

TIM OXLEY

MODULAR VS MONOLITH

GOOD

MORNING!

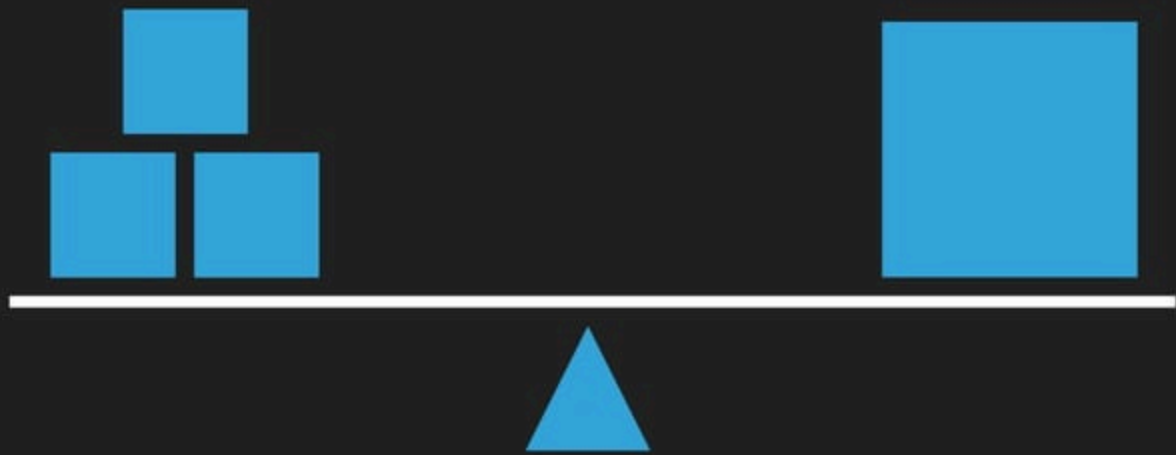




TIM OXLEY

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MODULAR VS MONOLITH

ME IN 2012: 🧒

ME IN 2012:

“AVOID FRAMEWORKS”



ME IN 2012:

“BUILD LIBRARIES INSTEAD”



BUILDING A LIBRARY

- ▶ Reusable!
- ▶ More Robust!
- ▶ Higher Quality Code!
- ▶ Better Documentation!
- ▶ Better Tests!
- ▶ Open Source!

ME IN 2012:

“LIBRARY-FIRST DEVELOPMENT” 🎵

ME IN 2015:

**“YES BUT, THERE ARE SOME
MAJOR CAVEATS...”** 🤔

RABBIT HOLES
EVERYWHERE



**LIBRARIES ARE A
LOT OF WORK** 🧡

NOTHING

FOR FREE



MOST OF THE TIME:

YAGNI





WHAT PROBLEM AM I TRYING TO
SOLVE?

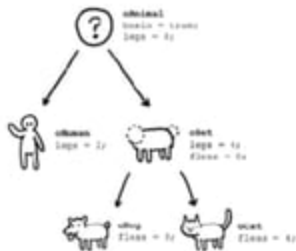
IS THIS THE SIMPLEST THING THAT
WILL WORK? 🛁

**NOT EVERYTHING NEEDS A
MILITARY-GRADE
SOLUTION**

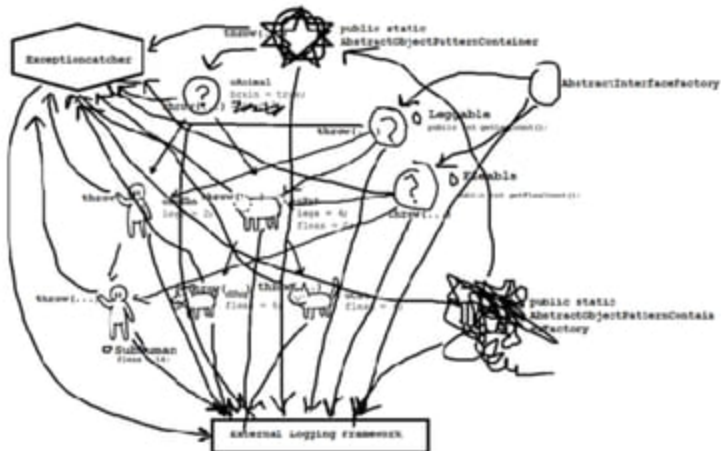
**ENGINEERS HAVE A
STRONG URGE TO
OVER-ENGINEER**

ENGINEERS OFTEN
BUILD THINGS WE WANT,
RATHER THAN THINGS
WE NEED

What OOP users claim



What actually happens



**ENGINEERS OFTEN SPEND
HOURS TO
SAVE MINUTES**

OVER-ENGINEERING: THE ADDING OF UNNECESSARY COMPLEXITY

COMPLEXITY KILLS
PROJECTS 

OVER-ENGINEERING
IS MORE COMMON THAN
UNDER-ENGINEERING 🖨️

CAN YOU PASS
THE SALT?

I SAID—
I KNOW! I'M DEVELOPING
A SYSTEM TO PASS YOU
ARBITRARY CONDIMENTS.

IT'S BEEN 20
MINUTES!

IT'LL SAVE TIME
IN THE LONG RUN!

**OVER-ENGINEERING
IS MORE COSTLY THAN
UNDER-ENGINEERING** 💰

DEFER

DECISIONS



**THE WRONG STRUCTURE CAN BE
MORE COSTLY
THAN NO STRUCTURE AT ALL 🎷**

**STRUCTURE CAN BE MORE EASILY
EXTRACTED FROM LOOSE STRUCTURE.**

**INCORRECT & COMPLEX STRUCTURE
NEEDS TO BE TORN DOWN BEFORE
BUILDING NEW STRUCTURE**

**ASSUME YOUR FIRST
ATTEMPT WILL BE BAD** 🍌

**MAKE DECISIONS THAT
ARE EASY TO REVERSE**

**OPTIMISE FOR
DELETION**


**DRAW IN PENCIL BEFORE
YOU DRAW IN INK** 

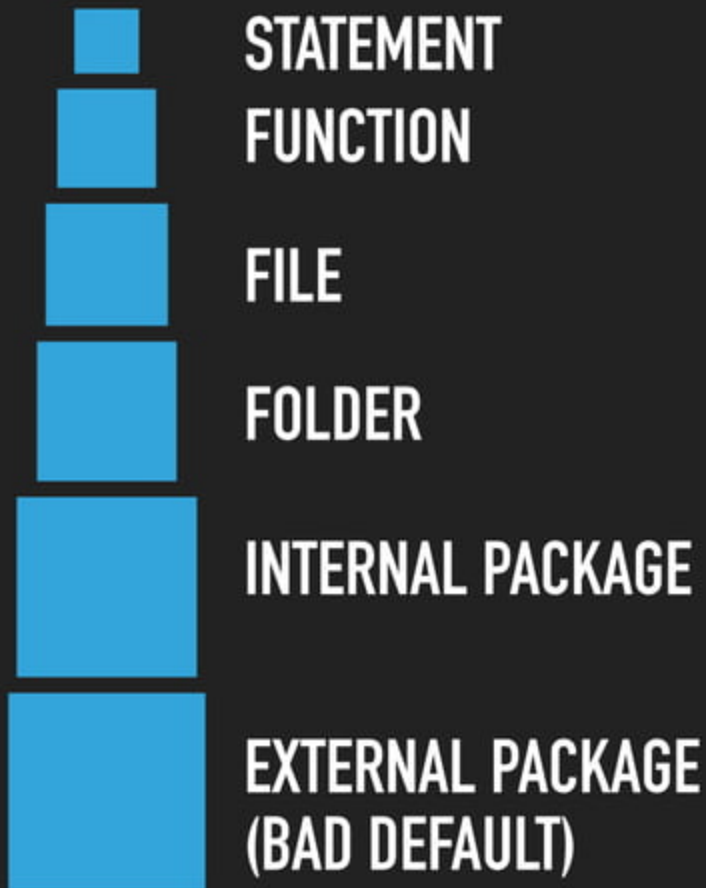
**BEST WAY TO PLAN FOR INEVITABLE,
UNEXPECTED CHANGES: DON'T INVEST TOO
MUCH IN SOLVING TODAY'S PROBLEMS**

**THE PERFECT SOLUTION FOR TODAY MAY BE A
TERRIBLE SOLUTION FOR TOMORROW**

TREAD LIGHTLY

NODE.JS: CULTURE OF EXTREME MODULARITY 🌯

**PUBLISHING TO NPM IS
NOT THE ONLY WAY TO DO
“MODULAR” CODE.** 



AVOID

PREMATURE

ABSTRACTION



ABSTRACTIONS
DECREASE LOCAL COMPLEXITY
WHILE
INCREASING GLOBAL COMPLEXITY 🍩


**BUILDING THE WRONG
THING FOR THE RIGHT
REASONS**



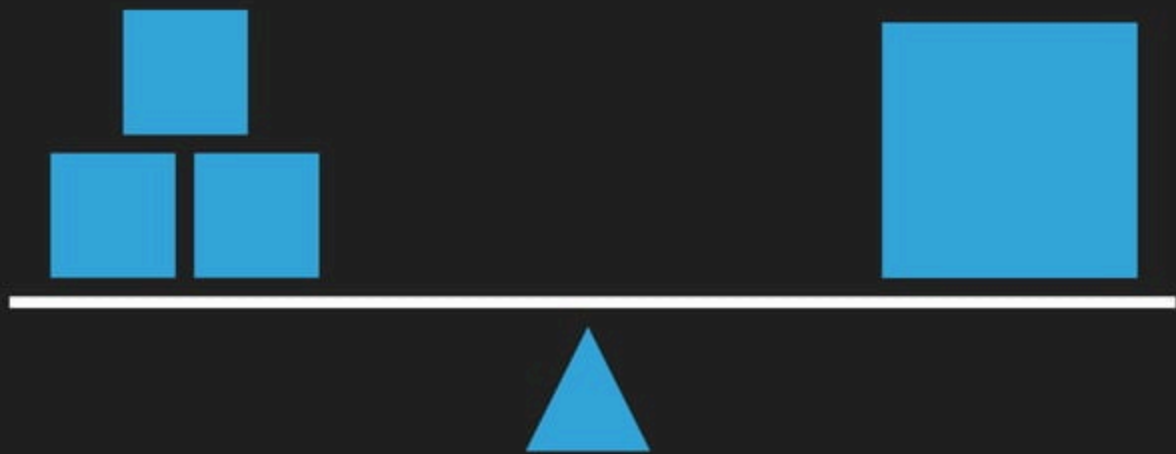
**FLAT IS BETTER
THAN NESTED** 🌈

FLAT IS BETTER THAN NESTED APPLIES AT ALL LEVELS

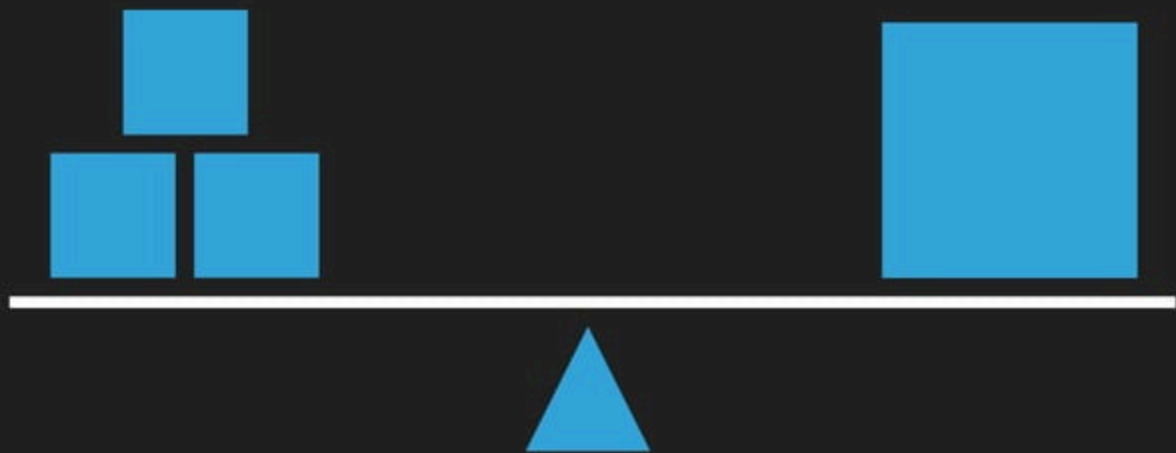
- ▶ At the *statement* level: avoid nested if/else.
- ▶ At the *function* level: avoid unnecessary nested calls
- ▶ At the *class* level: avoid deeply inheritance hierarchies.
- ▶ At the *file* level: avoid deeply nested directories.
- ▶ At the *project* level: avoid deeply nested projects.

**BUILD THE SIMPLEST
THING THAT WORKS** 

THE SIMPLEST THING
IS PROBABLY FLAT 



MODULAR VS MONOLITH



**THE SWEET SPOT IS
SOMEWHERE IN THE MIDDLE**



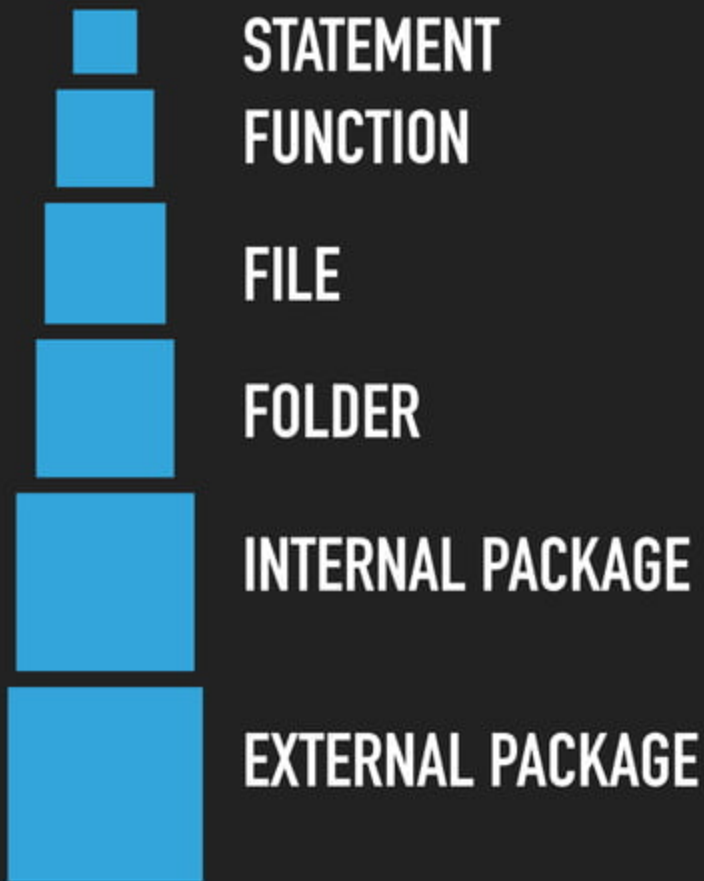
A MODULITH?

MONOLITH

FIRST



PROGRESSIVE MODULARISATION ✂



OPEN SOURCE
LATER



**MAKE SURE WHAT YOU'RE
BUILDING ACTUALLY MAKE SENSE
AND IS USEFUL IN PRODUCTION.**

LESS ABANDONWARE



openopensource.org

LESS

OVER-ENGINEERING



**BUILD THE SIMPLEST
THING THAT WORKS 🎷**

AVOID
UNNECESSARY
COMPLEXITY



THANK YOU!

@secoif

github.com/timoxley

campjs.com

Tech Camp 2007



The Snowflake Effect

Unique is What We Seek!

Autodesk

Wayne Hodgins

IGNITE



¿Que se necesita para ser una
buena desarrolladora?

Isabel Palomar

IGNITE




¿Que se necesita para ser una
buena desarrolladora?

Isabel Palomar

The background of the slide is a photograph of a person sitting on a rocky outcrop, silhouetted against a warm, orange-hued sunset sky. The person is positioned on the right side of the frame, looking out over a hazy landscape.

INCREASING HUMAN PROBLEM-SOLVING CAPACITY THROUGH DESIGN

DENNIS HAMBEUKERS
STRATEGIC DESIGN CONSULTANT @ZUIDERLICHT
NADC19
JUNE 22ND 2019



Slides at
www.coolcatteacher.com

#ccssconf2013

Common Core in the Cloud



Vicki A. Davis

Teacher, IT Director

@coolcatteacher

Co-founder, Flat Classroom™ Projects
Author, *Flattening Classrooms, Engaging Minds*

Reinventing Writing
Eye on Education
December 2013

ADVANCING THE WEB
WITHOUT BREAKING IT



汀步路，
小心滑倒！

Slip and fall down carefully!



EMERGENT PATTERNS IN

DevOps

YOUR TO-DO LIST

The Pragmatic Programmer: Chapter 1

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