

ZombieTime – JSR 310 for the Undead

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We just want to fit in



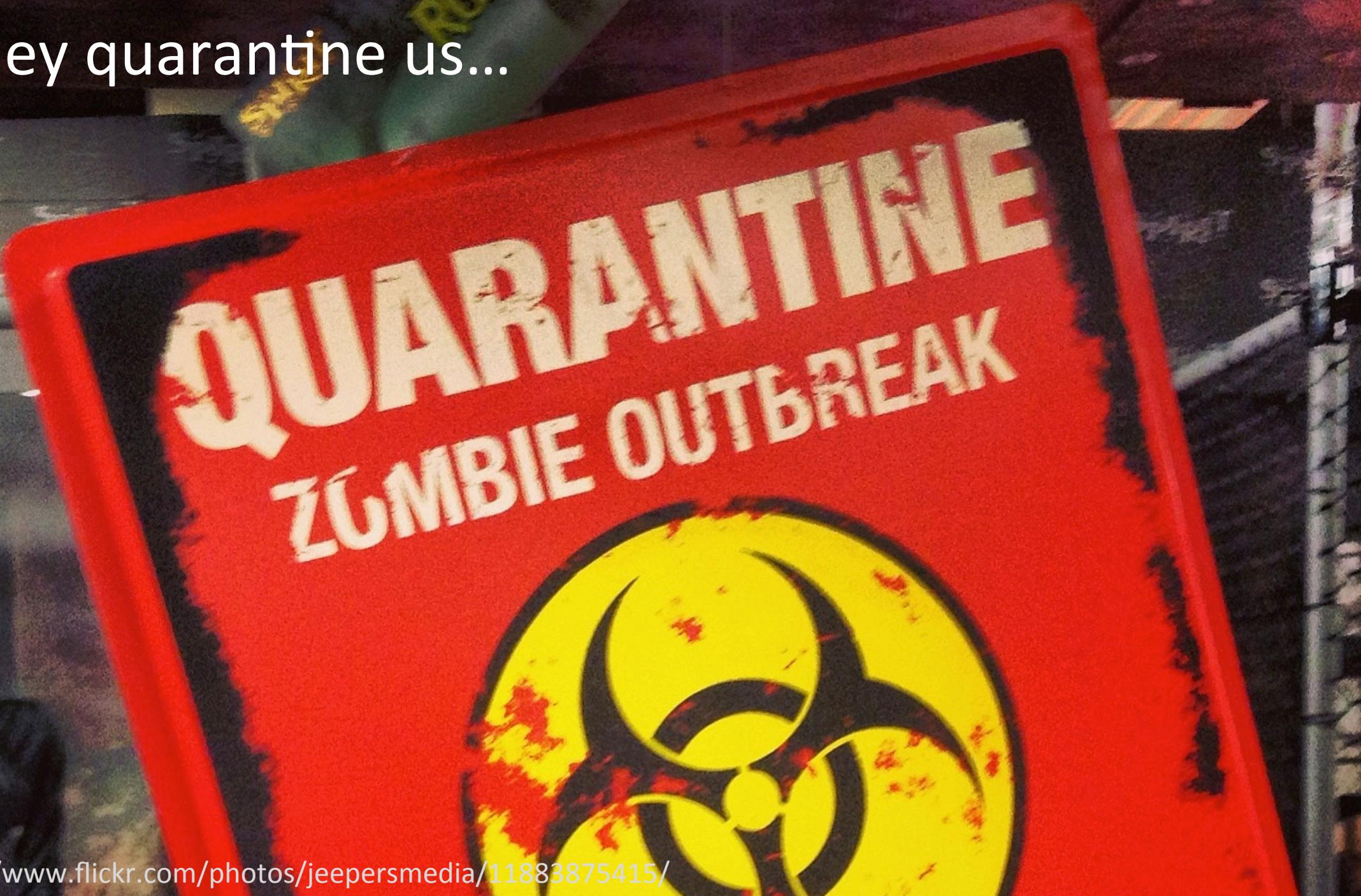
But humans are scared of us!



Is it just because we eat brains?



They quarantine us...



And attack us with weapons...



But when it is us vs. them...



Humans don't stand a chance!



JSR 310, a New Weapon Against the Humans!

Roger Riggins

- Our researchers have come up with a new weapon against the humans!
 - Modern API – Zombies type slow, so we need a fluent API with easy conversions
 - Thread safe – Don't get caught in a deadlock with armed humans!
 - Simplified Time Zone Handling – Coordinated global attacks!



Stephen Colebourne

https://www.flickr.com/photos/soul_stealer/8249718101/

Don't repeat this failure...

- // hit the humans while they are celebrating!
- Date attackDate = new Date(2013, 12, 25);

+1900

0-based
(No Range
Checking!)



In the year **3914**

January 25th, 3914 : Failed Zombie Trooper Invasion



ZombieTime – Undead Trainer for JSR 310



Basic Concepts

- `LocalDate`, `LocalTime`, `LocalDateTime`
 - Represents a calendar date, time, or both
- `Instant`
 - Amount of time since the epoch – ideal for timestamps and calculations
- `Period`
 - A span of time between two dates (goes well with `LocalDateTime`)
- `Duration`
 - A precise span of time (goes well with `Instants`)

Creating Dates and Times

- Now
 - `LocalDate.now()`
- Static
 - `LocalDate.of(2013, Month.DECEMBER, 25) // Use the enums!`
 - `LocalTime.of(11, 30, 5, 999_999_999) // Time to go to work...`
 - `LocalDateTime.of(2013, Month.DECEMBER, 25, 11, 30, 5, 999_999_999) // Even on Christmas`
- Parsing
 - `LocalDate.parse()`
- Conversion
 - `new Date().toInstant()`
 - `Calendar.getInstance().toInstant()`

PixelatedClock

```
Timeline clockTimeline = new Timeline(  
    new KeyFrame(Duration.millis(1),  
        actionEvent -> {  
            LocalTime now = LocalTime.now();  
        }));
```



23:03:27.164



Formatting Dates and Times

- Constants
 - `DateTimeFormatter.BASIC_ISO_DATE` // '2011-12-03+01:00'
 - `DateTimeFormatter.ISO_TIME` // '10:15:30+01:00'
 - `DateTimeFormatter.ISO_DATE_TIME` // '2011-12-03T10:15:30+01:00[Europe/Paris]'
 - `DateTimeFormatter.ISO_WEEK_DATE` // 2012-W48-6'
- Localized Formatters
 - `DateTimeFormatter.ofLocalizedTime(FormatStyle.SHORT)`
- Strings
 - `date.toString("d MMM uuuu")` // '25 Dec 2014'
- Formatters are immutable and thread-safe for reuse!

Localized PixelatedClock

```
DateTimeFormatter clockFormat =  
DateTimeFormatter.ofLocalizedTime(FormatStyle.SHORT);
```

```
Timeline clockTimeline = new Timeline(  
    new KeyFrame(Duration.millis(1),  
    actionEvent -> {  
        setText(now.format(clockFormat));  
    }));
```



10:52 PM



9:02 AM



GAME OVER

I HATE SUNBURN!



Using LocalTime/LocalDate

- Comparing Times/Dates:

- `time.isBefore(LocalTime.NOON) // before noon`
 - `date.isAfter(LocalDate.ofYearDay(2014, 365 / 2)) // appx. halfway through the year`

- Year Info:

- `date.getYear()`
 - `date.getDayOfYear()`
 - `date.lengthOfYear()`
 - `date.isLeapYear()`

- Time Info:

- `time.getHour() / time.getMinute() / time.getSecond() / time.getNano()`

Hide from the sunlight!

```
public BooleanProperty isNight = new  
SimpleBooleanProperty();
```

```
isNight.setValue(now.isAfter(LocalTime.of(6, 0)) &&  
now.isBefore(LocalTime.of(19, 0)));
```

```
underground.bind(Main.pixelatedClock.isNight.not()));
```



ZombieTime



12:05 PM



Let's Add Some Villagers!

```
children.add(new SpriteView.Fred(new Location(8, 2)));  
children.add(new SpriteView.Sam(new Location(9, 4)));  
children.add(new SpriteView.Ted(new Location(7, 6)));  
children.add(new SpriteView.Sarah(new Location(5, 4)));  
children.add(new SpriteView.Jenn(new Location(6, 5)));
```

:5 AH



Ouch! Don't step
on me



Using Time Zones

Creating ZonelDs:

- `zonId = ZoneId.of("Europe/Paris");`
- `zonId = ZoneId.of(ZoneId.SHORT_IDS.get("EST"));`
- `zonId = ZoneOffset.ofHours(-8);`

Using ZonelDs:

- `dateTime.now(zonId);`
- `dateTime.atZone(zonId);`
- `Clock.system(zonId);`

Make it Night!

```
ZoneId zoneId = ZoneId.of("Europe/London");  
LocalTime now = LocalTime.now(zoneId);
```

Make it Night! (with a clock)

```
ZoneId zone = ZoneId.of("Europe/London");  
Clock clock = Clock.system(zone);  
LocalTime now = LocalTime.now(clock);
```

1:06 AM

Wait!!! I just want
your brains...



Temporal Adjusters

- Predefined adjustors for common cases
 - First or last day of month
 - date.with(TemporalAdjusters.firstDayOfMonth())
 - First or last day of year
 - date.with(TemporalAdjusters.firstDayOfNextYear())
 - Last Friday of the month
 - date.with(TemporalAdjusters.lastInMonth(DayOfWeek.FRIDAY))
- Custom adjusters for your own business logic

Friday 13th TimeAdjuster

```
TemporalAdjuster friday13Adjuster = temporal -> {
    if (temporal.get(ChronoField.DAY_OF_MONTH) > 13) temporal =
        temporal.plus(1, ChronoUnit.MONTHS);
    temporal = temporal.with(ChronoField.DAY_OF_MONTH, 13);
    System.out.println("temporal = " + temporal);
    while (temporal.get(ChronoField.DAY_OF_WEEK) != DayOfWeek.FRIDAY.getValue()) {
        temporal = temporal.plus(1, ChronoUnit.MONTHS);
        System.out.println("temporal = " + temporal);
    }
    return temporal;
};
```

YOU WIN!!!



Confessions of a Former Agile Methodologist

Stephen Chin (@steveonjava)
Java Technology Evangelist
JavaOne Conference Chair

My Agile Story...



<https://www.flickr.com/photos/23950335@N07/6034683535/>

Once upon a time... I was a happy hacker



<https://www.flickr.com/photos/brickpimp/8453569593/>

Working in teams with friendly coworkers...



But a scary boss!



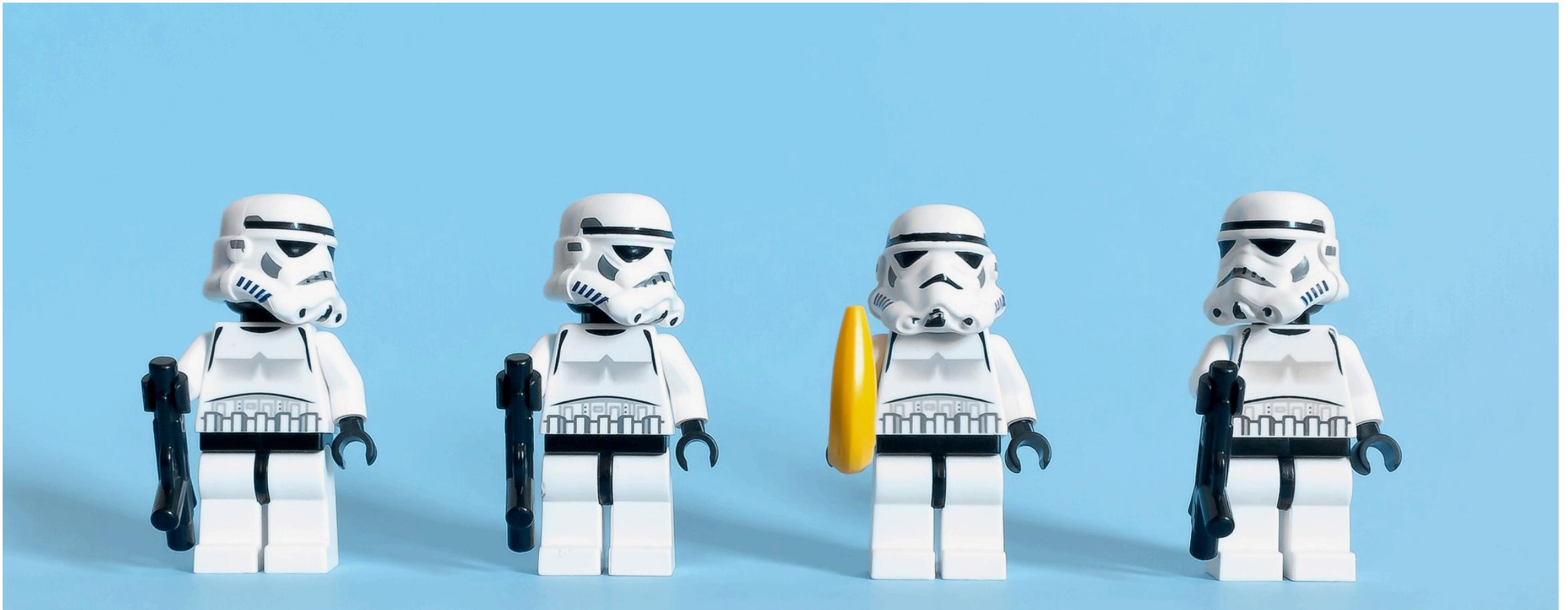
<https://www.flickr.com/photos/oblongpictures/5250948891/>

Who went on "vacation" suddenly...



<https://www.flickr.com/photos/grandvelasrivieramaya/3179390917/>

And I was left holding the banana...



<https://www.flickr.com/photos/kerrythomas/14765382780/>

So we decided to go Extreme!



<https://www.flickr.com/photos/kwl/3401221326/>

We started pair programming



<https://www.flickr.com/photos/benjaminingolub/3789762583>

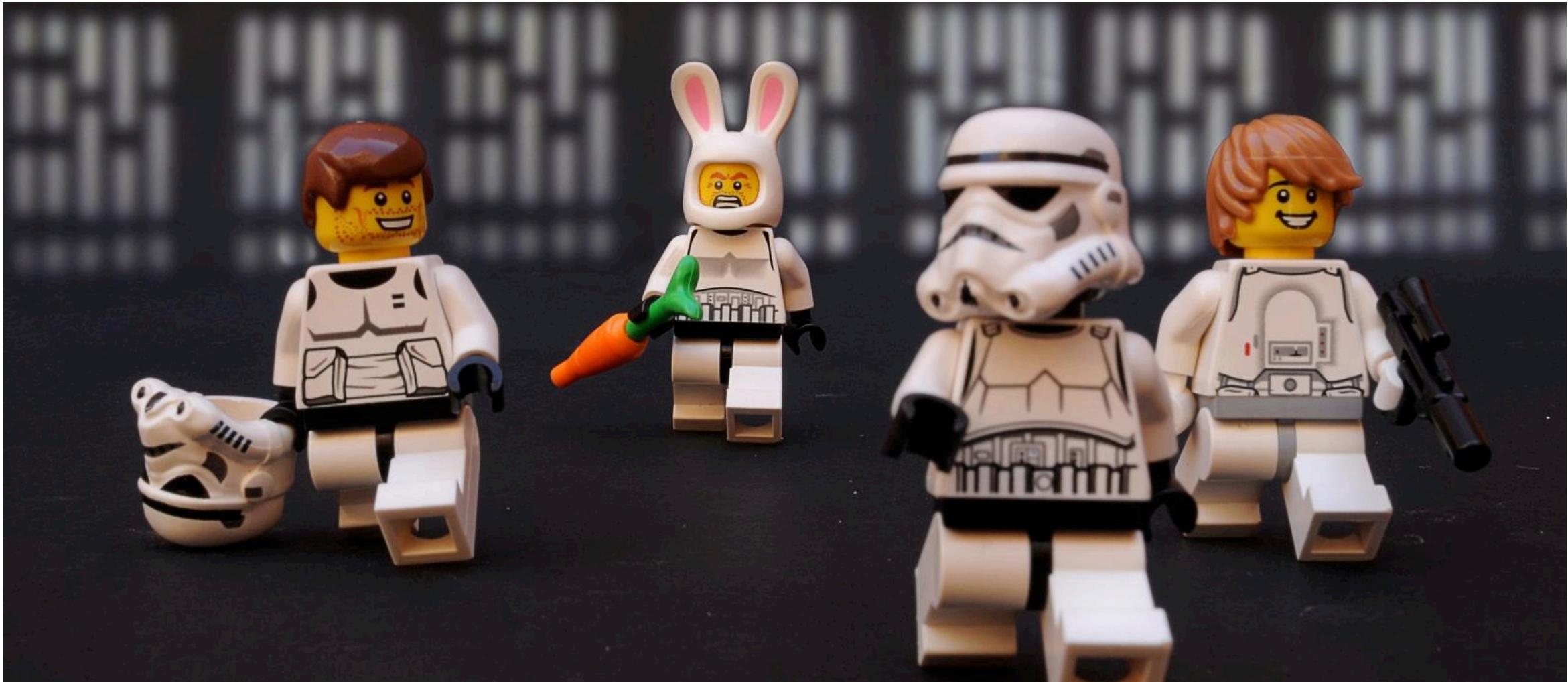
Implemented unit testing...



And began working at a sustainable pace.



It was a lot of fun, and we were very productive



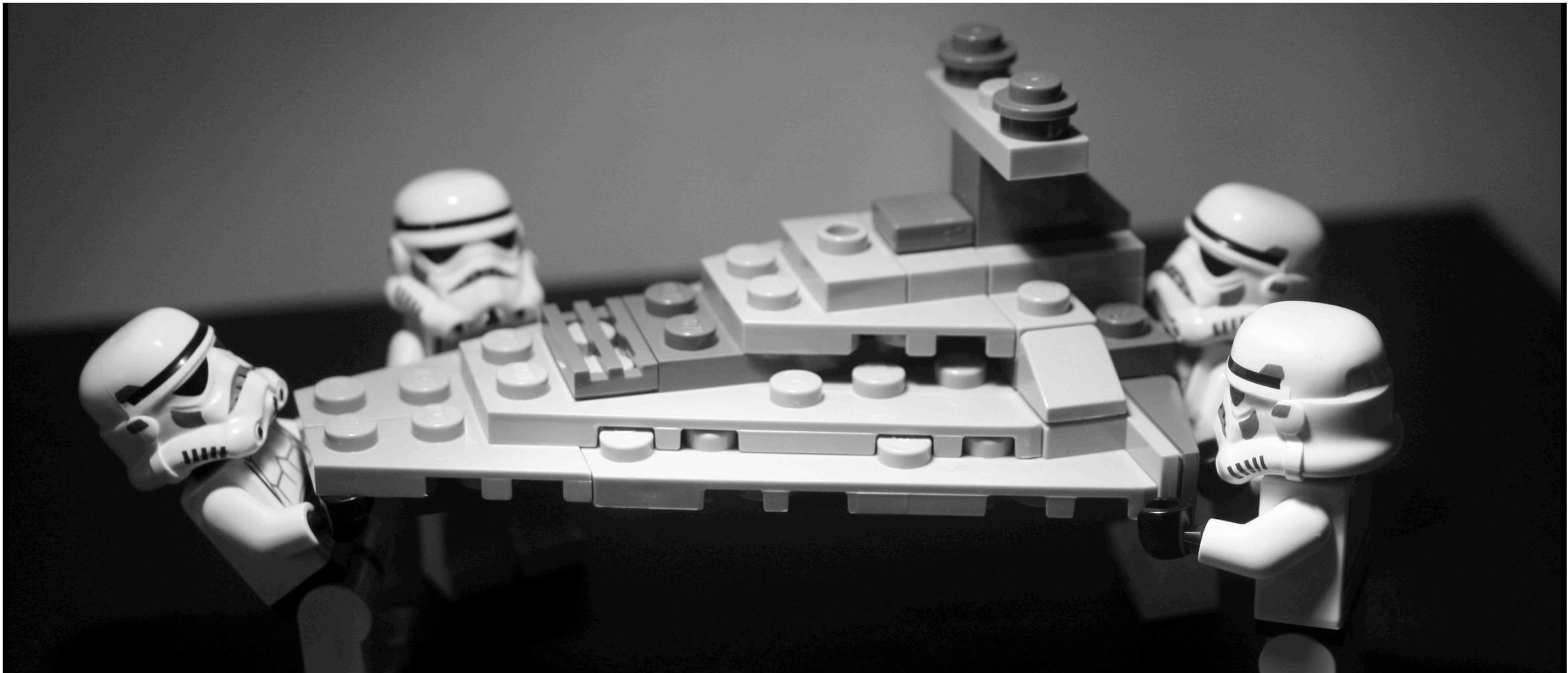
Then I set out to join the empire!



It was a little daunting at first...



But we had good teams



One day the boss called... and wanted my help to implement Agile



So we started a mission to convert the organization



With the help of a few elites, like Ron Jeffries



Brian Marick



<https://www.flickr.com/photos/pedrovezini/6952413753/>

And Israel Gat



<https://www.flickr.com/photos/pasukaru76/5152497973/>

We created
hyper performing
teams



<https://www.flickr.com/photos/23950335@N07/6950128894/>

Rolled out new development practices



And let the troops get creative



<https://www.flickr.com/photos/kalexanderson/6113247118/>

There were some dissenters...



But a few heads rolling didn't slow us down...



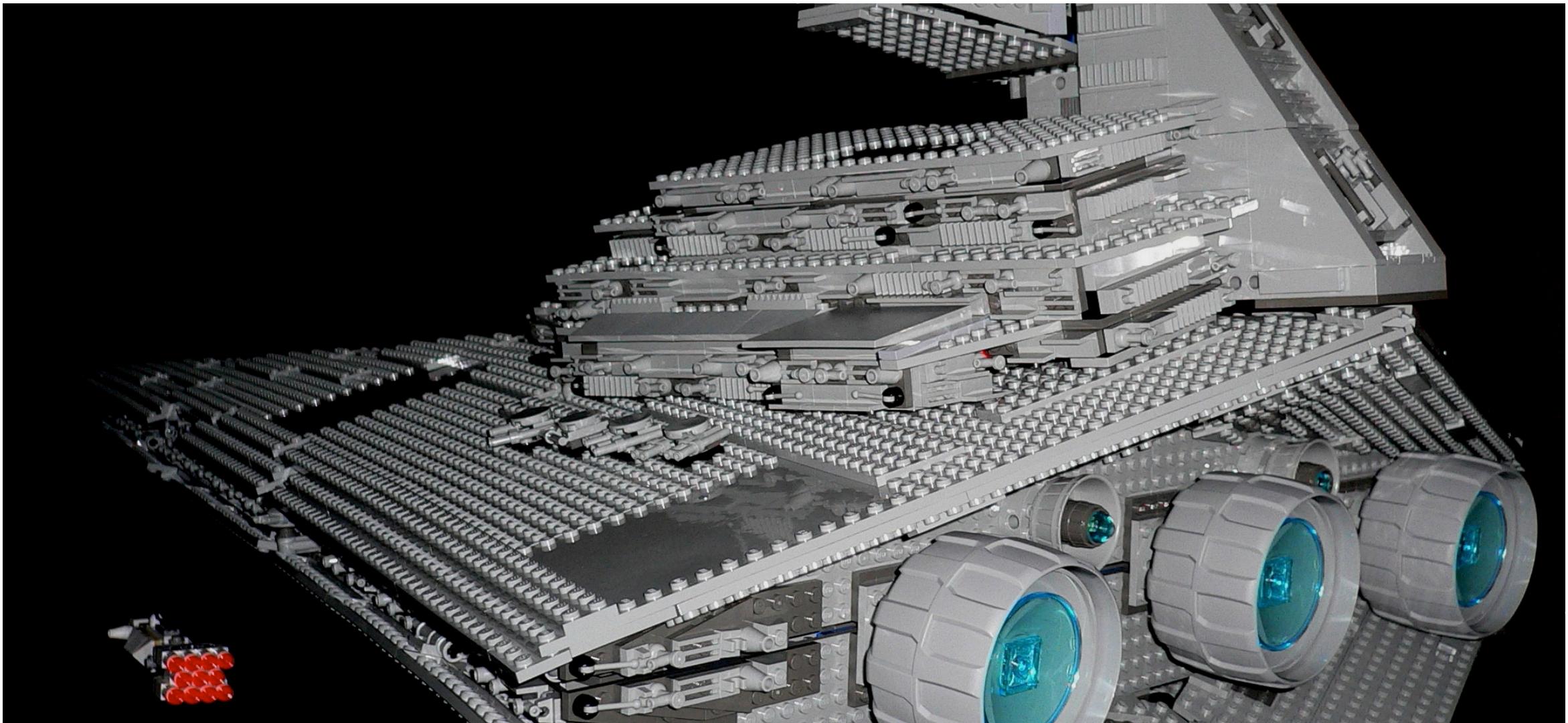
And the Agile rollout was a huge success!



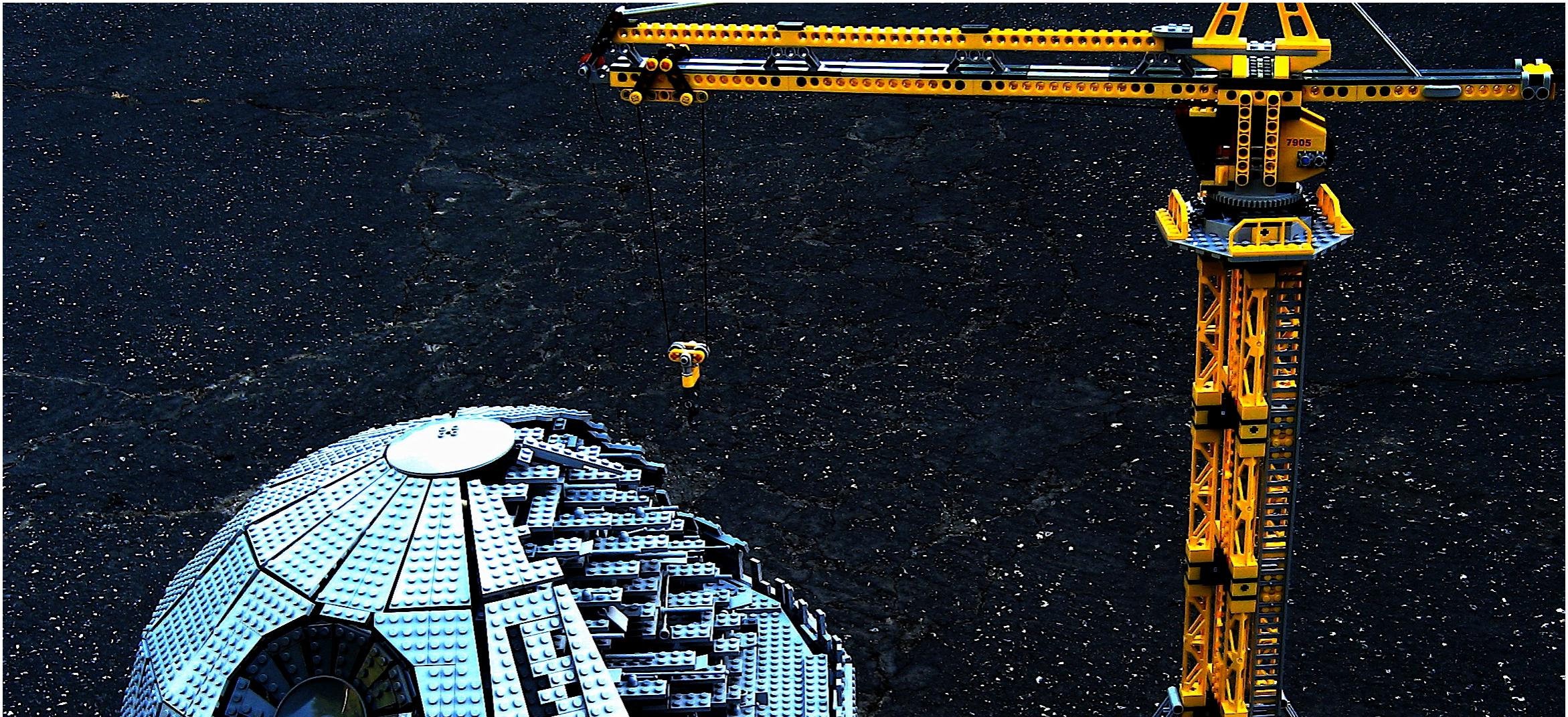
As the organization grew, we prepared a large Agile force



And deployed the big ships



But doing Agile at large scale was a lot different

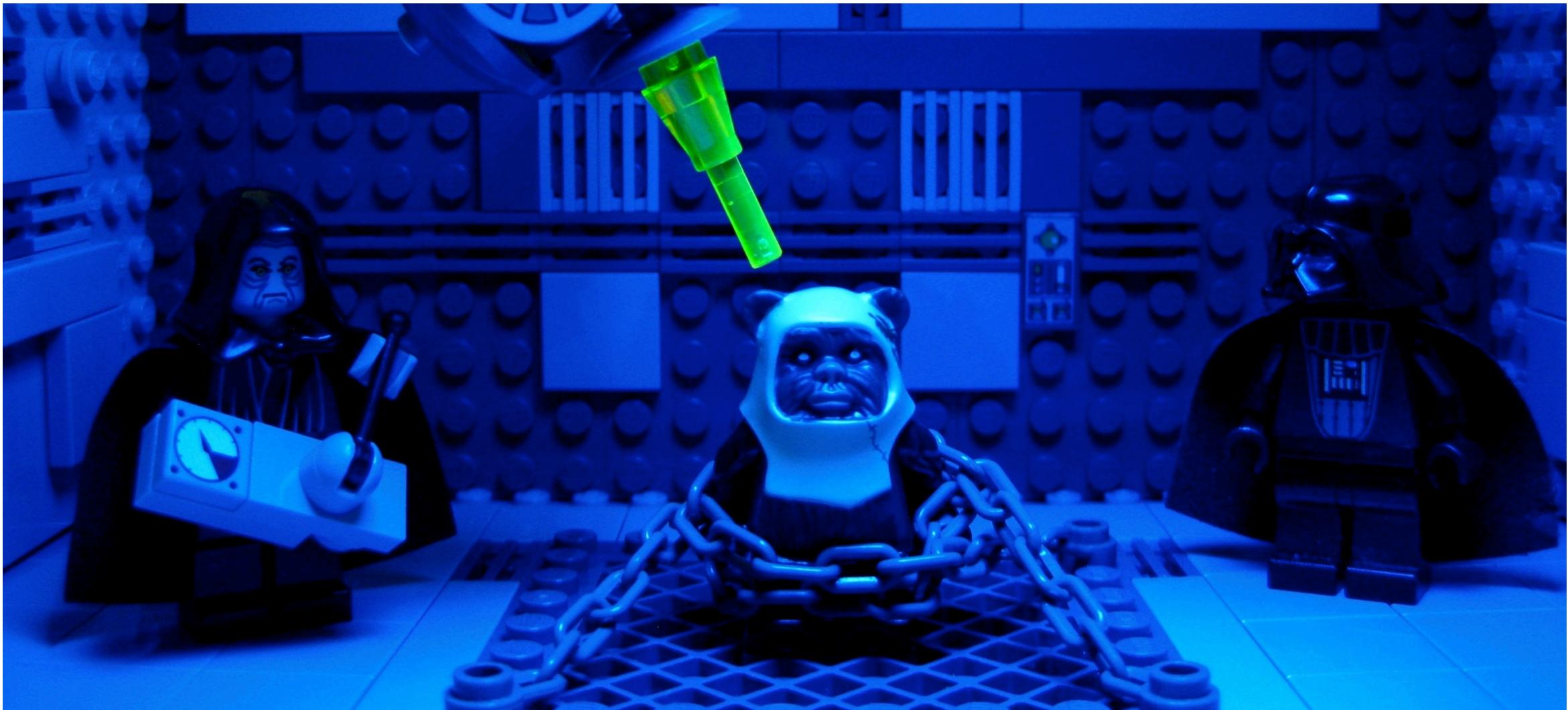


We spent most of our time in meetings...

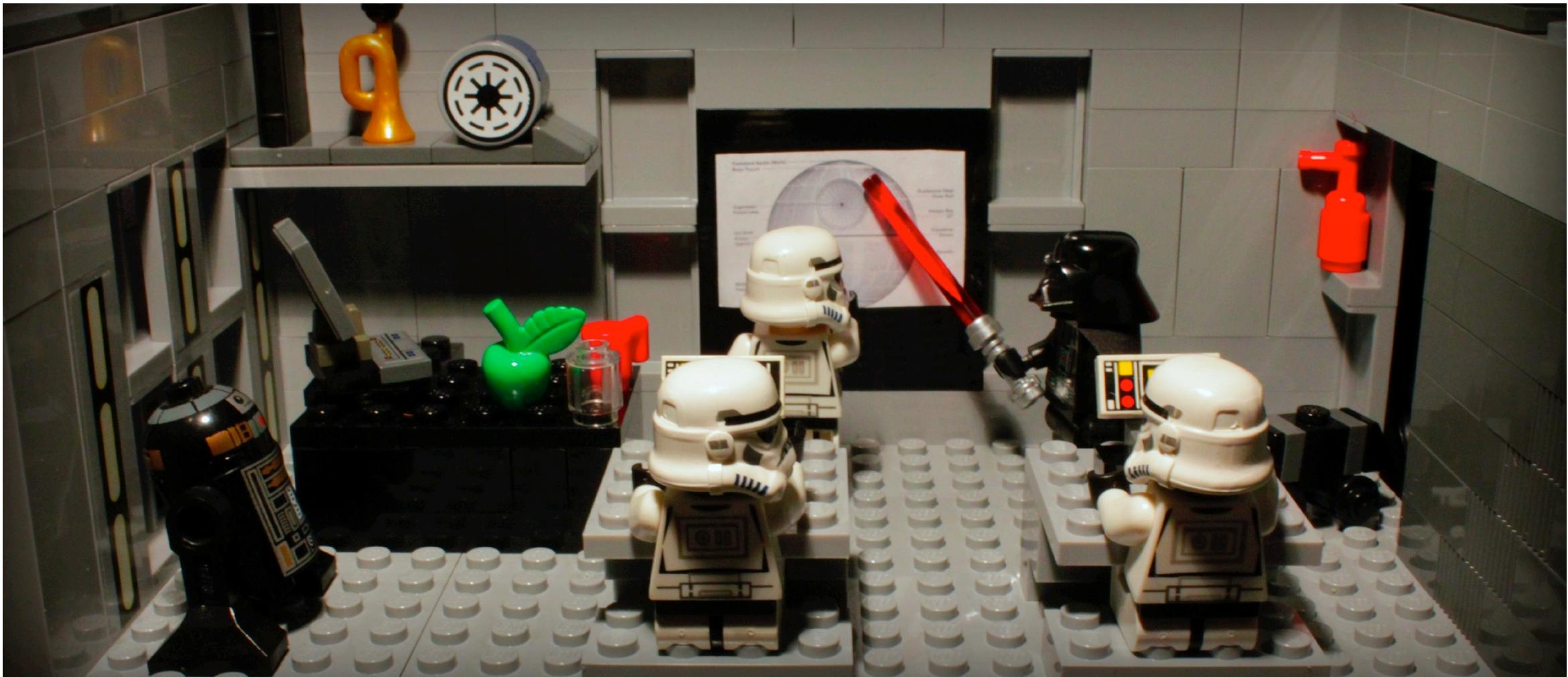


<https://www.flickr.com/photos/skinnylawyer/6884959175>

Instituted lots of "processes"



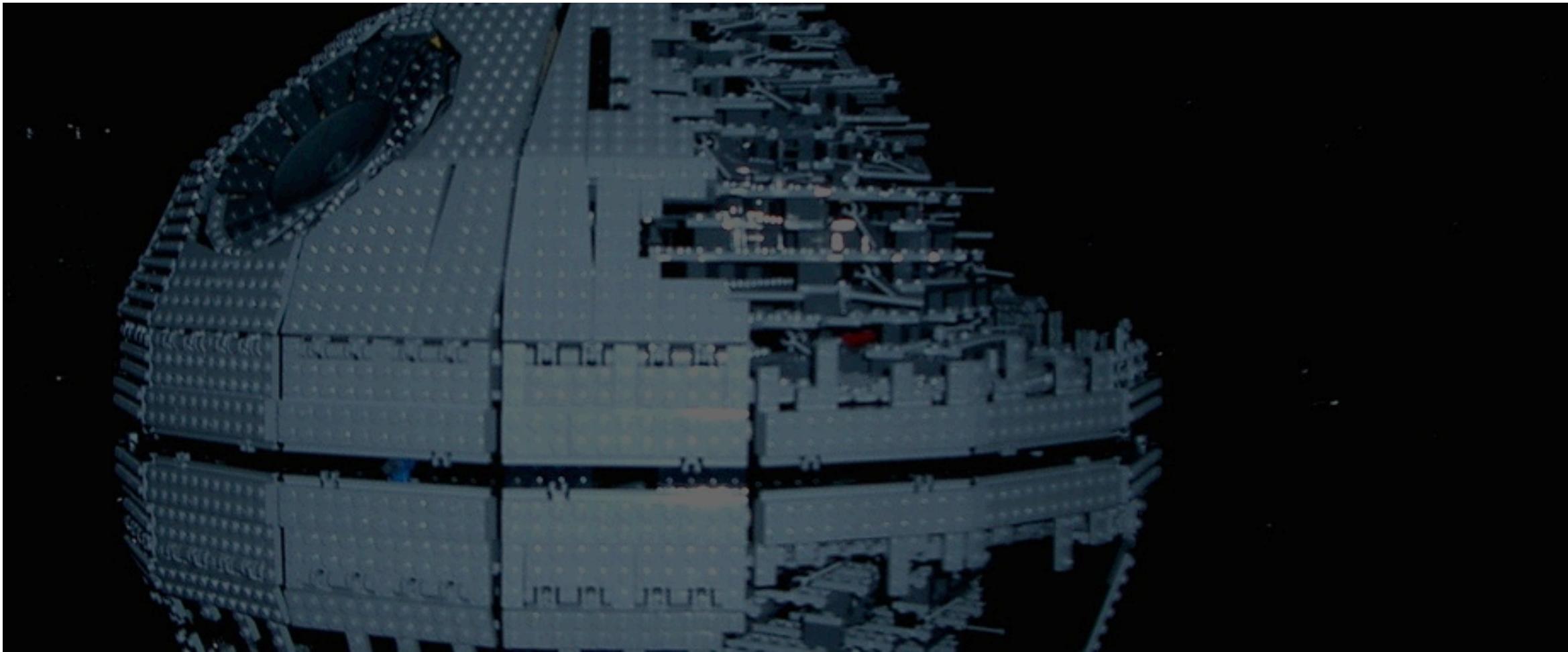
Did company-wide ~~invasion~~ release planning



And had to resolve internal conflict



Conquering the Universe with Agile turned out to be a lot of work!



So, I made my escape from the Empire



https://www.flickr.com/photos/p_valdivieso/9006007735

And went back to being just a normal guy...

WE ALL HAVE DREAMS.



Some things I learned...



The Agile Manifesto

Individuals and interactions

over

Process and tools

Working software

over

Comprehensive documentation

Customer collaboration

over

Contract negotiation

Responding to change

over

Following a plan

The Agile Industry Manifesto

Expert advice

Methodologies

Metrics

Tooling licenses

over

over

over

over

Continuous improvement

Craftsmanship

Clean code

In-person collaboration

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ALL YOUR BASE ARE BELONG TO US.



Kent Beck



Mike Beedle



Arie van Bennekum



Alistair Cockburn



Ward Cunningham



Martin Fowler



James Grenning



Jim Highsmith



Andrew Hunt

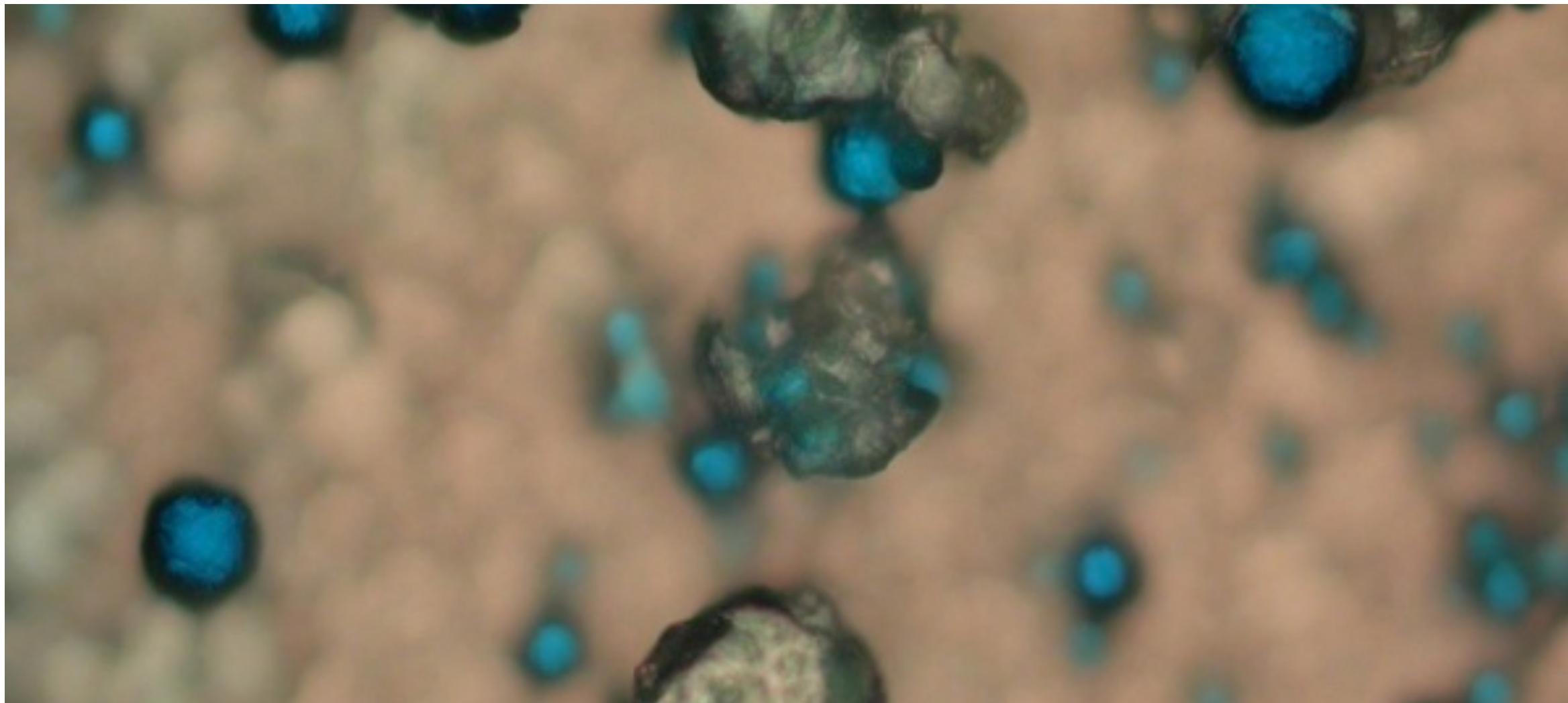


Ron Jeffries

No shortage of Agile books!



But they are not a substitute for experience



How do you know things have gone wrong?

- According to Chapter 5, Section 3, Verse 13 of the Agile Bible...
- Expert XXX has a hyper performing team with 3 hour Sprints, so we need to do that!
- Same issue comes up in the retrospective... for 3 weeks running!

Confession Time...

- I have trouble disagreeing with Ron... maybe it is the gray beard.
- The guy who forced all your Sprint lengths to line up – yeah, that was me implementing what Dean recommended.
- I hate retrospectives! – I would much rather be coding. ☺



The Agile Industry Manifesto

Expert advice

Continuous improvement

Methodologies

Craftsmanship

Metrics

Clean code

Tooling licenses

In-person collaboration

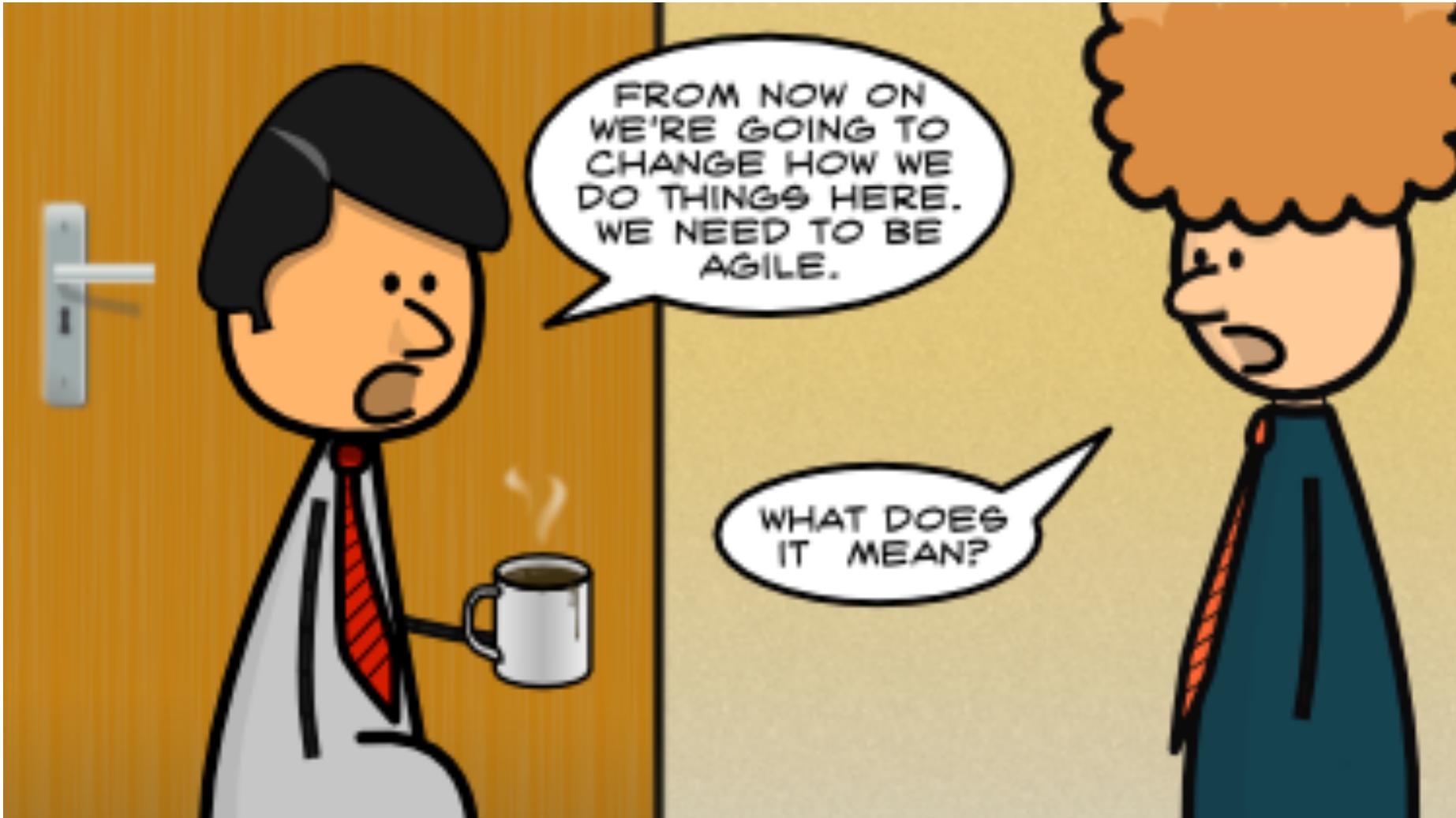
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There is a methodology for that...



Extreme Programming



Scrum – Ready to Sprint?

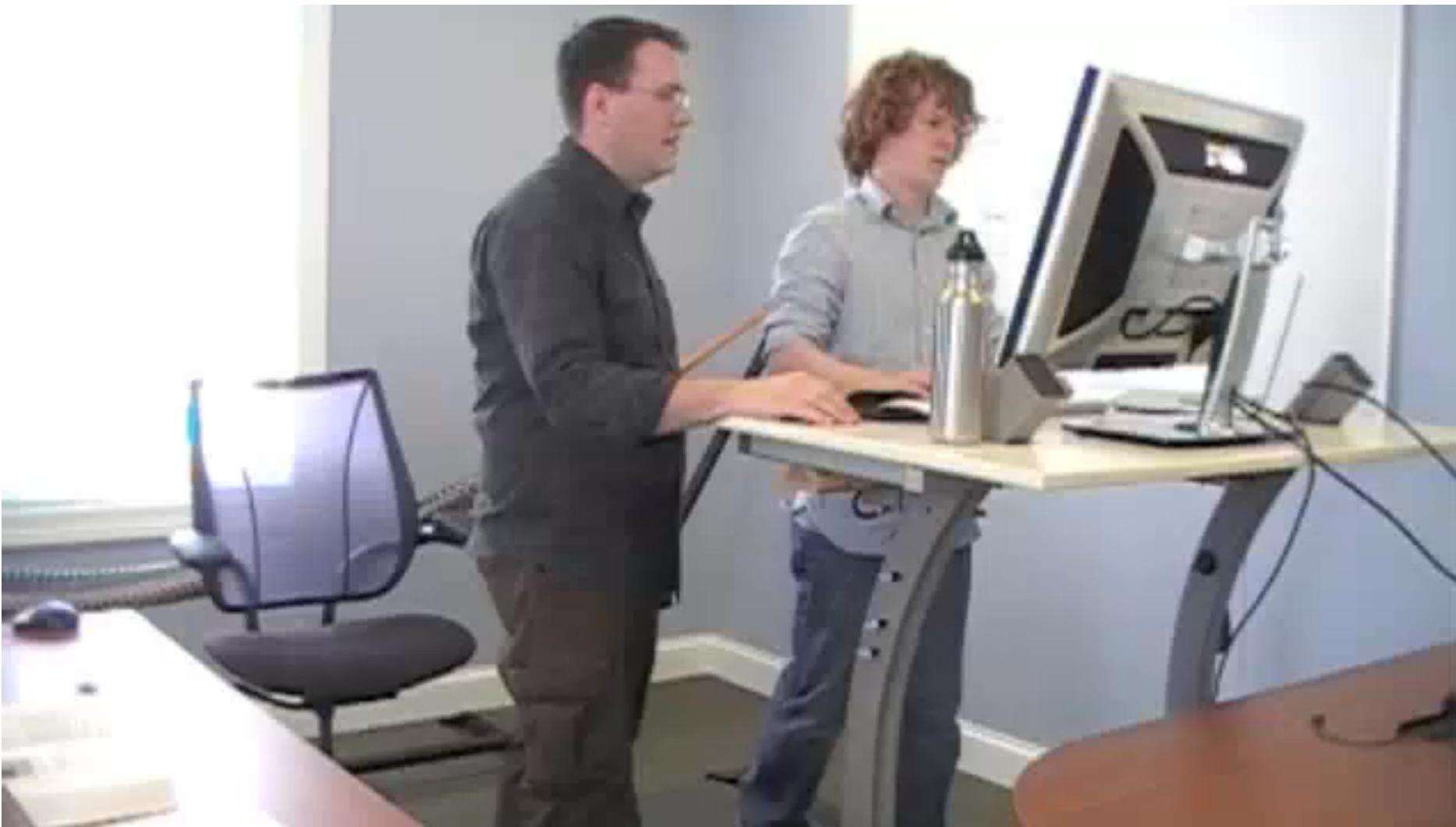


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The Kanban Treadmill



While Pair Programming!

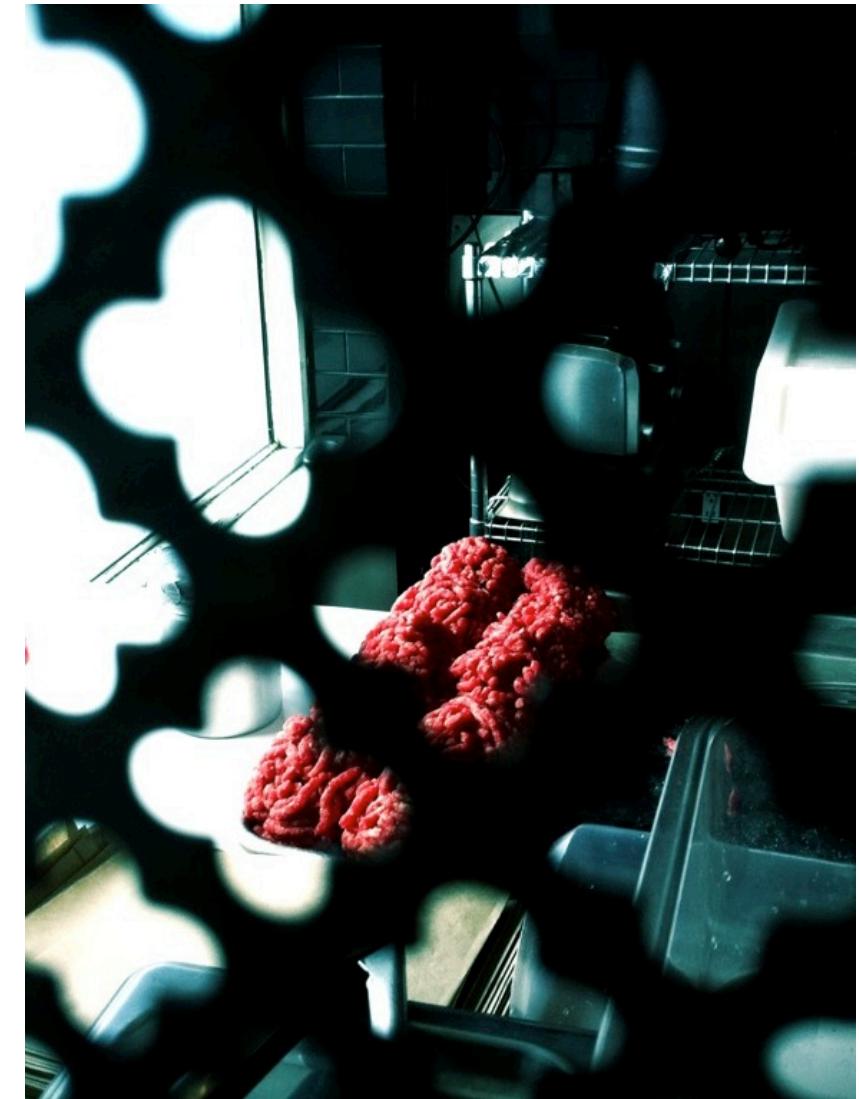


What really makes projects fail?

- Build server... yeah, that is Jonny's machine
- We have unit tests... they are just manually run. And manually verified.
- Software quality? Oh, that is what those guys over there do.

Confession Time...

- I occasionally check in binaries, but that is better than not having them at all.
- I trained teams on Scrum... when I should have been training them on JUnit.
- All my Agile talks have been on... guess what, methodologies! (or anti-methodologies)



The Agile Industry Manifesto

Expert advice

Methodologies

Metrics

Tooling licenses

over

over

over

over

Continuous improvement

Craftsmanship

Clean code

In-person collaboration

You Think You Are Independent



But you are NOT!



<https://www.flickr.com/photos/nzdave/491411546>

We are WATCHING YOU



Source: Deviant Art, created by SavageSauron
<http://savagesauron.deviantart.com/art/The-Great-Eye-326927311>

You are a metric junkie when...

- You log in to the Agile tool during vacation to make sure you have a pretty burn-down chart
- To keep up with the other hyper performing teams, you inflate your estimates by a factor of 10... then 100... then 1000!
- Your QA team won't accept the build when the code coverage drops below 98%

Confession Time...

- Some weeks I spent more time in Excel than my IDE. ☹
- 100% code coverage? I have accomplished that with 0 assertions!
- I have single-handedly killed projects with pie charts.



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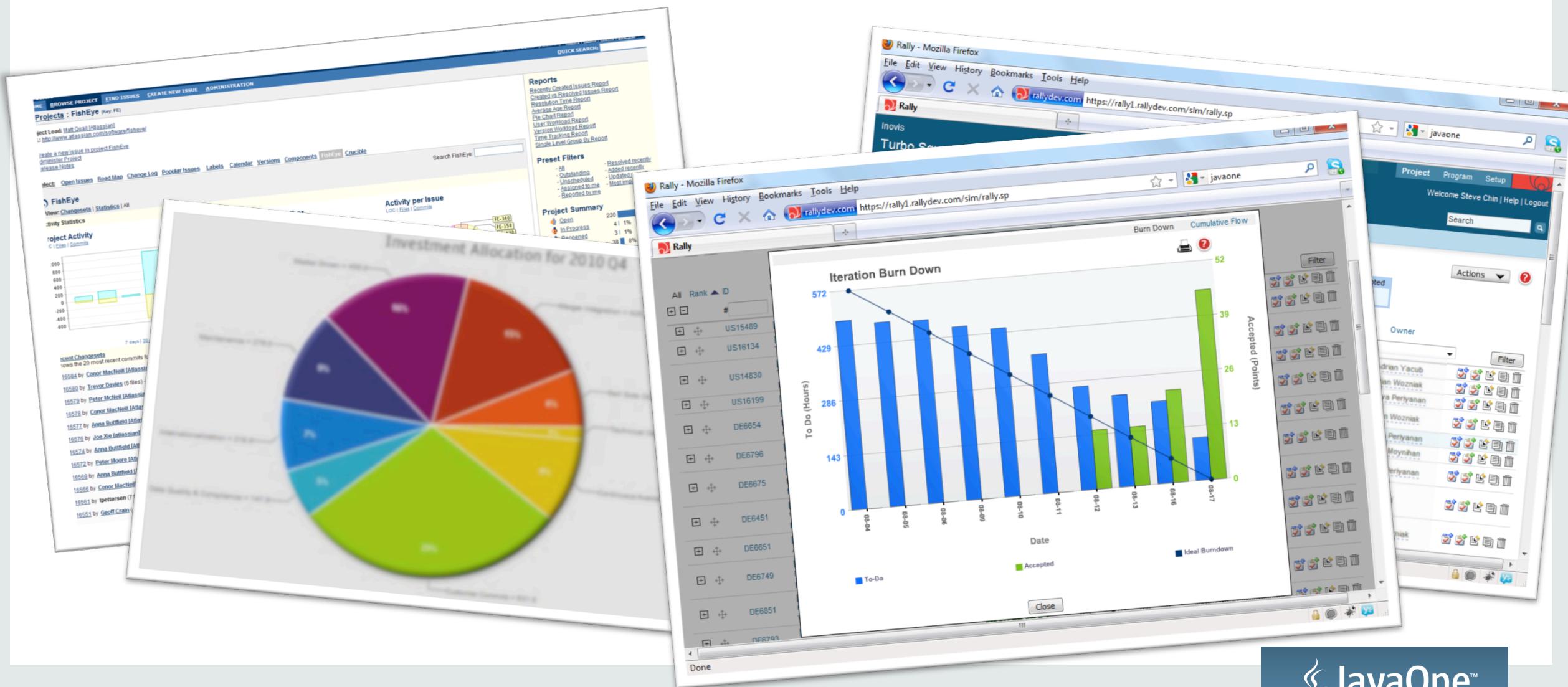
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Need agility? There is a tool for that...

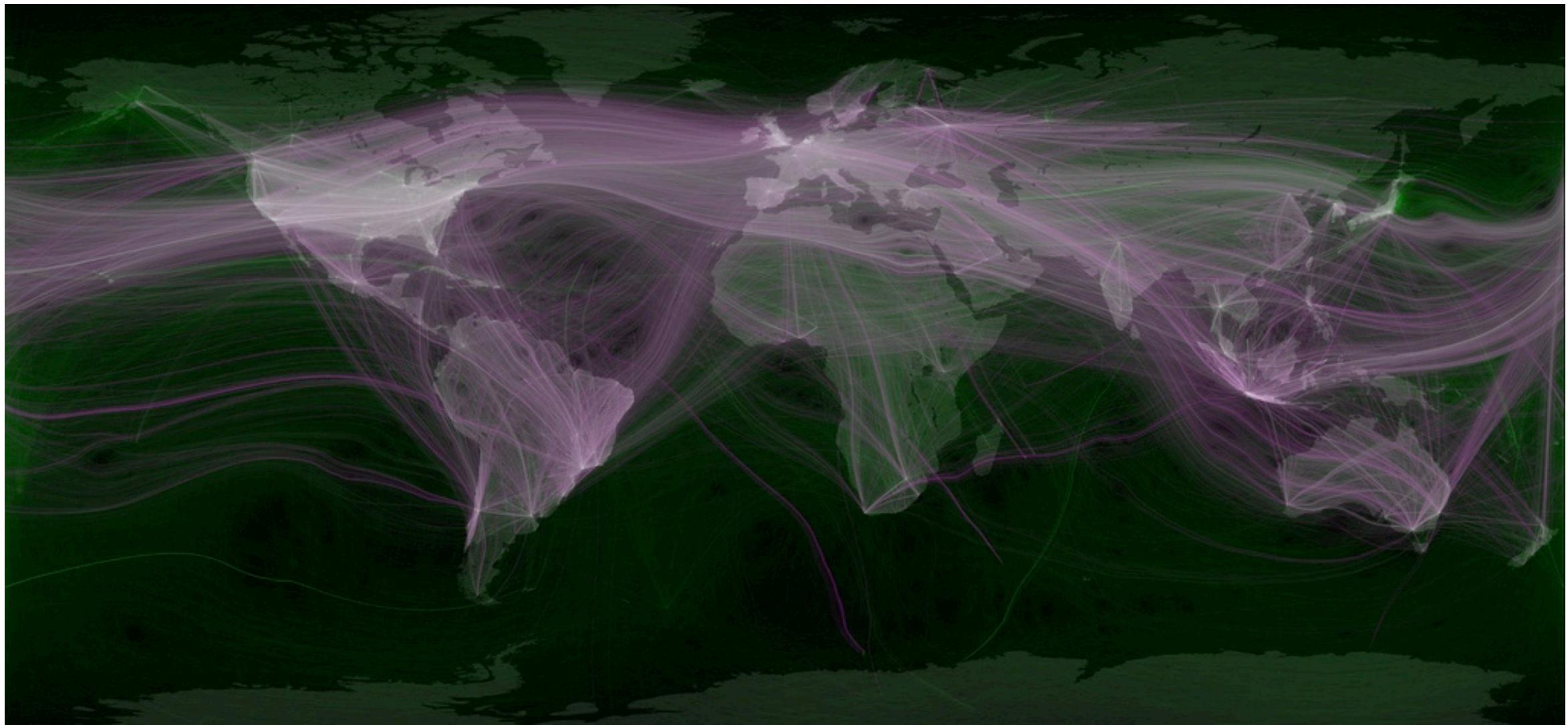


Remote Teams, we have a device for that...



<https://www.flickr.com/photos/mattystevenson/5818172762/>

Bringing people together... that is costly!



You have overdone the tooling when...

- When the QA guy wants you to fix the coffee machine you ask him to file a bug first
- The only person who writes stories in your planning meeting is the Scrum Master as he enters them in the online tool
- You go into shock when you meet your team for the first time and realize you are the only guy... Pat, Alex, Kris, and even Sam are all females!

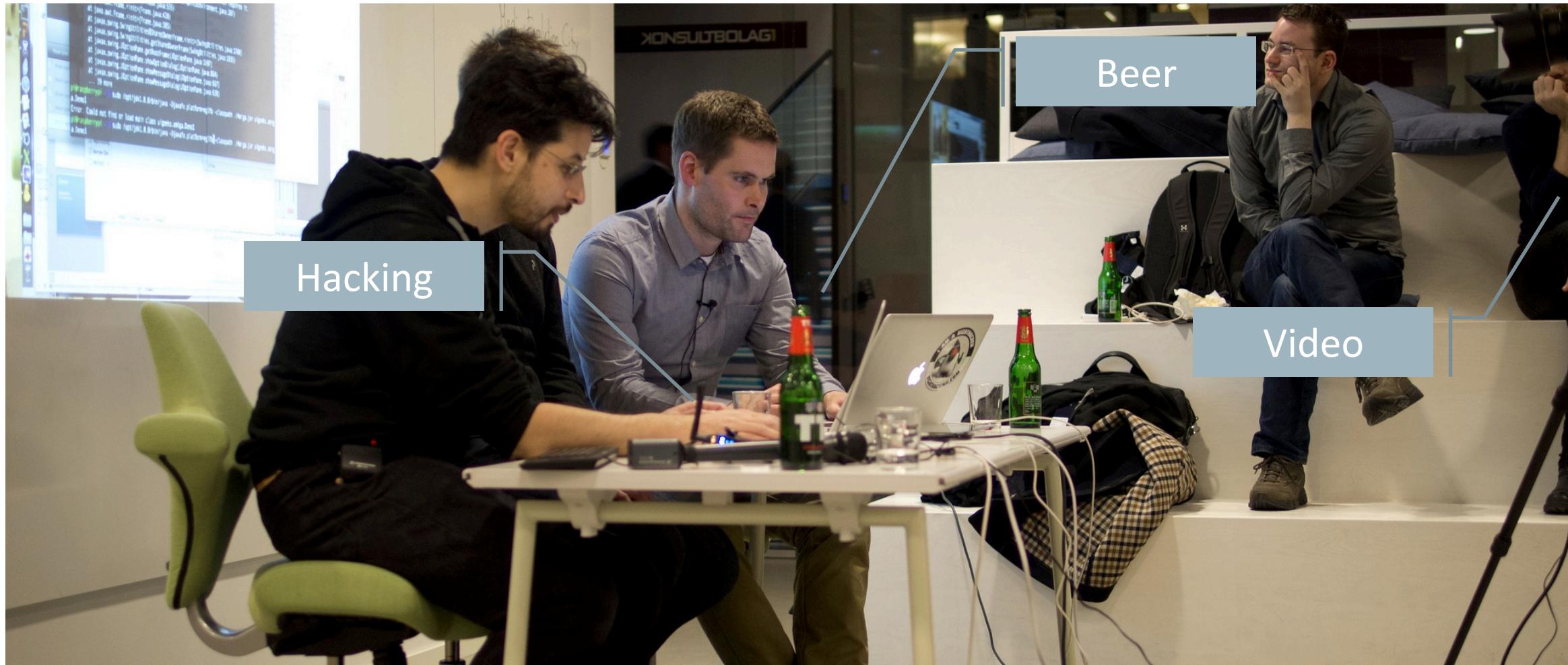
Confession Time...

- I was one of those Scrum masters who entered in all the stories for my team.
- Oh, and I also put all the estimates in for efficiency.
- And I even built my own tooling and unleashed it on unwitting teams!



And the most important thing!

- Stick with what you are good at...





Stephen Chin

tweet: @steveonjava

blog: <http://steveonjava.com>

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