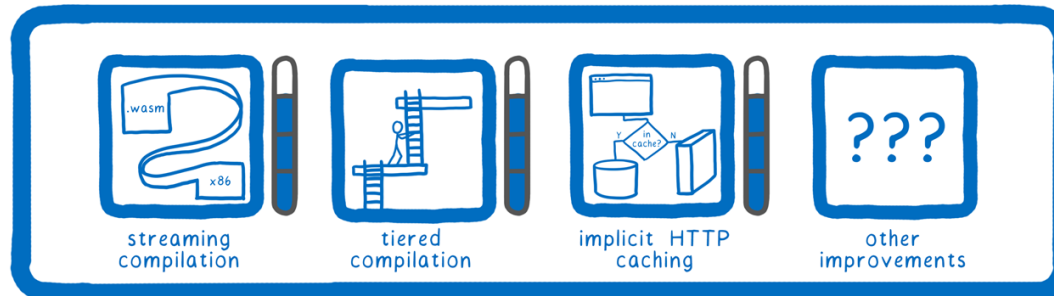
LOADTIME IMPROVEMENTS



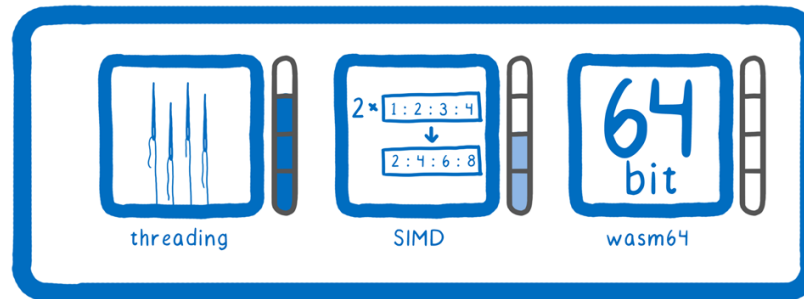
MAKING USE OF MODERN HARDWARE



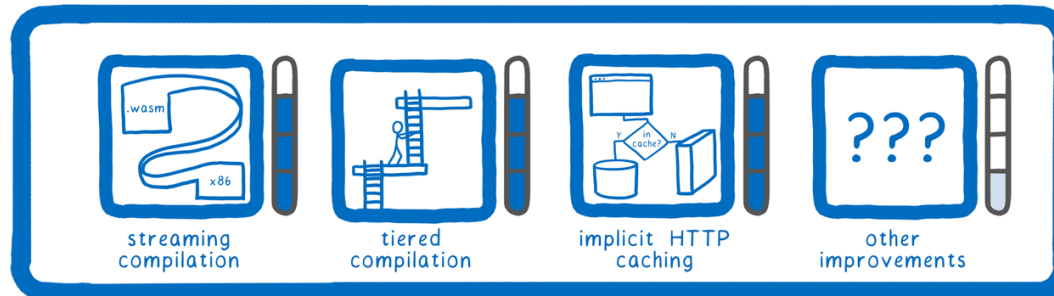
LOADTIME IMPROVEMENTS

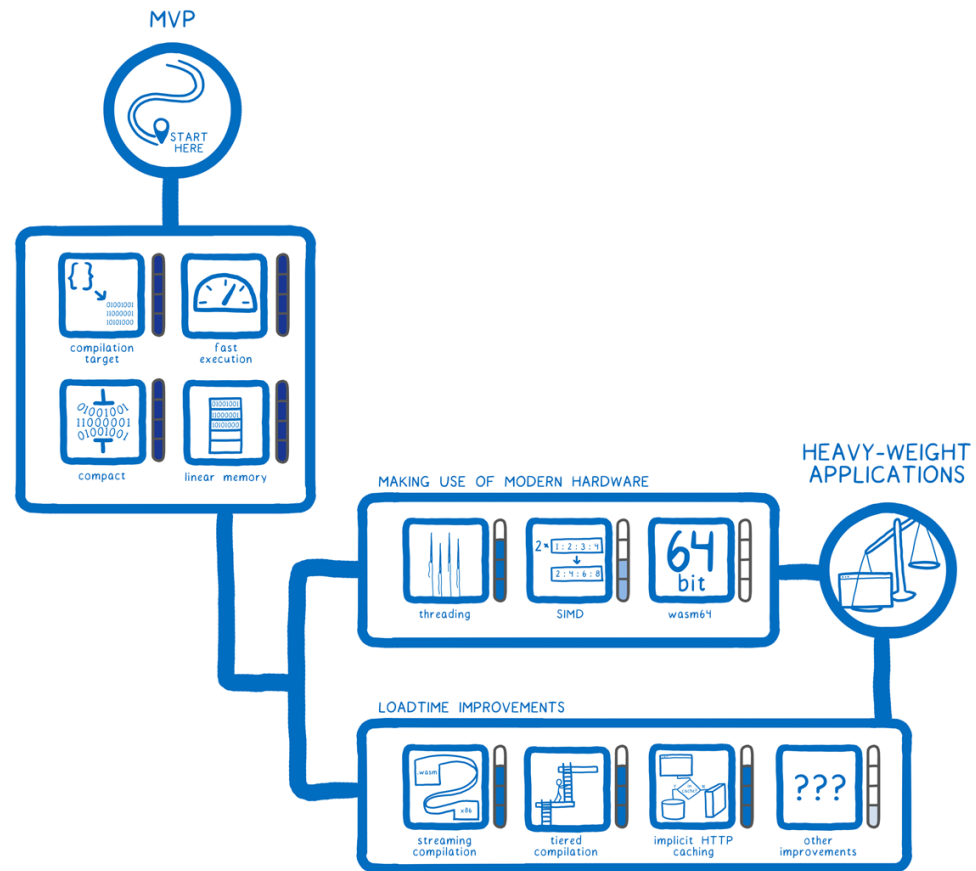


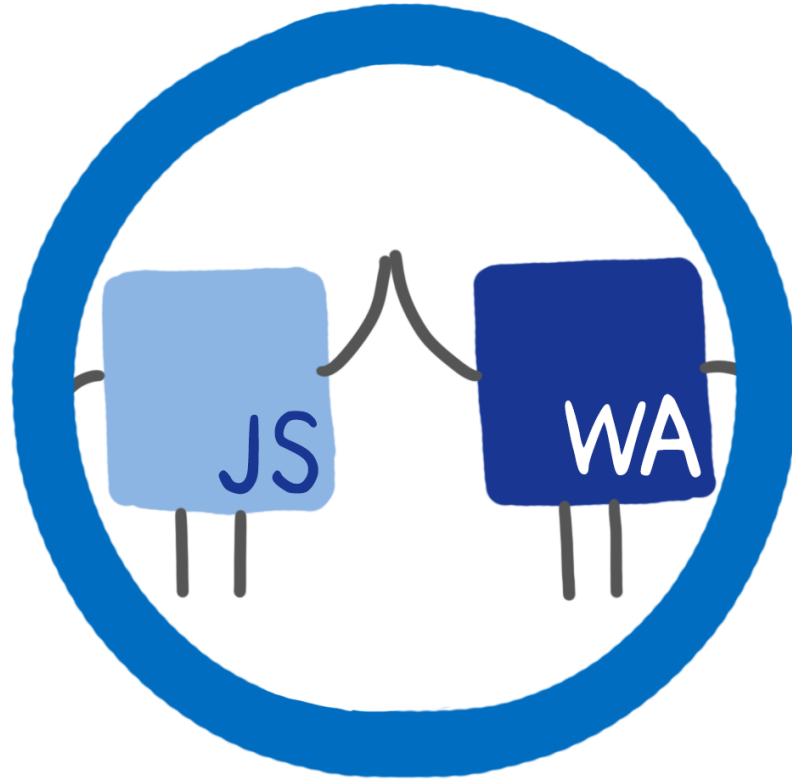
MAKING USE OF MODERN HARDWARE



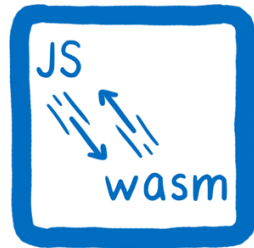
LOADTIME IMPROVEMENTS



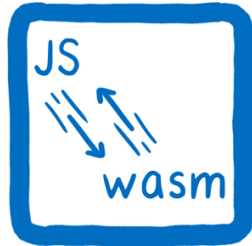




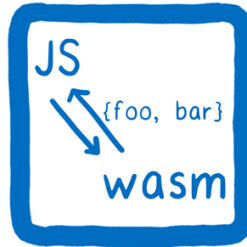




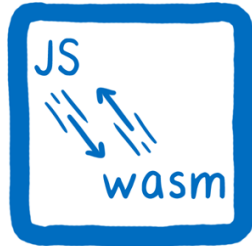
fast calls
JS $\leftrightarrow$ wasm



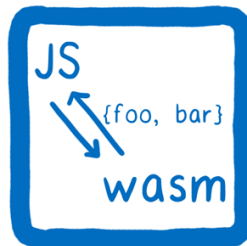
fast calls
JS $\leftrightarrow$ wasm



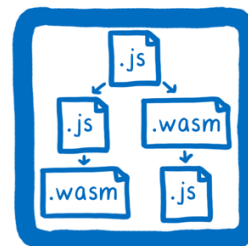
easy & fast
data exchange



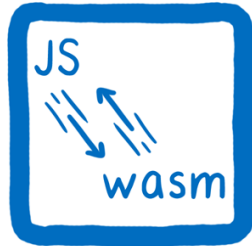
fast calls
JS <->wasm



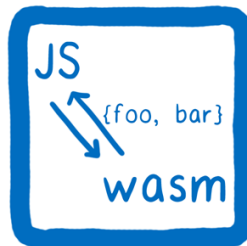
easy & fast
data exchange



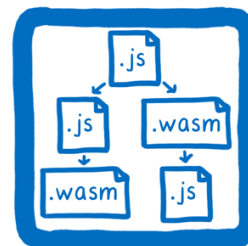
ES module
integration



fast calls
JS $\leftrightarrow$ wasm



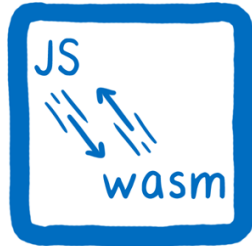
easy & fast
data exchange



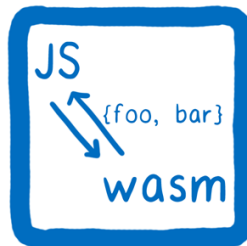
ES module
integration



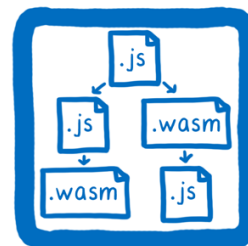
toolchain
integration



fast calls
JS $\leftrightarrow$ wasm



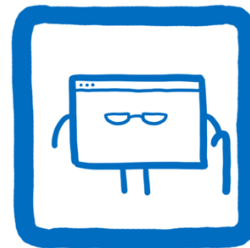
easy & fast
data exchange



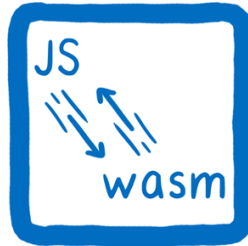
ES module
integration



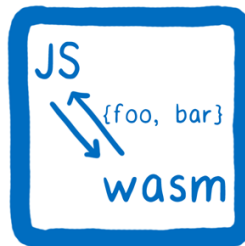
toolchain
integration



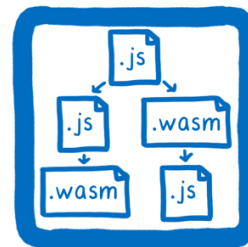
backwards
compatibility



fast calls
JS $\leftrightarrow$ wasm



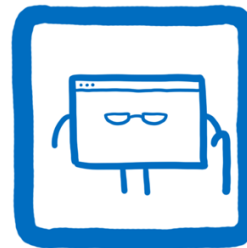
easy & fast
data exchange



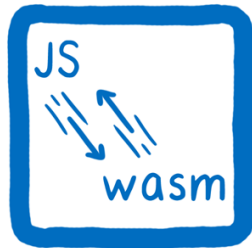
ES module
integration



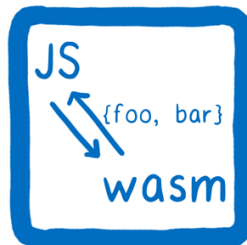
toolchain
integration



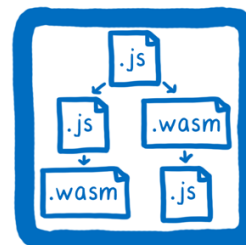
backwards
compatibility



fast calls
JS $\leftrightarrow$ wasm



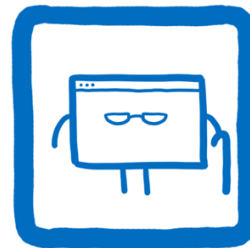
easy & fast
data exchange



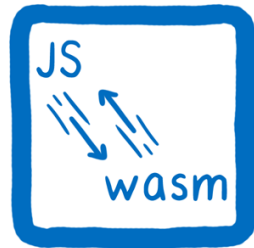
ES module
integration



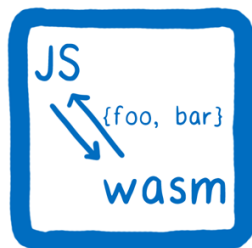
toolchain
integration



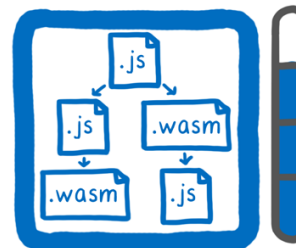
backwards
compatibility



fast calls
JS $\leftrightarrow$ wasm



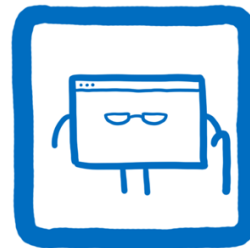
easy & fast
data exchange



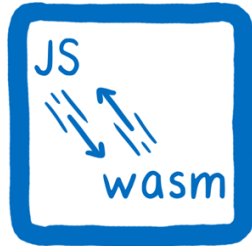
ES module
integration



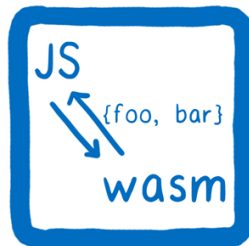
toolchain
integration



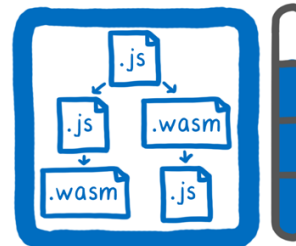
backwards
compatibility



fast calls
JS $\leftrightarrow$ wasm



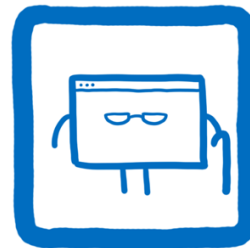
easy & fast
data exchange



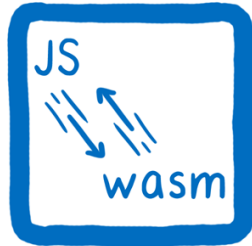
ES module
integration



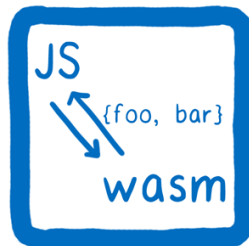
toolchain
integration



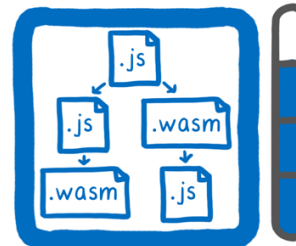
backwards
compatibility



fast calls
JS $\leftrightarrow$ wasm



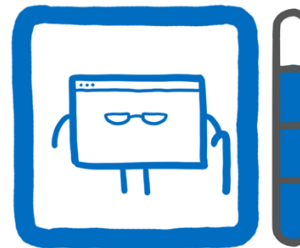
easy & fast
data exchange



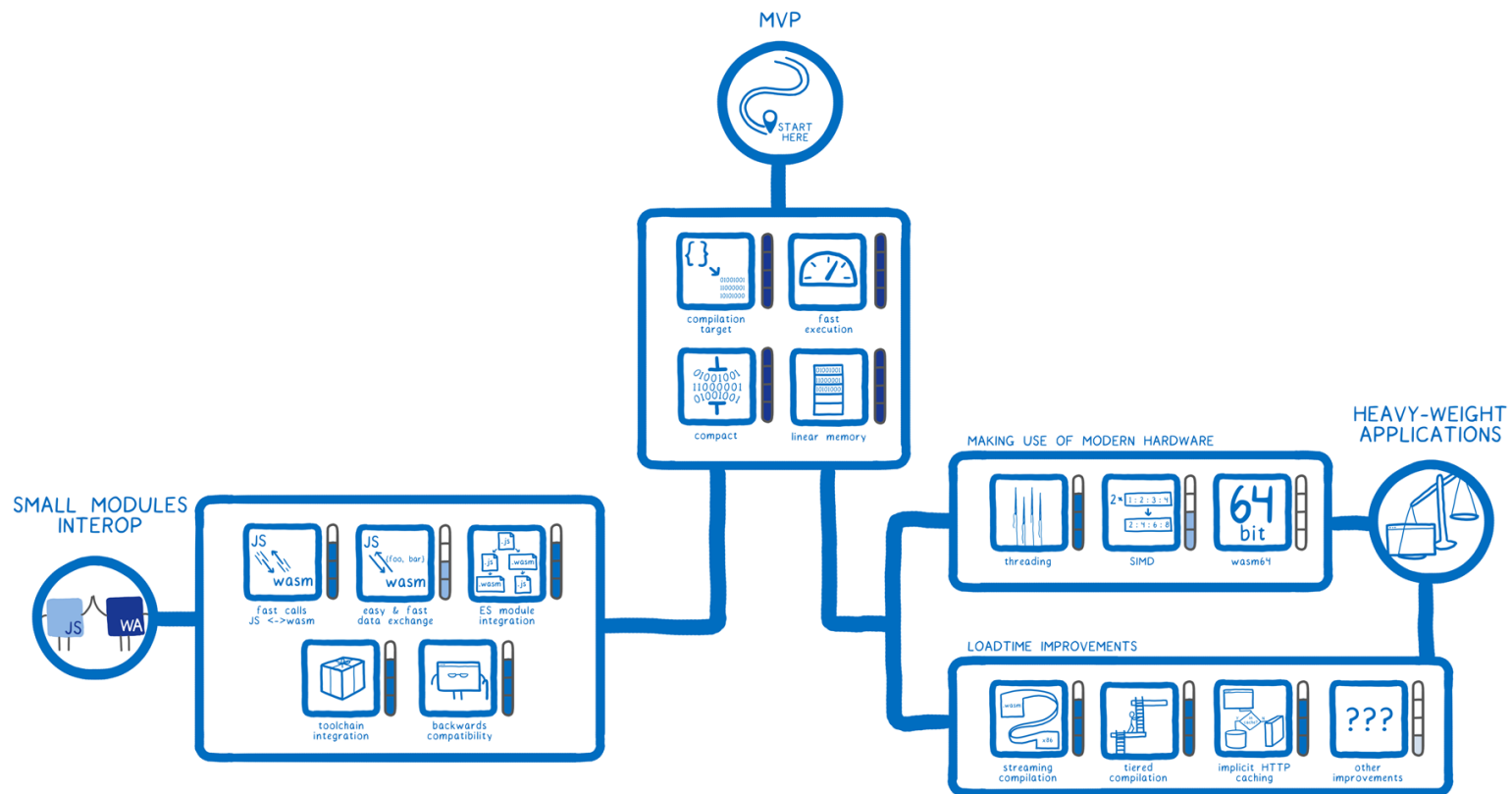
ES module
integration

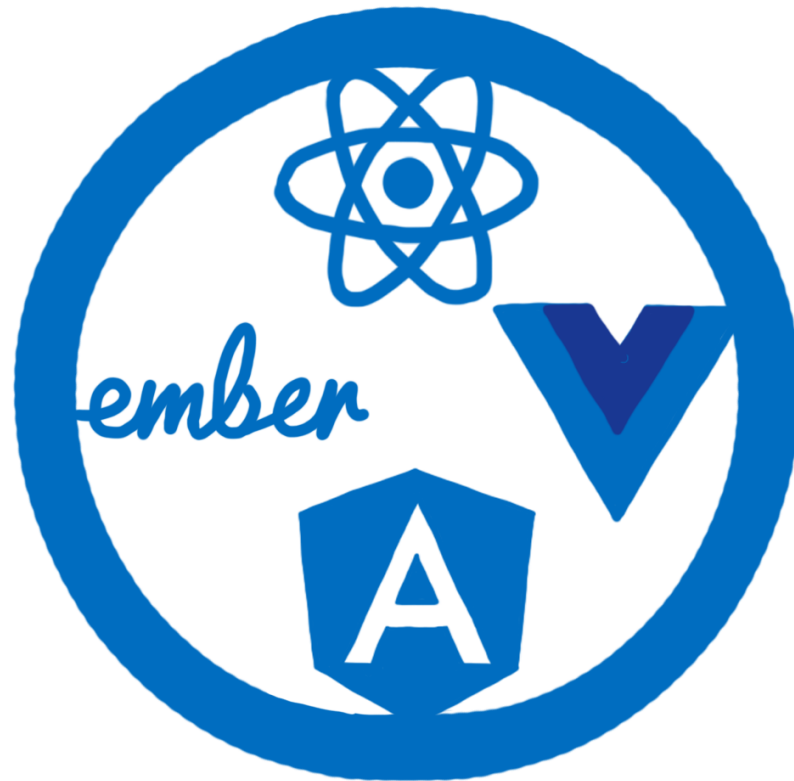


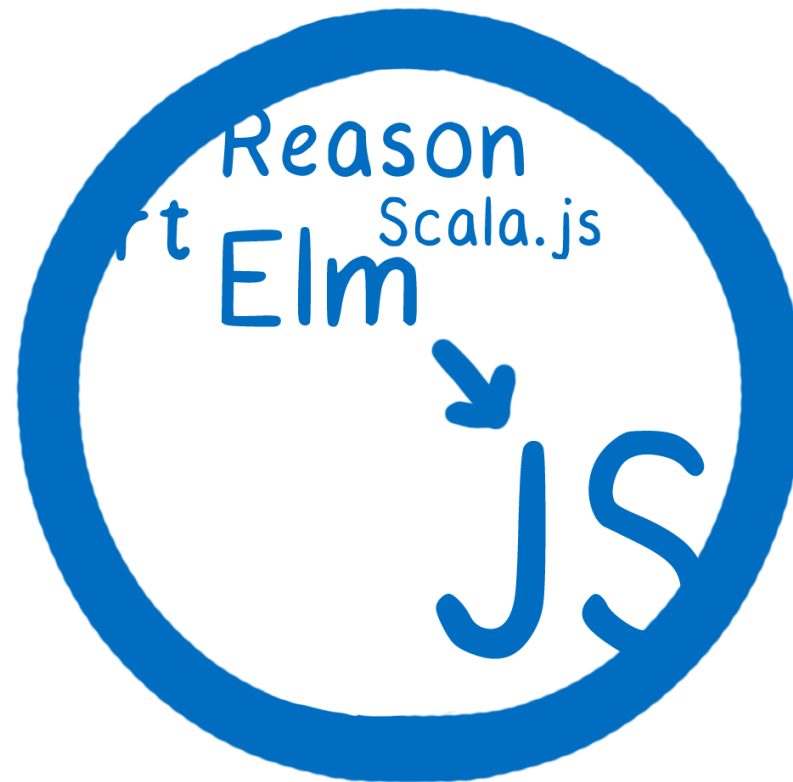
toolchain
integration



backwards
compatibility







HIGH LEVEL LANGUAGE FEATURES



HIGH LEVEL LANGUAGE FEATURES



GC integration

HIGH LEVEL LANGUAGE FEATURES



GC integration



exception
handling

HIGH LEVEL LANGUAGE FEATURES



GC integration



exception
handling



debugging

HIGH LEVEL LANGUAGE FEATURES



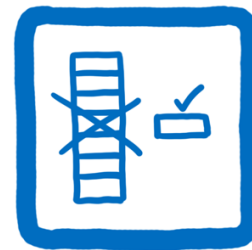
GC integration



exception
handling



debugging



tail calls

HIGH LEVEL LANGUAGE FEATURES



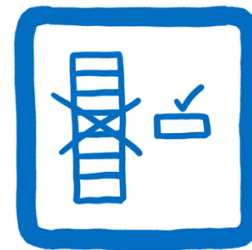
GC integration



exception
handling



debugging



tail calls

HIGH LEVEL LANGUAGE FEATURES



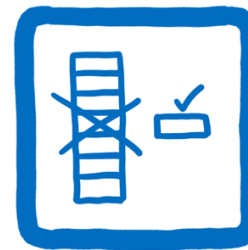
GC integration



exception
handling



debugging



tail calls

HIGH LEVEL LANGUAGE FEATURES



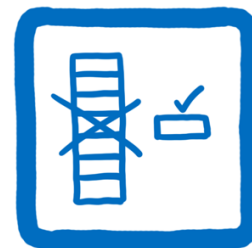
GC integration



exception
handling



debugging



tail calls

HIGH LEVEL LANGUAGE FEATURES



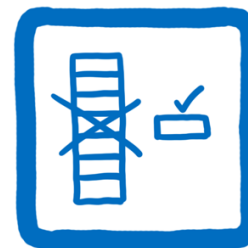
GC integration



exception
handling

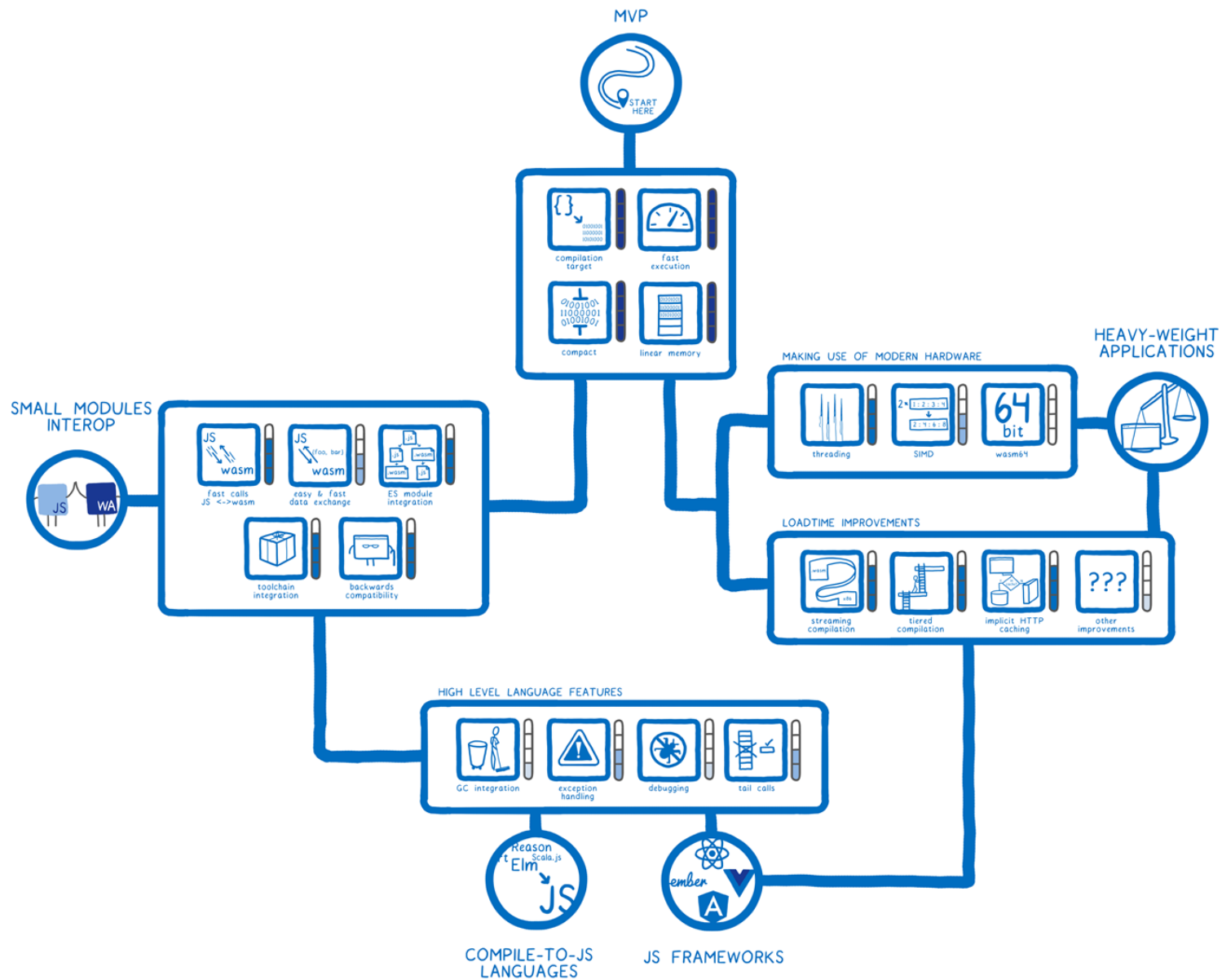


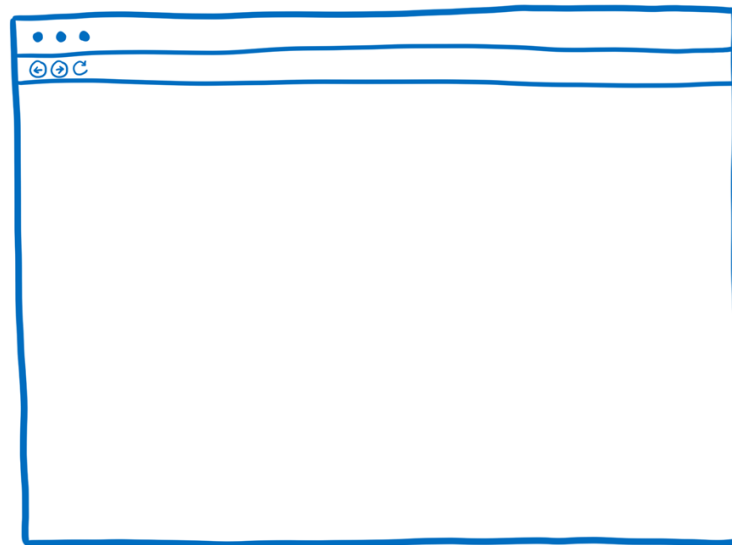
debugging



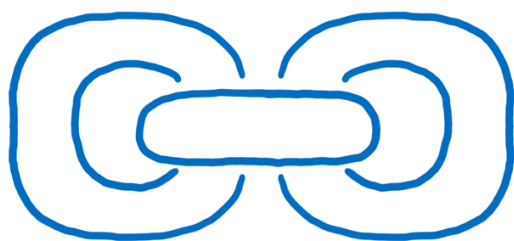
tail calls

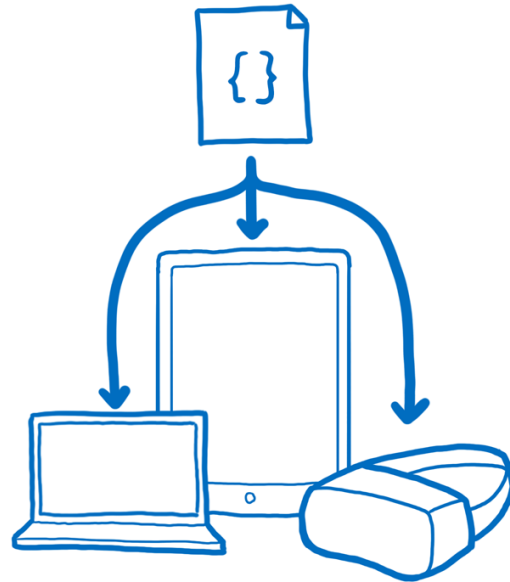




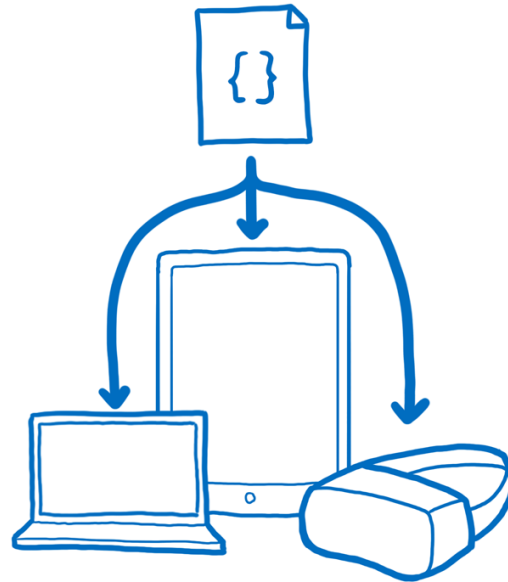






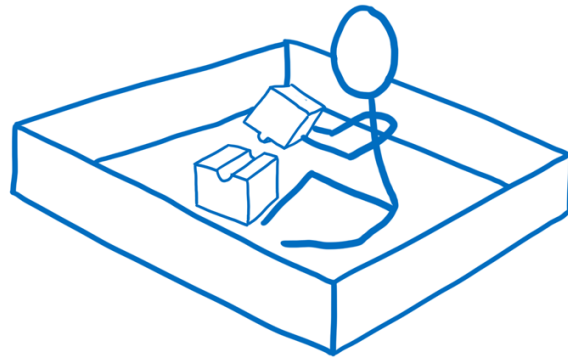


portability



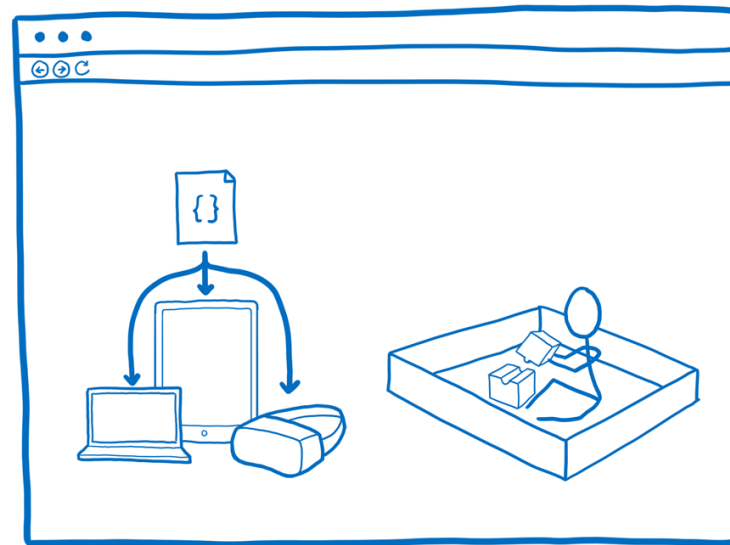
security

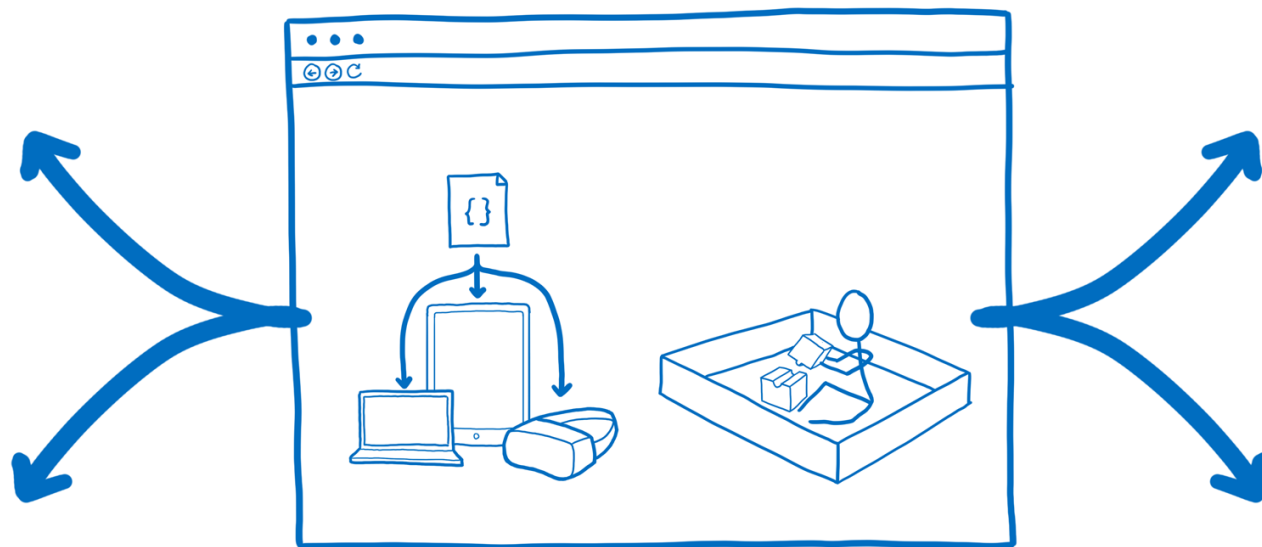
security

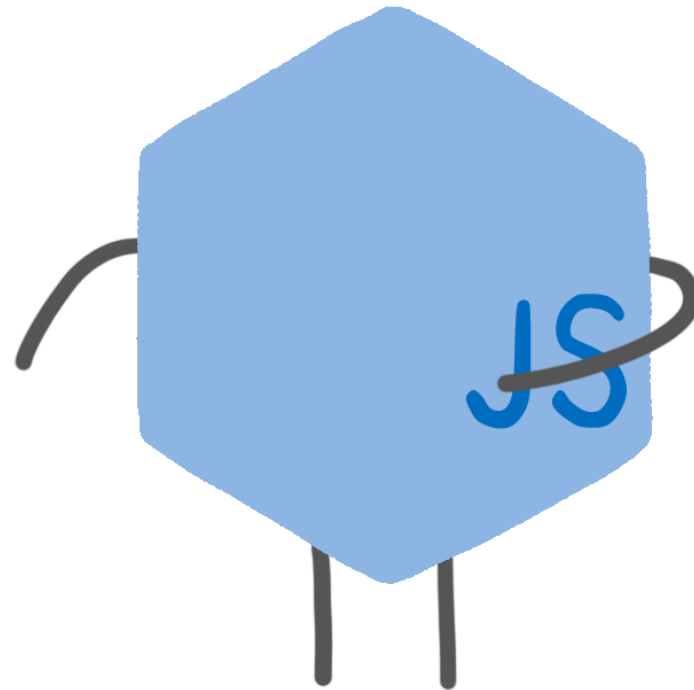


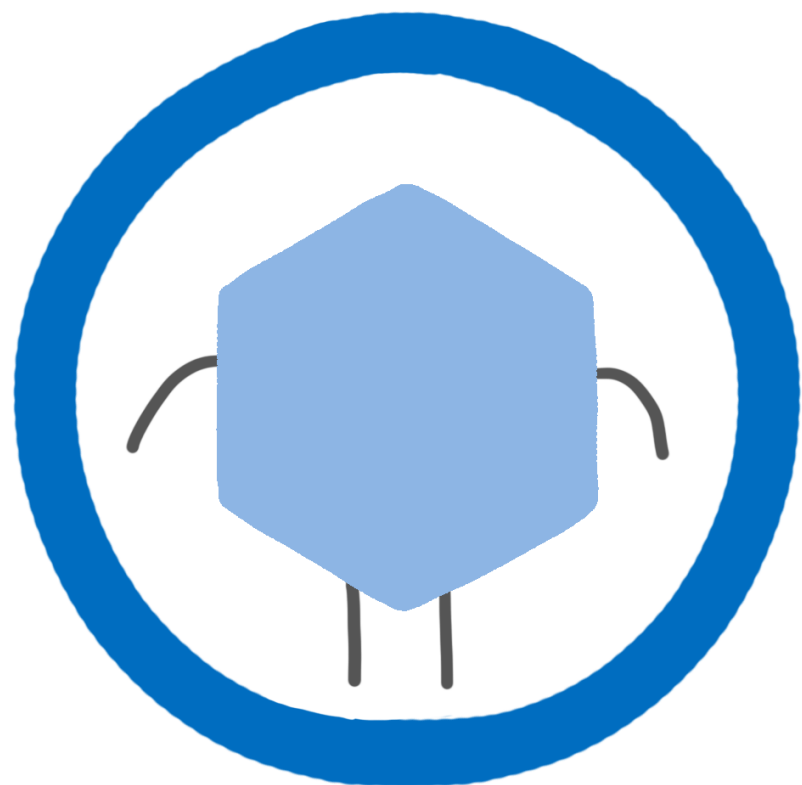


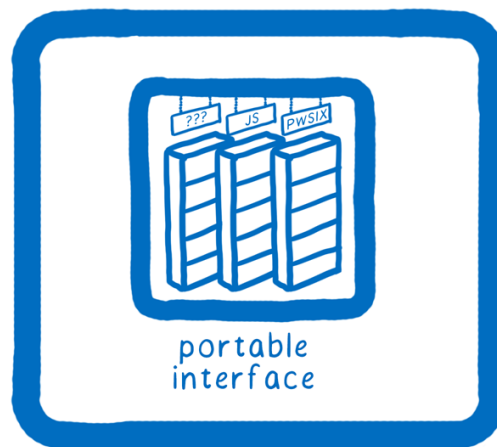


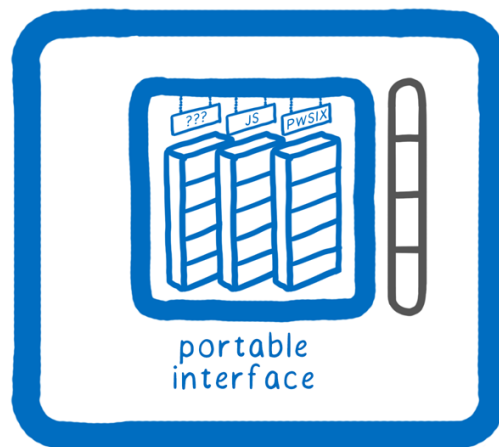


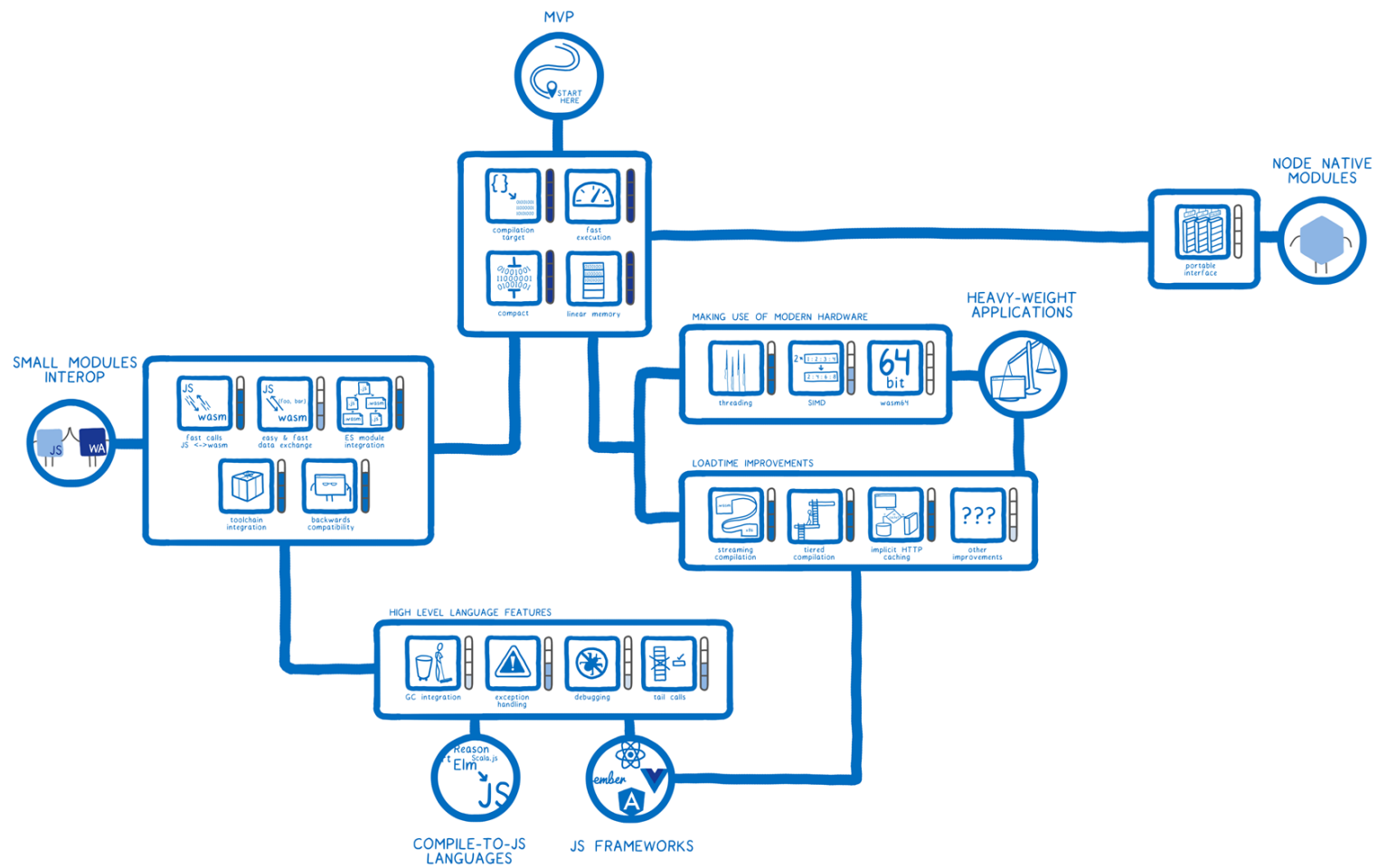




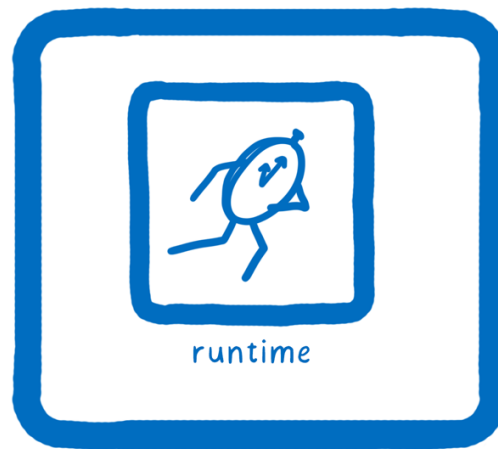


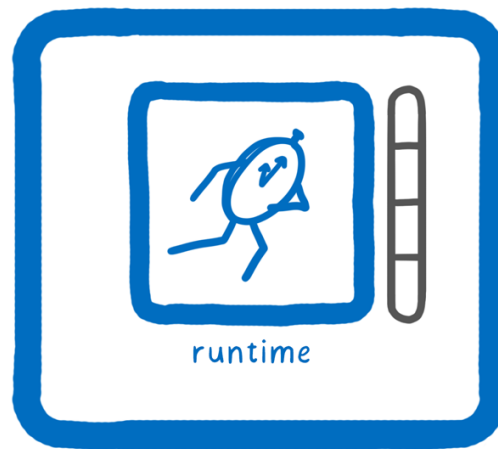


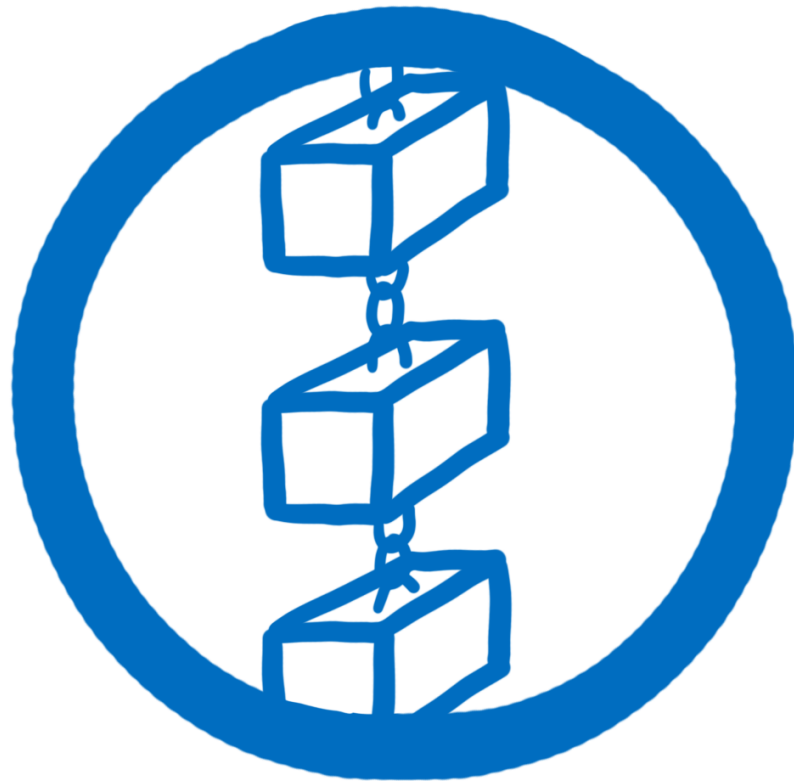


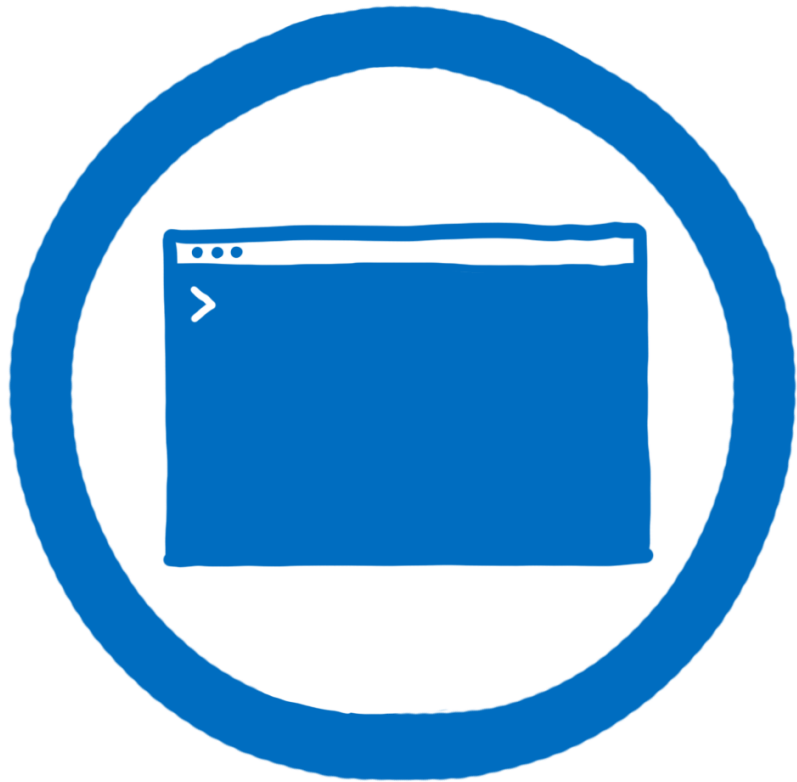


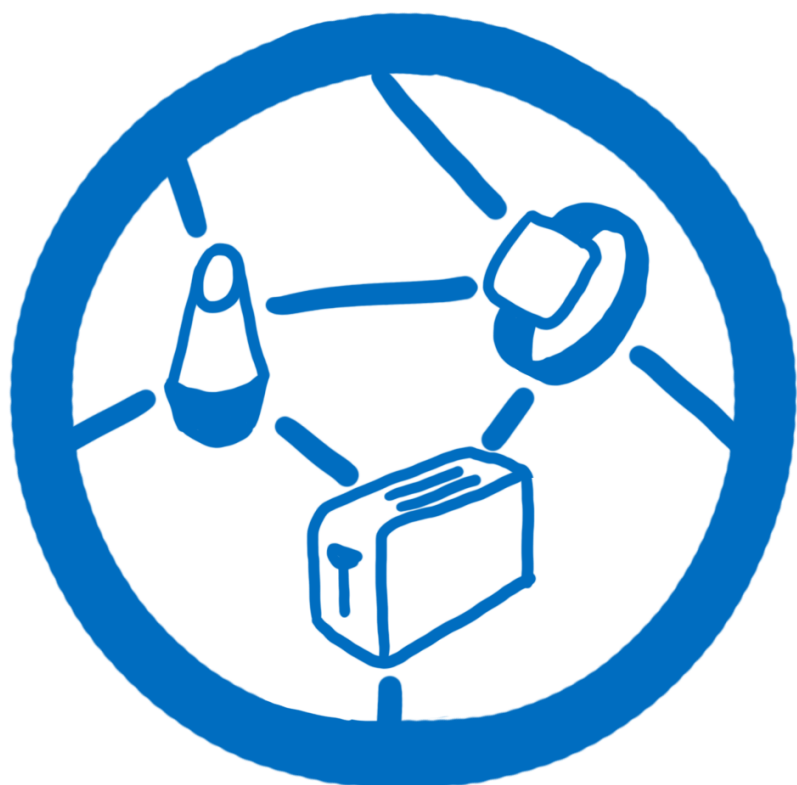


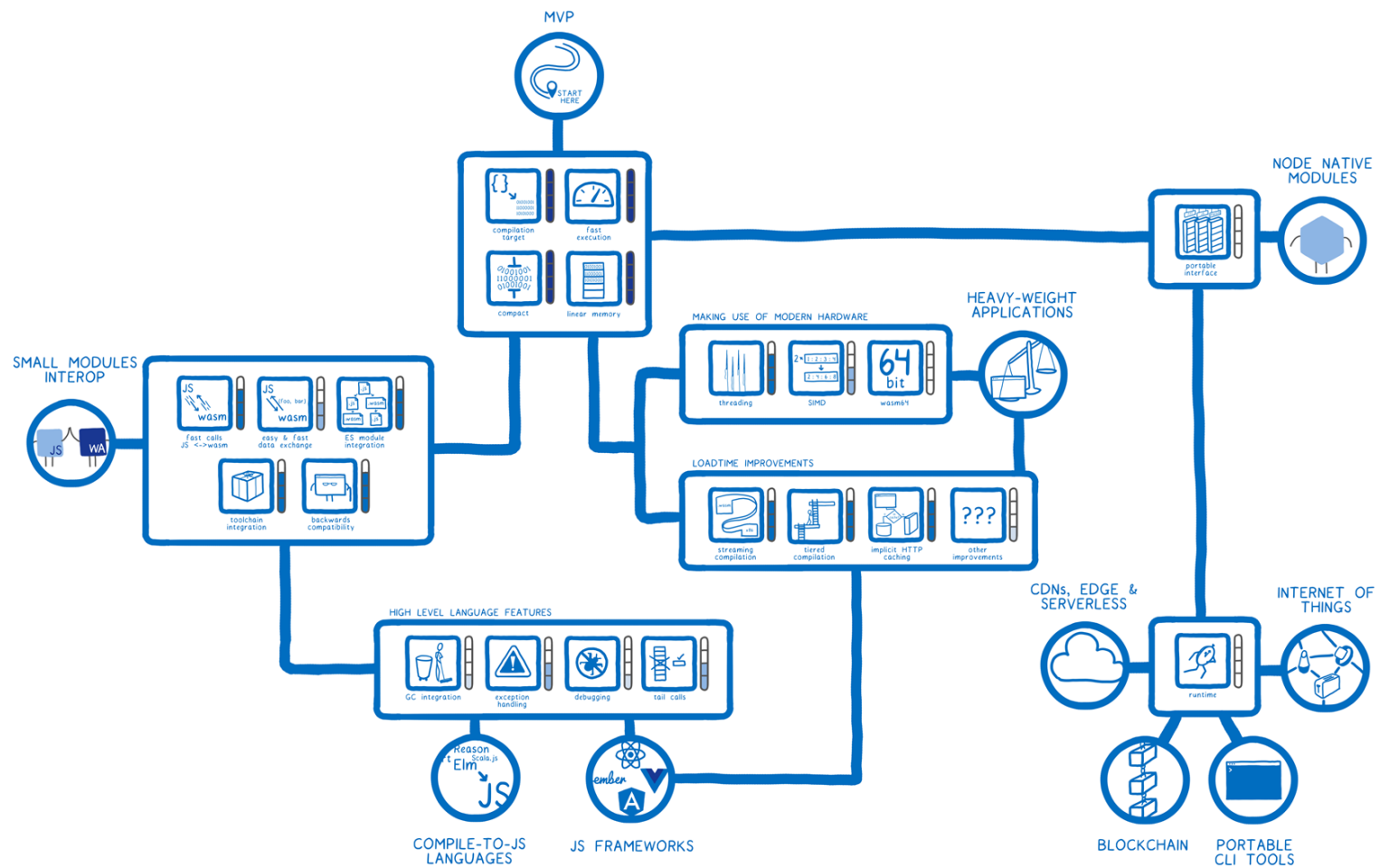












Luke Wagner
@luke_wagner

Till Schneider
@tschneider

Thank you