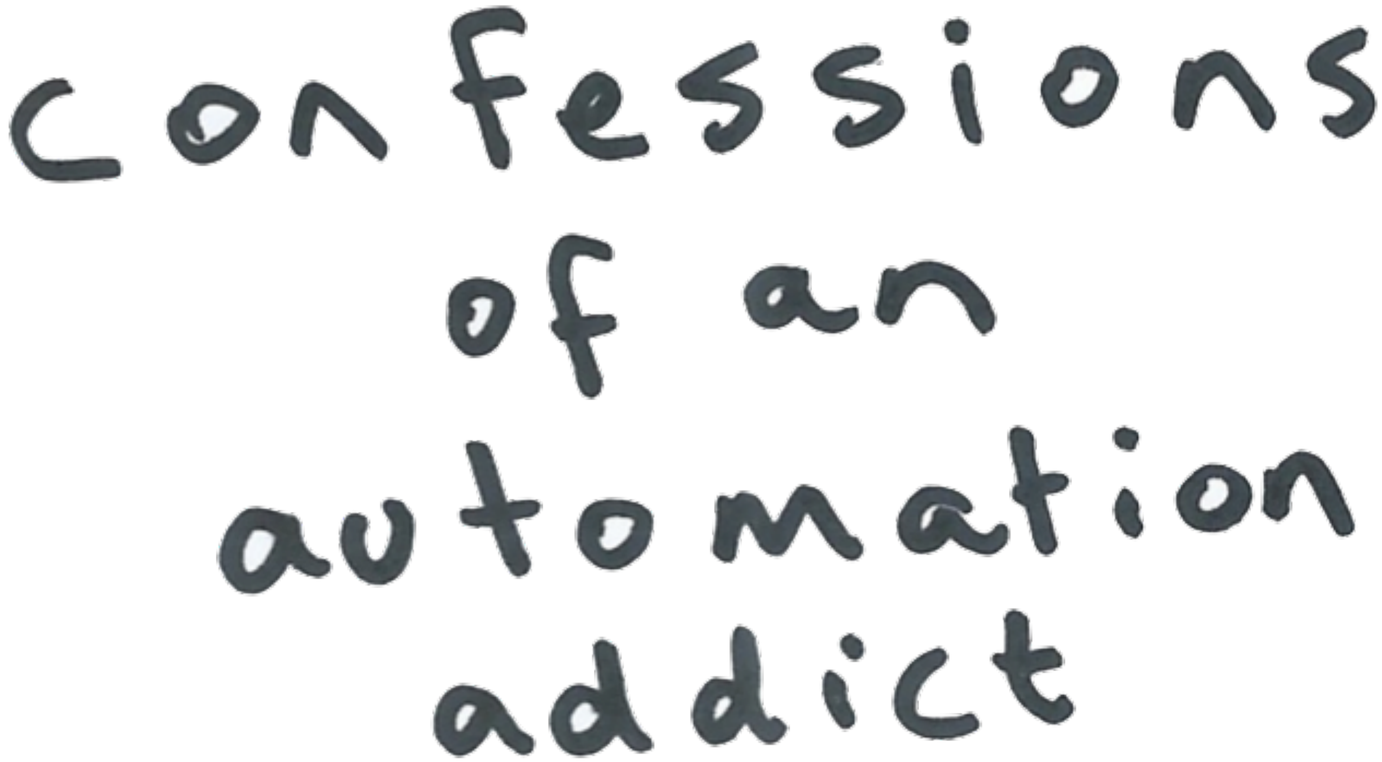
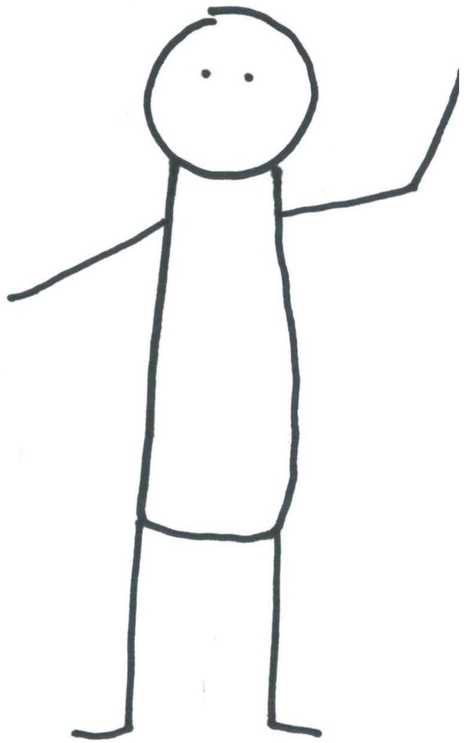
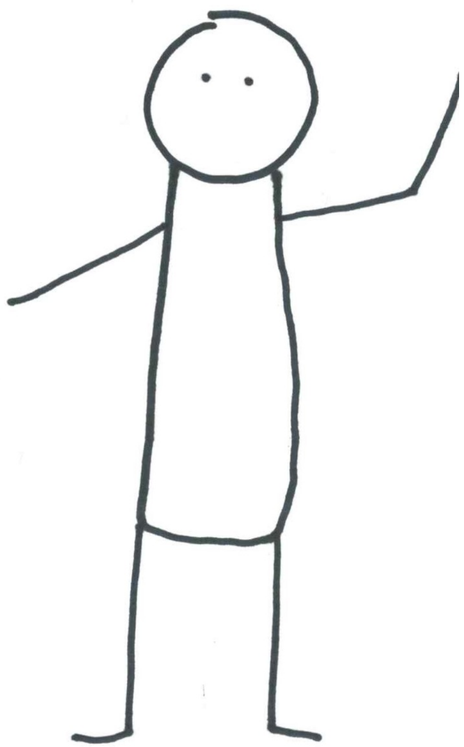


Holly Cummins
@holly_cummins

© 2013 IBM Corporation





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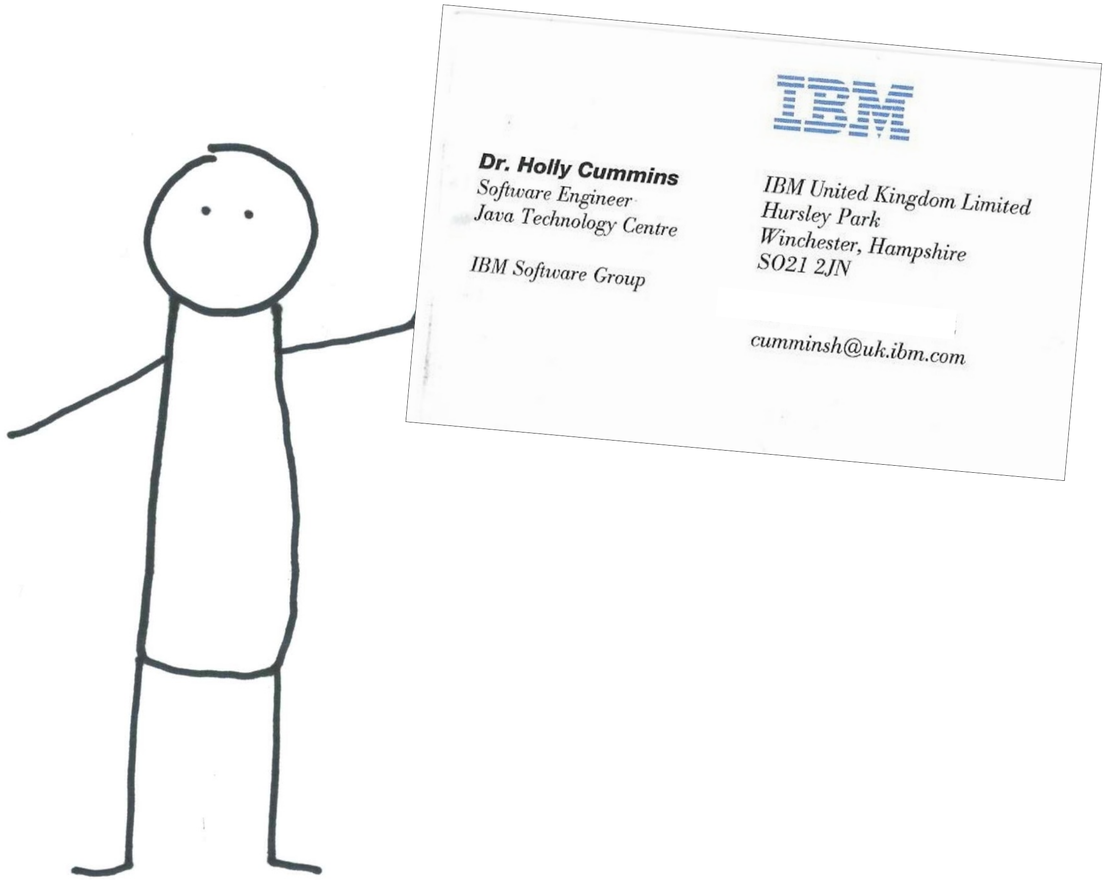
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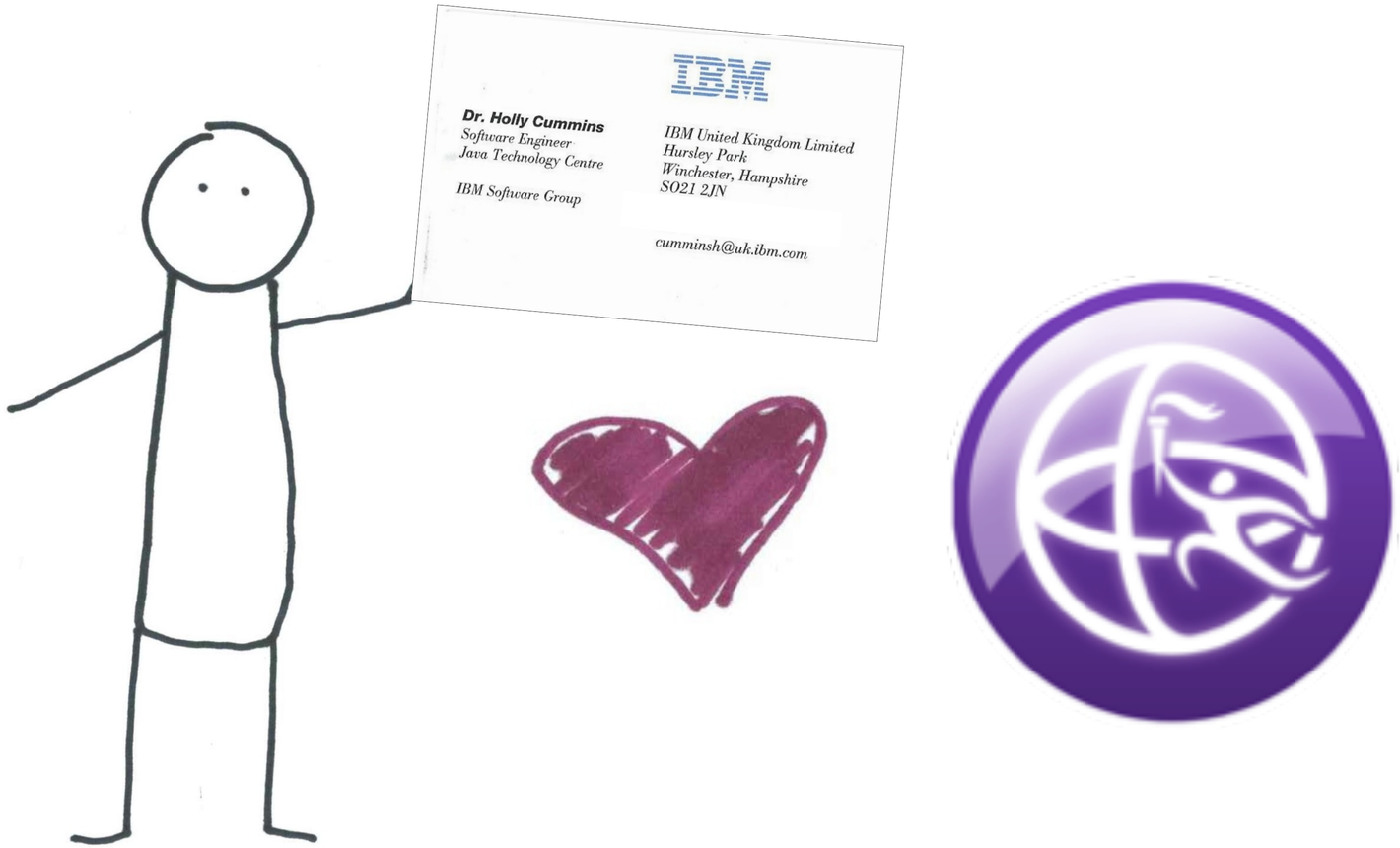
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Enterprise
OSGi
IN ACTION
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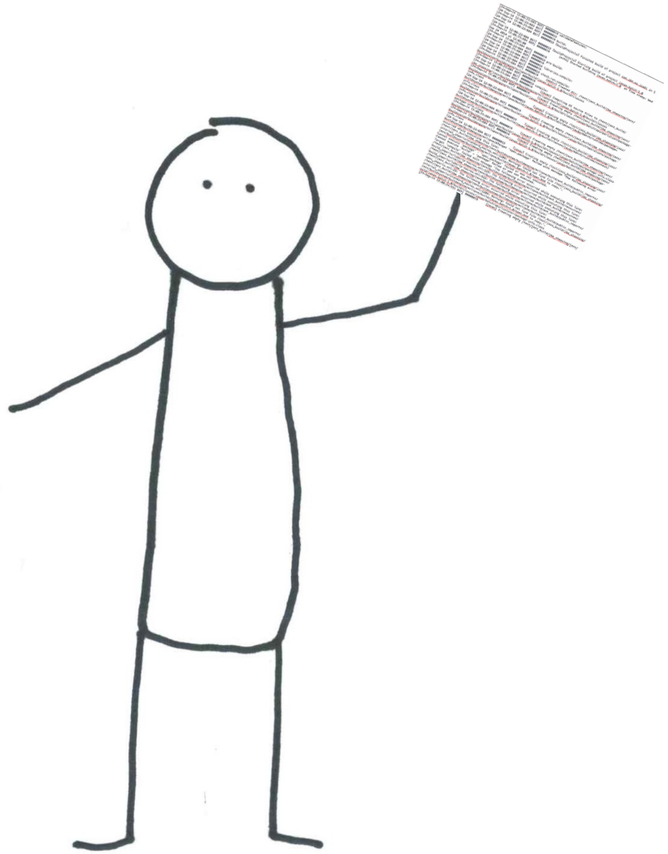
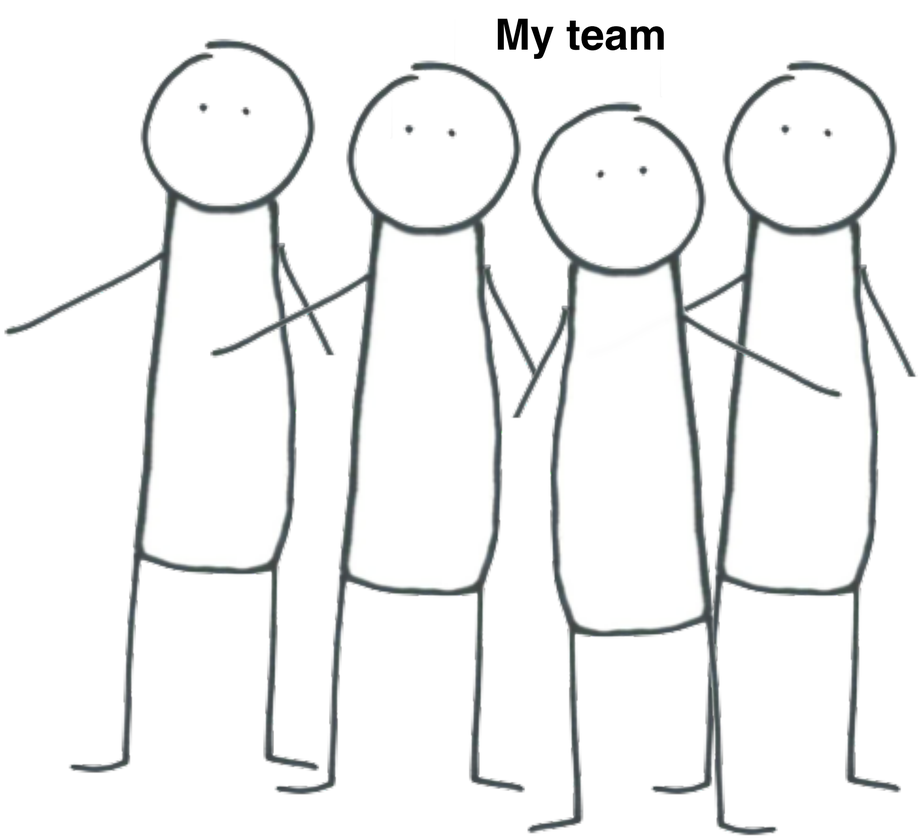
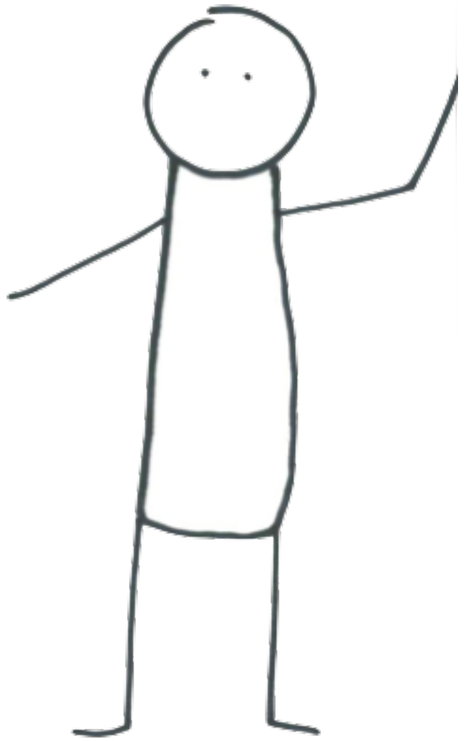
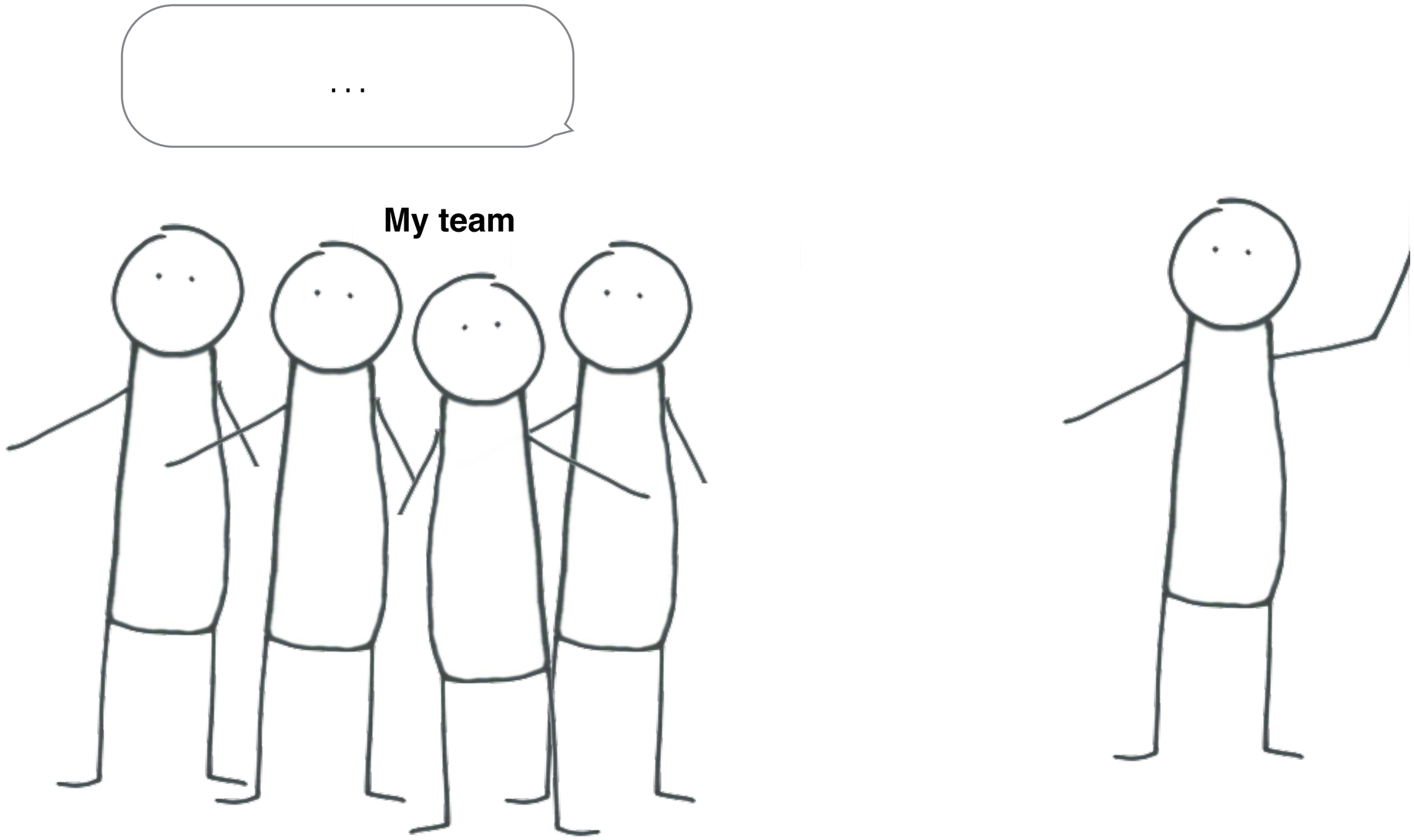
Timothy Ward
MANNING

Share yours too.
#automationconfessions

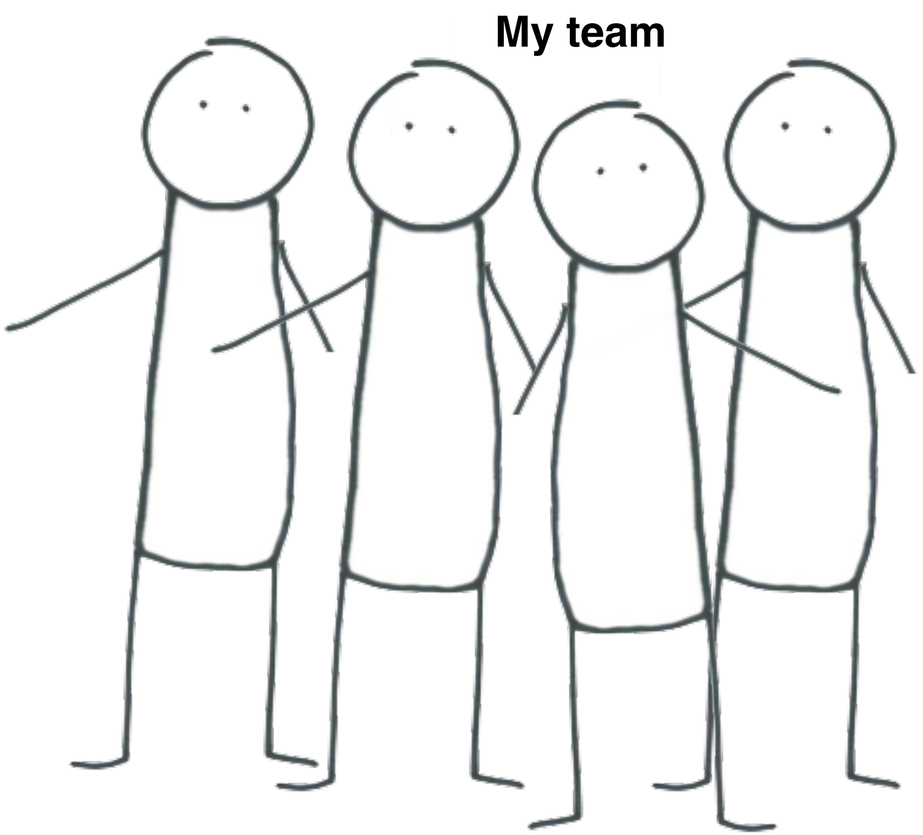



My team




...
My team

…



Can that be automated?

Alasdair

Alasdair

Look at my cool solution!

Holly, I give you all the worst jobs.

Alasdair

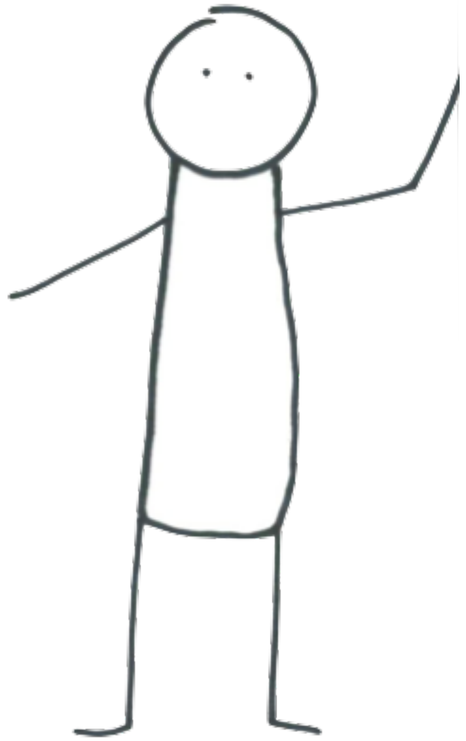
Look at my cool solution!

Holly, I give you all the worst jobs.

Alasdair

Look at my cool solution!

?!
Why??



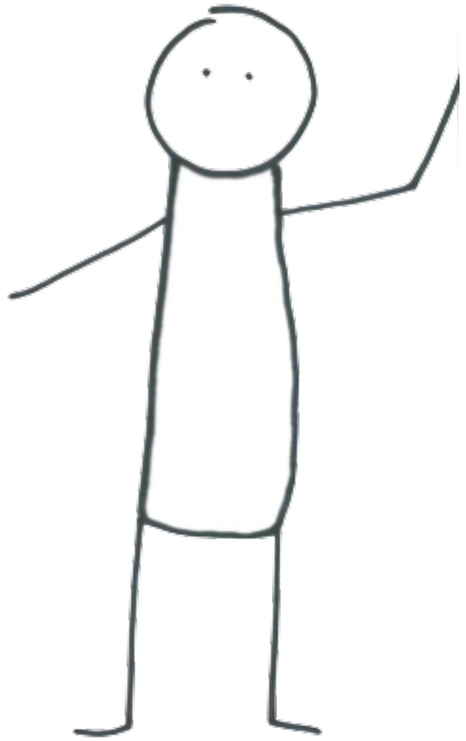
Holly, I give you all the worst jobs.

I know you'll automate them.

Alasdair

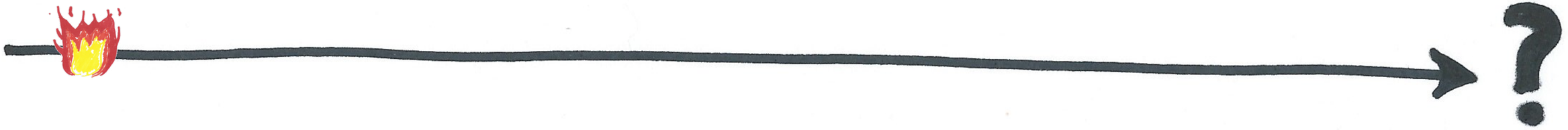
Look at my cool solution!

?!
Why??



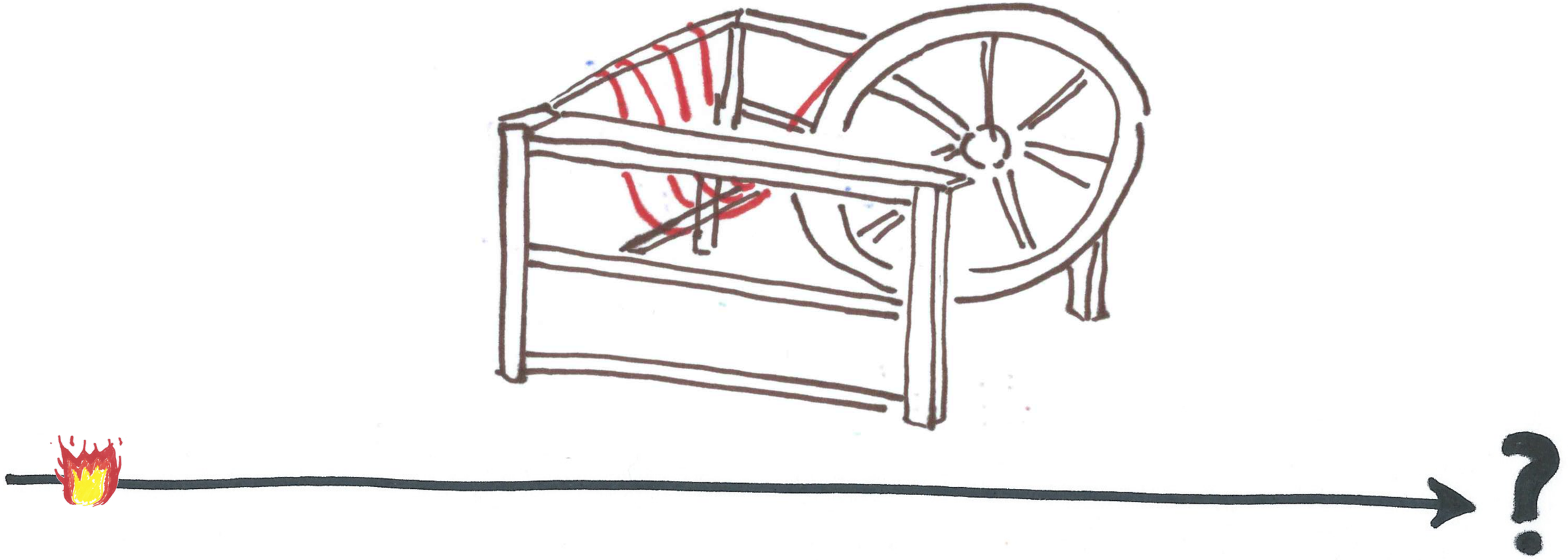
It’s not just me.

It’s not just me.



[Human history has been *slightly* simplified. Timeline is not to scale.]

It’s not just me.



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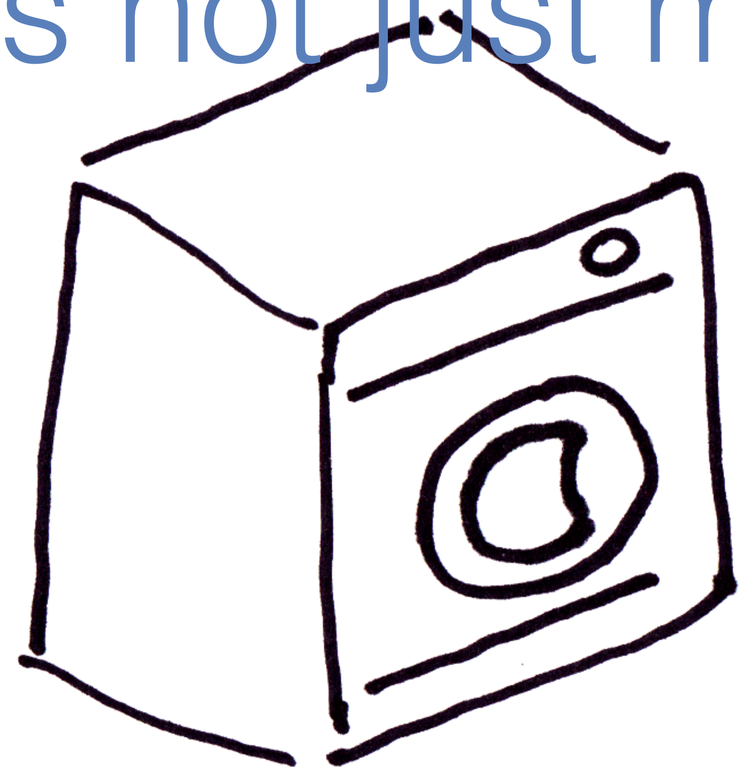

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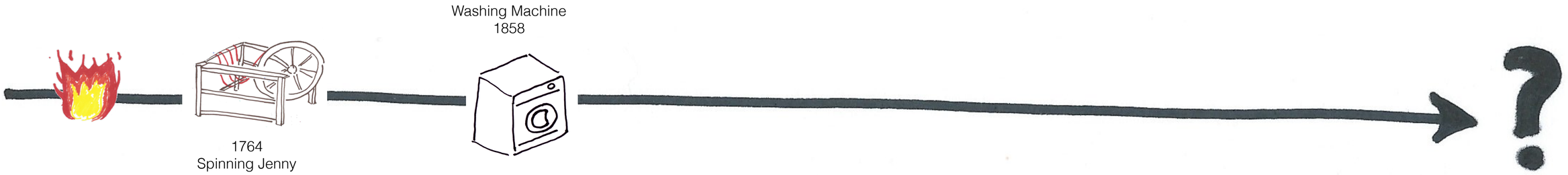

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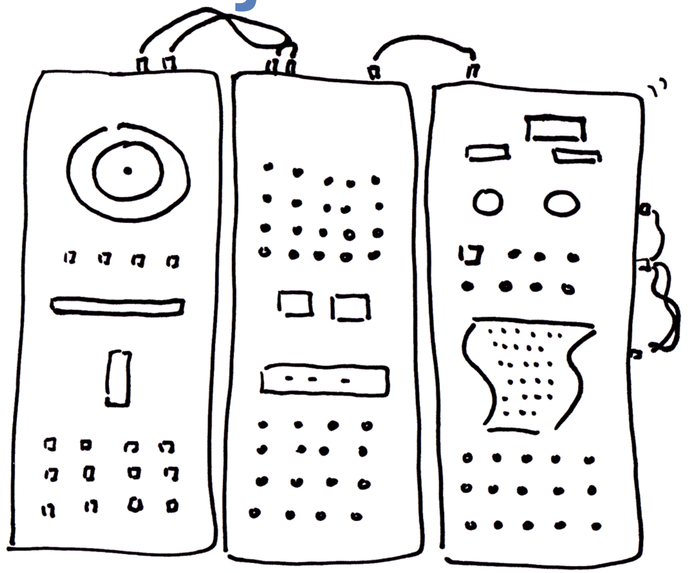

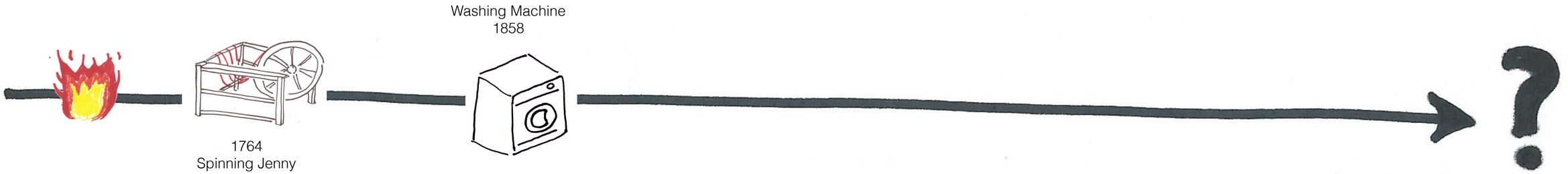

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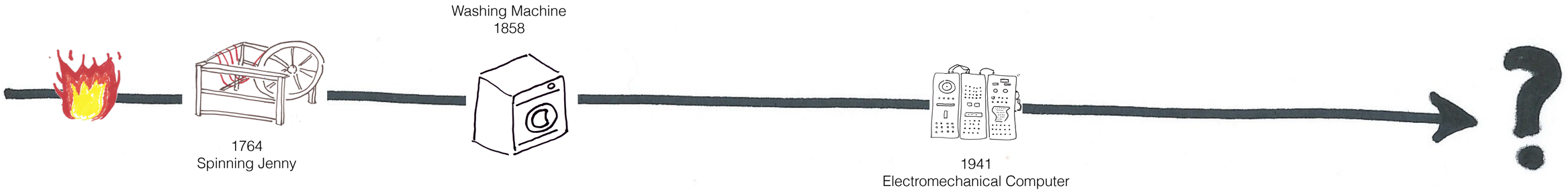

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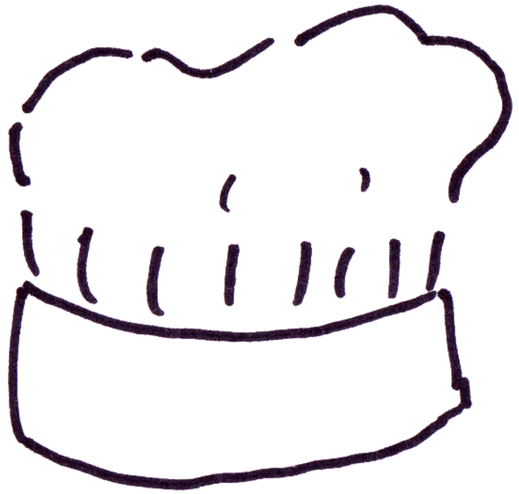

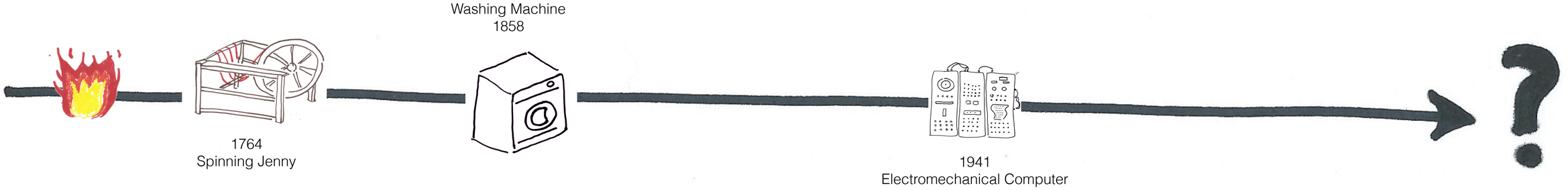

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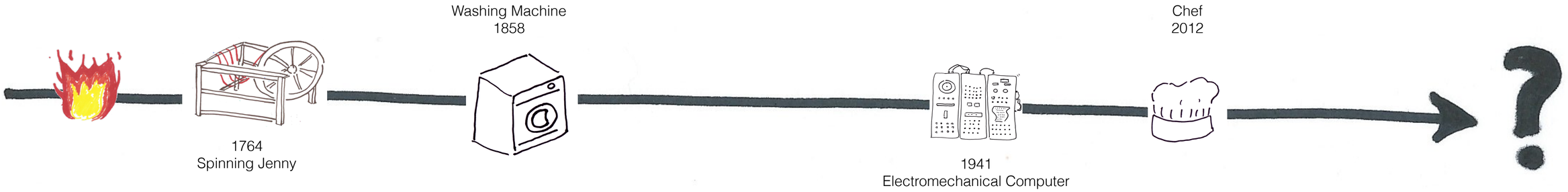

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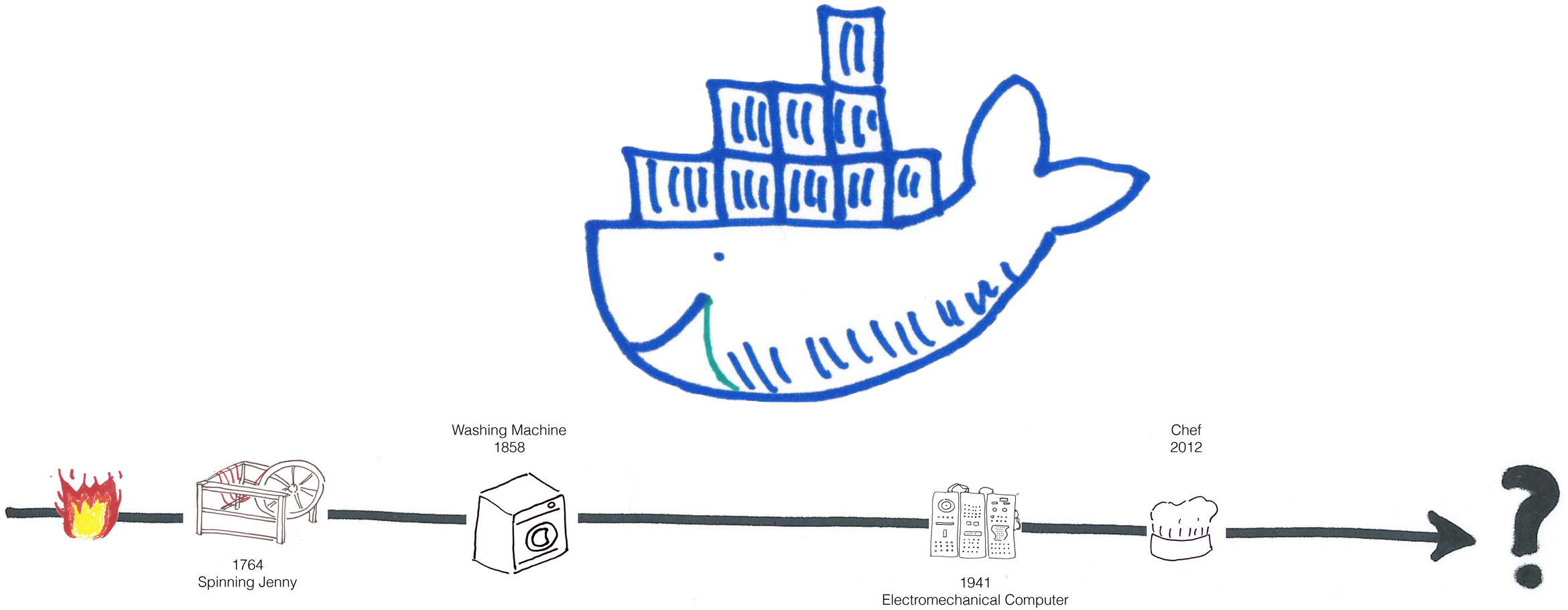

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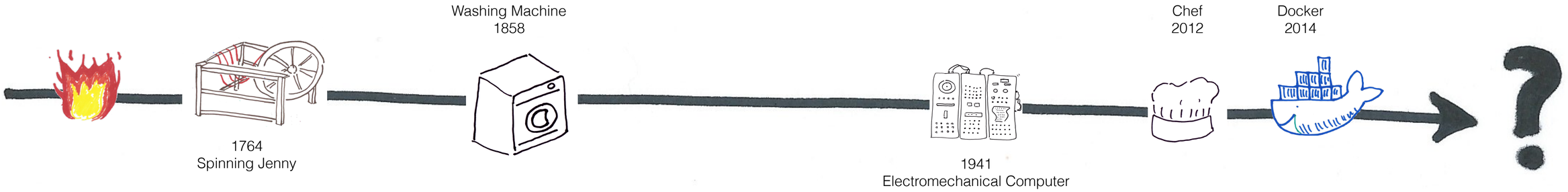
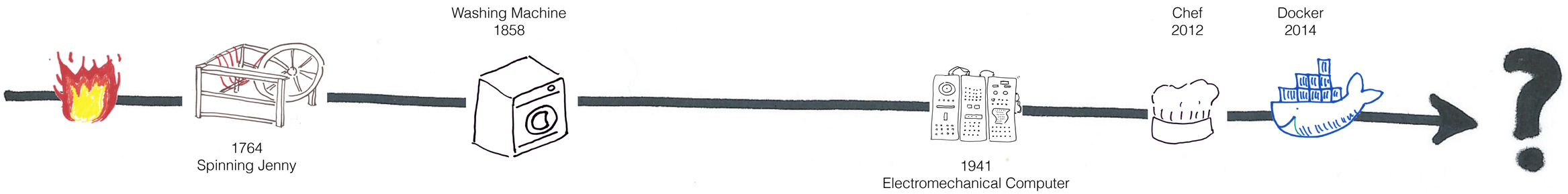


[Human history has been *slightly* simplified. Timeline is not to scale.]

It’s not just me.

More and more is automated.

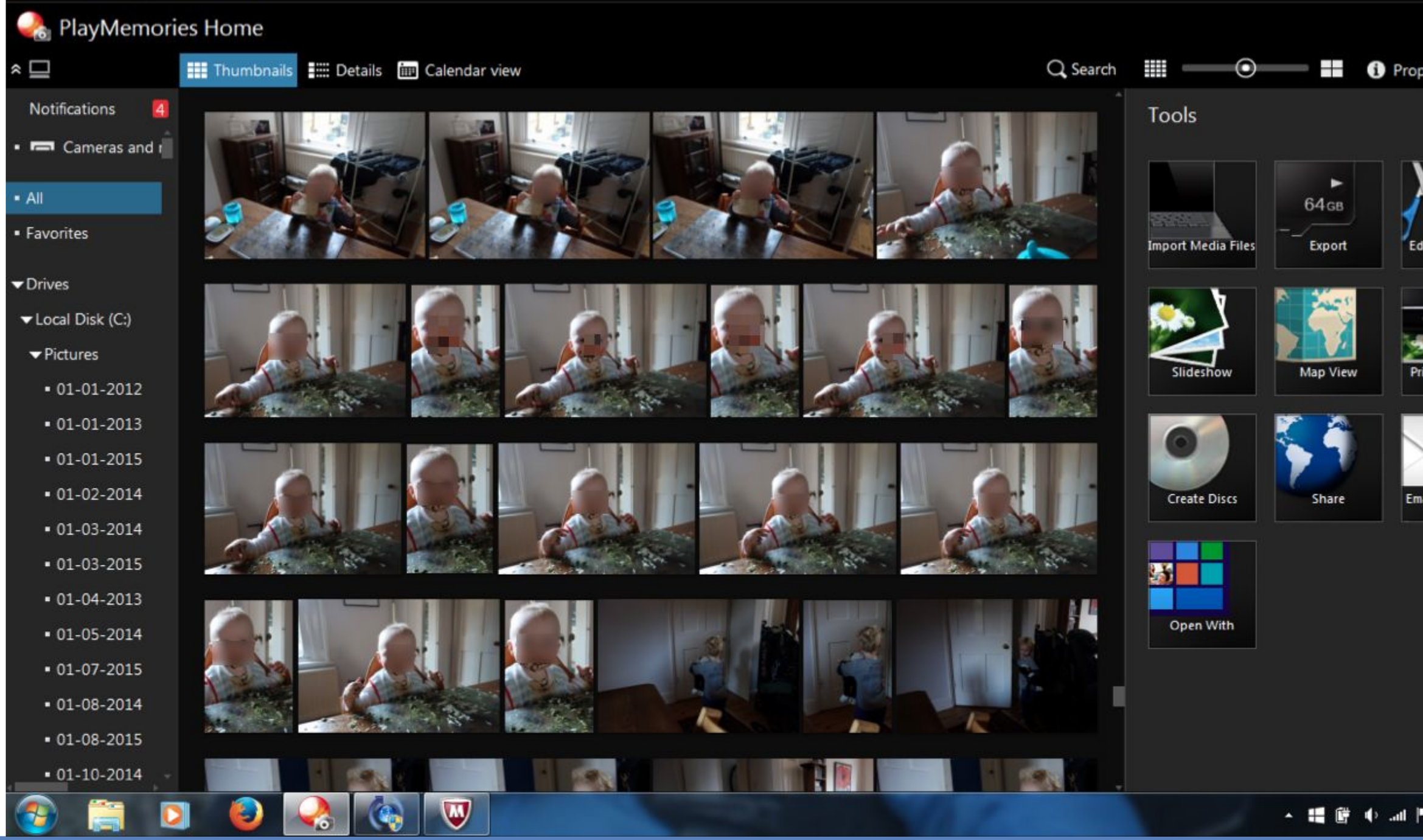


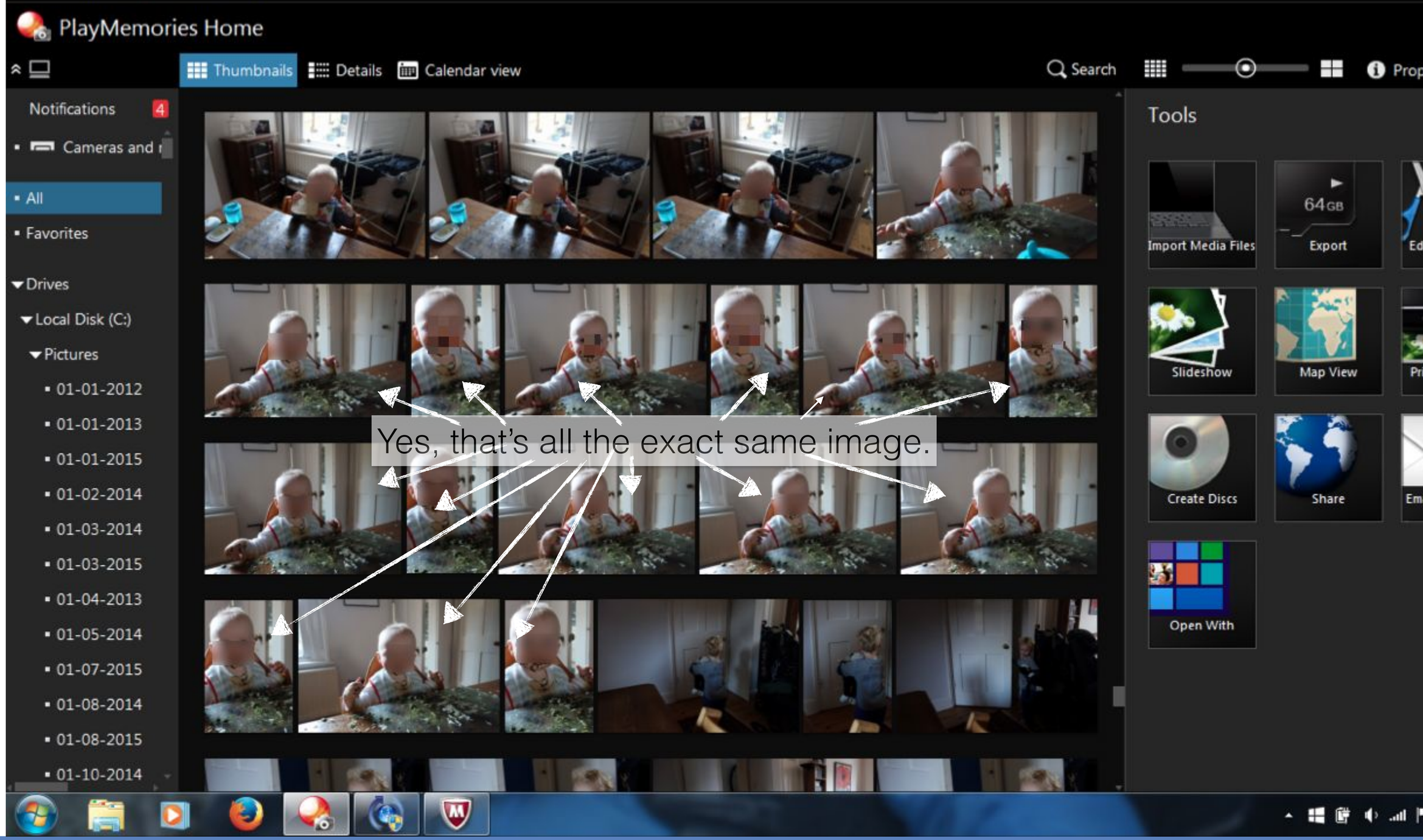
[Human history has been *slightly* simplified. Timeline is not to scale.]

So are we living the dream?

So are we living the dream?

Well. Not quite.


PlayMemories Home
Thumbnails
Details
Calendar view
Search
Notifications
4
Cameras and
All
Favorites
Drives
Local Disk (C:)
Pictures
01-01-2012
01-01-2013
01-01-2015
01-02-2014
01-03-2014
01-03-2015
01-04-2013
01-05-2014
01-07-2015
01-08-2014
01-08-2015
01-10-2014
Tools
Import Media Files
64GB
Export
Slideshow
Map View
Create Discs
Share
Open With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01-01-2012
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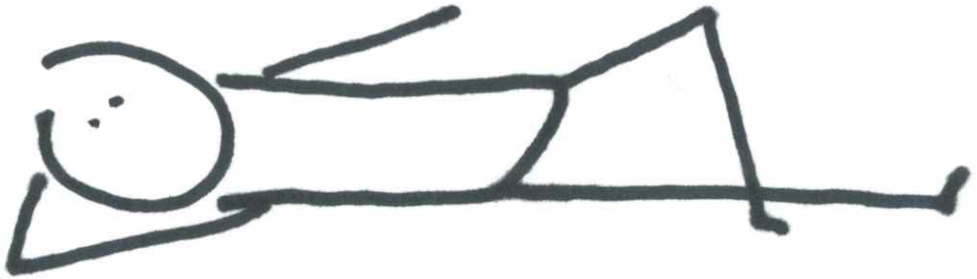
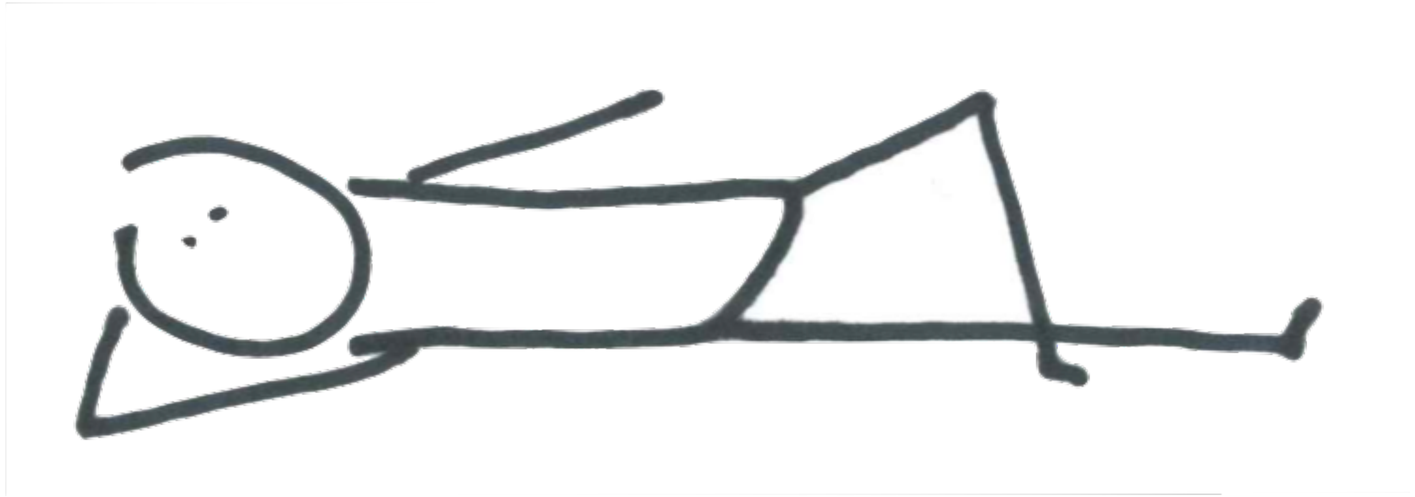
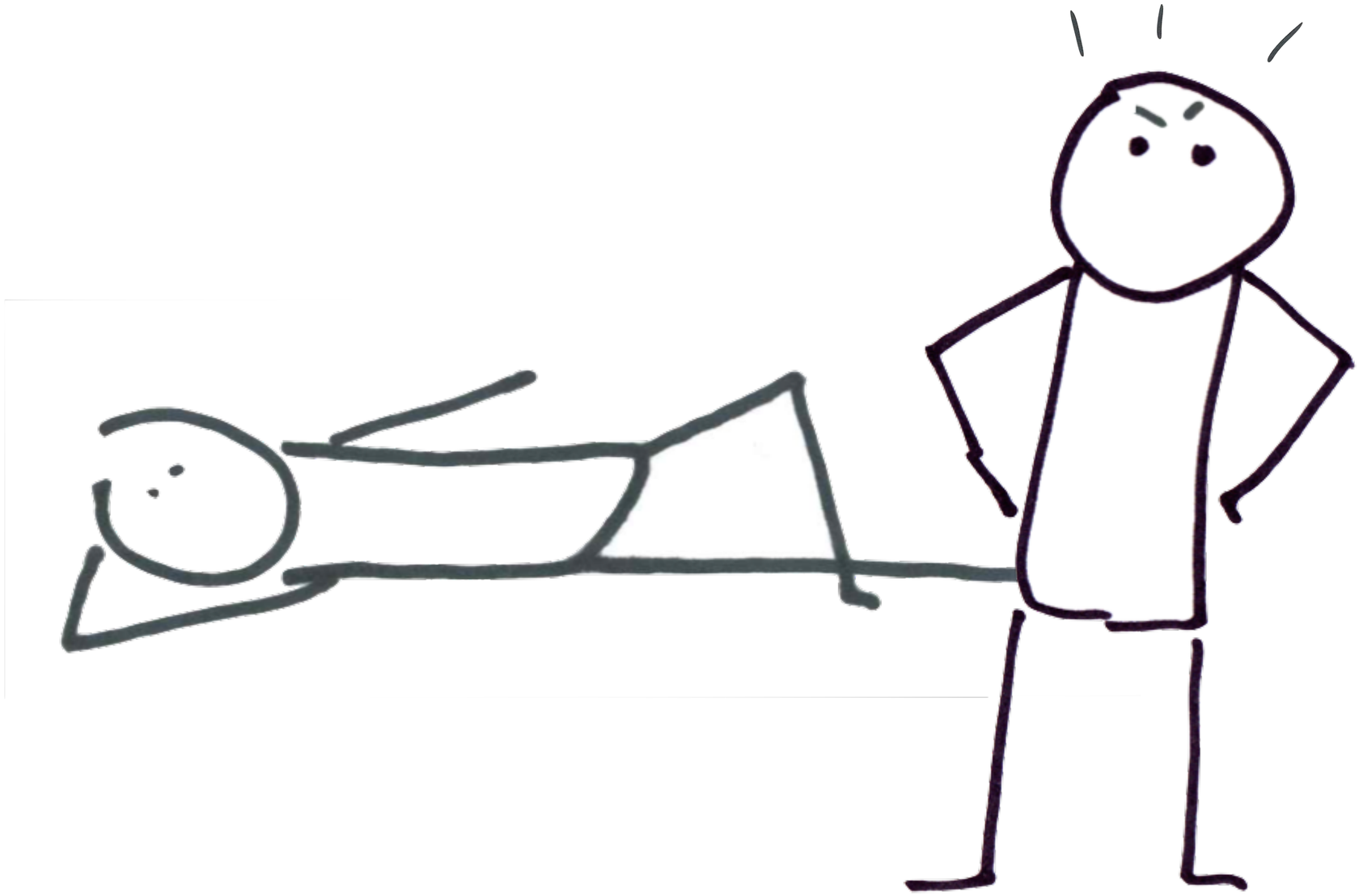
01-02-2014
01-03-2014
01-03-2015
01-04-2013
01-05-2014
01-07-2015
01-08-2014
01-08-2015
01-10-2014
Yes, that's all the exact same image.
Tools
Import Media Files
64GB
Export
Slideshow
Map View
Create Discs
Share
Open With

Why automate?



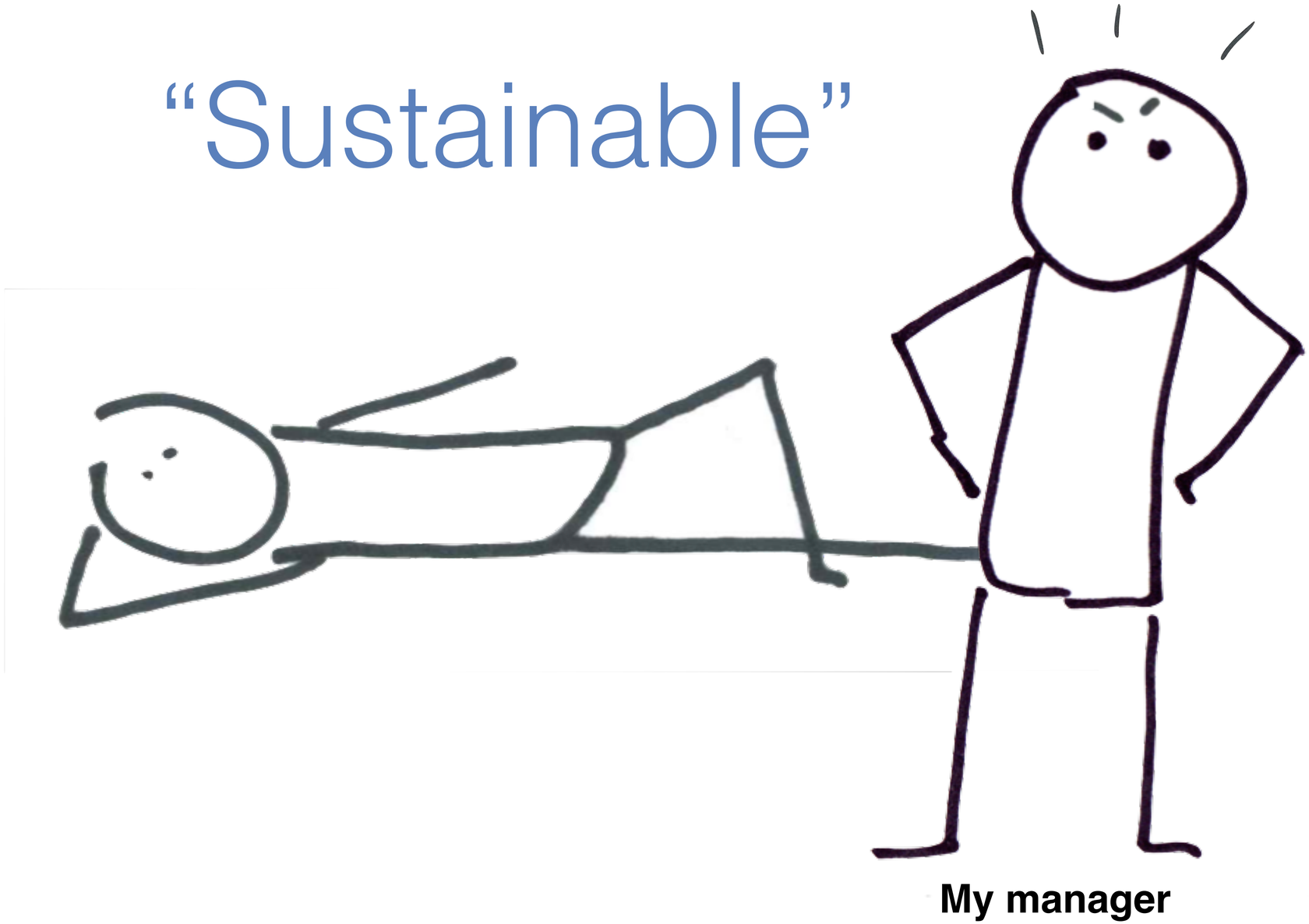
Automate because we are *lazy*



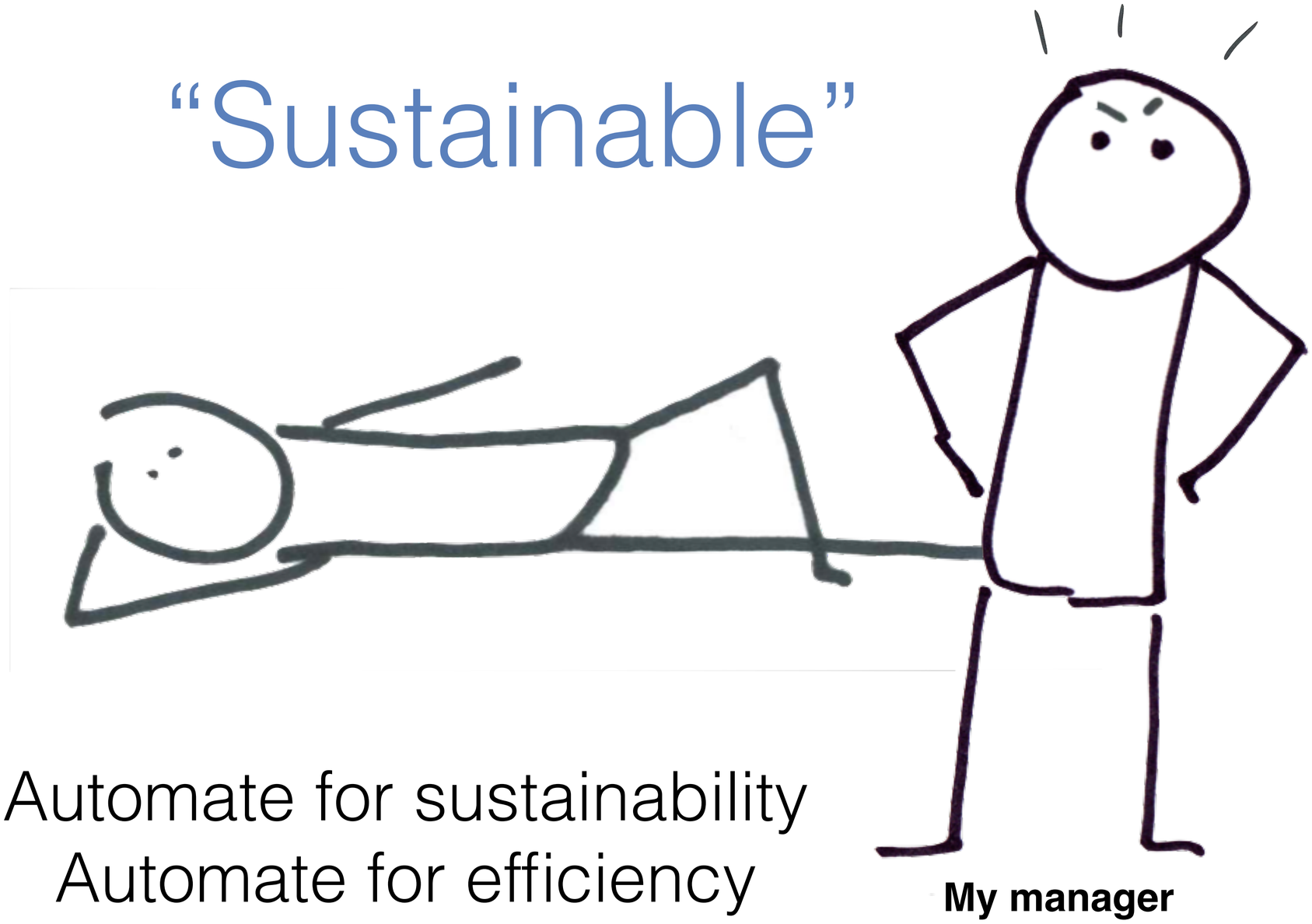


My manager

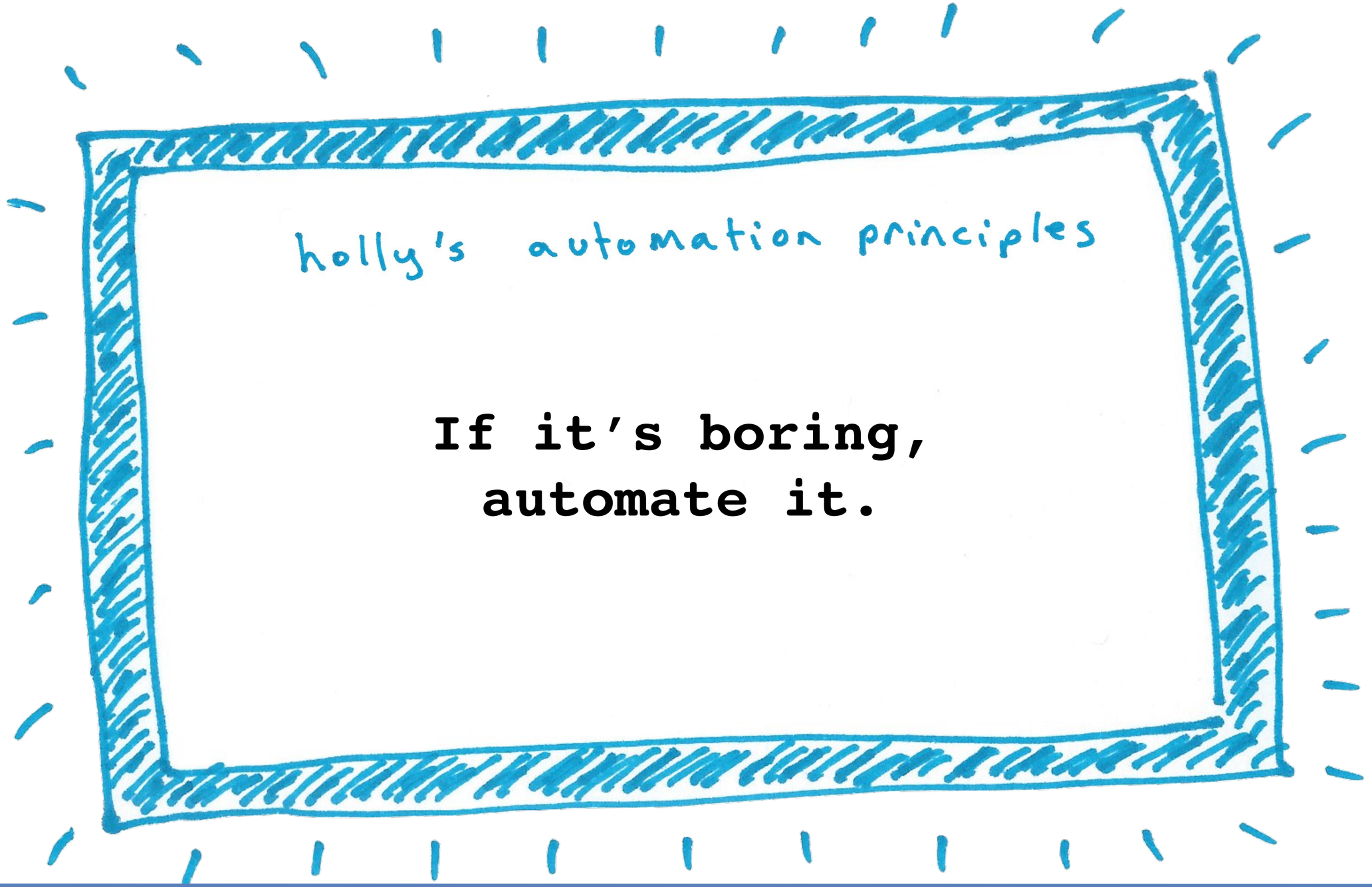
“Sustainable”



“Sustainable”

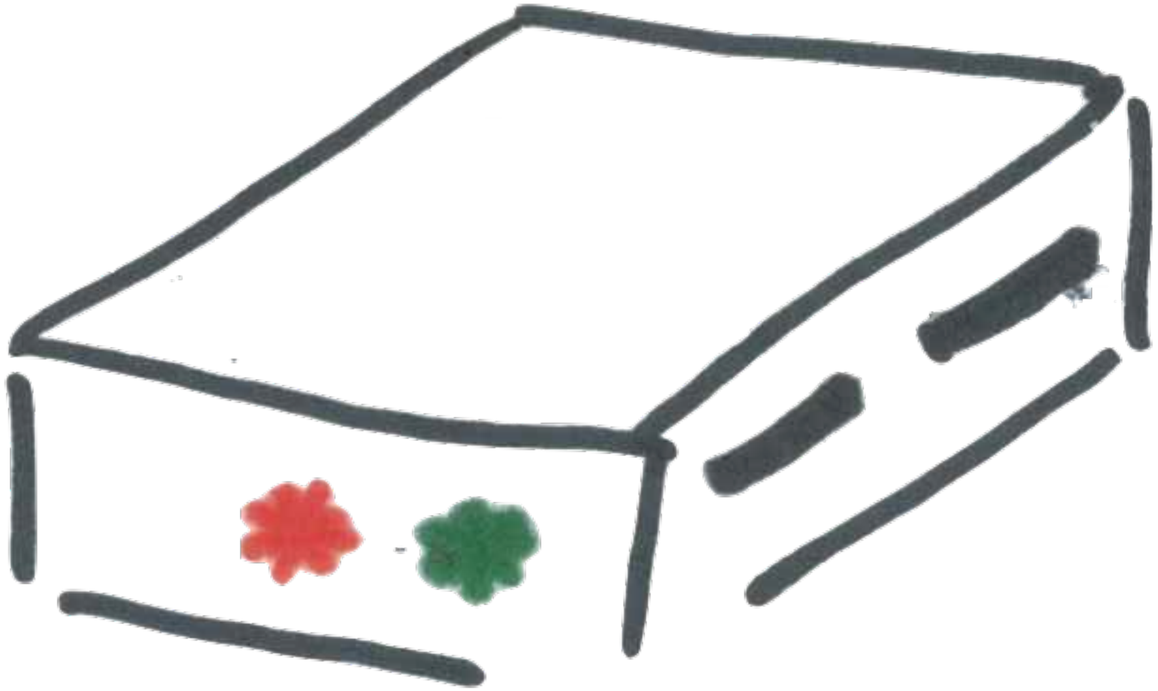


Automate for sustainability
Automate for efficiency


holly's automation principles
If it's boring,
automate it.

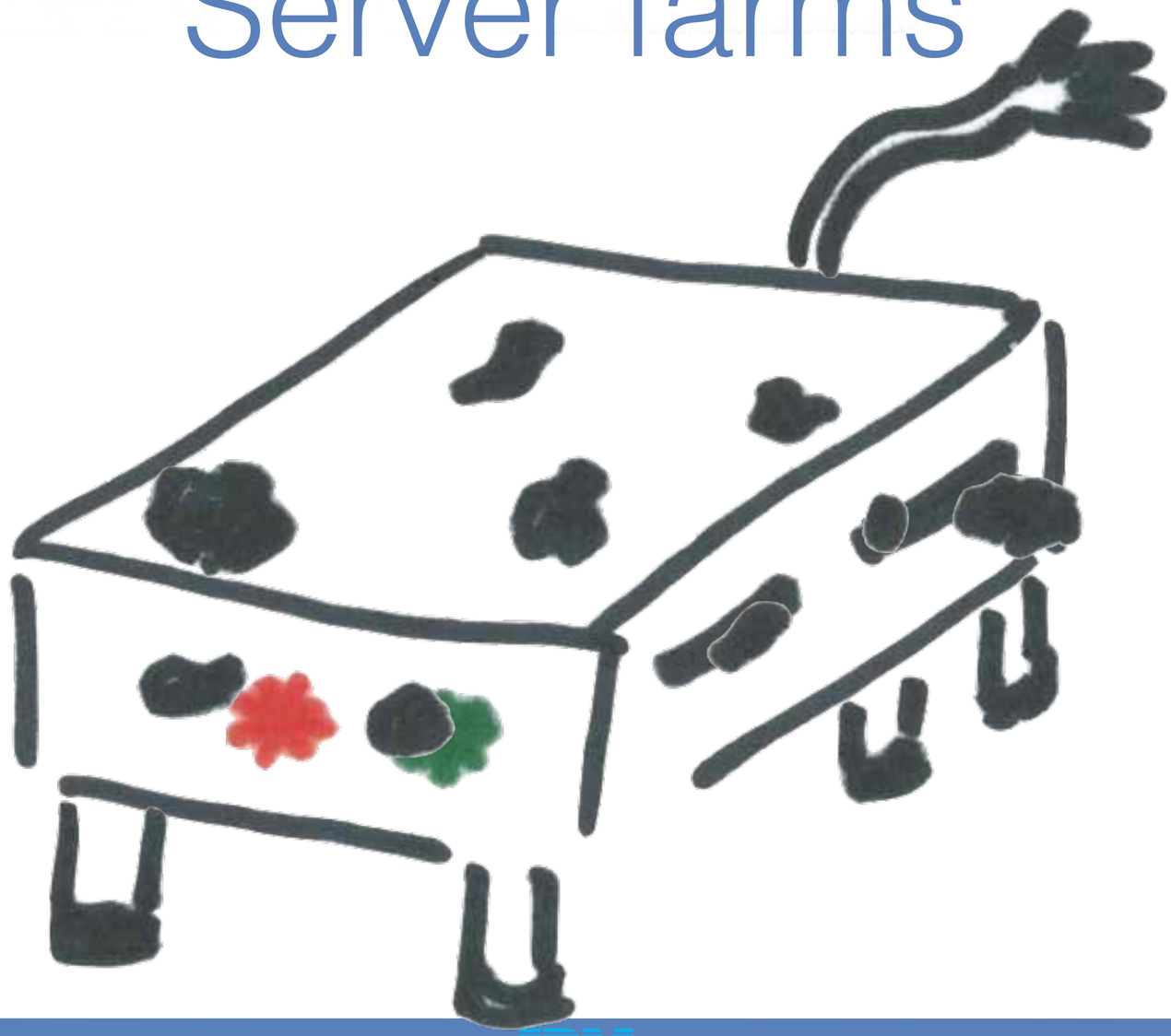
example

Server farms

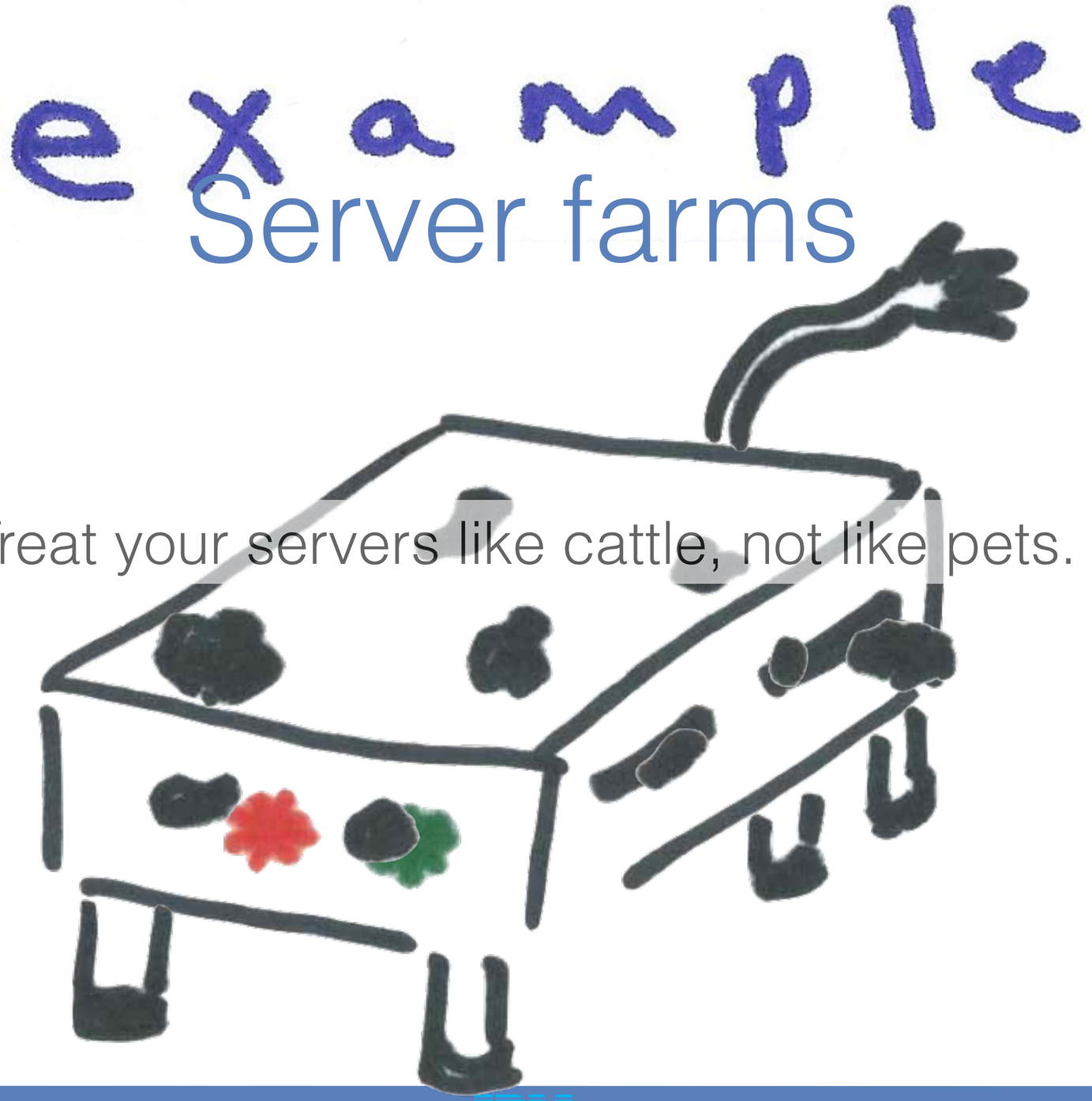


example

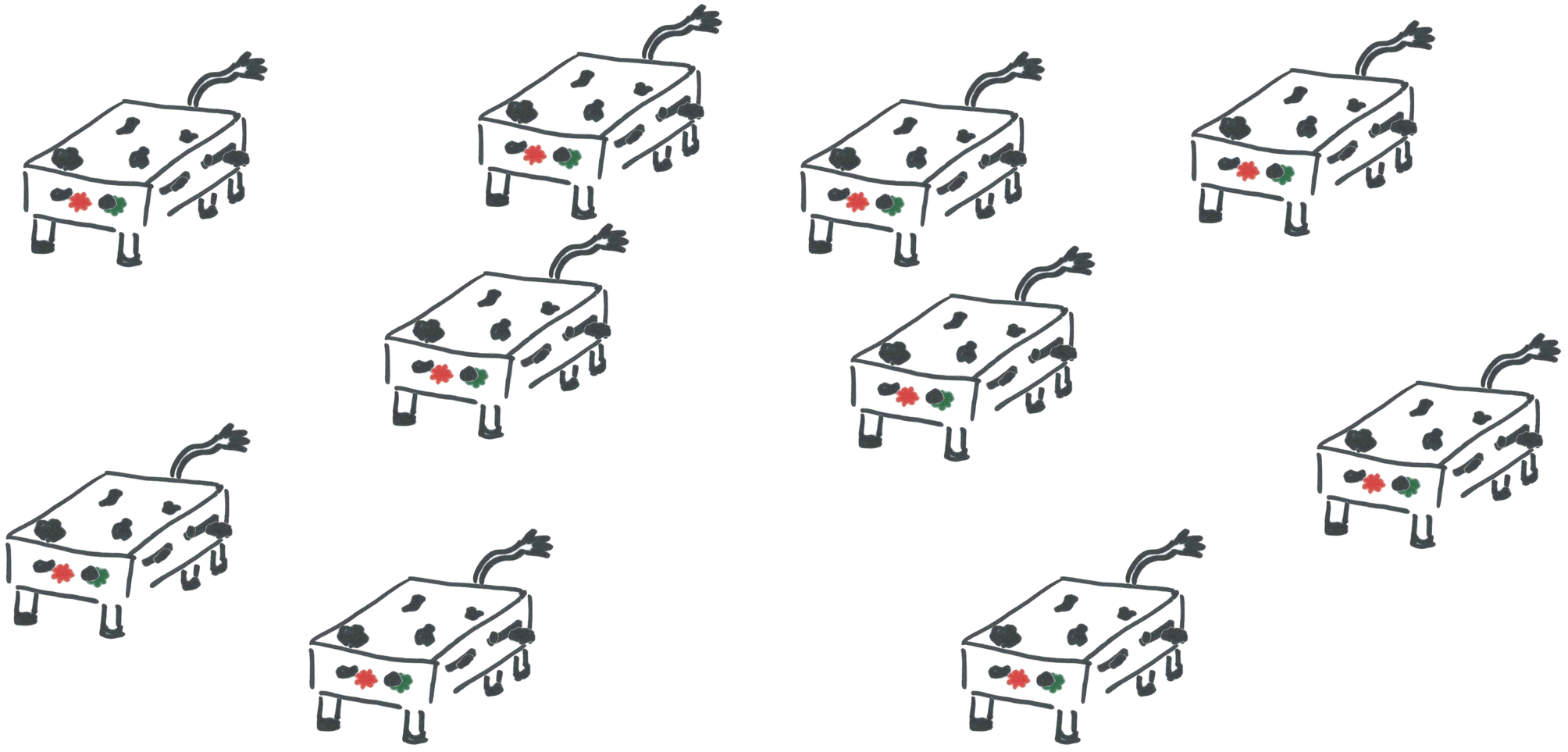
Server farms

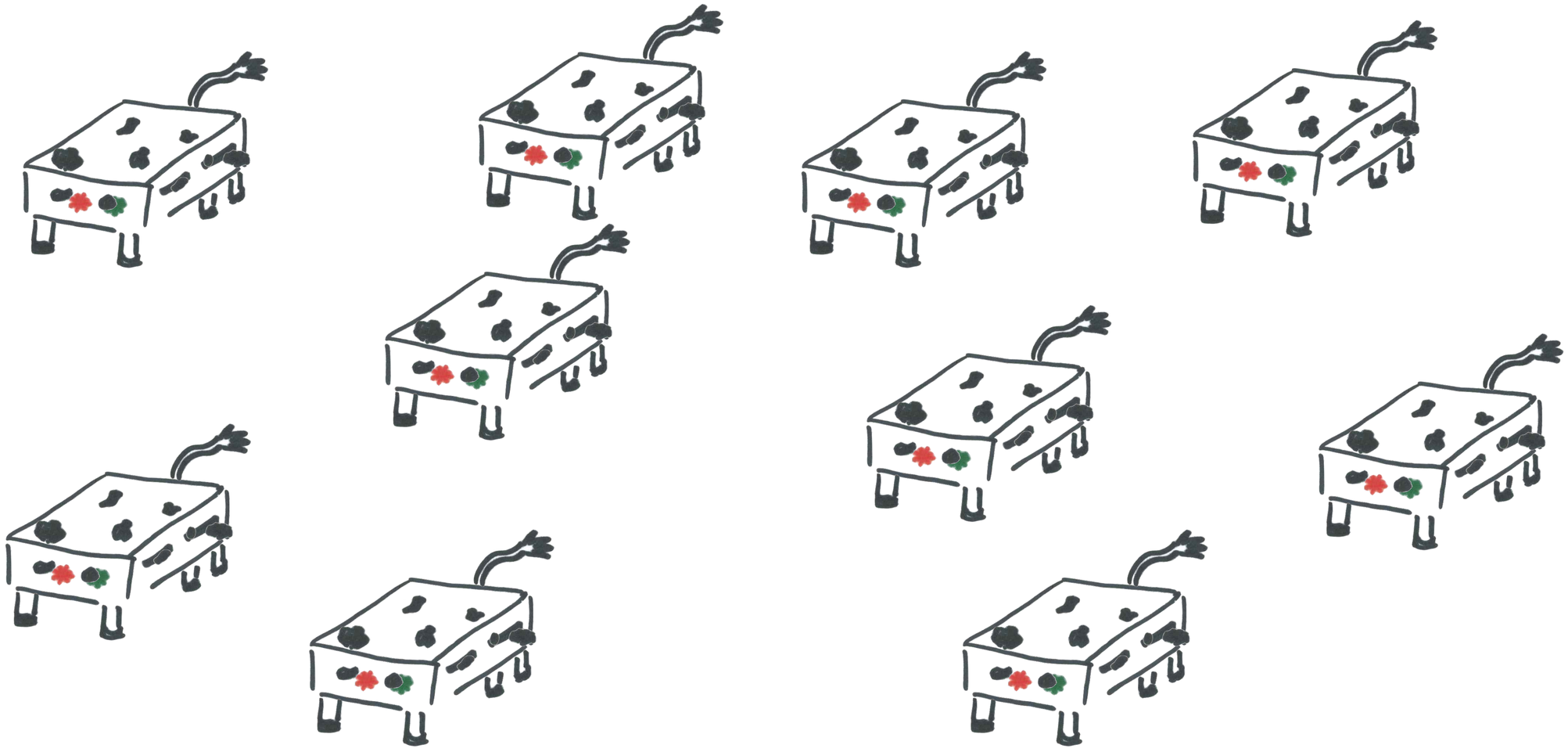


Server farms



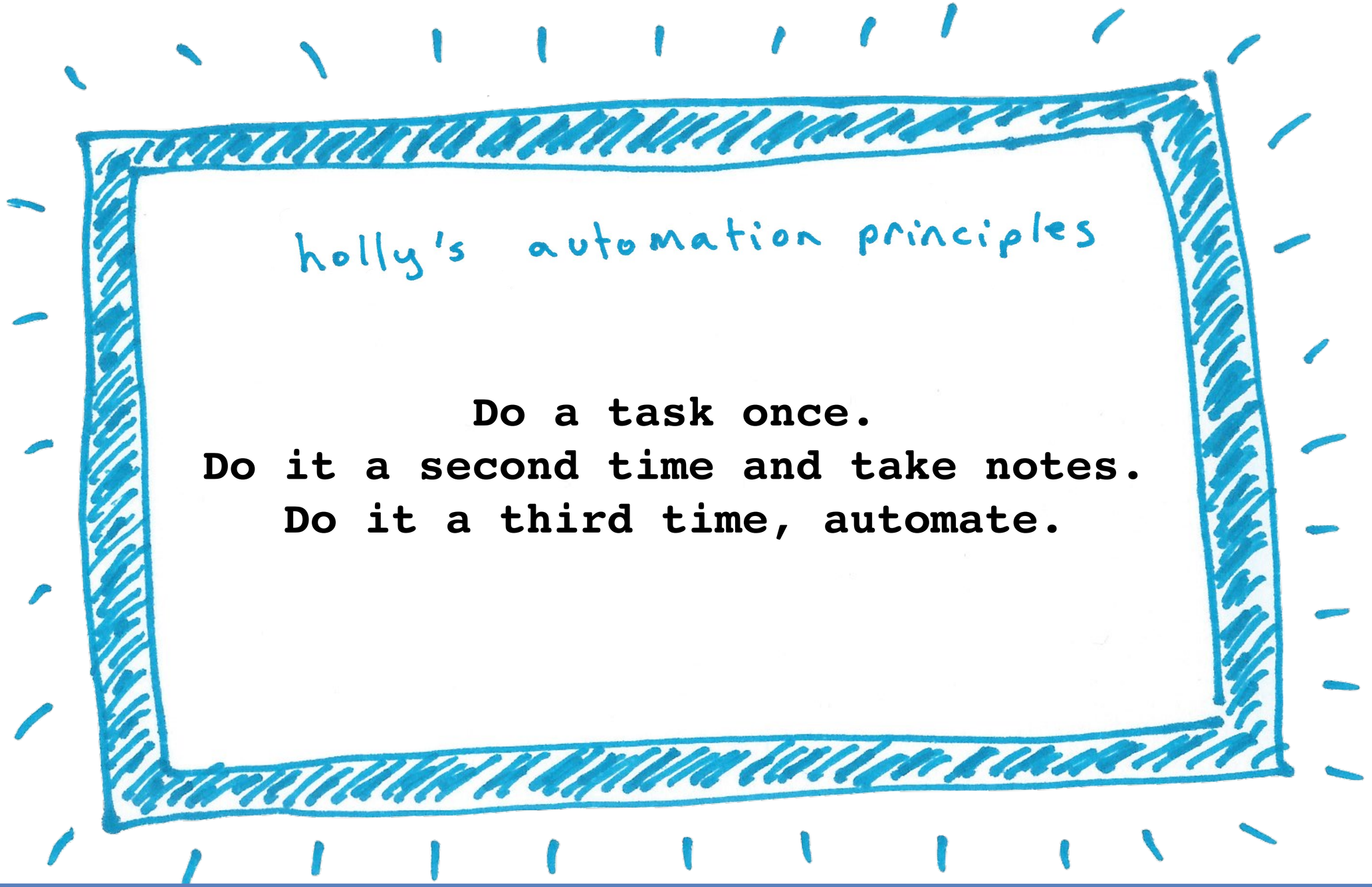
Treat your servers like cattle, not like pets.



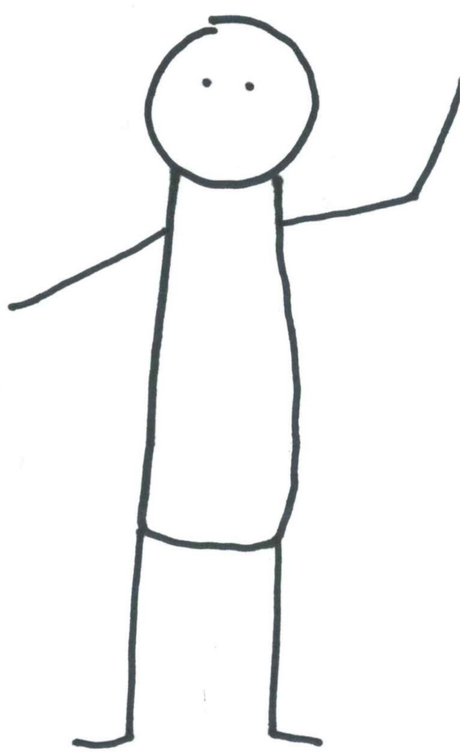


Scale

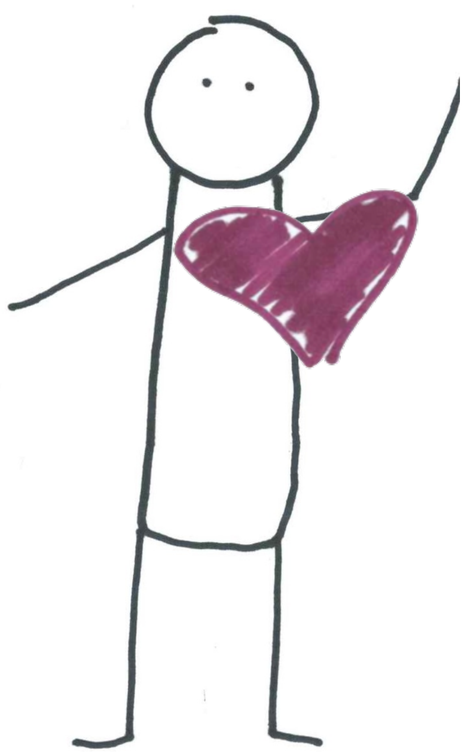
The more of you there are,
the more you need to invest
in automation


holly's automation principles
Do a task once.
Do it a second time and take notes.
Do it a third time, automate.

Why Automate?

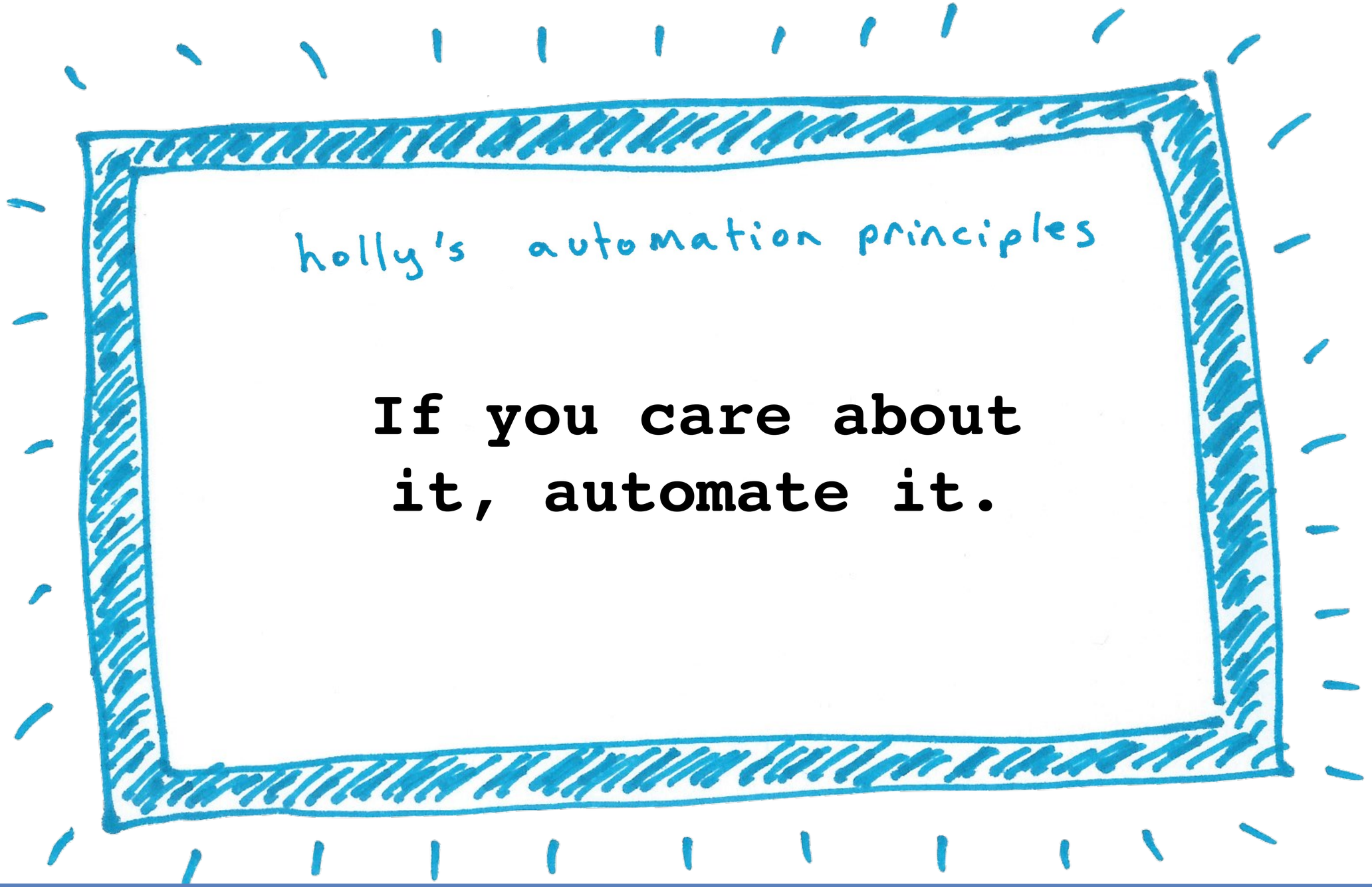


Why Automate?



Why Automate?

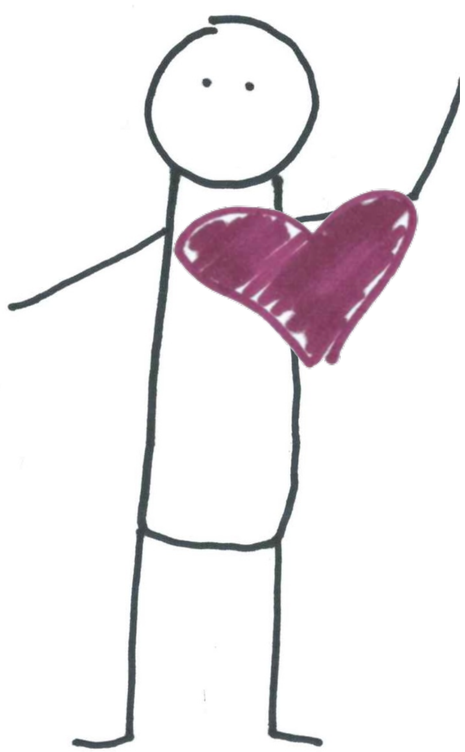
Automate because you care


holly's automation principles
If you care about it, automate it.

Why Automate?

Automate because you care

Why Automate?



Automate because you care that it happens at all

Marvin

Marvin

- Build breaks (including test failures) should be reverted from the stream

Marvin

- Build breaks (including test failures) should be reverted from the stream
- No one wanted to be the one who did it

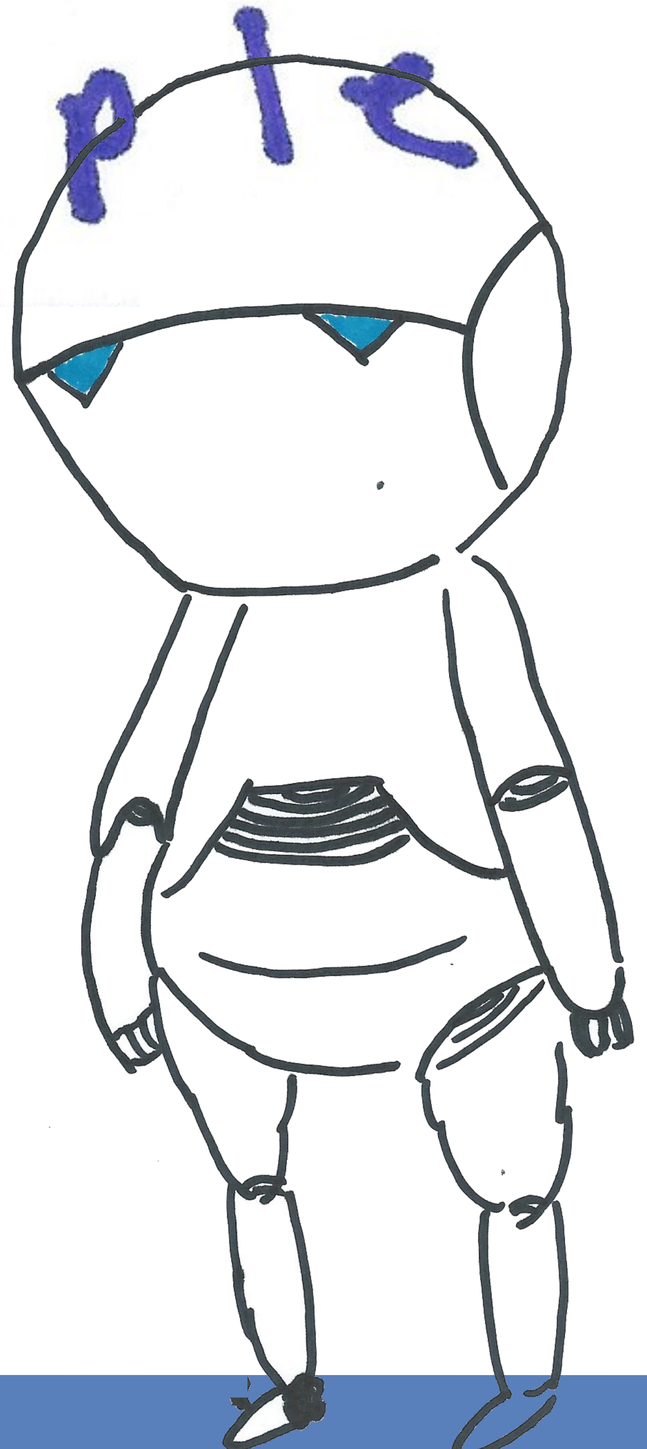
Marvin

- Build breaks (including test failures) should be reverted from the stream
- No one wanted to be the one who did it
- It didn't happen

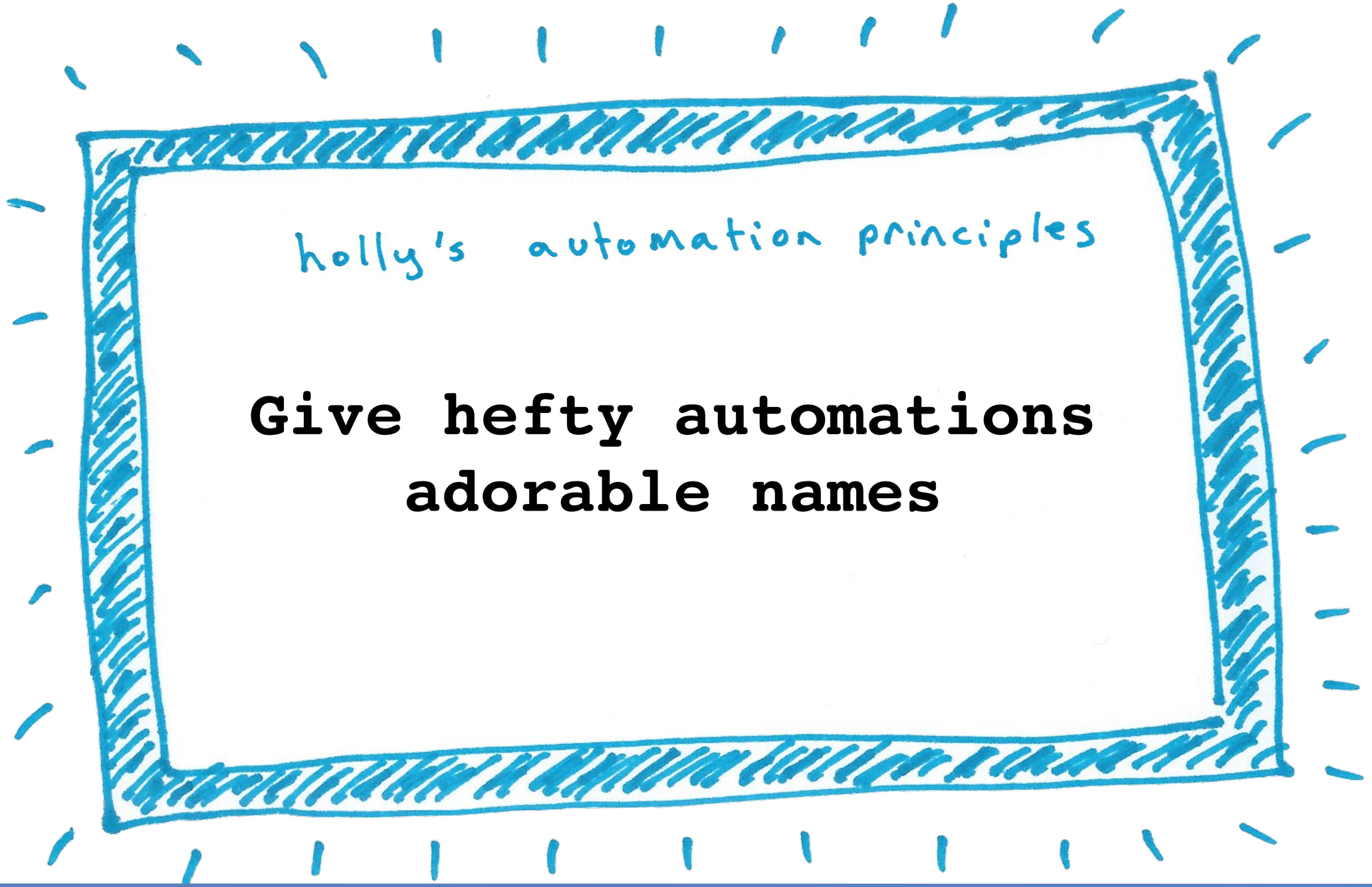
Marvin

- Build breaks (including test failures) should be reverted from the stream
- No one wanted to be the one who did it
- It didn't happen
- Solution: Automate!

example Marvin

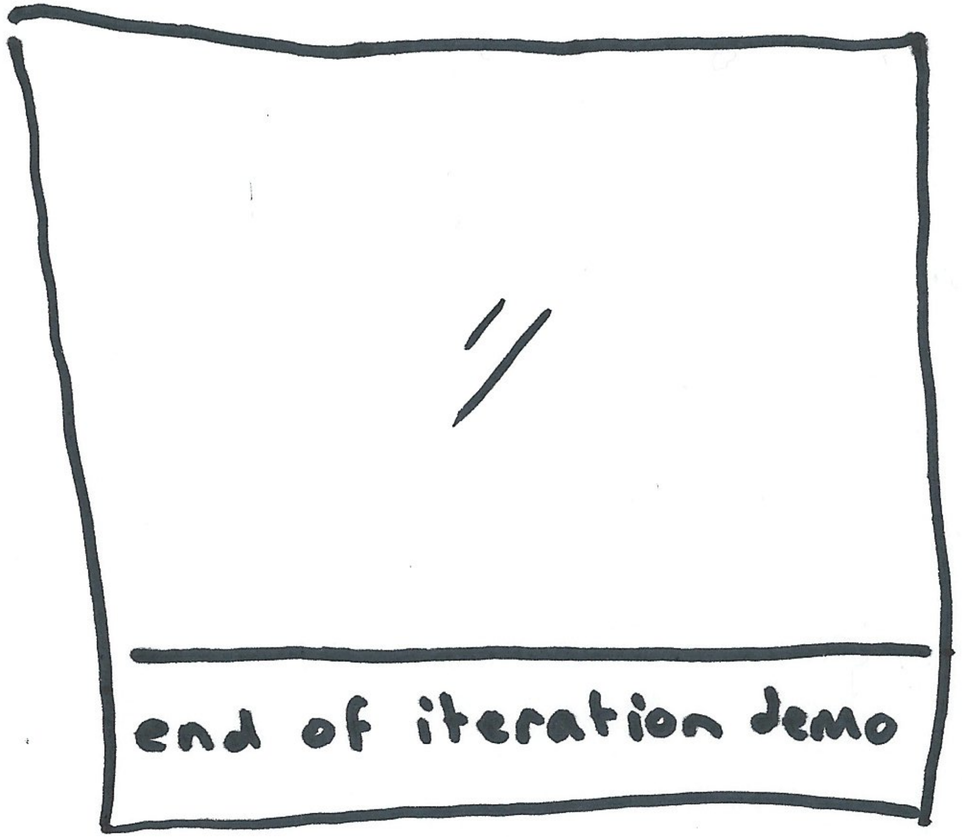


- Build breaks (including test failures) should be reverted from the stream
- No one wanted to be the one who did it
- It didn't happen
- Solution: Automate!

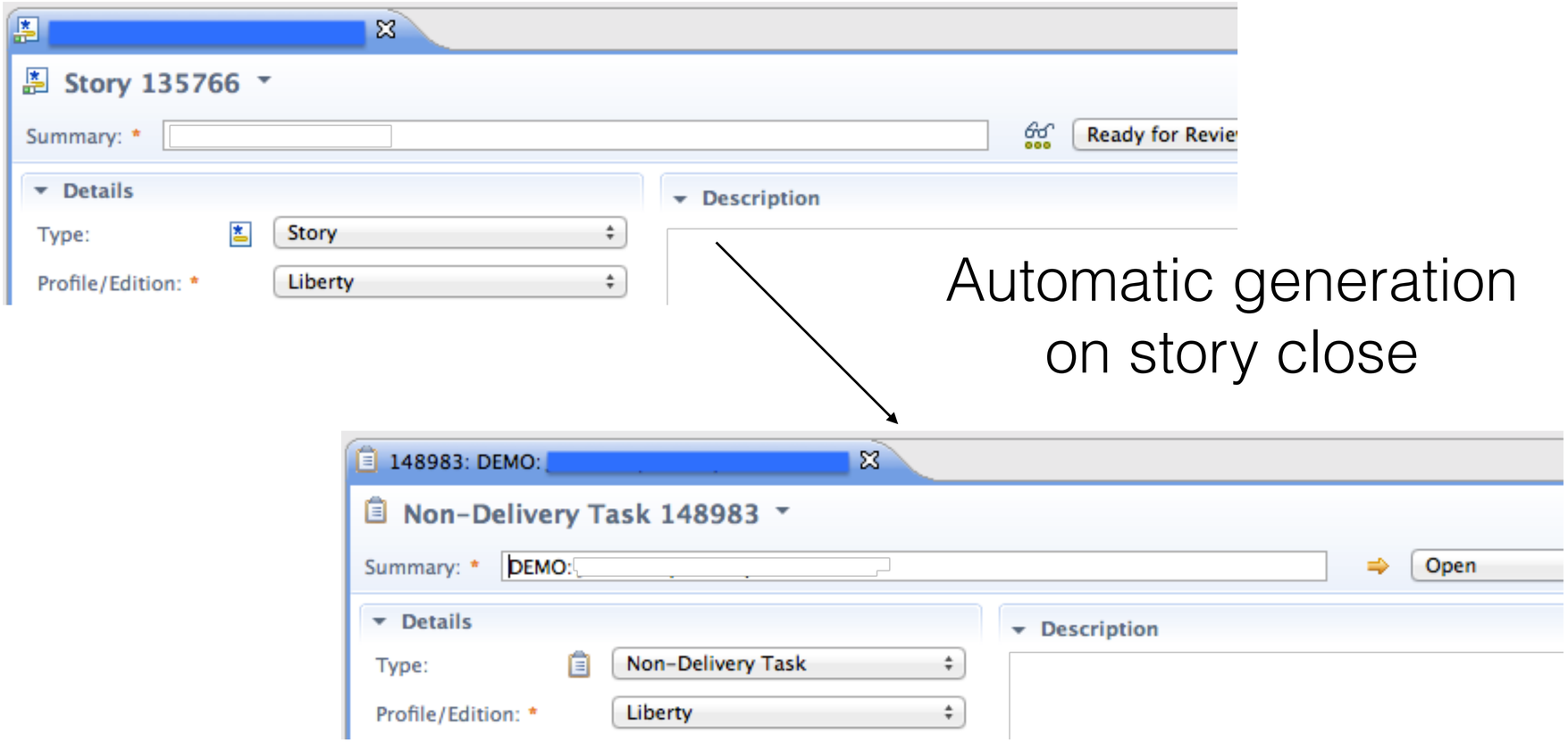

holly's automation principles
Give hefty automations adorable names

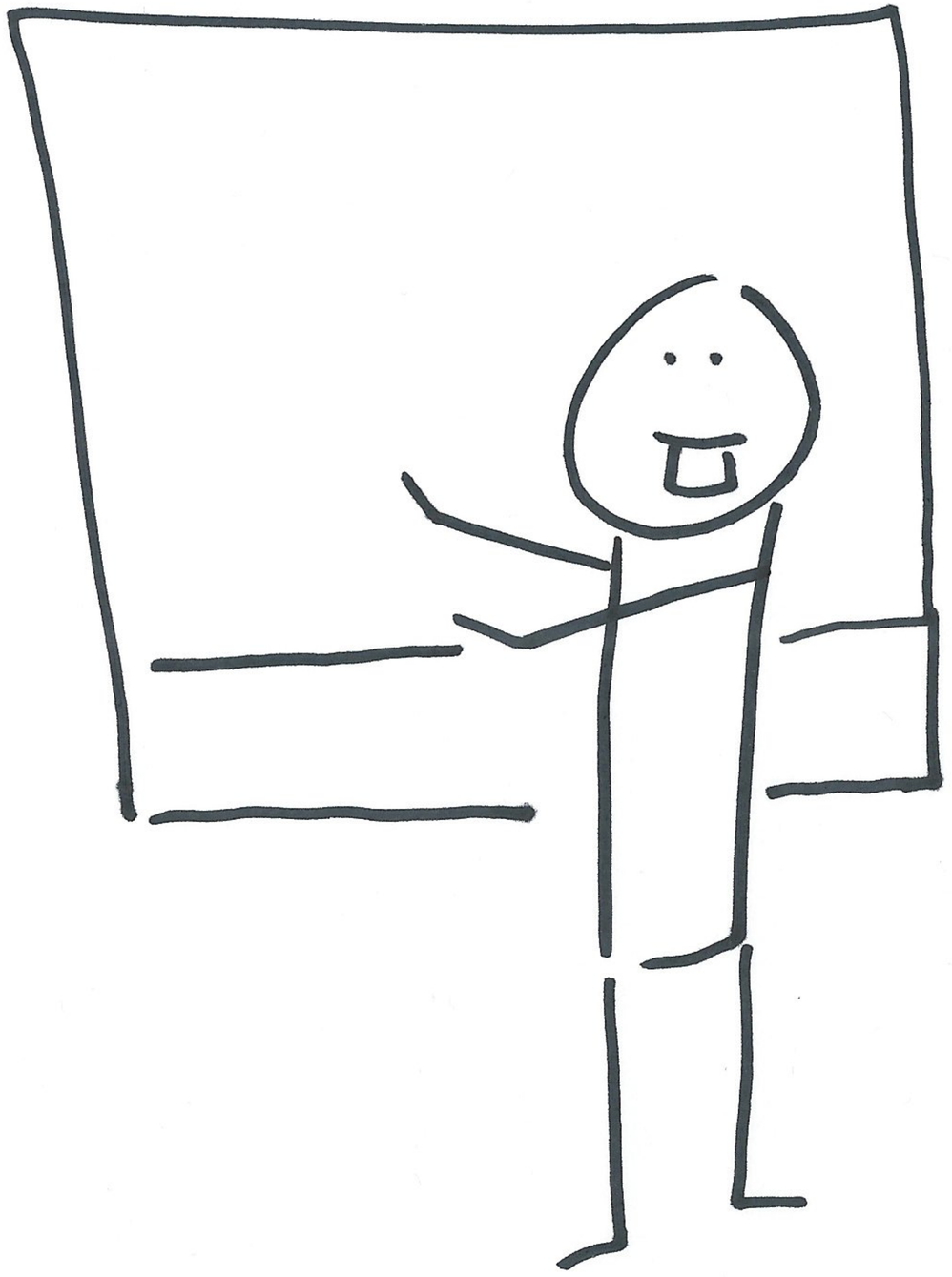
example

End of iteration demos

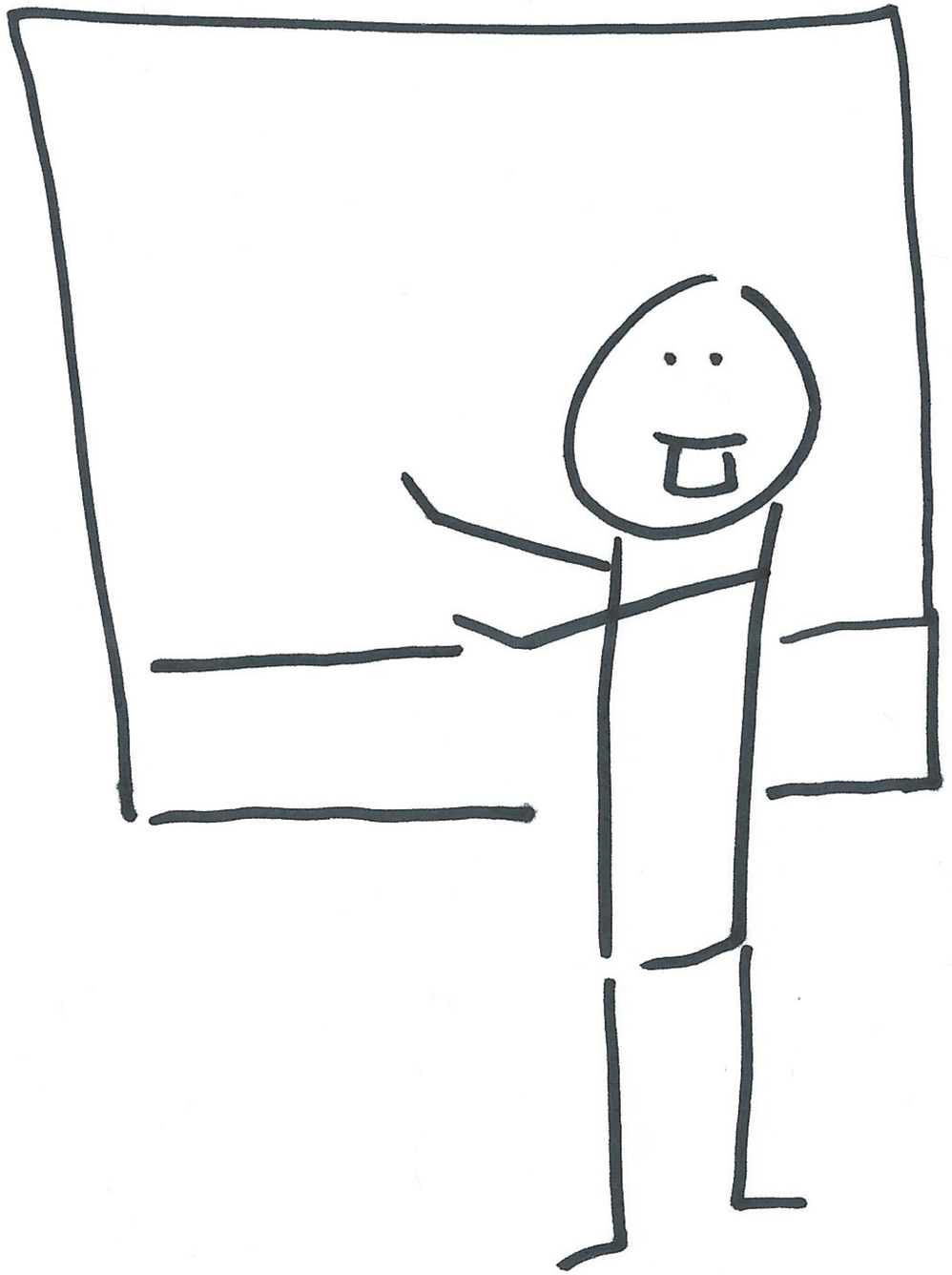


End of iteration demos



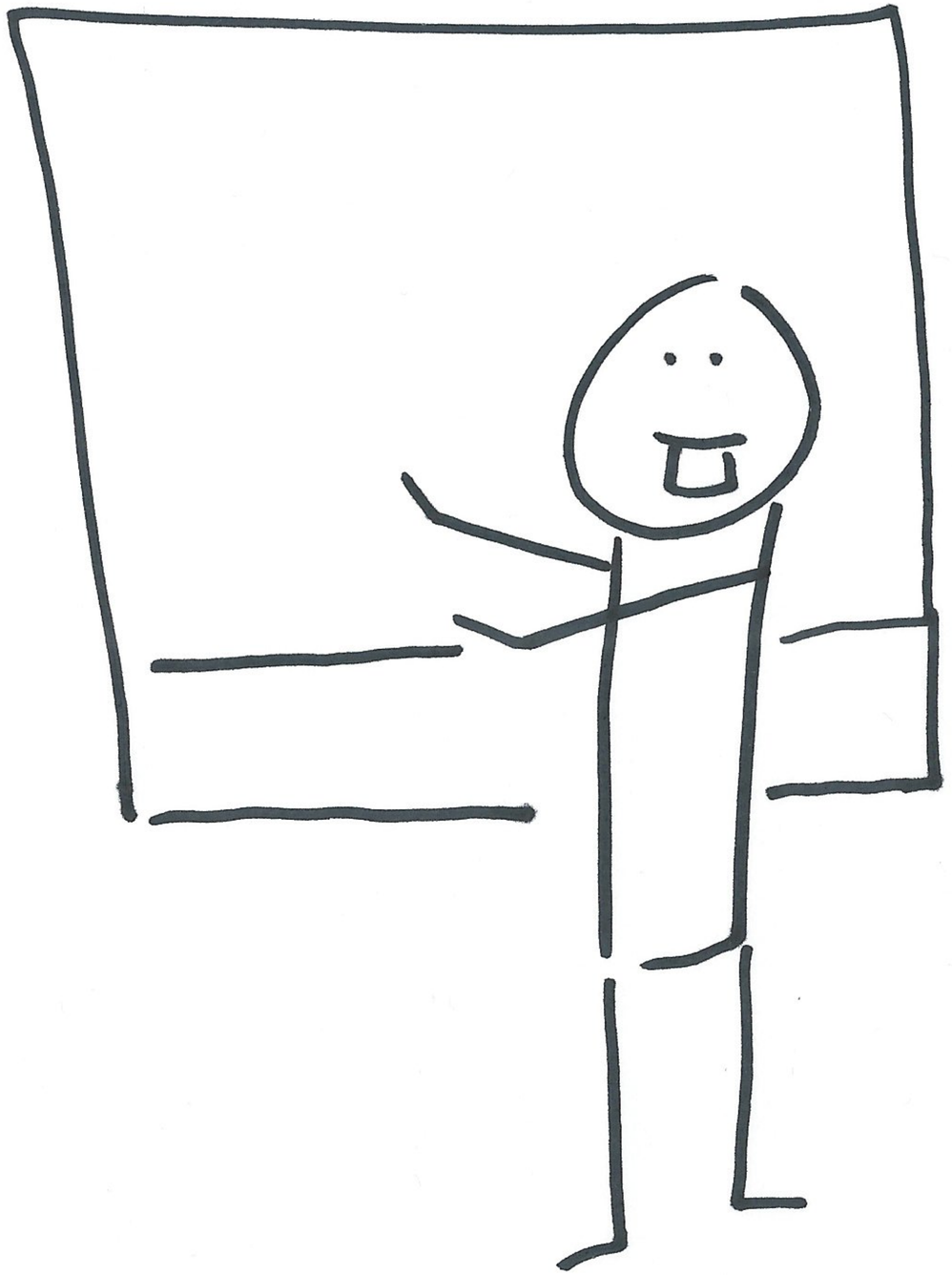


Automating to improve the outcome rather than to save effort:



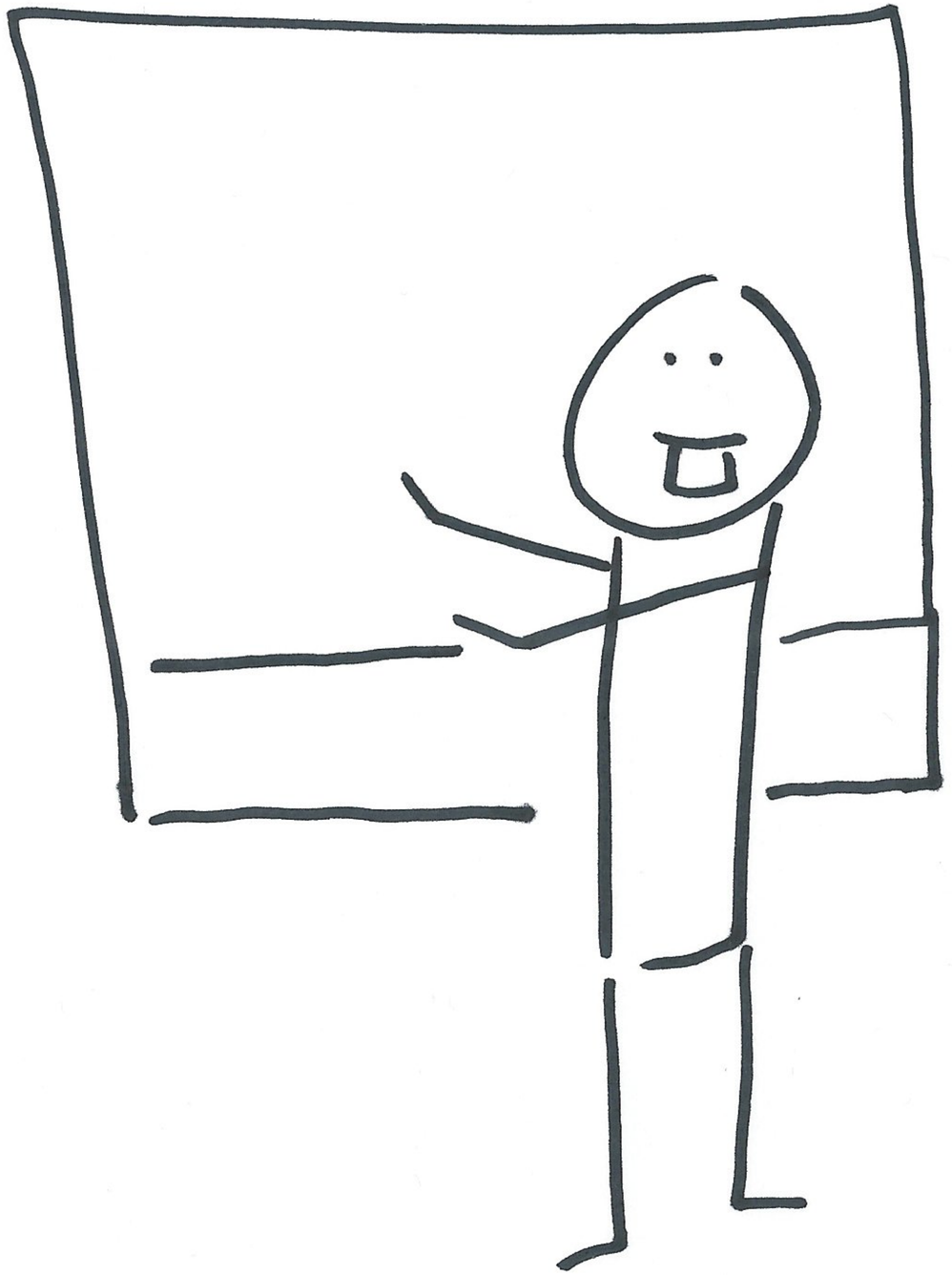
Automating to improve the outcome rather than to save effort:

- Write the Rational Team Concert plugin (one-off)



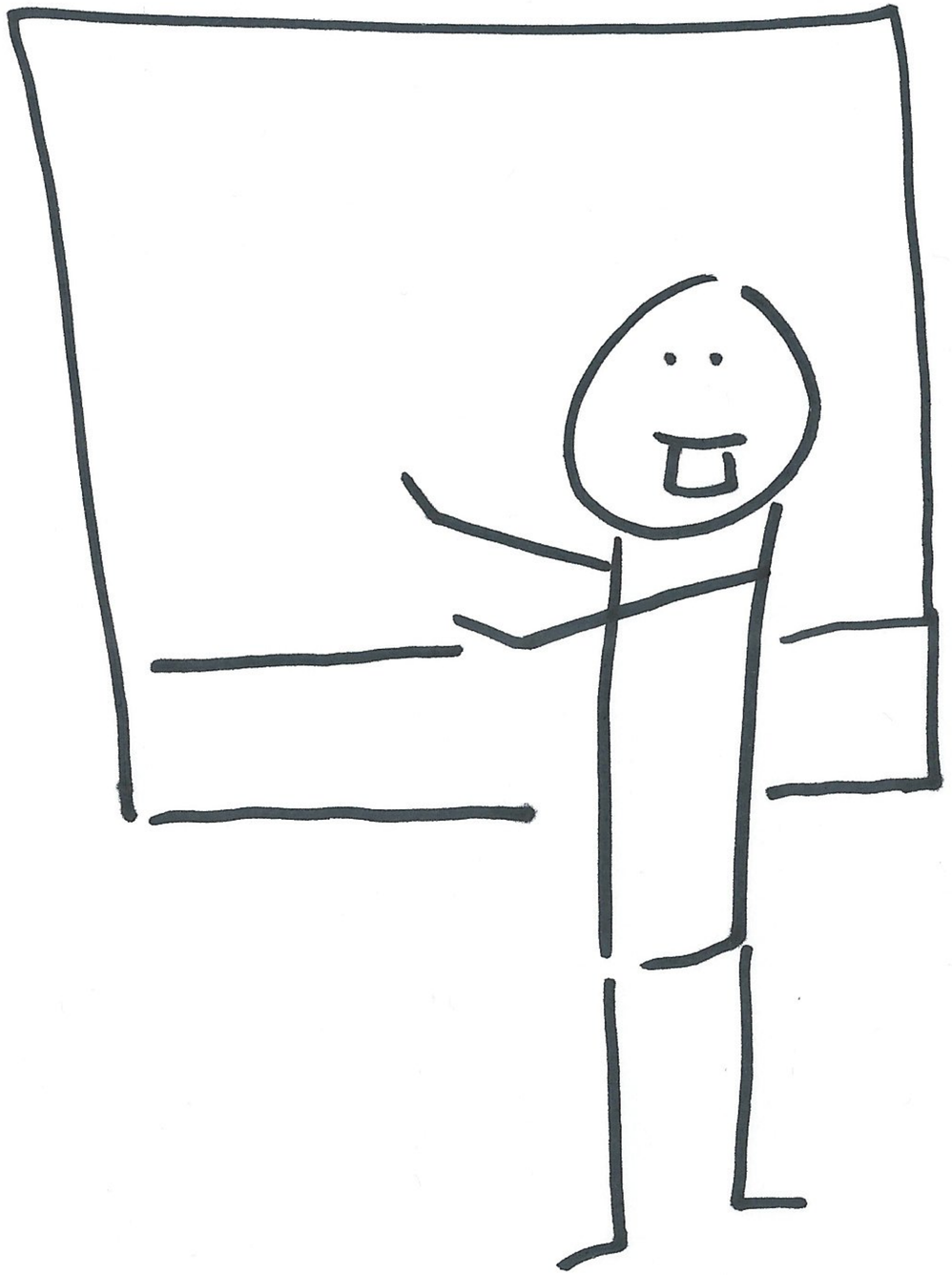
Automating to improve the outcome rather than to save effort:

- Write the Rational Team Concert plugin (one-off)
- Close the demo task (every story)



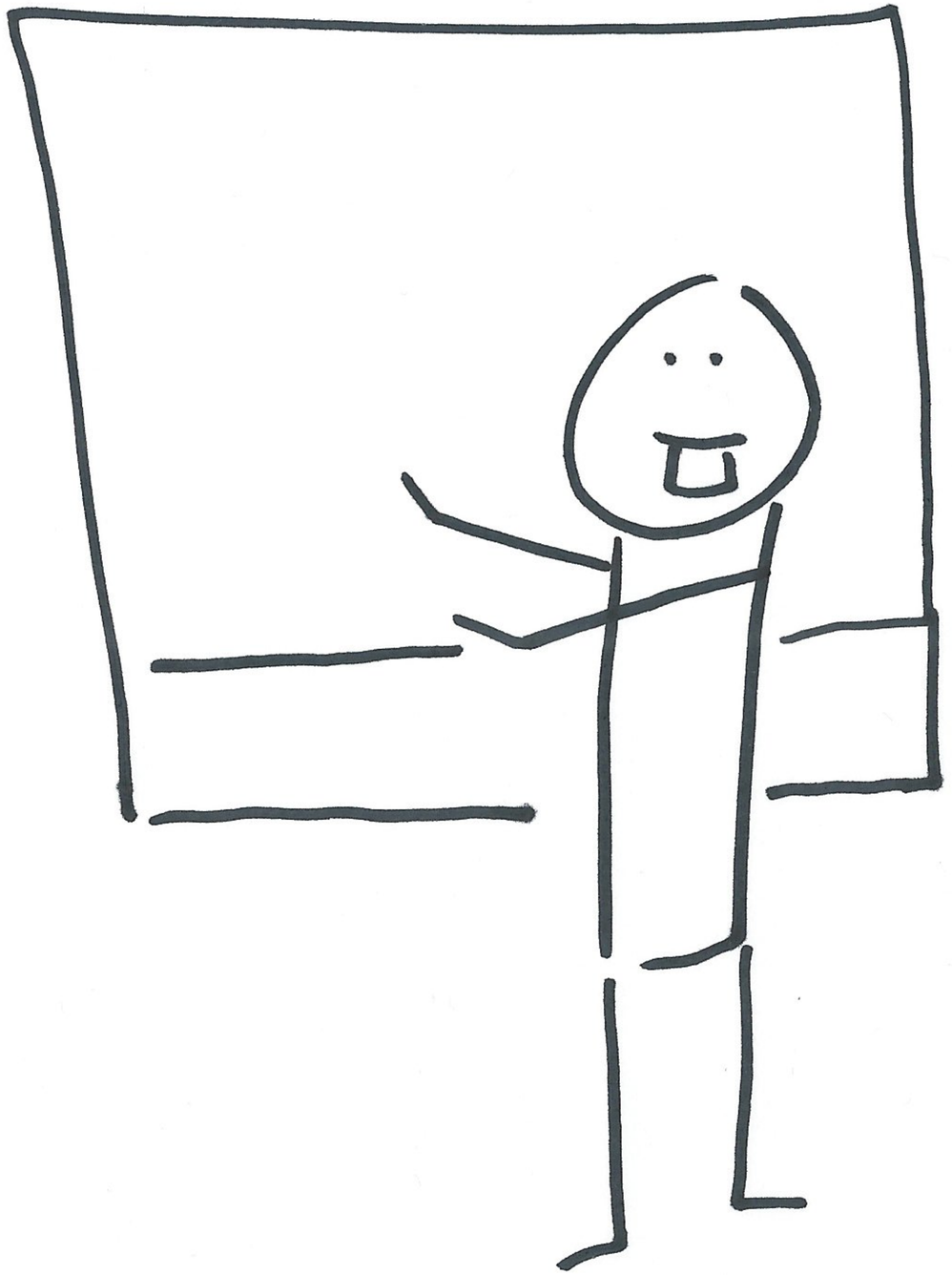
Automating to improve the outcome rather than to save effort:

- Write the Rational Team Concert plugin (one-off)
- Close the demo task (every story)
- Actually do the demo (every story)



Automating to improve the outcome rather than to save effort:

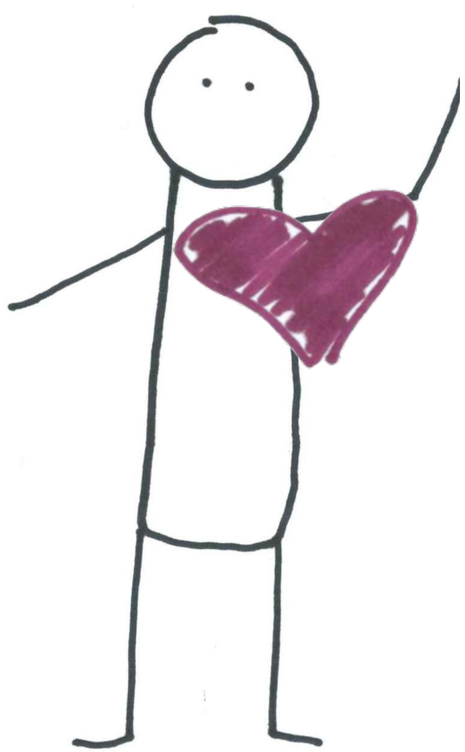
- Write the Rational Team Concert plugin (one-off)
- Close the demo task (every story)
- Actually do the demo (every story)
- But … we get guaranteed demos now.



Why Automate?

Automate because you care

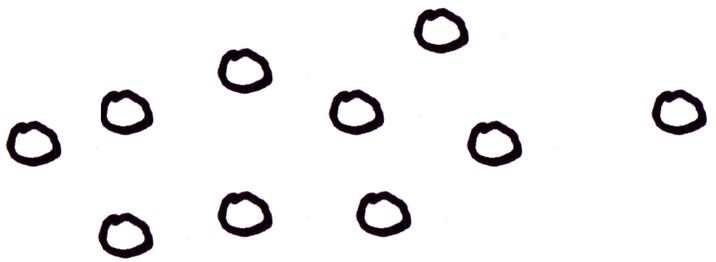
Why Automate?



Automate because you care that it's done right

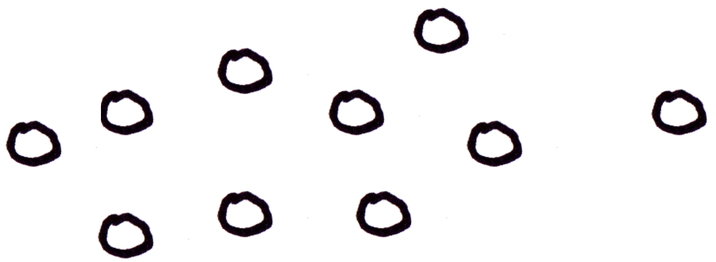
example

Linting



example

Linting



A computer can notice problems that a human can’t (like misspelled variable names)

example

Linting

We Findbugs

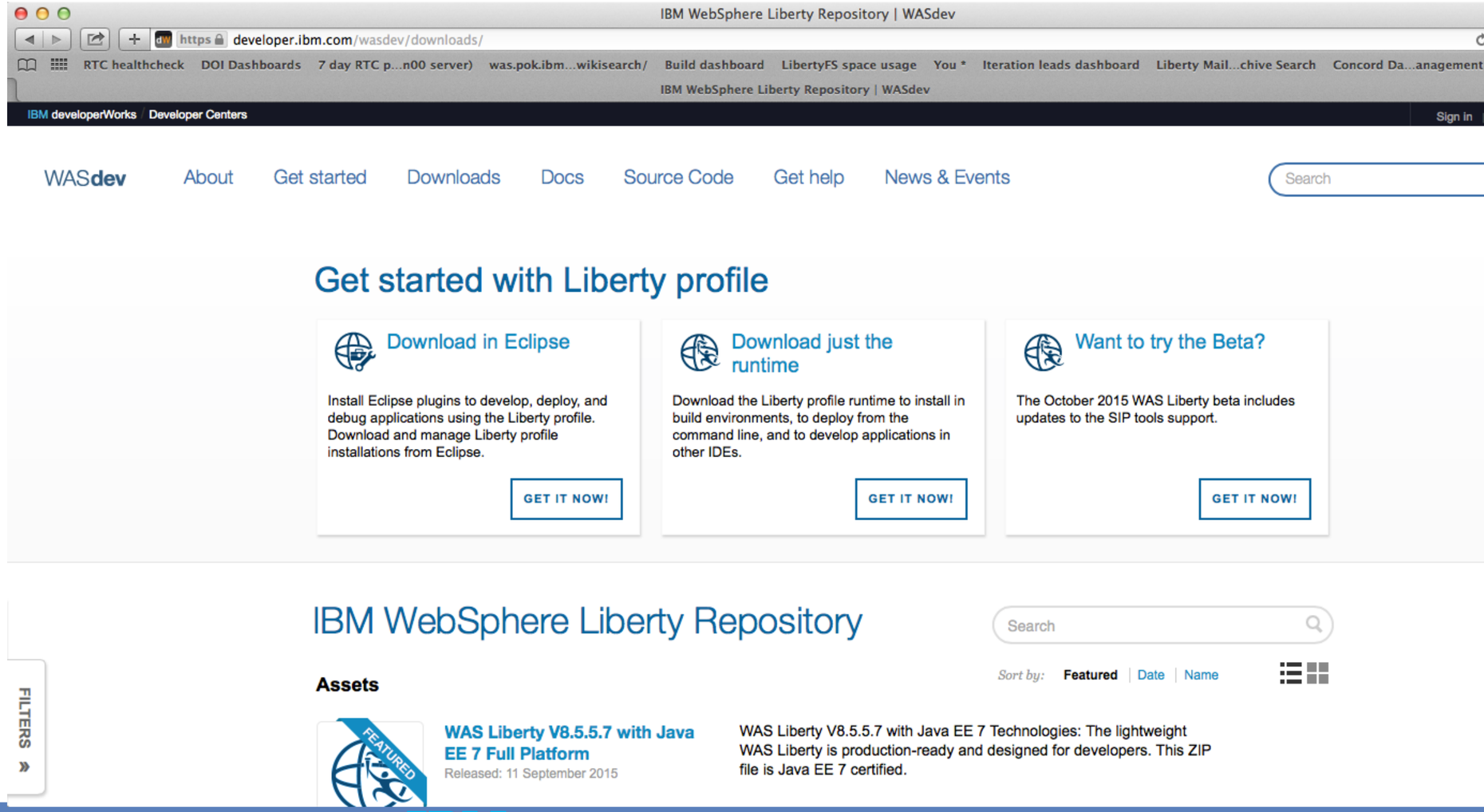
A computer can notice problems that a human can’t (like misspelled variable names)

example

Deployment

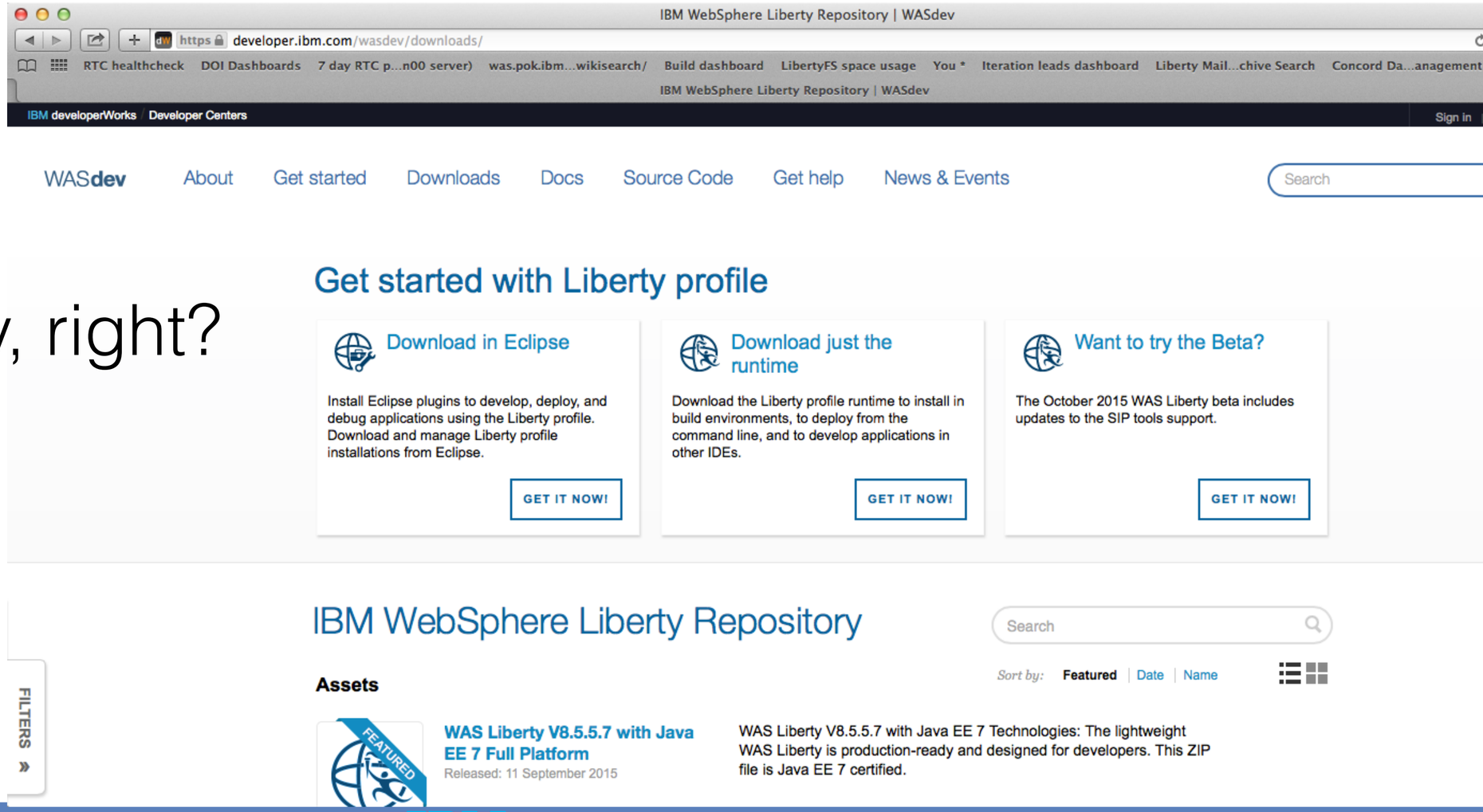
example

Deployment



example

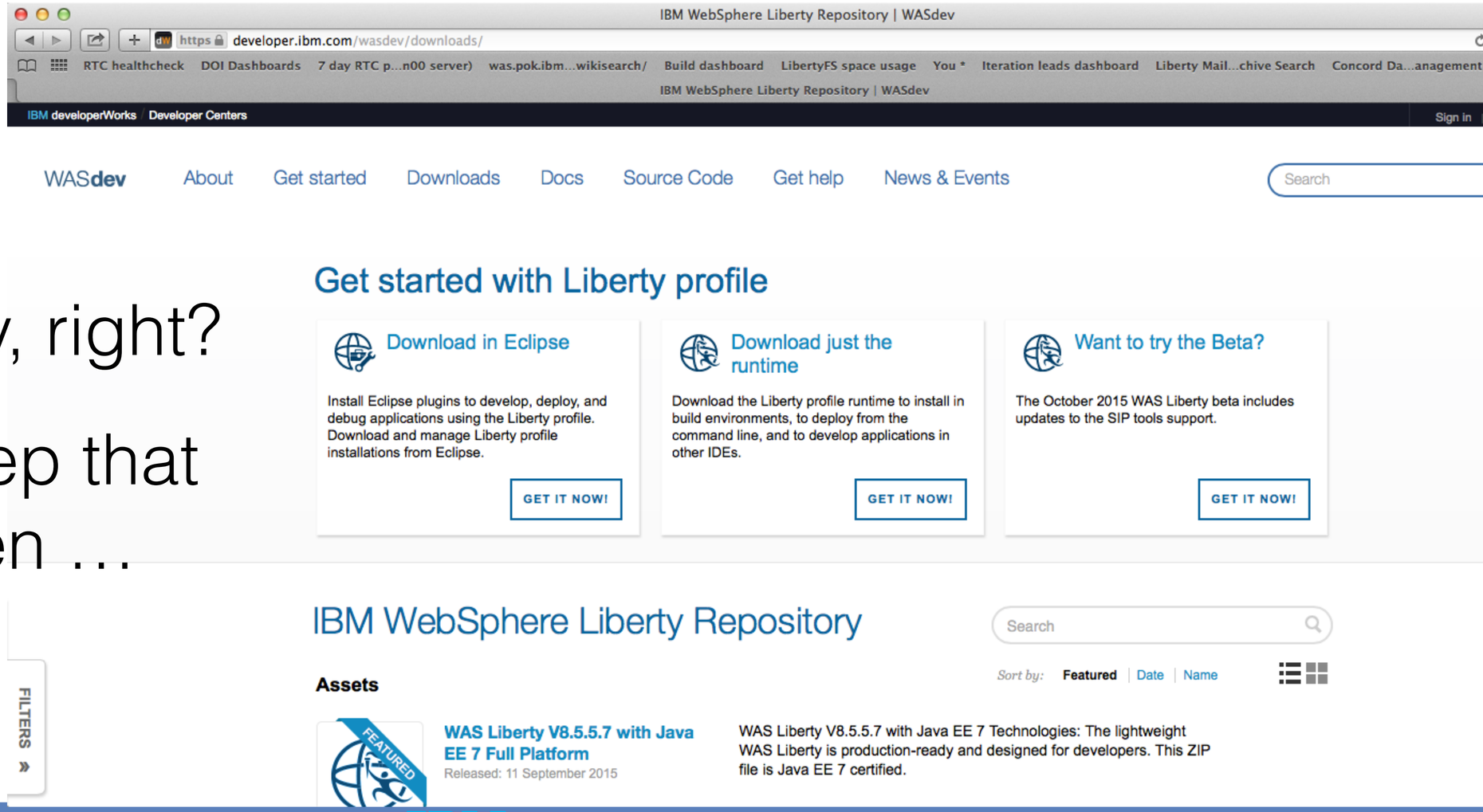
Deployment



Should be easy, right?

example

Deployment

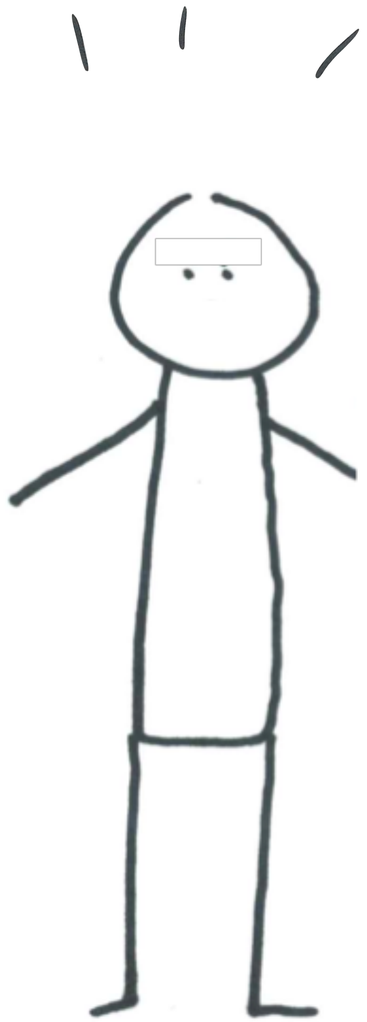


Should be easy, right?

Always one step that gets forgotten …

Why automate?

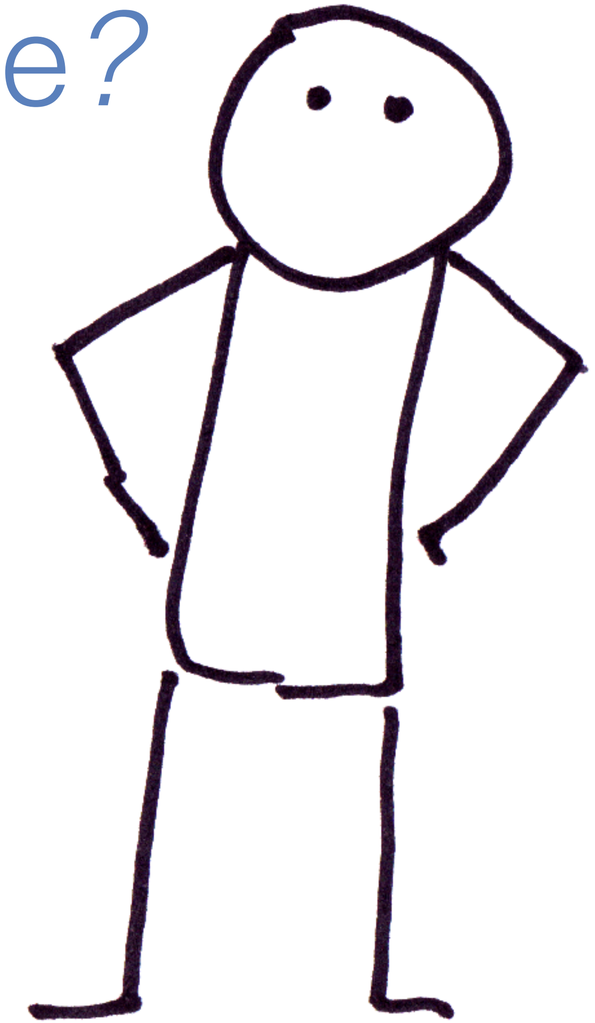
Why automate?



Why automate?

Automate
because it's
fun

Why *not* automate?



Ross

I get so mad at how much time I could save if I had more time.

e?

Ross

I get so mad at how much time I could save if I had more time.

e?

Ross’s bootstraps

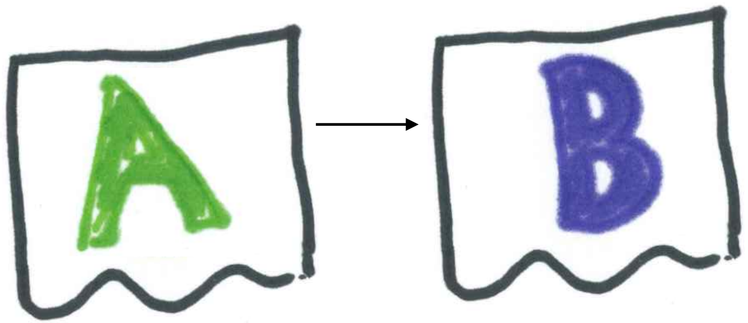
Ross

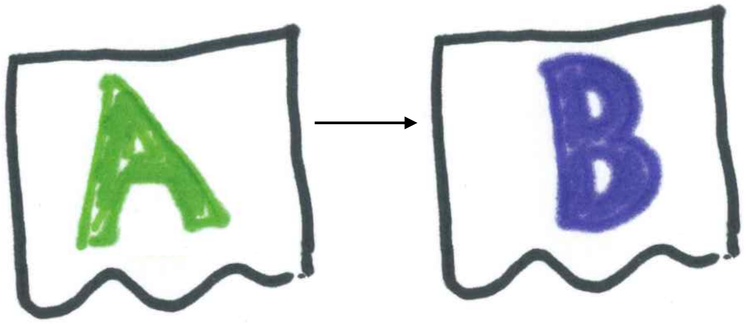
I get so mad at how much time I could save if I had more time.

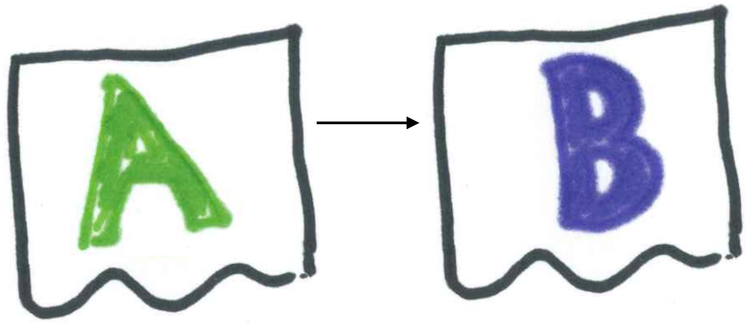
The automation paradox

example

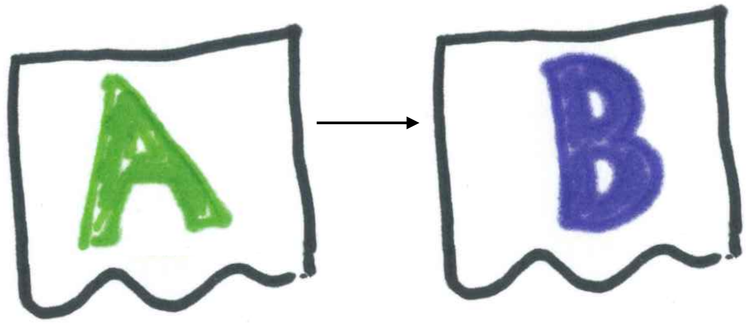
Fixing a classpath



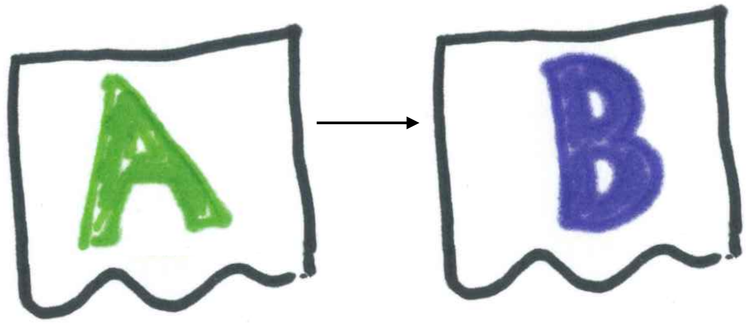

A
B



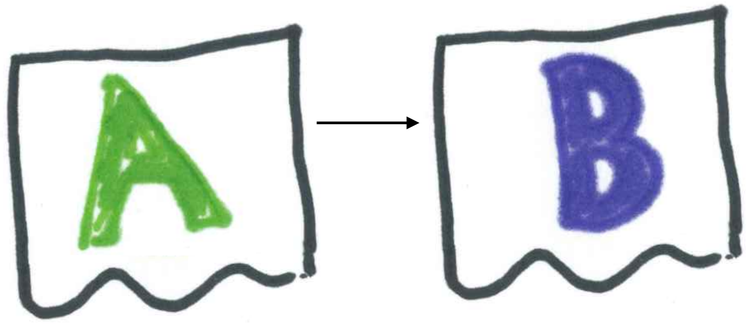

```
find something | exec something {} + ; ?!
```




```
find something | exec something {} + ; ?!
for … then sed something; mv $i.bak $i; … ?
```




```
find something | exec something {} + ; ?!
for … then sed something; mv $i.bak $i; … ?
sedder.sh and dosed.sh and … ?
```

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find something | exec something {} + ; ?!
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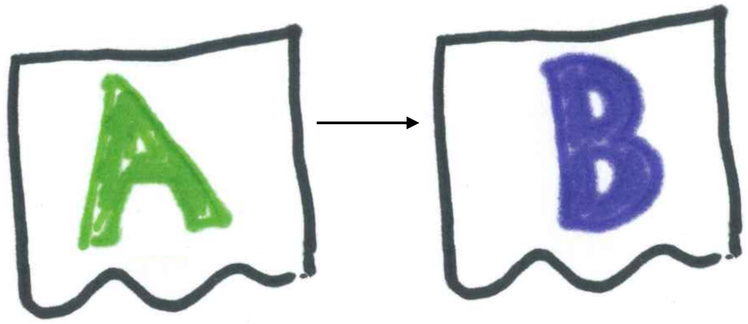
perl … um .. something?
```

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```
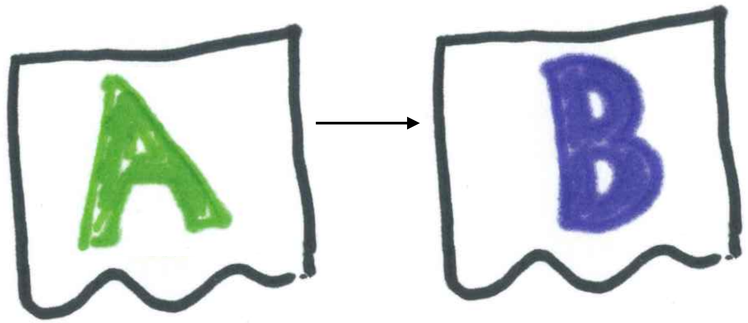

Fixing 26 classpaths

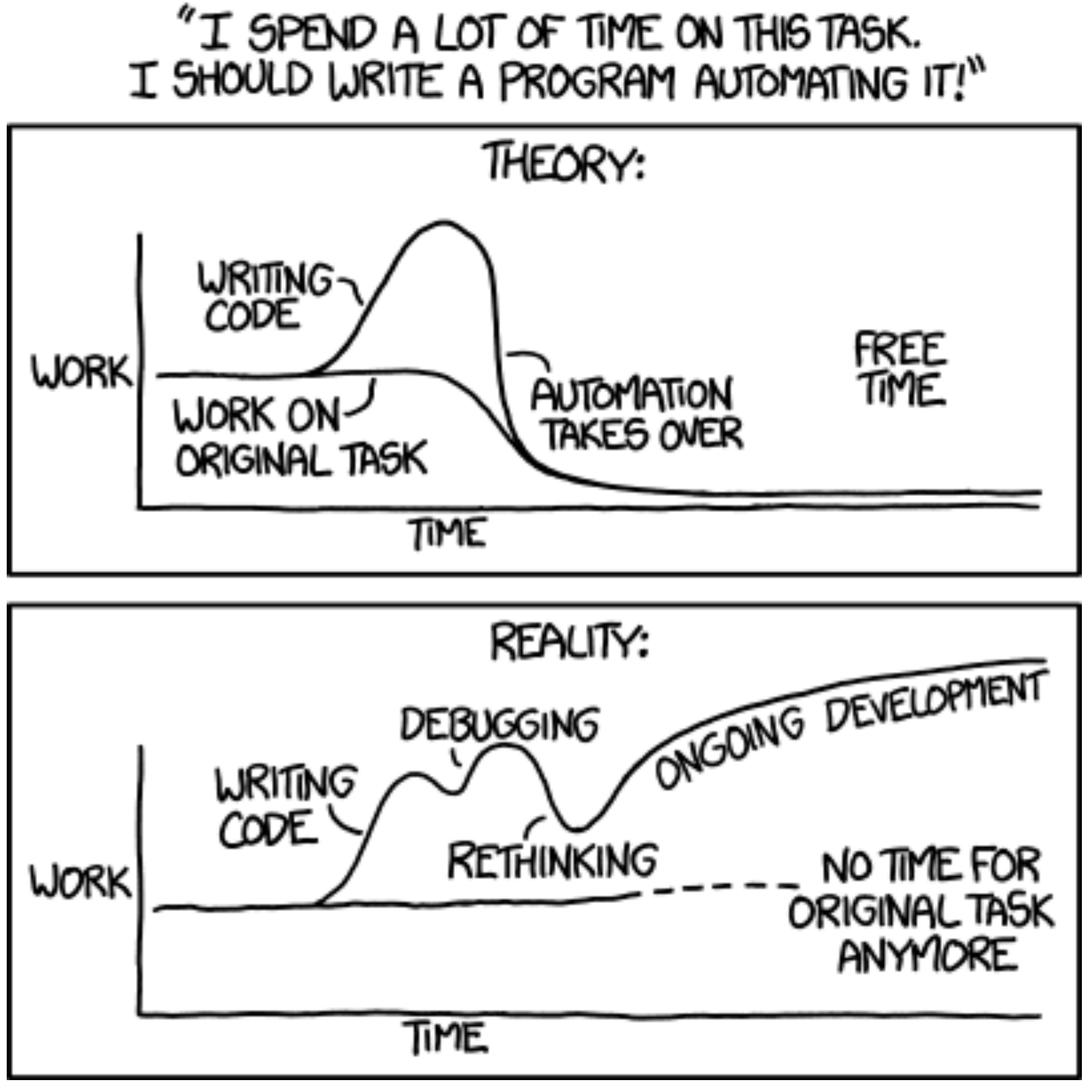
Fixing 26 classpaths

Epilogue




```
perl -pi -w -e 's/SEARCH_FOR/REPLACE_WITH/g;' *.txt
```

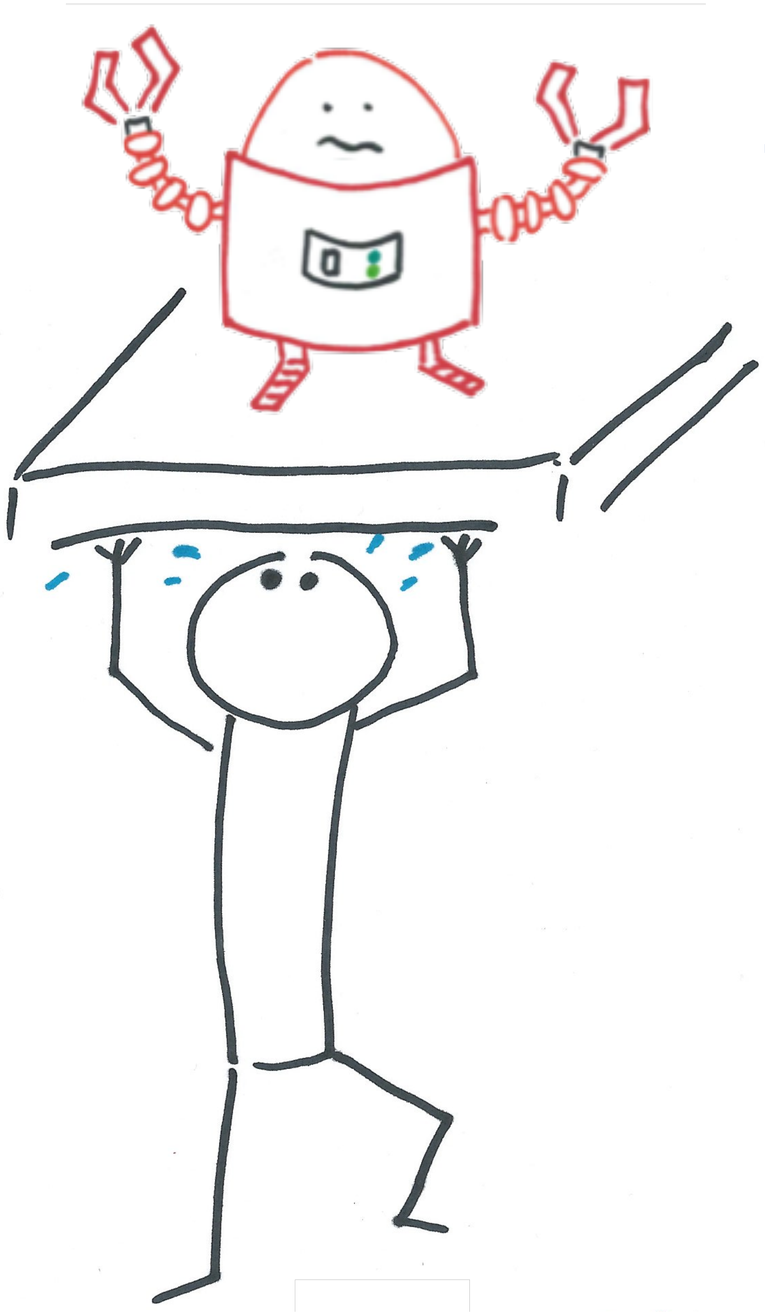
Why *not* automate



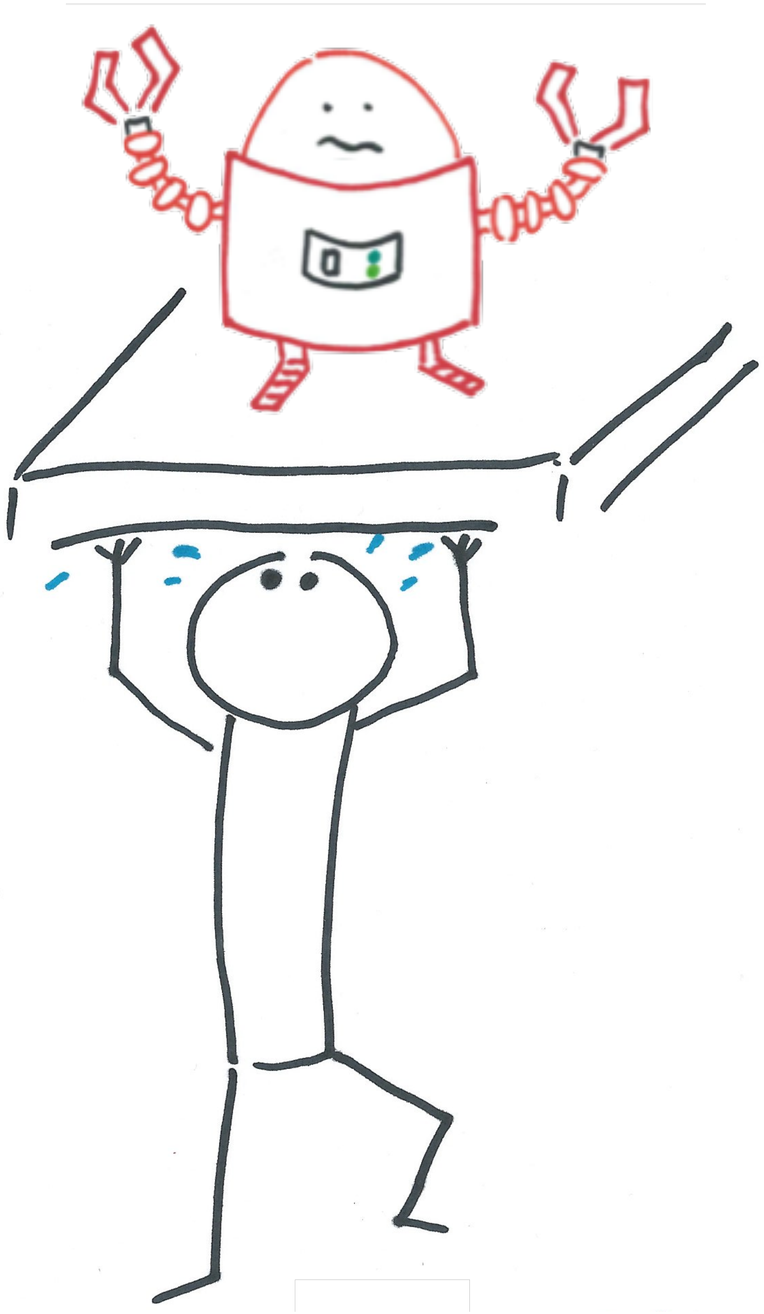
thanks (for everything!), xkcd.com

The Dream

The Reality

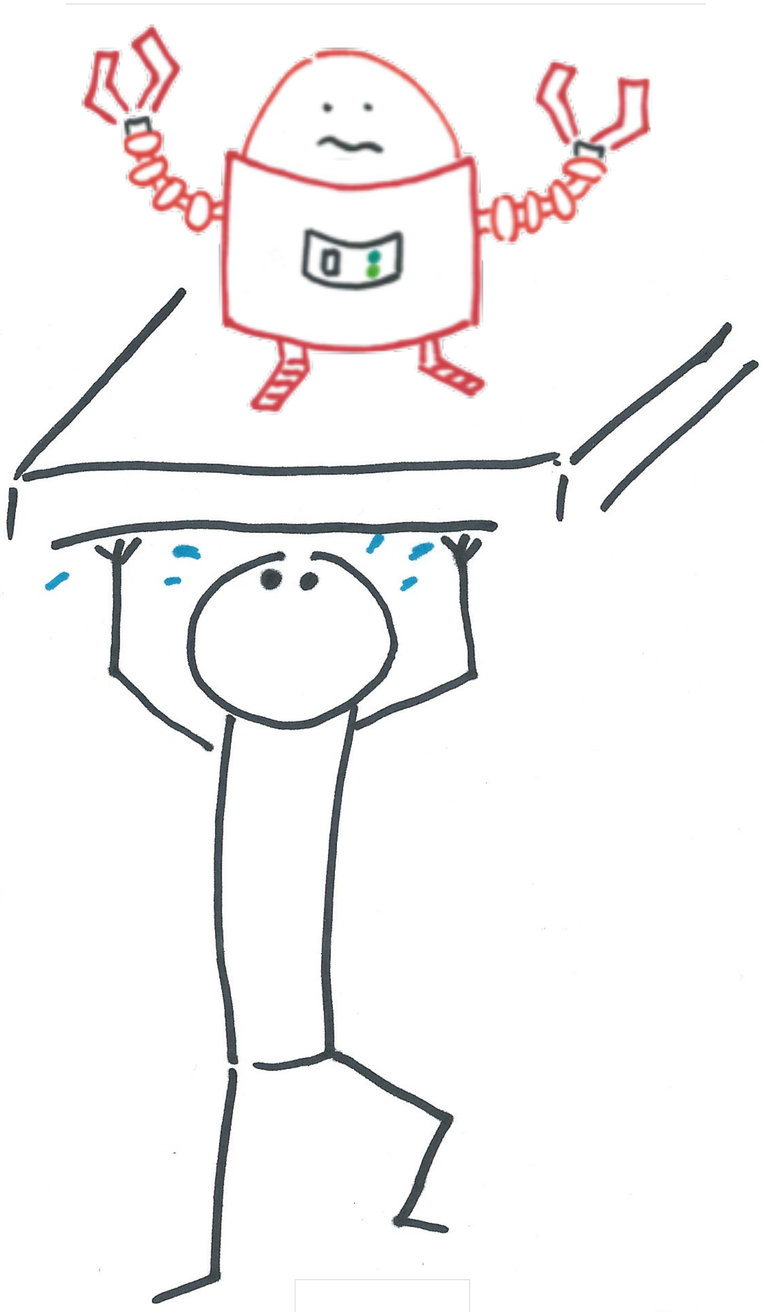


The Reality



The Reality

Think about support.

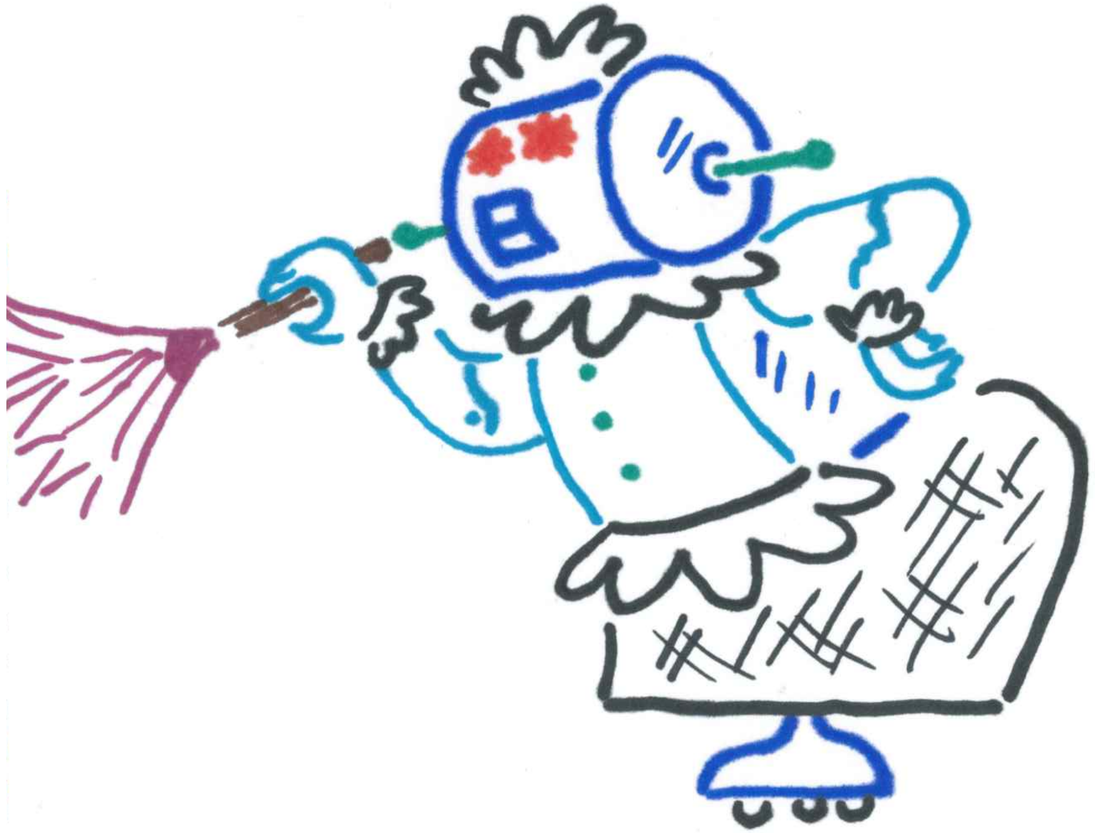


The Reality

Think about support.
Think about robustness.

example

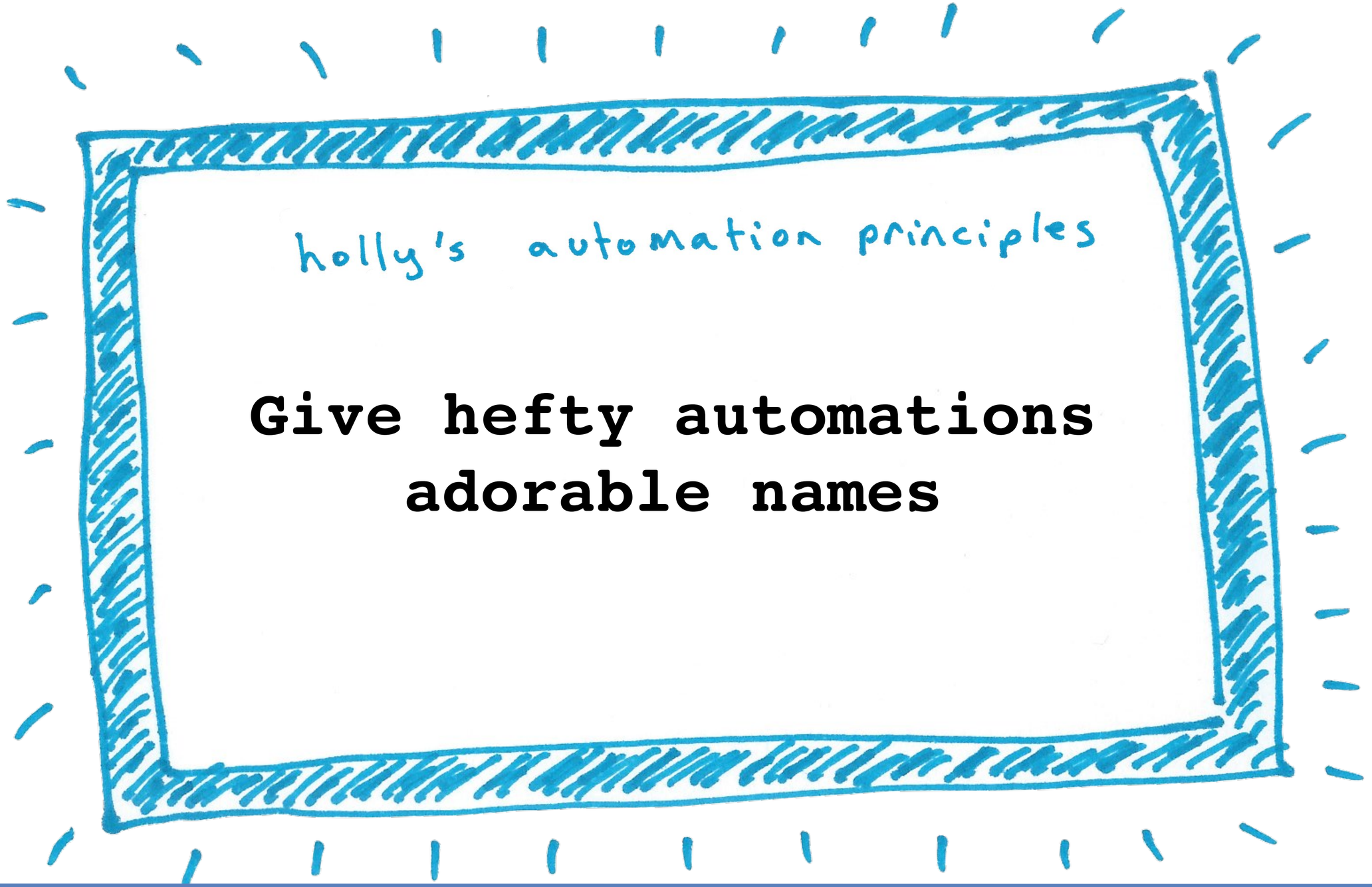
Rosie



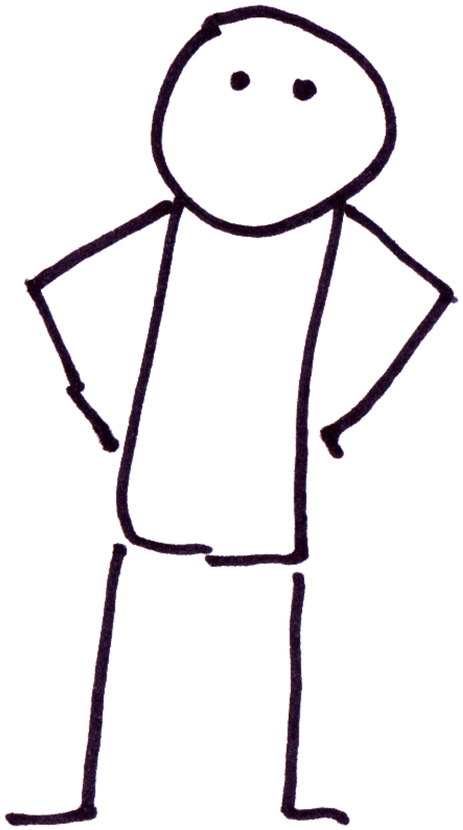
Rosie ate the world.

Rosie ate the world.

(Well, my corner of it.)

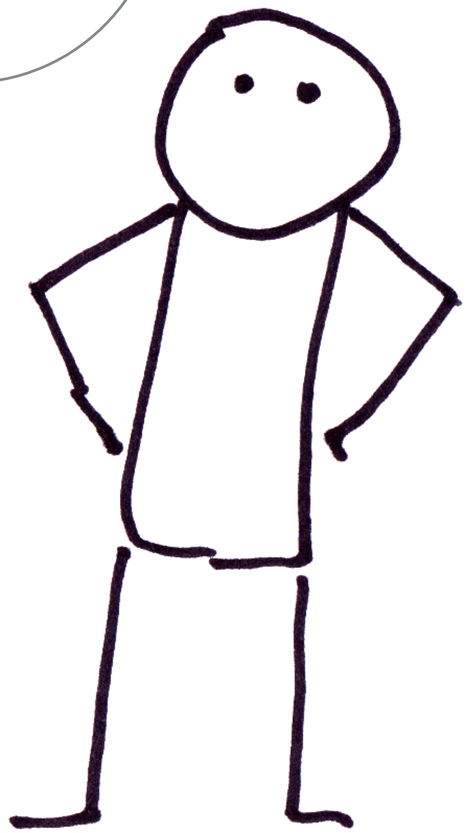

holly's automation principles
Give hefty automations adorable names

Questions to ask *before* automating



Who can maintain this automation?

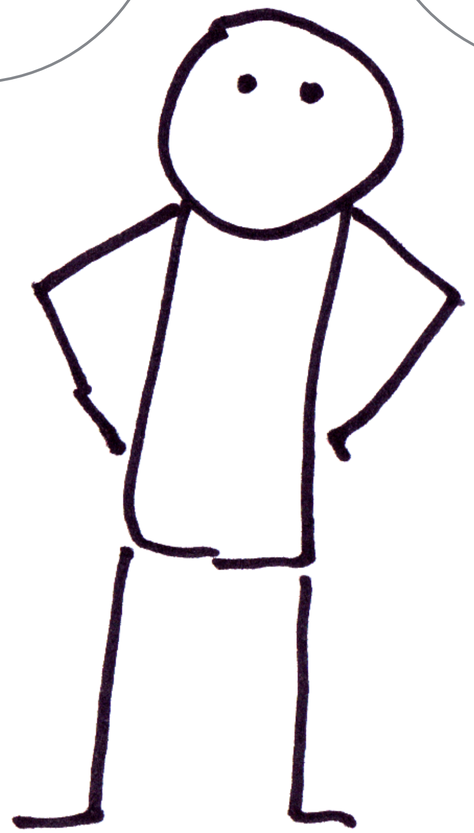
to ask *before* mating



to as
mat

Who can maintain this automation?

Who can manage this automation?



to as
mat

Who can maintain this automation?

Who can manage this automation?

How much will it cost?

to as
mat

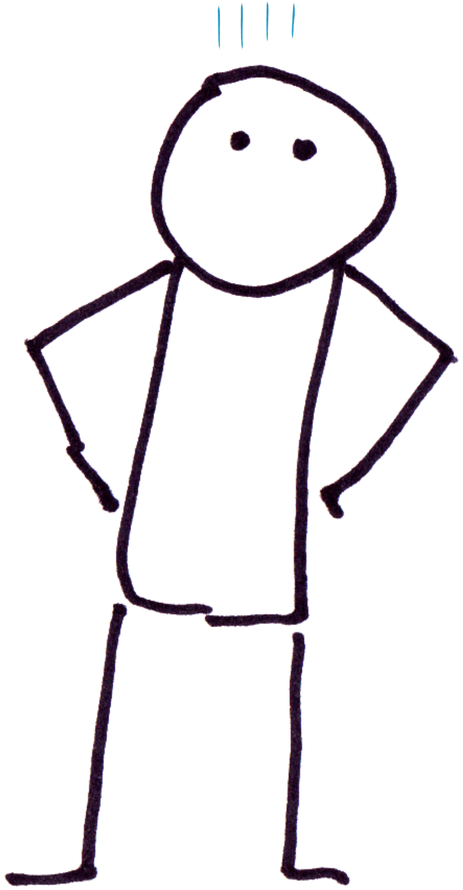
Who can maintain this automation?

Who can manage this automation?

How much will it cost?

Will it be robust? What if things change?

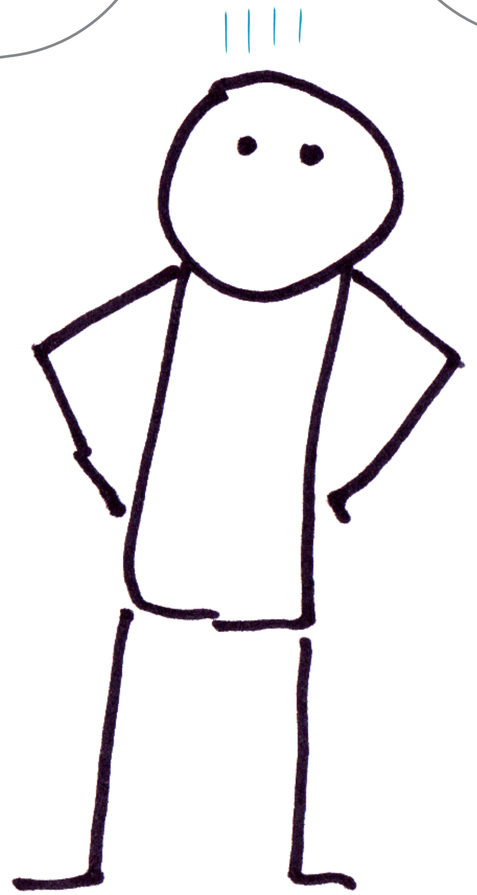
Checkpoint during automation



oint during
mation

How do I define success?

Have I got completion criteria?



oint
mat

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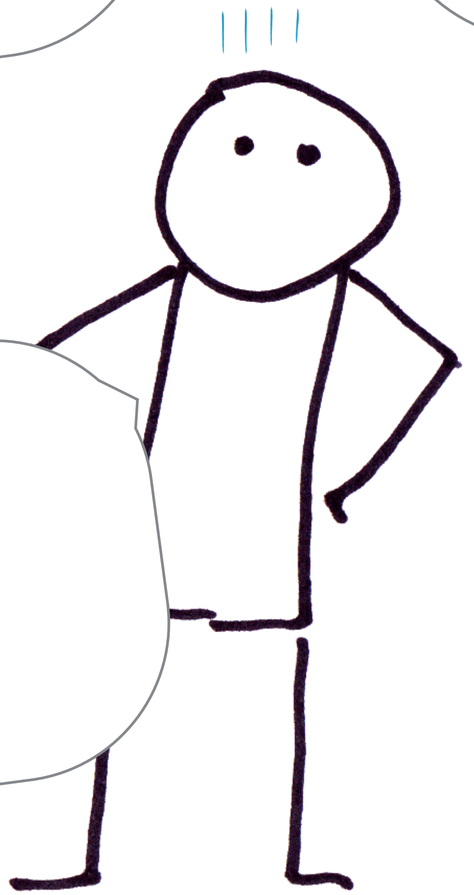


Am I still saving time?

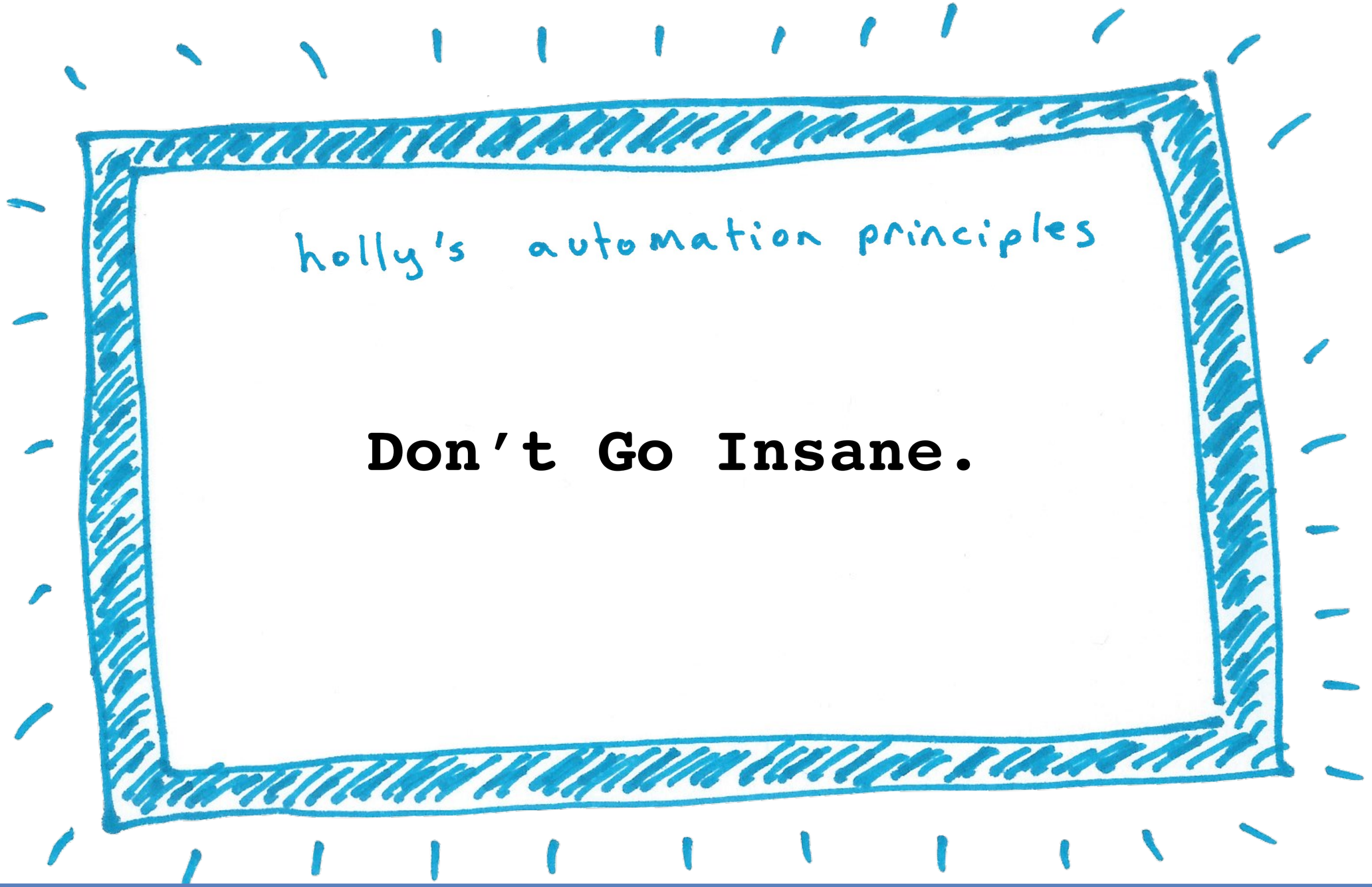
oint
mat

How do I define success?

Have I got completion criteria?

Am I still saving time?

Is this still worth it?


holly's automation principles
Don't Go Insane.

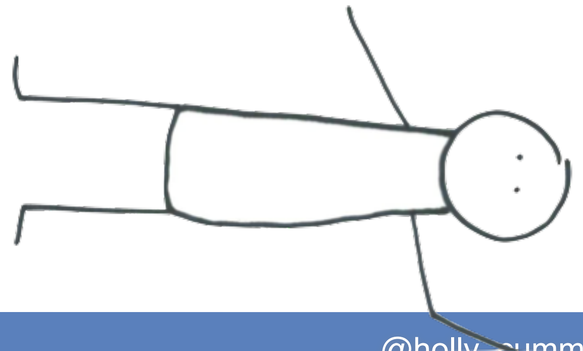
Remember the bus

Remember the bus

A clever automation isn’t so clever if only one person understands it…

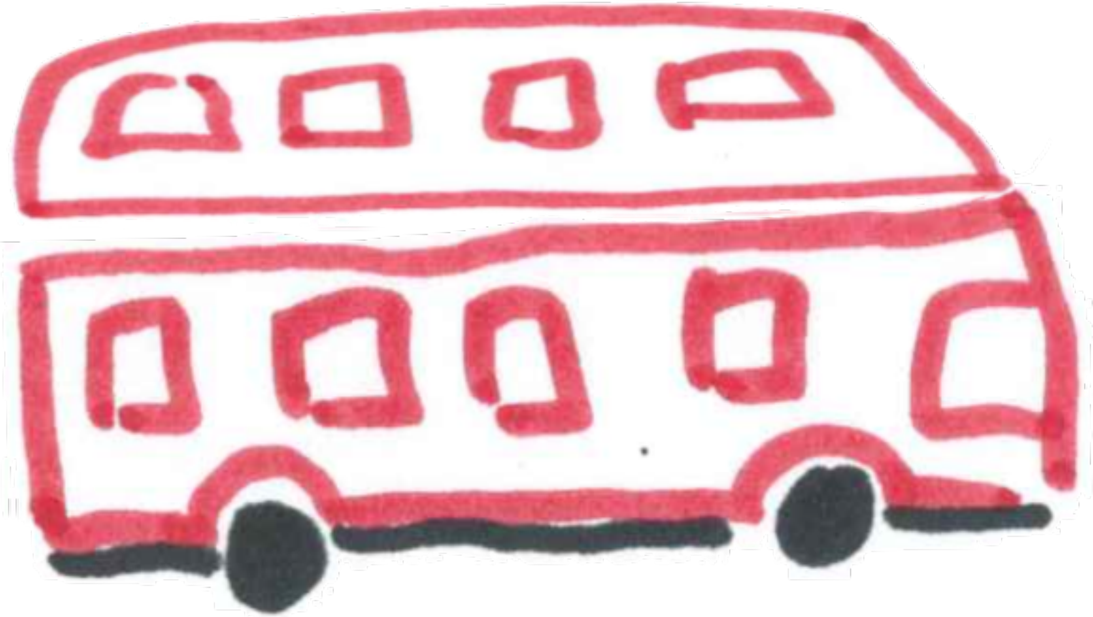
Remember the bus

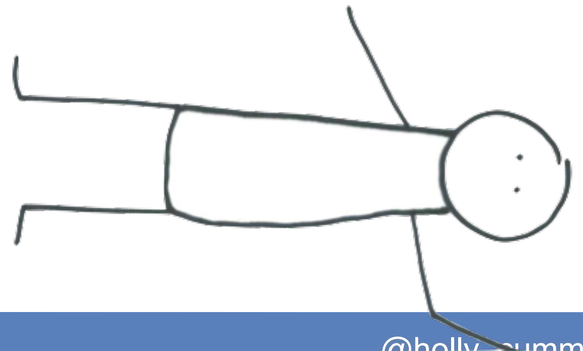
A clever automation isn't so clever if only one person understands it…



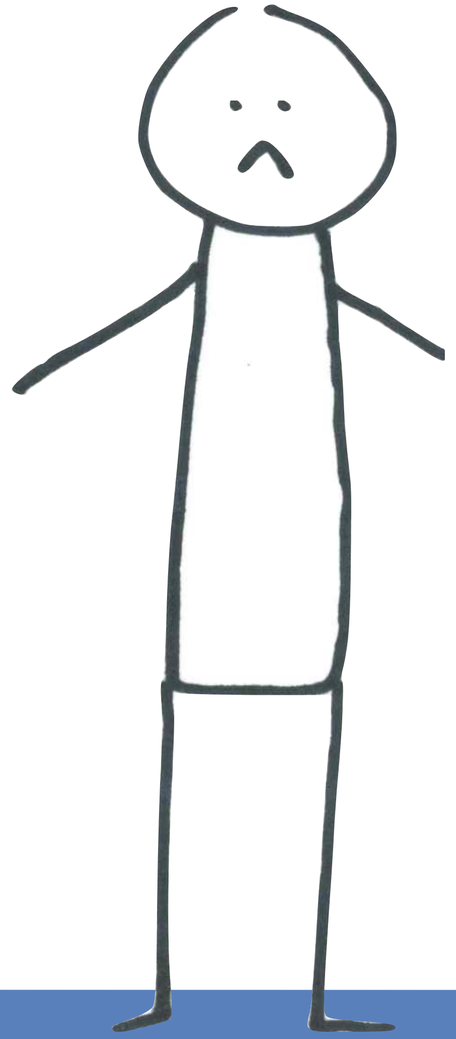
Remember the bus

A clever automation isn't so clever if only one person understands it…
… and they get hit by a bus.

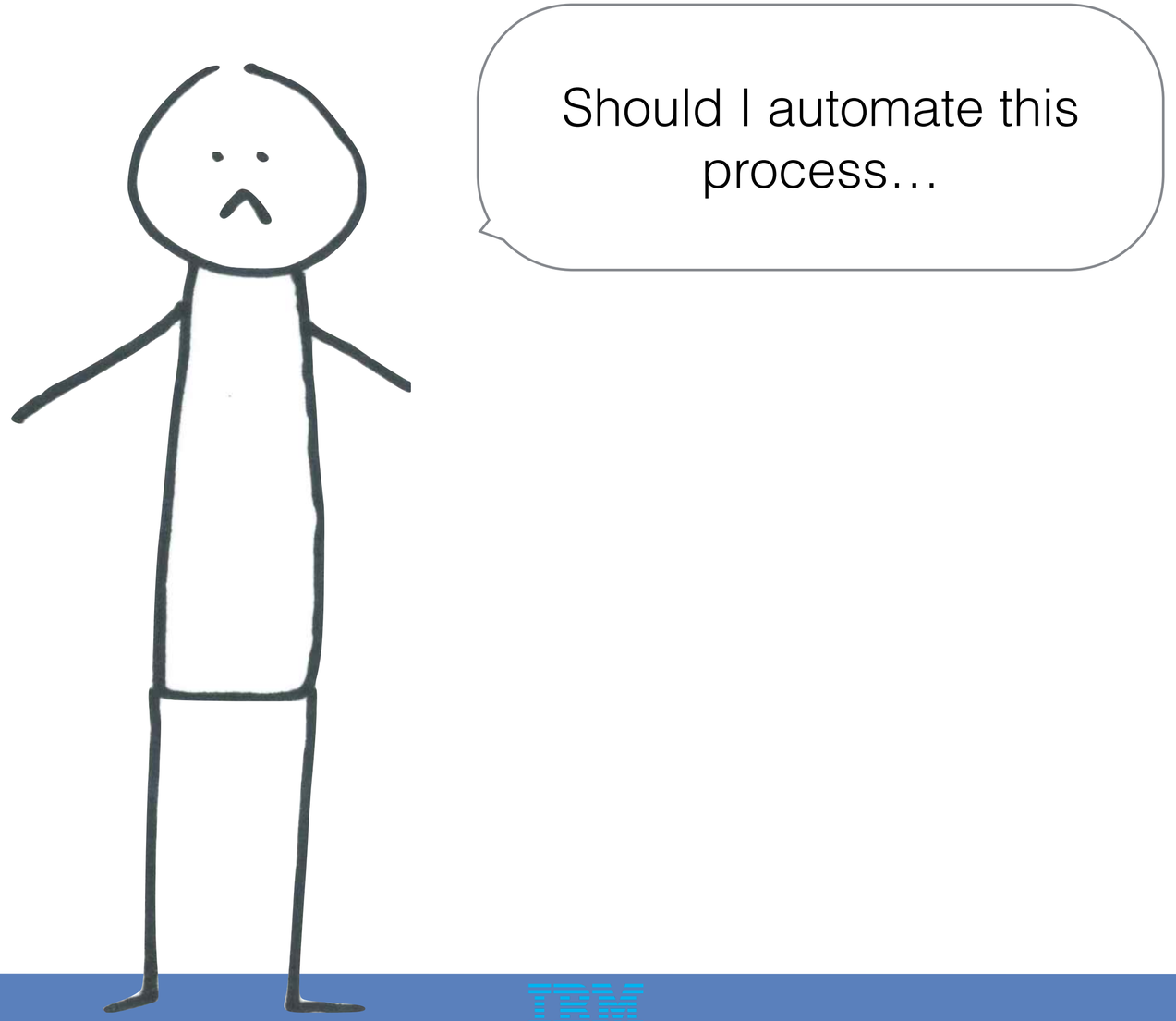




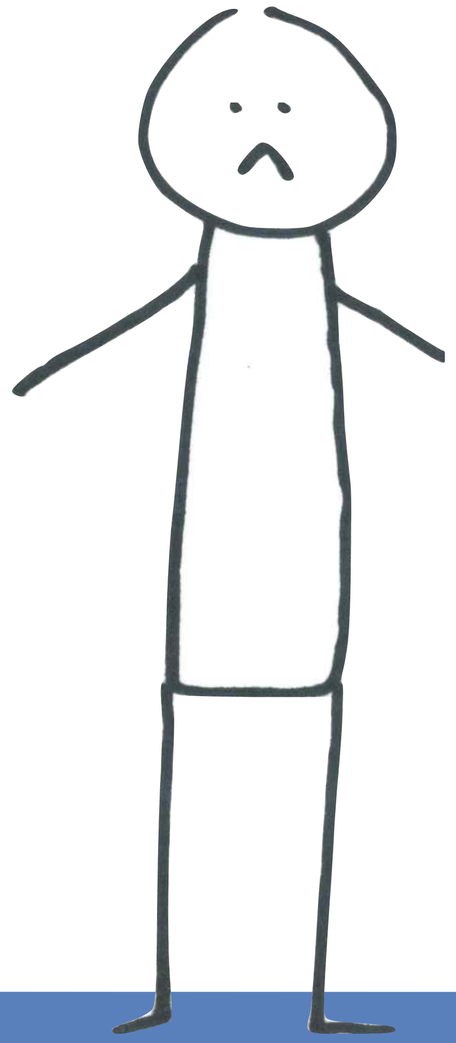
Why *not* automate



Why *not* automate



Why *not* automate



Should I automate this process…

… or should I *change* it?

The dumbness problem

The dumbness problem

It’s dumb to automate dumb things …

The dumbness problem

It’s dumb to automate dumb things …

… and …

The dumbness problem

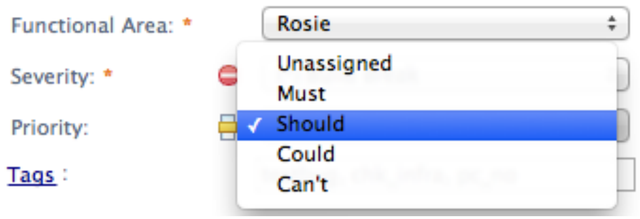
It’s dumb to automate dumb things …

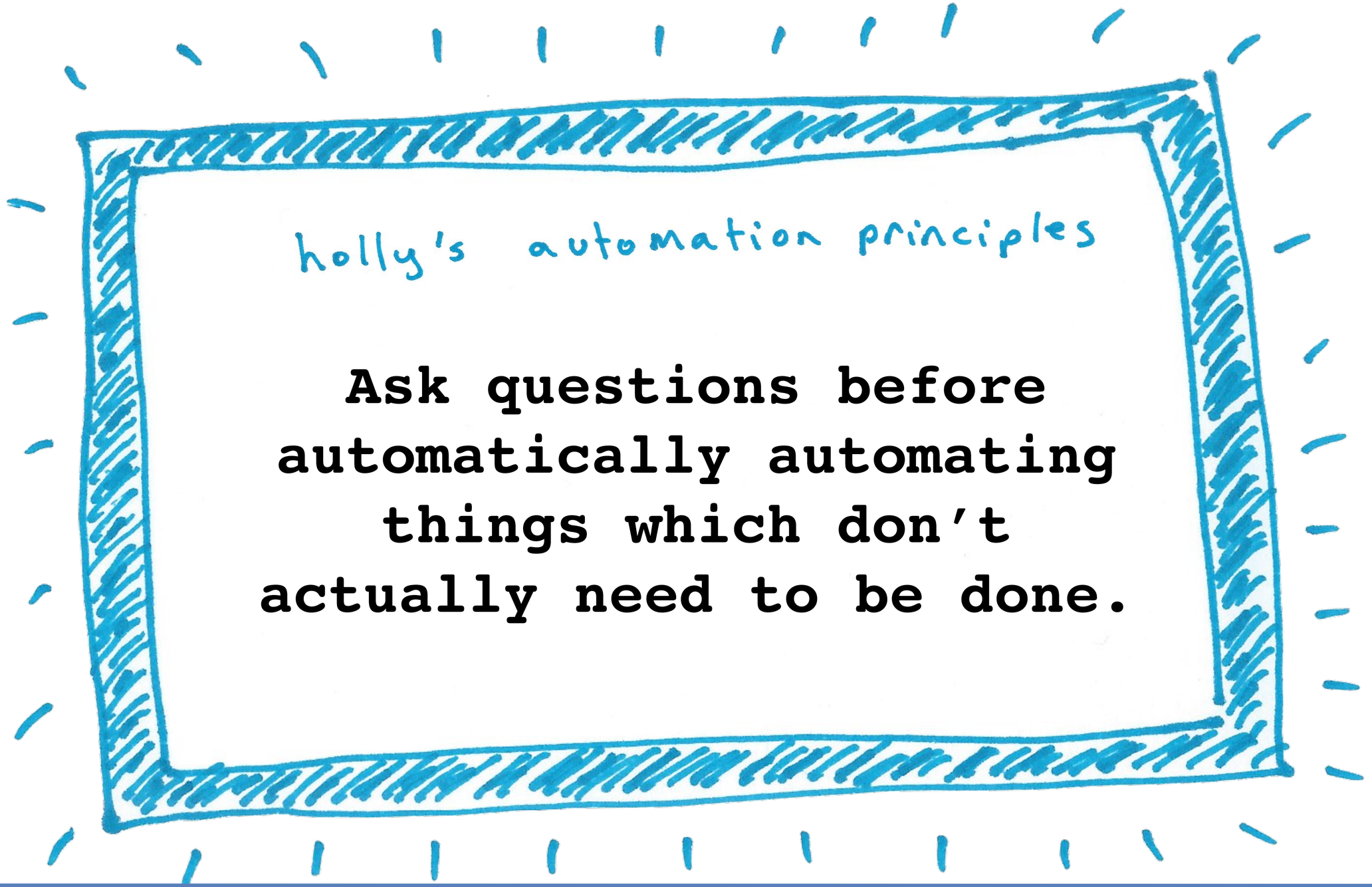
… and …

… Automation allows you to do dumb things at a greater speed

example

Defect screening




holly's automation principles
Ask questions before automatically automating things which don't actually need to be done.

Why **not** automate

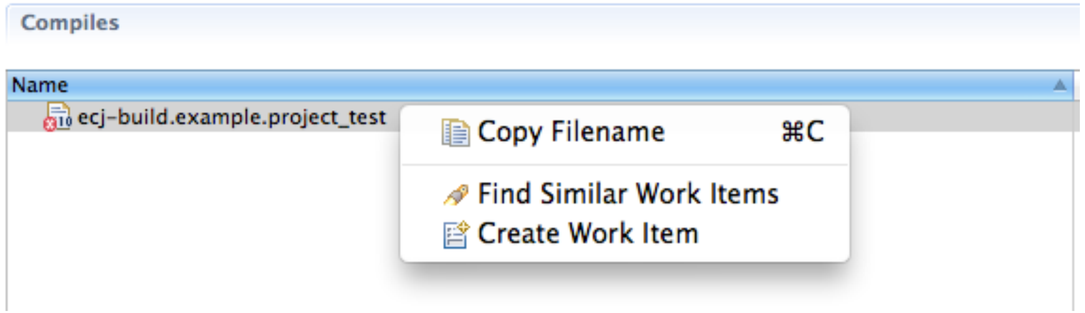
Why **not** automate

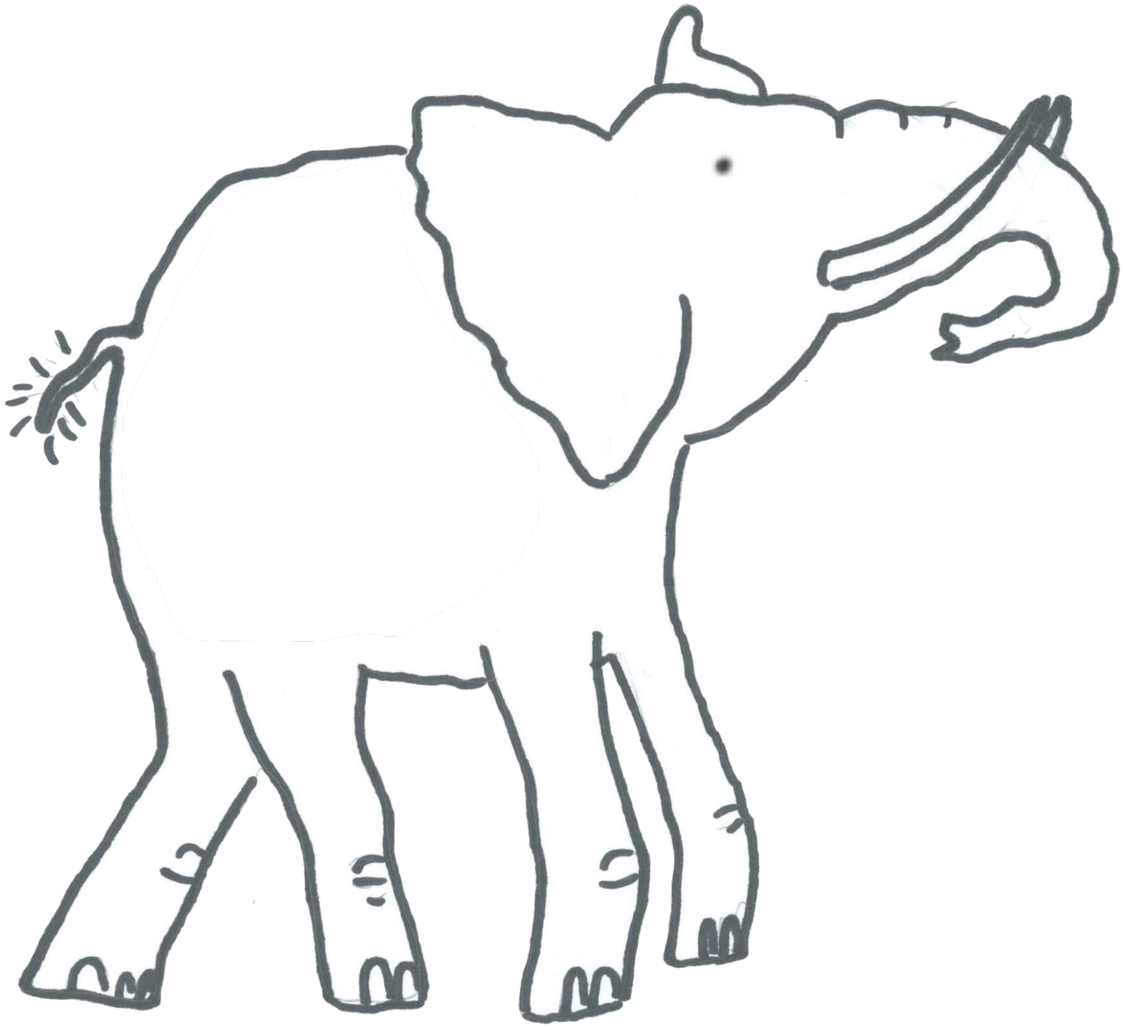
Why **not** automate

Computers don’t always get it right.

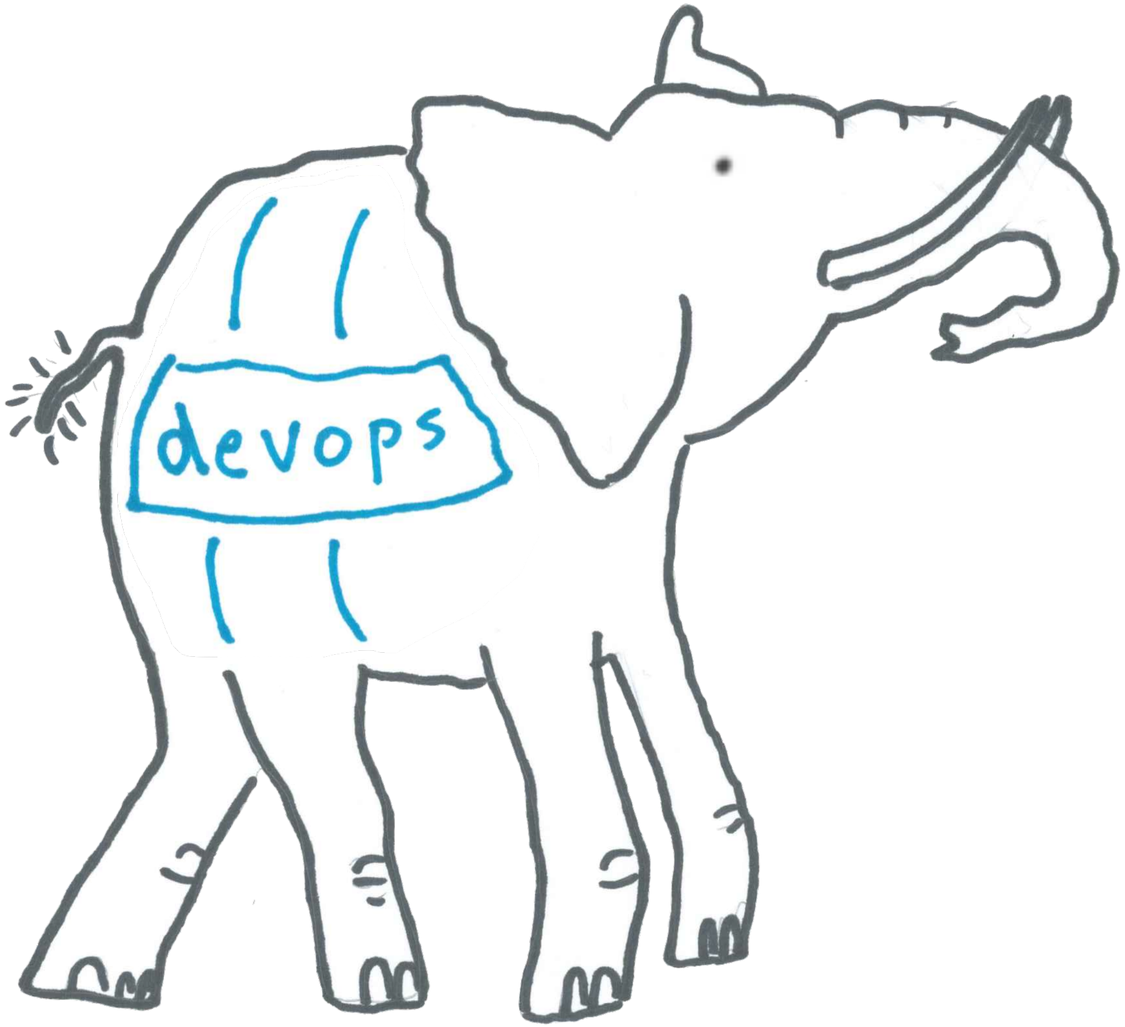
example

Build monitoring





DevOps



IBM Bluemix Garage Method
https
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Build dashboard
LibertyFS space usage
You *
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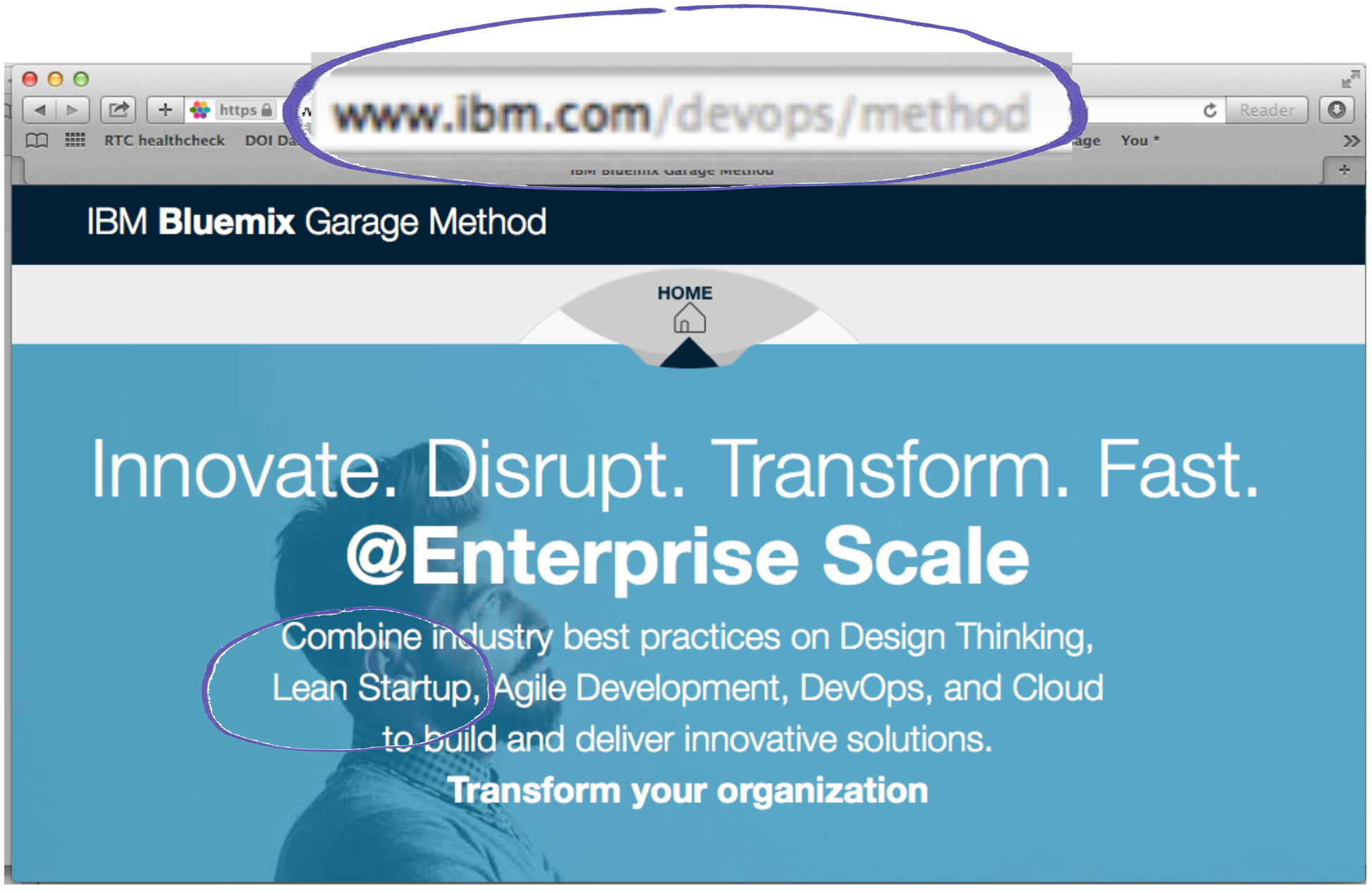
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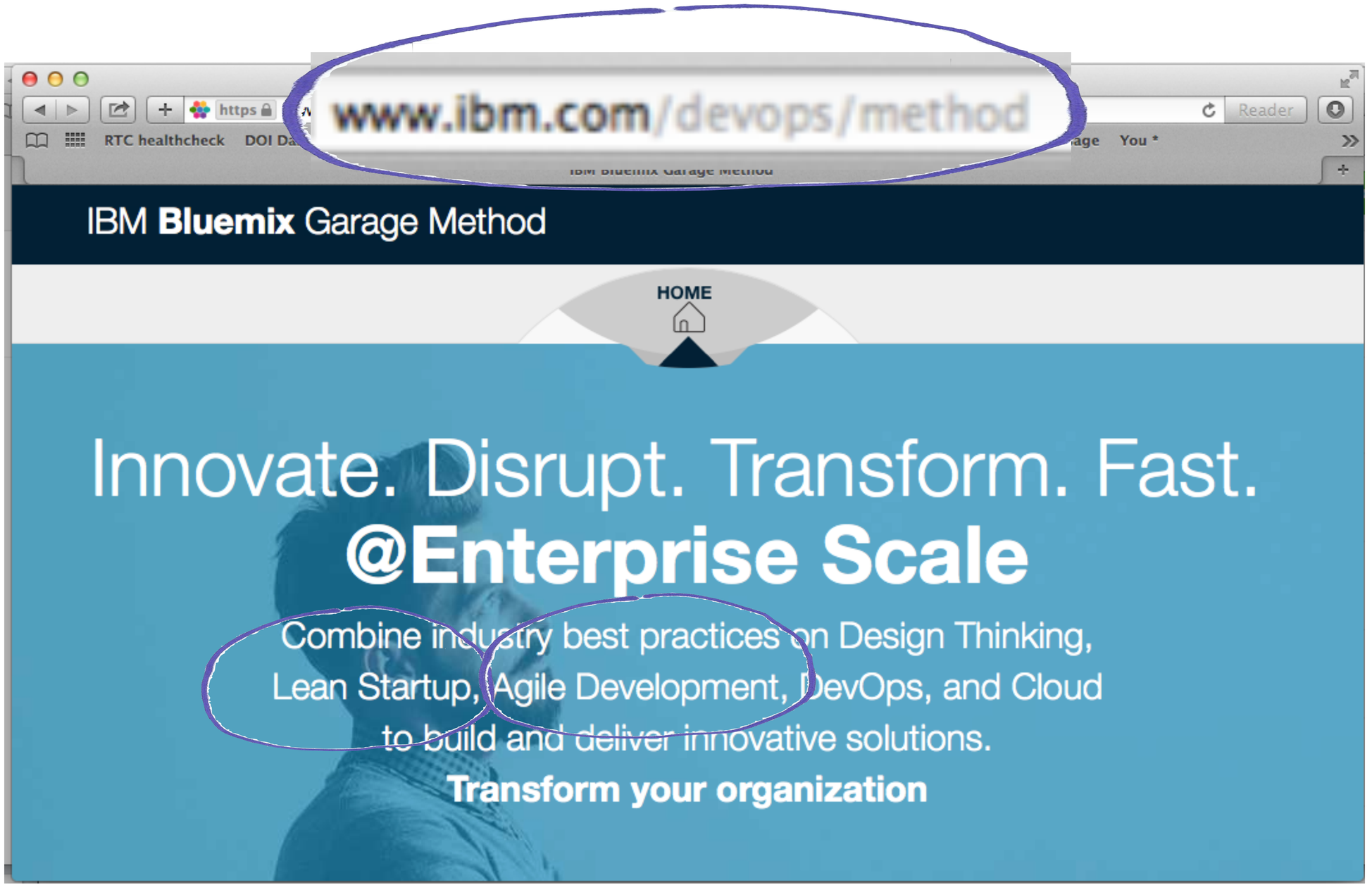
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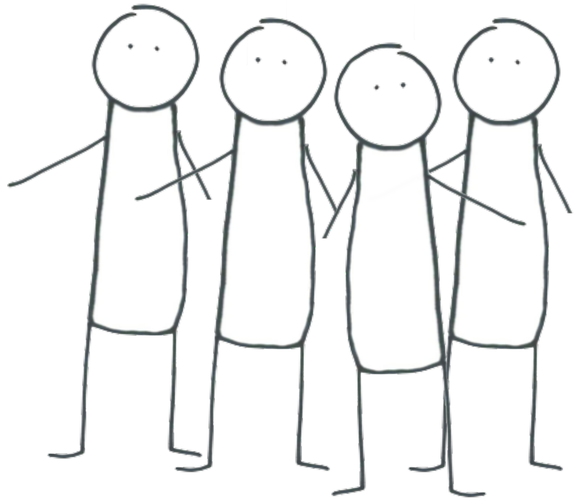
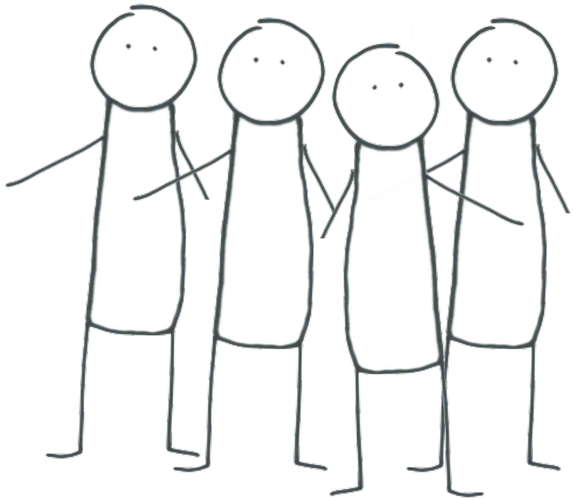
What **is** DevOps?

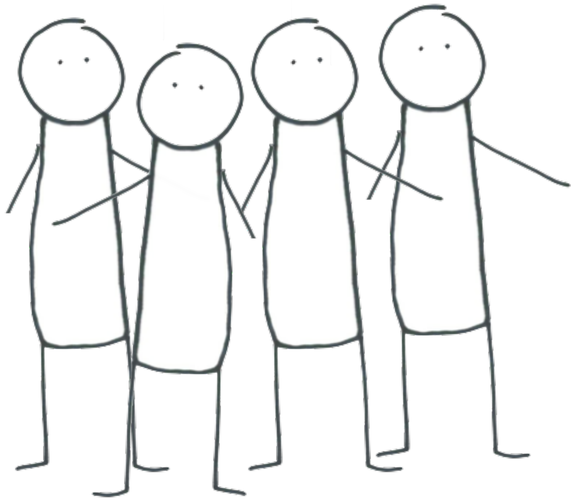
Old way

Old way

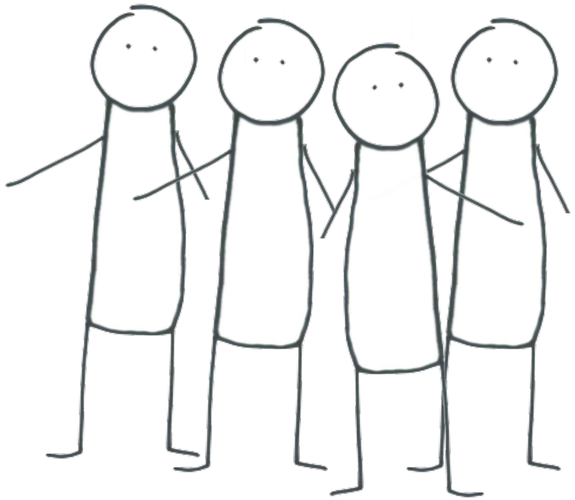


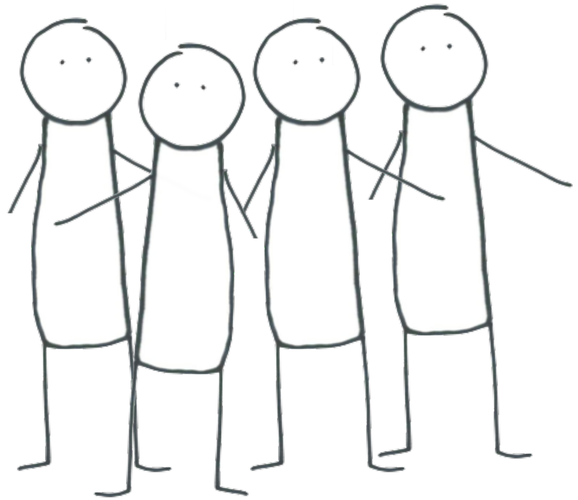
Old way





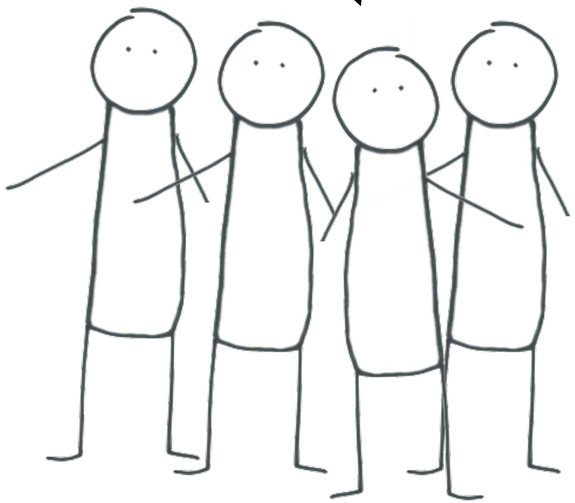
Old way

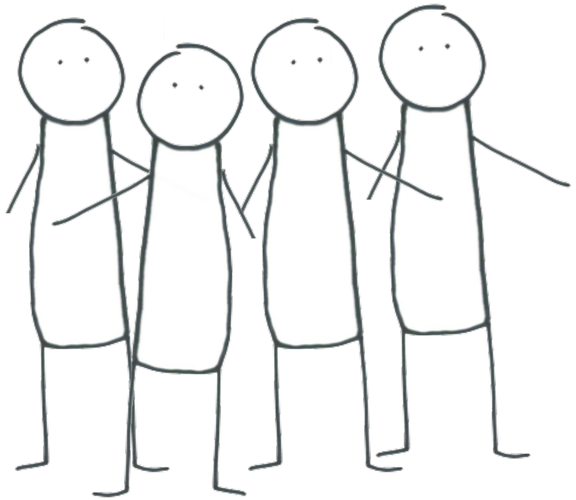




Old way

People who break stuff





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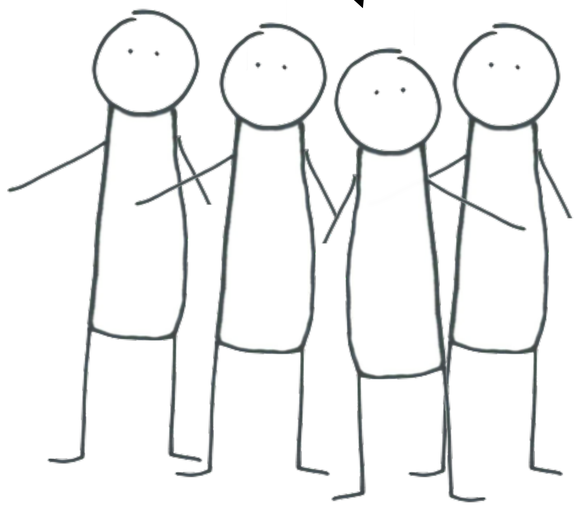
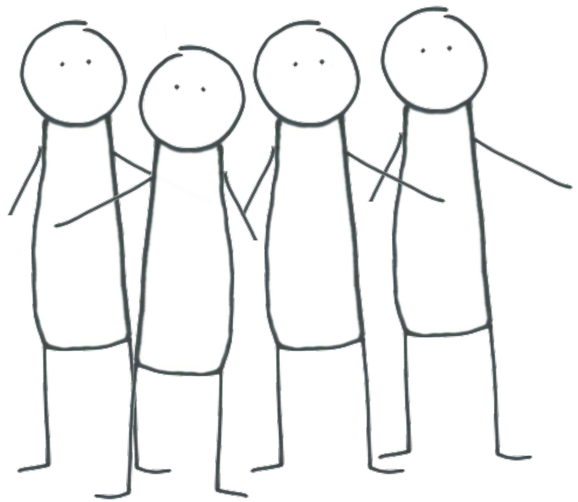
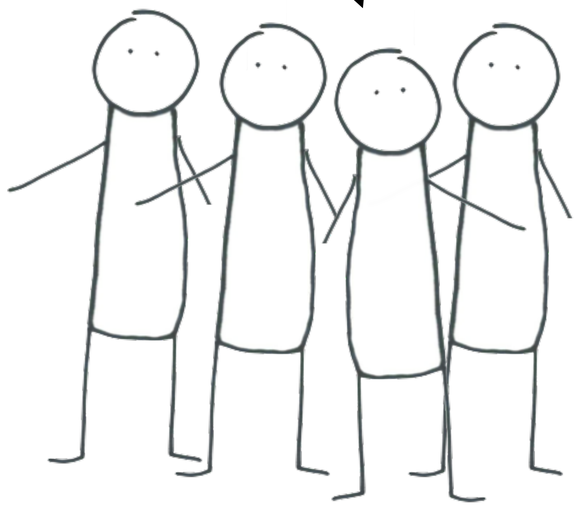


“developers”



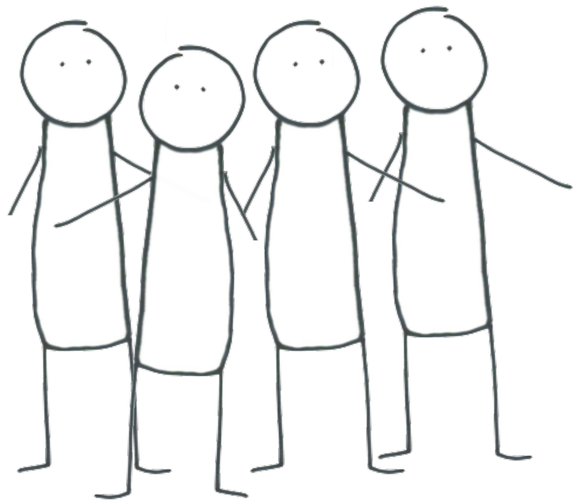
Old way

People who break stuff



"developers"

People who deal with consequences



Old way

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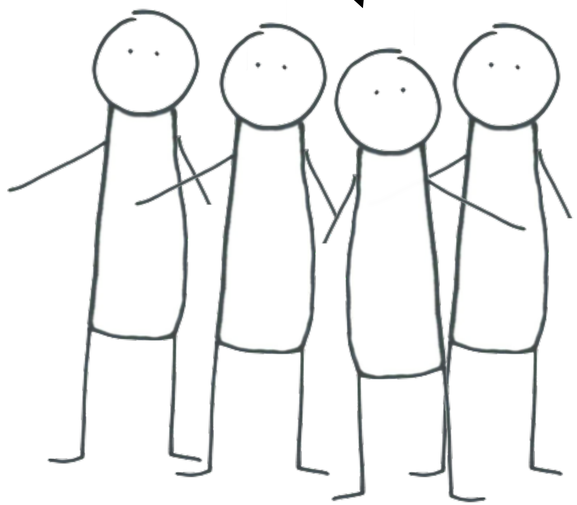

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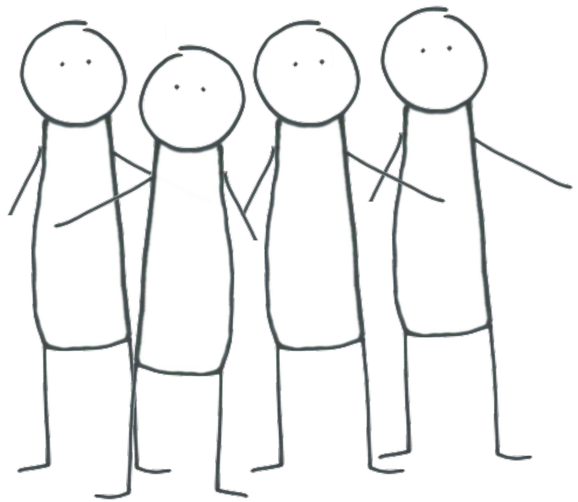


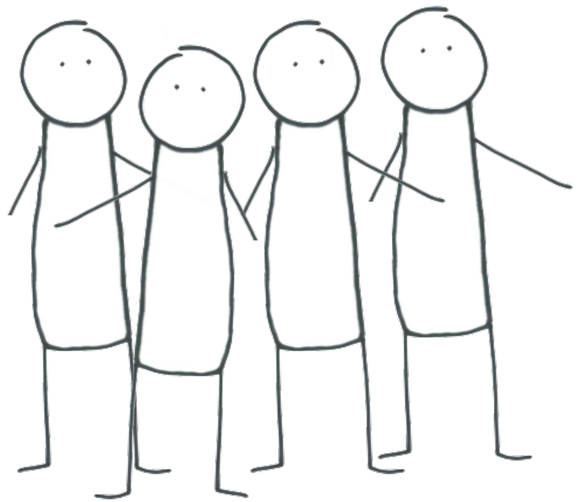
“ops team”

Old way

People who break stuff

"developers"

People who deal with consequences



"ops team"

Old way

People who break stuff

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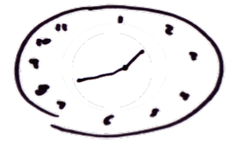
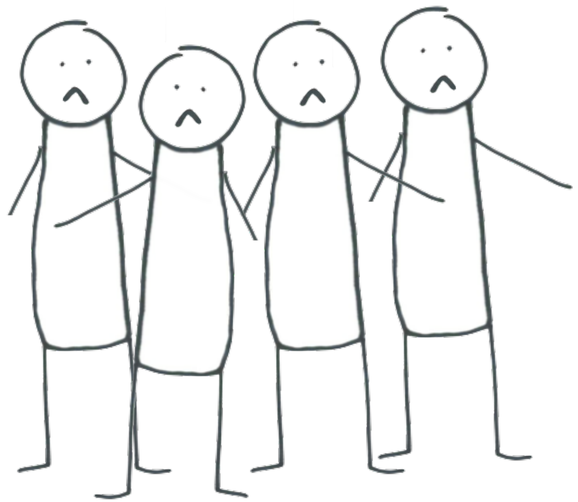




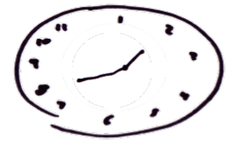
"ops team"

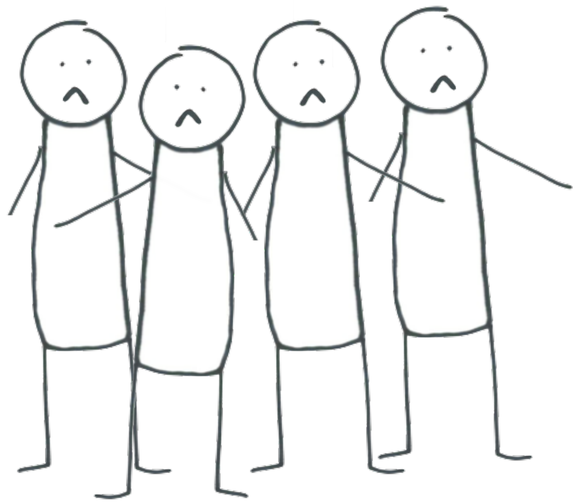
Old way

People who break stuff

"developers"

People who deal with consequences





"ops team"

New way

People who break stuff

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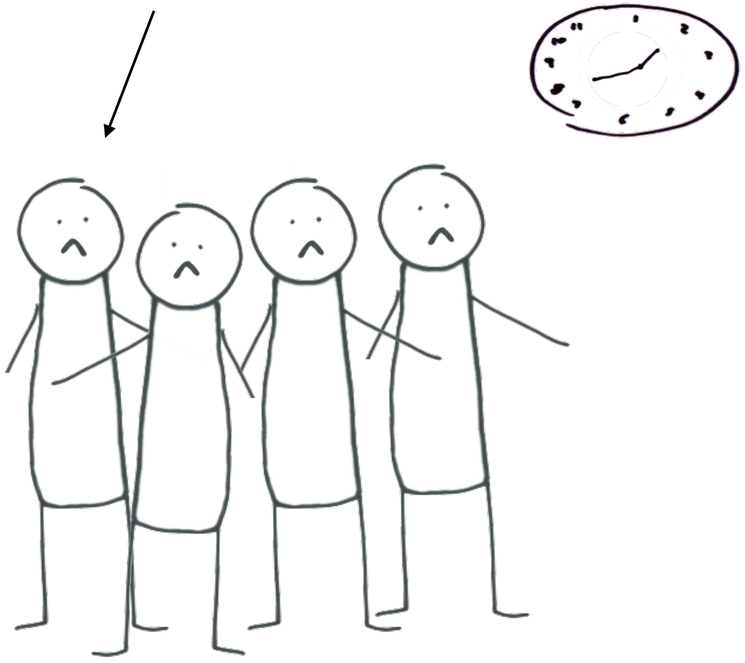
People who deal with consequences



“ops team”

New way

People who break stuff

People who deal with consequences

“developers”

“ops team”

New way

People who break stuff

People who deal with consequences

`“devops team”`

New way

People who break stuff
and deal with
consequences

“devops team”

New way

People who break stuff less
and deal with
consequences

`“devops team”`

New way

People who break stuff less
and deal with
consequences

`“devops team”`

What **is** DevOps?

What **is** DevOps?

Automation

What **is** DevOps?

100%

Automation

What DevOps is **not**

What DevOps is **not**

A job title

What DevOps is **not**

A job title for the IT department

What DevOps is **not**

A job title for the IT department

A criteria for chatting up job candidates on a train

What DevOps is **not**

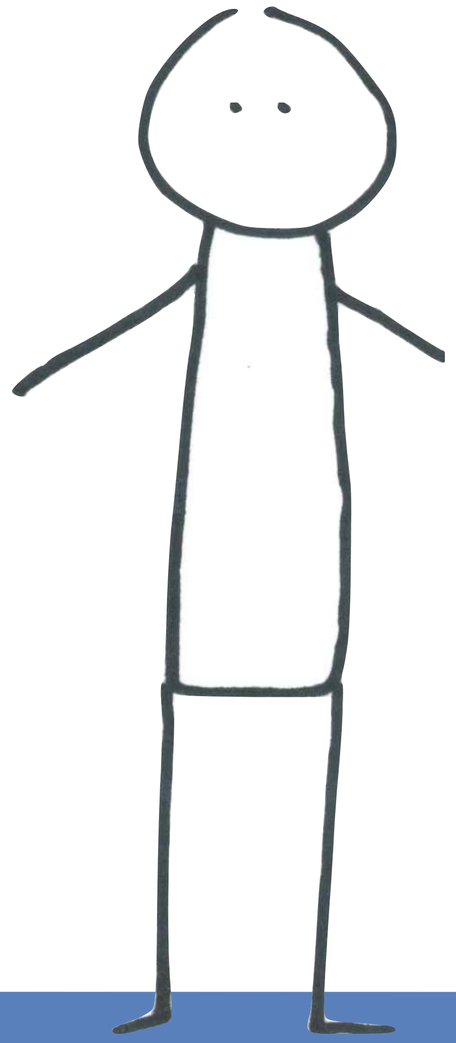
A job title for the IT department

A criteria for chatting up job candidates on a train

The **only** reason to automate

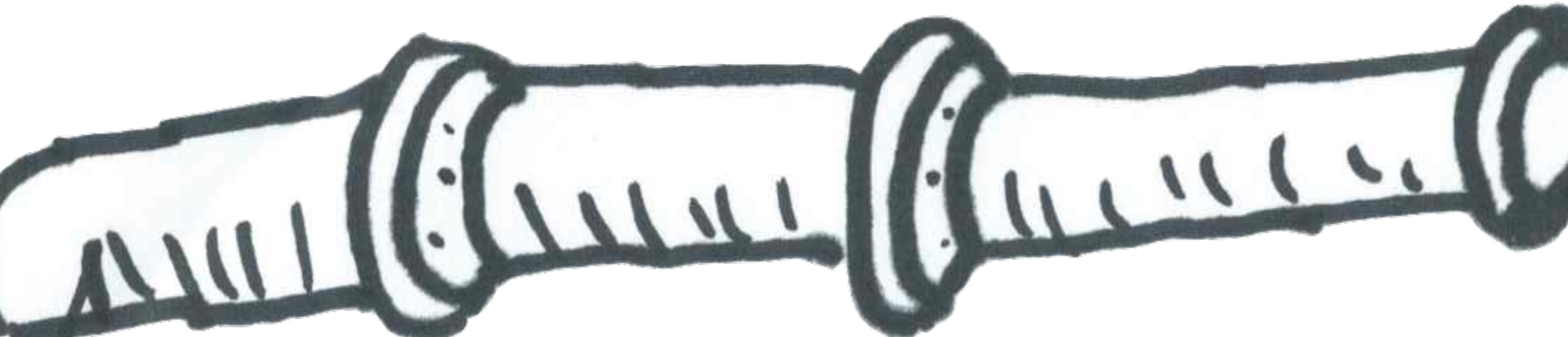
How to automate

How to automate



It depends.
What are you automating?

What can we automate?



What can we automate?

What can we automate?

Code → Push → Test → Live

What can we automate?

Code → Push → Test → Live

What can we automate?

What can we automate?

Infrastructure

What can we automate?

Infrastructure should be code.

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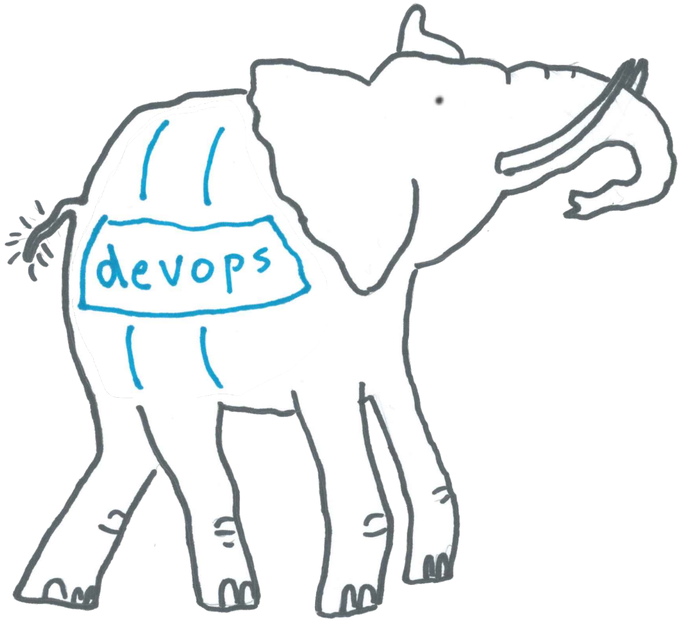
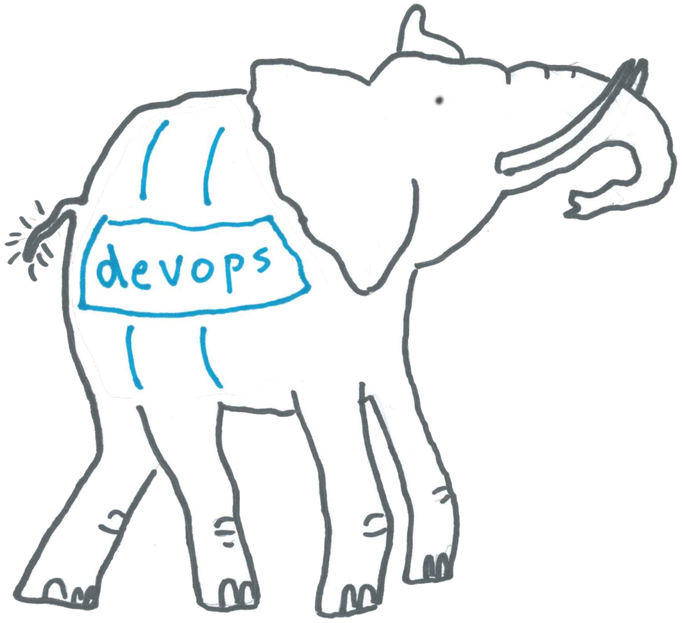


What can we automate?

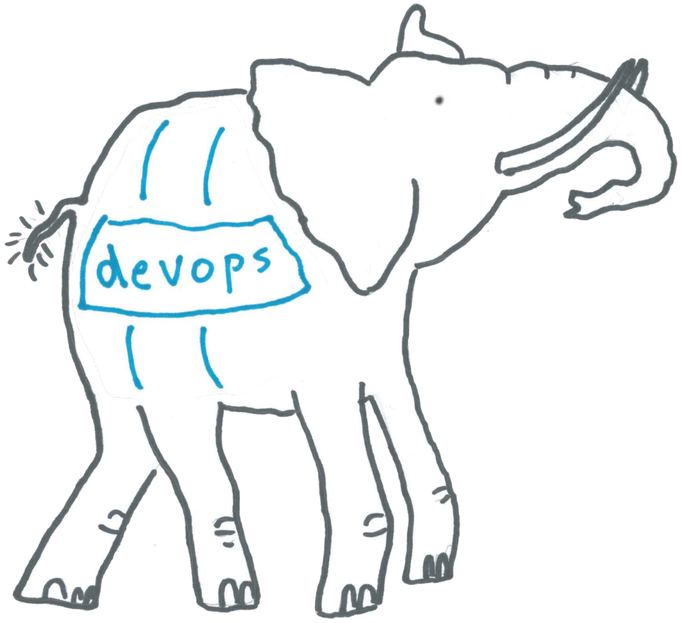
Infrastructure should be code.



- Machine configuration

What can we automate?

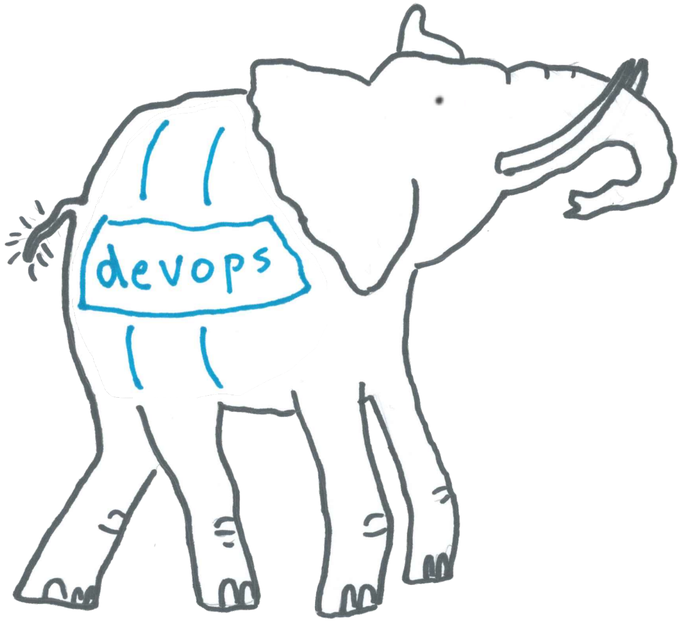
Infrastructure should be code.



- Machine configuration
- Servers

What can we automate?

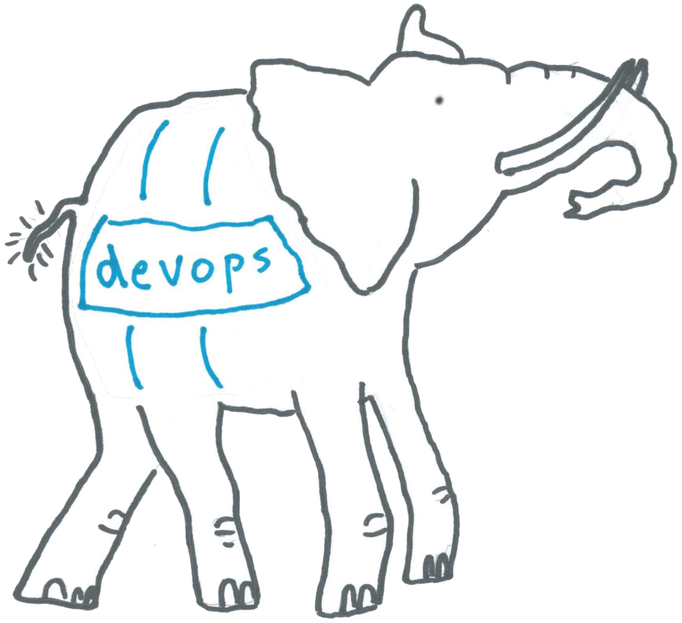
Infrastructure should be code.



- Machine configuration
- Servers
- Test environments

What can we automate?

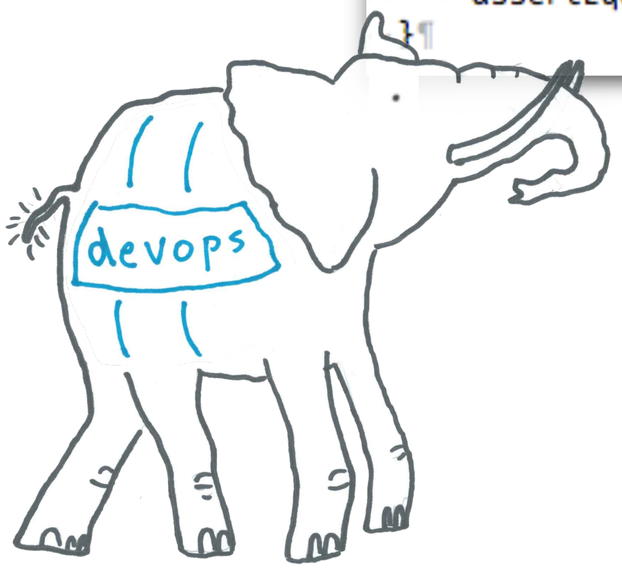
Infrastructure should be code.



- Machine configuration
- Servers
- Test environments
- ….

What can we automate?

```
¶
@Test¶
public void testField()¶
{¶
    String value = randomString();¶
    Thing object = new Thing();¶
    object.setField(value);¶
    assertEquals("The getter and setter are busted", value, object.getField());¶
}¶
```



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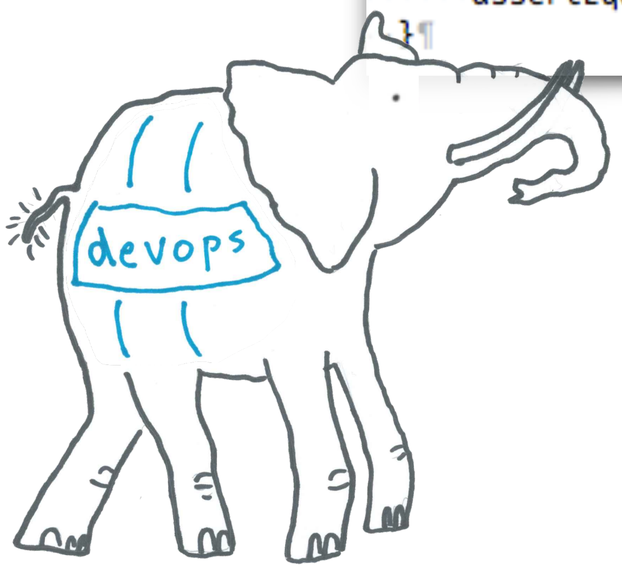

Tests

What can we automate?

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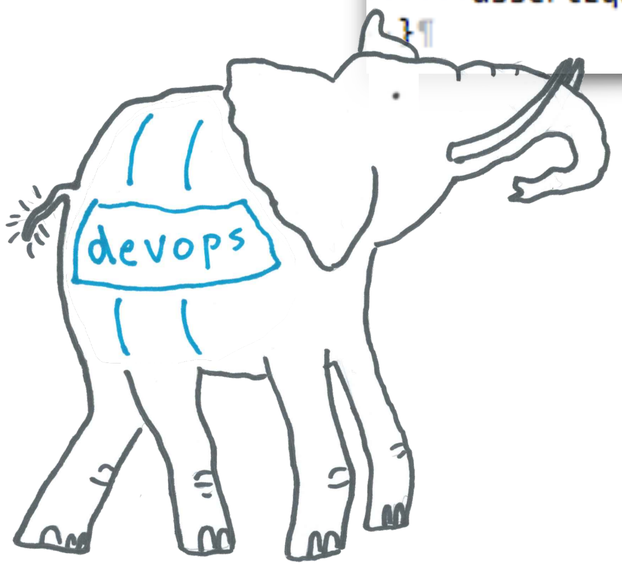

Trivial Tests

What can we automate?

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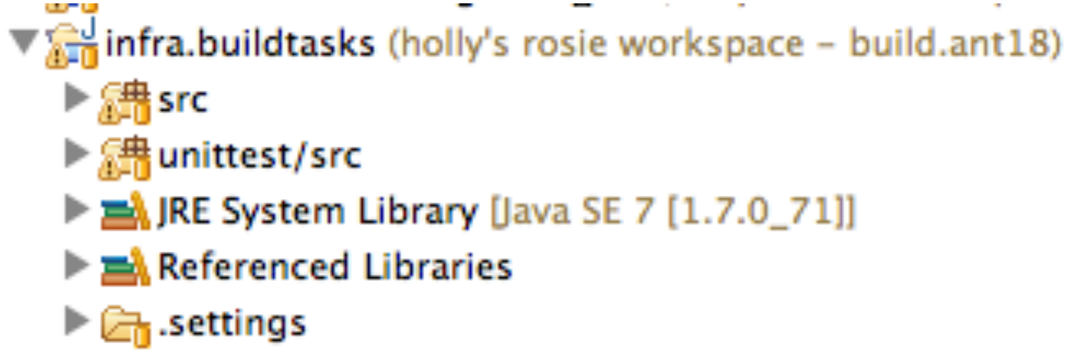
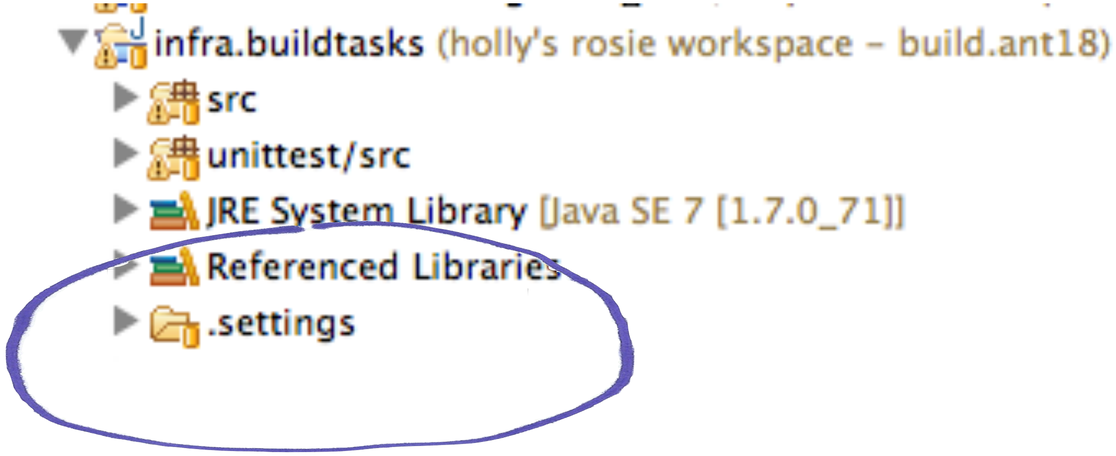
Trivial Tests

What can we automate?



What can we automate?

Automatically generated



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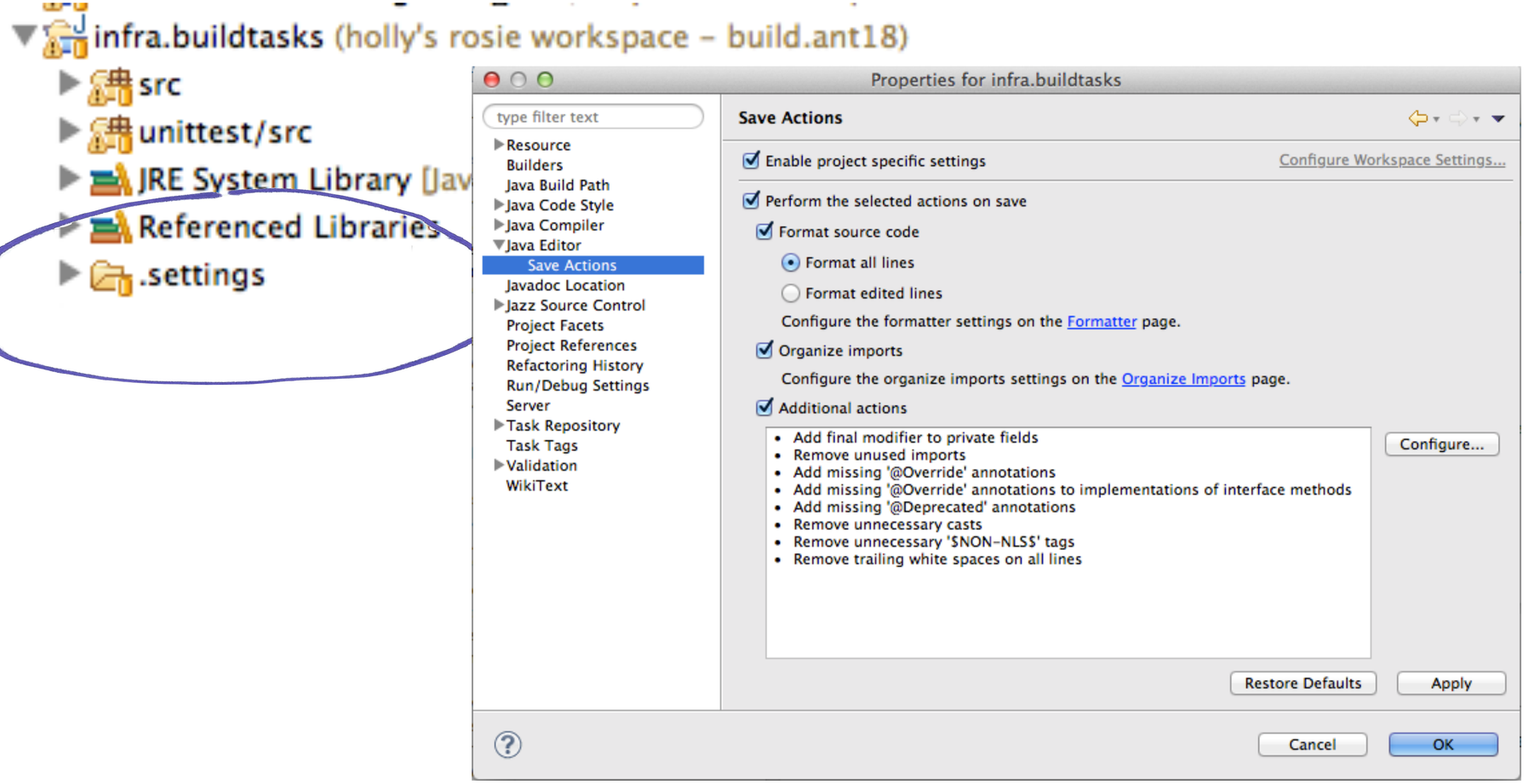

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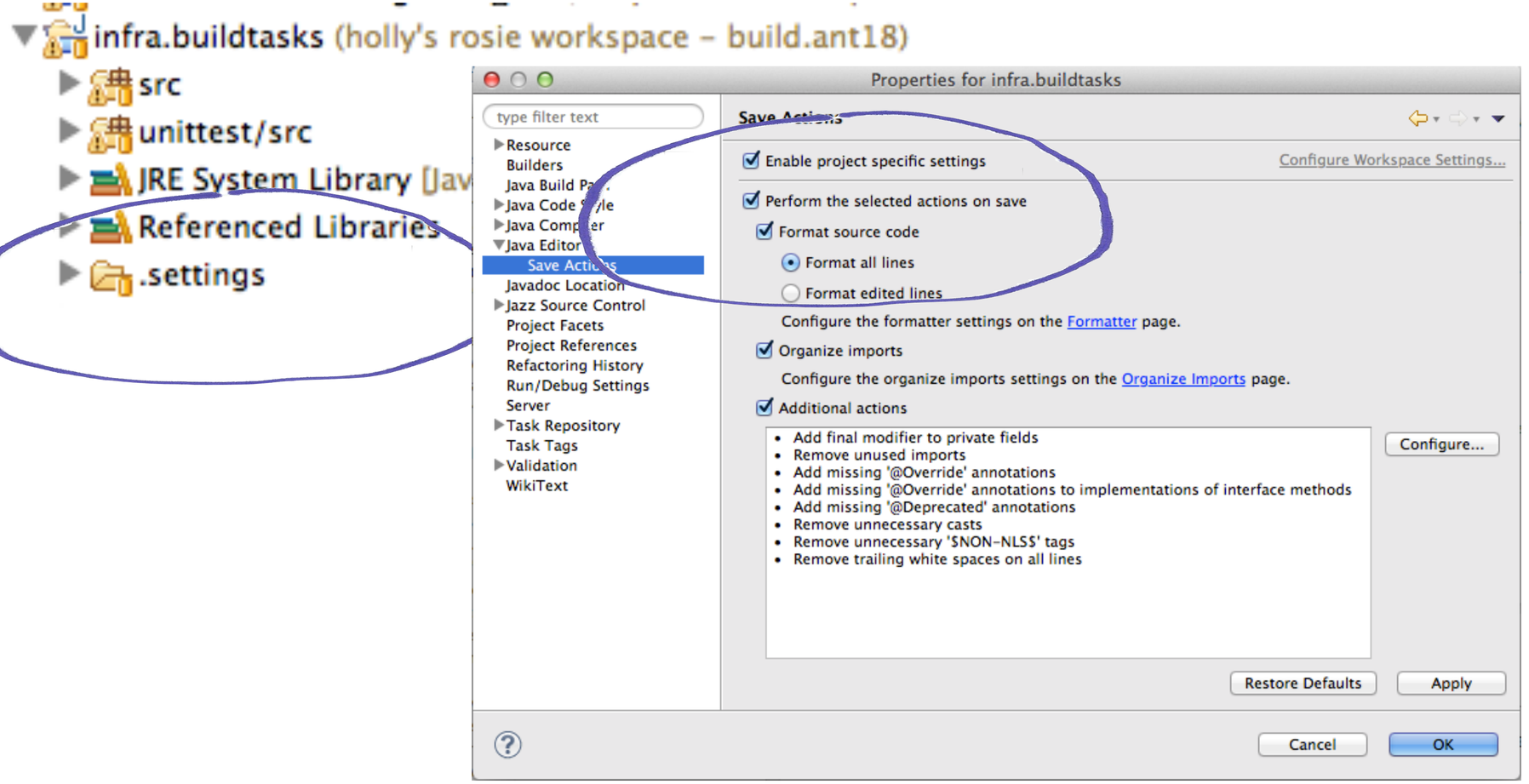

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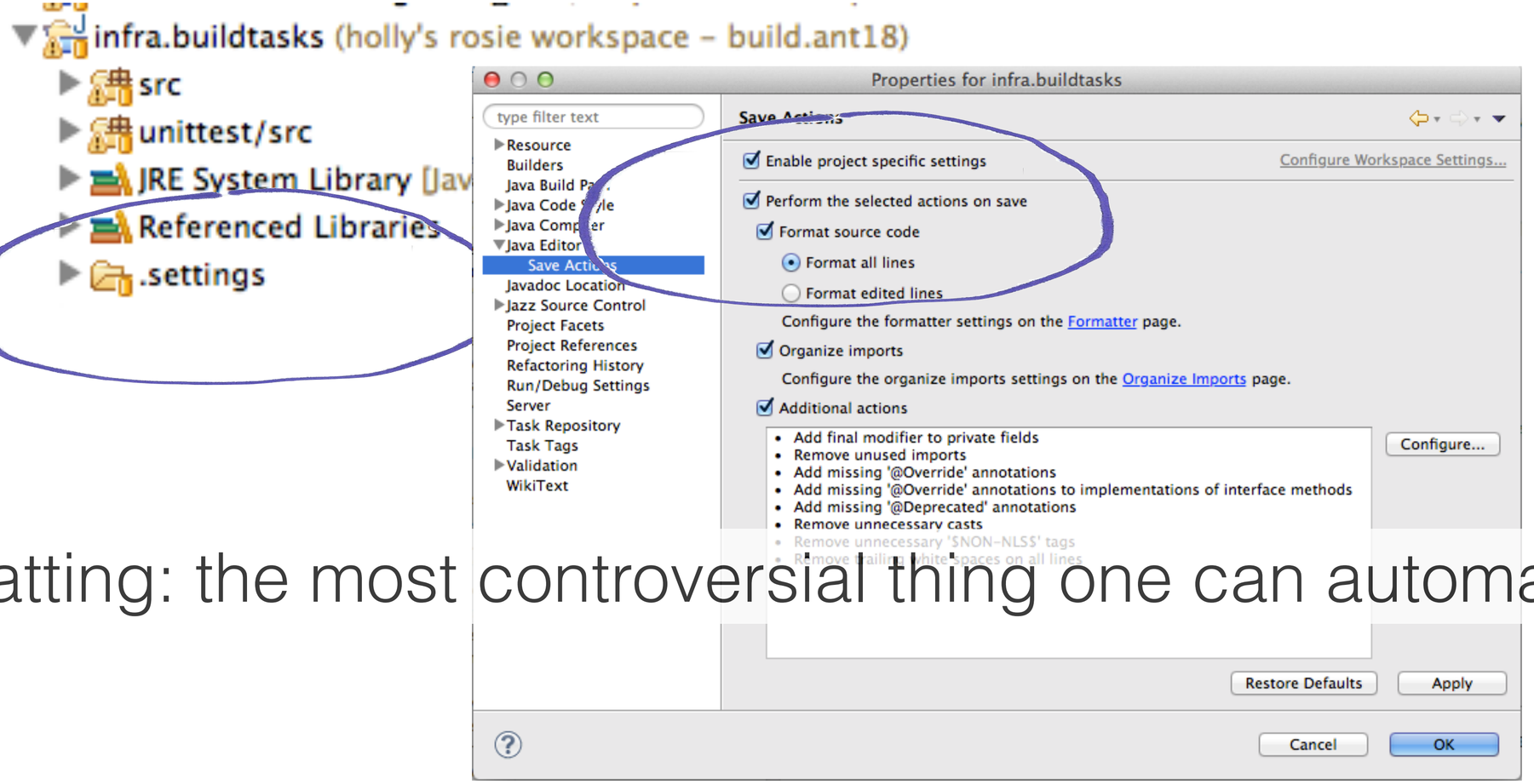
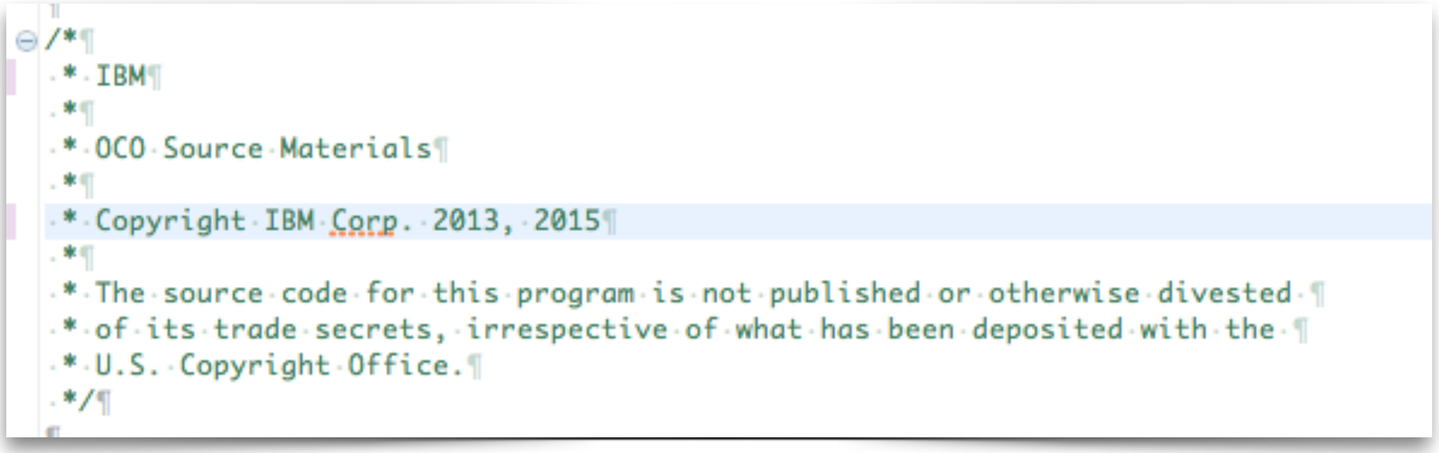
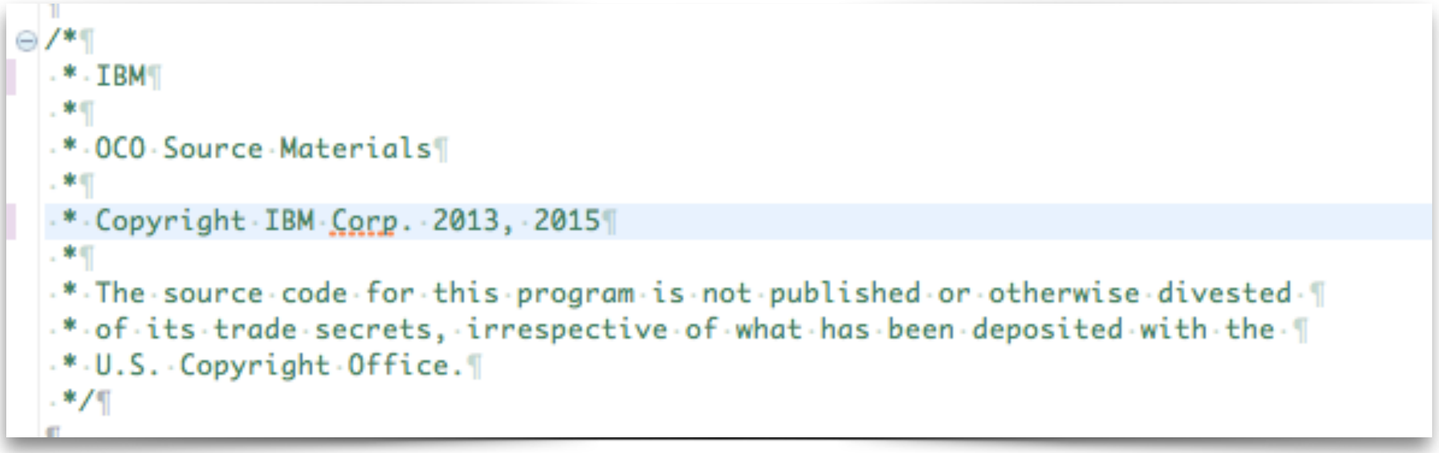


Formatting: the most controversial thing one can automate.

What can we automate?



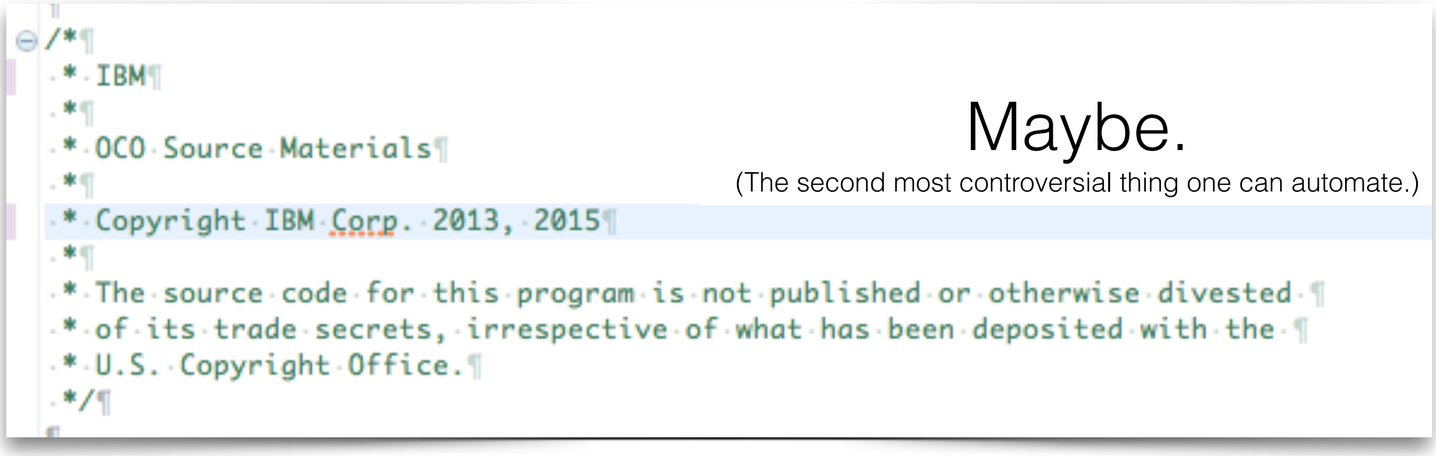
What can we automate?



```
/*
 * IBM
 *
 * OCO Source Materials
 *
 * Copyright IBM Corp. 2013, 2015
 *
 * The source code for this program is not published or otherwise divested
 * of its trade secrets, irrespective of what has been deposited with the
 * U.S. Copyright Office.
 */
```

Copyright statements

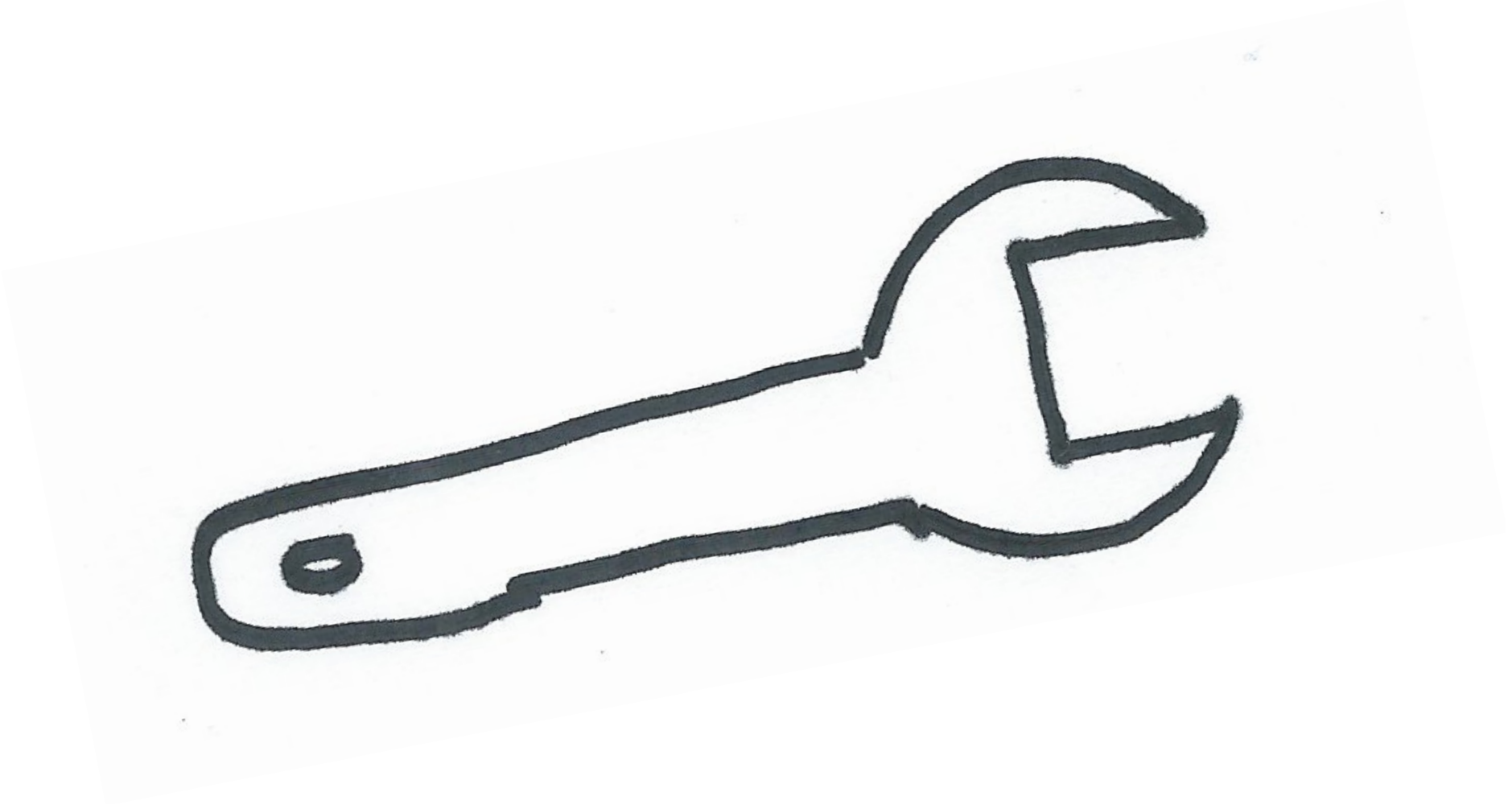
What can we automate?



Maybe.

(The second most controversial thing one can automate.)

Copyright statements



Tools

(an incomplete list)

Tools

(an incomplete list)

Tools

(an incomplete list)

- Shell scripts

Tools

(an incomplete list)

- Shell scripts
  - sed

Tools

(still an incomplete list)

- Scripting
  - python
  - ruby

Tools

(still an incomplete list)

Tools

(still an incomplete list)

Jenkins

Tools

(still an incomplete list)

Jenkins
Rational Team Concert

Tools

(yep, still an incomplete list)

Tools

(yep, still an incomplete list)

Chef

Tools

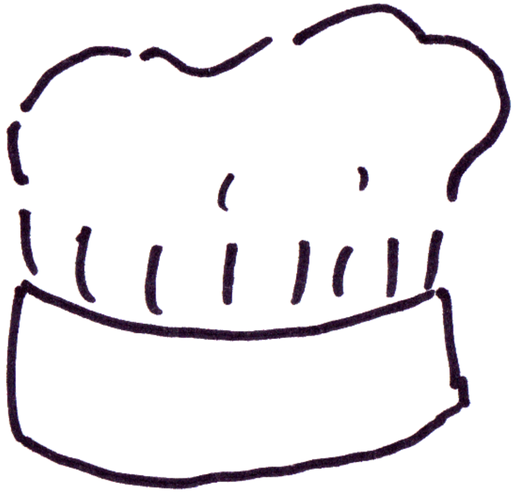
(yep, still an incomplete list)

Chef

Puppet

Tools

(yep, still an incomplete list)



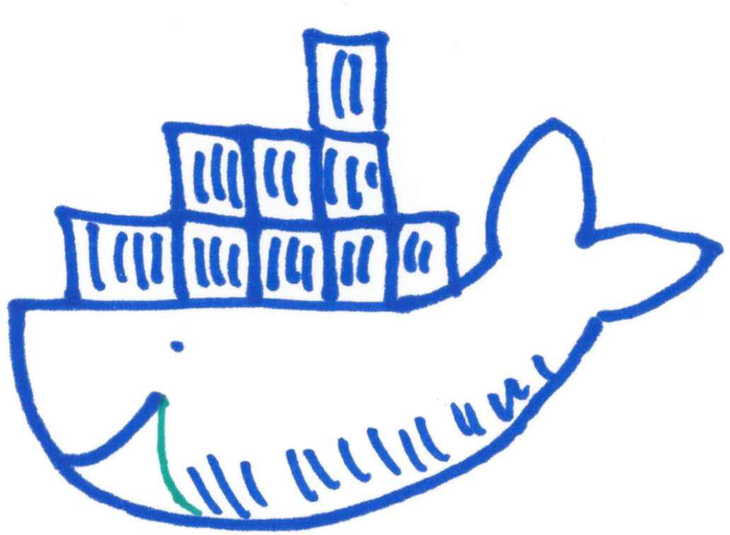
Chef

Puppet

sprout-wrap

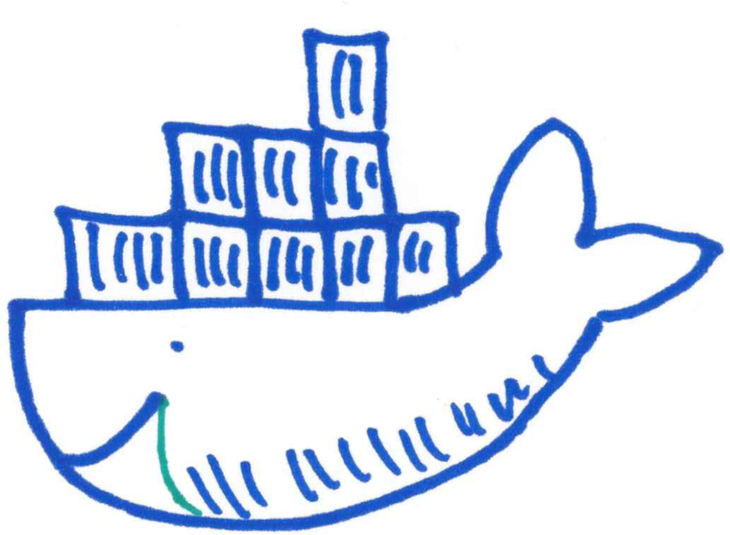
Tools

(you'll never guess - still an incomplete list)



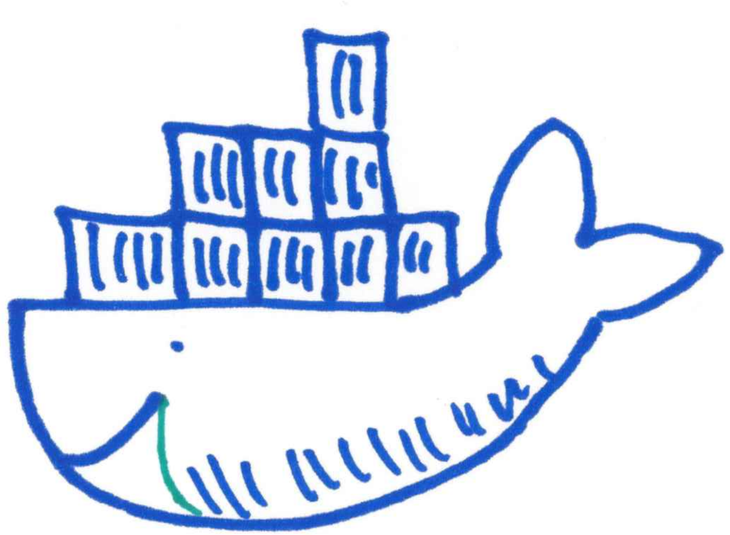
Tools

(you'll never guess - still an incomplete list)



Tools

(you'll never guess - still an incomplete list)



Docker, VMWare, and Vagrant images

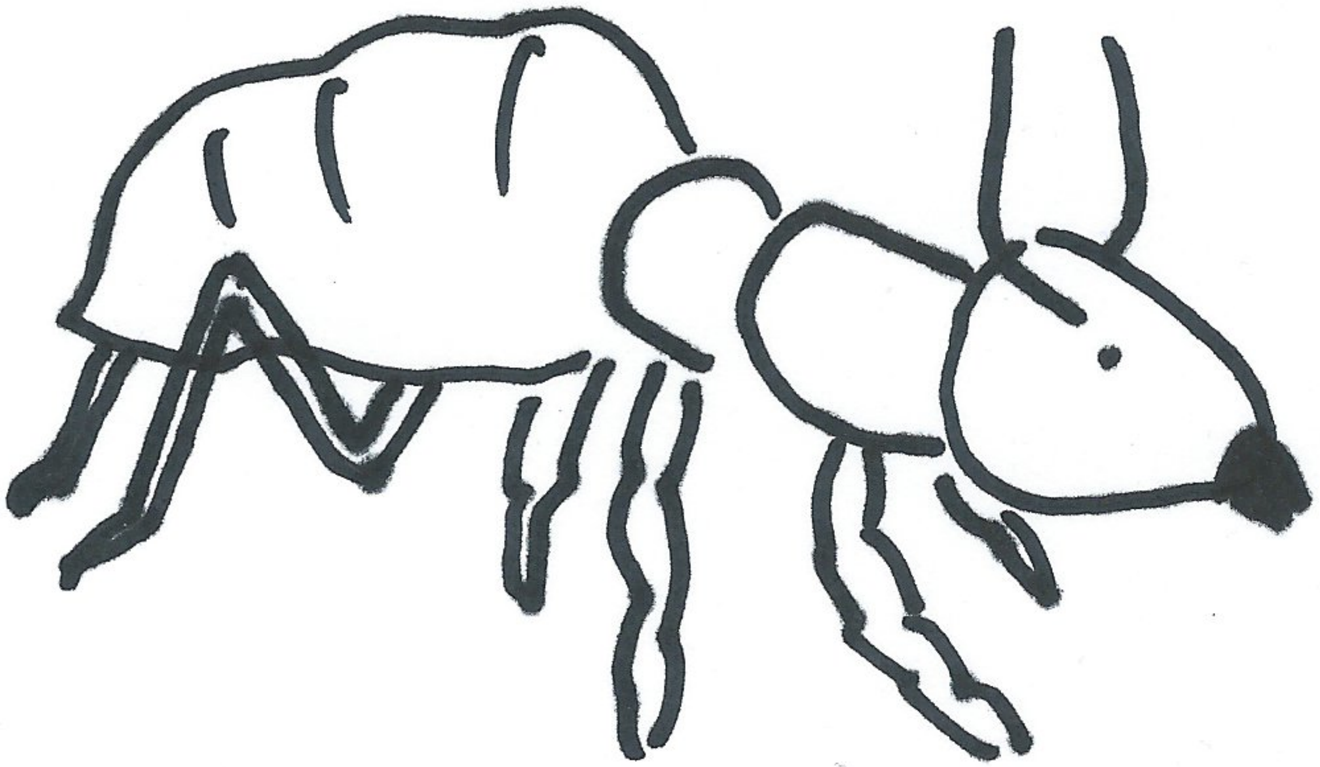
It doesn't have to be fancy

example

It doesn't have to be fancy

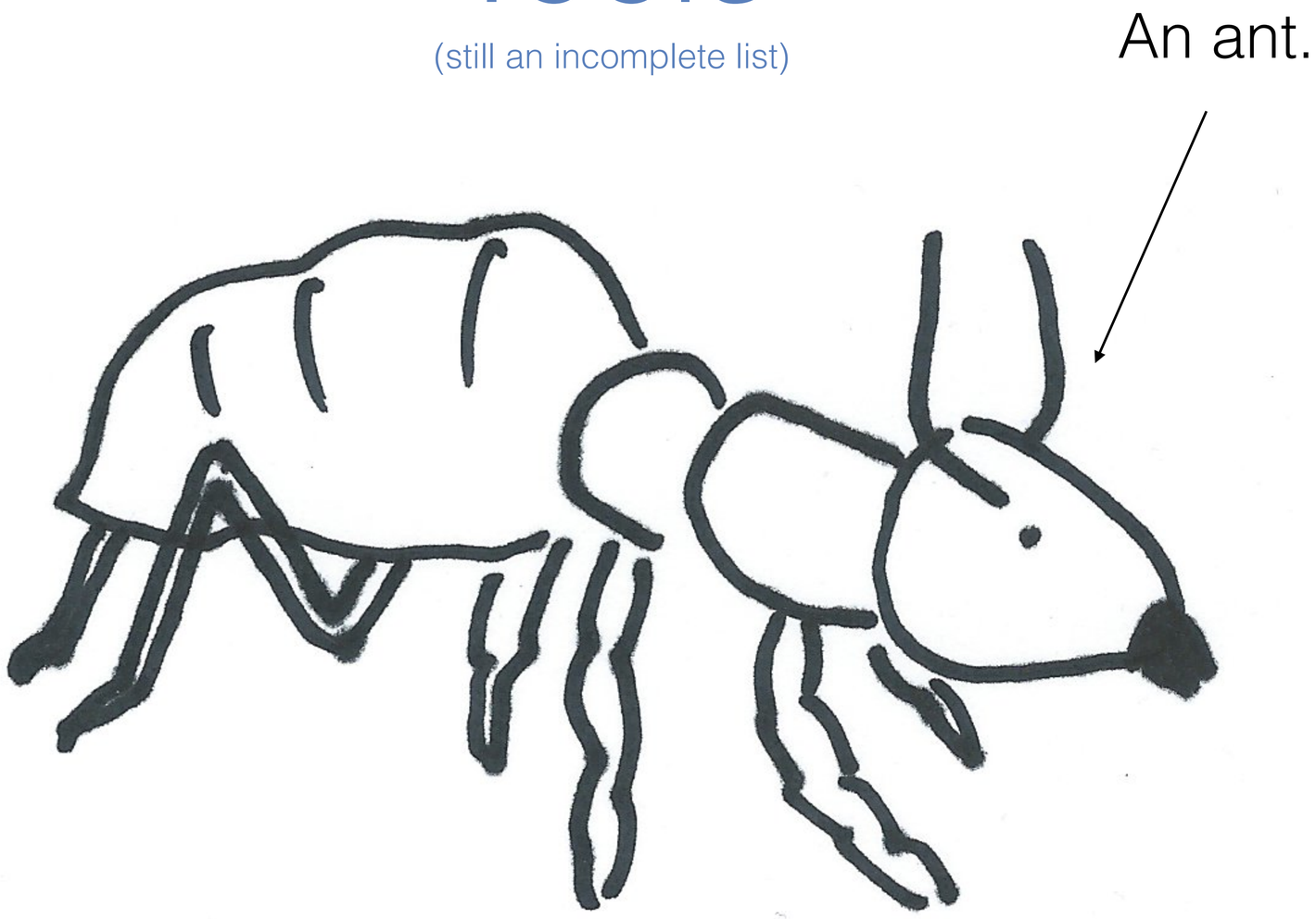
Tools

(still an incomplete list)



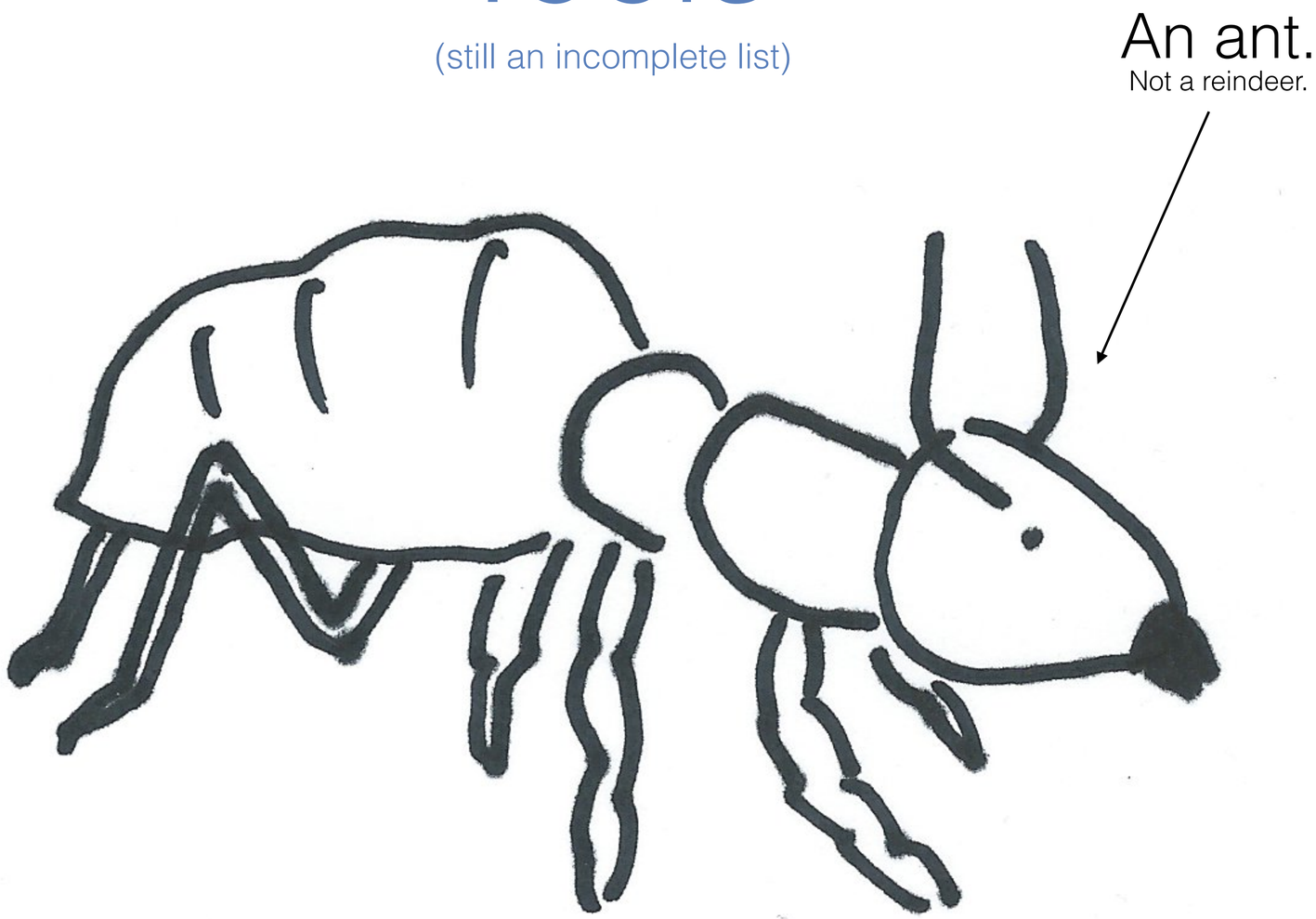
Tools

(still an incomplete list)



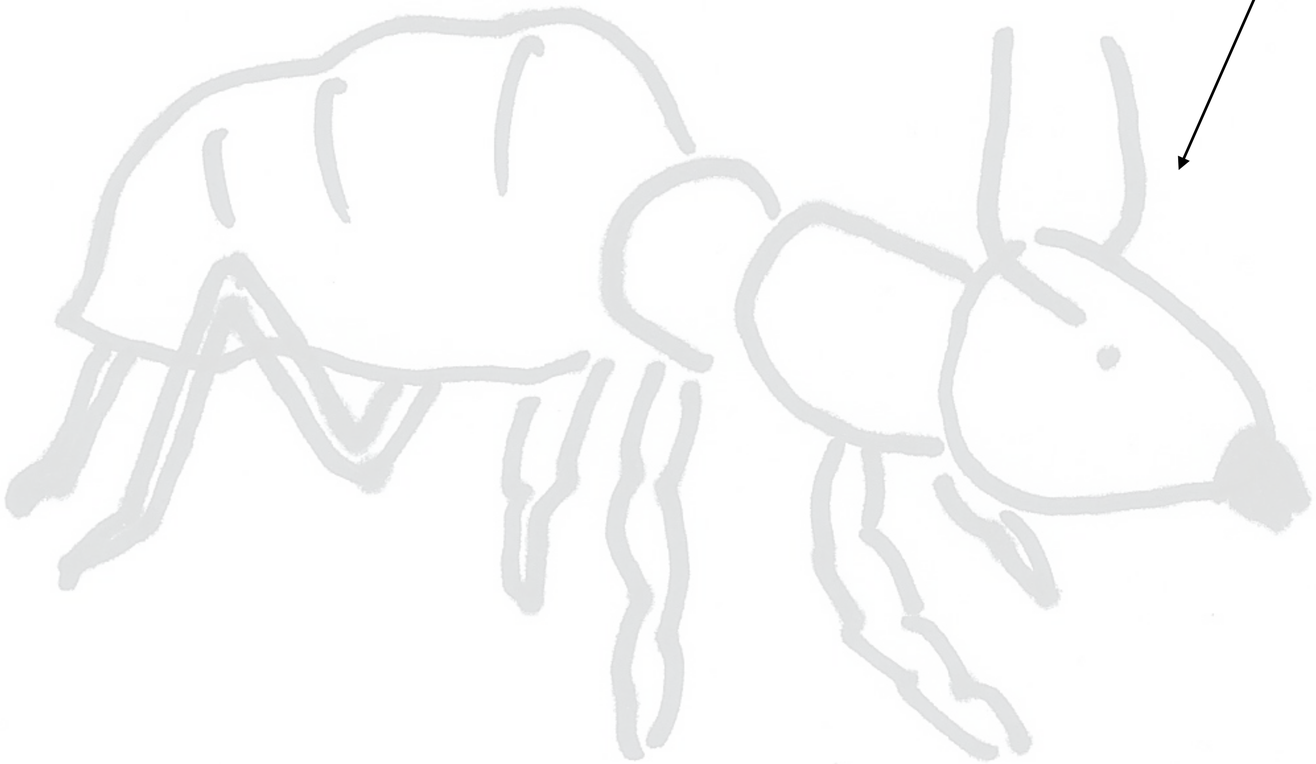
Tools

(still an incomplete list)



Tools

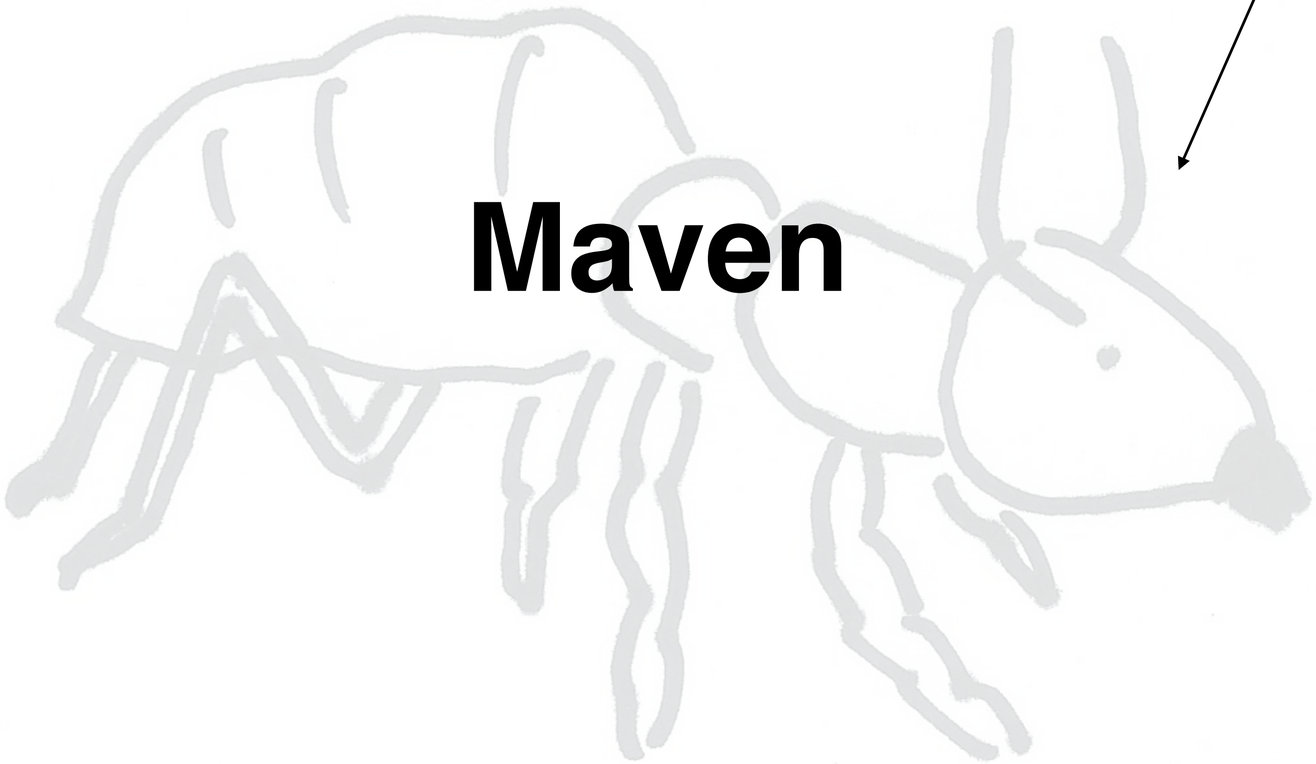
(still an incomplete list)



Tools

(still an incomplete list)

An ant.
Not a reindeer.

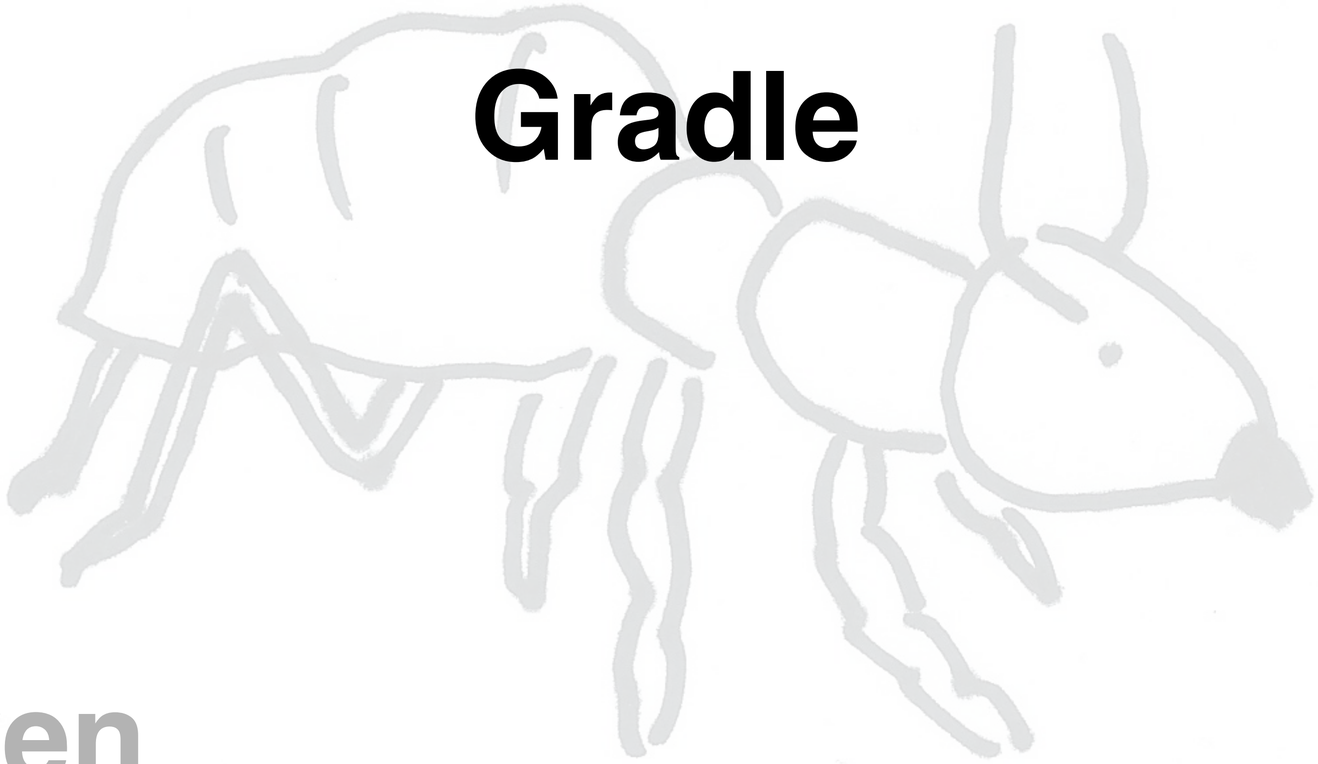


Maven

Tools

(still an incomplete list)

An ant.
Not a reindeer.



Gradle

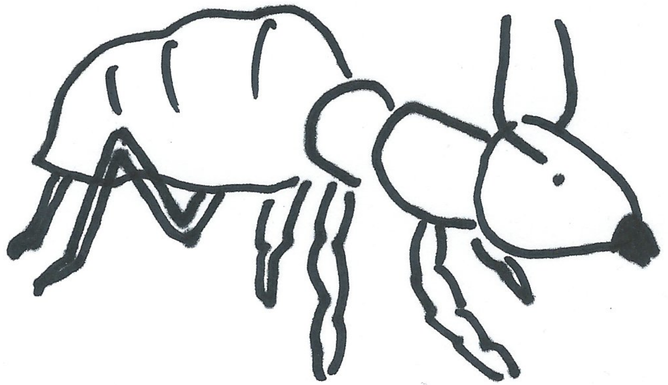
Maven

Tools

(still an incomplete list)

An ant.

Not a reindeer.

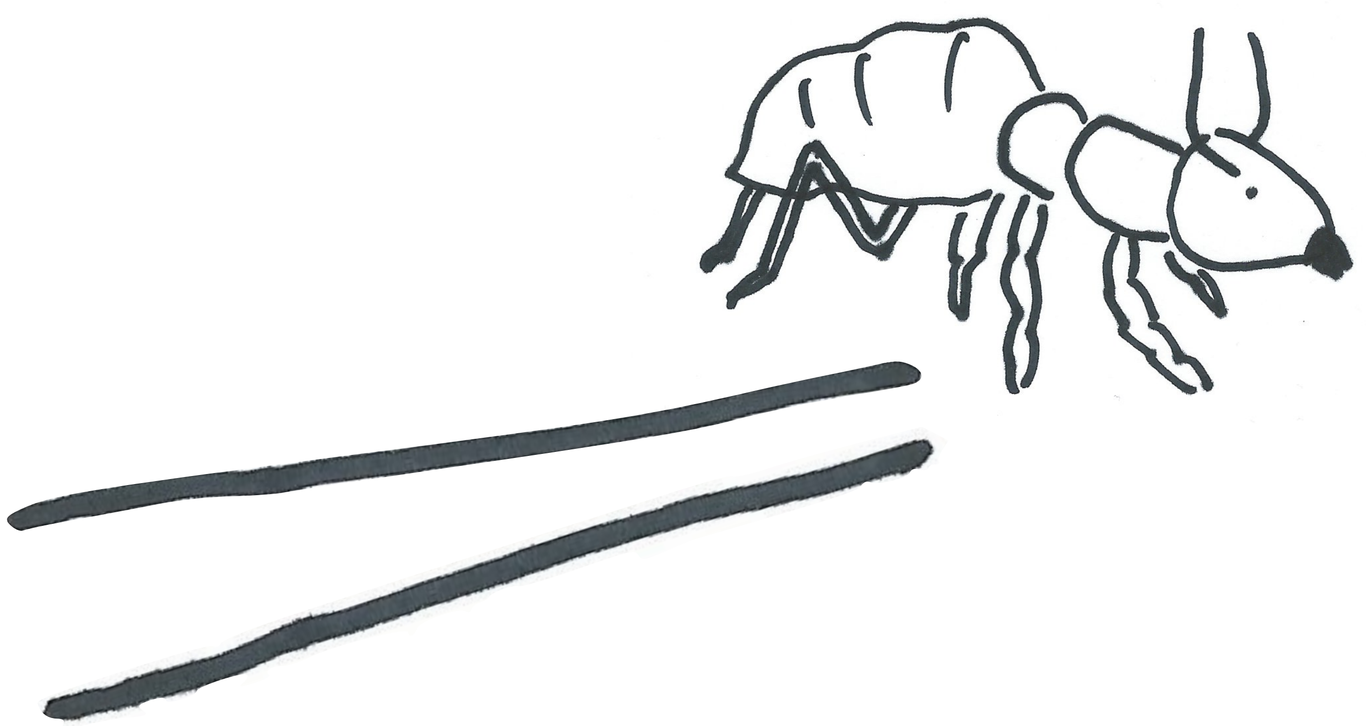


Gradle
Maven

Tools

(still an incomplete list)

An ant.
Not a reindeer.



Gradle
Maven

Tools

(still an incomplete list)

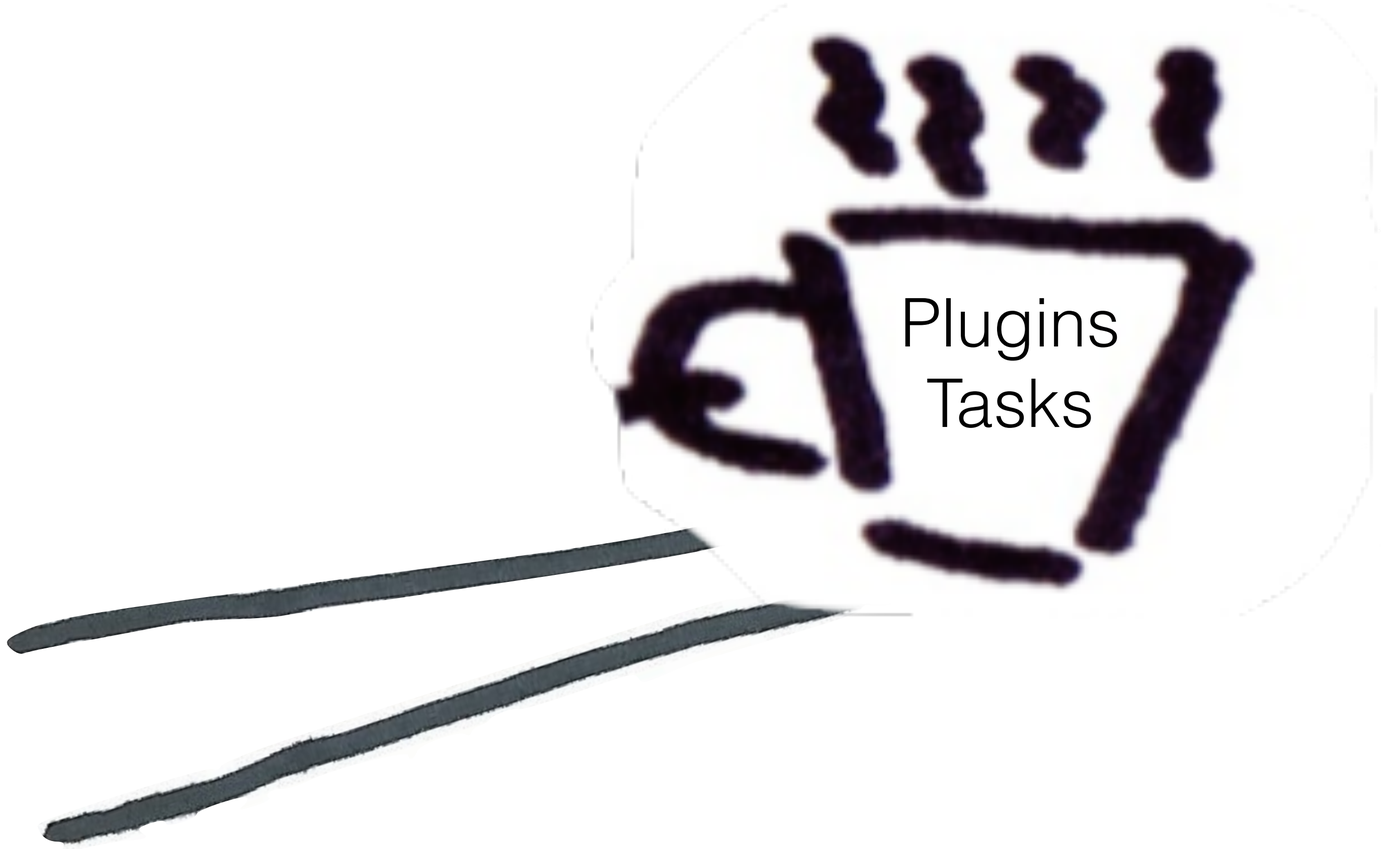
An ant.
Not a reindeer.

Gradle
Maven

Tools

(still an incomplete list)

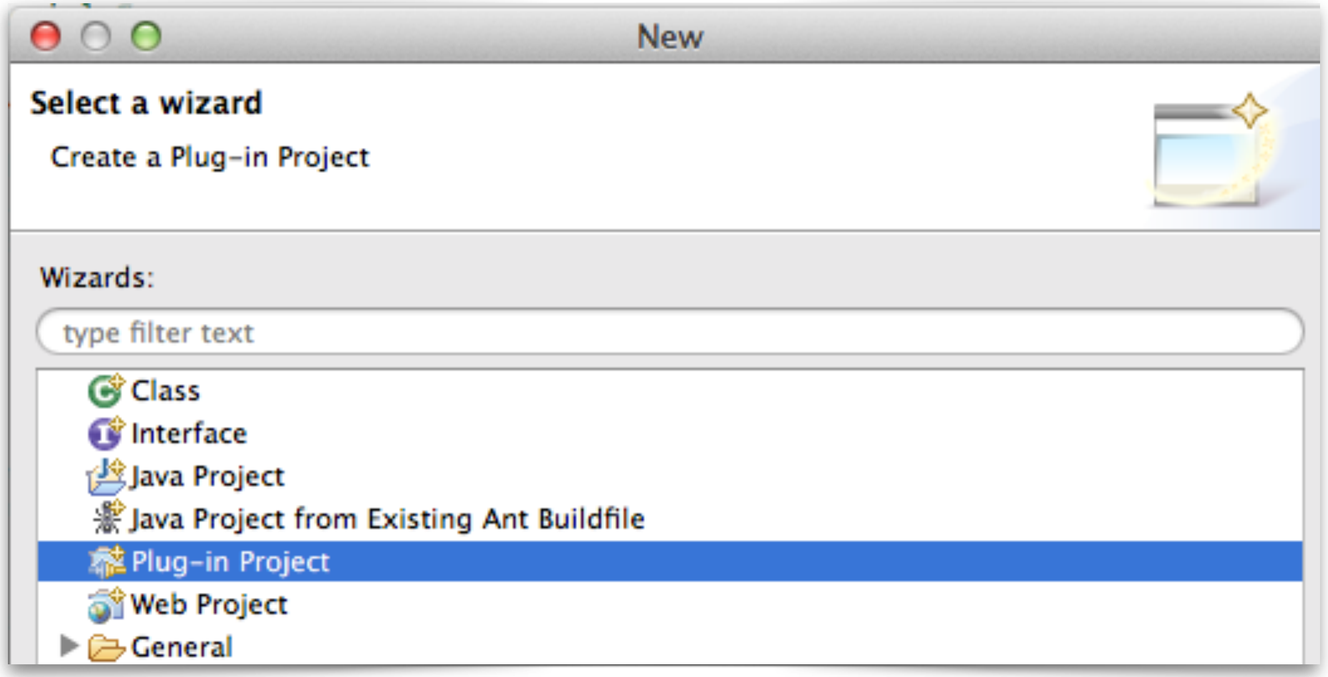
An ant.
Not a reindeer.



Gradle
Maven

Tools

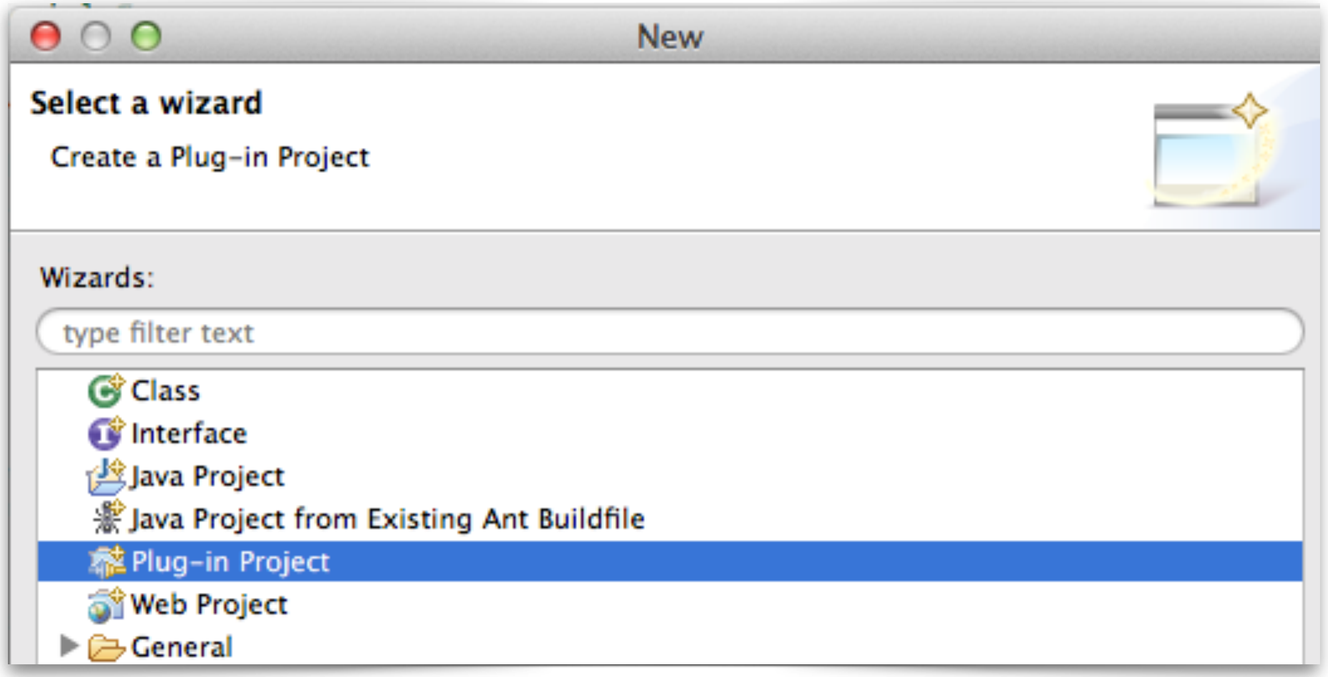
(still an incomplete list)



Tools

(still an incomplete list)

Eclipse plugins



Tools

(still an incomplete list)

Tools

(still an incomplete list)

Web applications

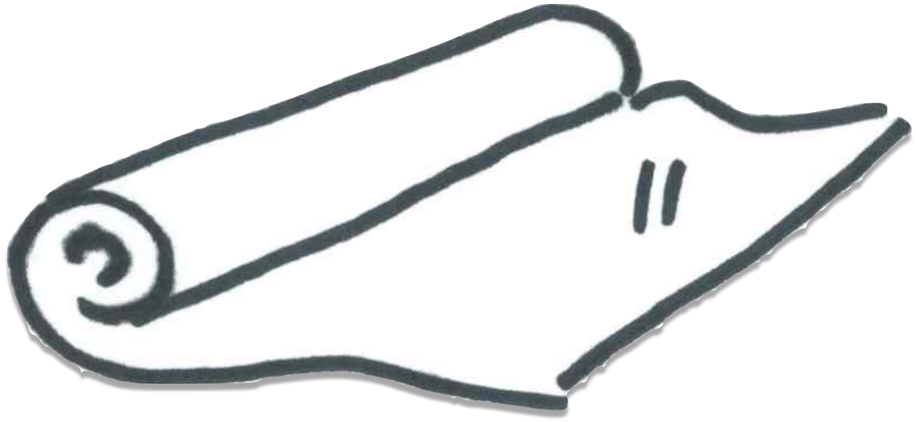
Tools

(still an incomplete list)

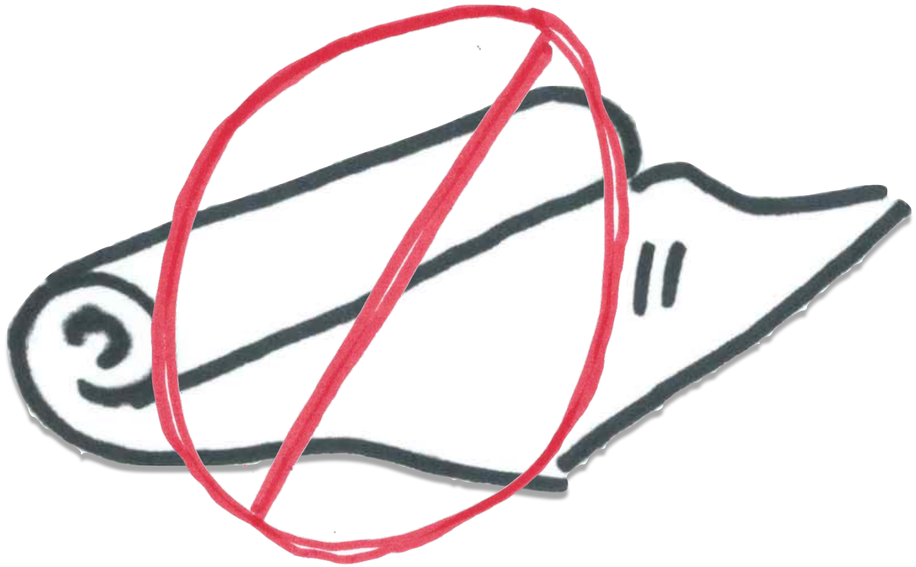
Web applications

(If a UI is involved, proceed with caution)

Rolling your own

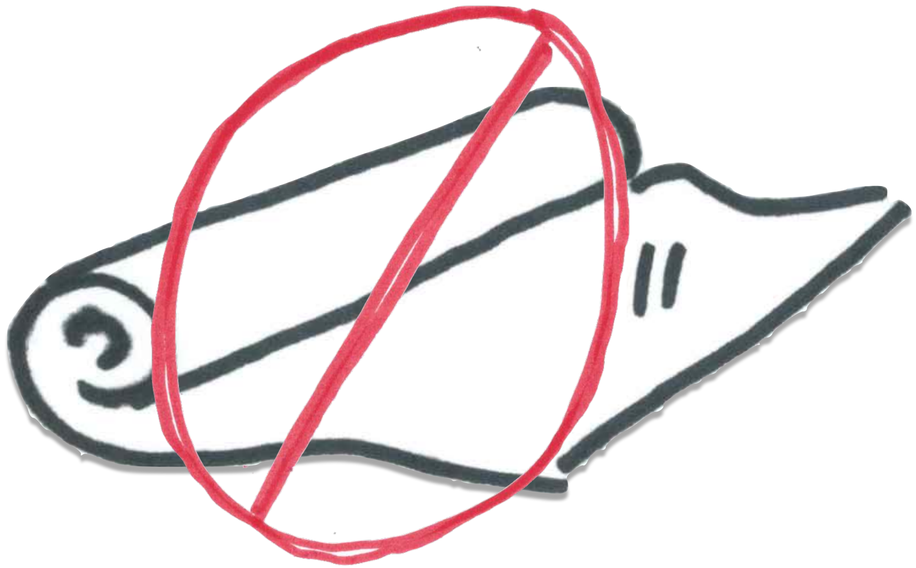


Rolling your own



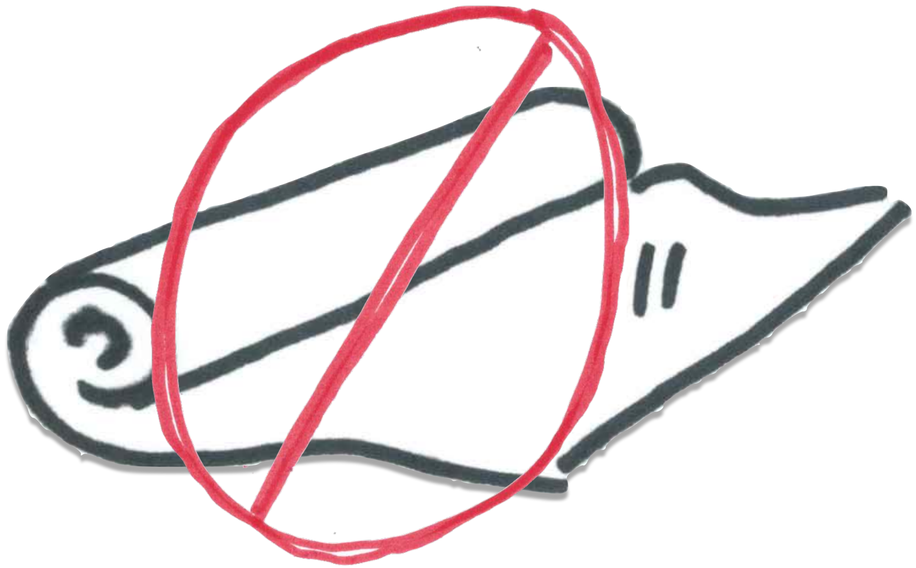
- Beware not-invented-here

Rolling your own



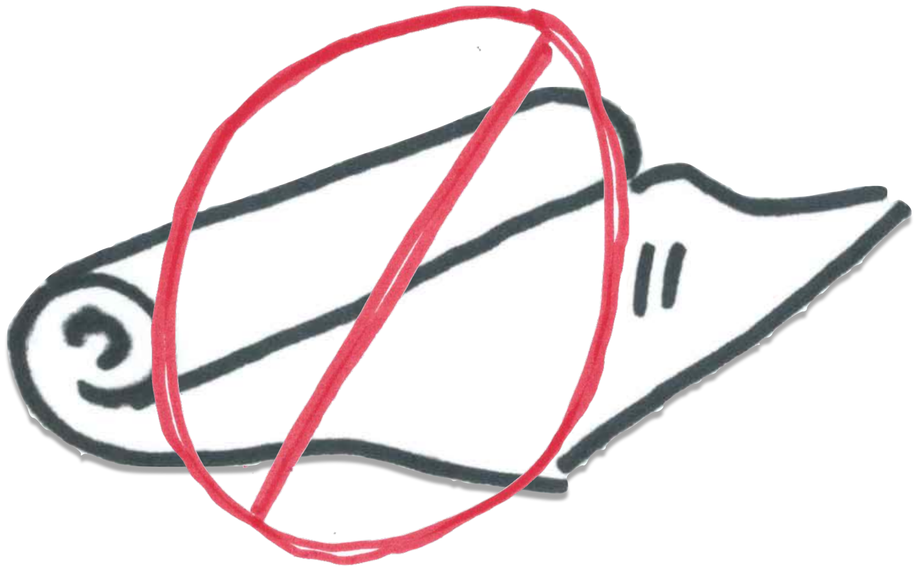
- Beware not-invented-here
  - Are you *sure* no one else has done this?

Rolling your own



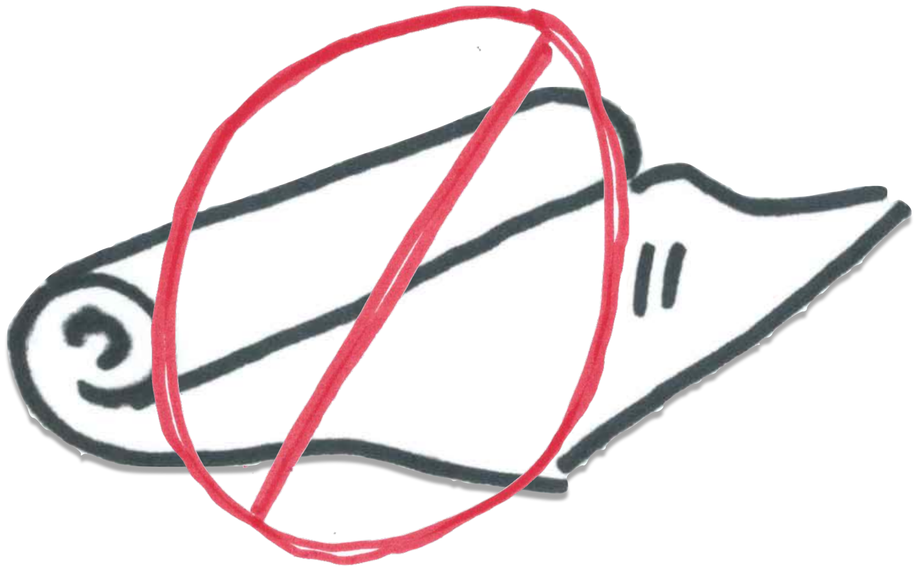
- Beware not-invented-here
  - Are you *sure* no one else has done this?
  - If not, maybe there's a good reason?

Rolling your own



- Beware not-invented-here
  - Are you *sure* no one else has done this?
  - If not, maybe there's a good reason?
- Beware **fun**

Rolling your own



- Beware not-invented-here
  - Are you *sure* no one else has done this?
  - If not, maybe there's a good reason?
- Beware **fun**
- But do innovate (and have fun)

Finally …

Finally …

Aren't we lucky to have careers where automation is not just allowed, but **encouraged**?

Finally …

Aren't we lucky to have careers where laziness is not just allowed, but **encouraged**?

Finally …

Aren't we lucky to have careers where fun is not just allowed, but **encouraged**?

Any Questions?

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www.wasdev.net