

**WELCOME**

# CONWAY vs THE MONOLITH

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@nocache

**WHO AM I?**

**We are hiring!**

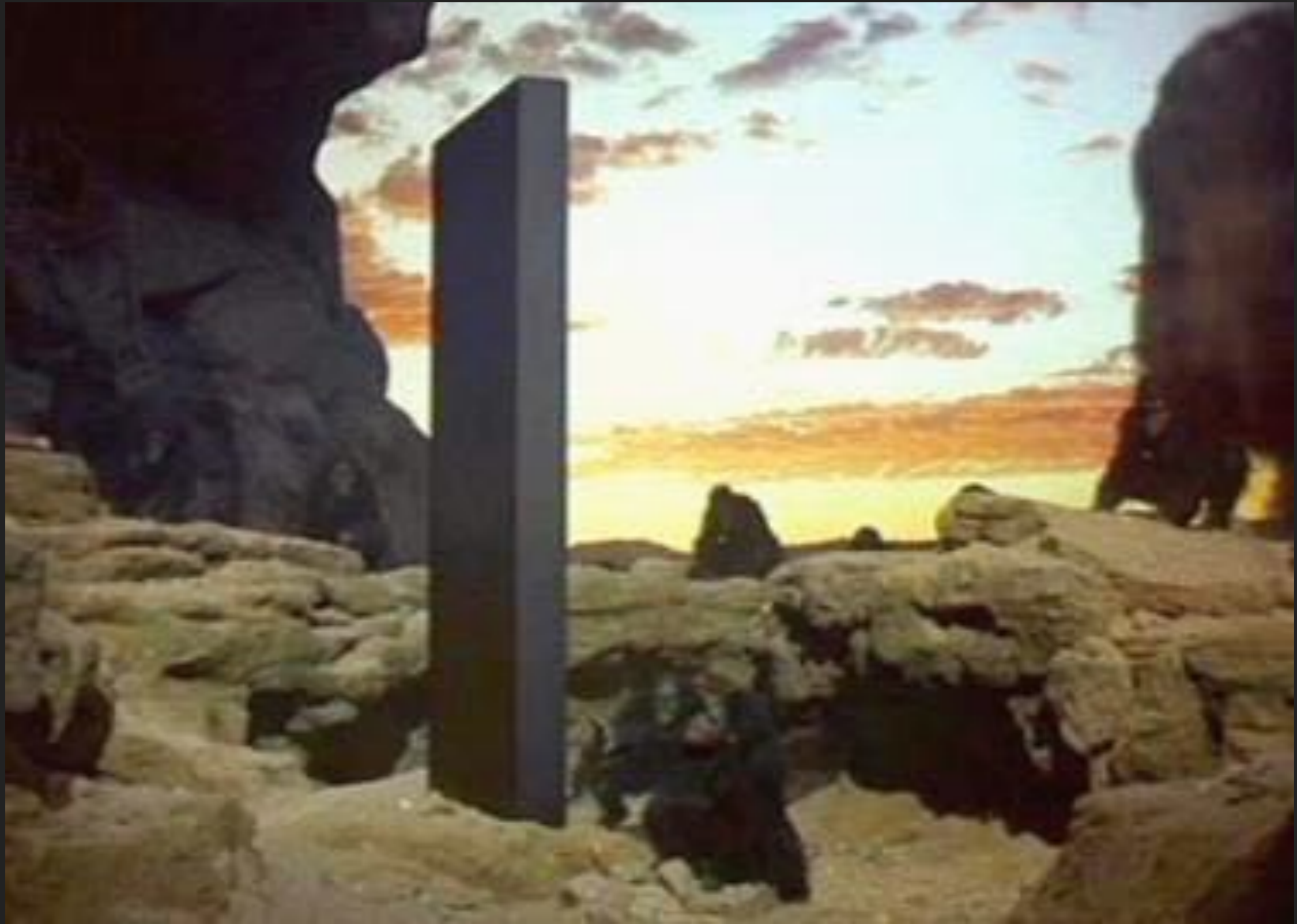
**Australia's Coolest Company for Women and Diversity  
2015 & 2016**

**One of the Best Places to Work in Australia  
2015 & 2016 BRW Awards**

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**[envato.com/careers](https://envato.com/careers)**

# THE MONOLITH



*2001: A Space Odyssey*



*Photo of Uluru by **markusgann**.*

*<https://photodune.net/item/uluru-ayers-rock-australia/7531231>*

**ENVATO MARKETPLACE**



# Everything you need for your next creative project.

Over 9 million digital products created by a global community of designers, developers, photographers, illustrators & producers.

## Search Envato Market

Themes & Templates

e.g. 'Responsive WordPress' 

## Join our global community

Envato is home to a bustling community of passionate creatives.

### Finish your project faster.

We have everything from website templates to stock footage.



Launch beautiful, responsive websites faster with themes and templates for WordPress, Joomla, Drupal, Magento, Landing Pages and more.

Browse themes & templates



Ship software faster with sliders, plugins, scripts and code for WordPress, PHP, Javascript, HTML5, Bootstrap, IOS, Android and more.

Browse code & plugins



Produce slick videos and motion graphics with a huge range of stock footage, After Effects logos and intros, Apple Motion templates and more.

Browse footage & motion

# OUR PROCESS

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We Ship!

Average 14 Deployments Per Day

Autonomous teams

Multi-disciplinary teams

We build it, we support it

# LARGE MONOLITH IS LARGE

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> 42,000 Ruby files

nearly 7 million LoC

25,000 requests per minute

> 140 million pageviews per month

# THE LIGHT ON THE HILL

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Things In

Things Out

People

Money

# CONWAY'S LAW

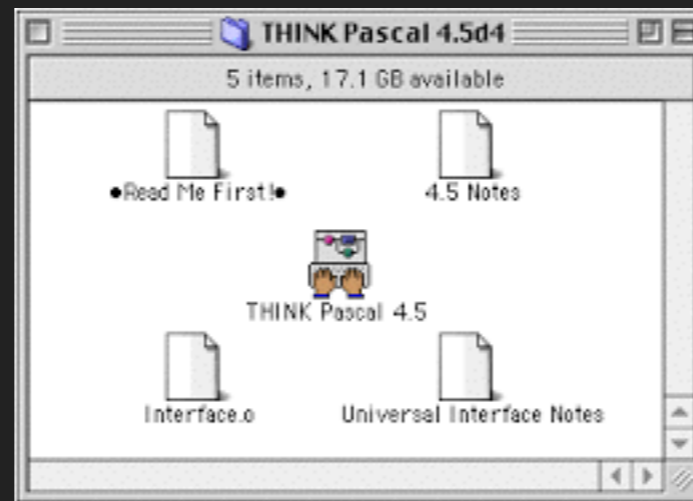
# MELVIN E. CONWAY

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# MELVIN E. CONWAY

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# CONWAY'S PAPER

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*How Do Committees Invent?*

Melvin E. Conway

Datamation magazine, April 1968



# CONWAY'S PAPER

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**Thesis:**

**Organizations which design systems are constrained to produce designs which are copies of the communication structures of these organizations.**

**How Do Committees Invent?**

**Because the design that occurs first is almost never the best possible, the prevailing system concept may need to change. Therefore, flexibility of organization is important to effective design.**

**How Do Committees Invent?**



# THE REORG

**It's all about the people**

**Andy Weir, Bankwest**

# THE TEAMS

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# THE TEAMS

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# THE TEAMS

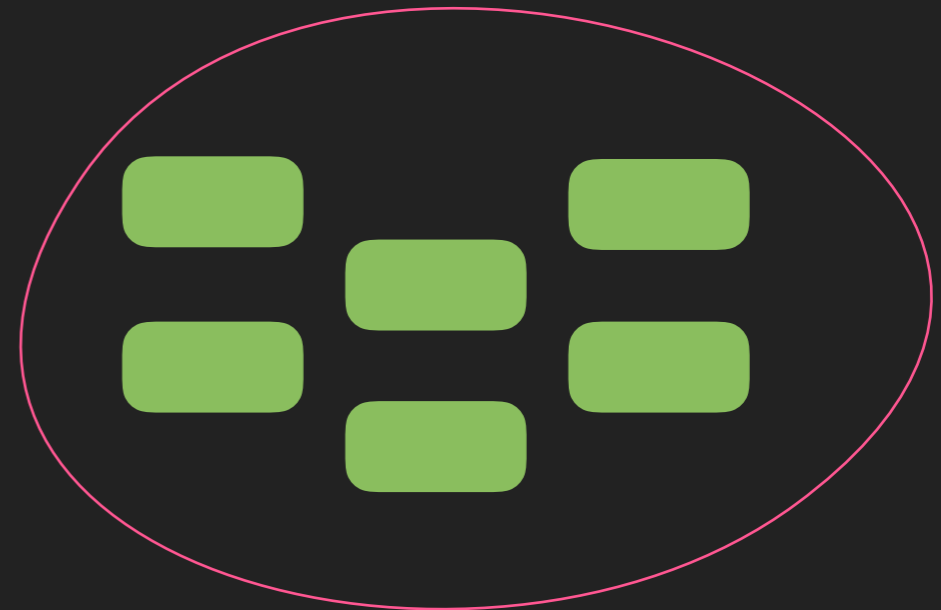
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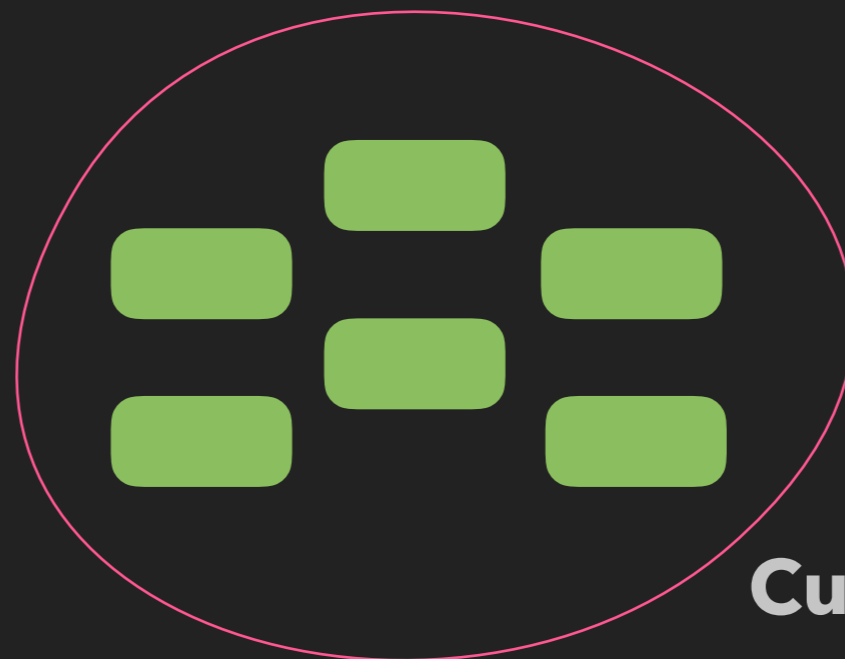
**Business  
Platform**



**Small Business**



**Content**



**Customer**

# THE REORG

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Take advantage of a  
couple of things  
that we believe are true:

# THE REORG

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1. it is easier to refactor  
*teams*  
than it is to refactor  
*software*

# THE REORG

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## 2. We believe in Conway

So, we refactored the teams into the structures we want the software to have *before the software has those structures.*

# THE LIGHT ON THE HILL

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Things In

Things Out

People

Money

# THE LIGHT ON THE HILL

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~~Things In~~ Content

~~Things Out~~ Customers

~~People~~ Business Platform

~~Money~~ Business Platform

# ORGANIZATION CHANGES

**OH: “We’ve had more Slack channels here than people for a good long while.”**

**@haruki\_zaemon**



# ON CALL ROTATIONS

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Each system belongs to  
exactly one group

We support what we own

Notice of Intent to Claim Squatters Rights  
I've been here so long that we claim squatters rights, you can't evict us without applying to the courts. So  
buyers at 10 paces! See you in CTO court.

# EVICTIION NOTICE

BY ORDER OF THE OFFICE OF  
~~BUYER WORLD~~

CUSTOMER

## NOTICE TO VACATE THE MONOLITH

The tenants Finonce and Content have been found in violation of Separation of Concerns Decree #1 and are hereby ordered to vacate the monolith post-haste. Failure to comply may result in architectural penalties upto and including death by rubber ducks.

● envato

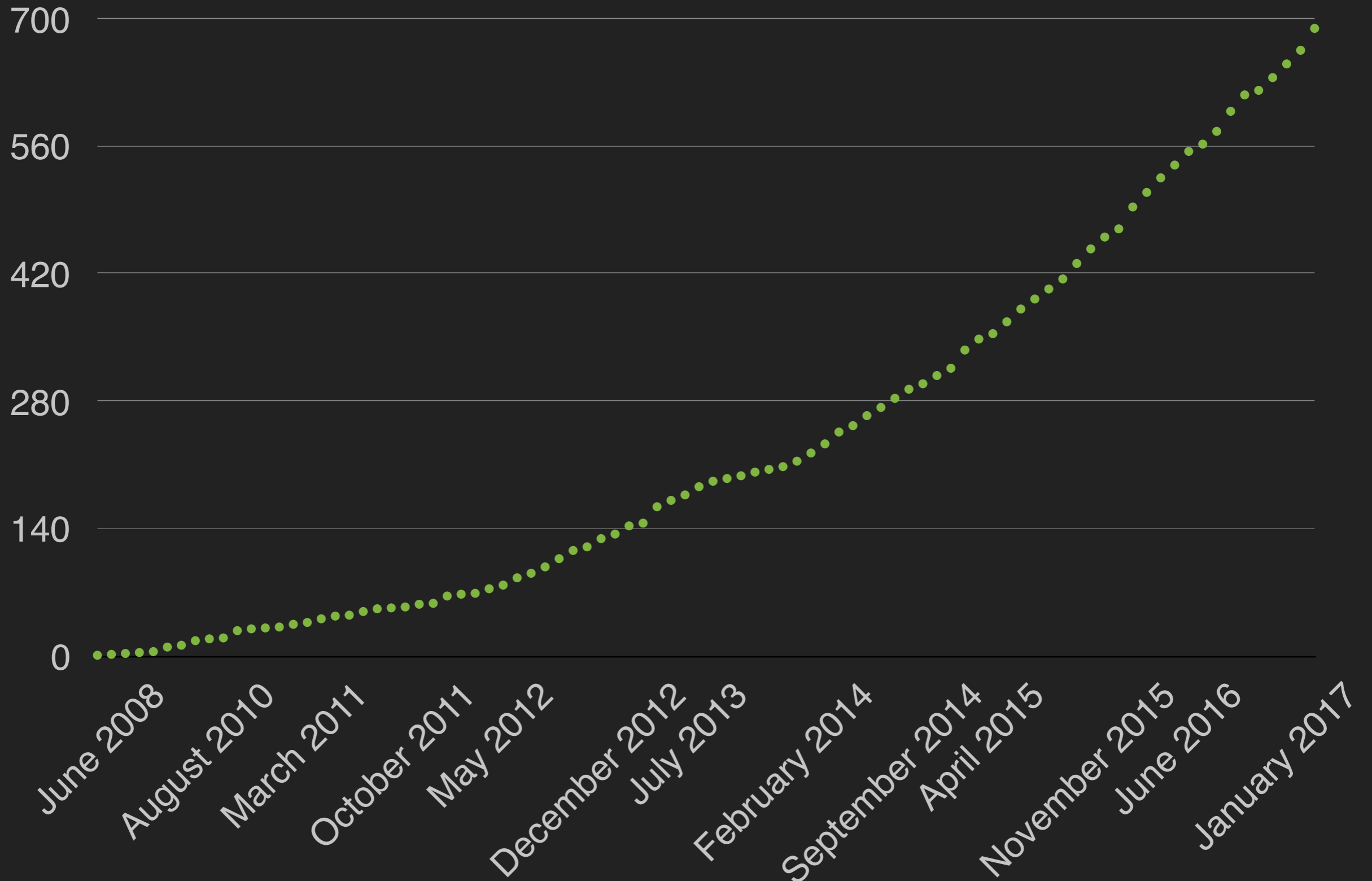
# EVICTIION NOTICE

**Ways must be found  
to reward design managers  
for keeping their organizations lean  
and flexible.**

**How Do Committees Invent?**

**SYSTEM CHANGES**

# REPOSITORIES CREATED



# WEB SERVER SPLIT

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- ▶ we use Shared filesystem to support uploads and processing
- ▶ NFS, GFS, EFS
- ▶ Issues with GlusterFS led to downtime
- ▶ We split web servers: content / customers
- ▶ Redirected traffic via ALB rules
- ▶ Subsequently we replaced GlusterFS with EFS

# ITEM WAREHOUSE

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- ▶ New Event-Driven system
- ▶ uses "event-sourcery" gem
- ▶ Source of truth for Photos
- ▶ Owned by Content

# PAYABLES

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- ▶ Payables system that takes care of paying authors
- ▶ It currently pays all Elements authors
- ▶ The interface is generic
- ▶ We will migrate other things to it



# AUTHOR.ENVATO.COM

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- ▶ New system to support Authors
- ▶ Tools for the Authorship lifecycle
- ▶ Hanami + React + Rails API

# ELEMENTS SYSTEM SPLIT

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- ▶ Split the Elements backend into customer / content systems with their own databases

# AUTHOR FACTS

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- ▶ Event-sourced system

# HOSTED SUBSYSTEM

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- ▶ Extracted a new system that ingests Hosted data into Market

# TAX ORACLE

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- ▶ Single source of truth for tax rates and tax treaties, owned by Finance Dev, that used to be scattered all over the systems.

# AFFILIATES SERVICE

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- ▶ Event-sourced system
- ▶ Elixir
- ▶ Interacts with the Impact Radius third party affiliate provider

# SUBSCRIPTIONS

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- ▶ Standalone subscription/recurring payment system
- ▶ Takes cares of all the regular money
- ▶ First client is Elements

# SHOPFRONT

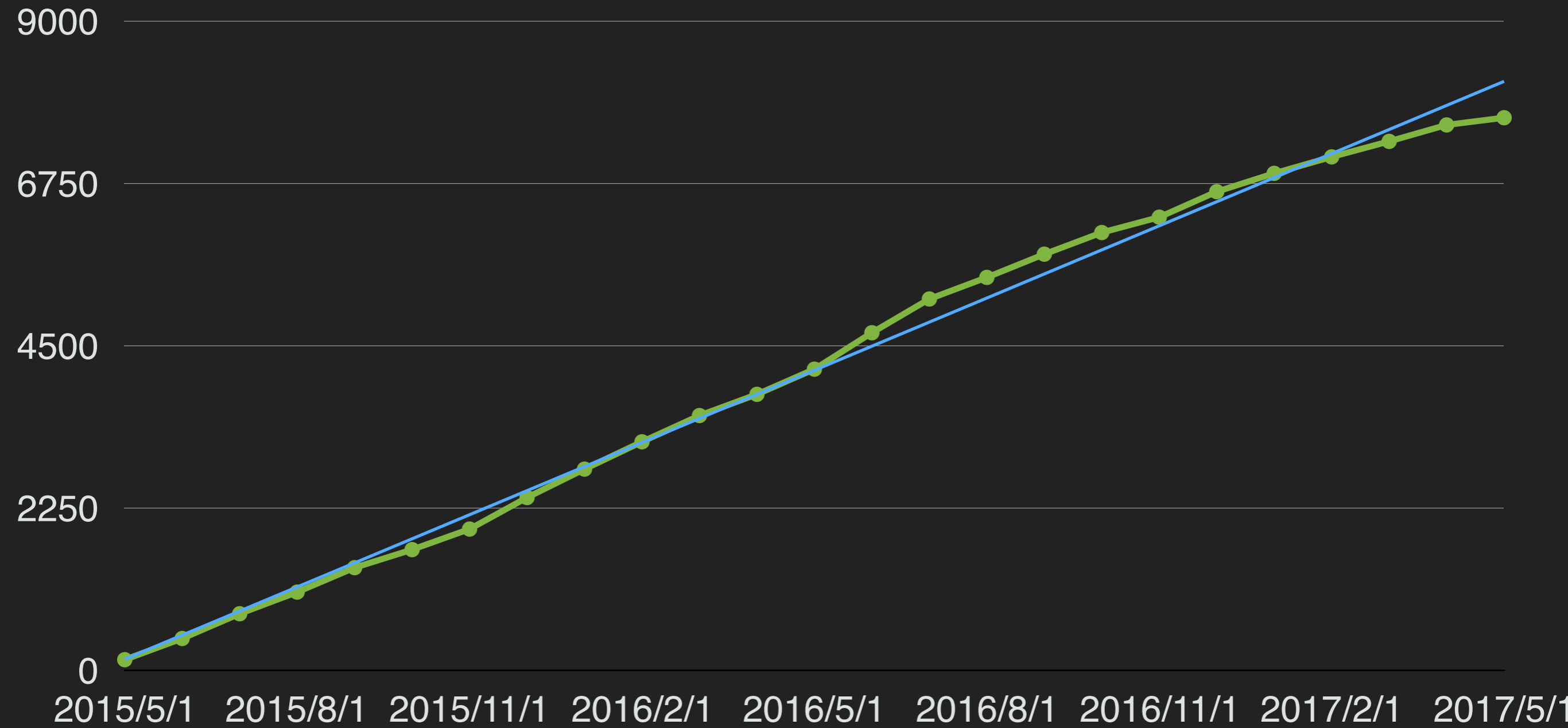
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- ▶ React front-end to the Marketplace
- ▶ Uses the API



# WE SHIP

## Deployments



# CAN ANYONE DO IT?

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It depends...

Do you need to?

Does your culture support it?

Are you willing to go the distance

Do you know where you're going?

**THANKS**