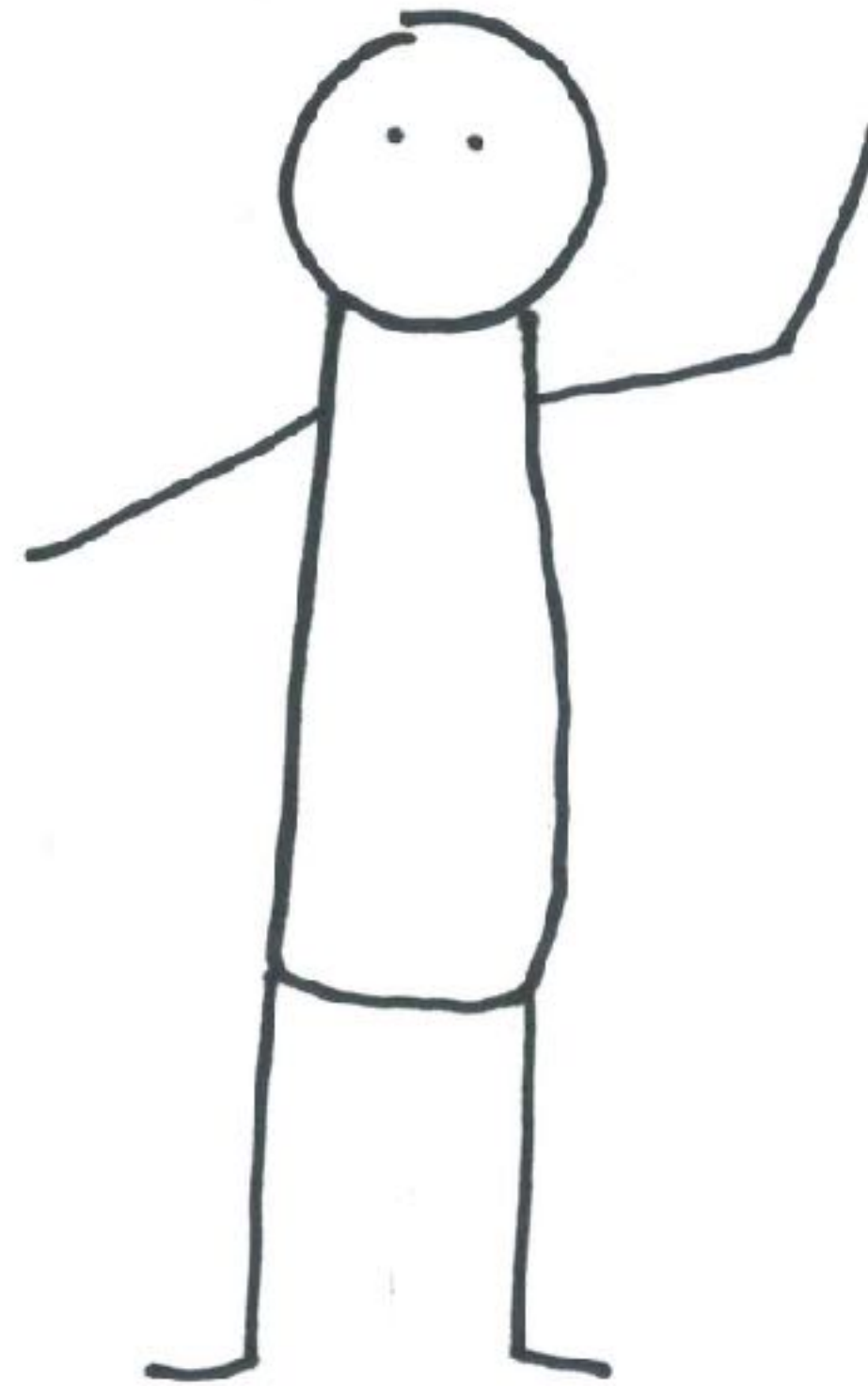
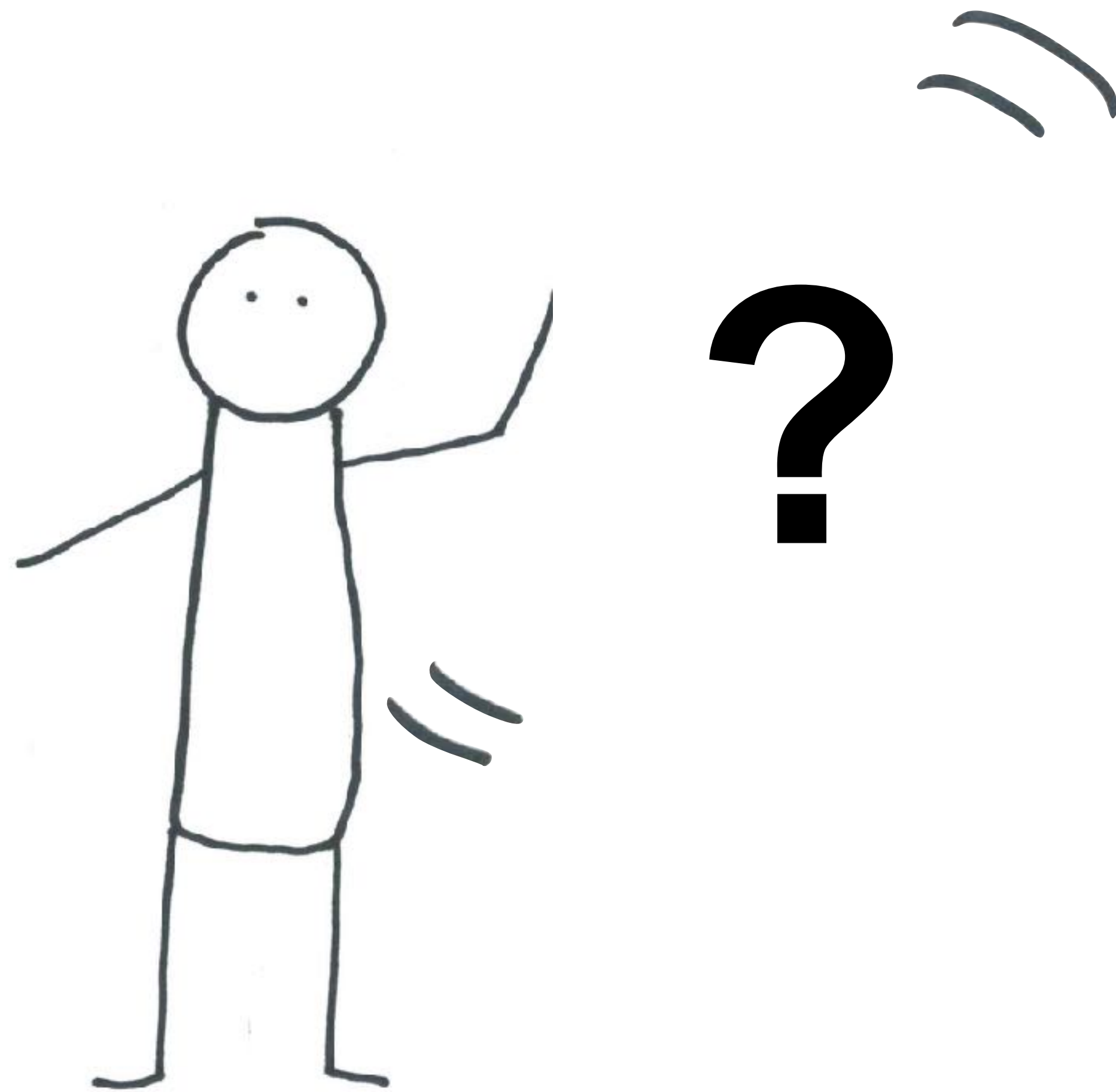


Confessions
of an
automation
addict

Holly Cummins
@holly_cummins







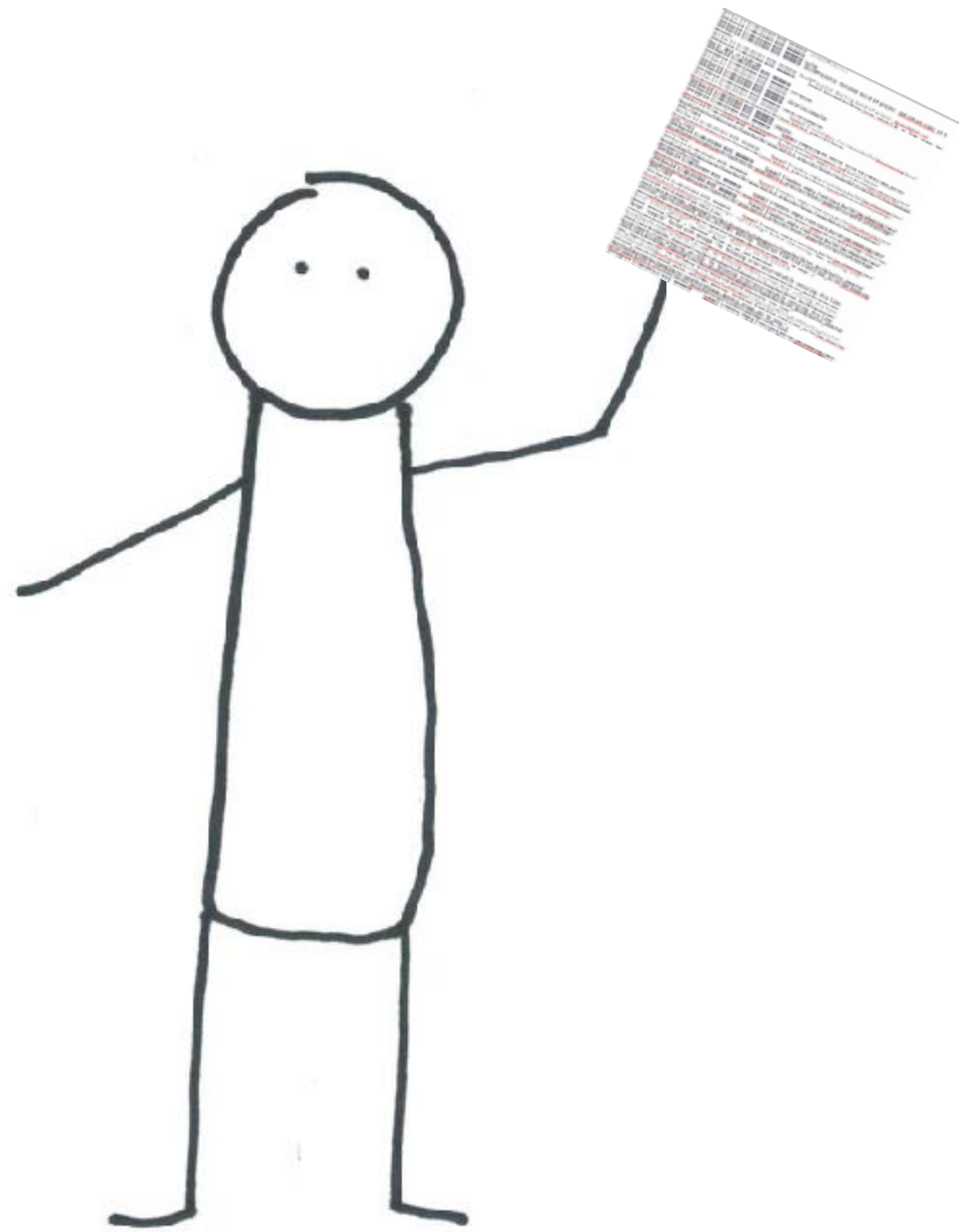




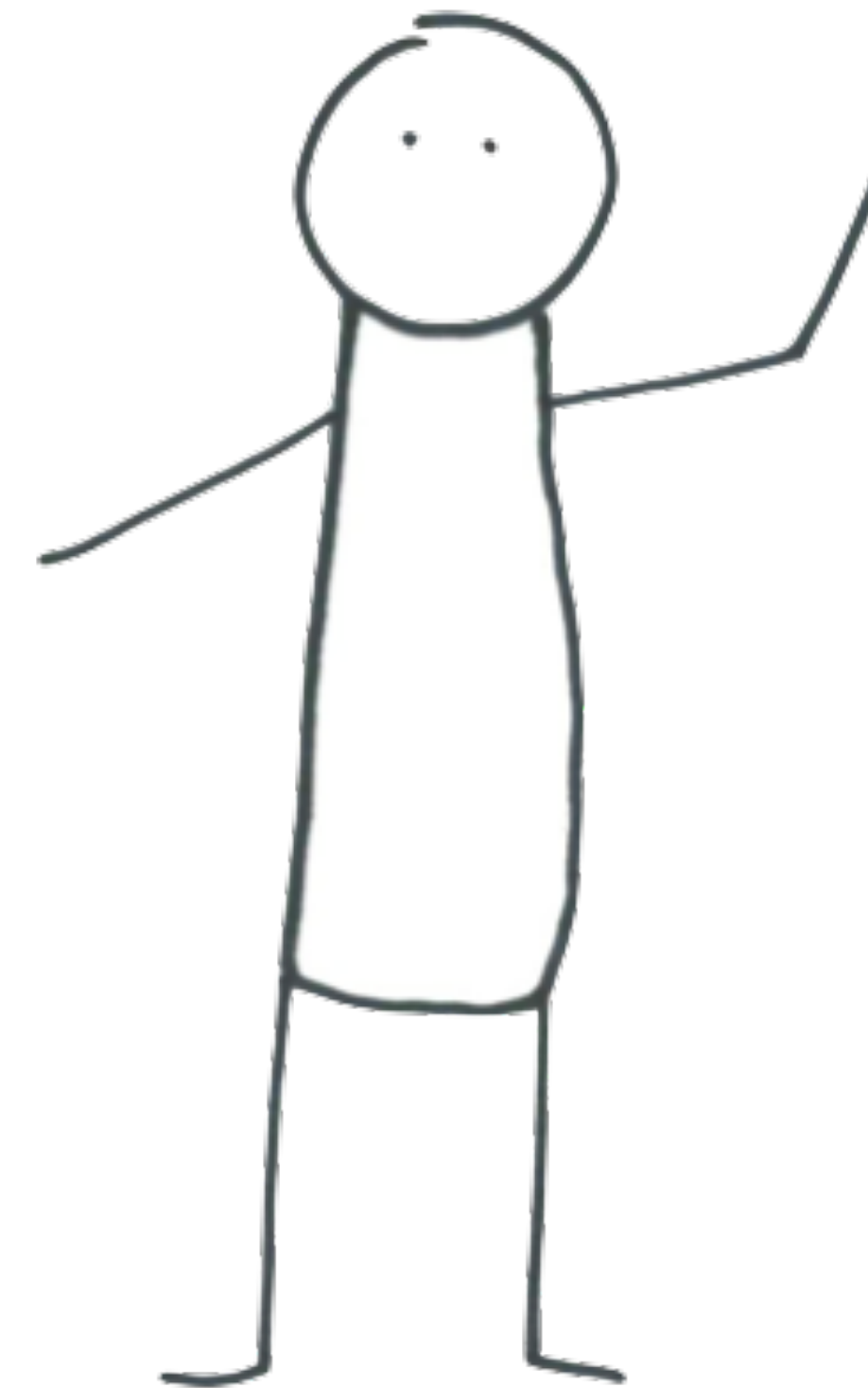
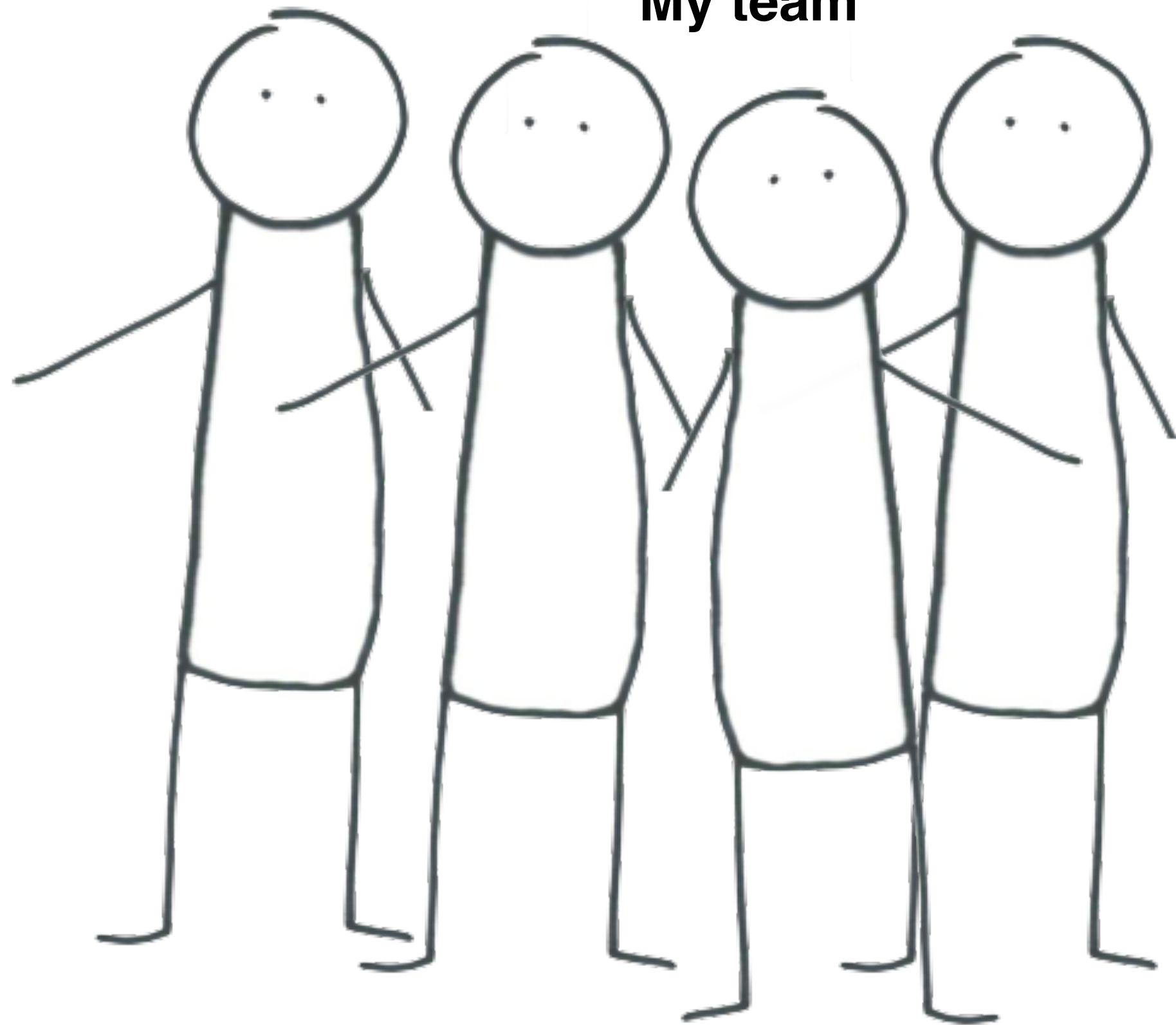
Share yours too.
#automationconfessions

As developers, we have the
power to automate.

As developers, we have the
power to automate.
And that's cool.

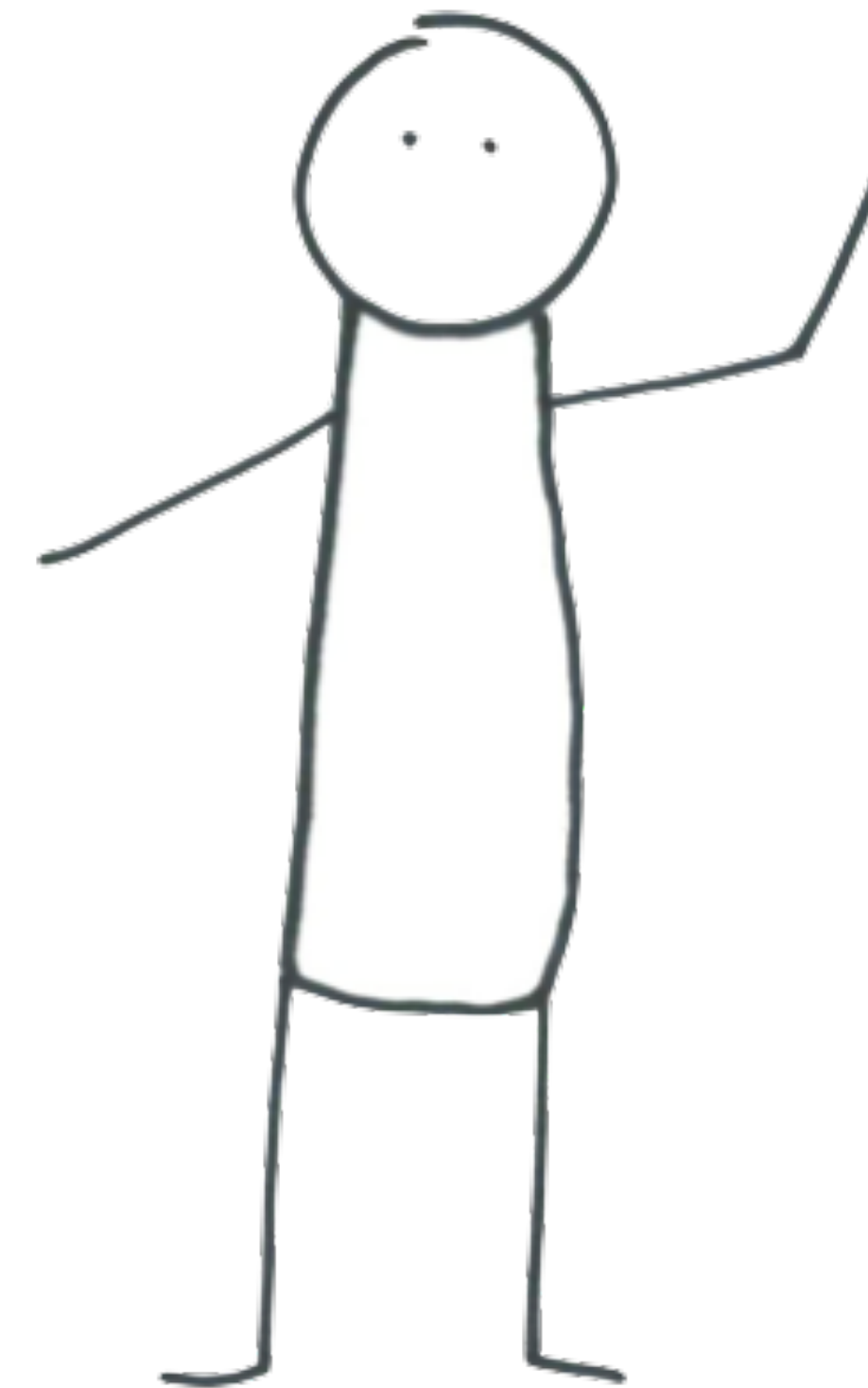
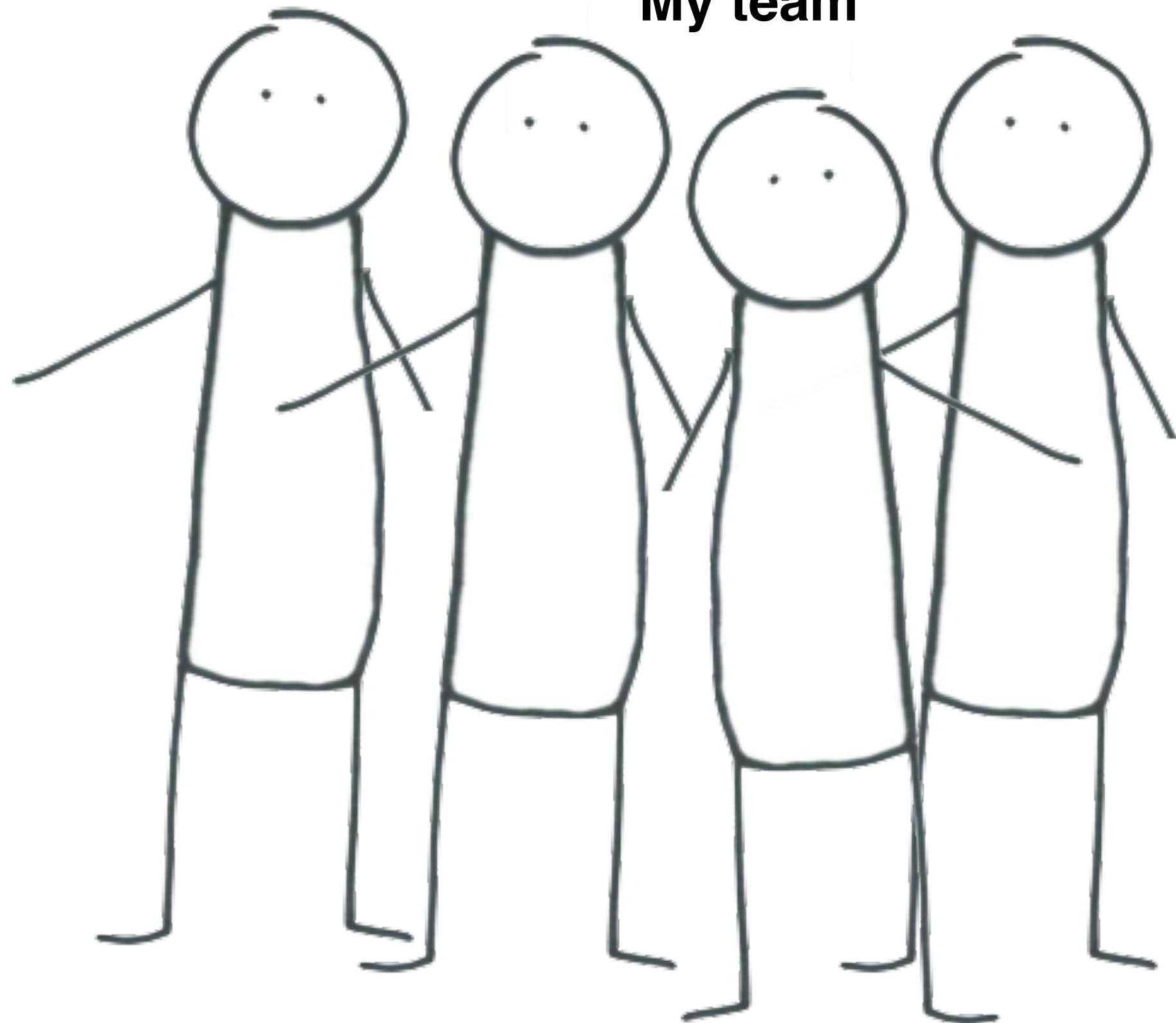


My team



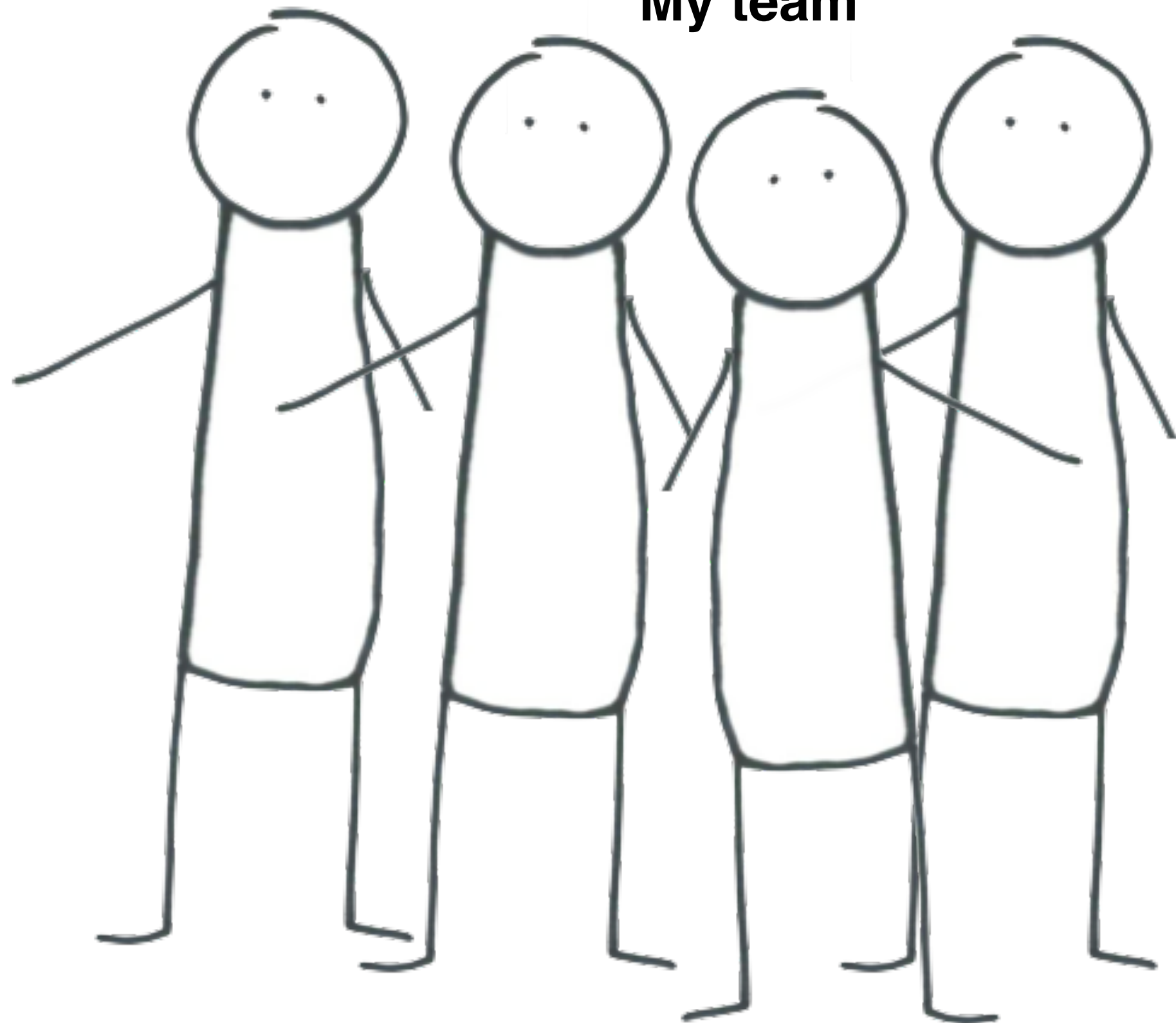


My team

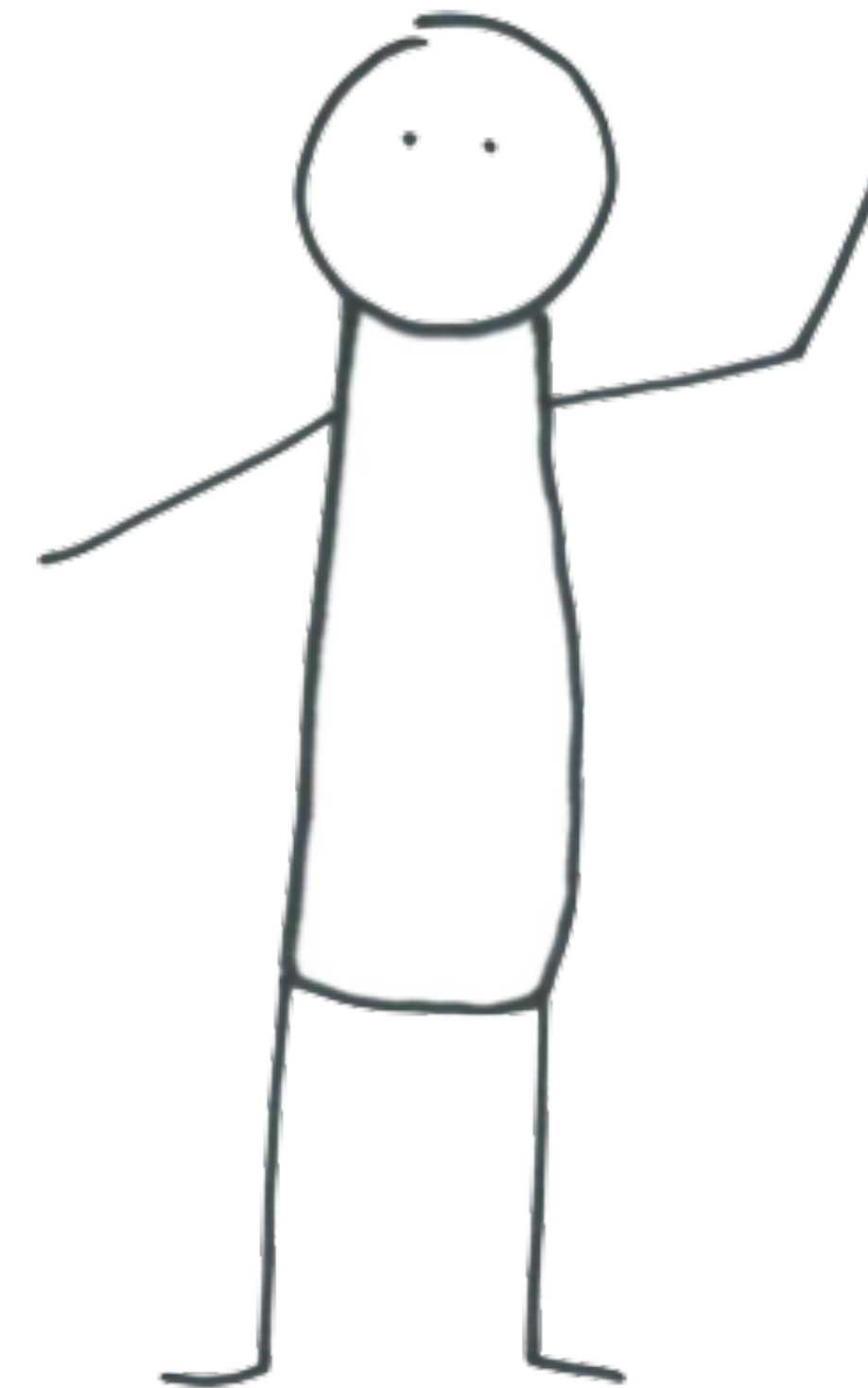


...

My team



Can that be automated?





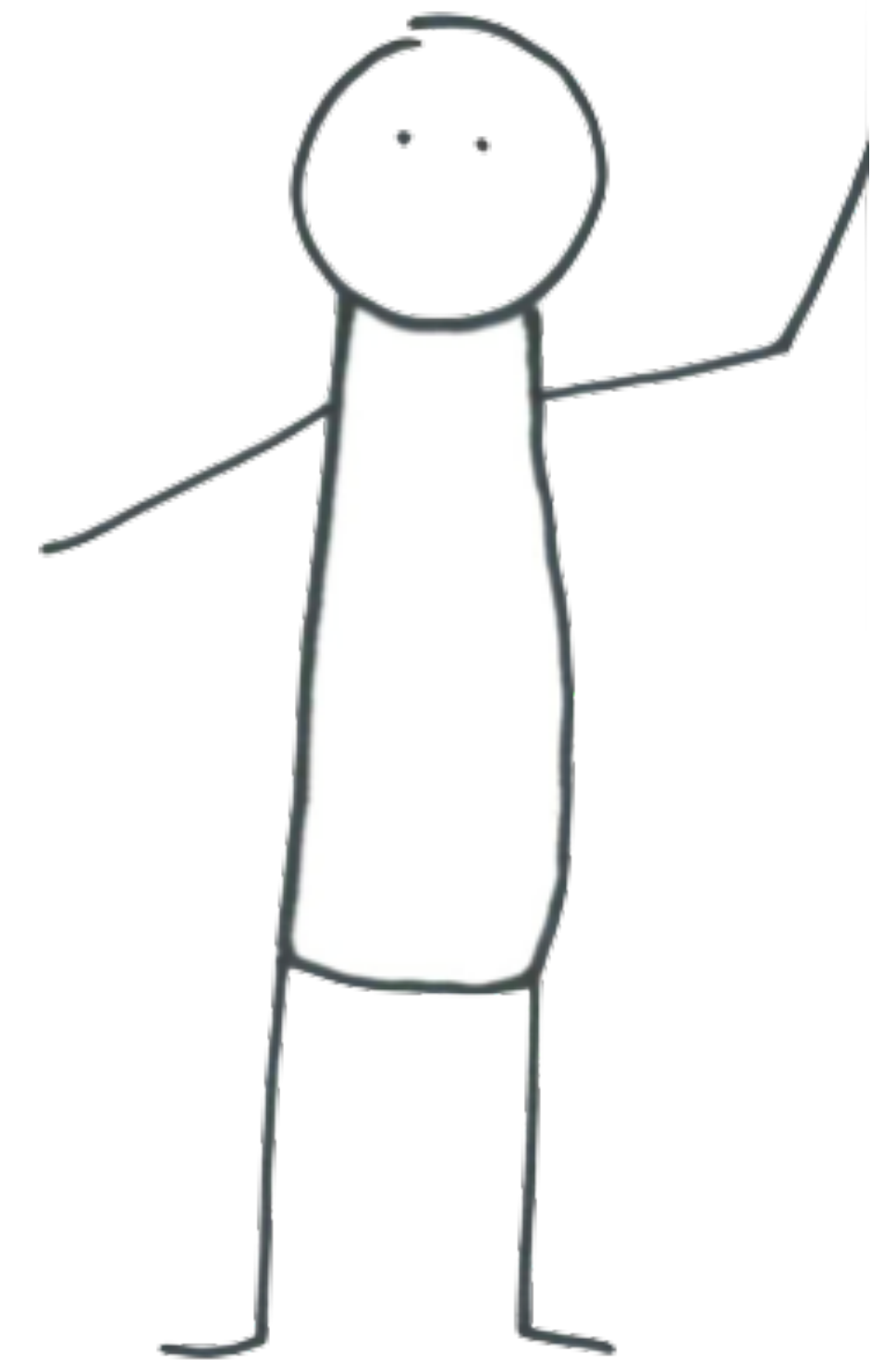
Alasdair





Alasdair

Look at my cool solution!



Holly, I give you all the worst jobs.



Alasdair

Look at my cool solution!



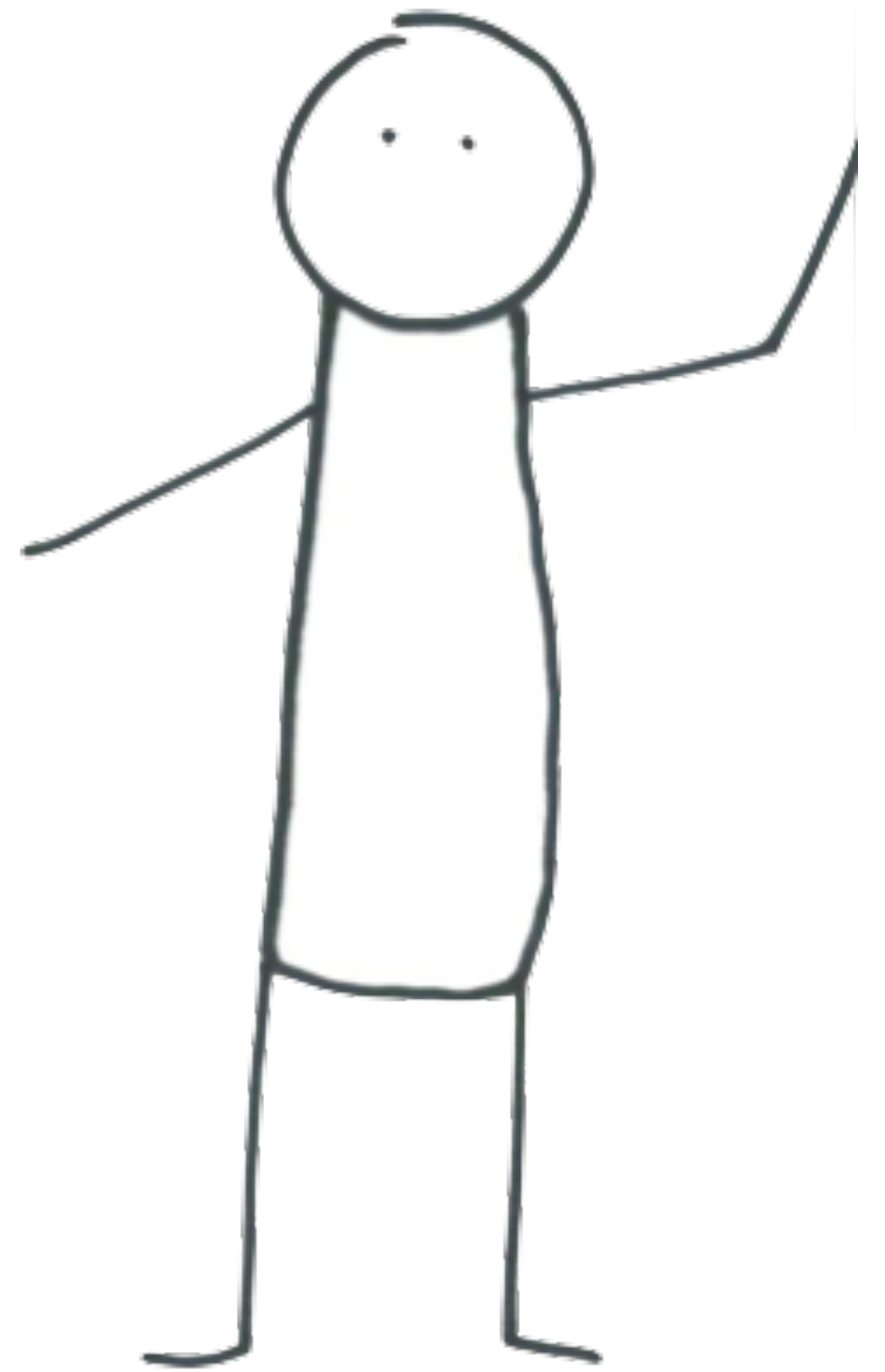
Holly, I give you all the worst jobs.



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.

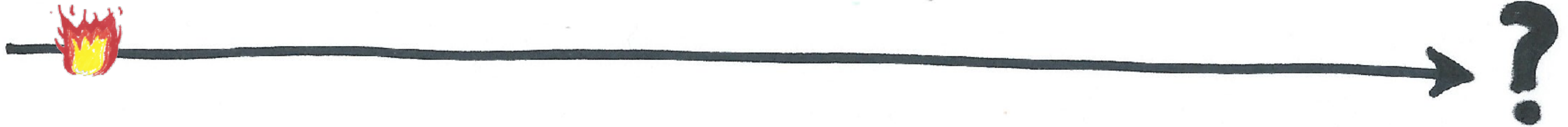
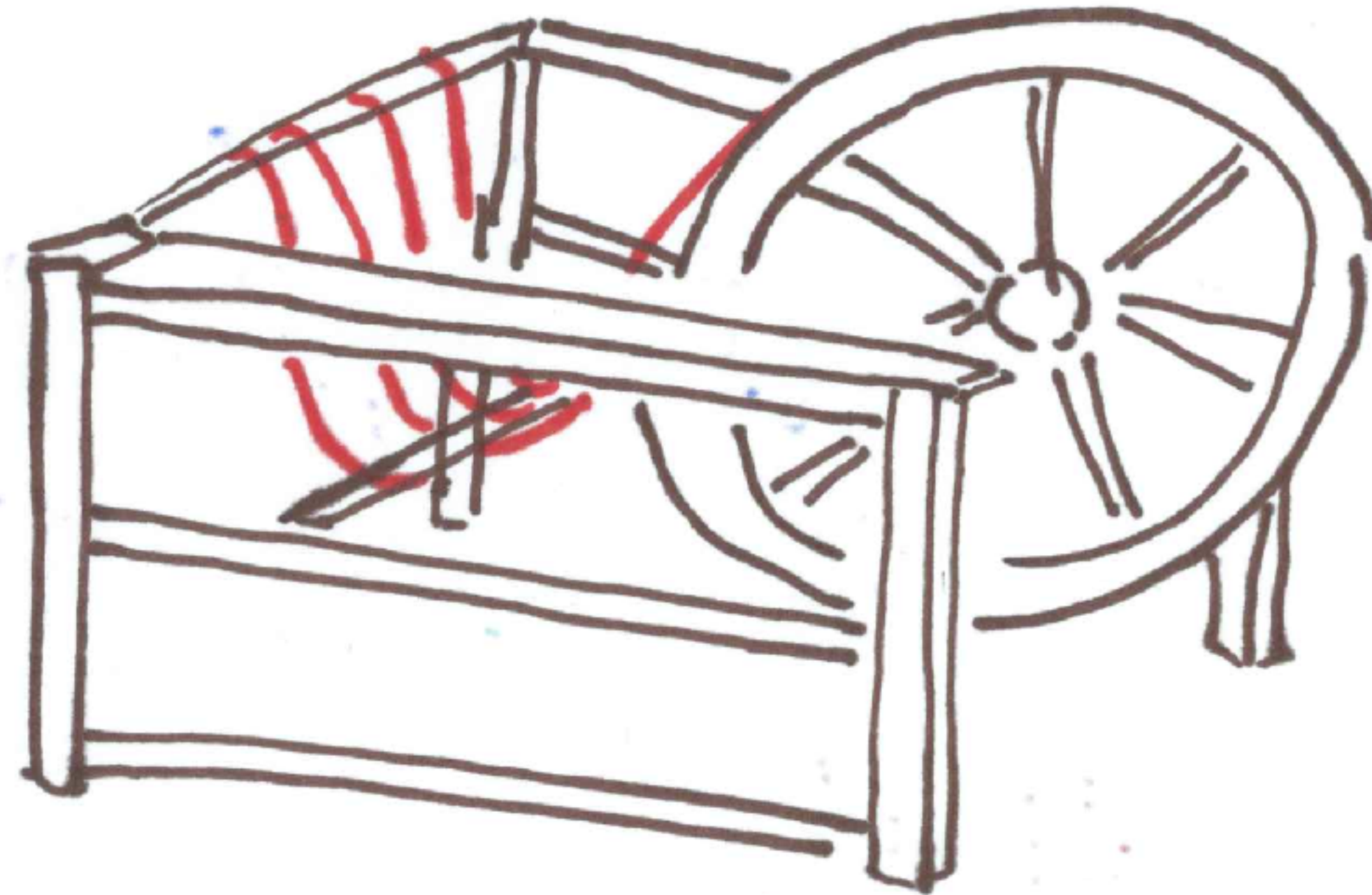


It's not just me.



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

It's not just me.



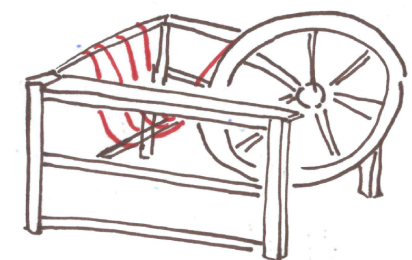
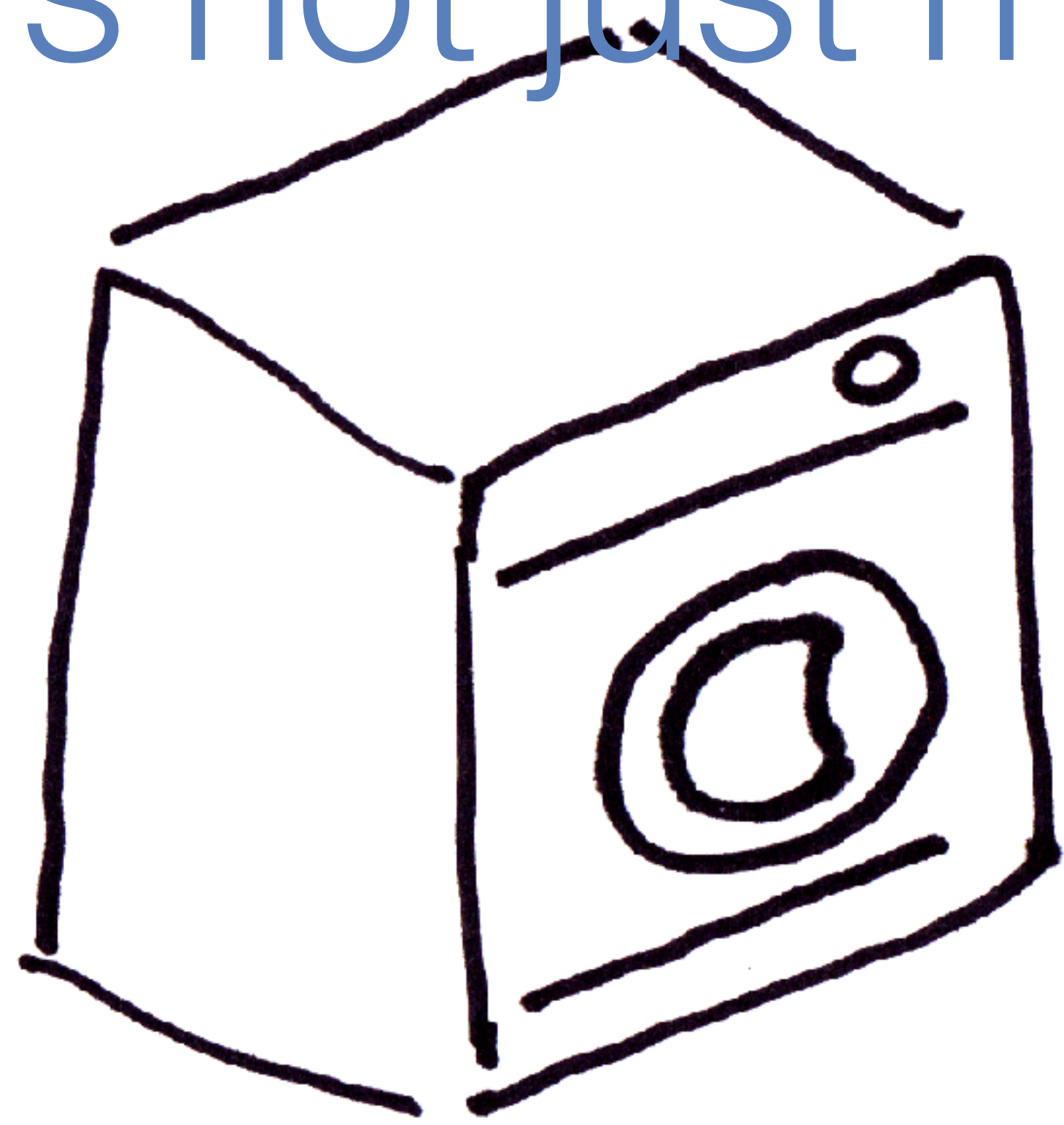
[Human history has been *slightly* simplified. Timeline is not to scale.]

It's not just me.



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

It's not just me.

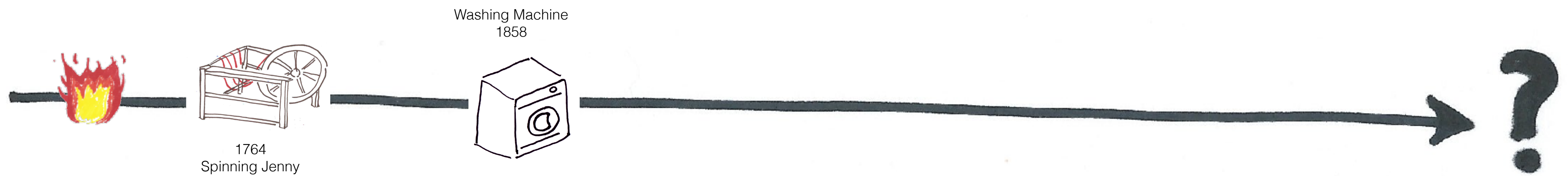


1764
Spinning Jenny



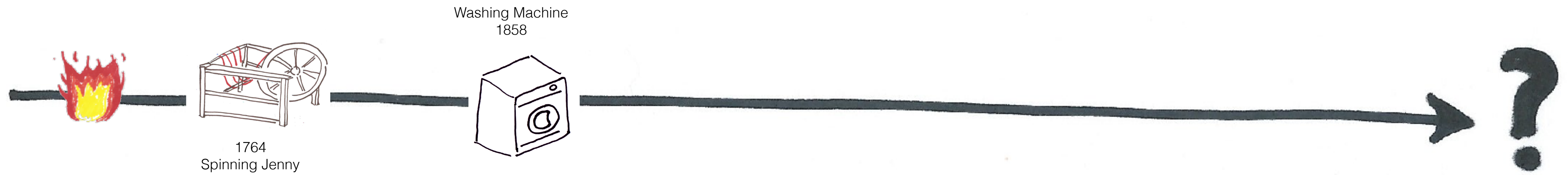
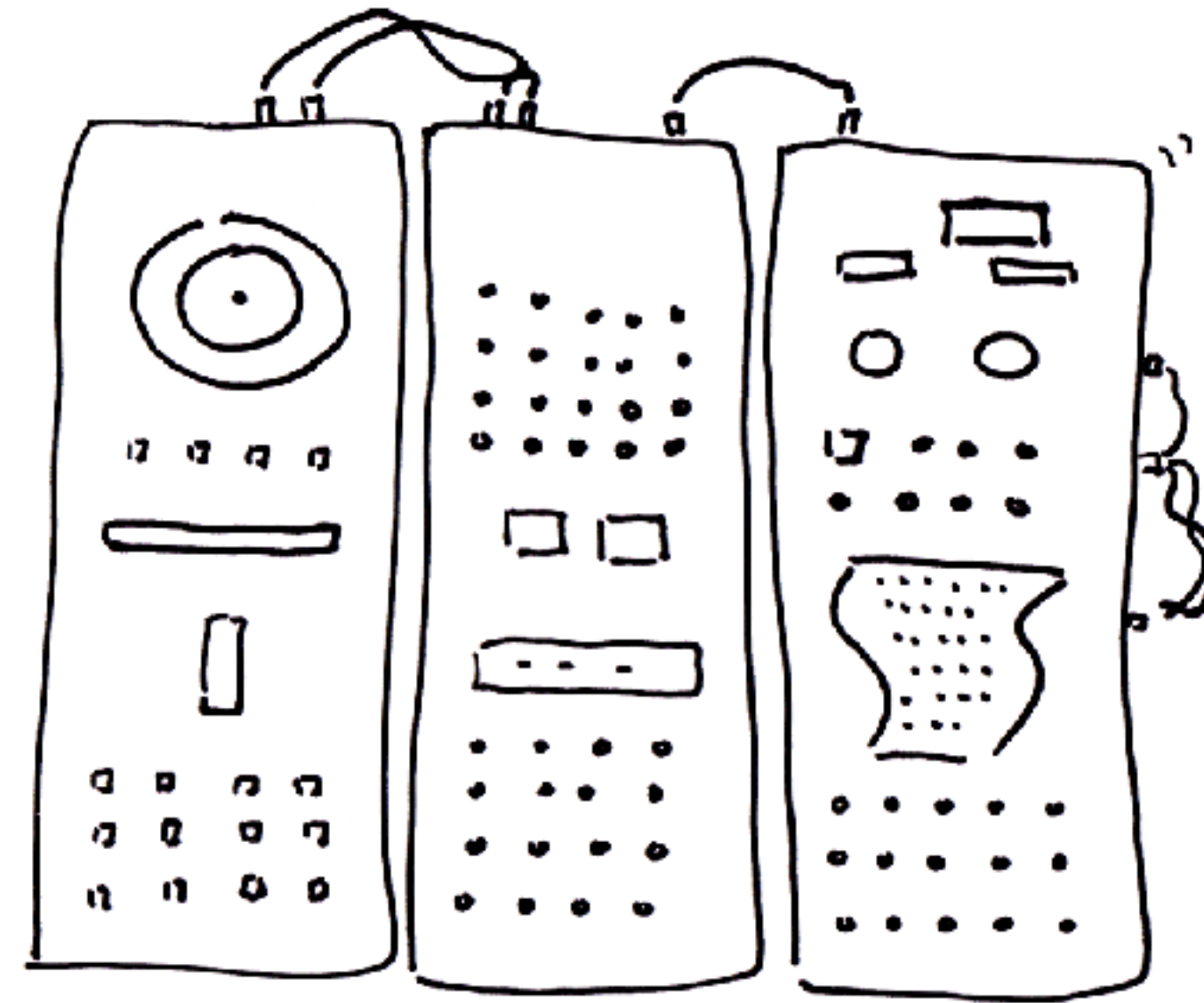
[Human history has been *slightly* simplified. Timeline is not to scale.]

It's not just me.



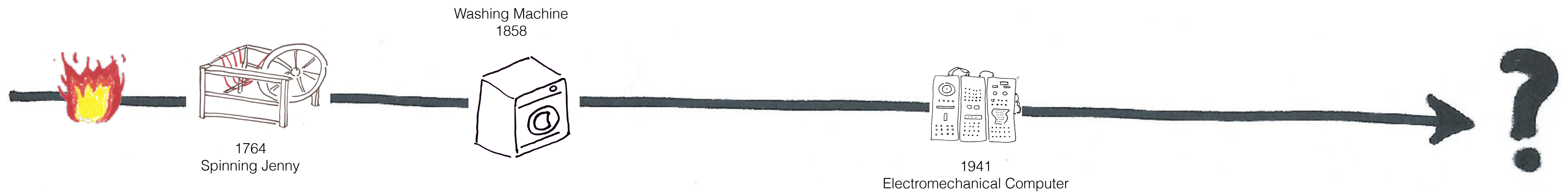
[Human history has been *slightly* simplified. Timeline is not to scale.]

It's not just me.



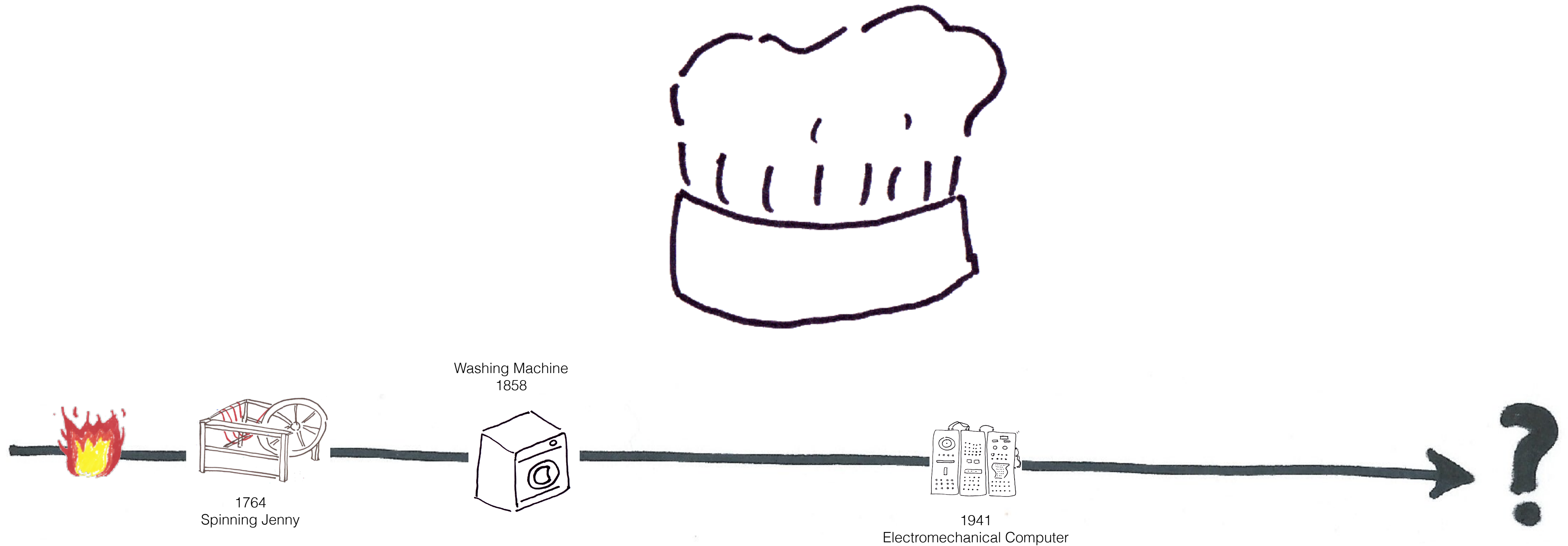
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It's not just me.



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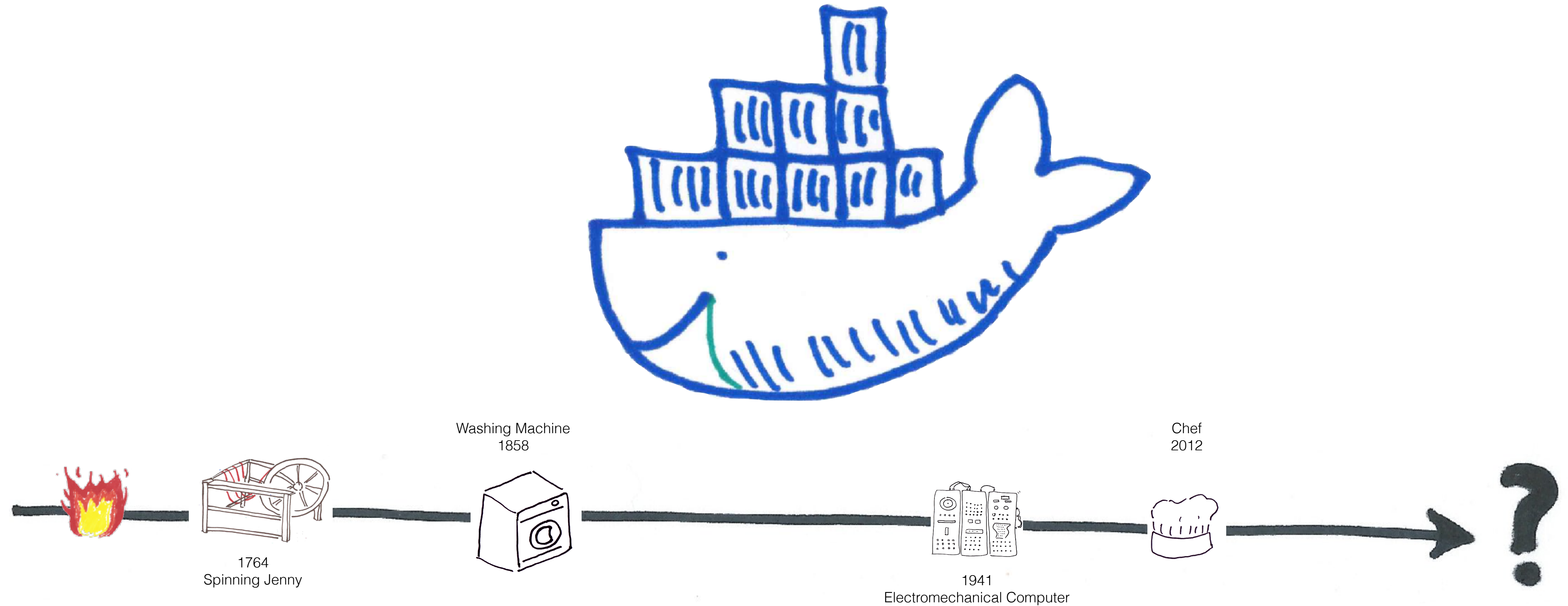
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It's not just me.



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It's not just me.



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

It's not just me.



[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.

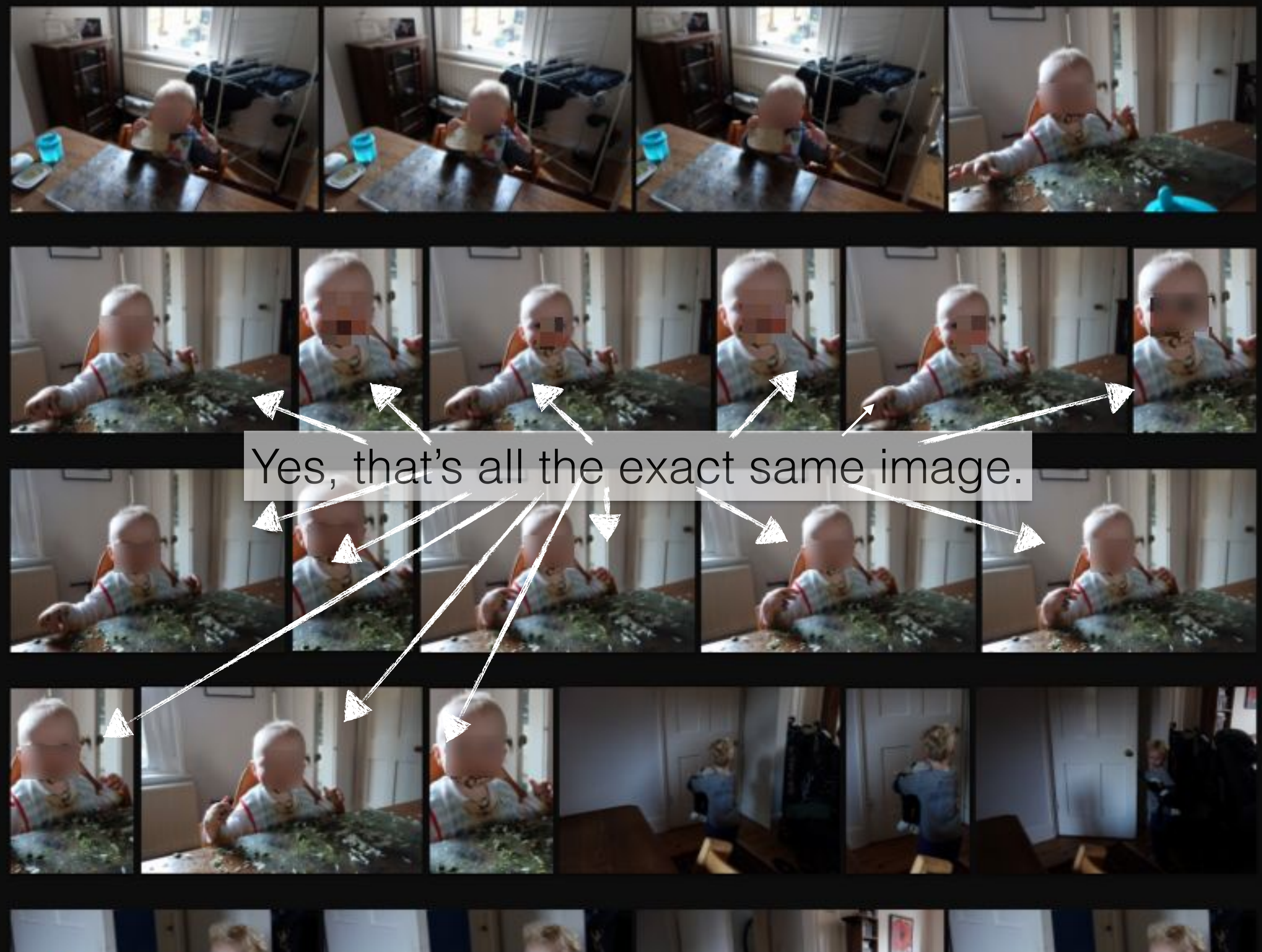
- Notifications 4
- Cameras and r...
- All
- Favorites
- Drives
 - Local Disk (C:)
 - Pictures
 - 01-01-2012
 - 01-01-2013
 - 01-01-2015
 - 01-02-2014
 - 01-03-2014
 - 01-03-2015
 - 01-04-2013
 - 01-05-2014
 - 01-07-2015
 - 01-08-2014
 - 01-08-2015
 - 01-10-2014



Tools

- Import Media Files
- 64GB Export
- Ed...
- Slideshow
- Map View
- Pr...
- Create Discs
- Share
- Em...
- Open With

- Notifications 4
- Cameras and r...
- 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



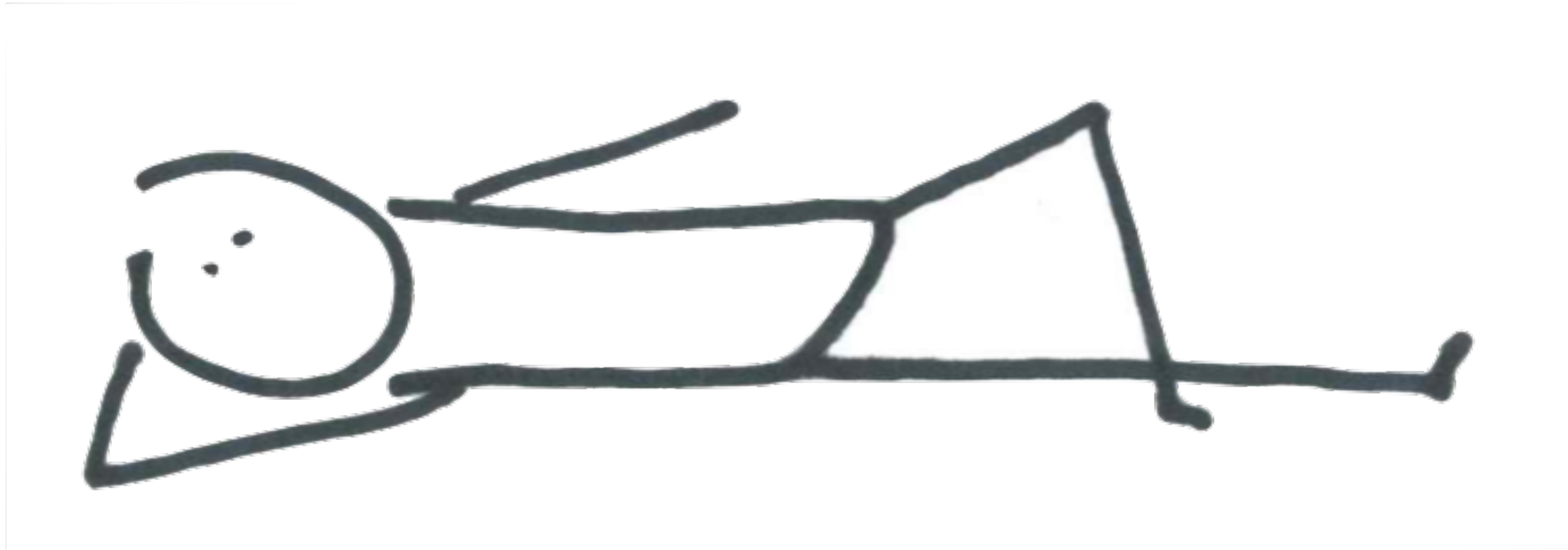
Tools

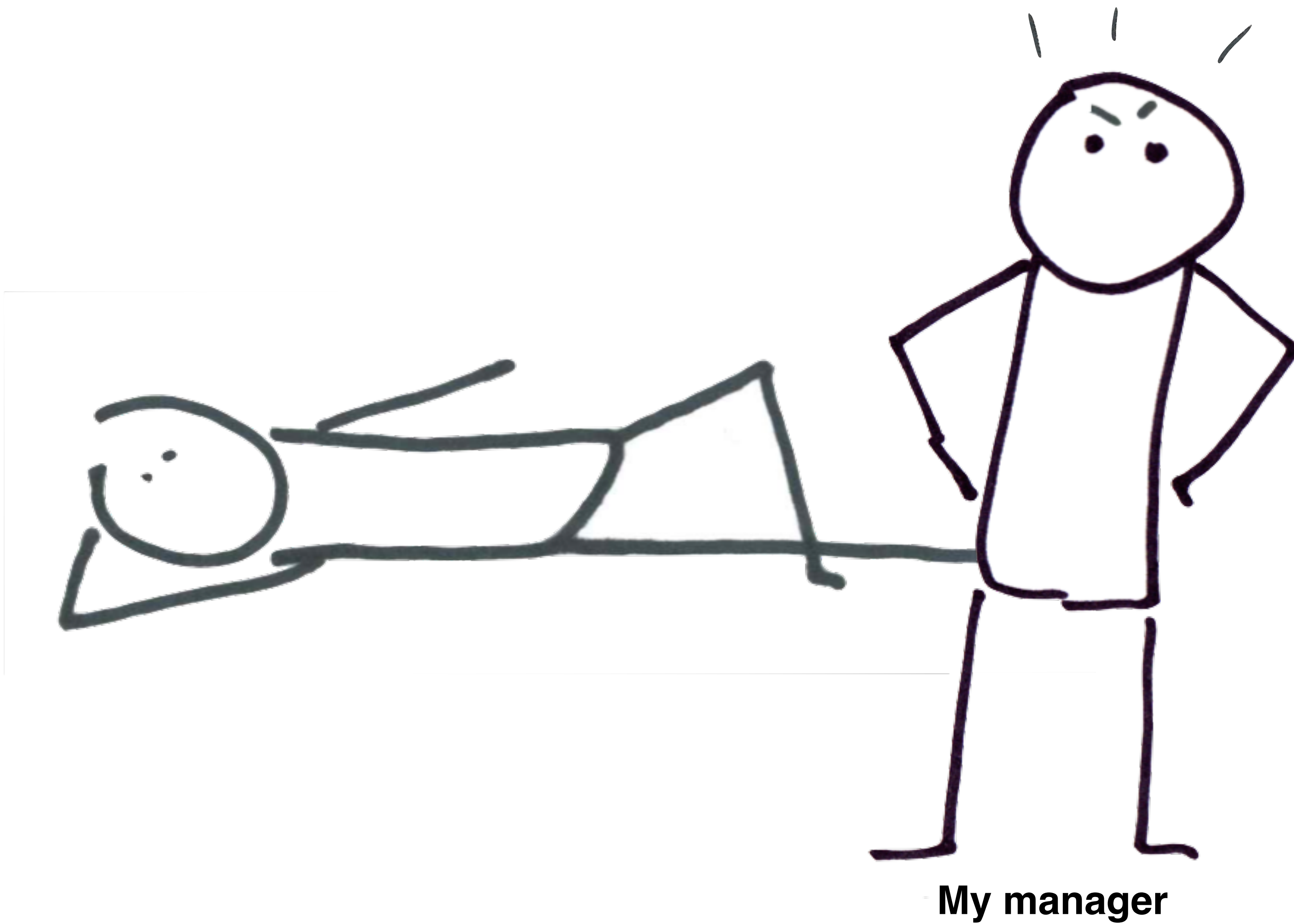
- Import Media Files
- 64GB Export
- Ed...
- Slideshow
- Map View
- Pr...
- Create Discs
- Share
- Em...
- Open With

Why automate?



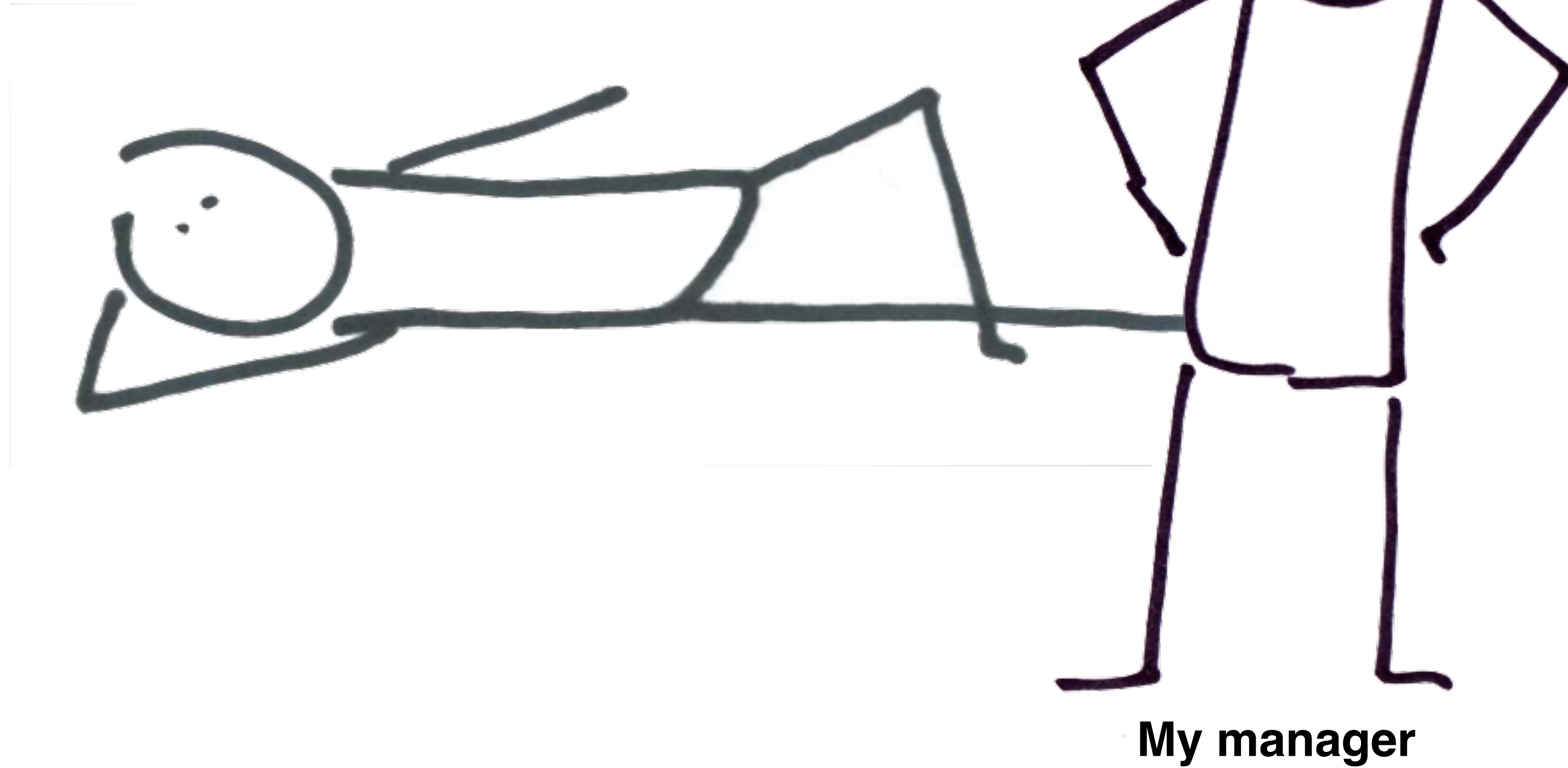
Automate because we are *lazy*





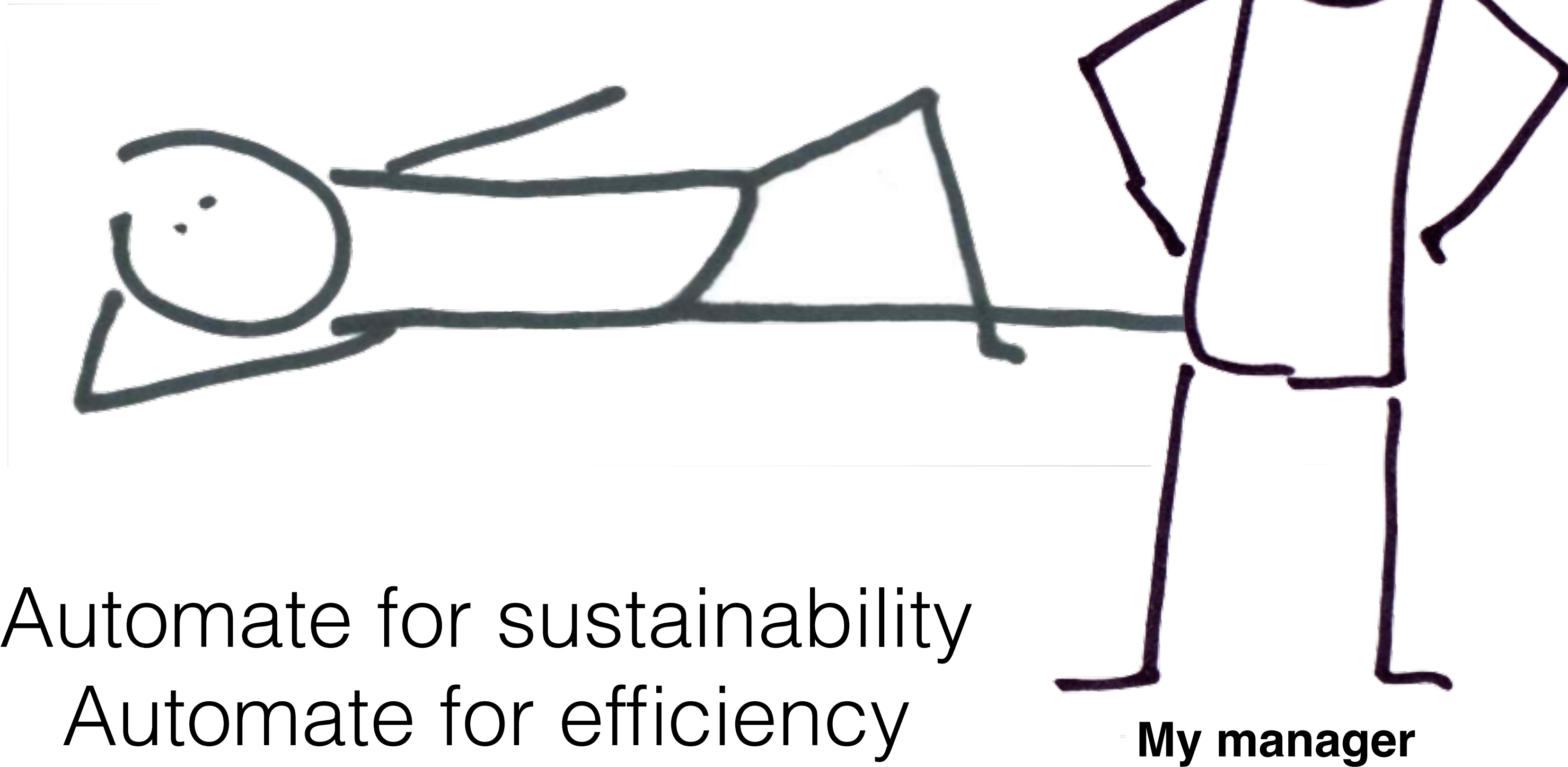
- My manager

“Sustainable”



- My manager

“Sustainable”



Automate for sustainability
Automate for efficiency



holly's automation principles

**If it's boring,
automate it.**

example

Server farms



example

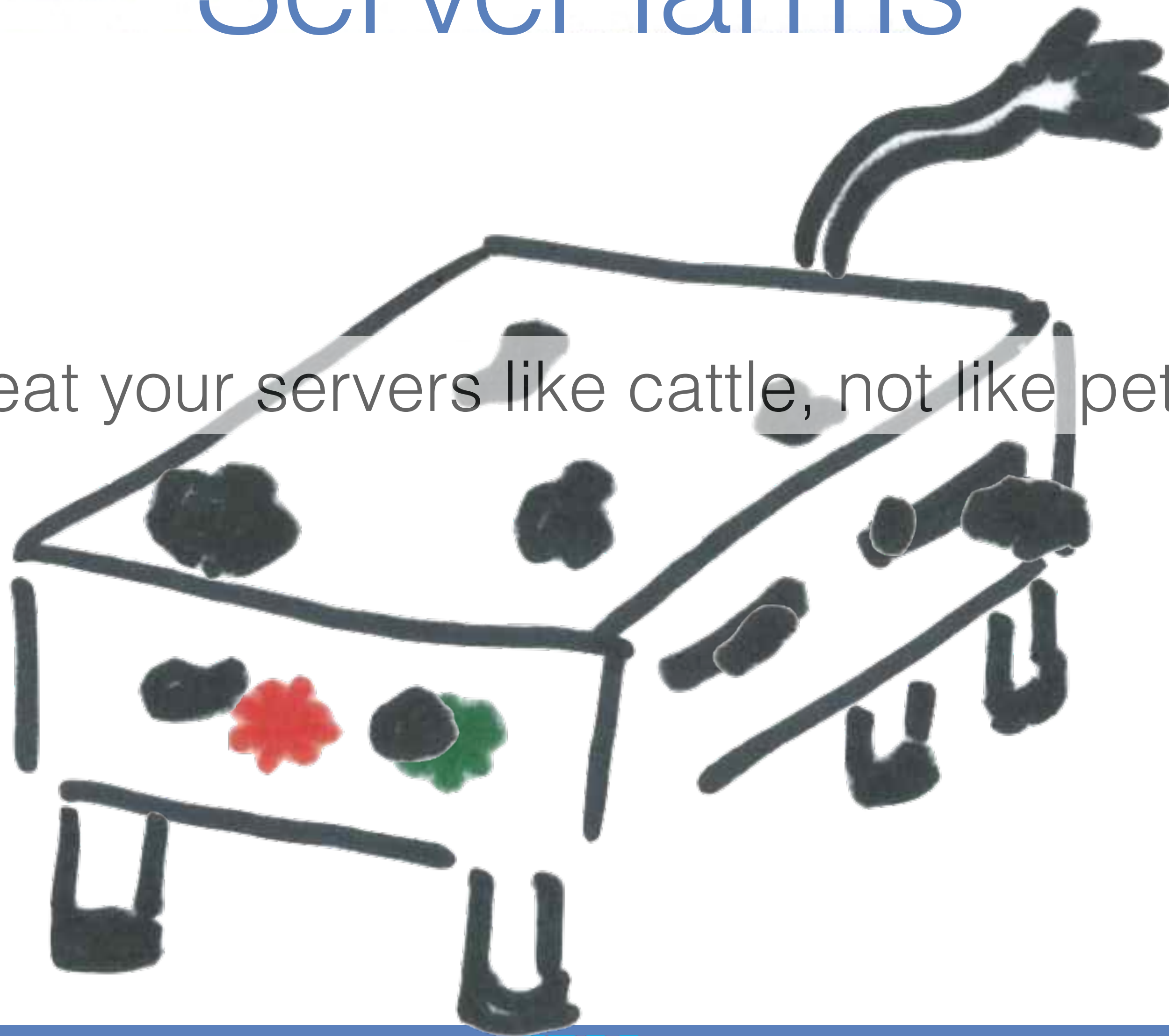
Server farms

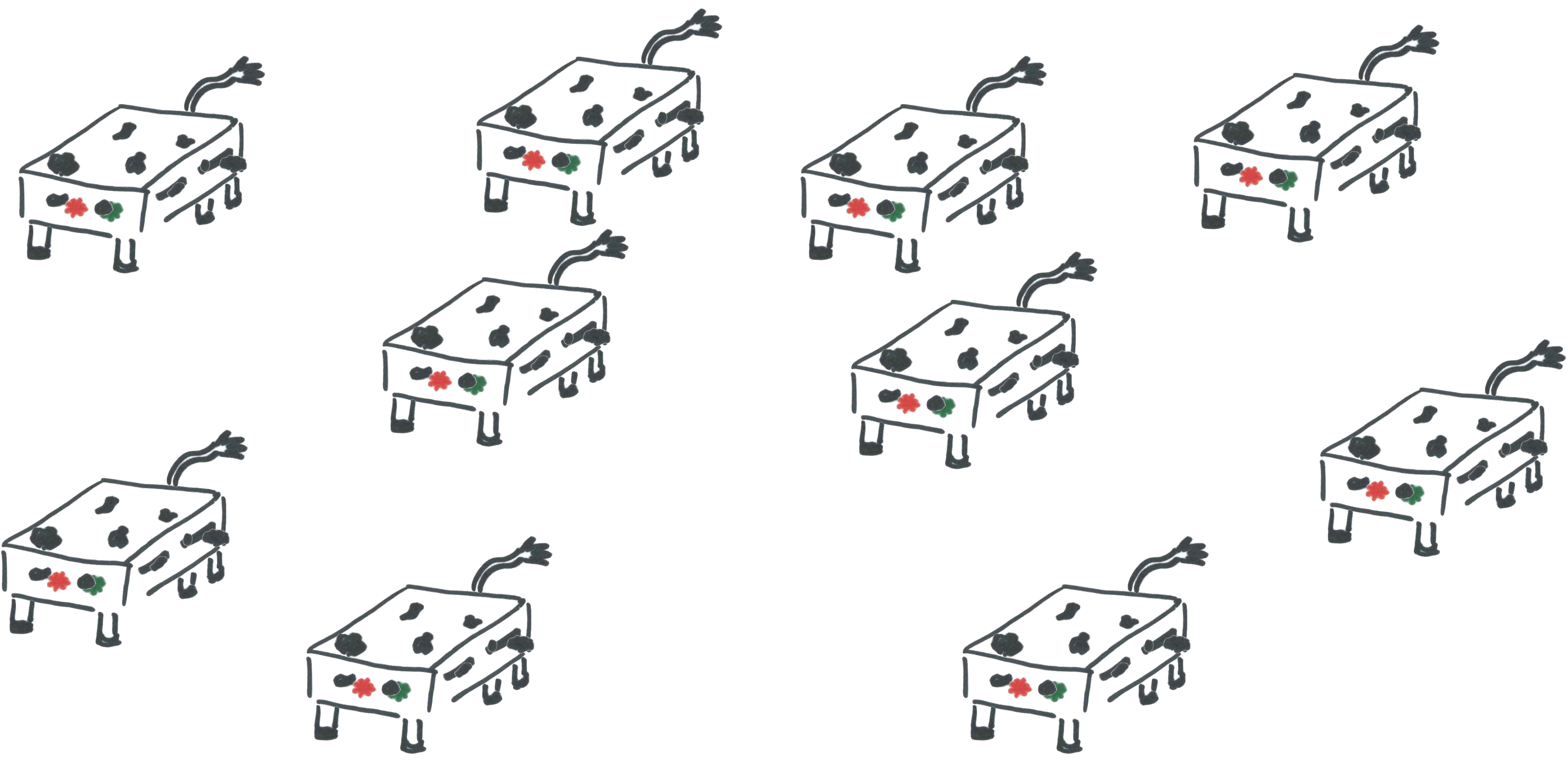


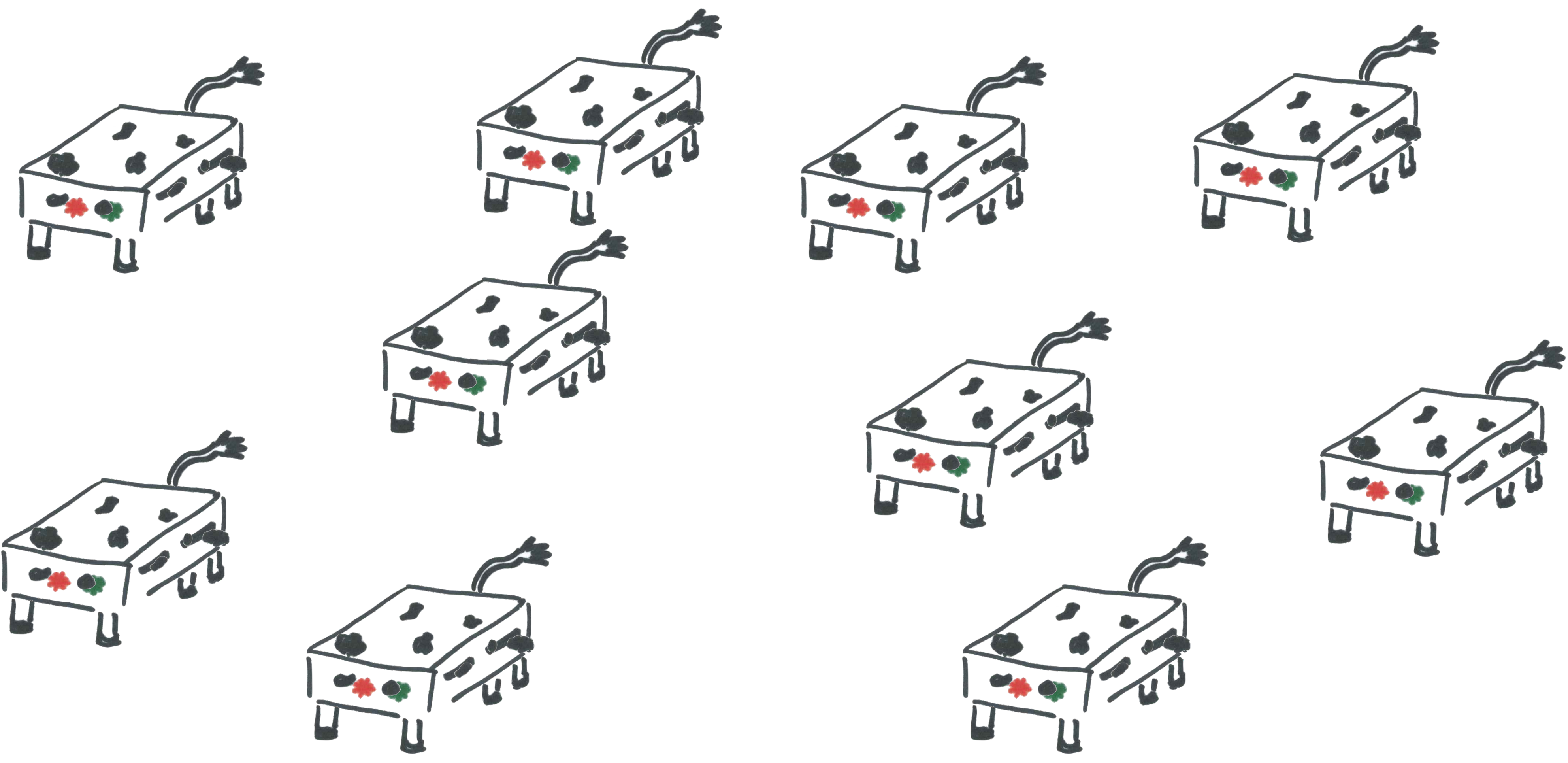
example

Server farms

Treat your servers like cattle, not like pets.







Scale

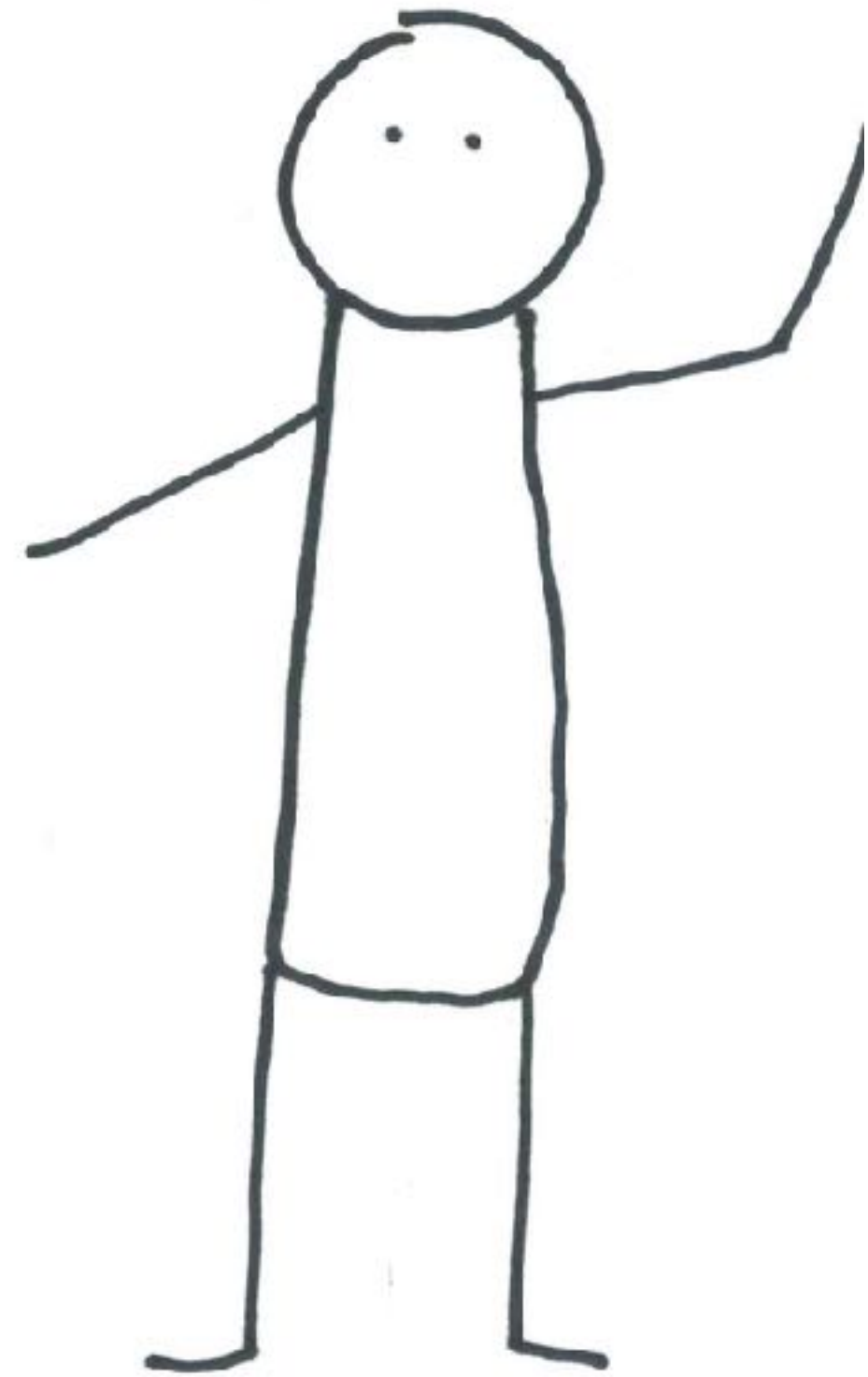
The more of you
there are, the more
you need to invest
in automation



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

example

Marvin

example
Marvin

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

example
Marvin

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

No one wanted to be the
one who did it

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

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!

example

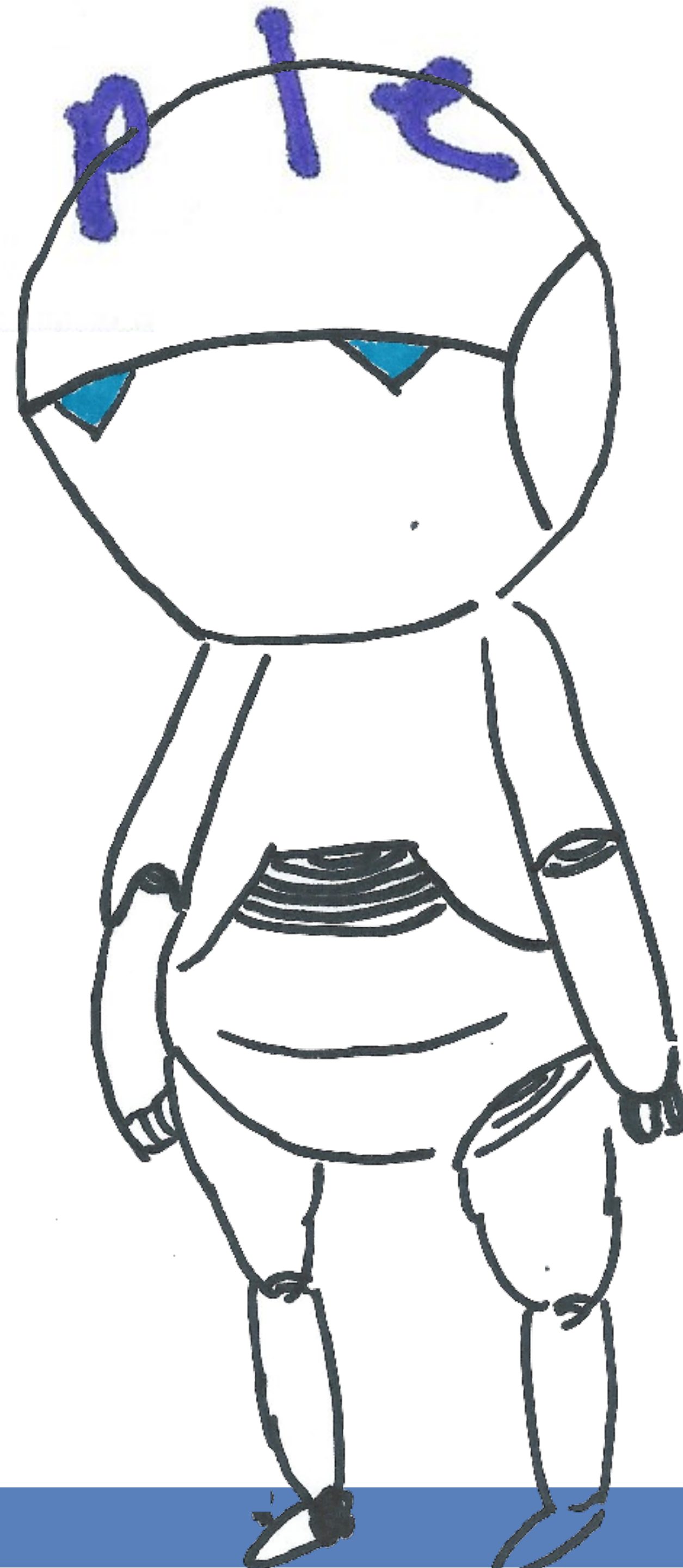
Marvin

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

No one wanted to be the one who did it

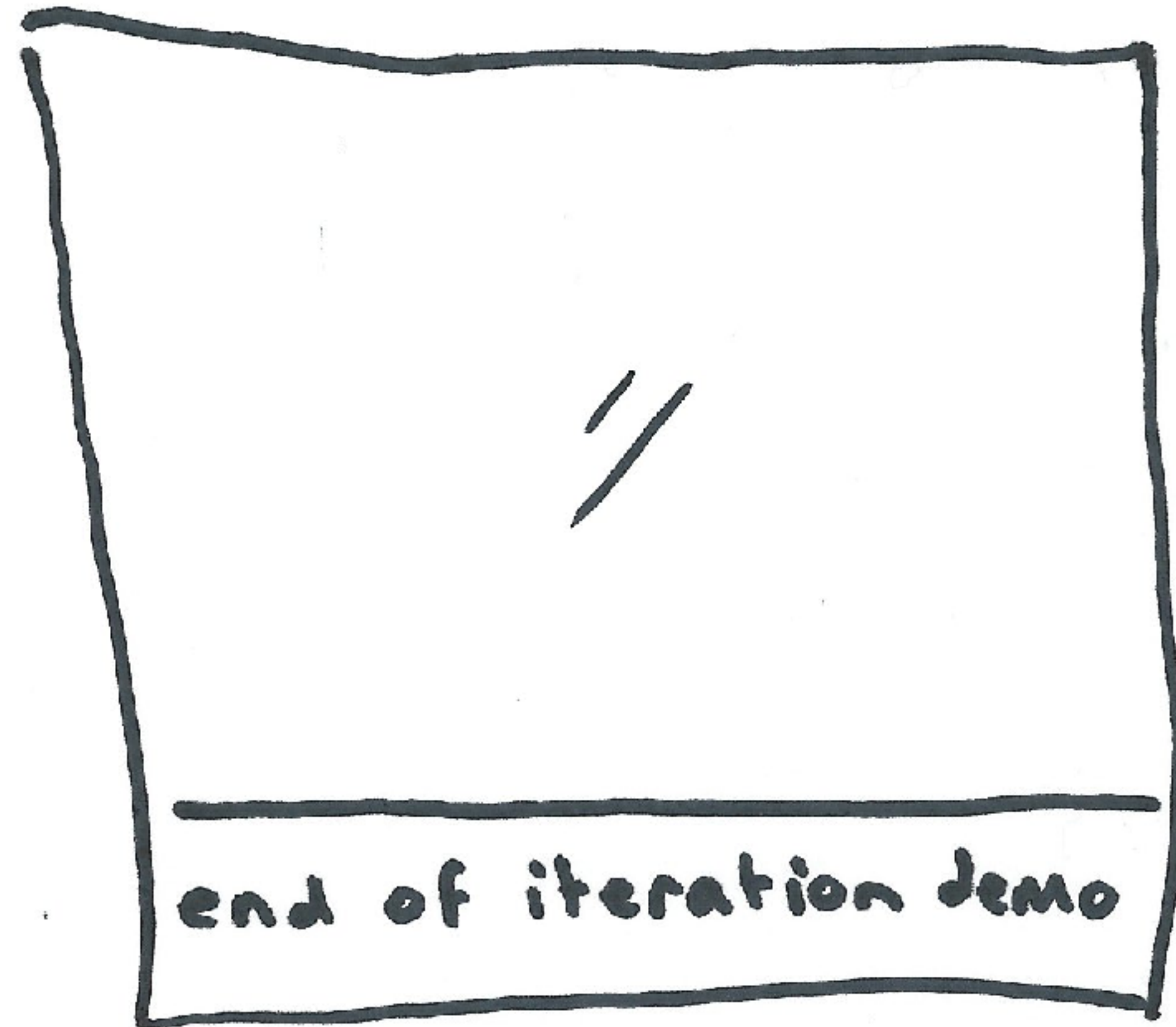
It didn't happen

Solution: Automate!

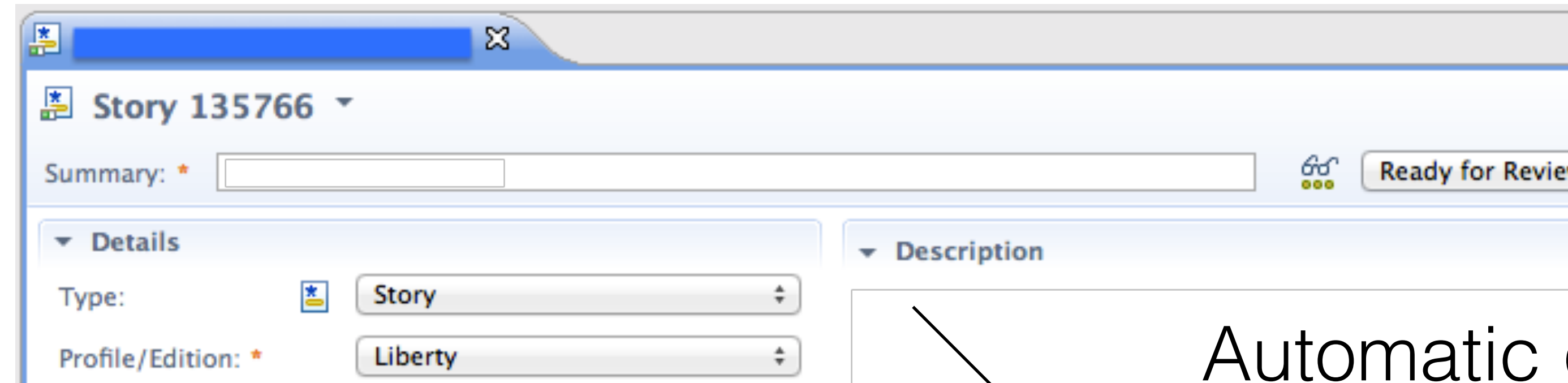


example

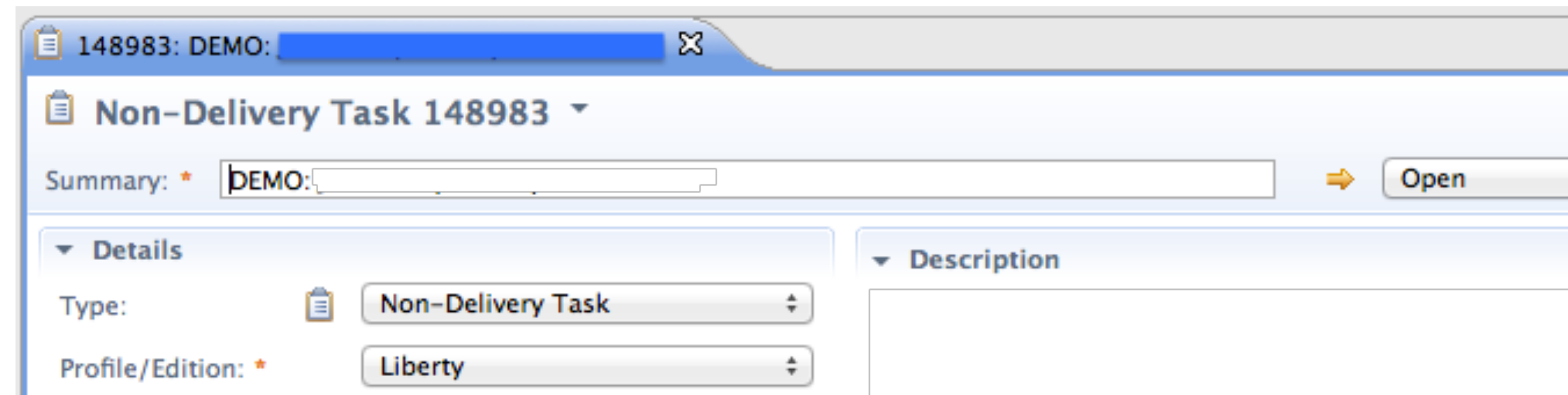
End of iteration demos

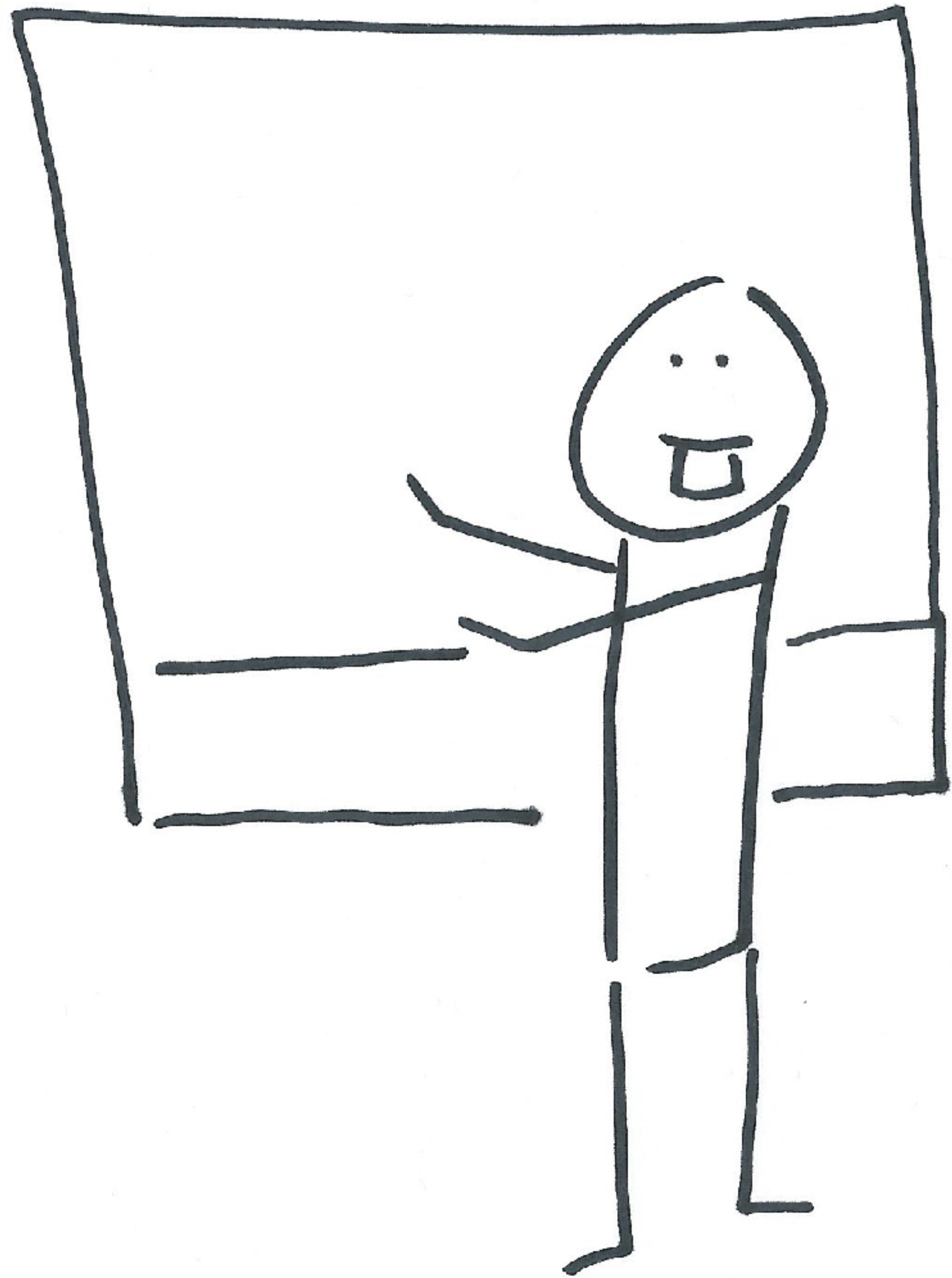


End of iteration demos

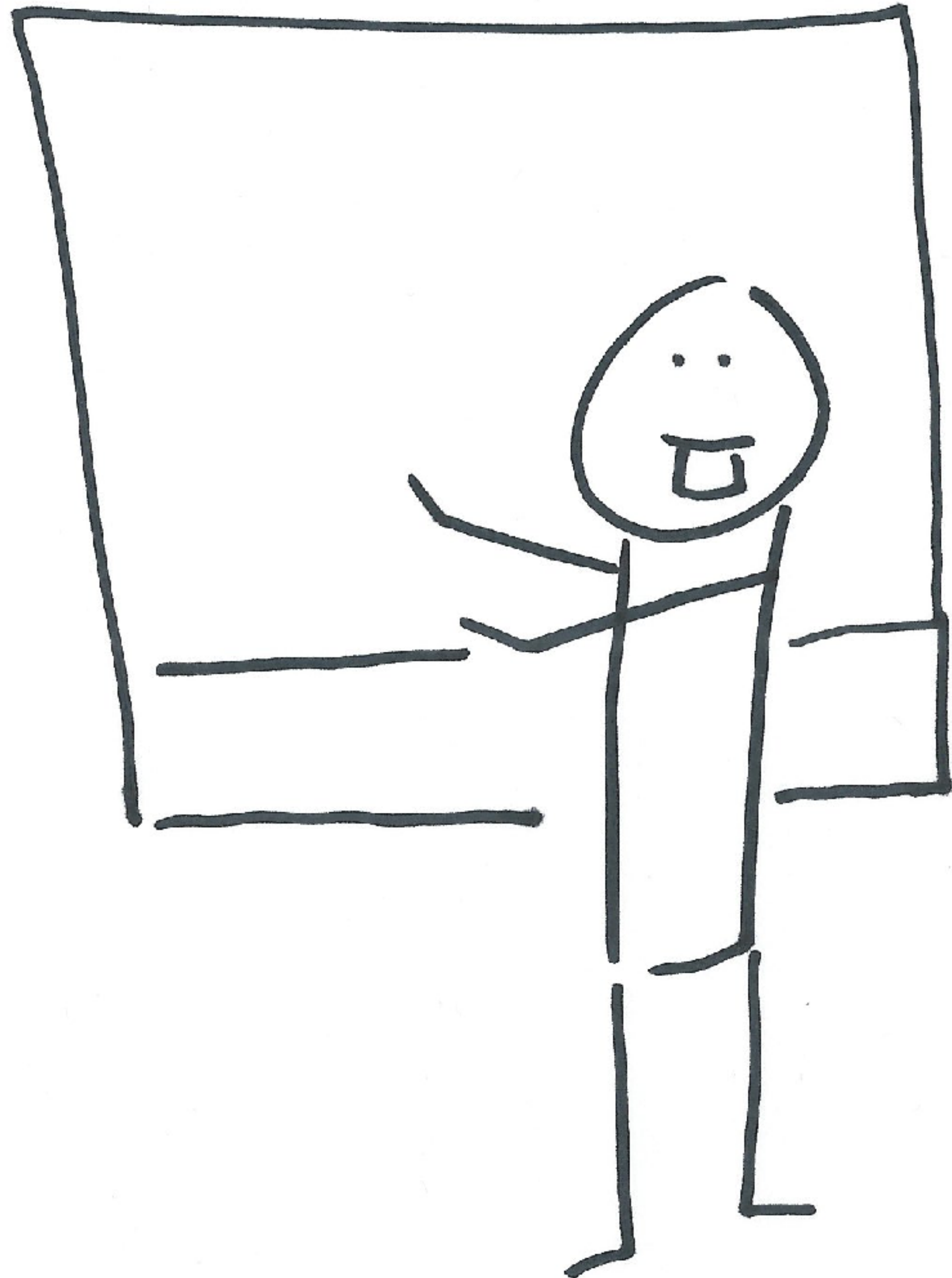


Automatic generation
on story close

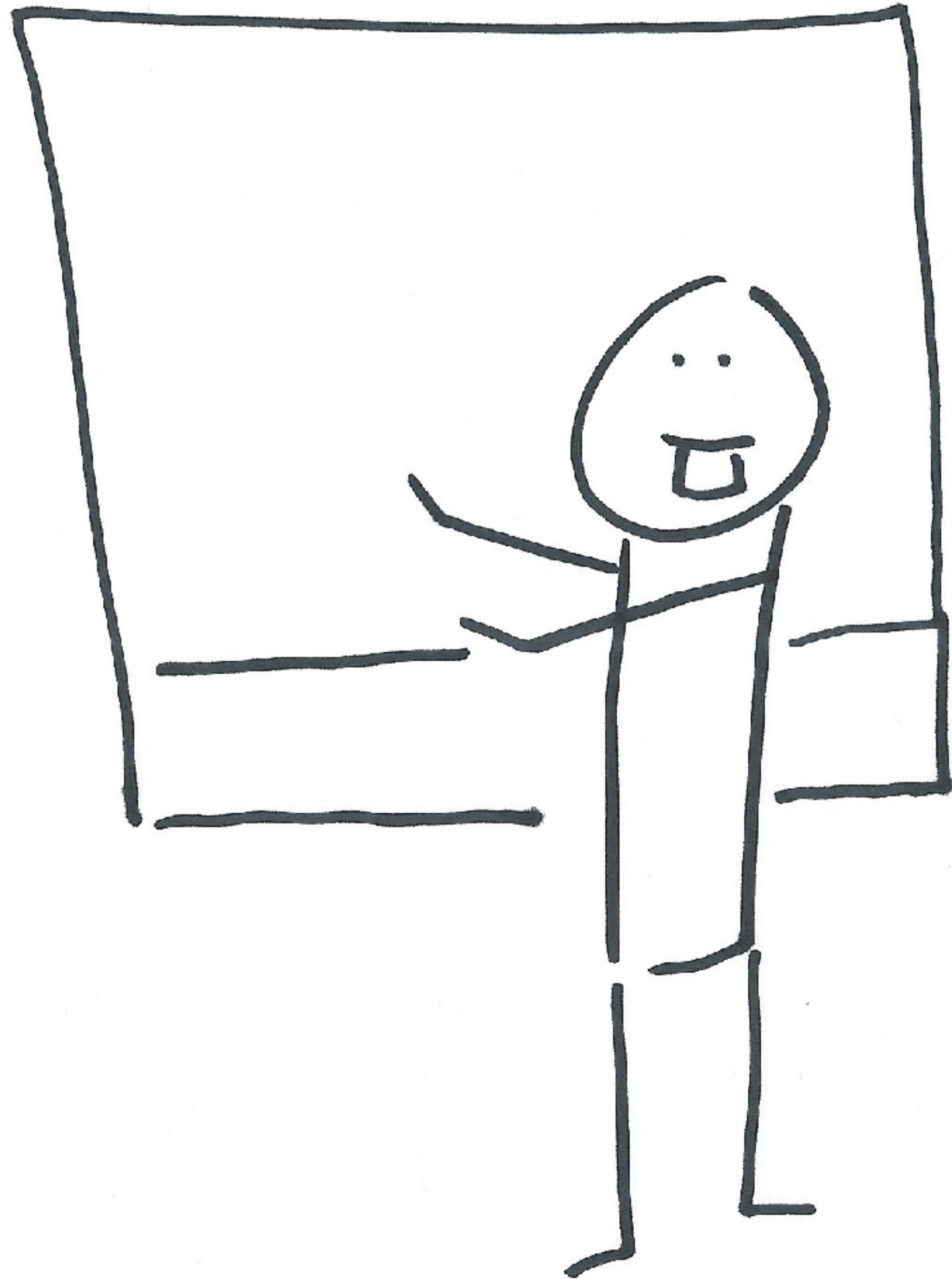




Automating to improve
the outcome rather than
to save effort:

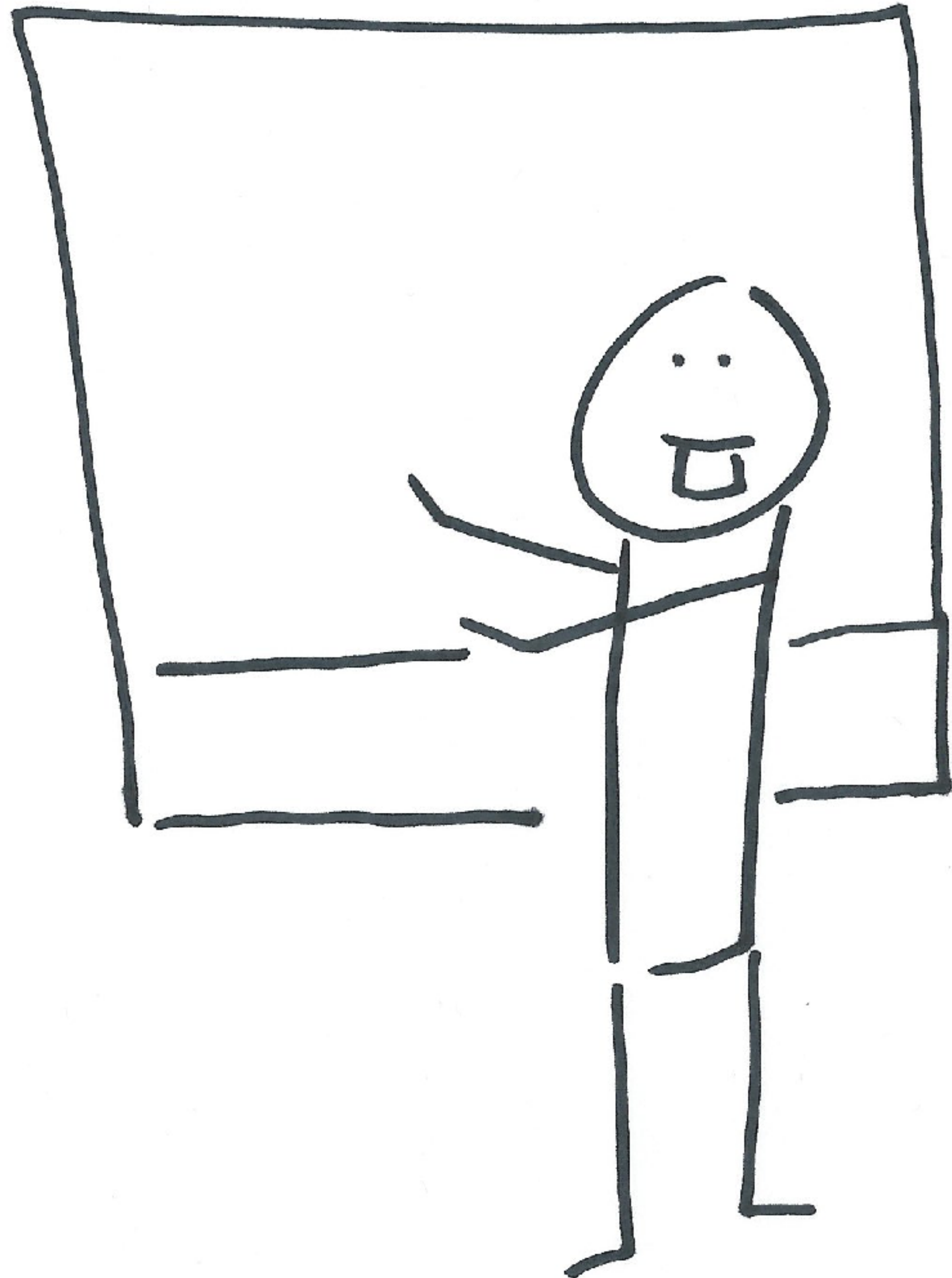


Automating to improve
the outcome rather than
to save effort:



Automating to improve
the outcome rather than
to save effort:

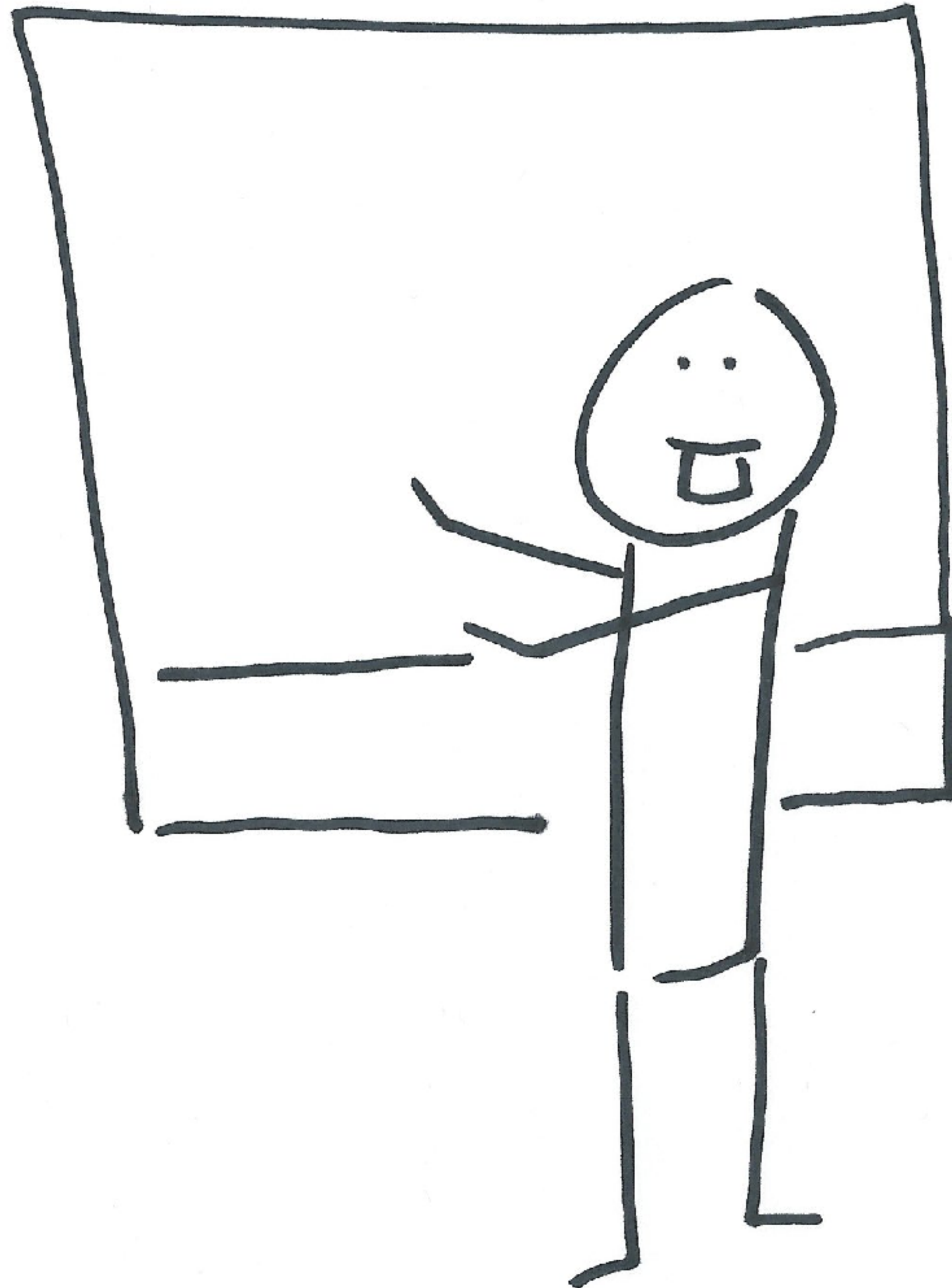
Write the Rational Team
Concert plugin (one-off)



Automating to improve
the outcome rather than
to save effort:

Write the Rational Team
Concert plugin (one-off)

Close the demo task
(every story)

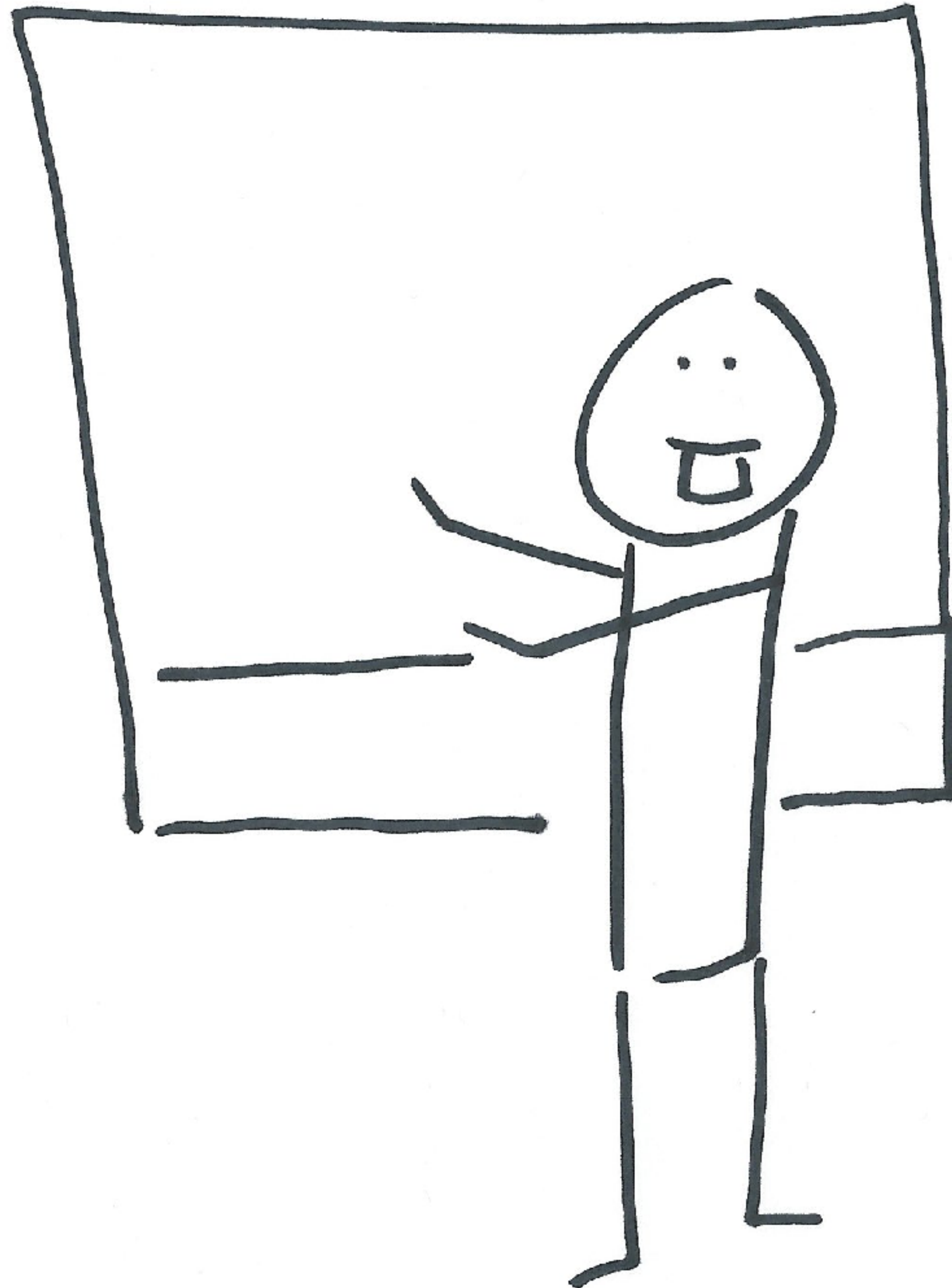


Automating to improve
the outcome rather than
to save effort:

Write the Rational Team
Concert plugin (one-off)

Close the demo task
(every story)

Actually do the demo
(every story)



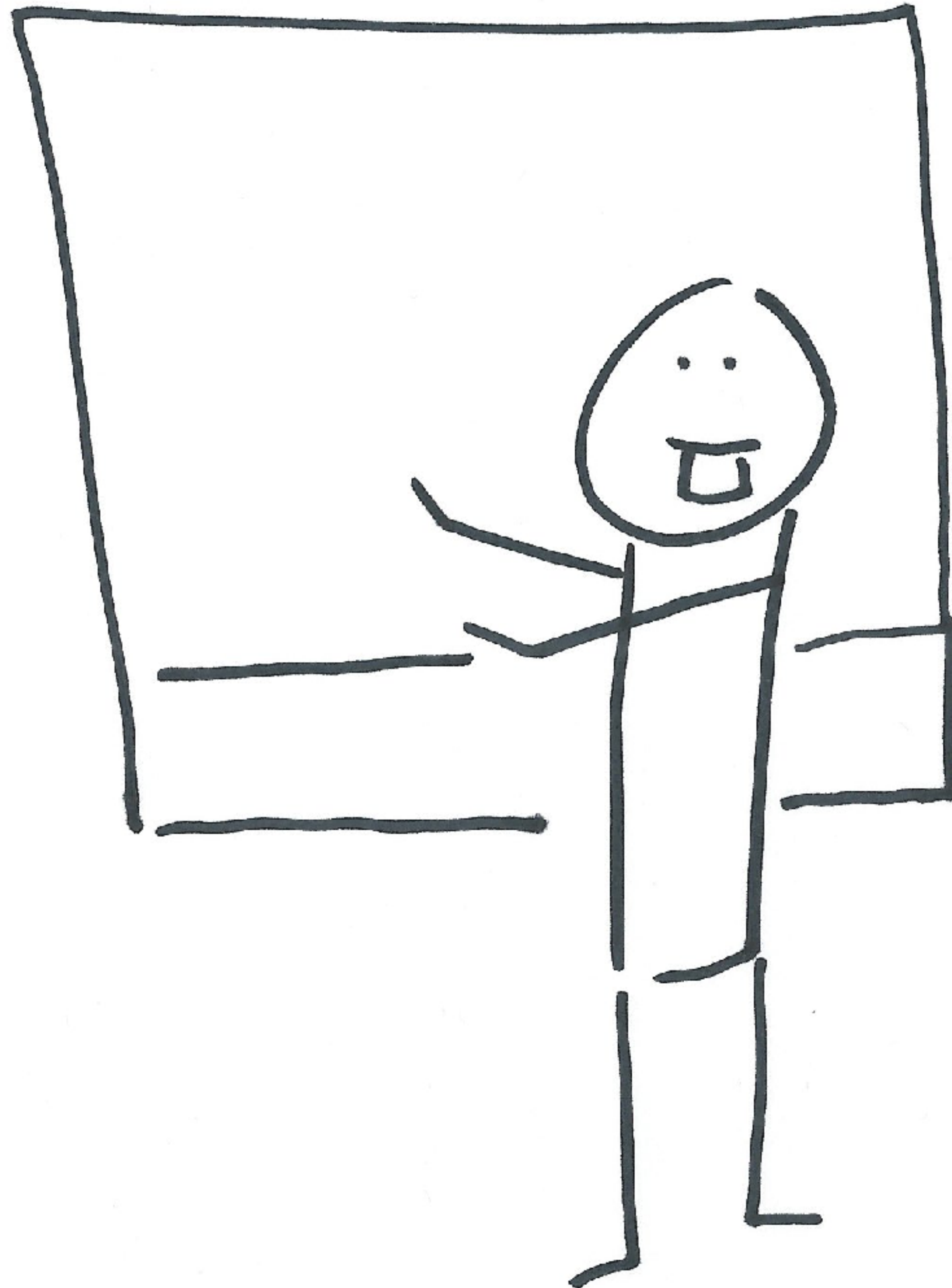
Automating to improve
the outcome rather than
to save effort:

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?



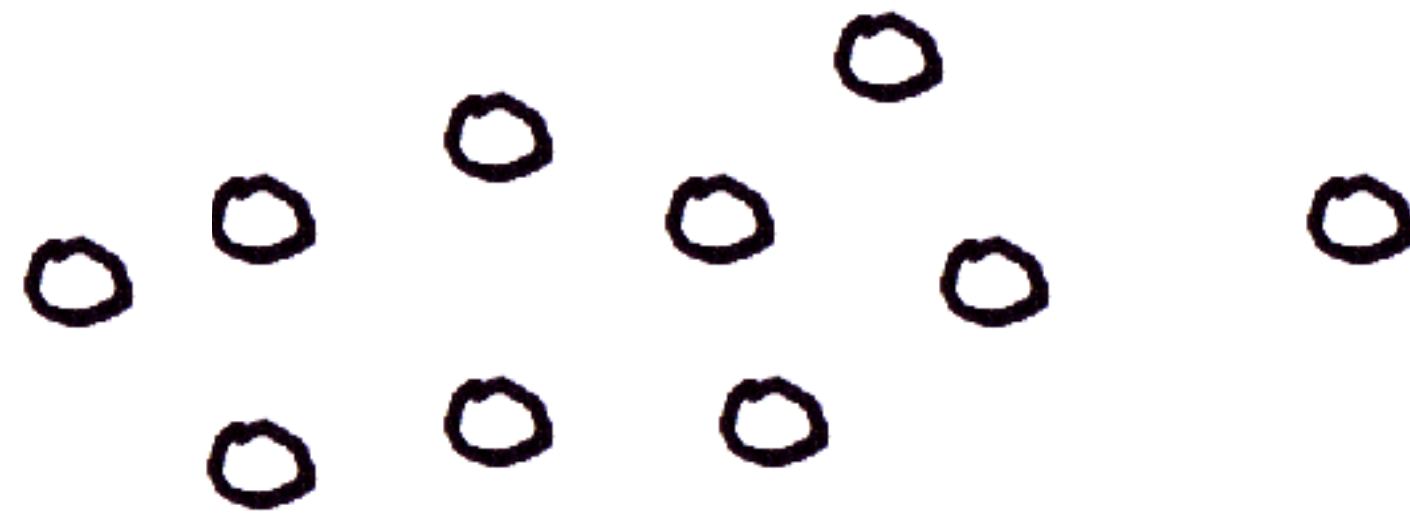
Automate
because you
care

Why Automate?

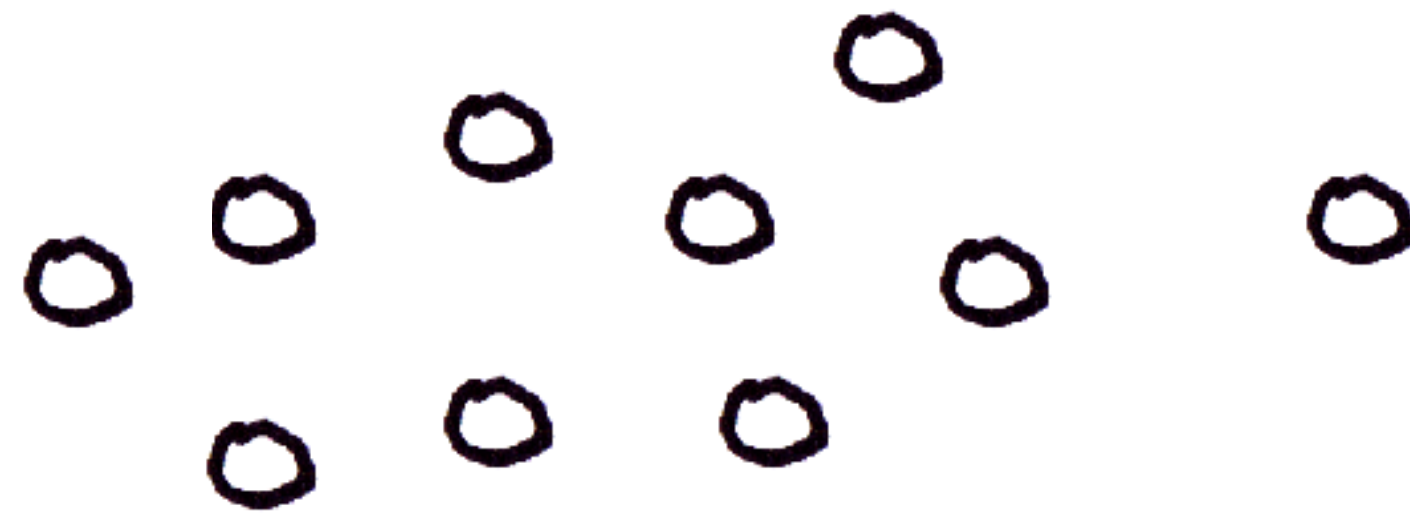


Automate
because you
care that it's
done right

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

The screenshot shows a web browser window with the URL `https://developer.ibm.com/wasdev/downloads/`. The page title is "IBM WebSphere Liberty Repository | WASdev". The navigation menu includes "WASdev", "About", "Get started", "Downloads", "Docs", "Source Code", "Get help", and "News & Events". A search bar is located in the top right corner.

Get started with Liberty profile

- Download in Eclipse**
Install Eclipse plugins to develop, deploy, and debug applications using the Liberty profile. Download and manage Liberty profile installations from Eclipse.
[GET IT NOW!](#)
- Download just the runtime**
Download the Liberty profile runtime to install in build environments, to deploy from the command line, and to develop applications in other IDEs.
[GET IT NOW!](#)
- Want to try the Beta?**
The October 2015 WAS Liberty beta includes updates to the SIP tools support.
[GET IT NOW!](#)

IBM WebSphere Liberty Repository

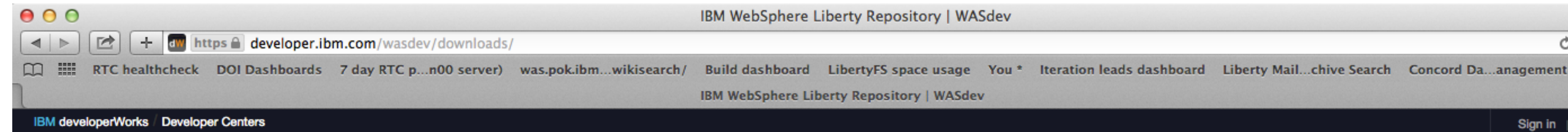
Search

Sort by: **Featured** | Date | Name

Assets

- WAS Liberty V8.5.5.7 with Java EE 7 Full Platform**
Released: 11 September 2015
WAS Liberty V8.5.5.7 with Java EE 7 Technologies: The lightweight WAS Liberty is production-ready and designed for developers. This ZIP file is Java EE 7 certified.

example Deployment



WASdev About Get started Downloads Docs Source Code Get help News & Events

Search

Should be easy, right?

Get started with Liberty profile



Download in Eclipse

Install Eclipse plugins to develop, deploy, and debug applications using the Liberty profile. Download and manage Liberty profile installations from Eclipse.

GET IT NOW!



Download just the runtime

Download the Liberty profile runtime to install in build environments, to deploy from the command line, and to develop applications in other IDEs.

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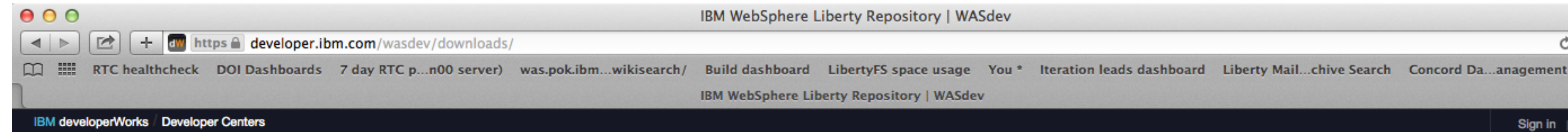


WAS Liberty V8.5.5.7 with Java EE 7 Full Platform

Released: 11 September 2015

WAS Liberty V8.5.5.7 with Java EE 7 Technologies: The lightweight WAS Liberty is production-ready and designed for developers. This ZIP file is Java EE 7 certified.

example Deployment



Should be easy, right?
Always one step that
gets forgotten ...

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example

Swapping a Watson Service

All Services (8) Create Service +

Services 13/1500 Used

NAME	SERVICE OFFERING	PLAN	ACTIONS
cloudant	Cloudant NoSQL DB	Shared	⋮
conversation	Conversation	standard	⋮
conversation-workspace		n/a	⋮
elasticsearch	Compose for Elasticsearch	Standard	⋮
nlc-classifiers		n/a	⋮
nlc-[]	Natural Language Classifier	standard	⋮
nlc-[]-training	Natural Language Classifier	standard	⋮
Speech to Text	Speech to Text	standard	⋮

example

Swapping a Watson Service

Four weeks ago:
3 configuration errors
in one week. Oops.

All Services (8) Create Service

Services 13/1500 Used

NAME	SERVICE OFFERING	PLAN	ACTIONS
cloudant	Cloudant NoSQL DB	Shared	⋮
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conversation-workspace		n/a	⋮
elasticsearch	Compose for Elasticsearch	Standard	⋮
nlc-classifiers		n/a	⋮
nlc-□	Natural Language Classifier	standard	⋮
nlc-□-training	Natural Language Classifier	standard	⋮
Speech to Text	Speech to Text	standard	⋮

example

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nlc-□	Natural Language Classifier	standard	⋮
nlc-□-training	Natural Language Classifier	standard	⋮
Speech to Text	Speech to Text	standard	⋮

```
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  "credentials": {
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    ]
  }
}
```

Why automate?



Why automate?



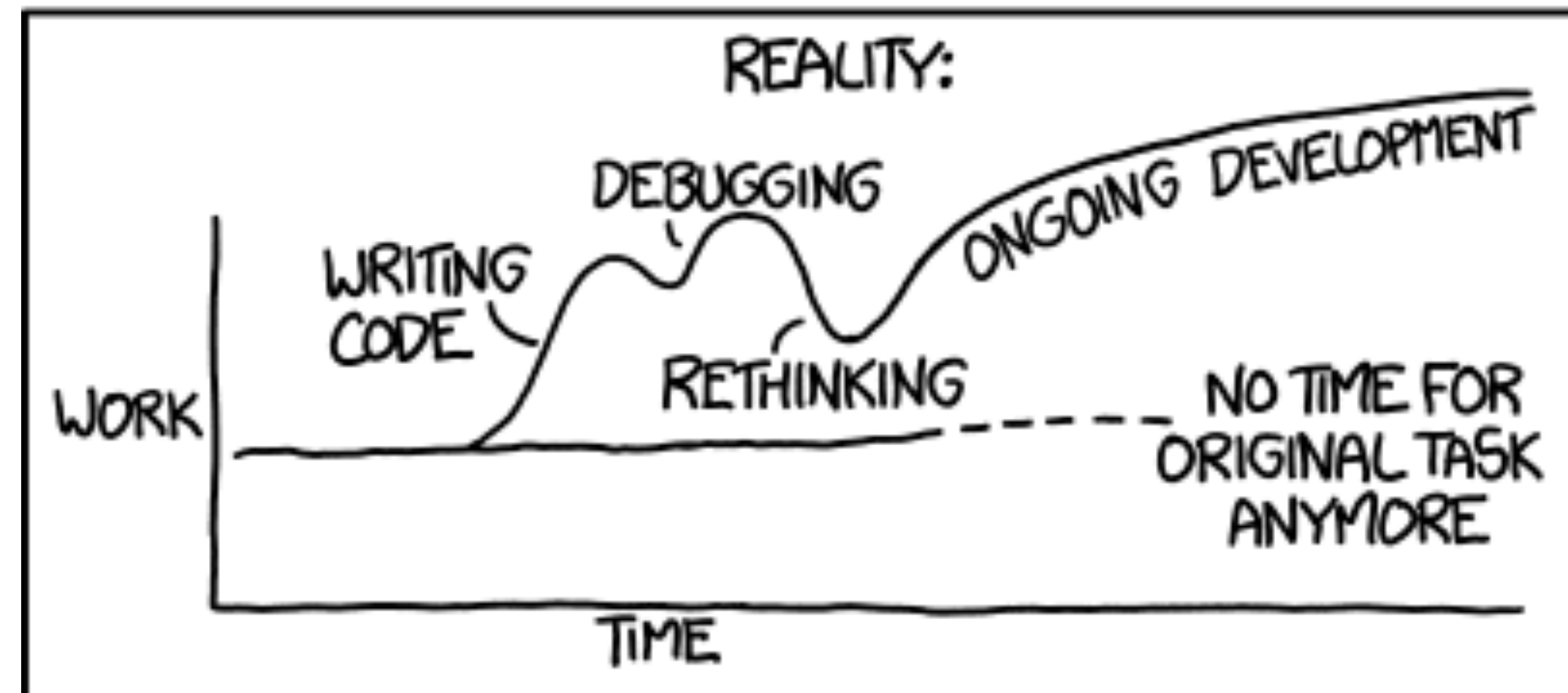
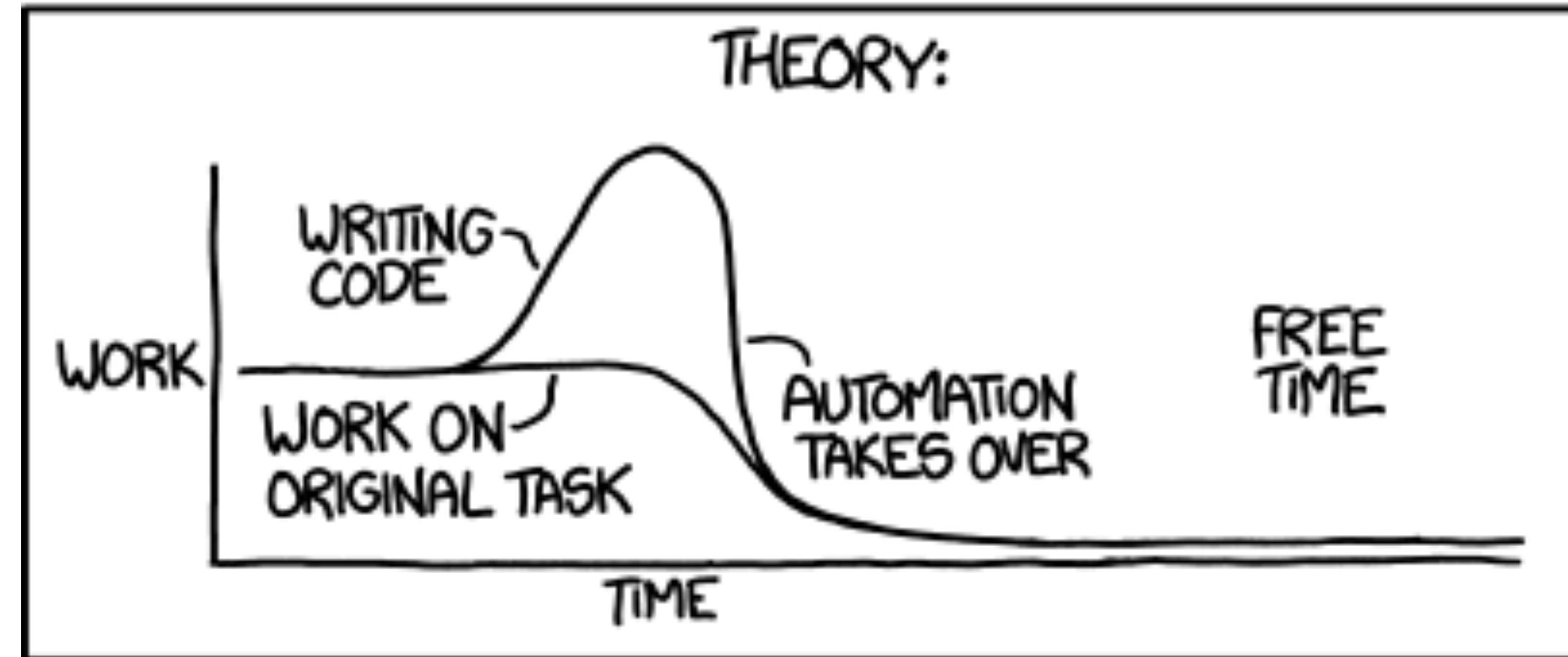
Why automate?

Automate
because it's
fun



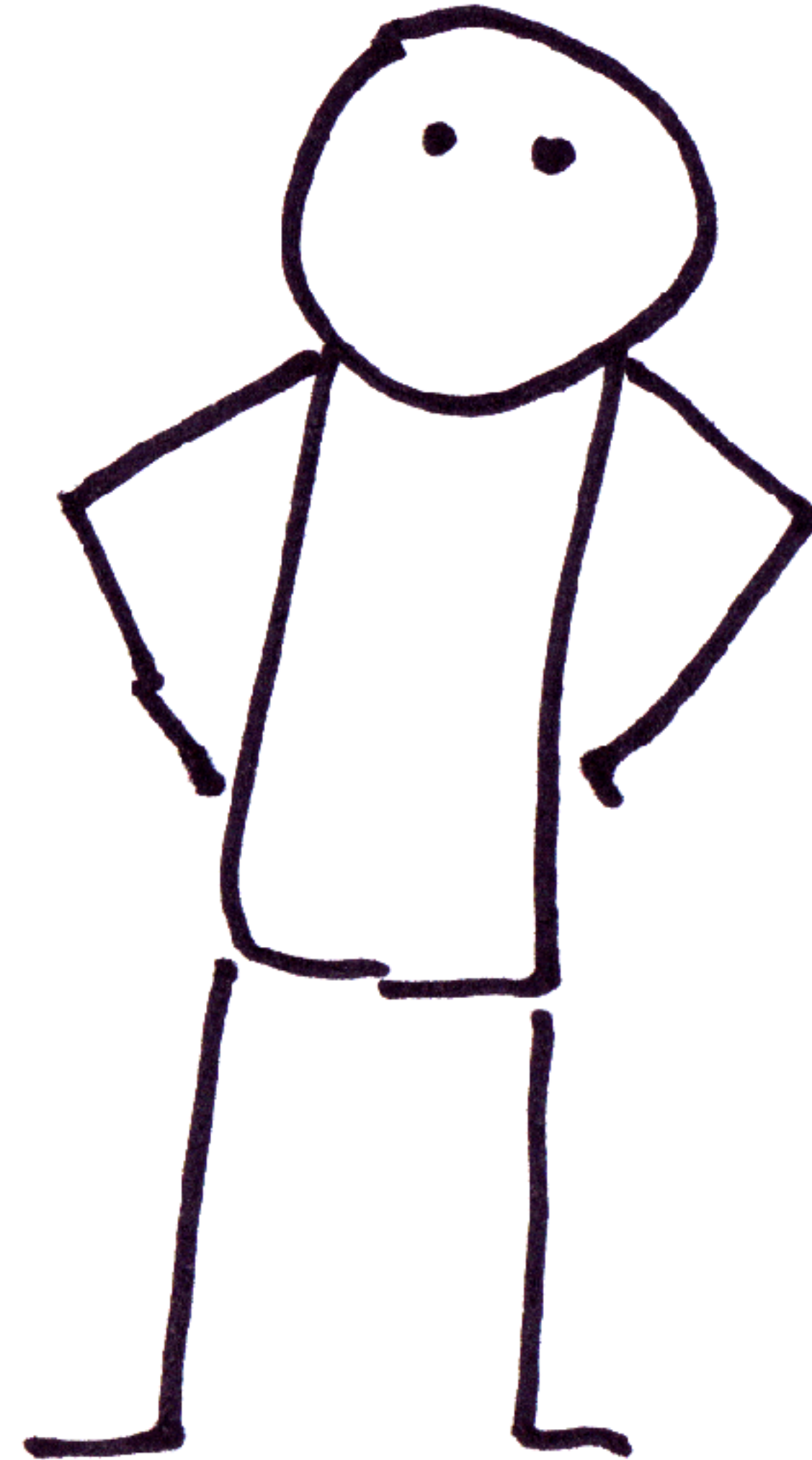
Why *not* automate

"I SPEND A LOT OF TIME ON THIS TASK.
I SHOULD WRITE A PROGRAM AUTOMATING IT!"



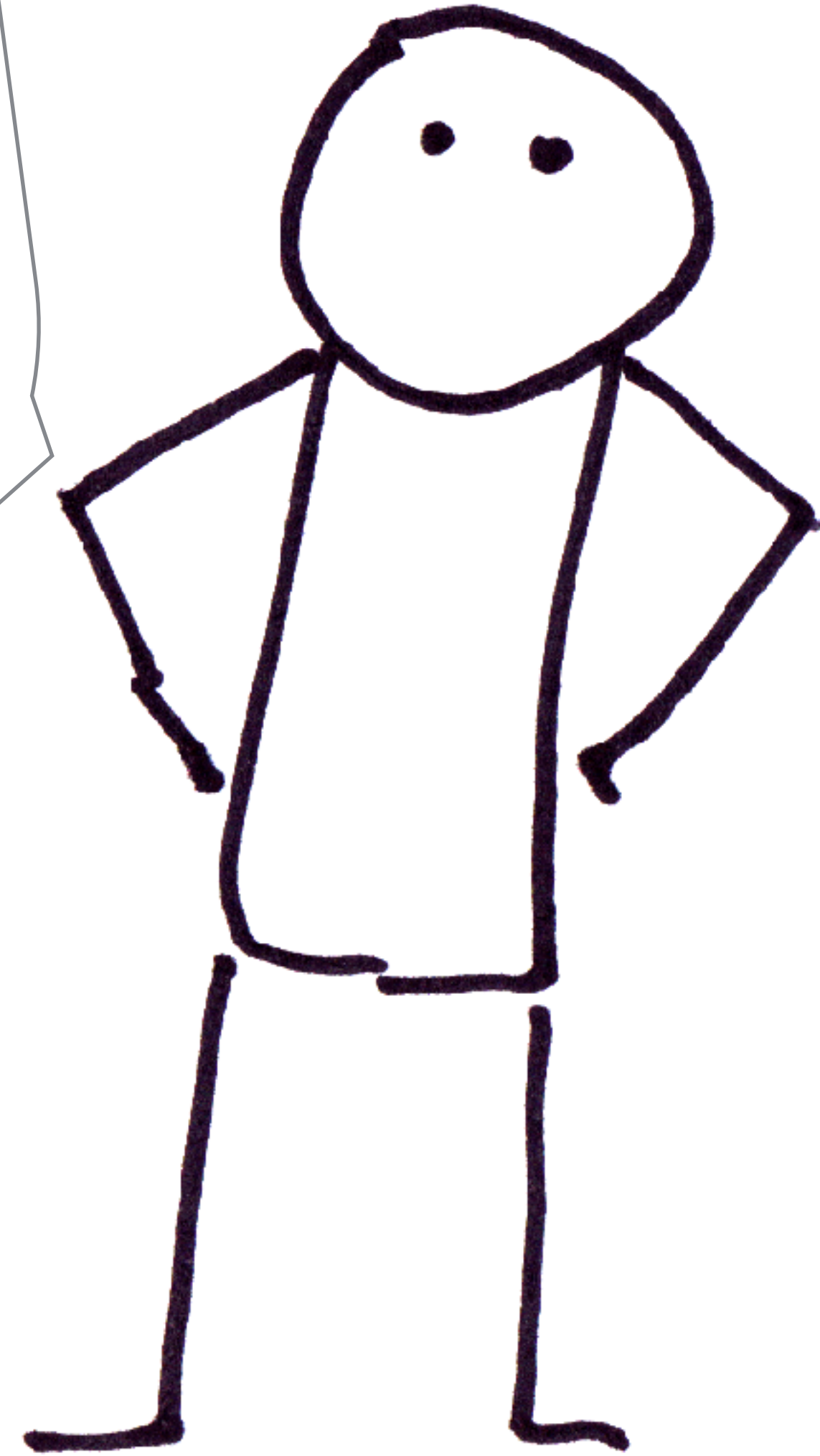
thanks (for everything!), xkcd.com

Why *not*
automate?



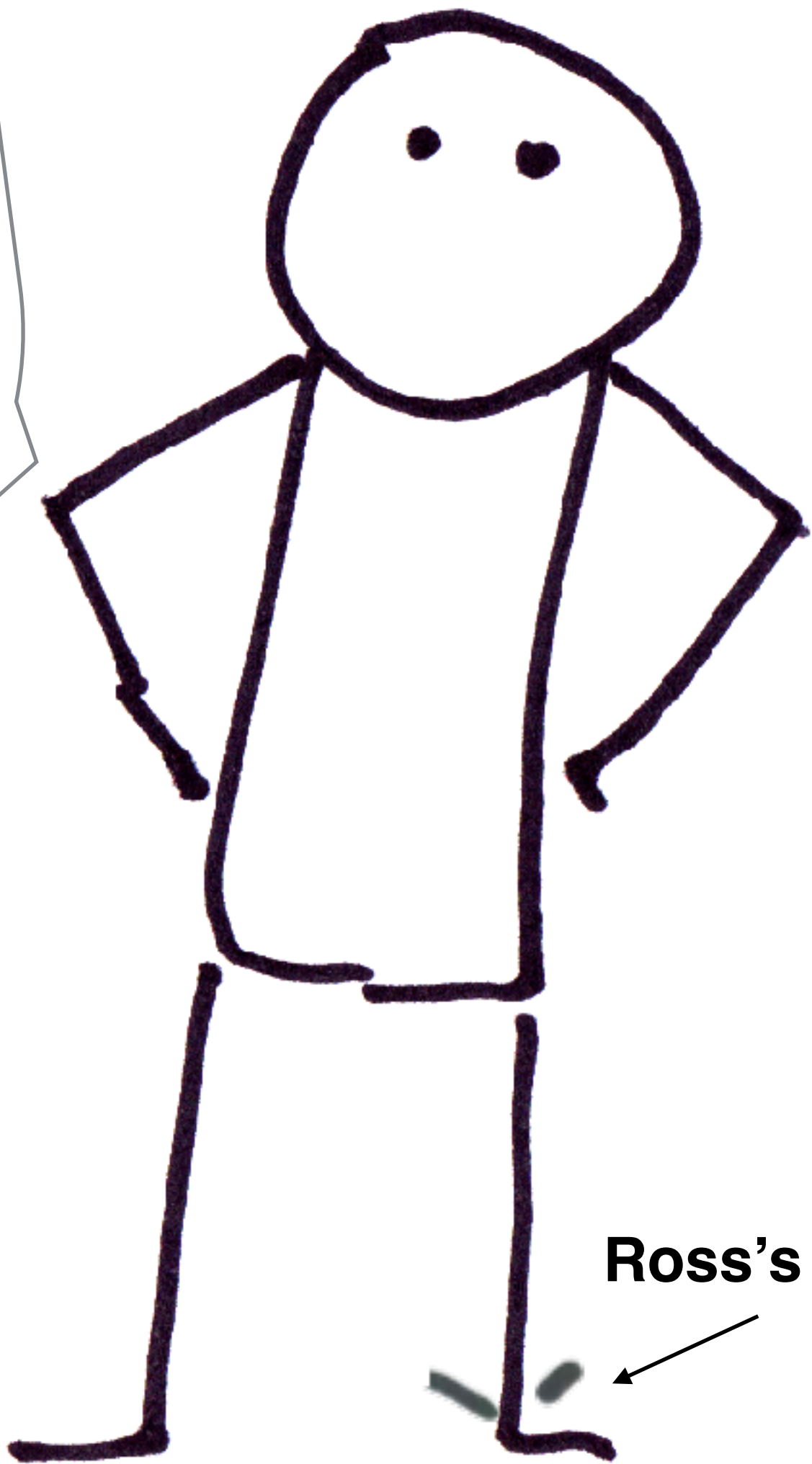
Ross

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



Ross

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



Ross's bootstraps

Ross

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

The automation paradox



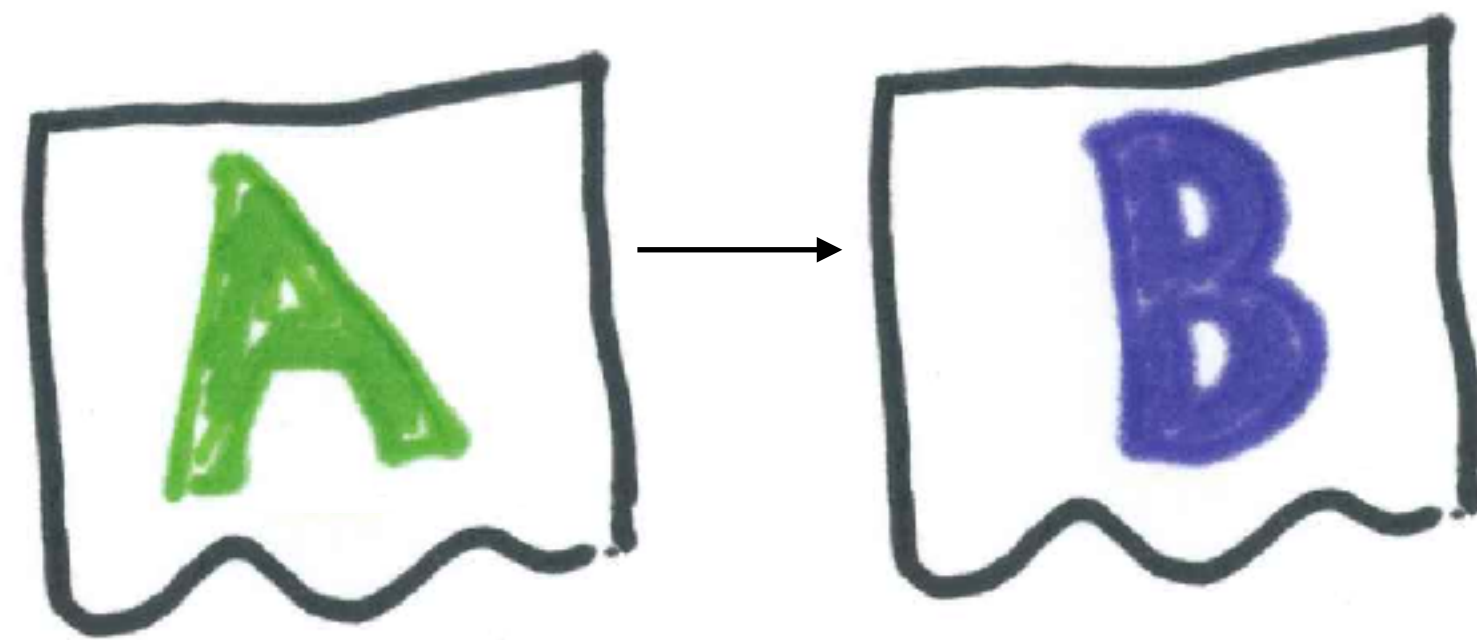
Ross

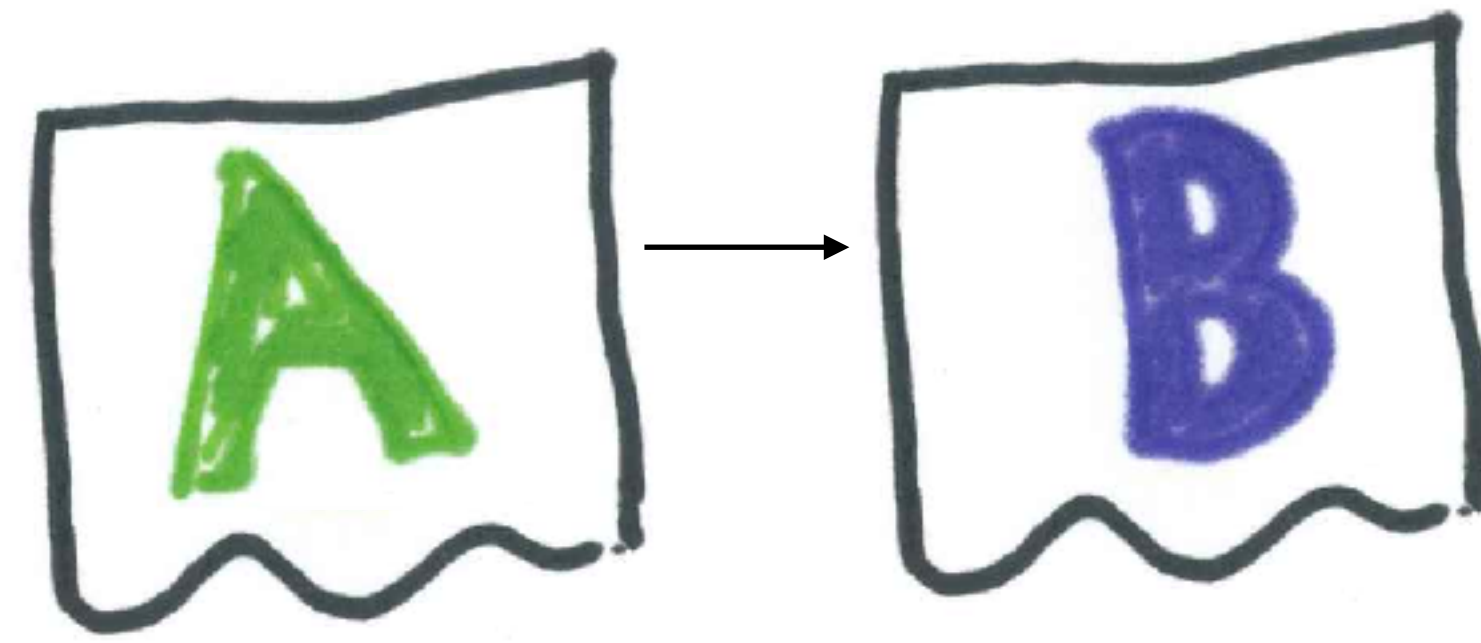
Ross's bootstraps

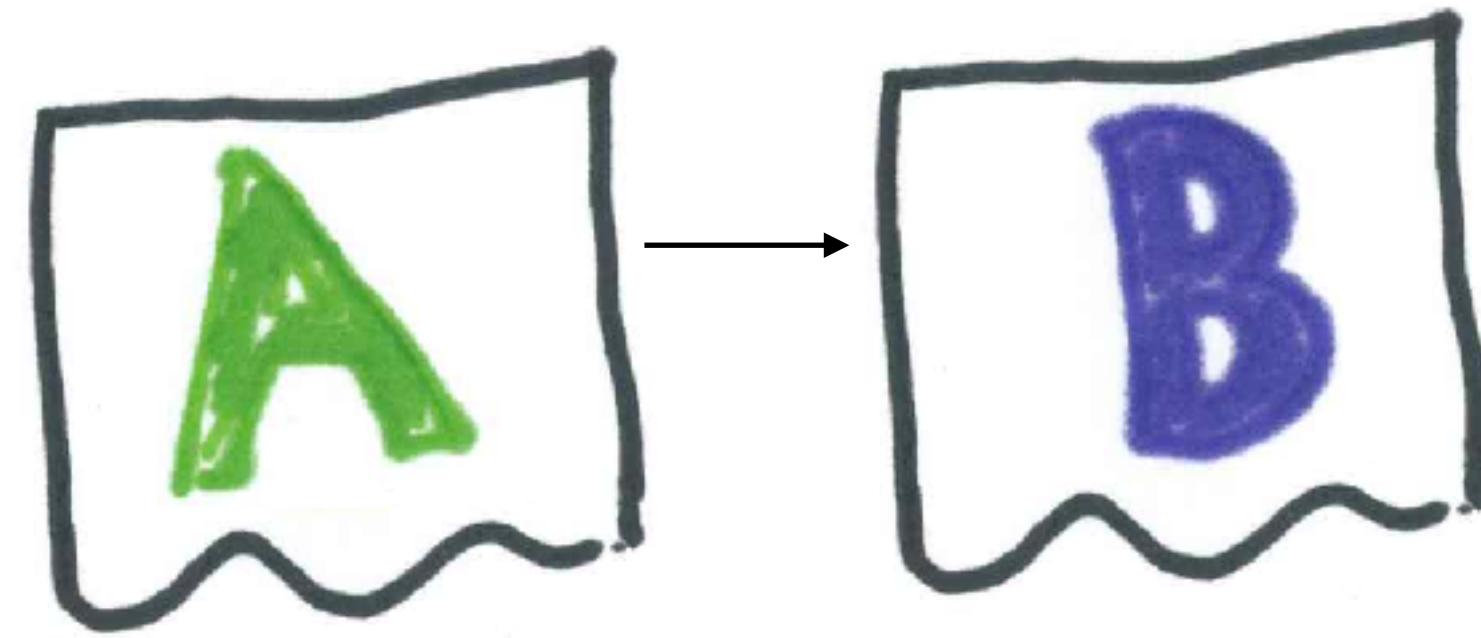


example

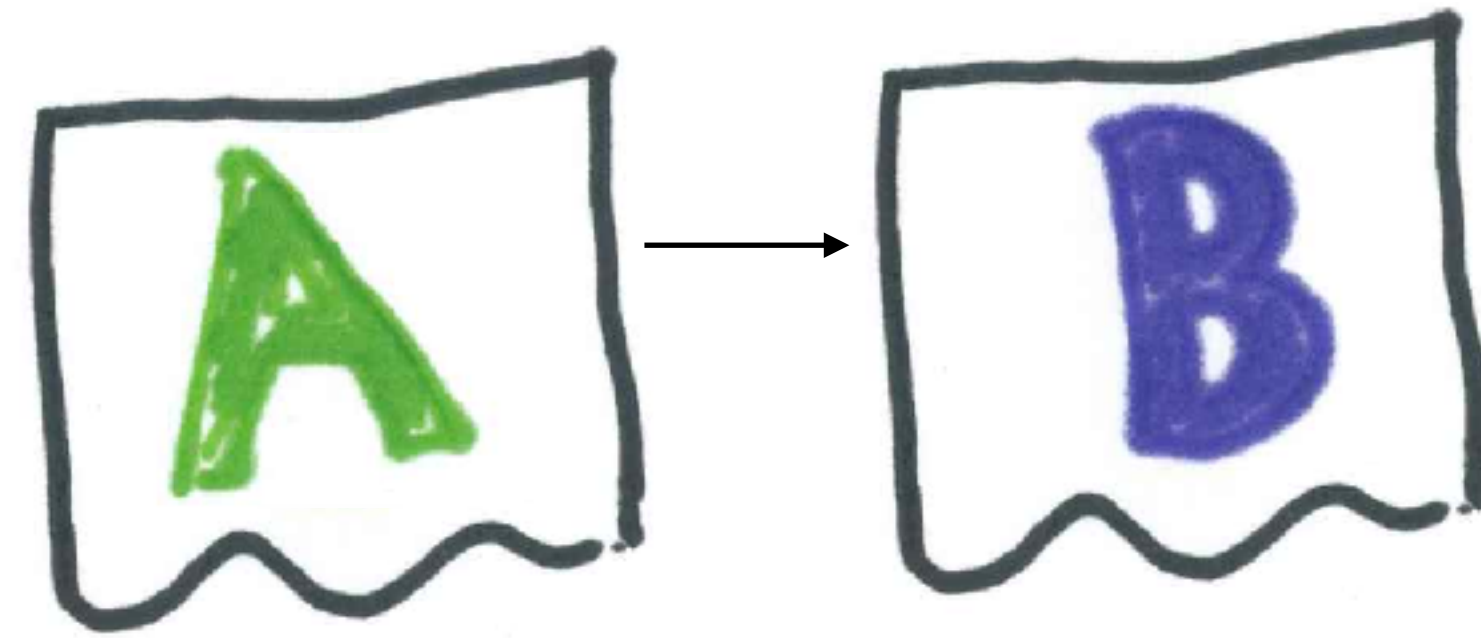
Fixing a classpath





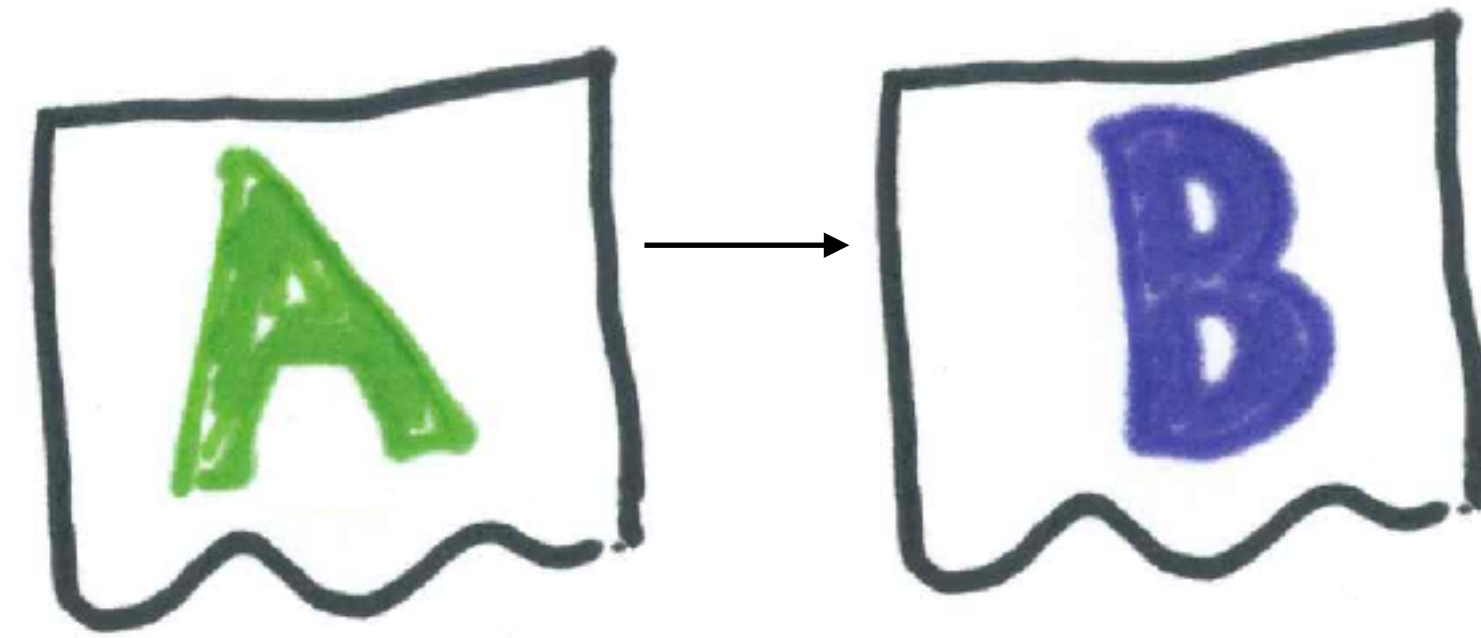


`find something | exec something {} + ; ?!`

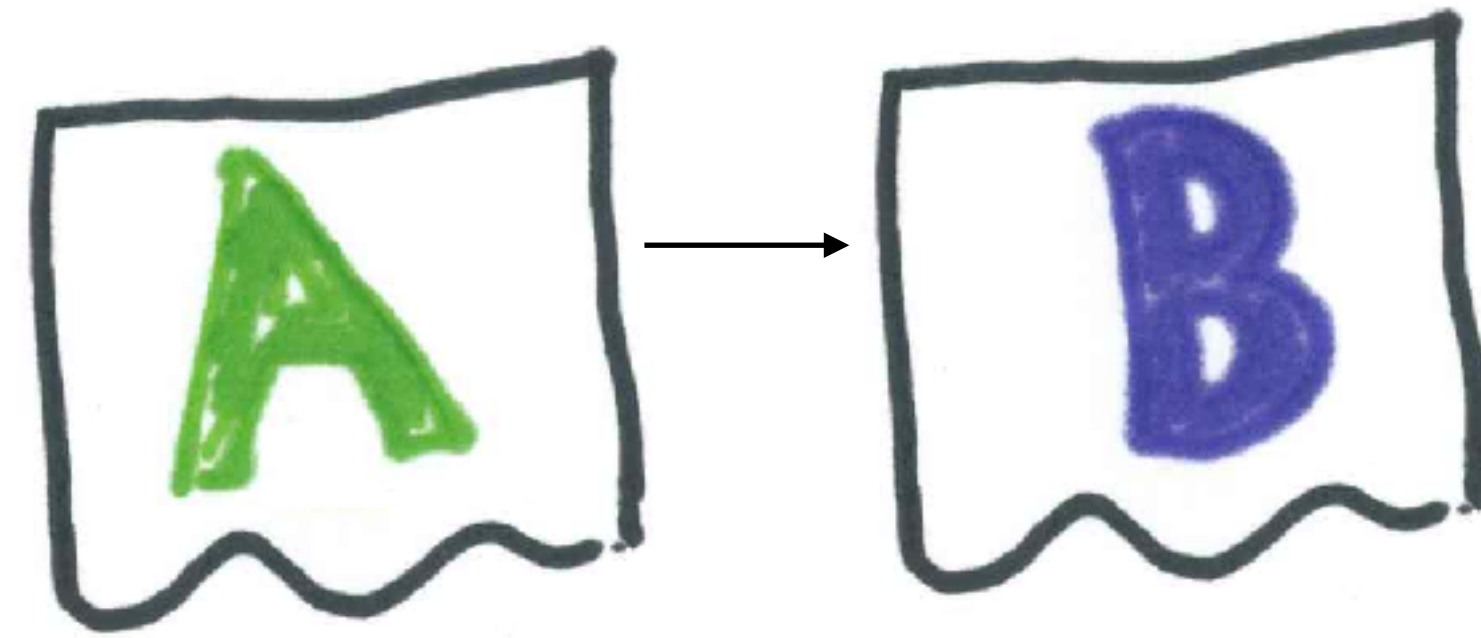


```
find something | exec something {} + ; ?!
```

```
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 ... ?
```

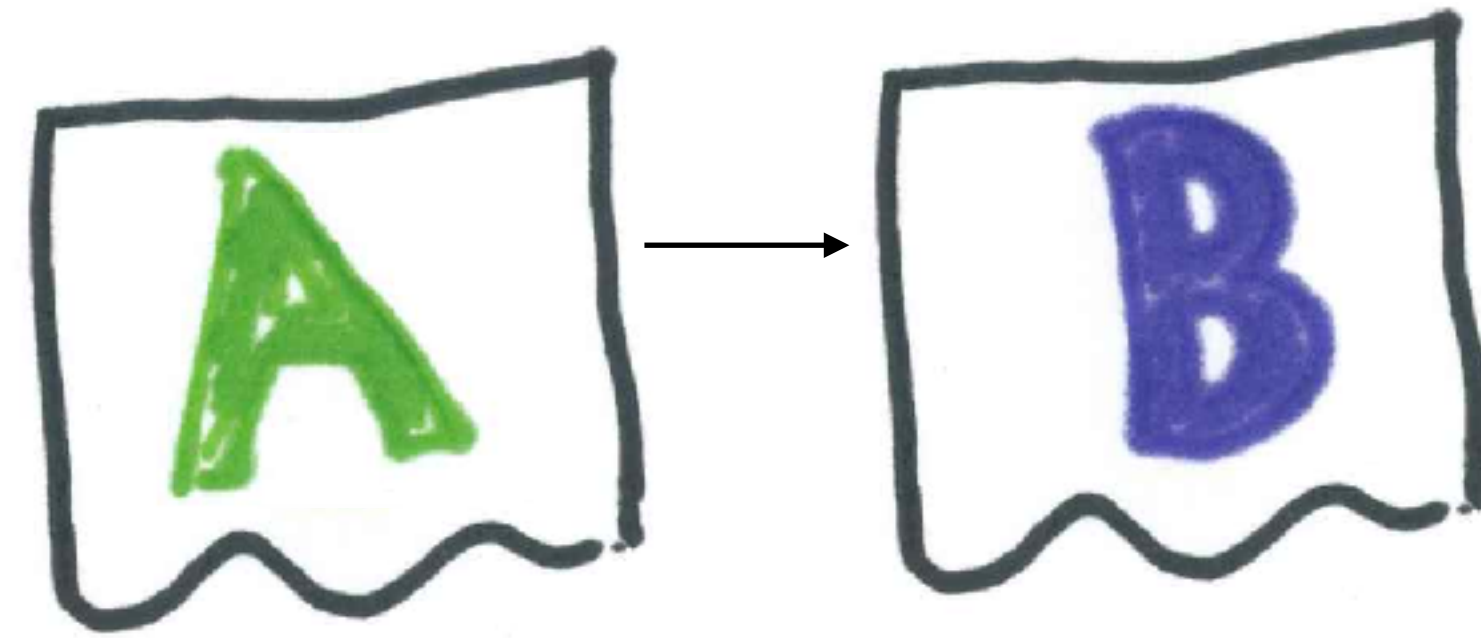



`find something | exec something {} + ; ?!`

`for ... then sed something; mv $i.bak $i; ... ?`

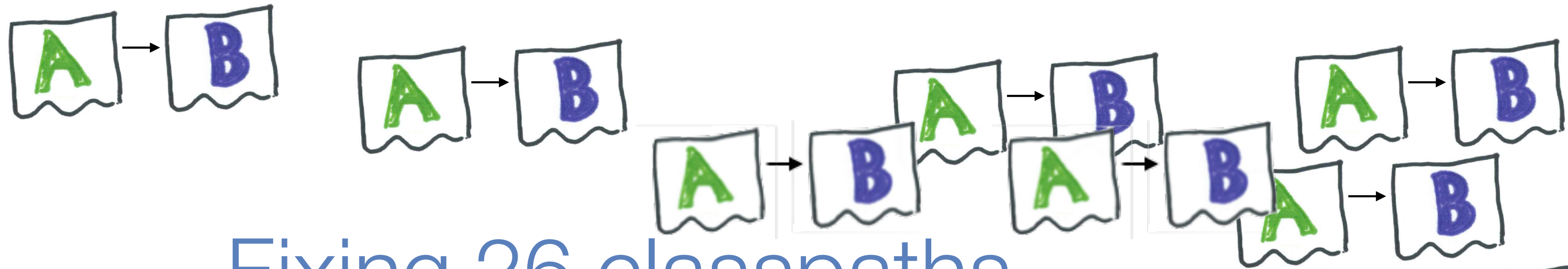
`sedder.sh` and `dosed.sh` and ... ?

`perl ... um .. something?`

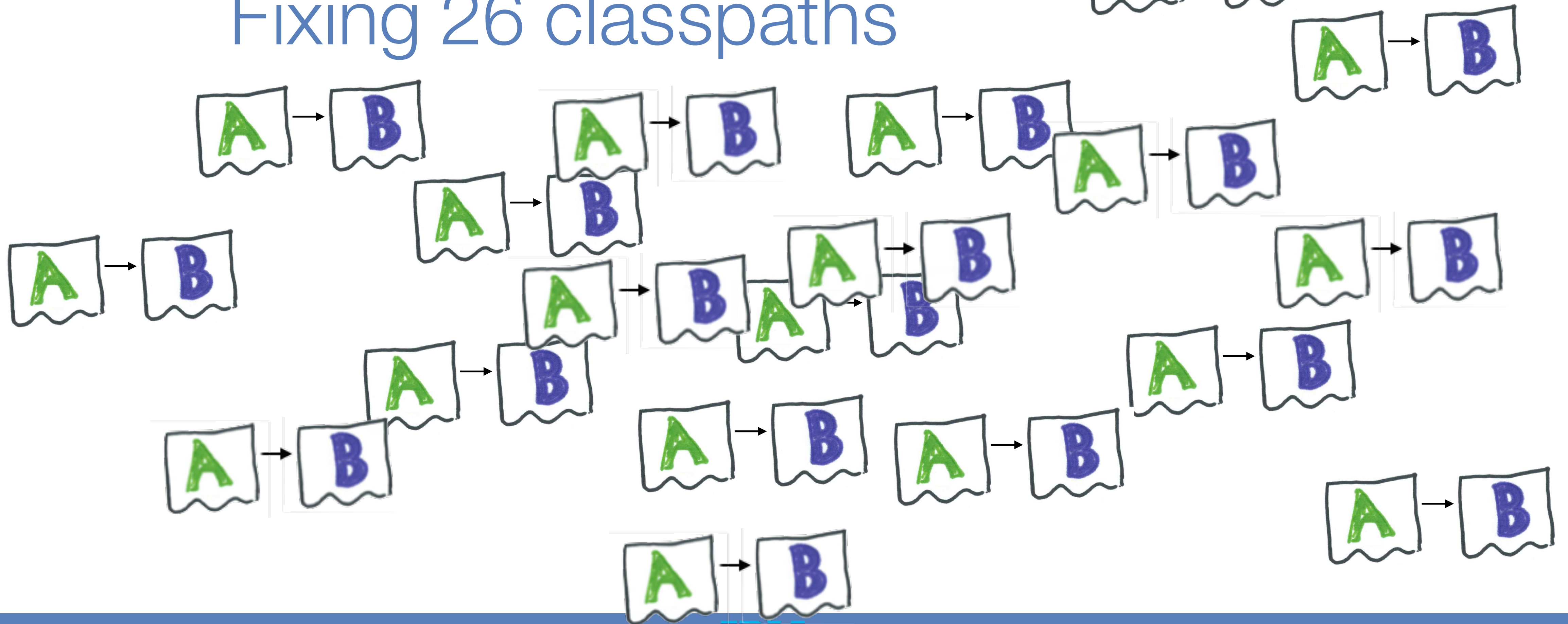


`find something | exec something {} + ; ?!`
`for ... then sed something; mv $i.bak $i; ... ?`
`sedder.sh and dosed.sh and ... ?`
`perl ... um .. something?`

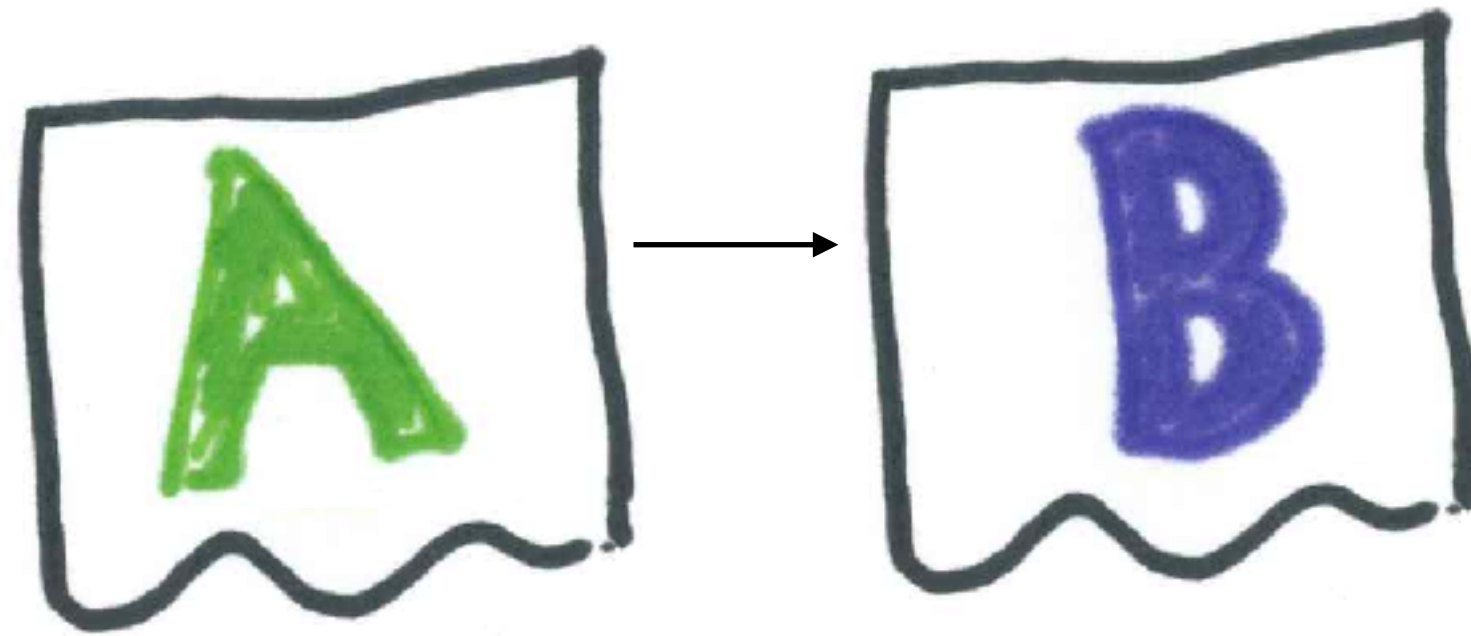
Fixing 26 classpaths



Fixing 26 classpaths



Epilogue



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



Andrew

14:29, November 9th.



Holly

Holly, you need to stop working on automating this process.



Andrew

14:29, November 9th.



Holly

Holly, you need to stop working on automating this process.

But why?!



Andrew



Holly

14:29, November 9th.

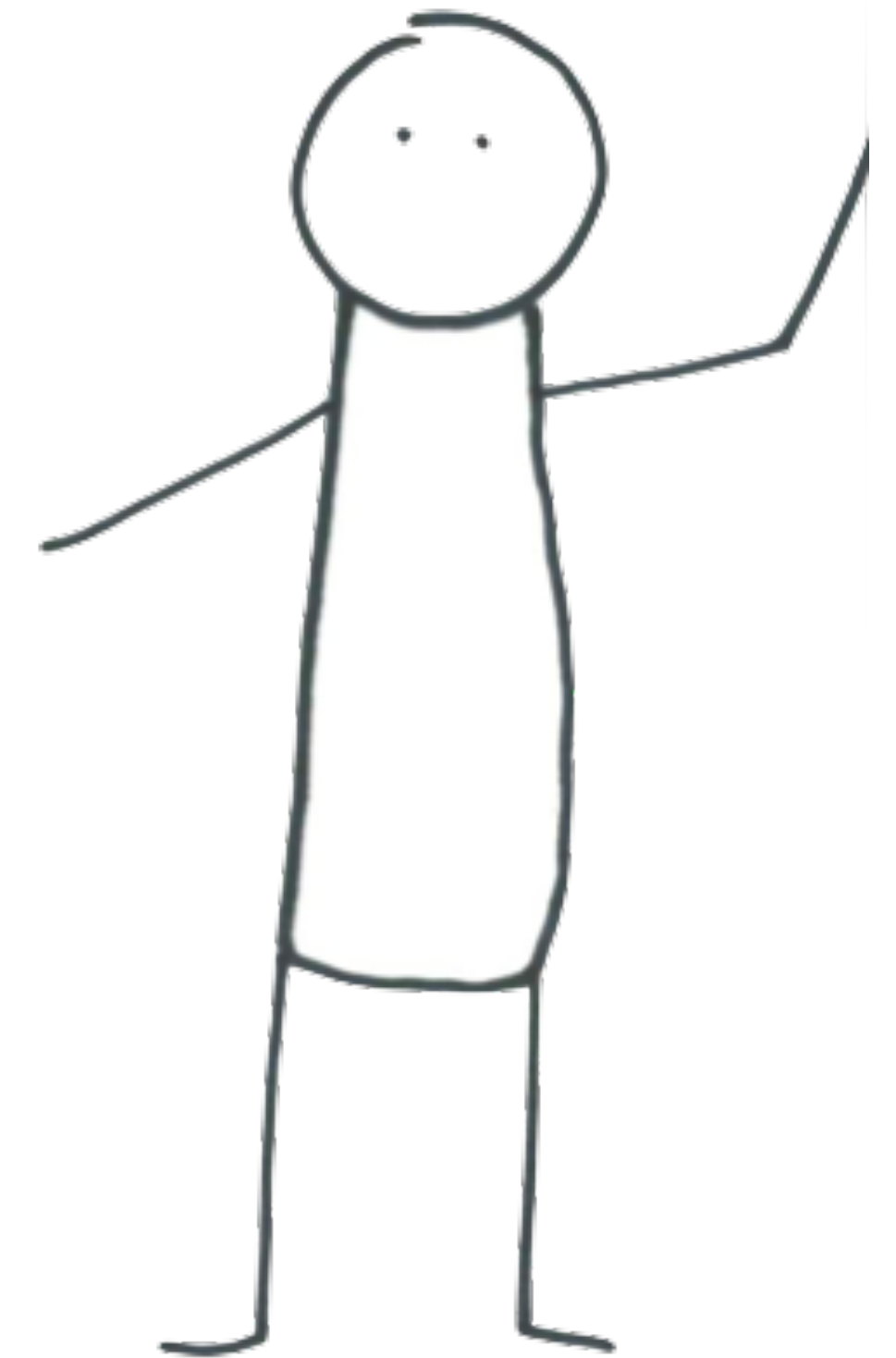
Holly, you need to stop working on automating this process.

The contract finished last week. We're not working for that client anymore.



Andrew

But why?!



Holly

14:29, November 9th.

Holly, you need to stop working on automating this process.

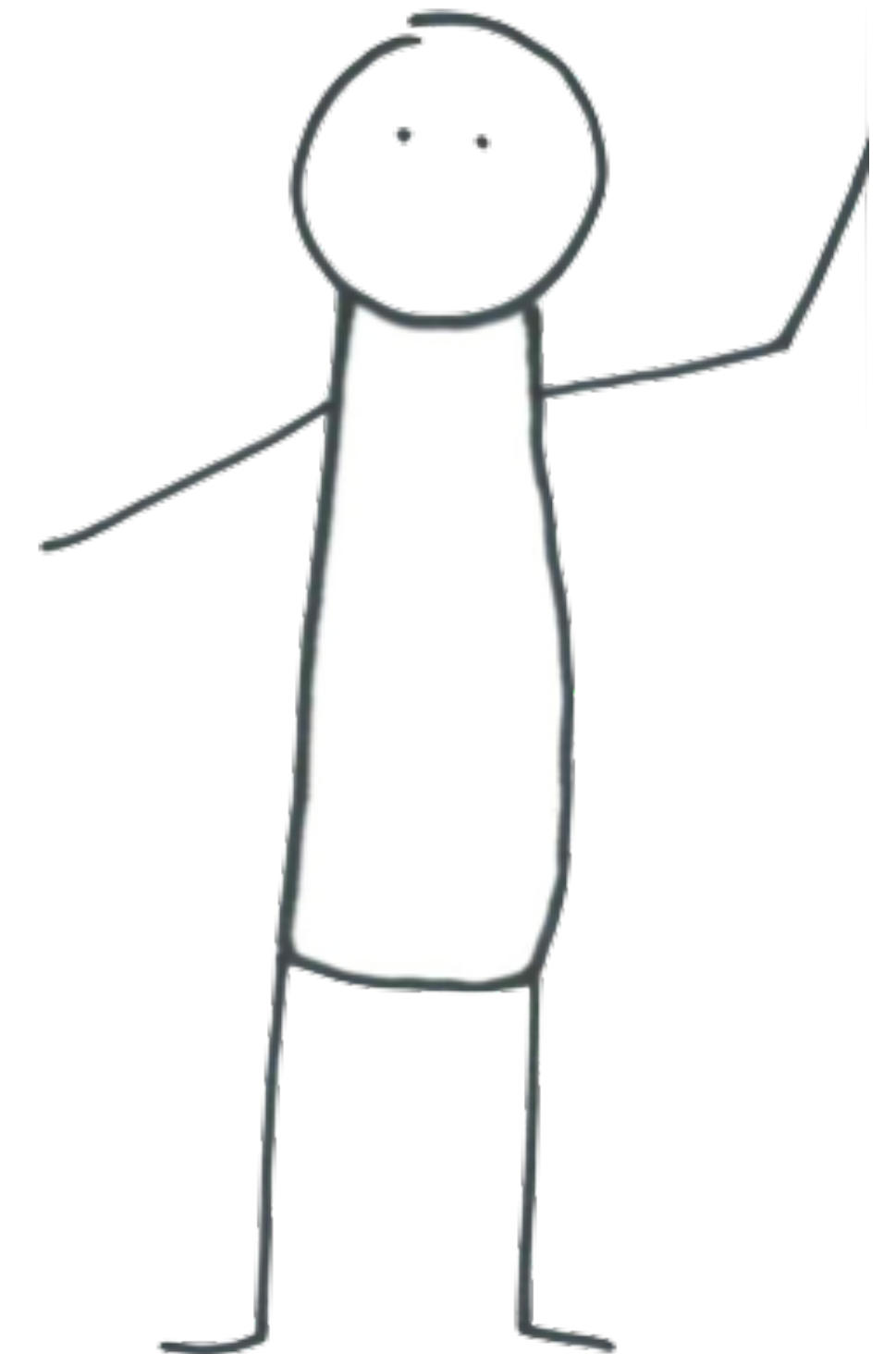
The contract finished last week. We're not working for that client anymore.

But why?!

But ... there's stuff still to automate.



Andrew



Holly

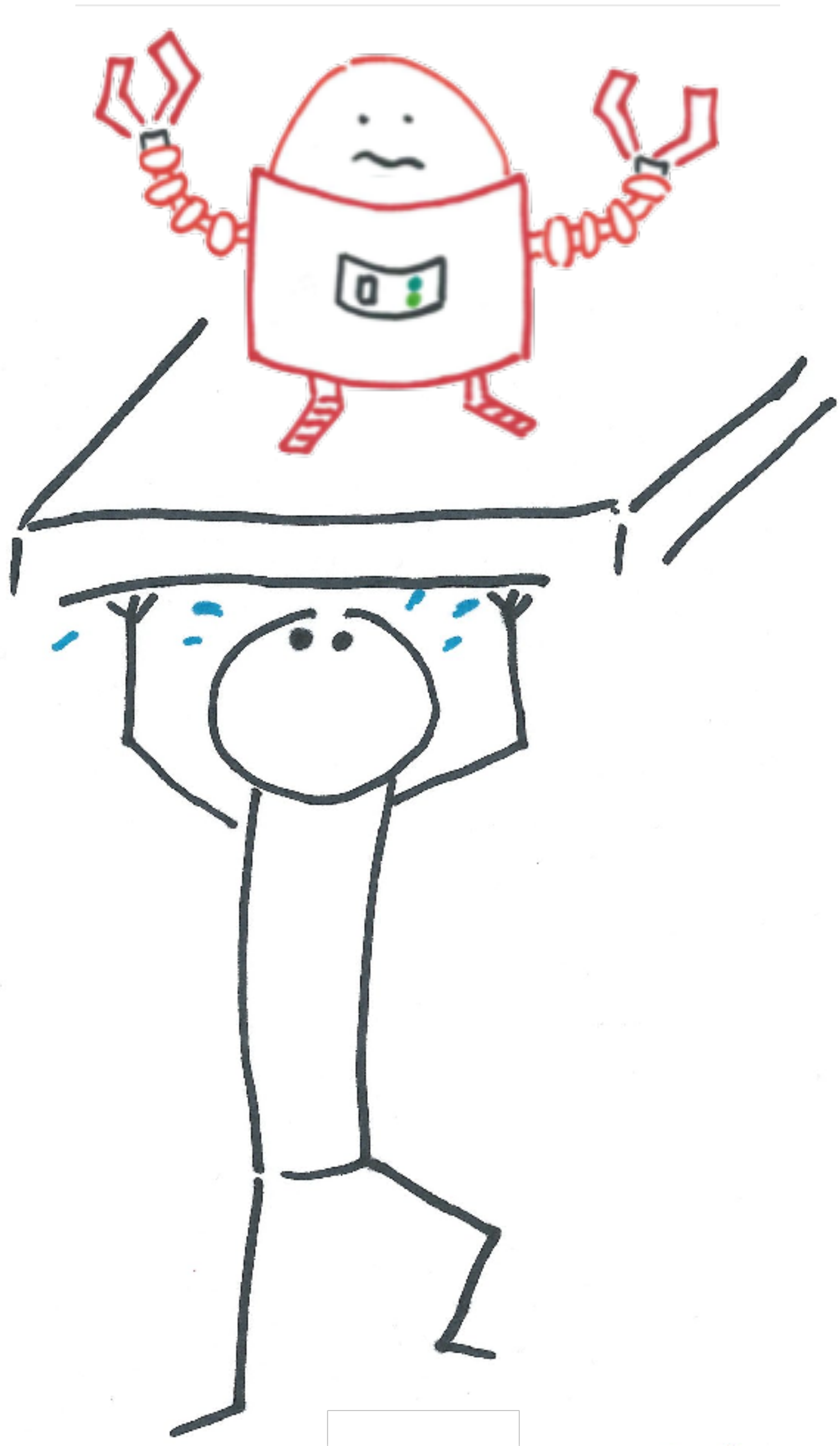
14:29, November 9th.

The Dream

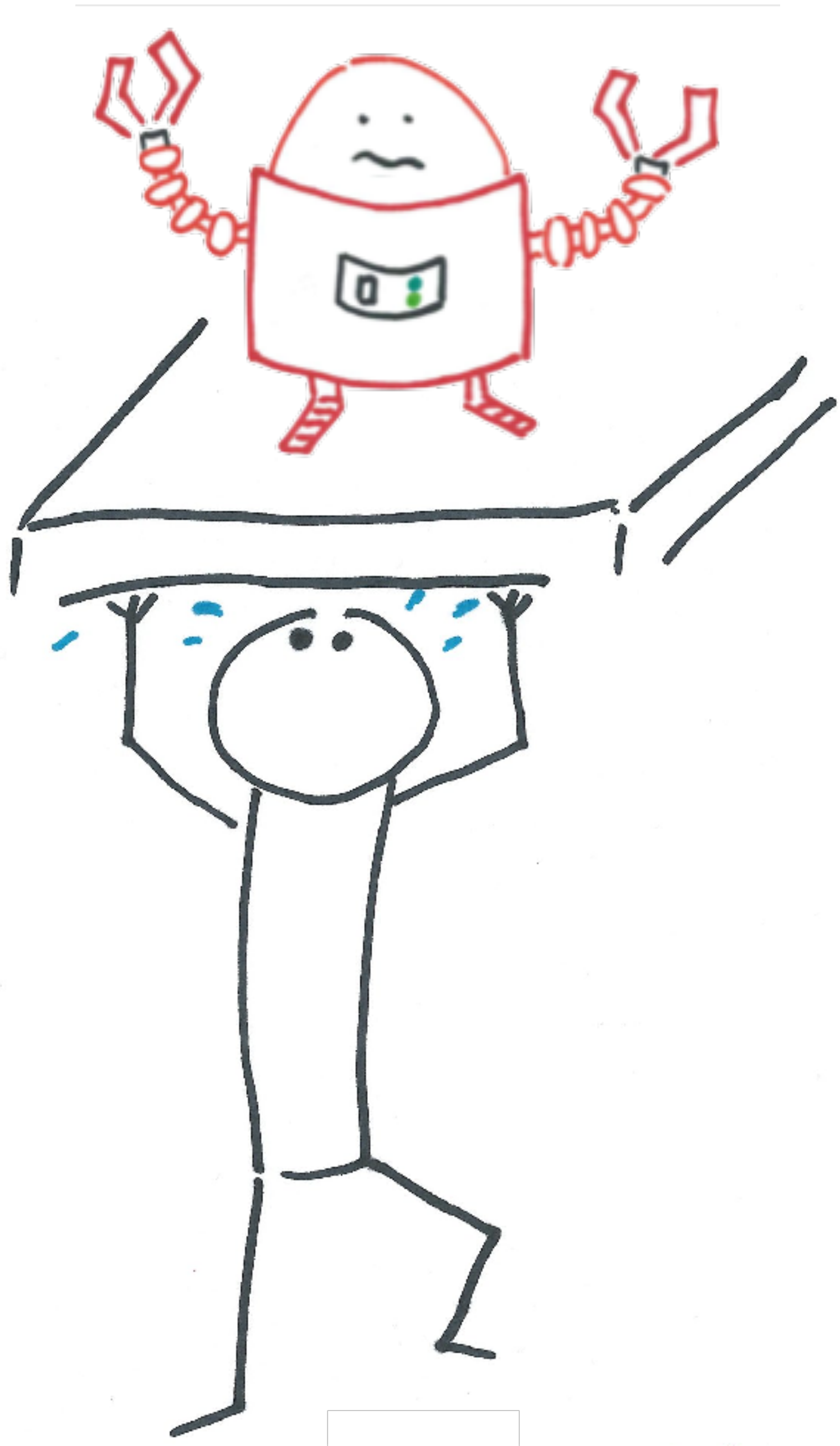


Super-
helpful
automation
automaton

The Reality

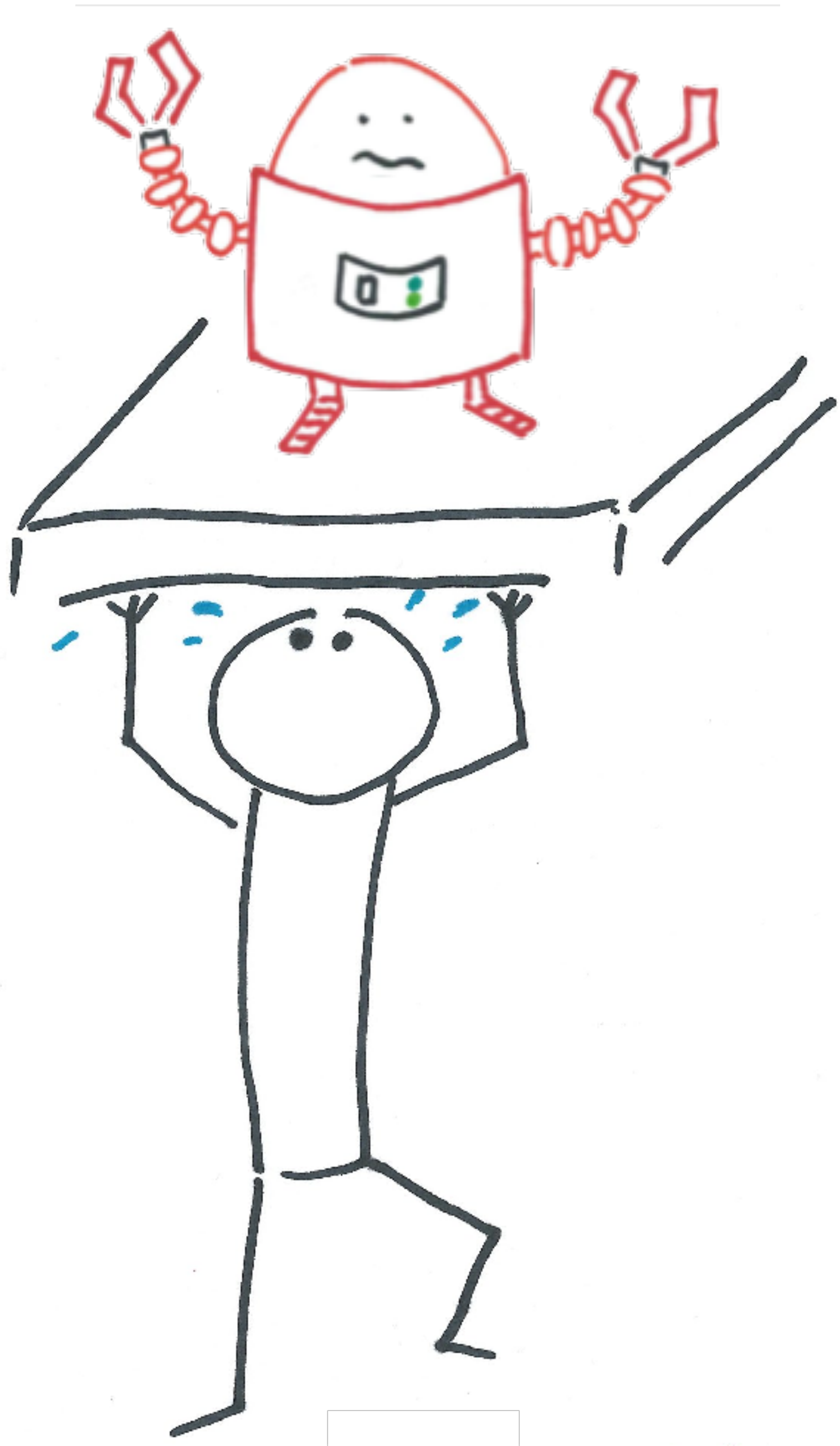


The Reality



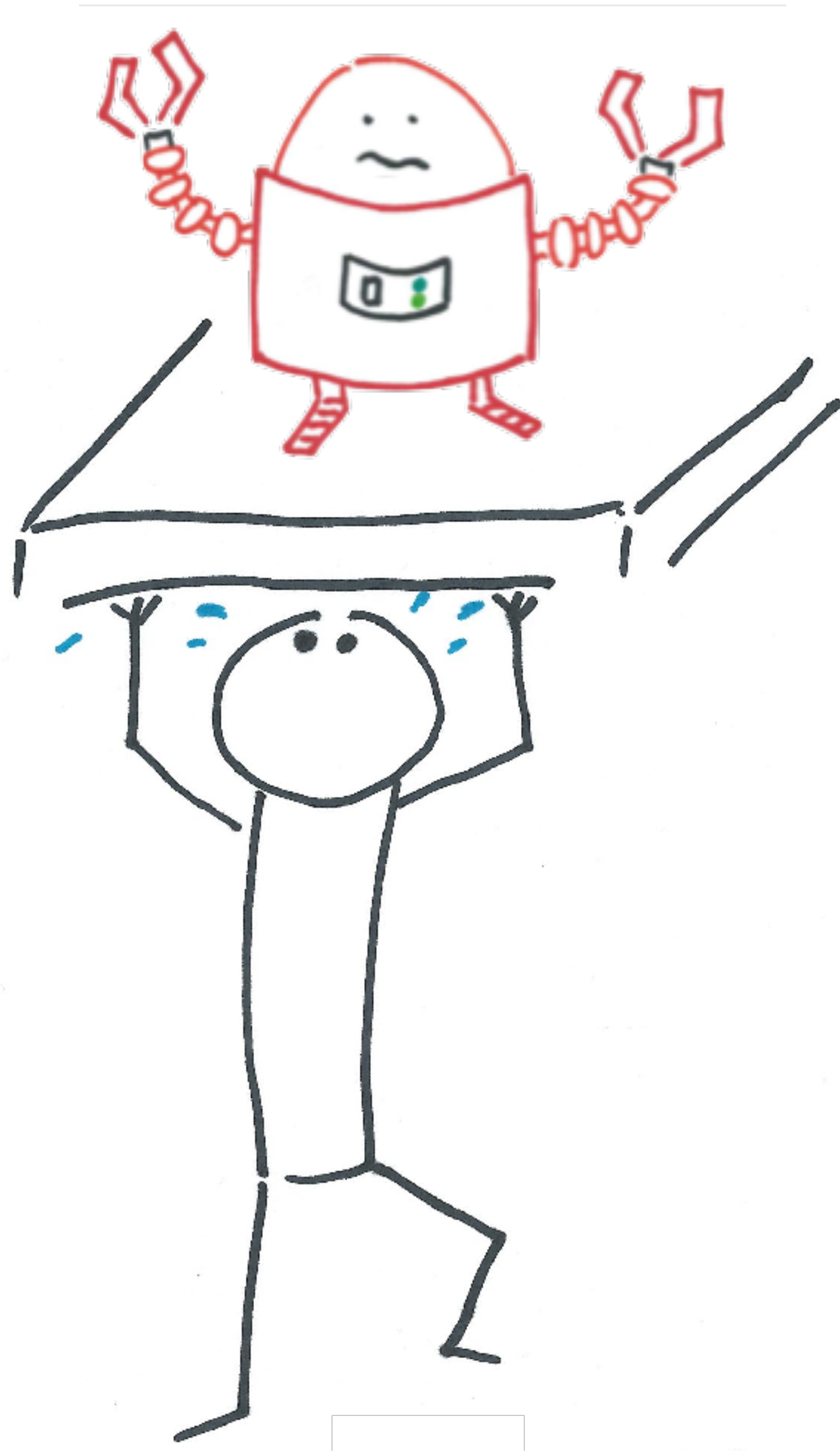
The Reality

Think about
support.



The Reality

Think about
support.



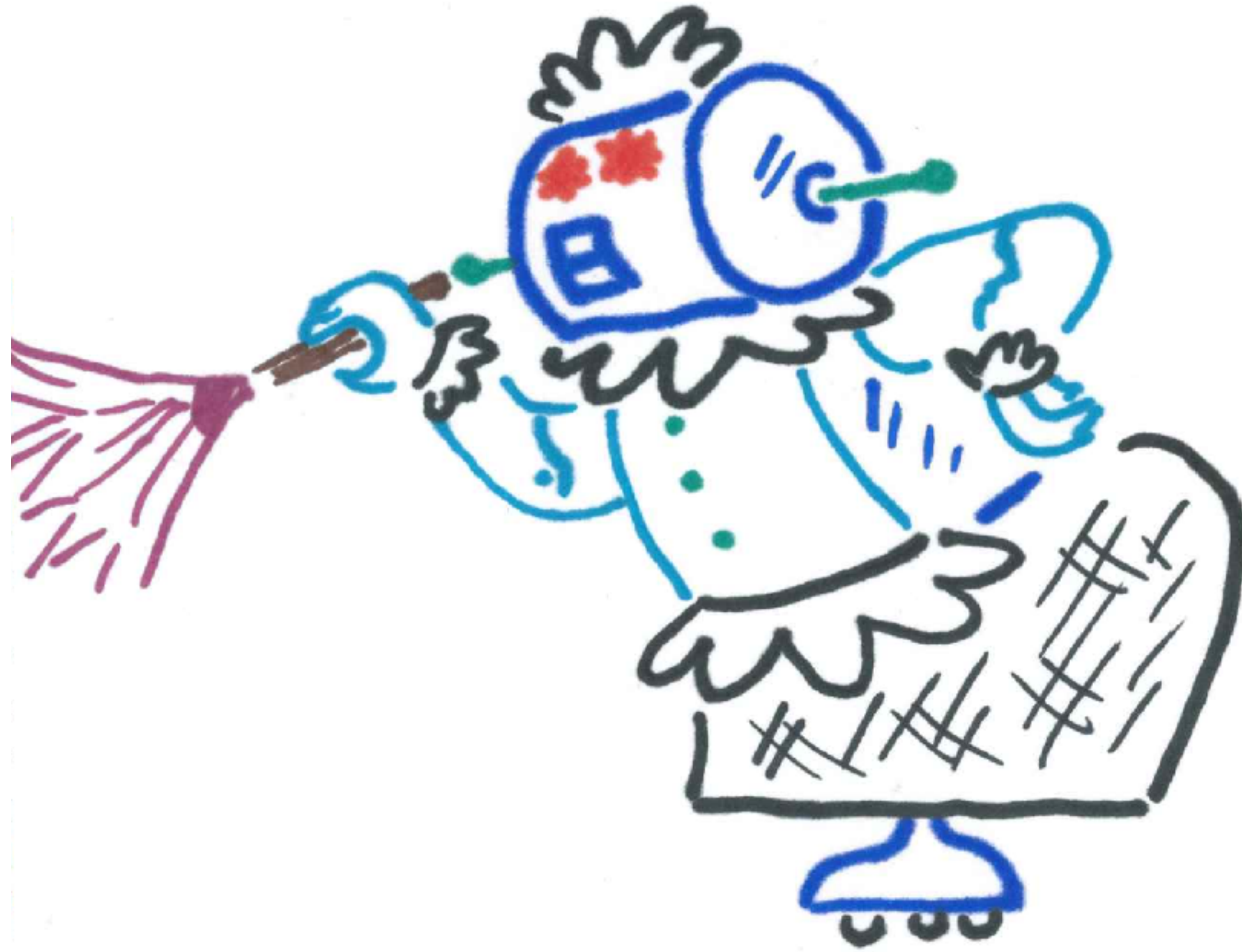
The Reality

Think about support.

Think about robustness.

example

Rosie





*Rosie ate
the world.*



*Rosie ate
the world.*

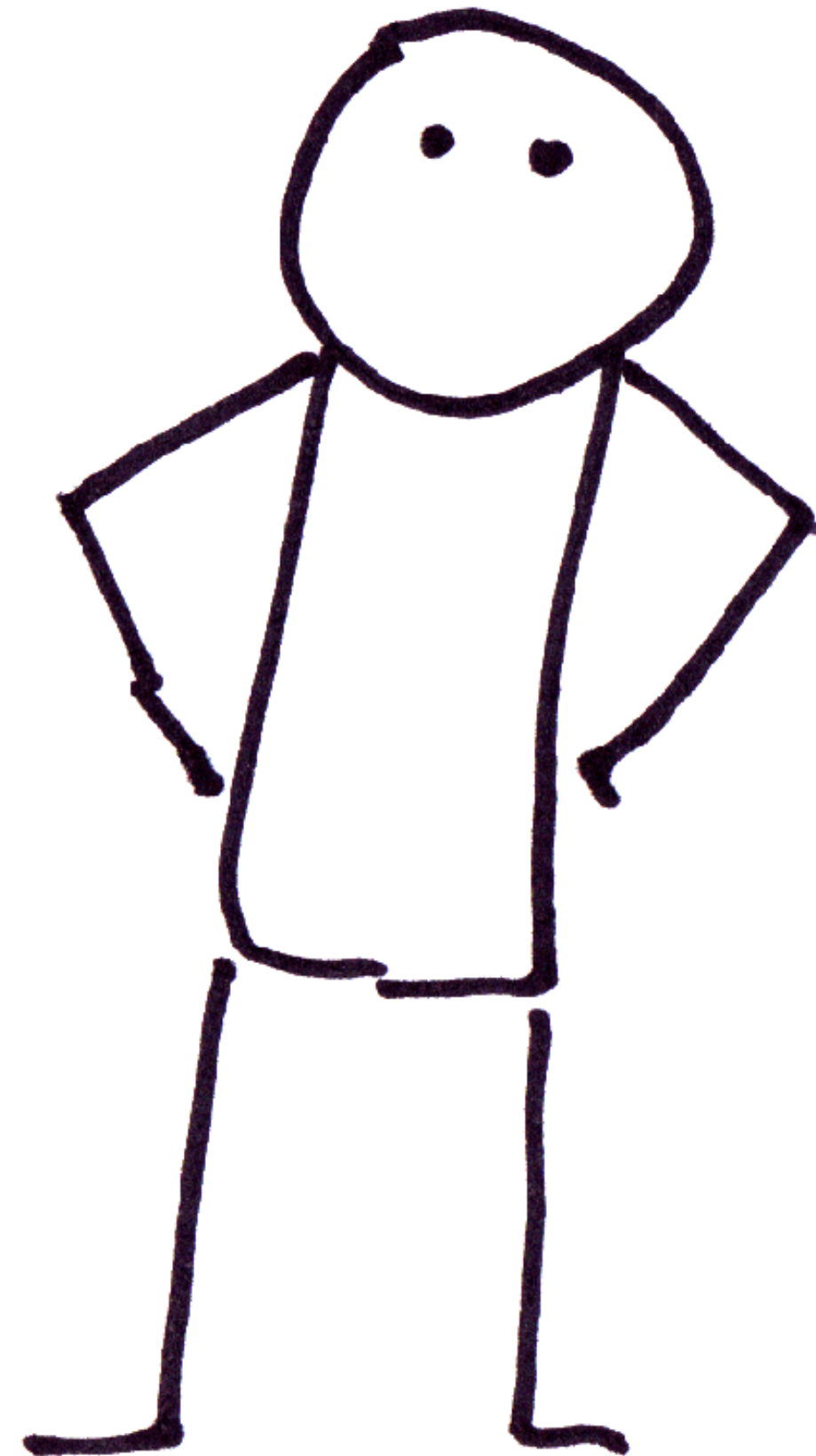
(Well, my corner of it.)



holly's automation principles

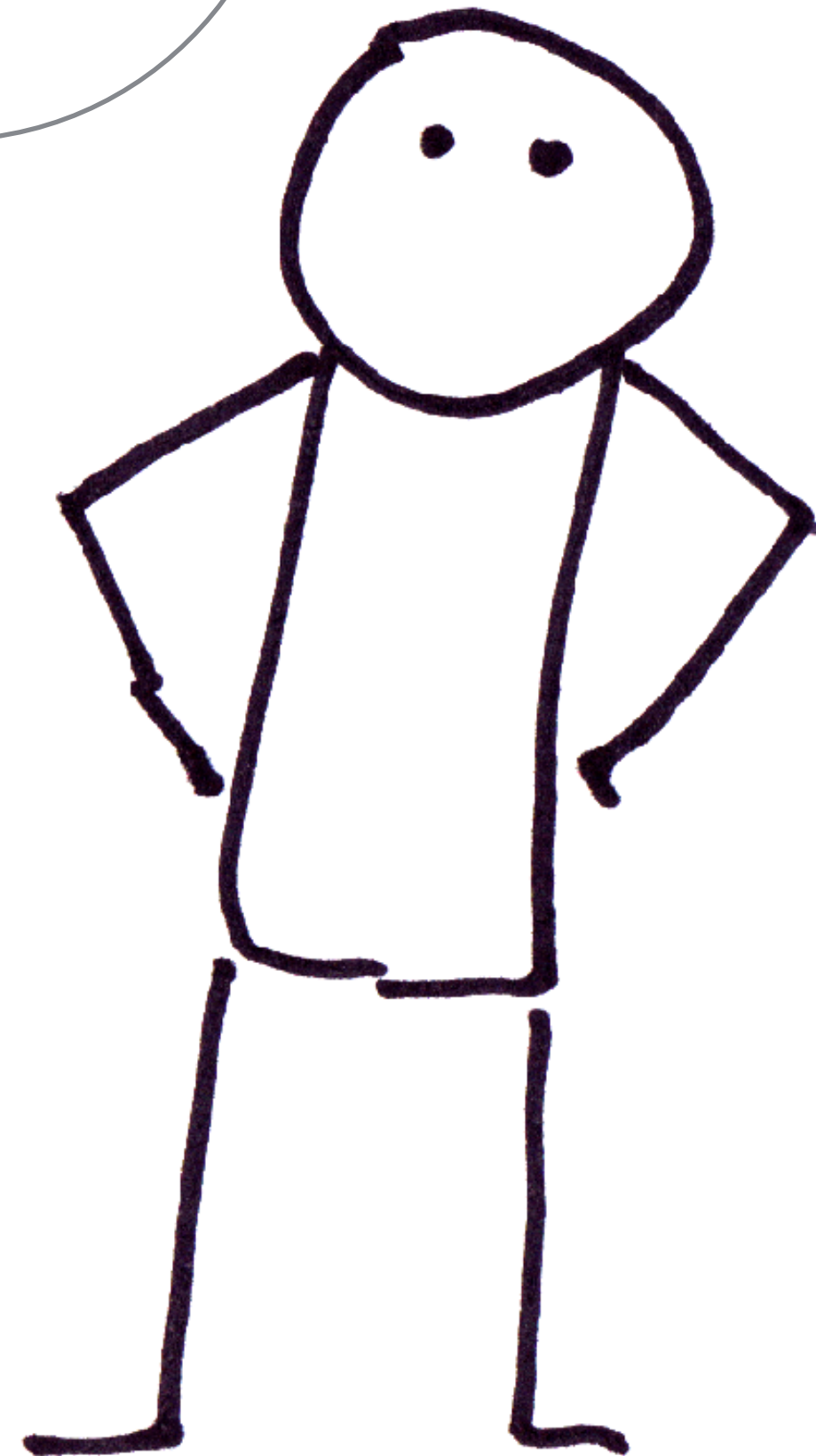
**Give hefty automations
adorable names**

Questions to ask *before* automating



Who can
maintain this
automation?

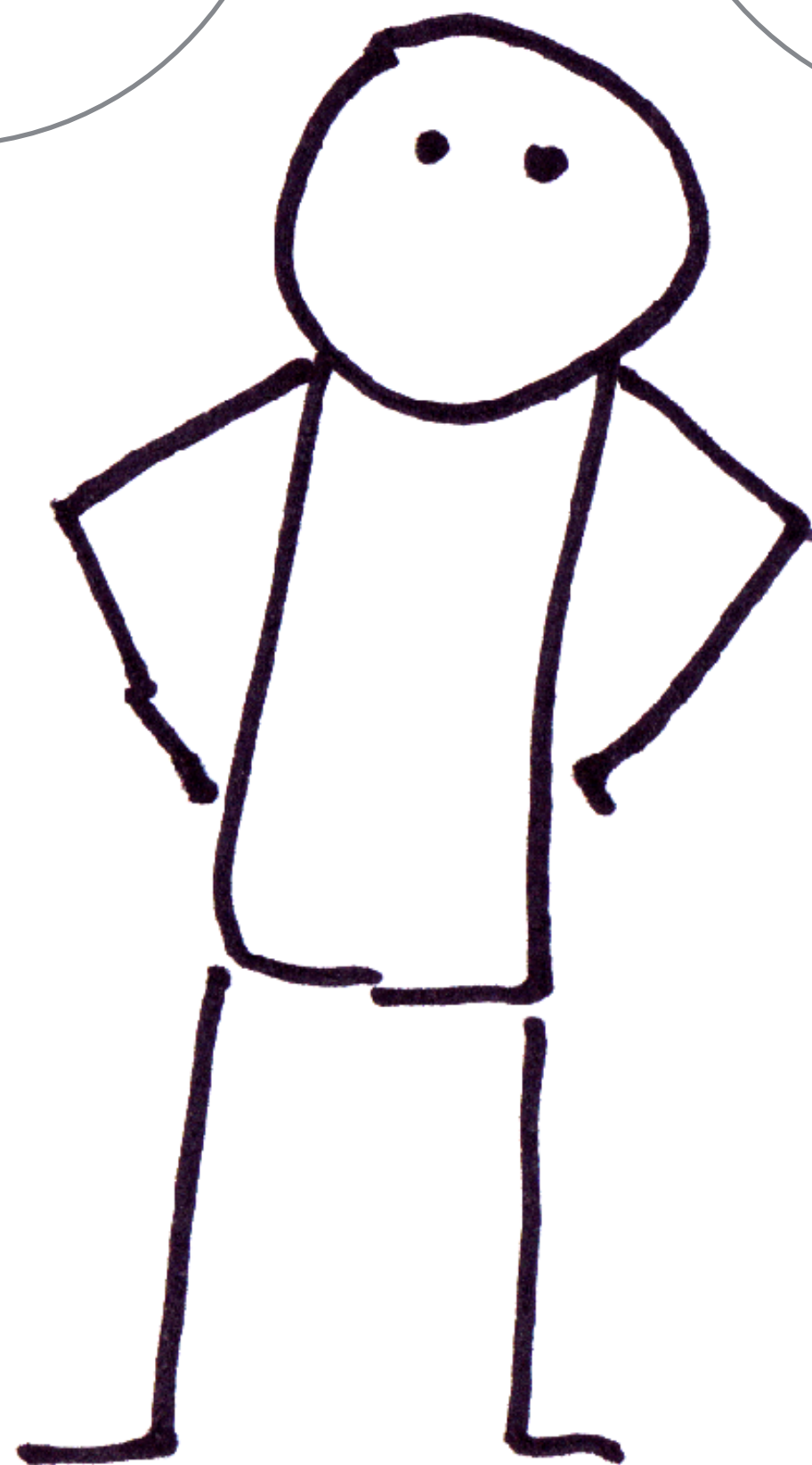
to ask *before*
mating



Who can
maintain this
automation?

to as
mat

Who can
manage this
automation?

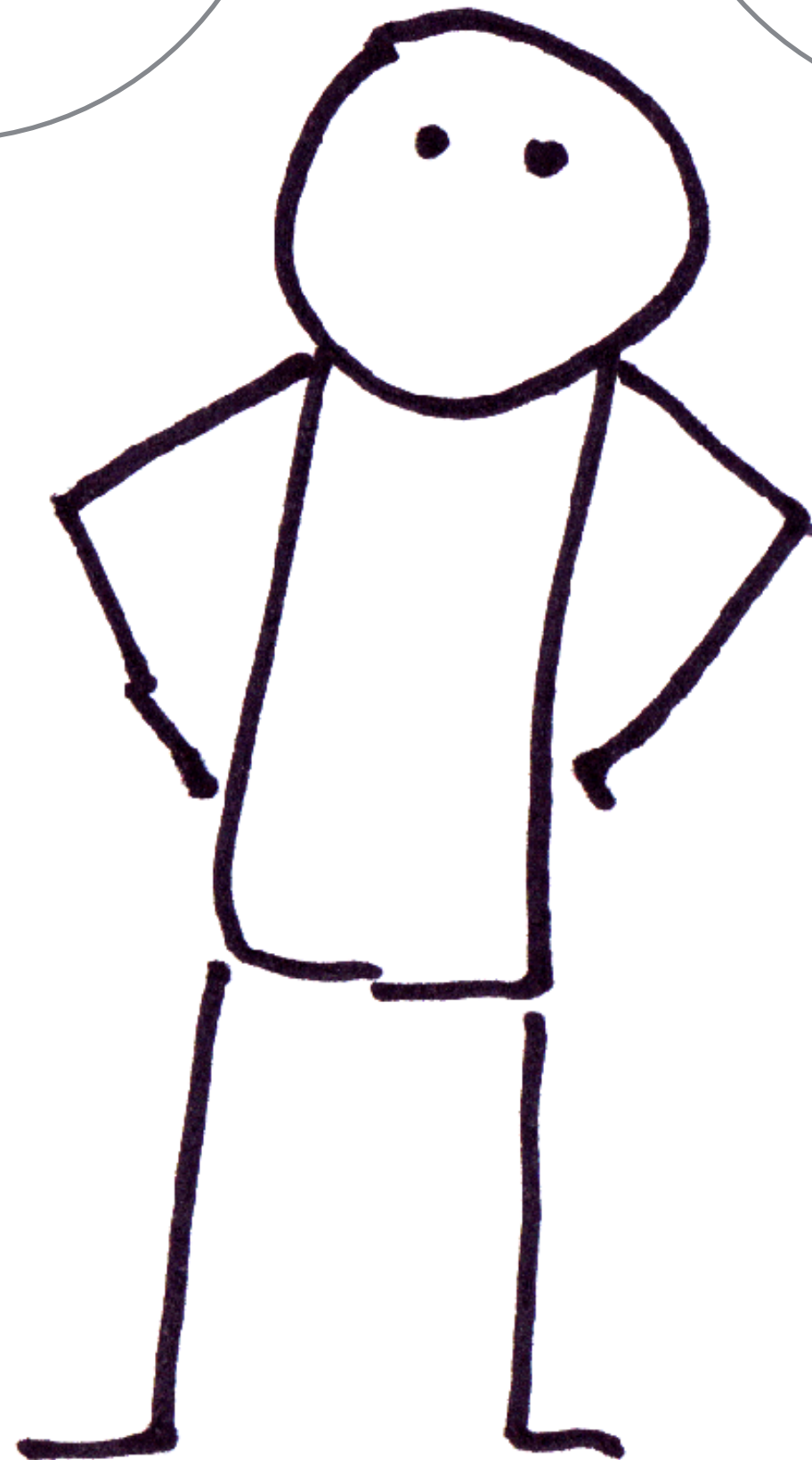


Who can
maintain this
automation?

to as
mat

Who can
manage this
automation?

How much
will it cost?



Who can maintain this automation?

to as
mat

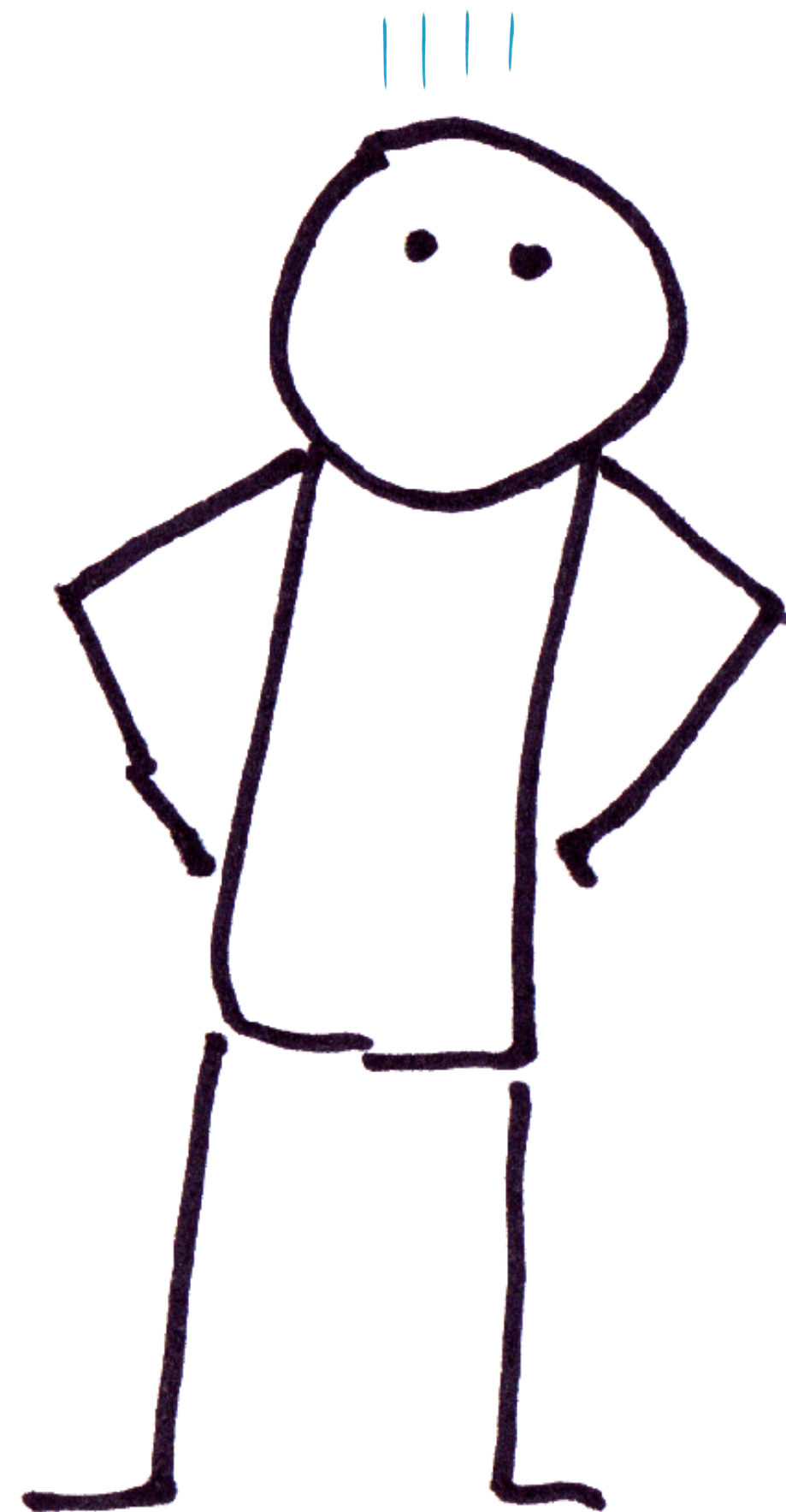
Who can manage this automation?

How much will it cost?



Will it be robust? What if things change?

Checkpoint during automation



How do I
define
success?

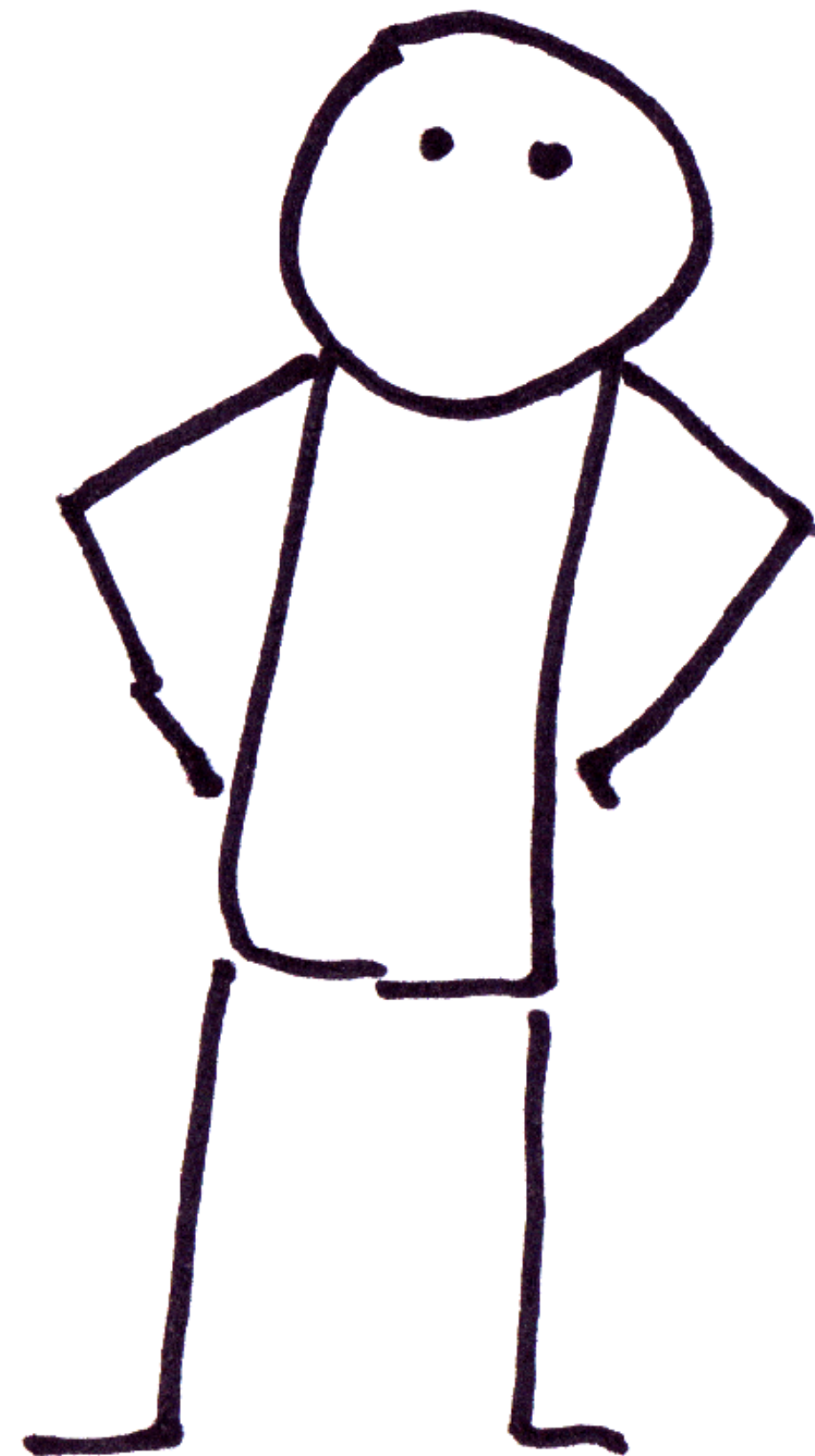
point during
mation



How do I
define
success?

point
mat

Have I got
completion
criteria?

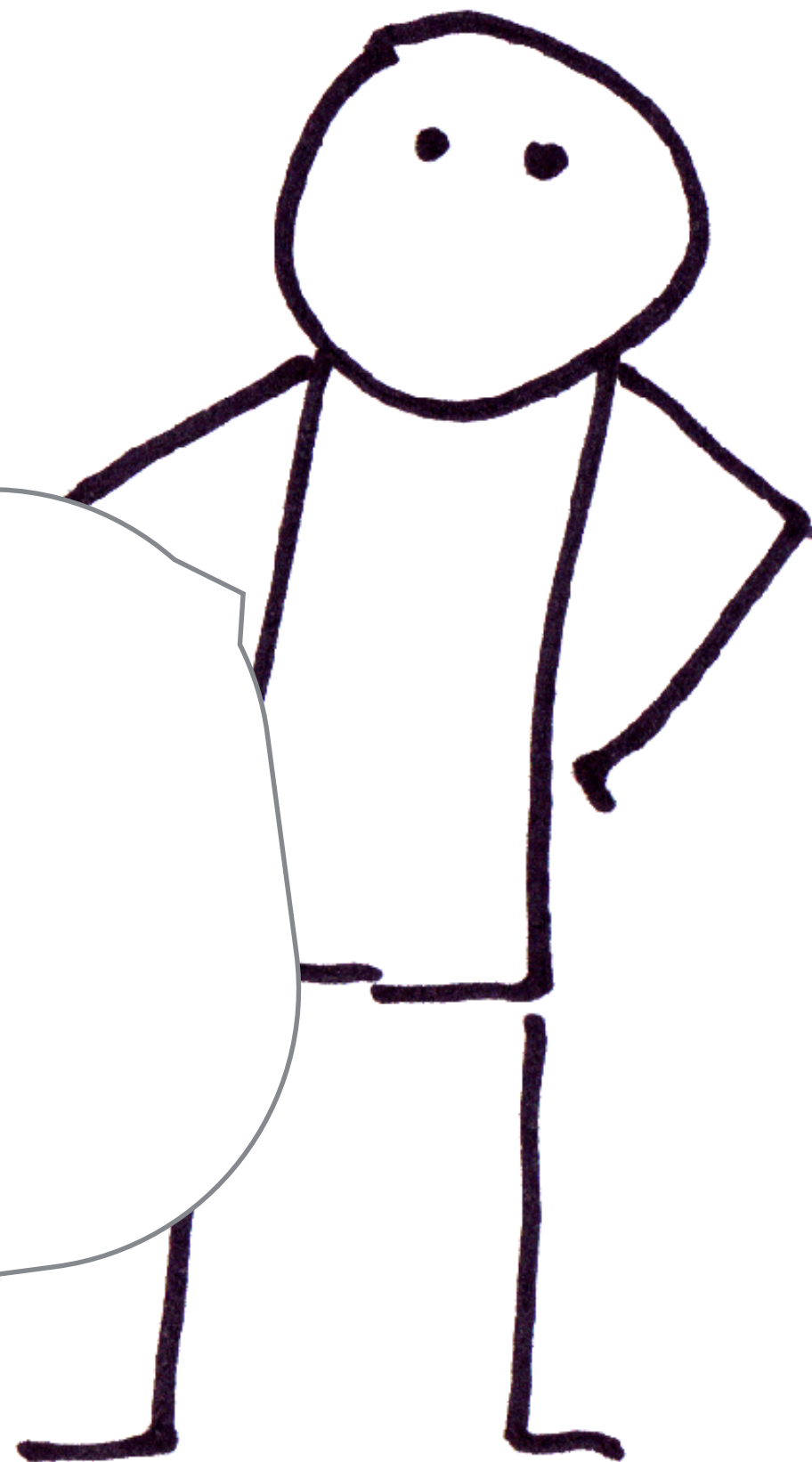


How do I
define
success?

point
mat

Have I got
completion
criteria?

Am I still
saving
time?



How do I
define
success?

point
mat

Have I got
completion
criteria?

Am I still
saving
time?

Is this still
worth it?



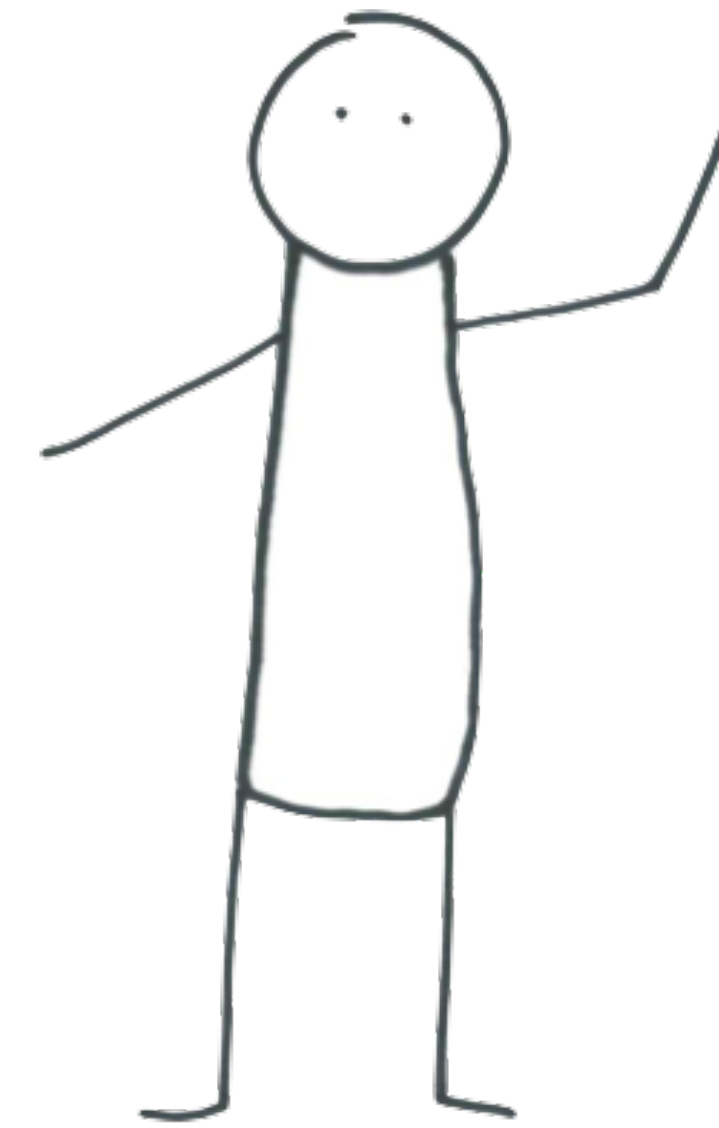
holly's automation principles

**Don't Lose Your
Perspective.**

Remember the bus

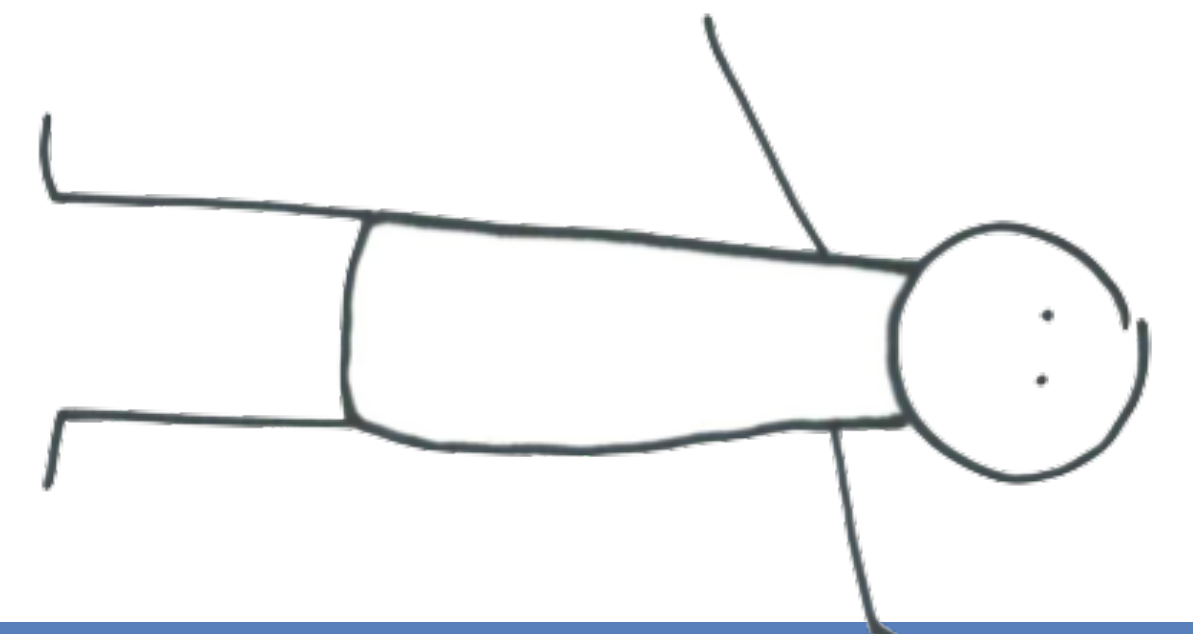
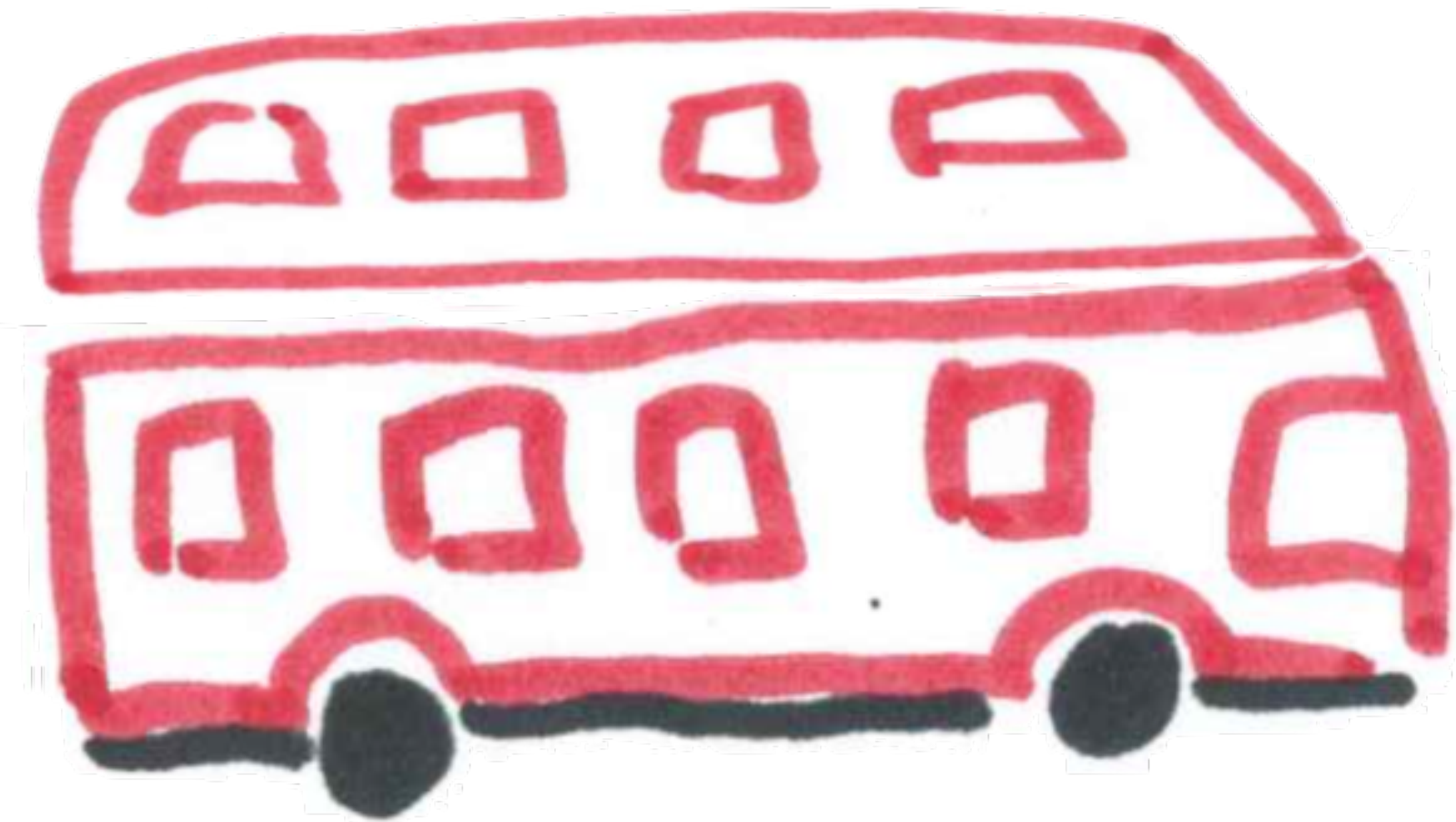
Remember the bus

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



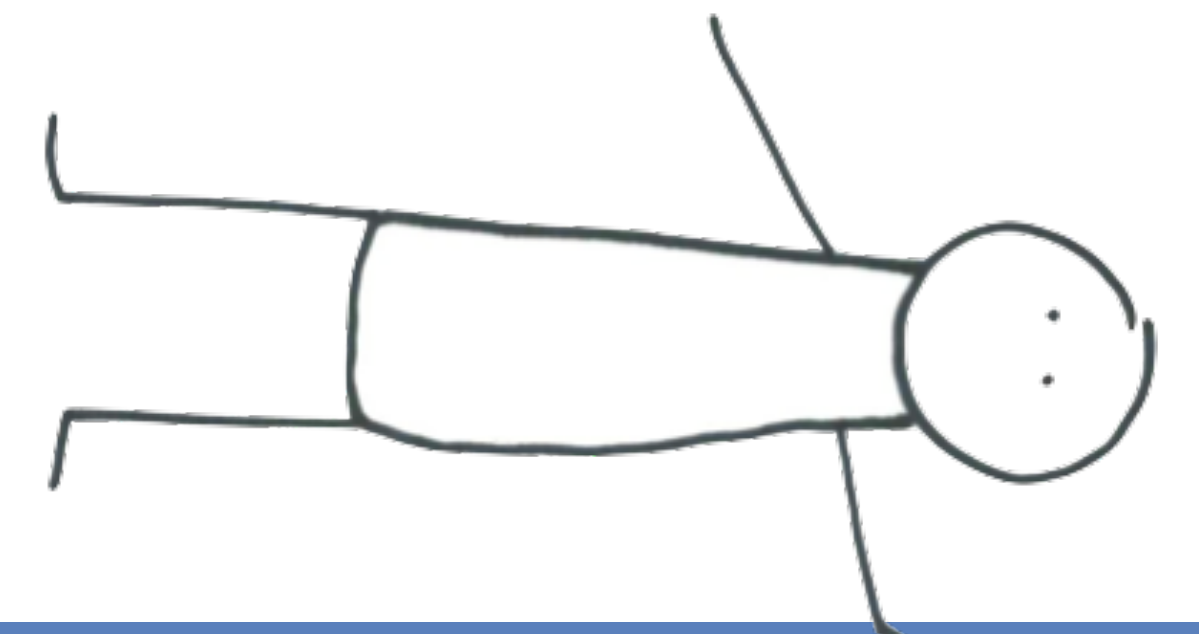
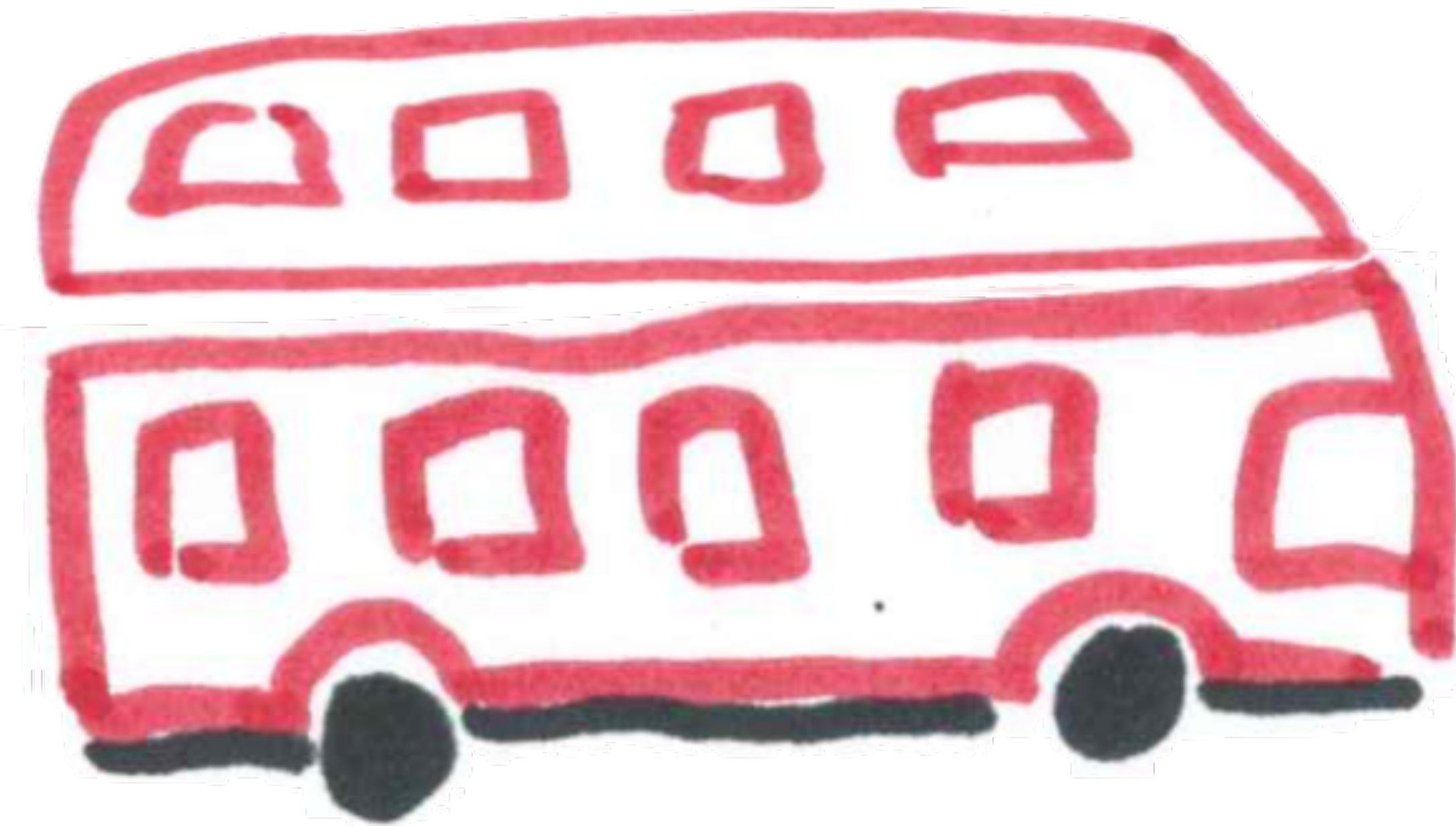
Remember the bus

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

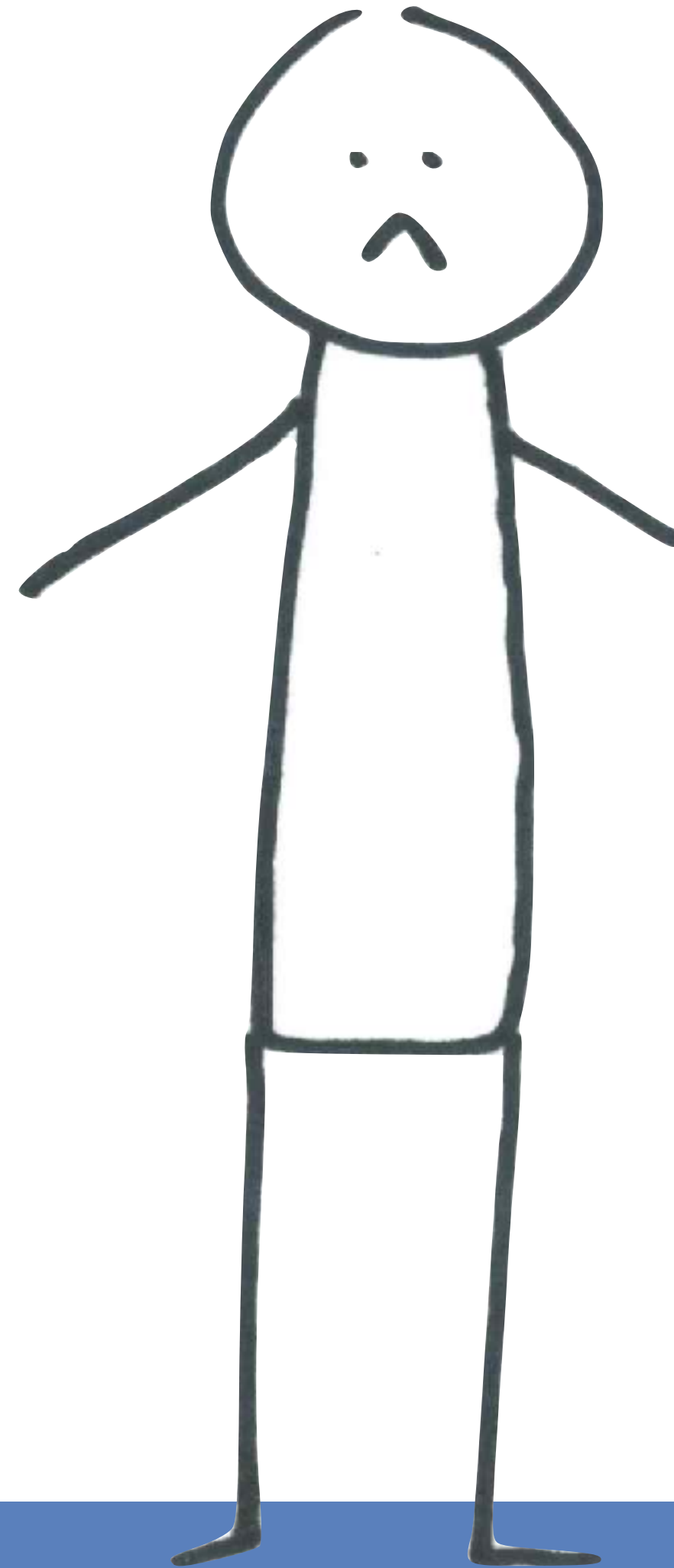


Remember the bus

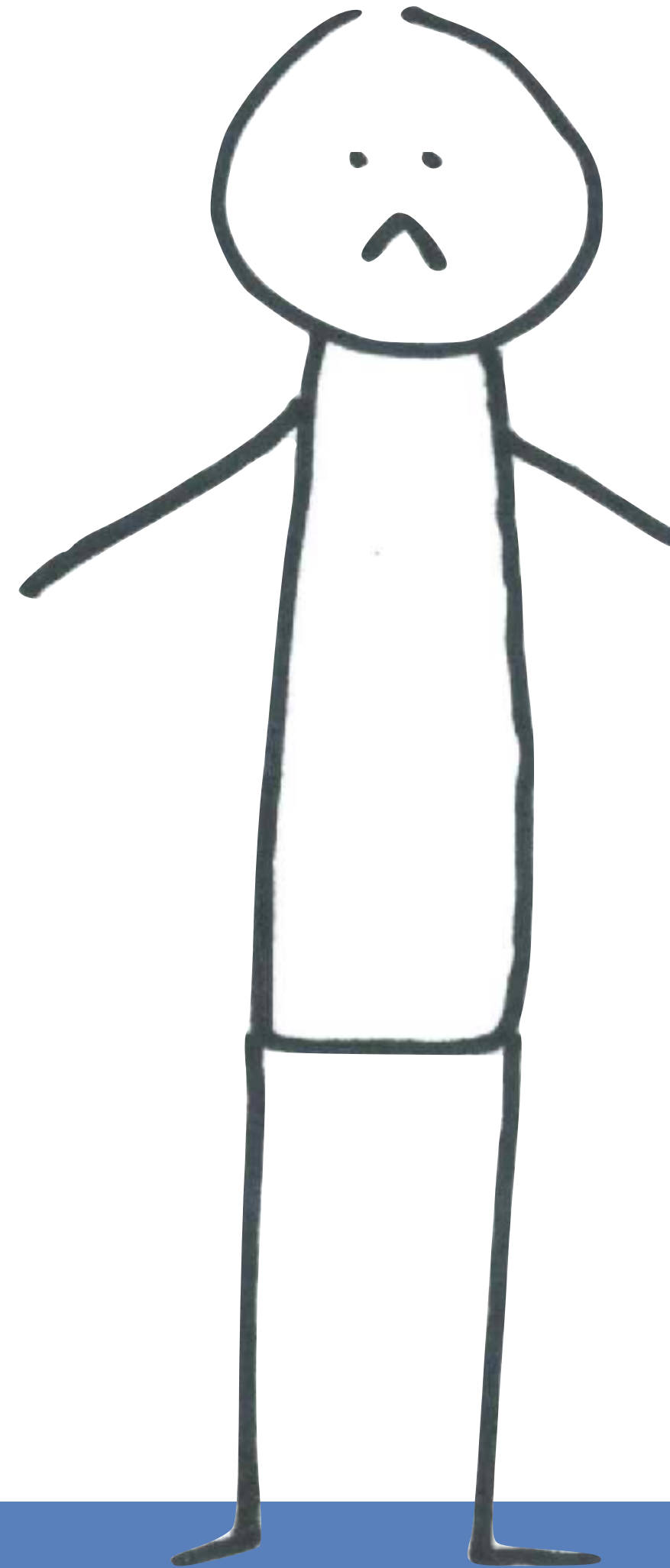
A clever automation isn't so clever if only one person understands it...
... and they get hit by a bus.



Why *not* automate

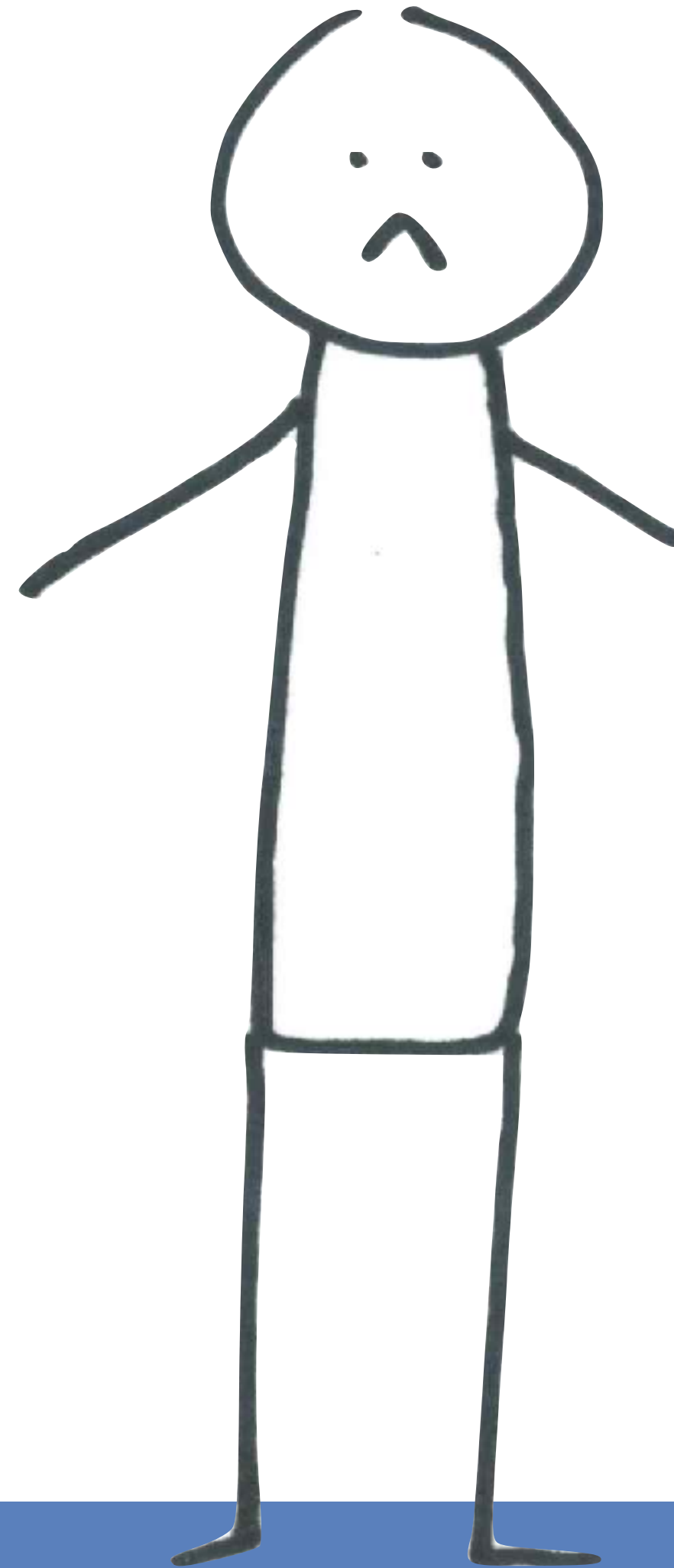


Why *not* automate



Should I automate this process...

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

Functional Area: * Rosie

Severity: * Unassigned

Priority: Must

Tags : Should

Could

Can't



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.

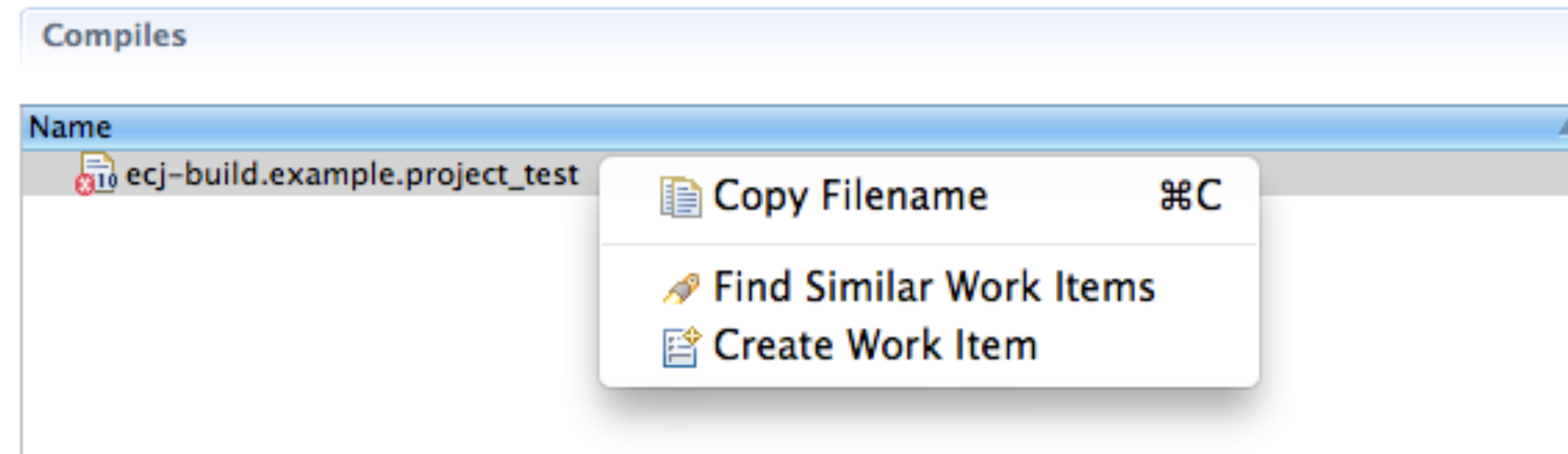


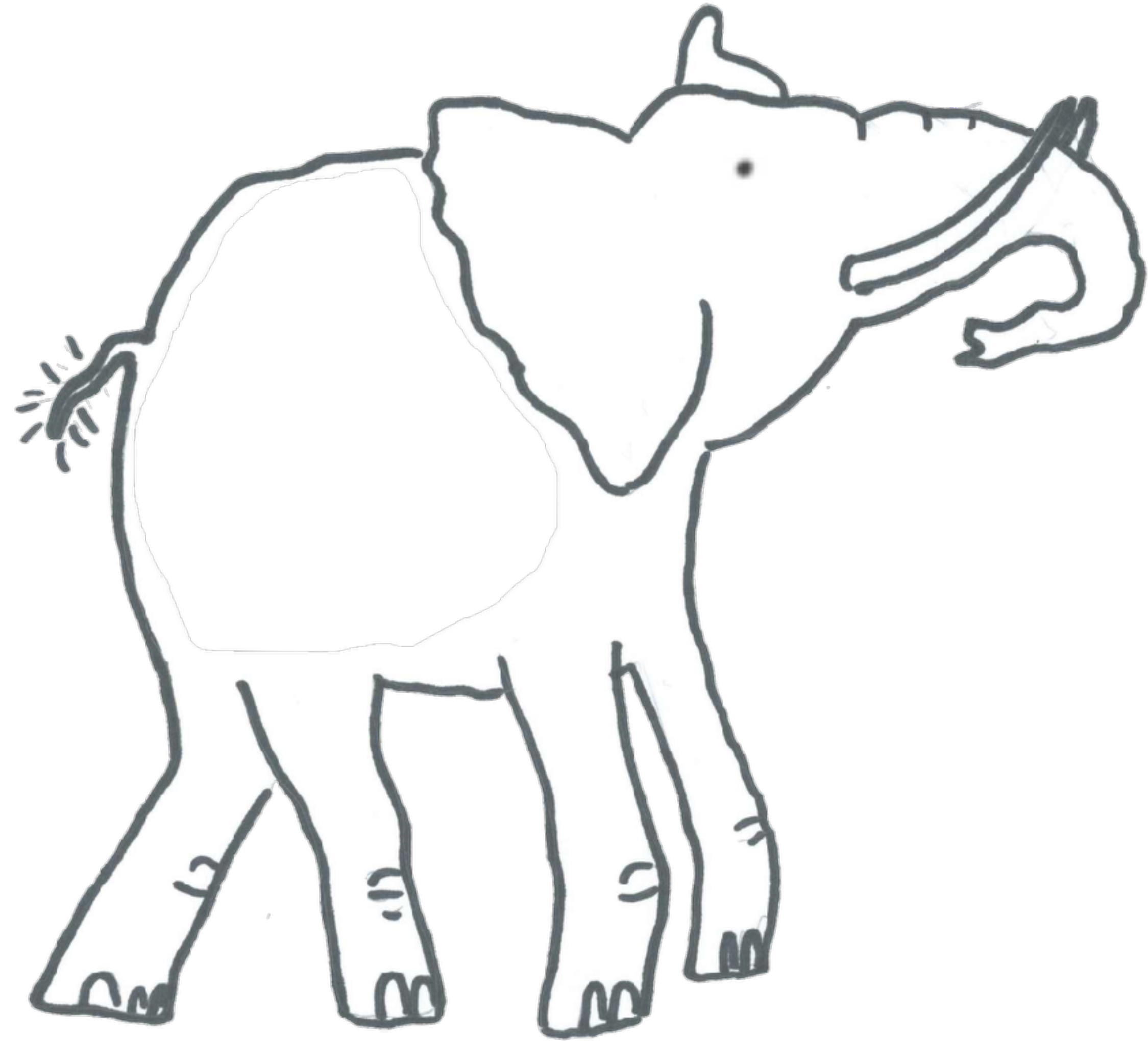


<https://www.youtube.com/watch?v=huInz902gWo>

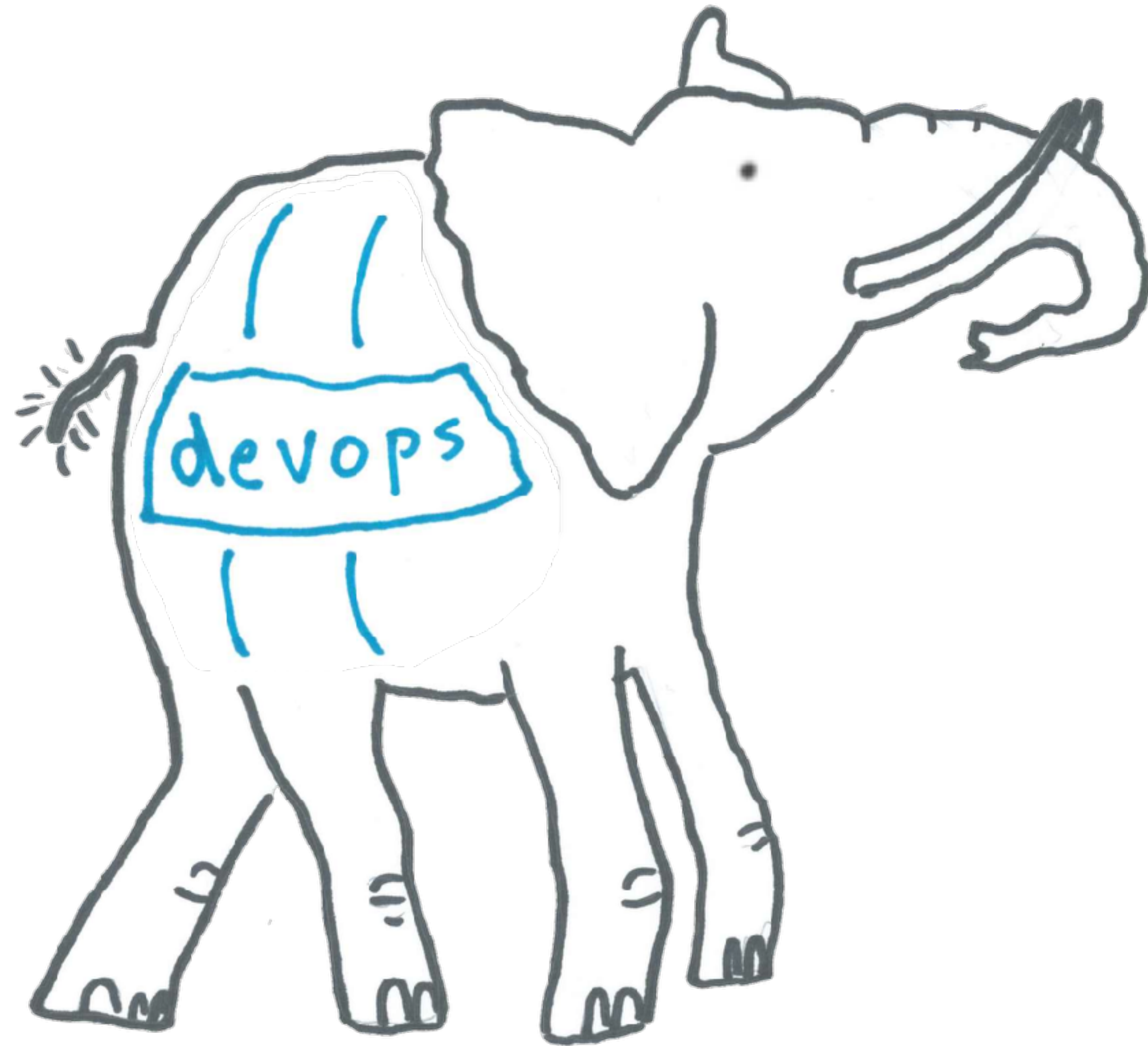
example

Build monitoring





DevOps



IBM Bluemix Garage Method

HOME

Innovate. Disrupt. Transform. Fast. @Enterprise Scale

Combine industry best practices on Design Thinking, Lean Startup, Agile Development, DevOps, and Cloud to build and deliver innovative solutions.

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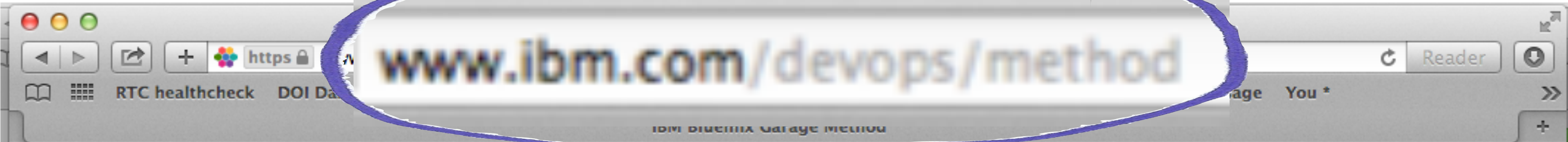
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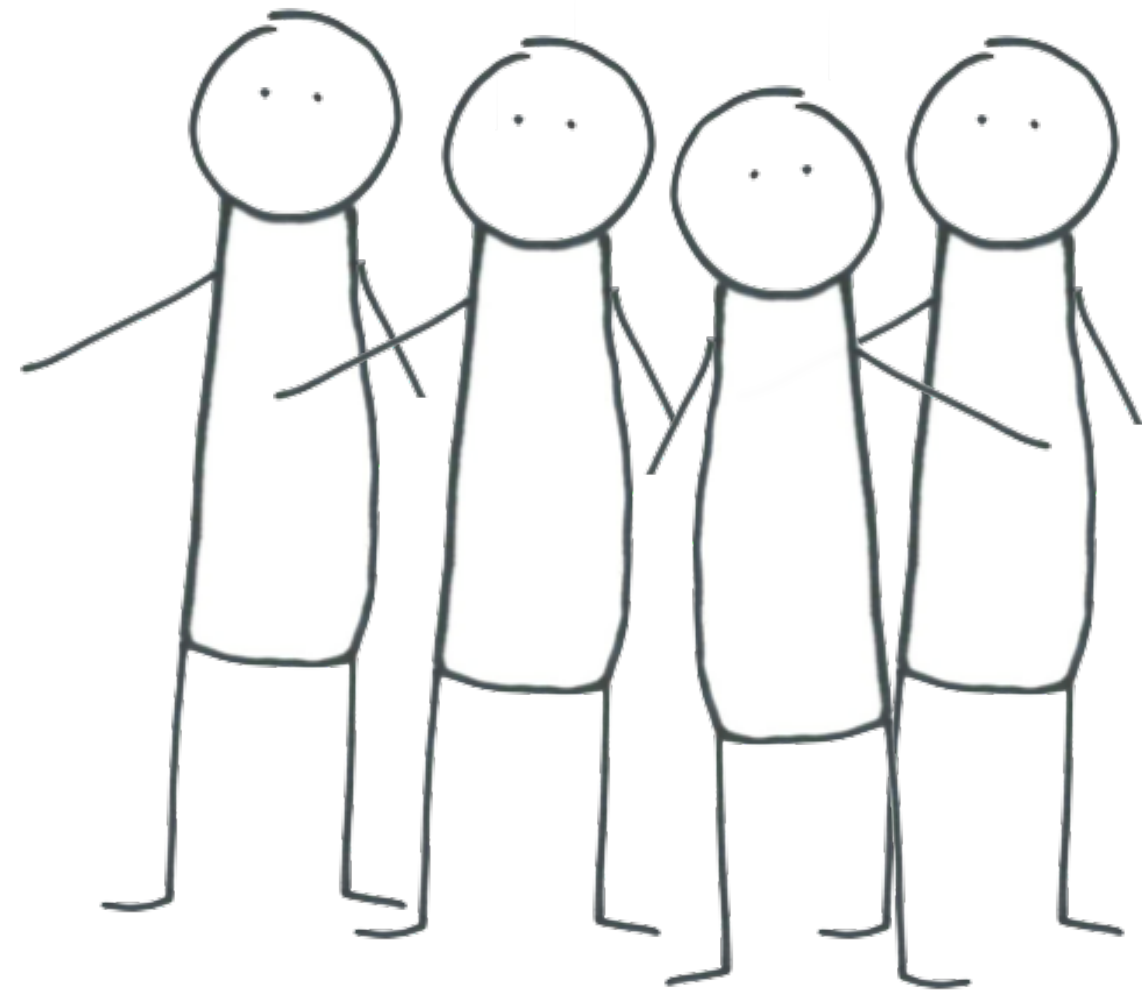
Combine industry best practices on Design Thinking, Lean Startup, Agile Development, DevOps, and Cloud to build and deliver innovative solutions.

Transform your organization

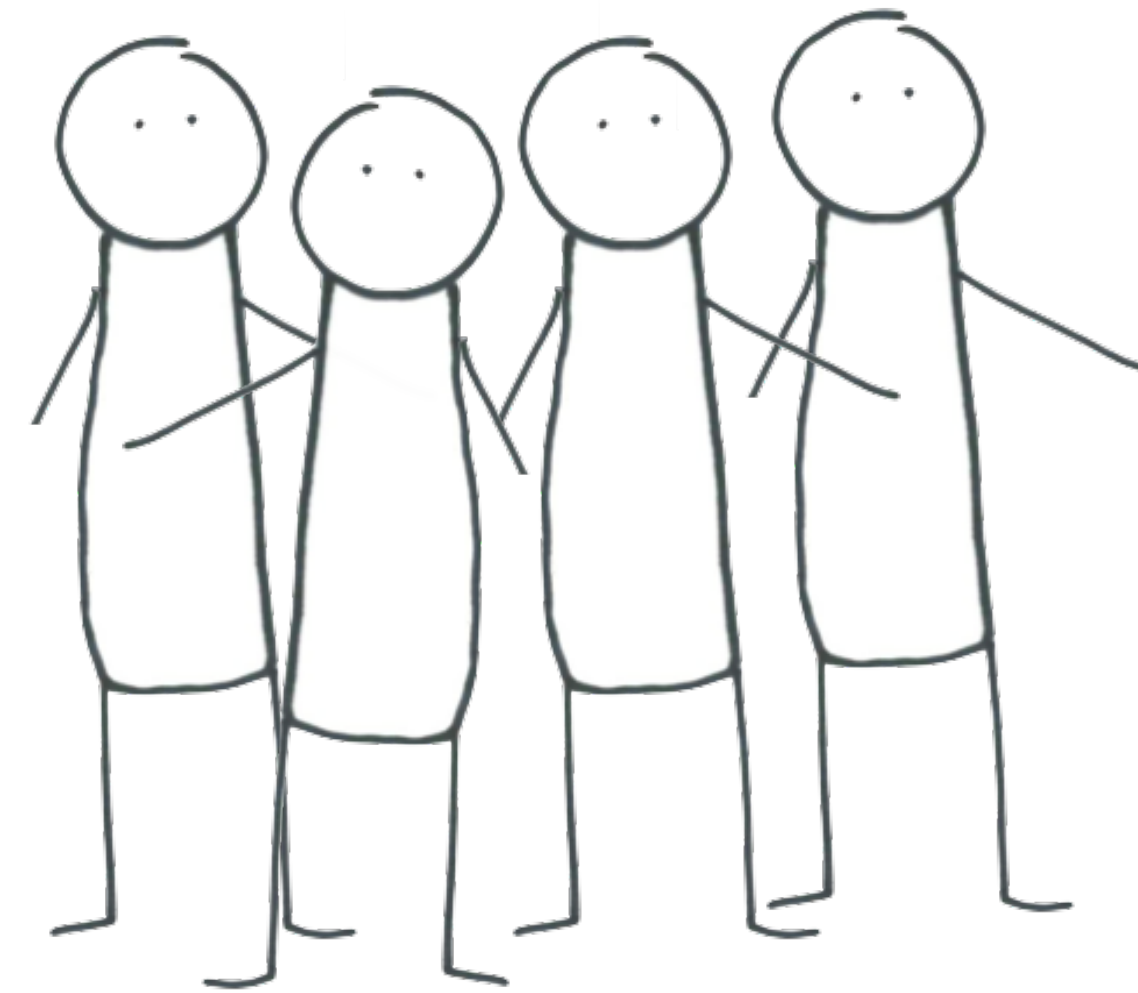
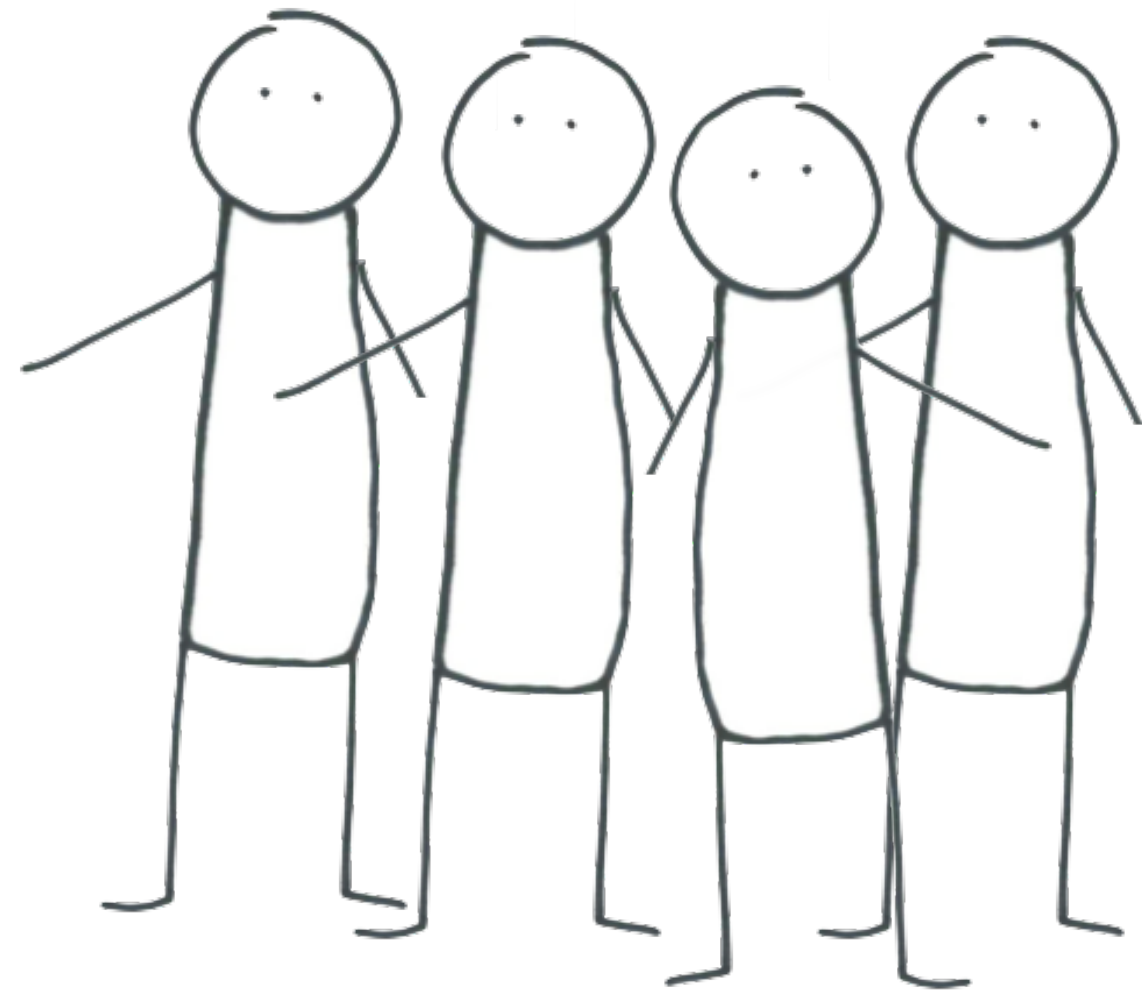
What **is** DevOps?

Old way

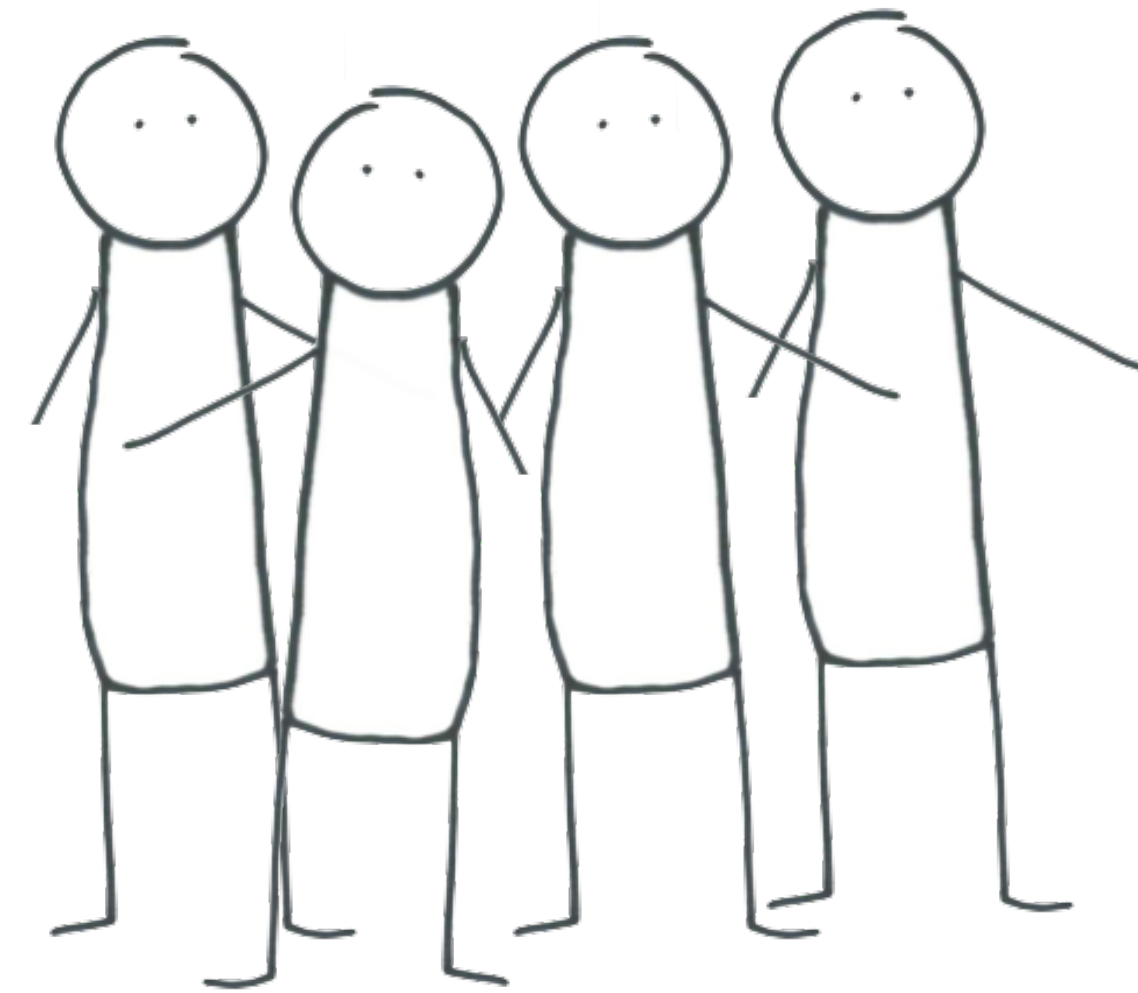
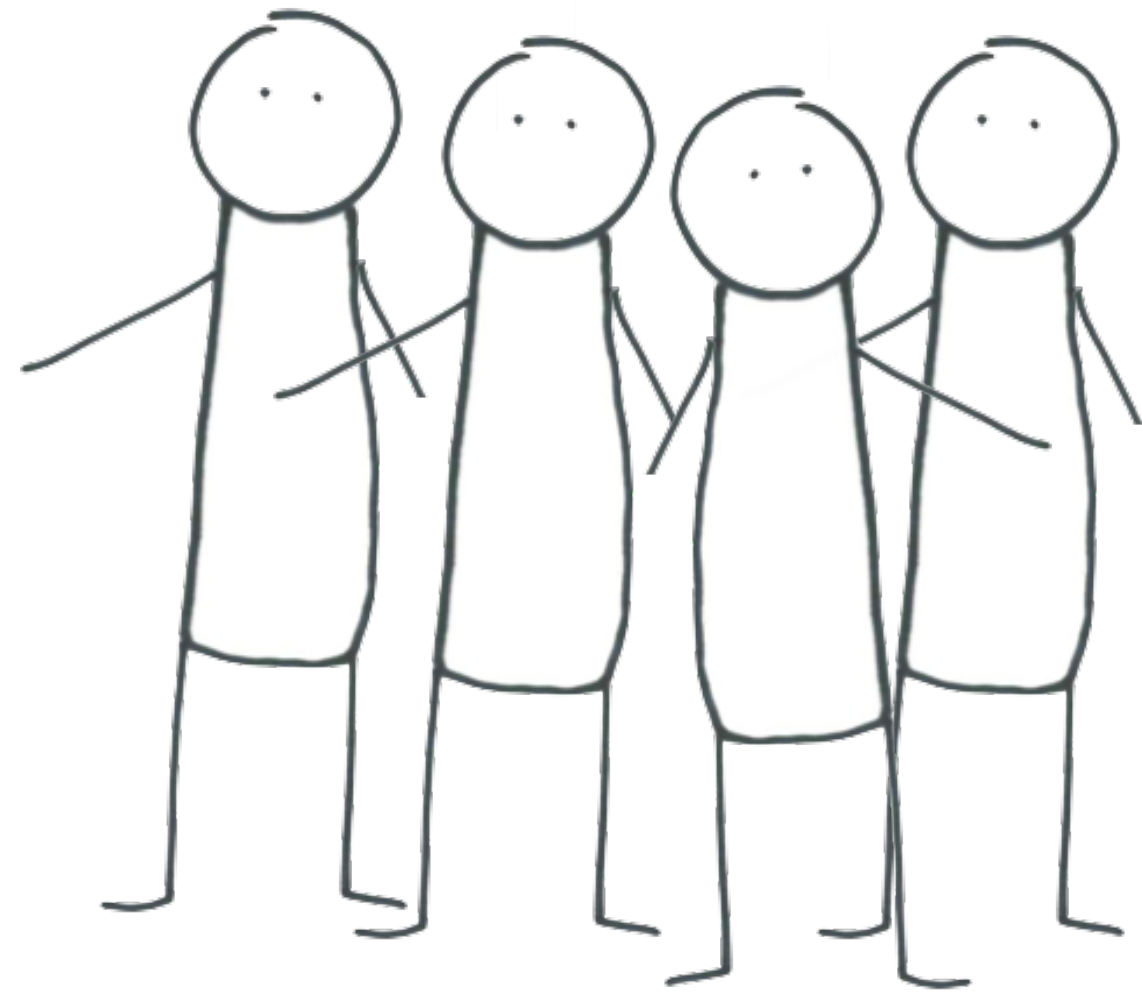
Old way



Old way

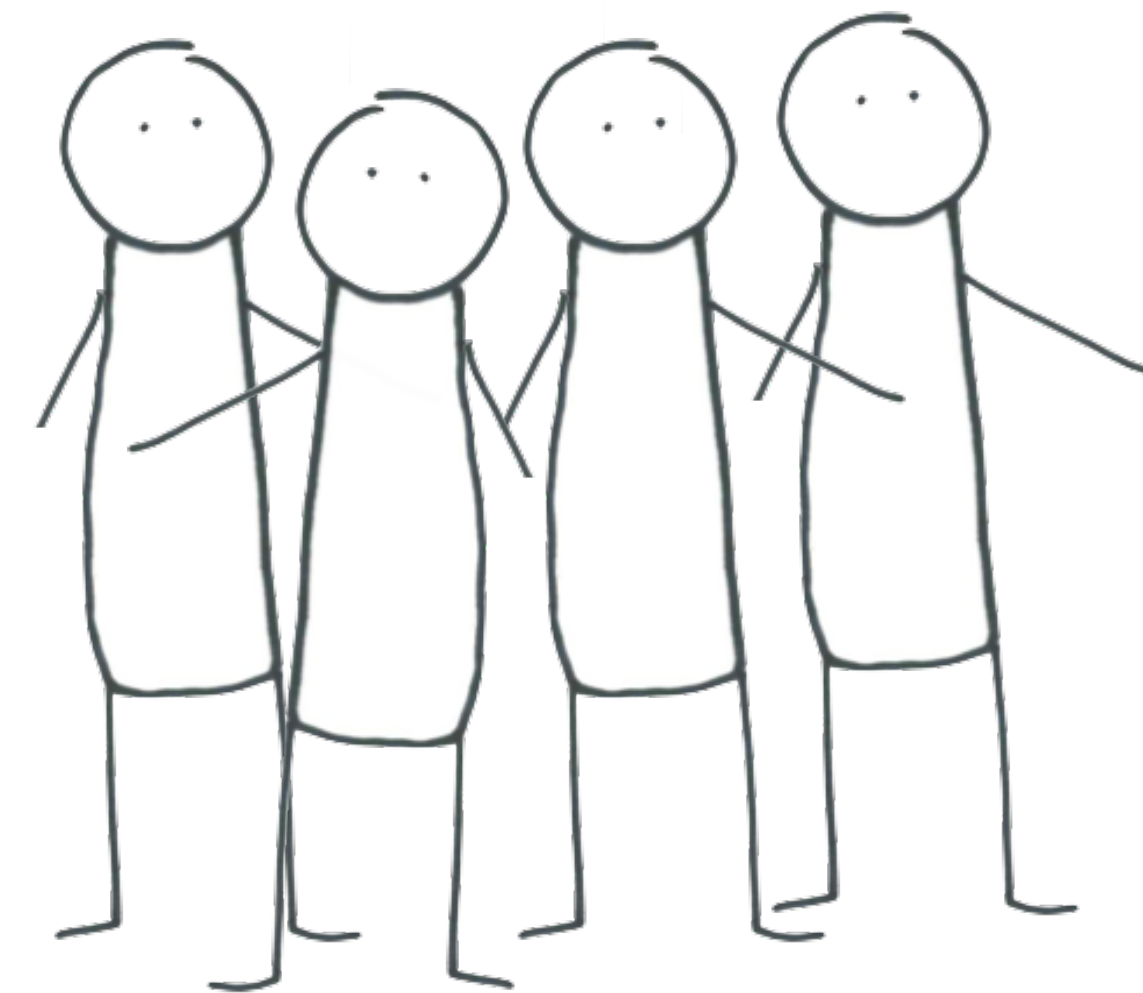
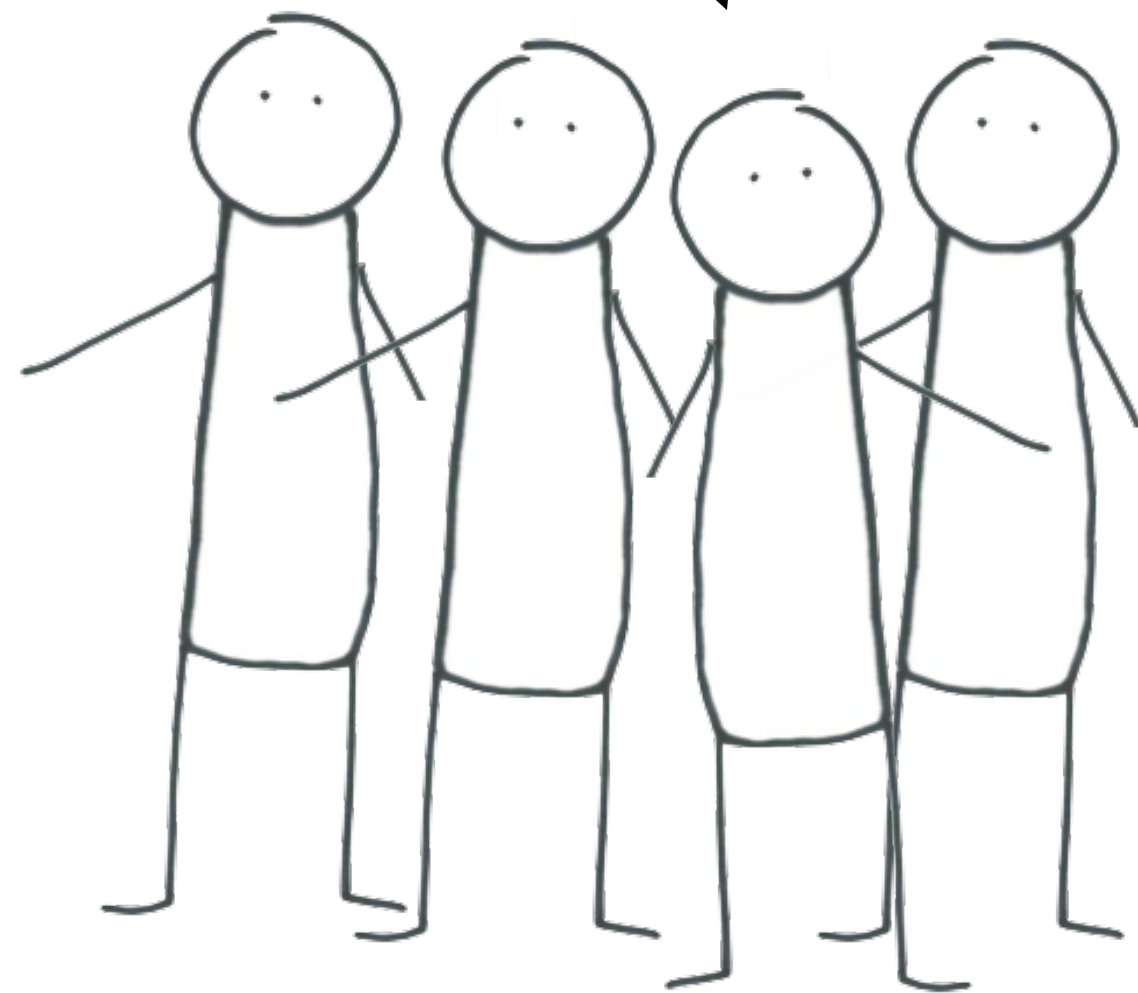


Old way



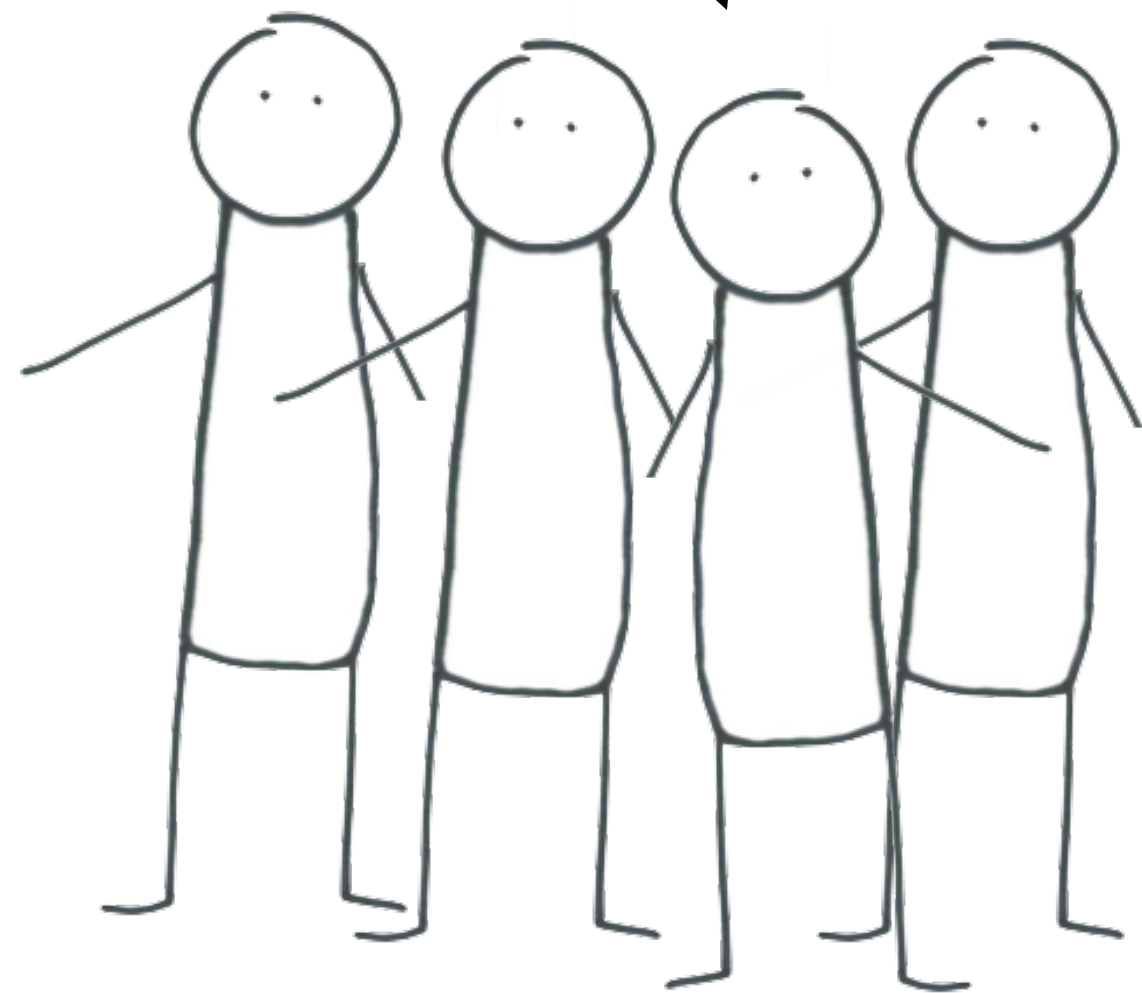
Old way

People who break stuff

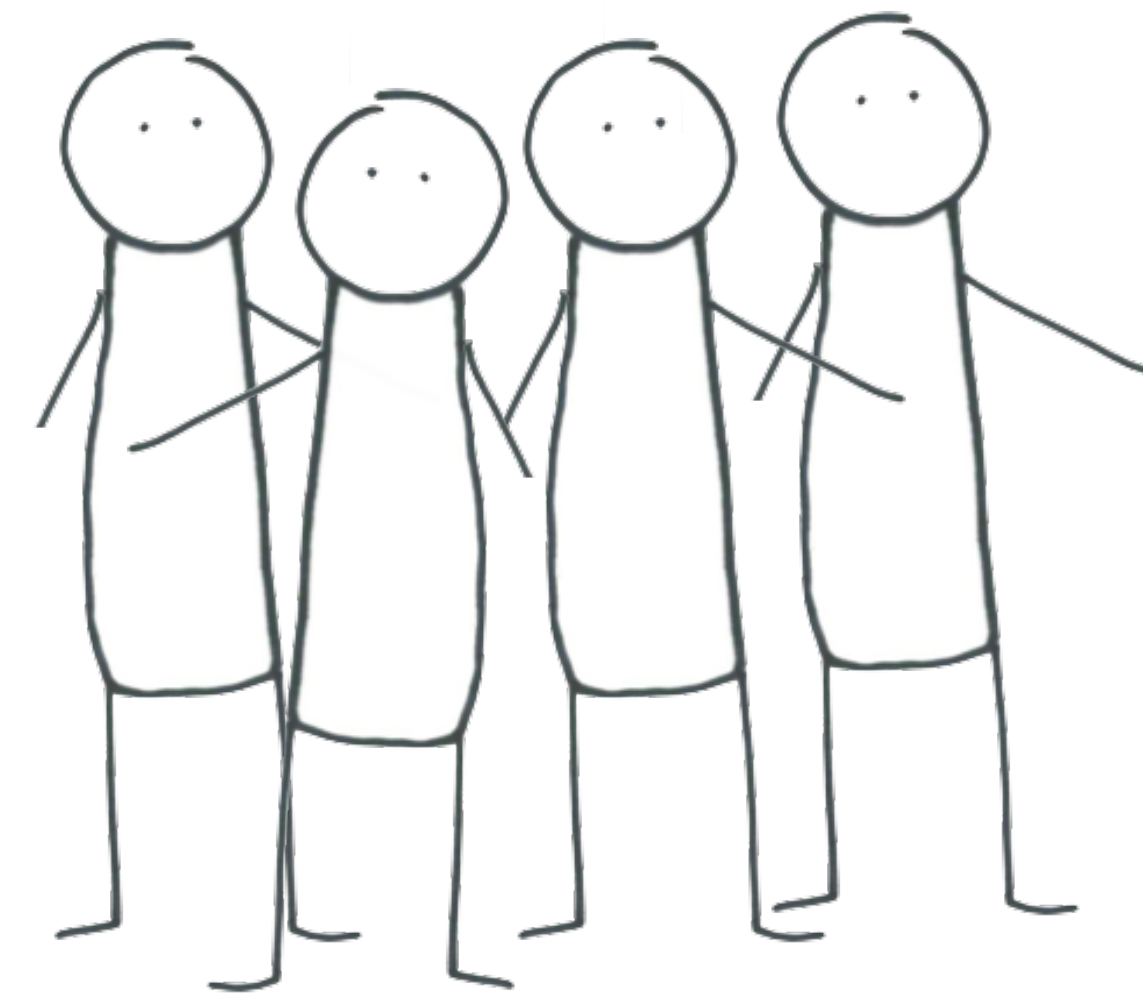


Old way

People who break stuff

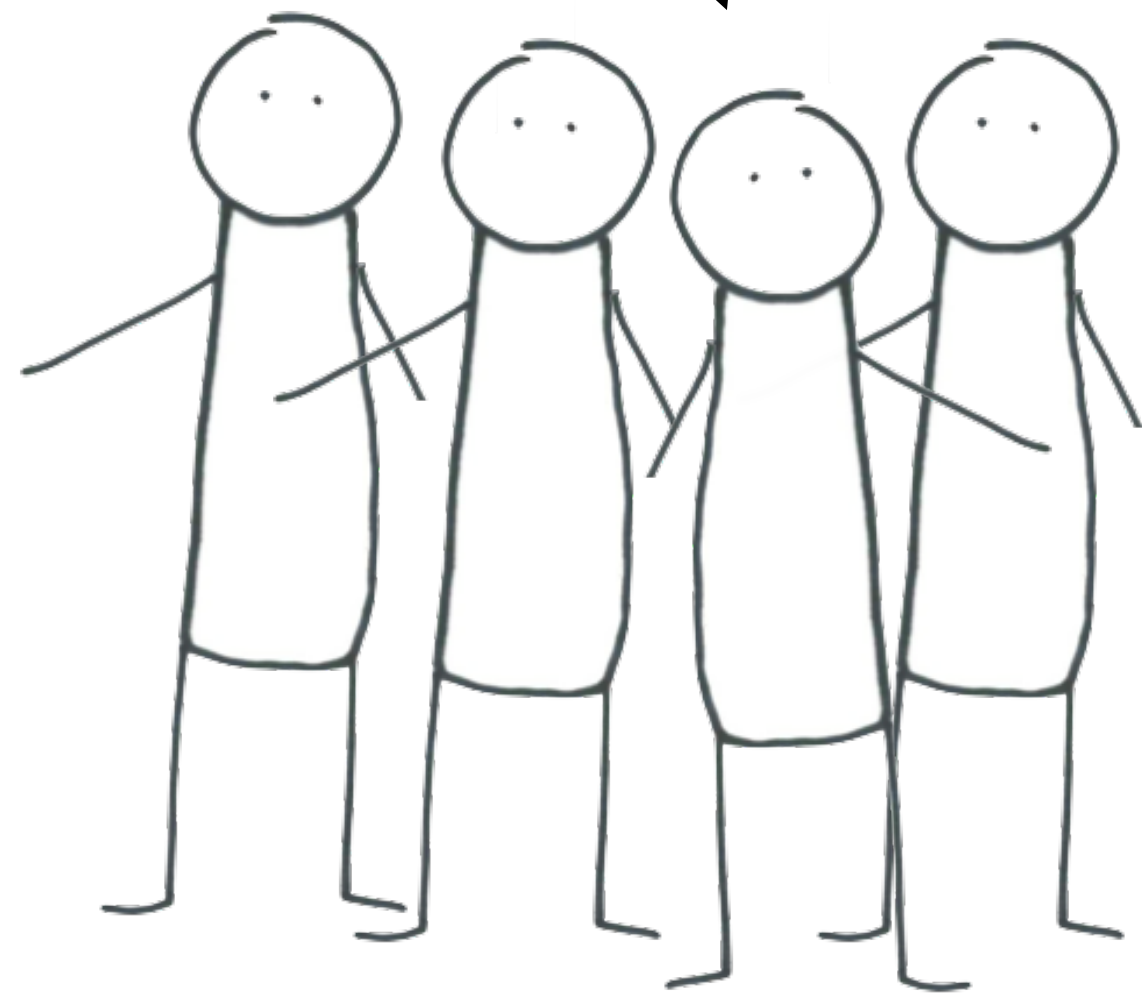


“developers”



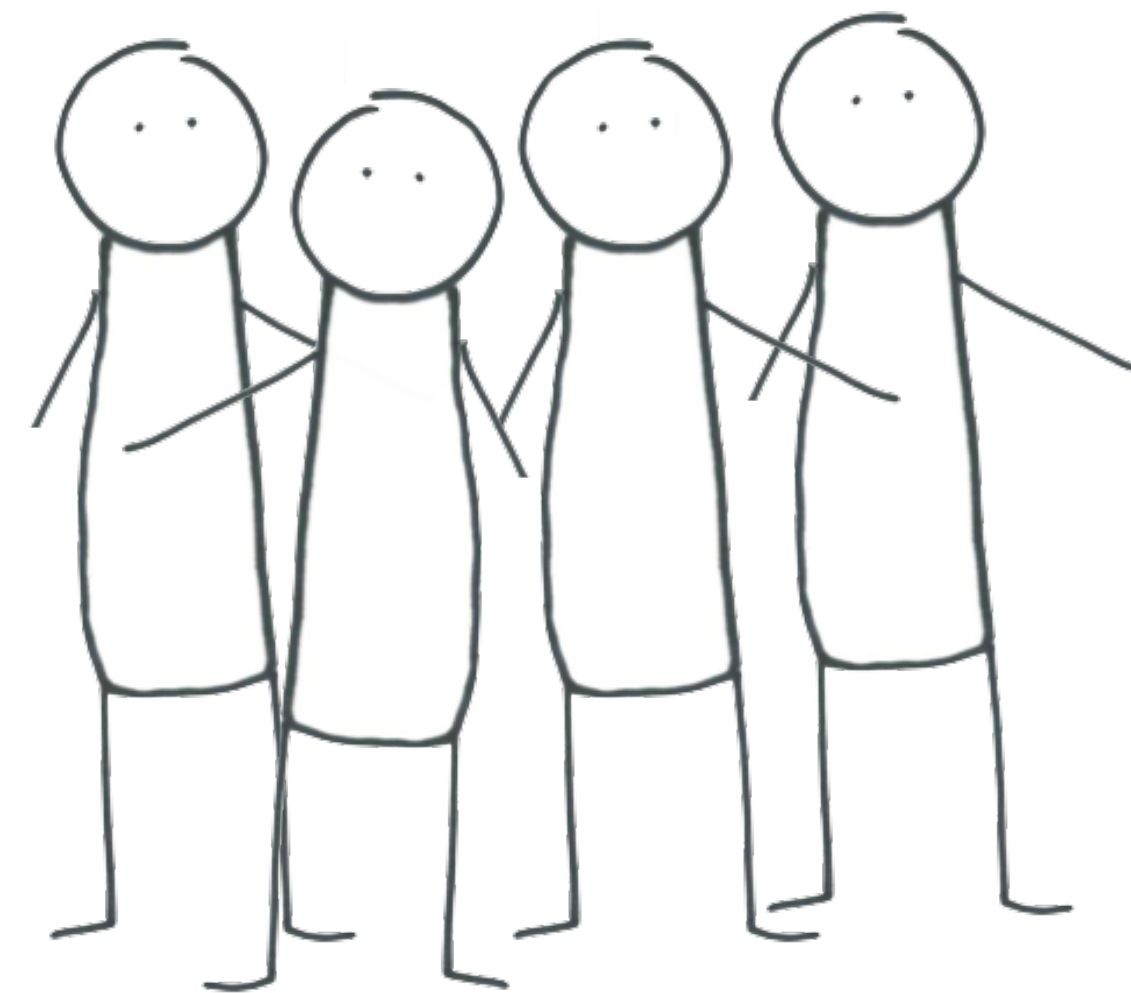
Old way

People who break stuff



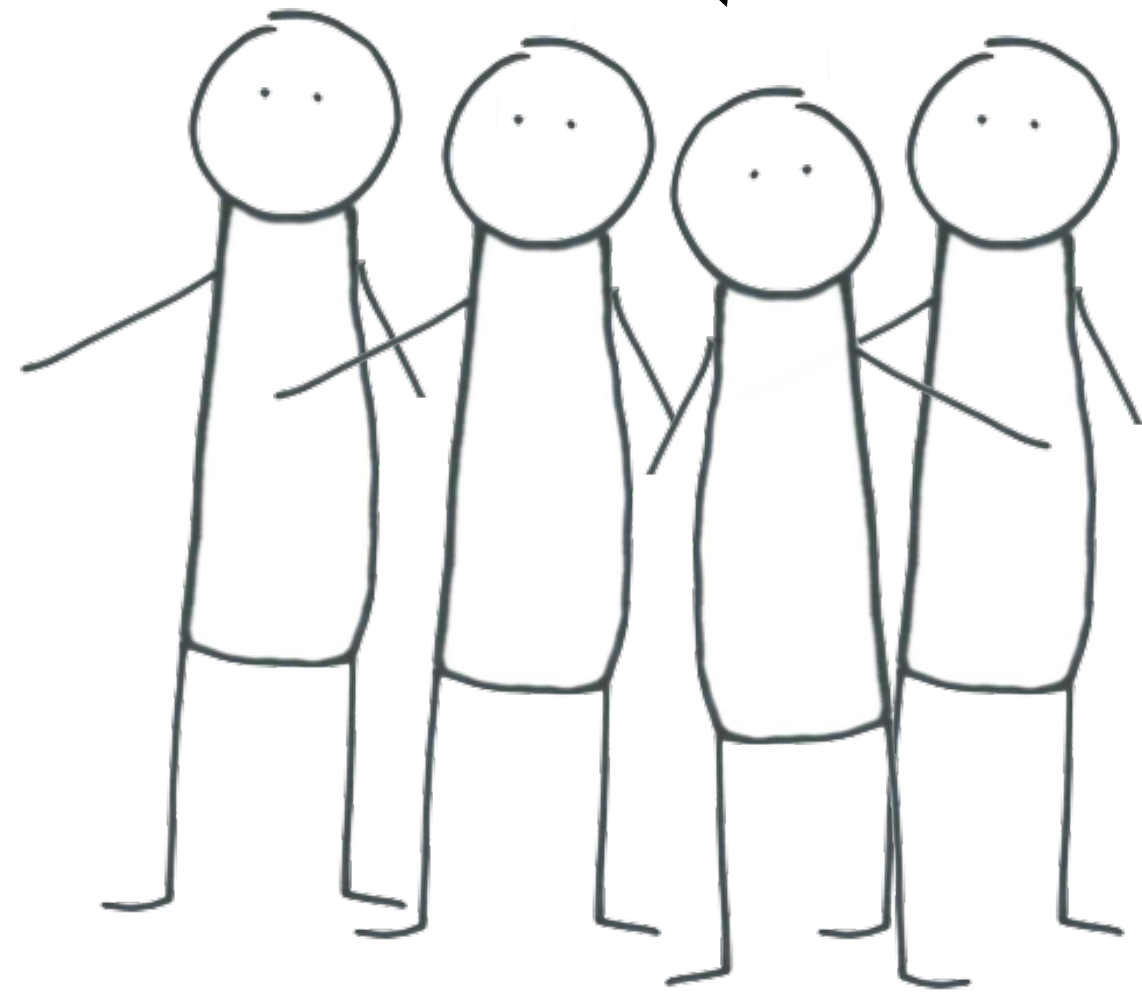
"developers"

People who deal with consequences



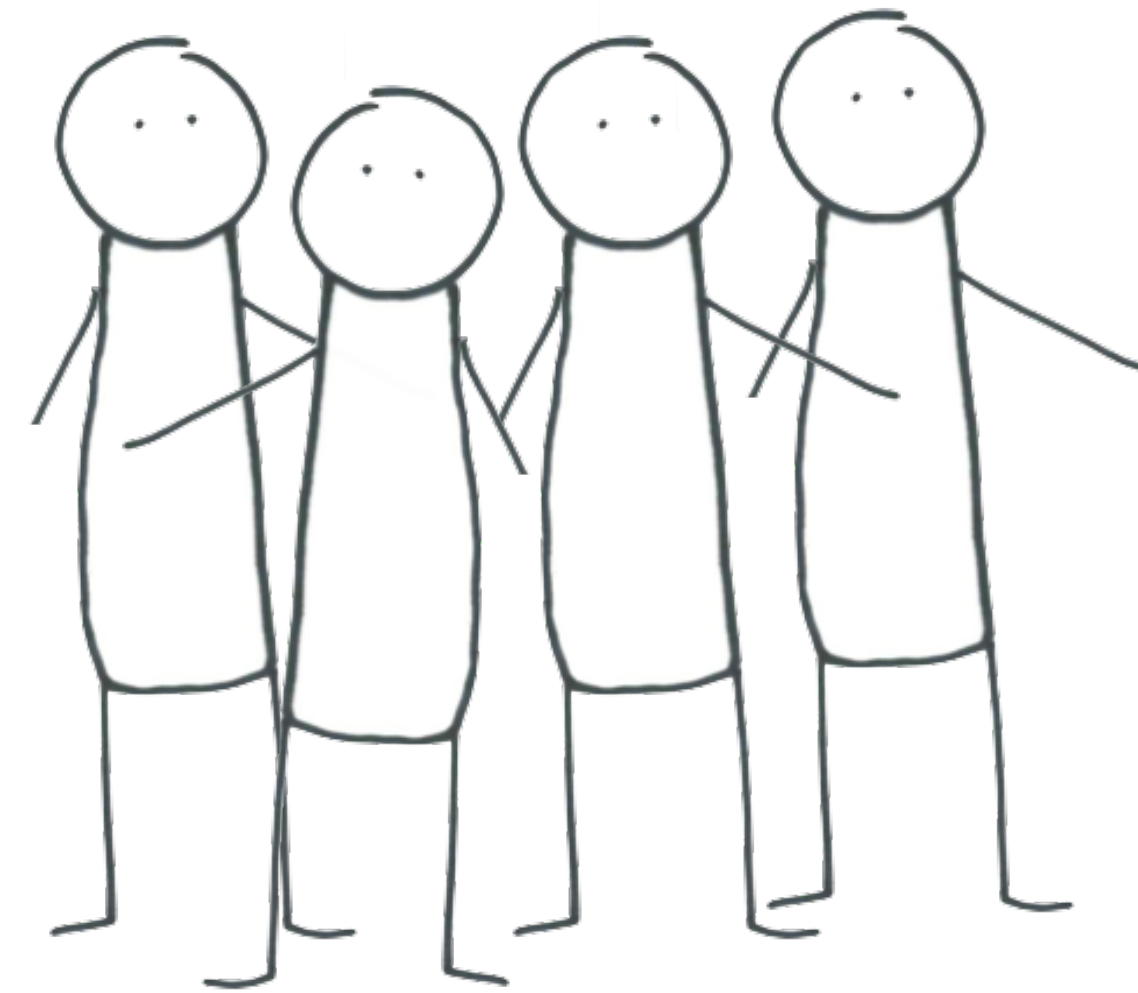
Old way

People who break stuff



“developers”

People who deal with consequences



“ops team”

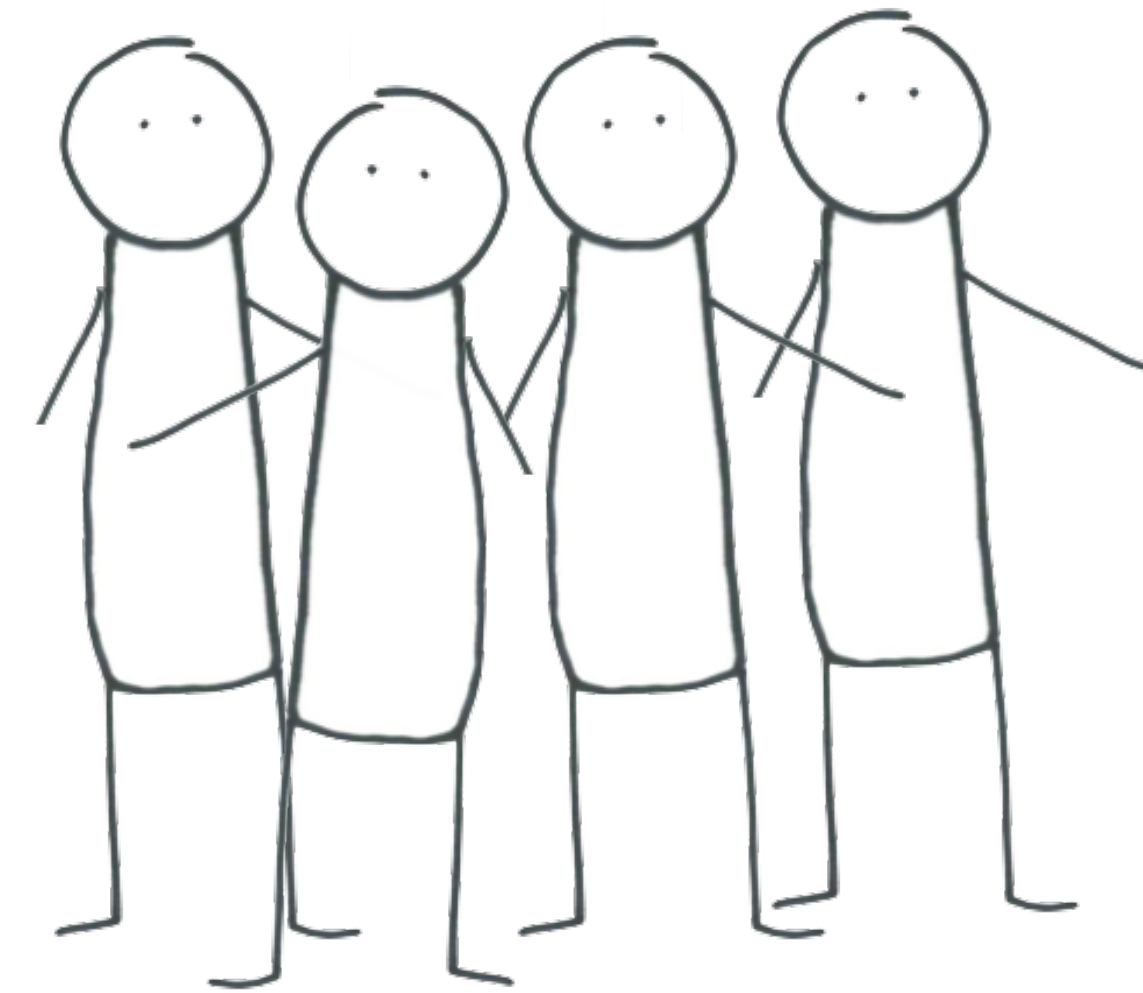
Old way

People who break stuff



“developers”

People who deal with consequences



“ops team”

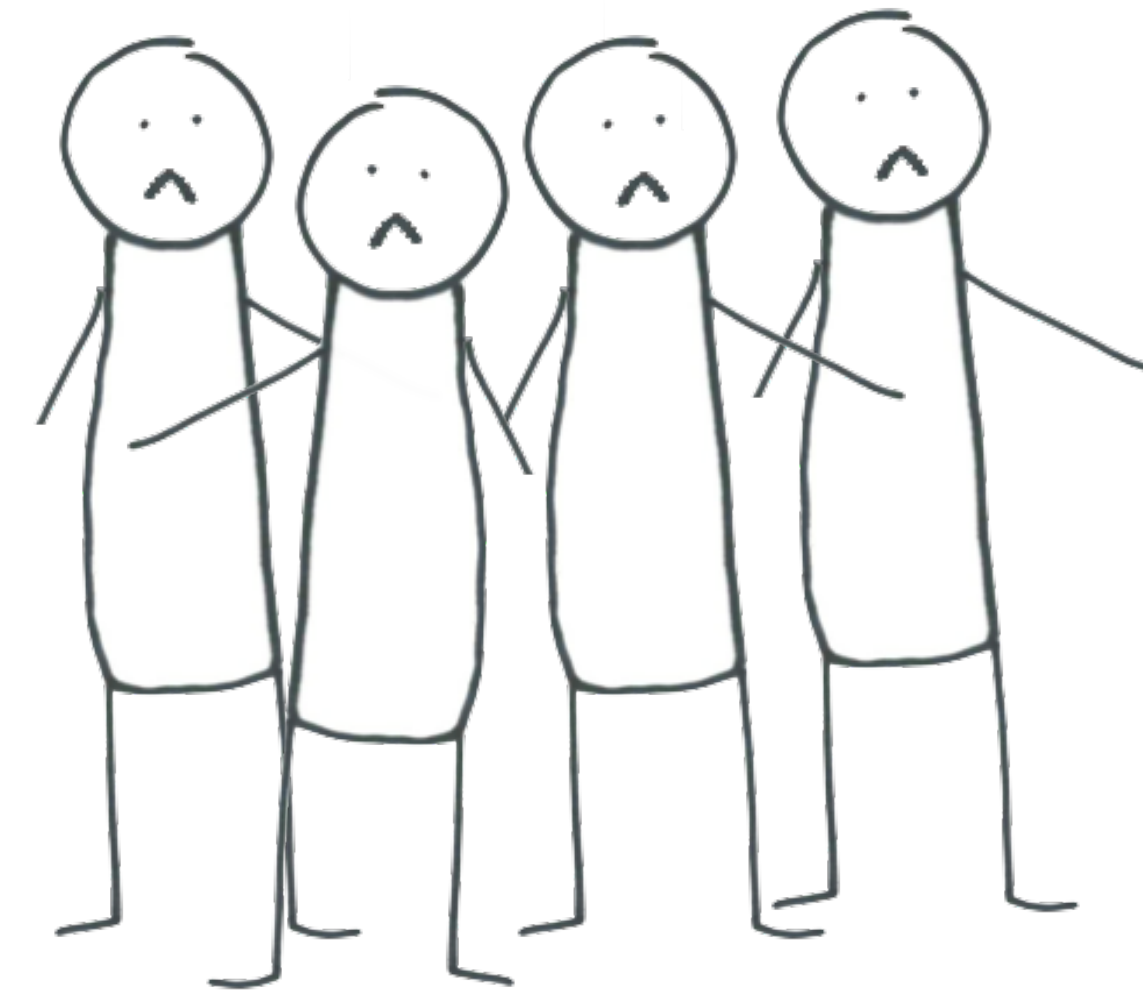
Old way

People who break stuff



“developers”

People who deal with consequences



“ops team”



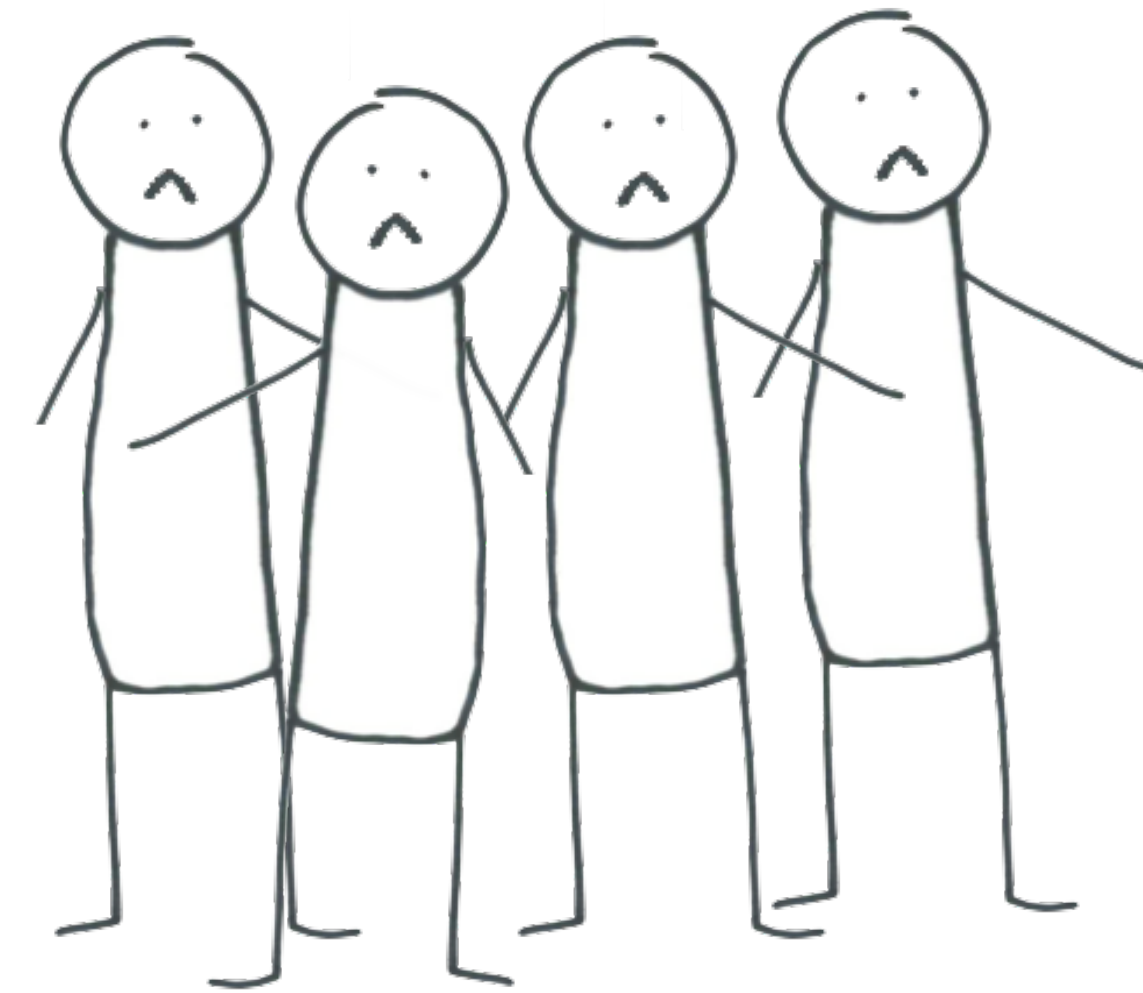
Old way

People who break stuff



“developers”

People who deal with consequences



“ops team”



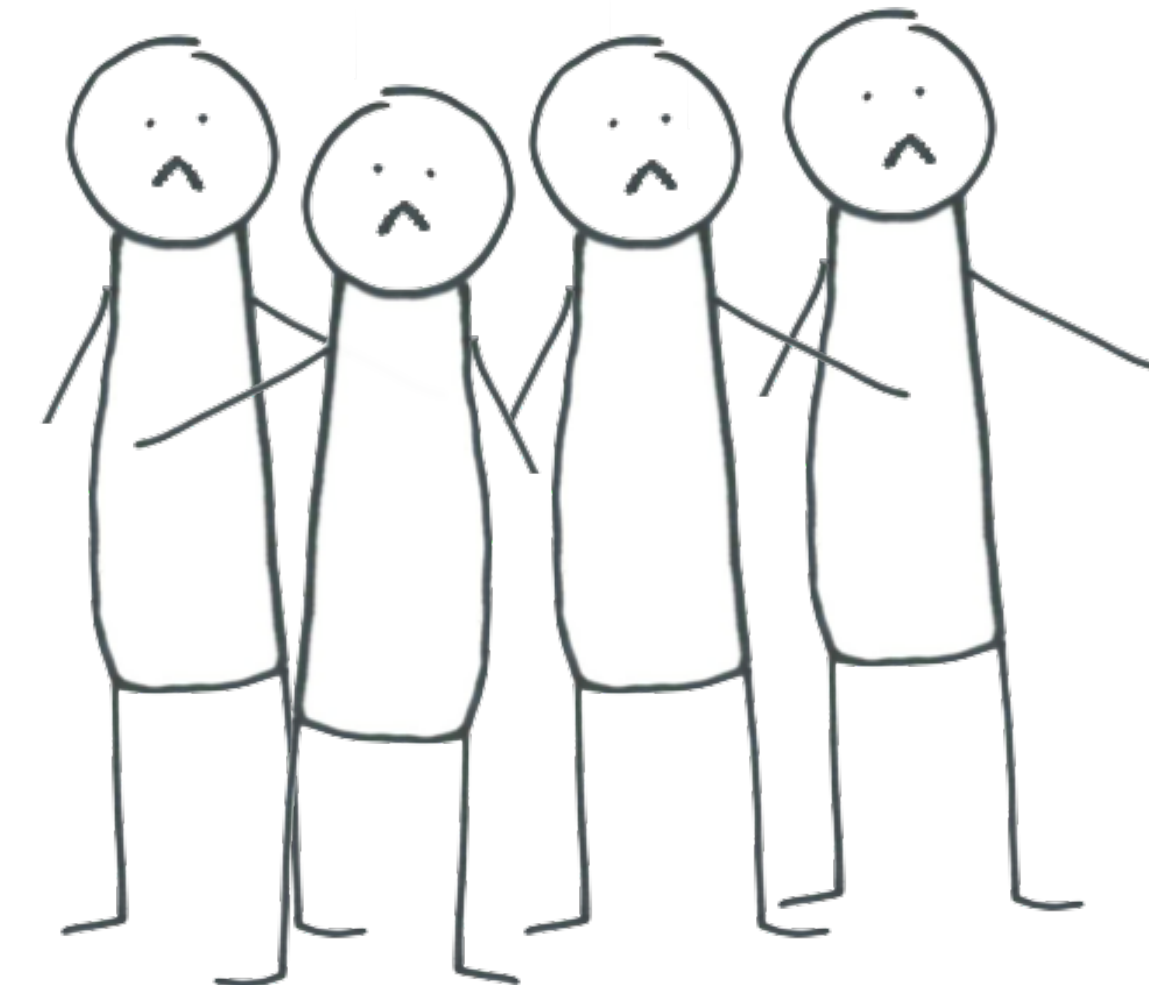
New way

People who break stuff

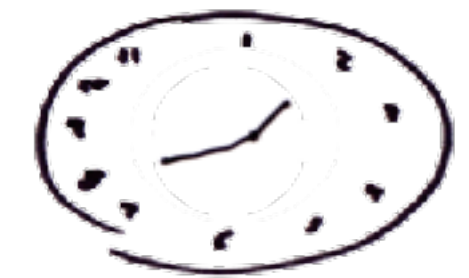


“developers”

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

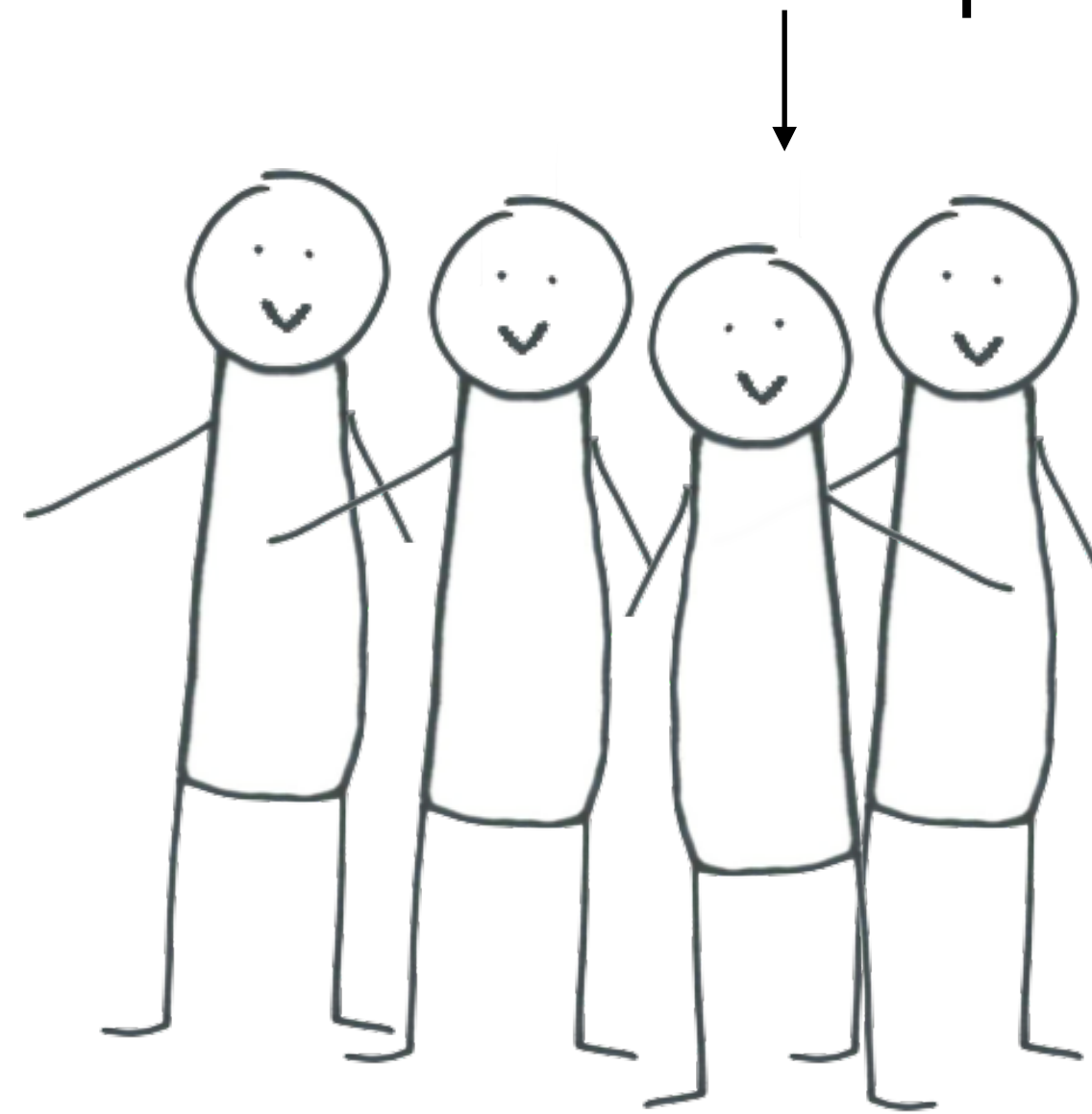
People who break stuff less
and deal with
consequences



“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**

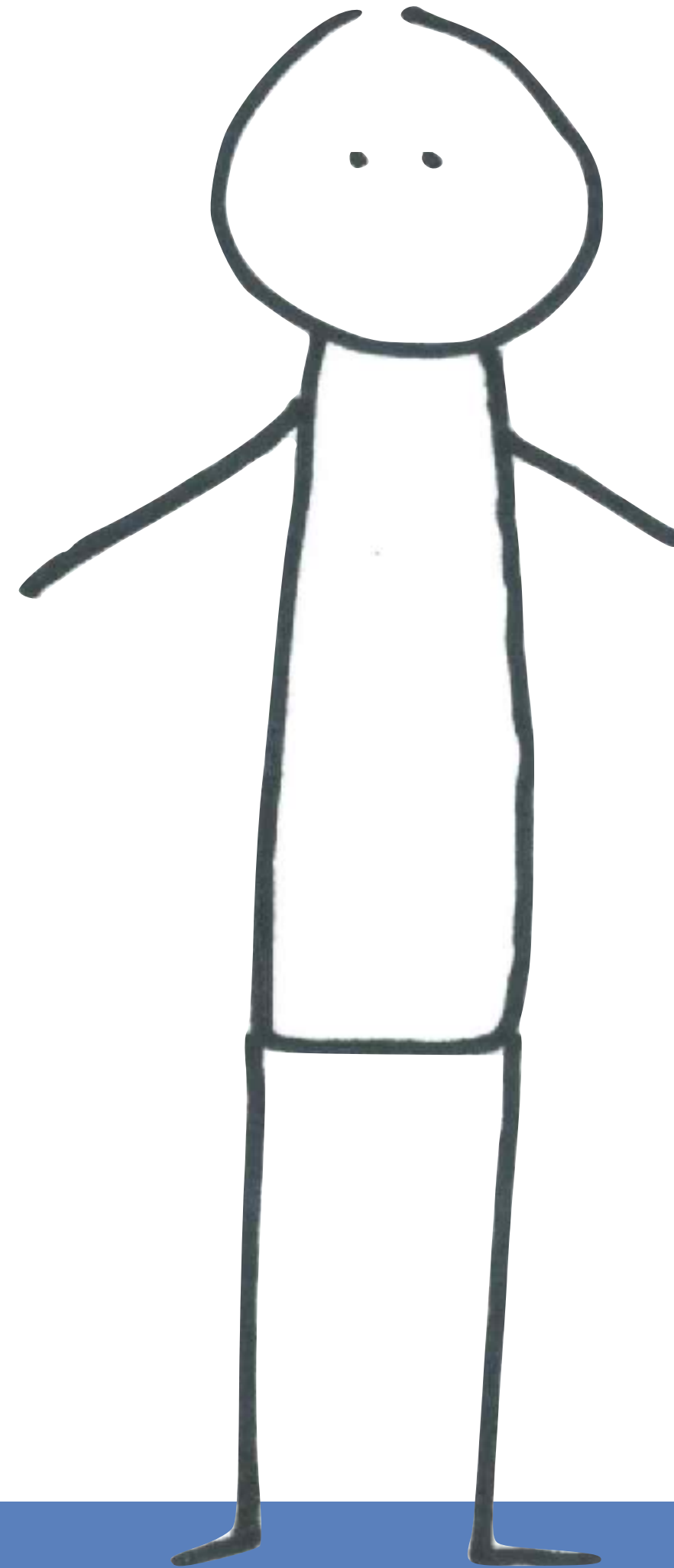
A job title for the IT department

A criteria for chatting up job candidates on a train

The **only** reason to automate

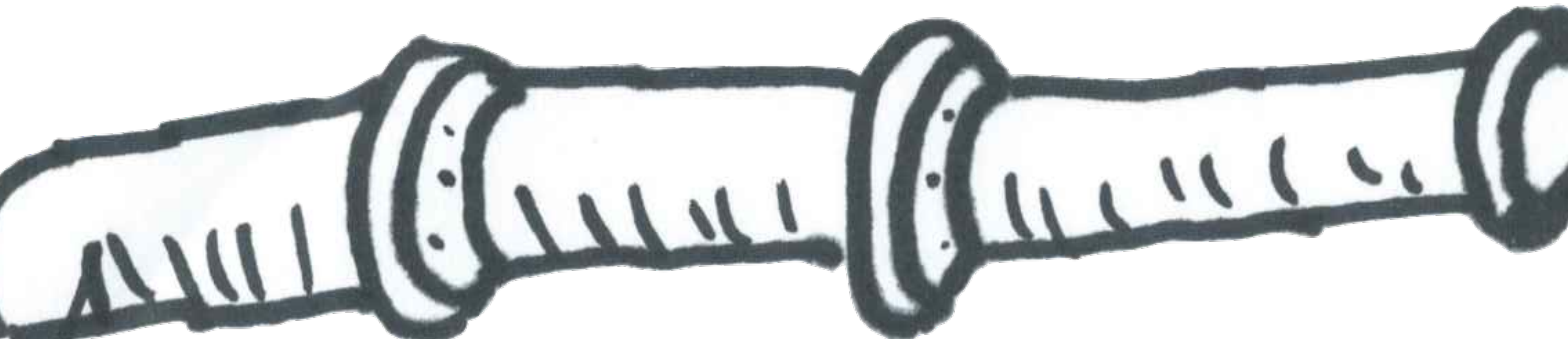
How to automate

How to automate



It depends.
What are you automating?

What can we automate?



What can we automate?



Delivery pipeline

What can we automate?

Code → Push → Test → Live

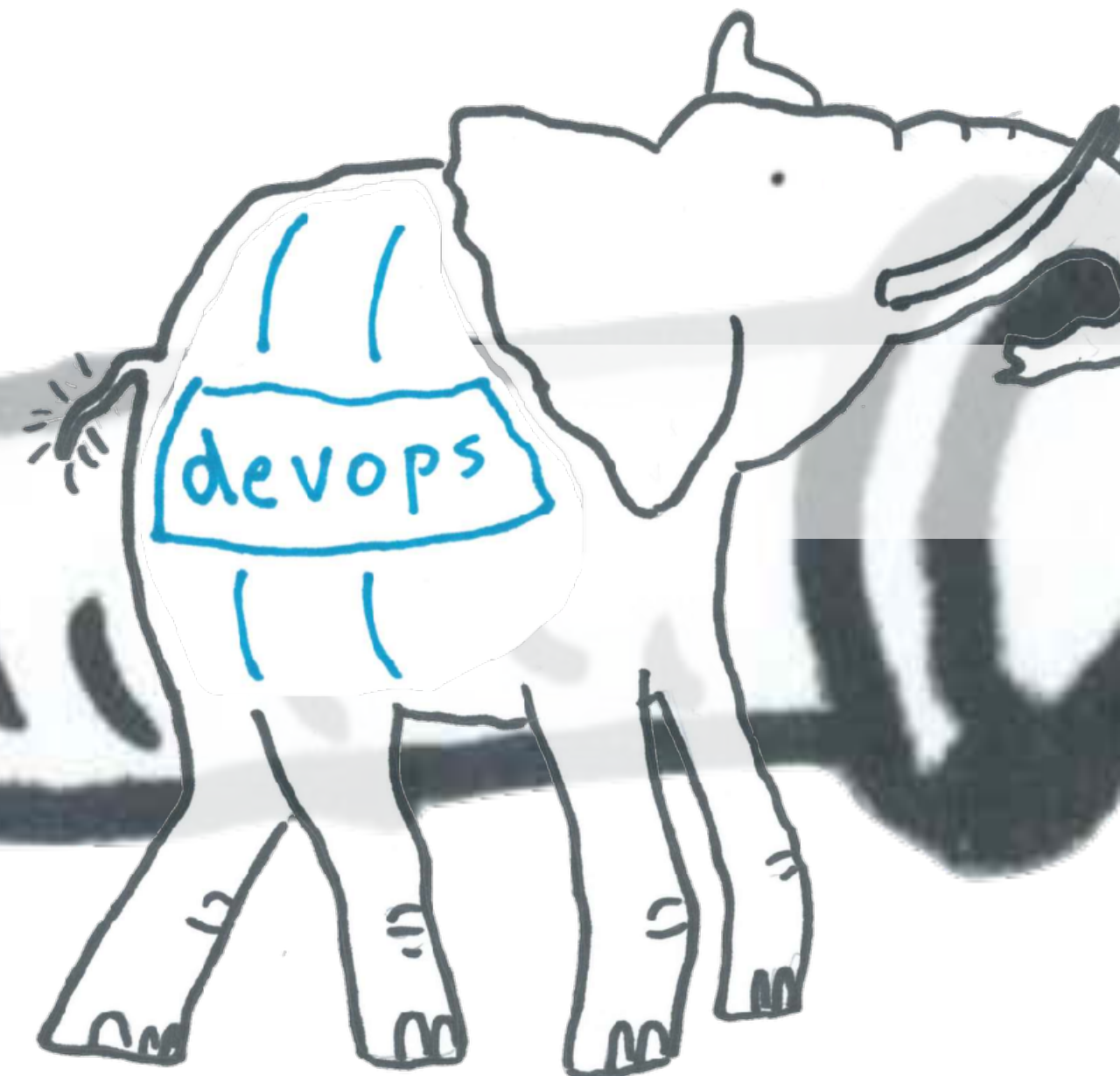


Delivery pipeline

What can we automate?

Code → Push → Test → Live

Delivery pipeline



What can we automate?

What can we automate?

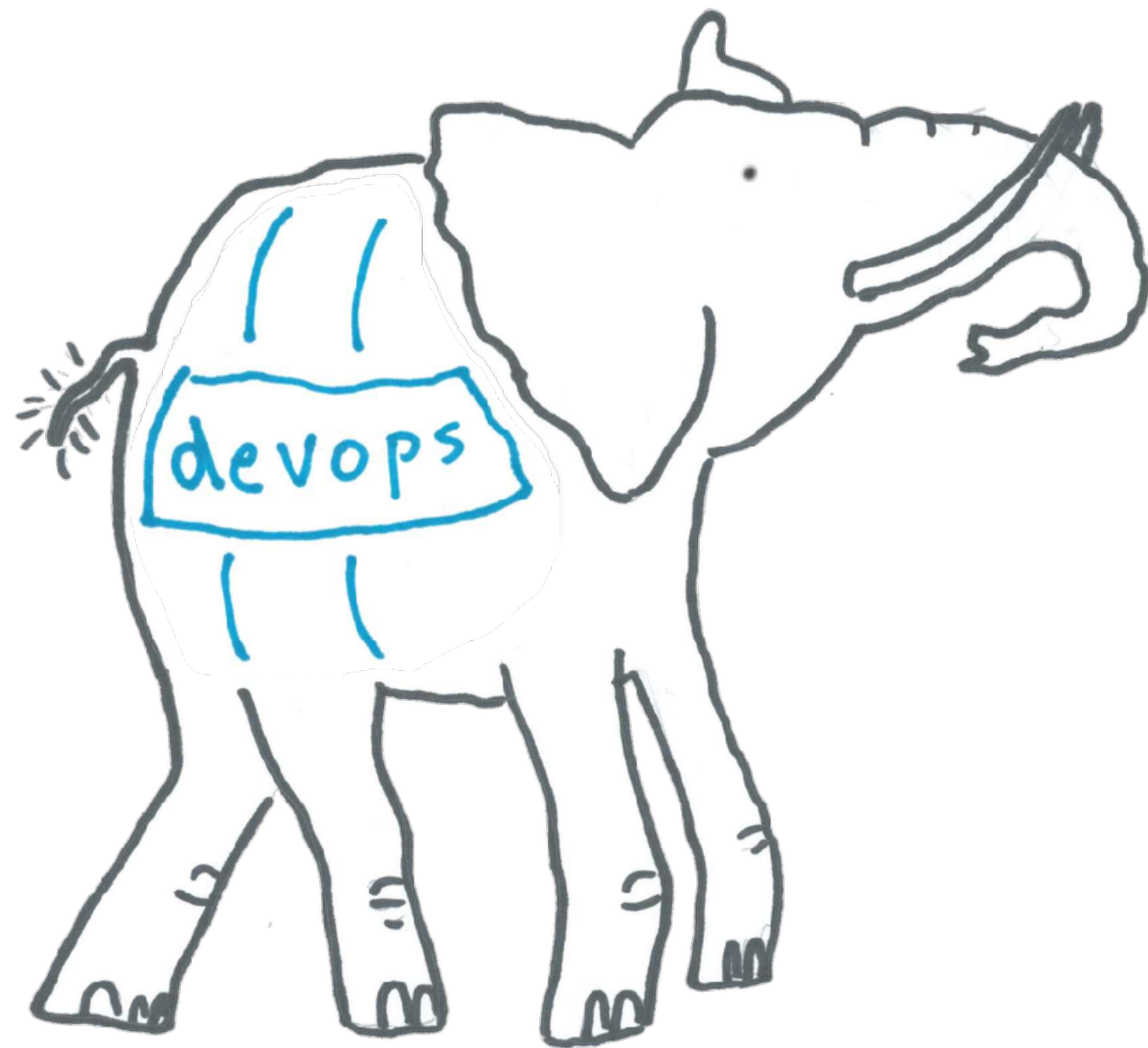
Infrastructure

What can we automate?

Infrastructure should be code.

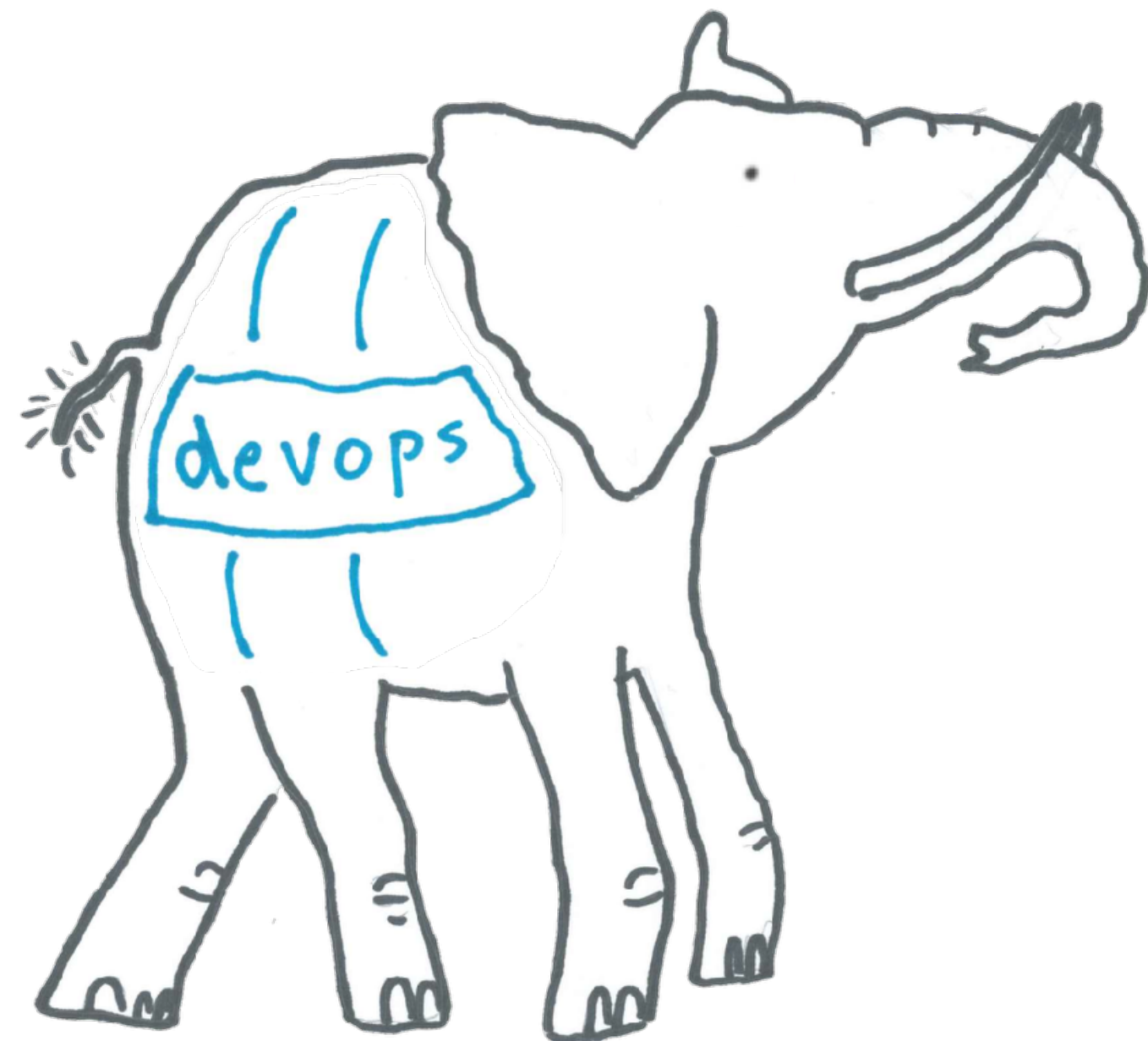
What can we automate?

Infrastructure should be code.



What can we automate?

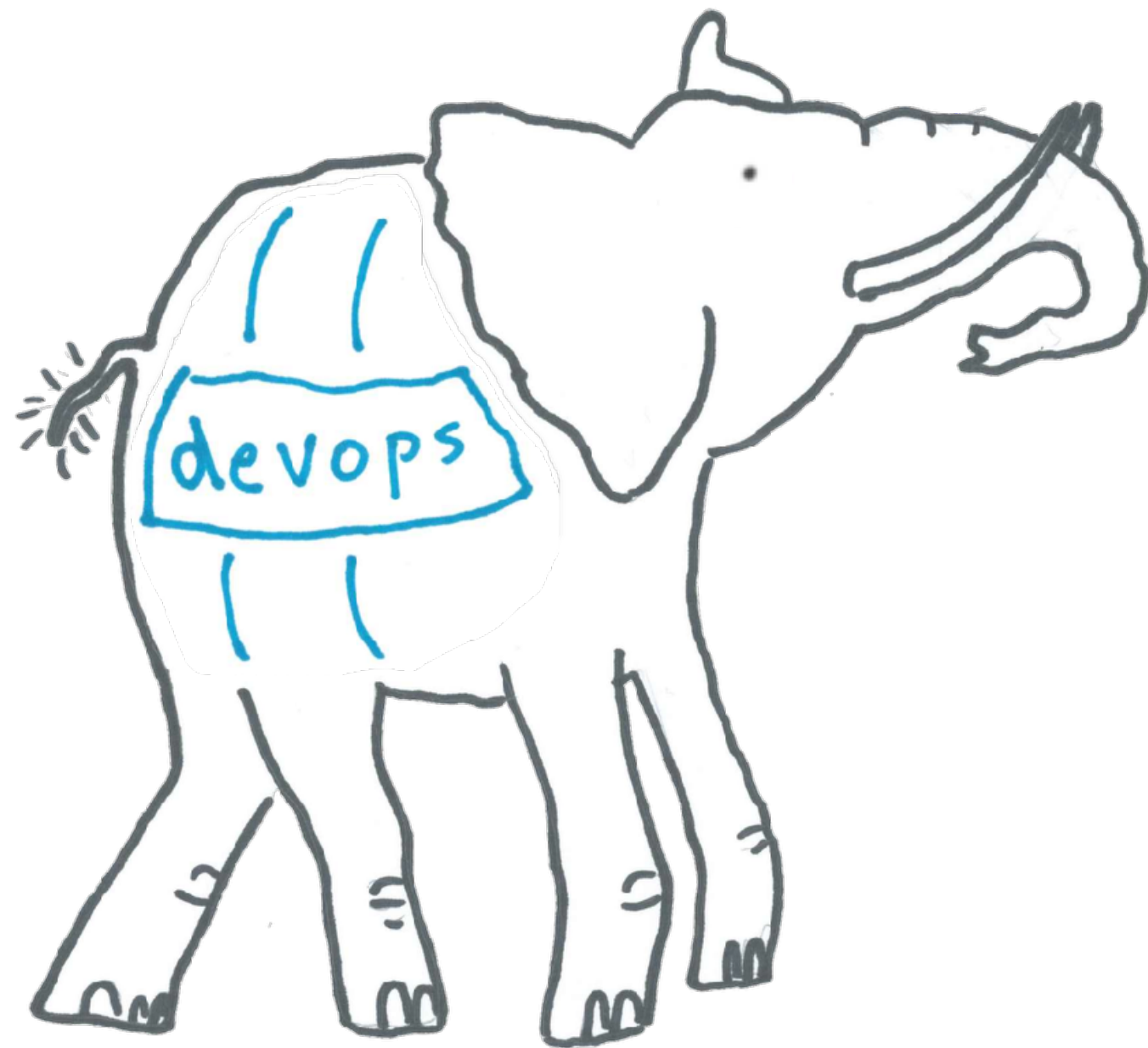
Infrastructure should be code.



Machine configuration

What can we automate?

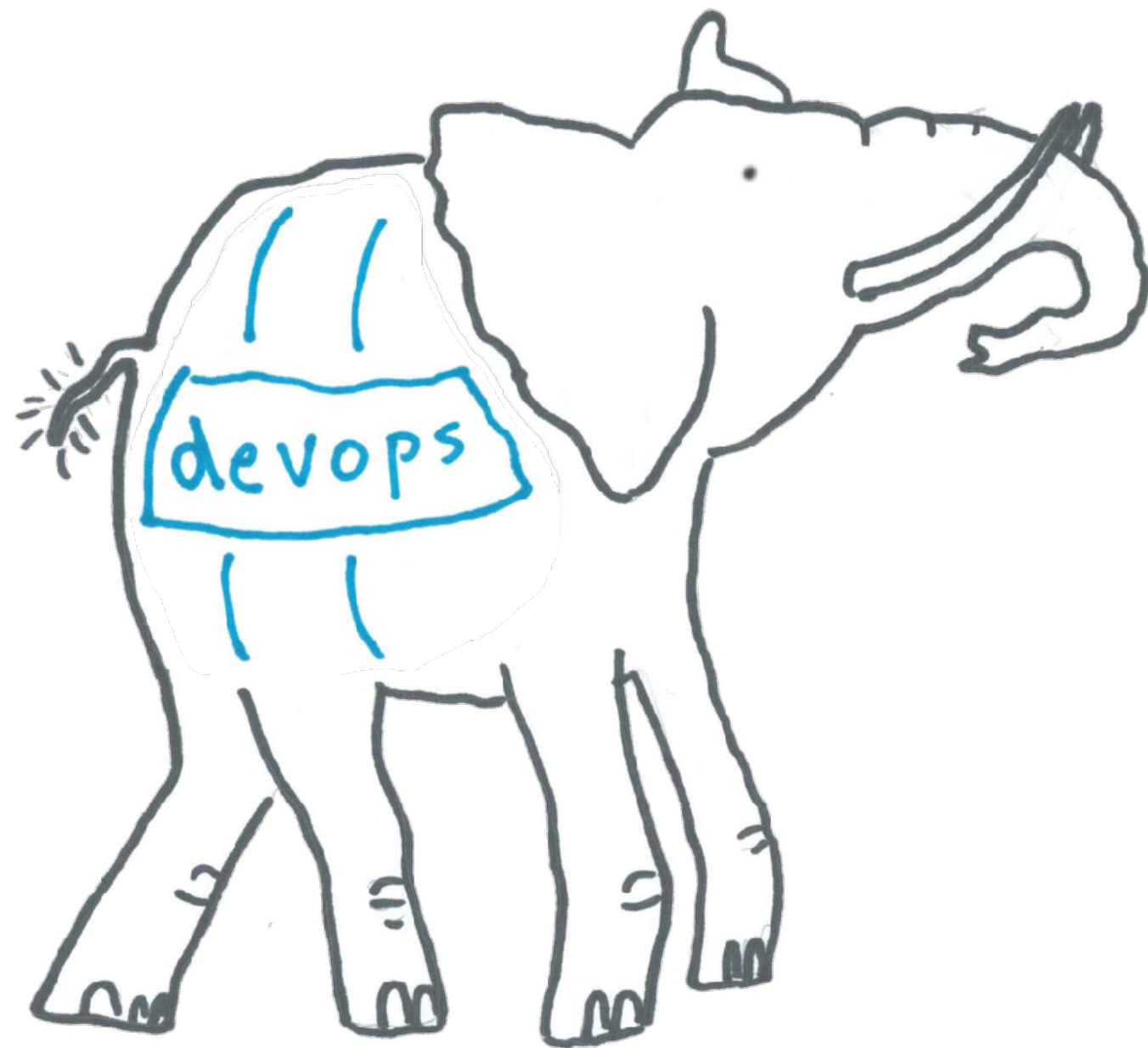
Infrastructure should be code.



Machine configuration
Servers

What can we automate?

Infrastructure should be code.



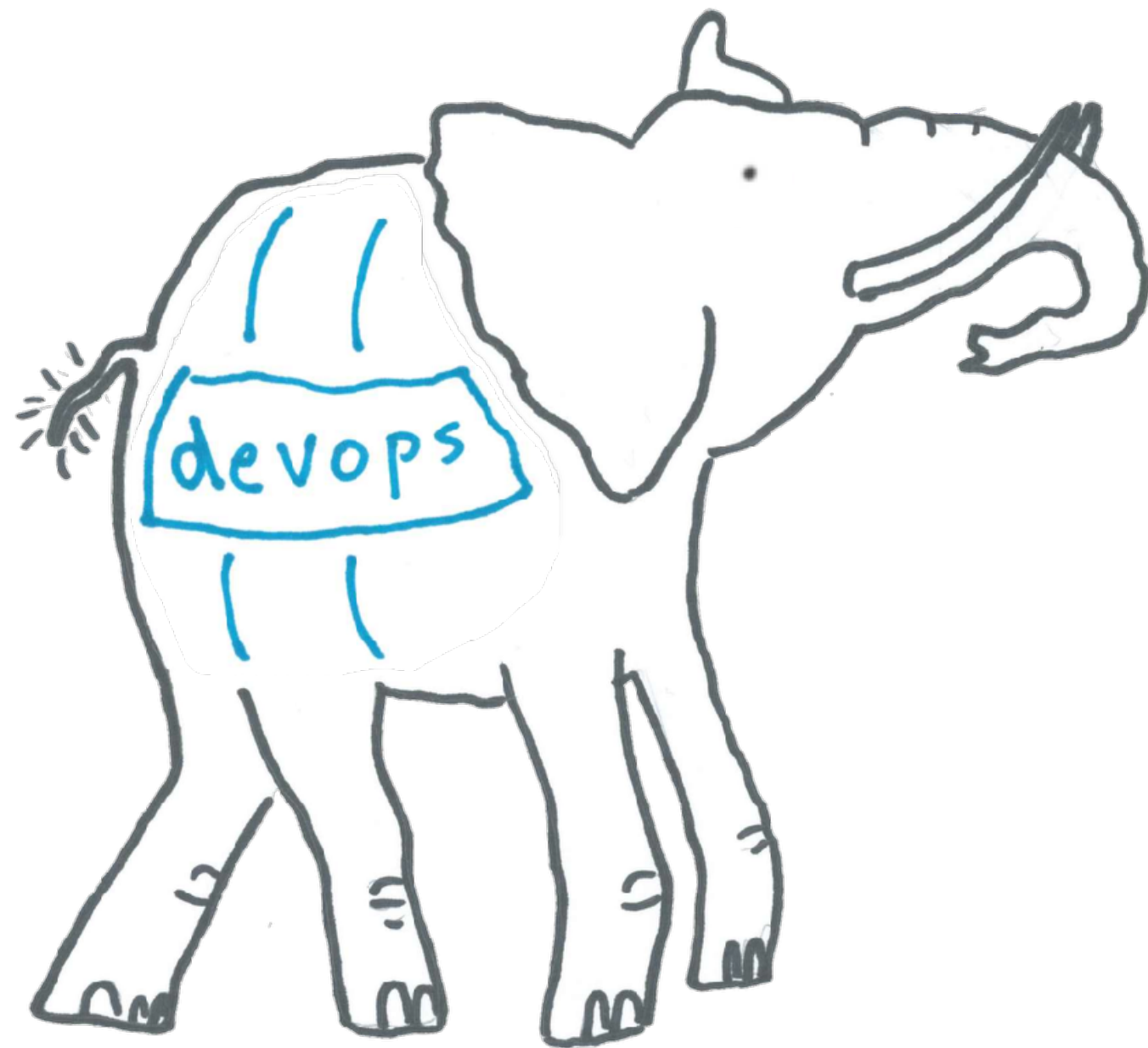
Machine configuration

Servers

Test environments

What can we automate?

Infrastructure should be code.



Machine configuration

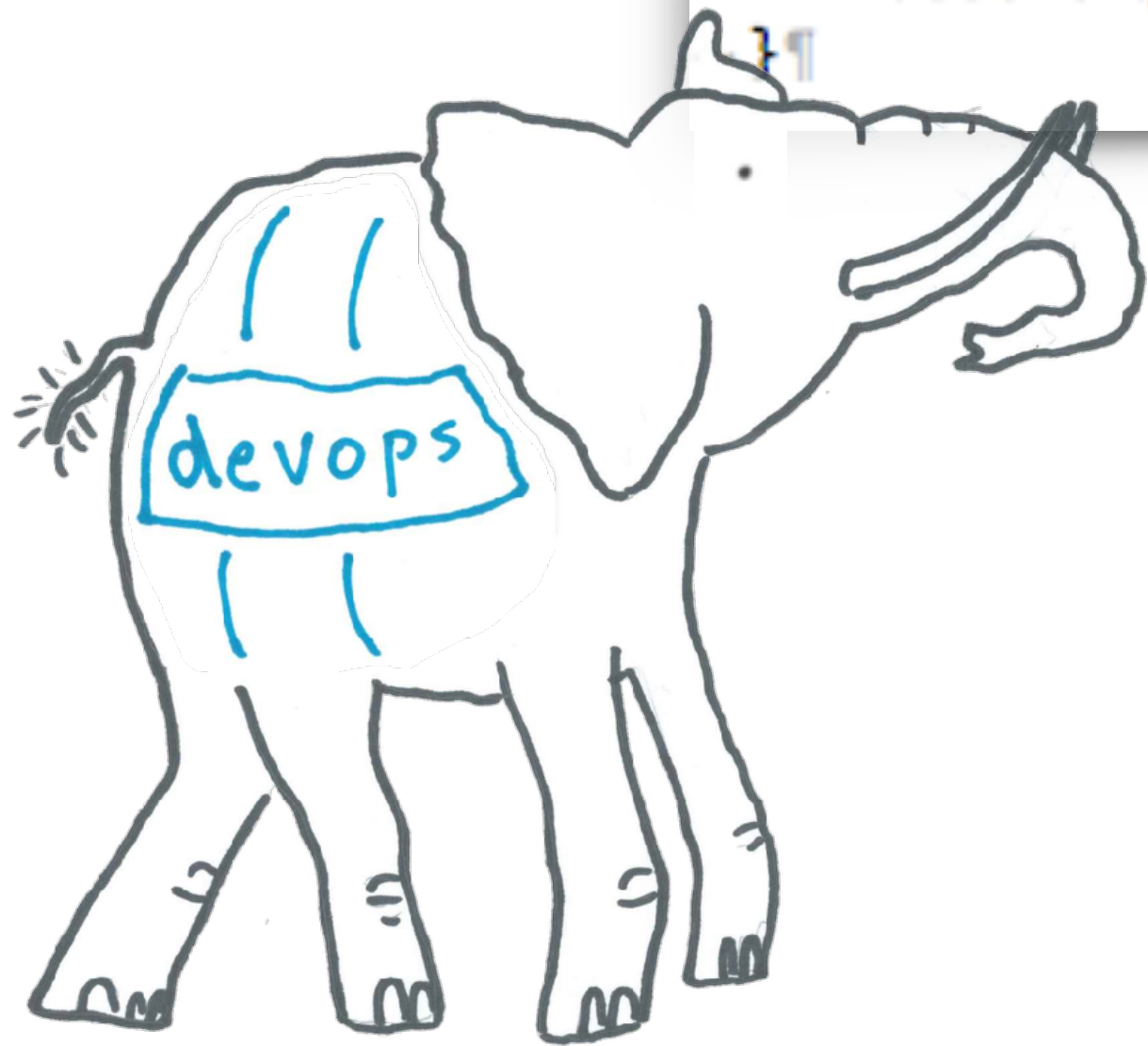
Servers

Test environments

....

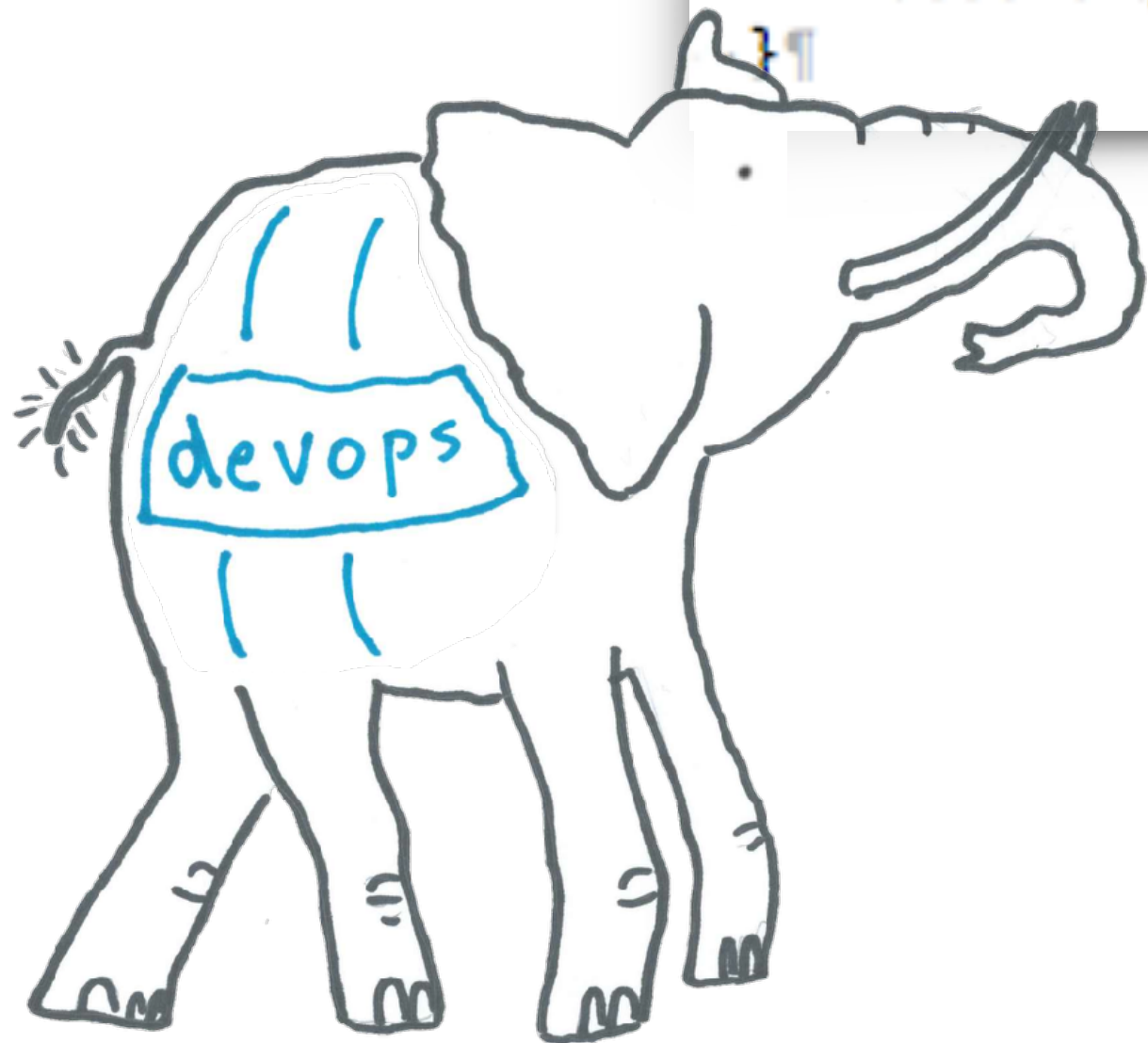
What can we automate?

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



What can we automate?

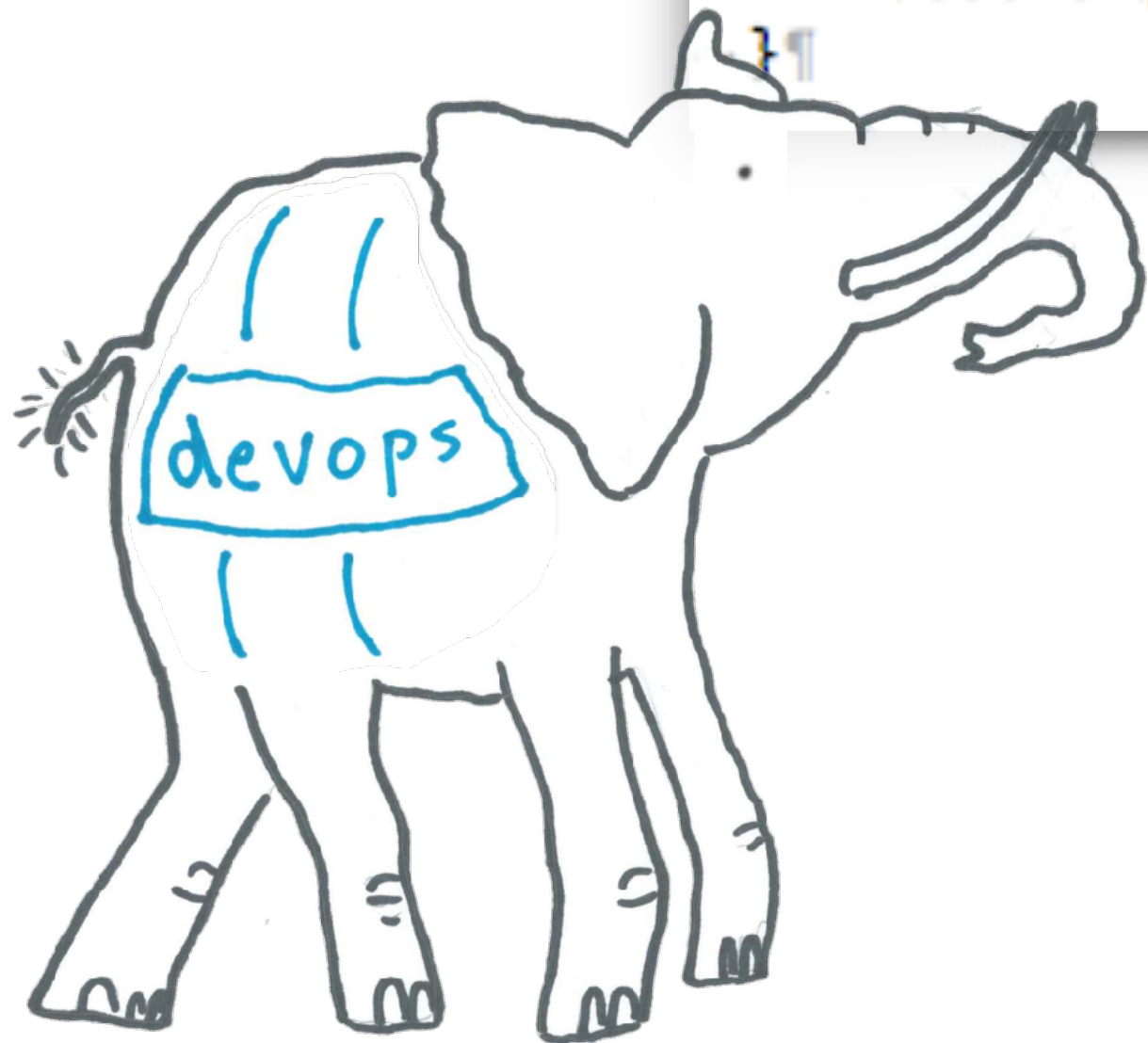
```
..|  
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.....object.setField(value);|  
.....assertEquals("The getter and setter are busted", value, object.getField());|  
..}|
```



Tests

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());|  
..|}|
```









Some Tests

What can we automate?

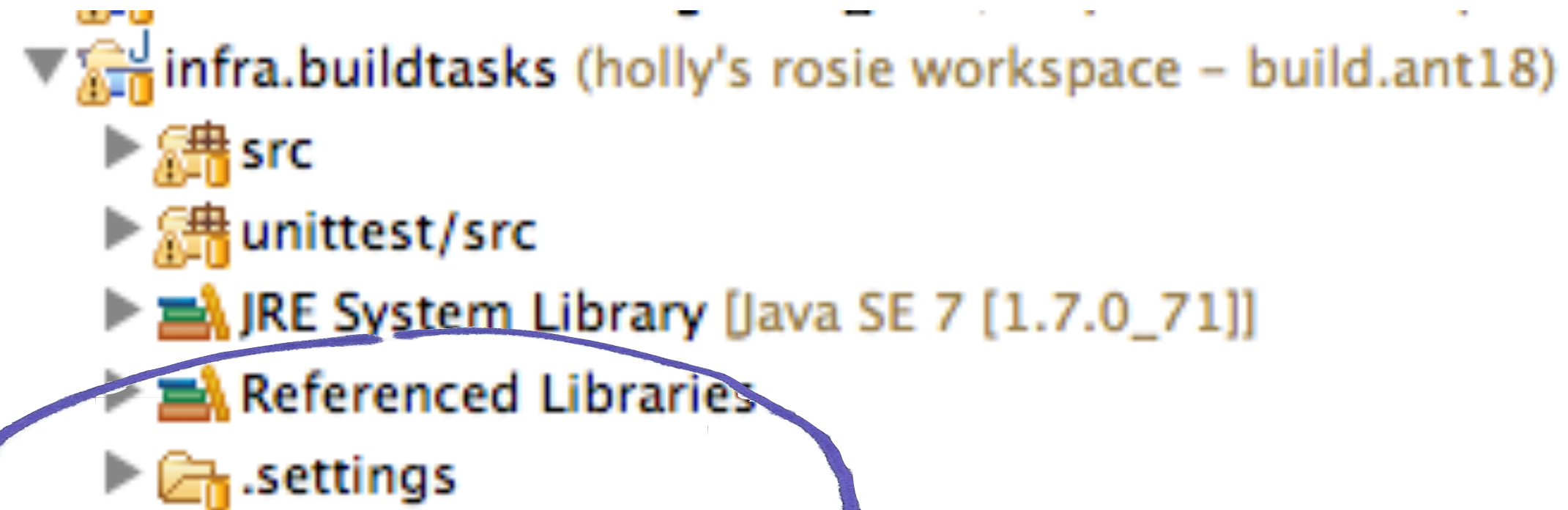
```
..  
..@Test  
..public void testField()  
..{  
.....String value = randomString();  
.....Thing object = new Thing();  
.....object.setField(value);  
.....assertEquals("The getter and setter are busted", value, object.getField());  
..}
```

Some Tests

What can we automate?

- ▼  infra.buildtasks (holly's rosie workspace - build.ant18)
 - ▶  src
 - ▶  unittest/src
 - ▶  JRE System Library [Java SE 7 [1.7.0_71]]
 - ▶  Referenced Libraries
 - ▶  .settings

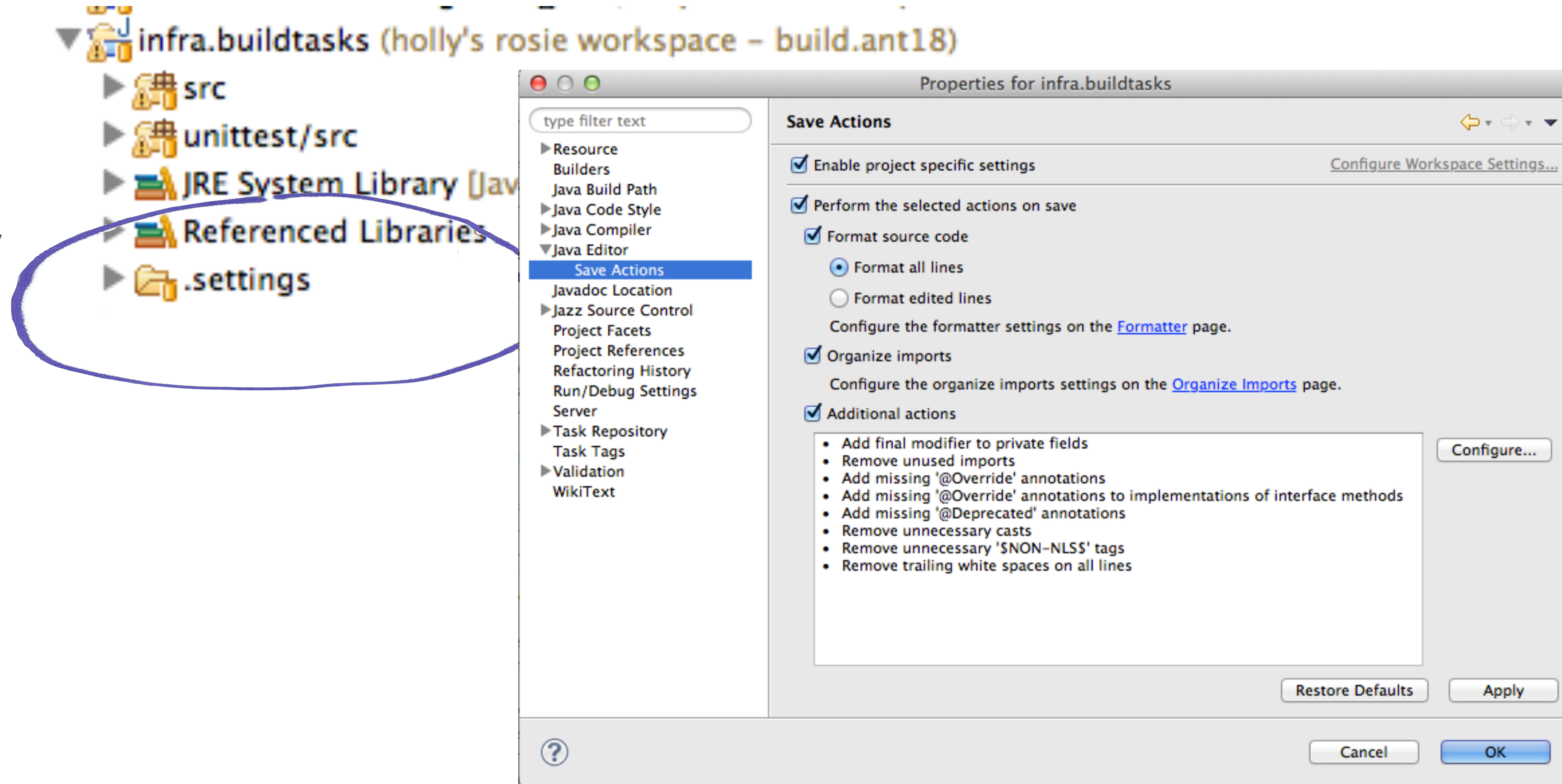
What can we automate?



Automatically
generated

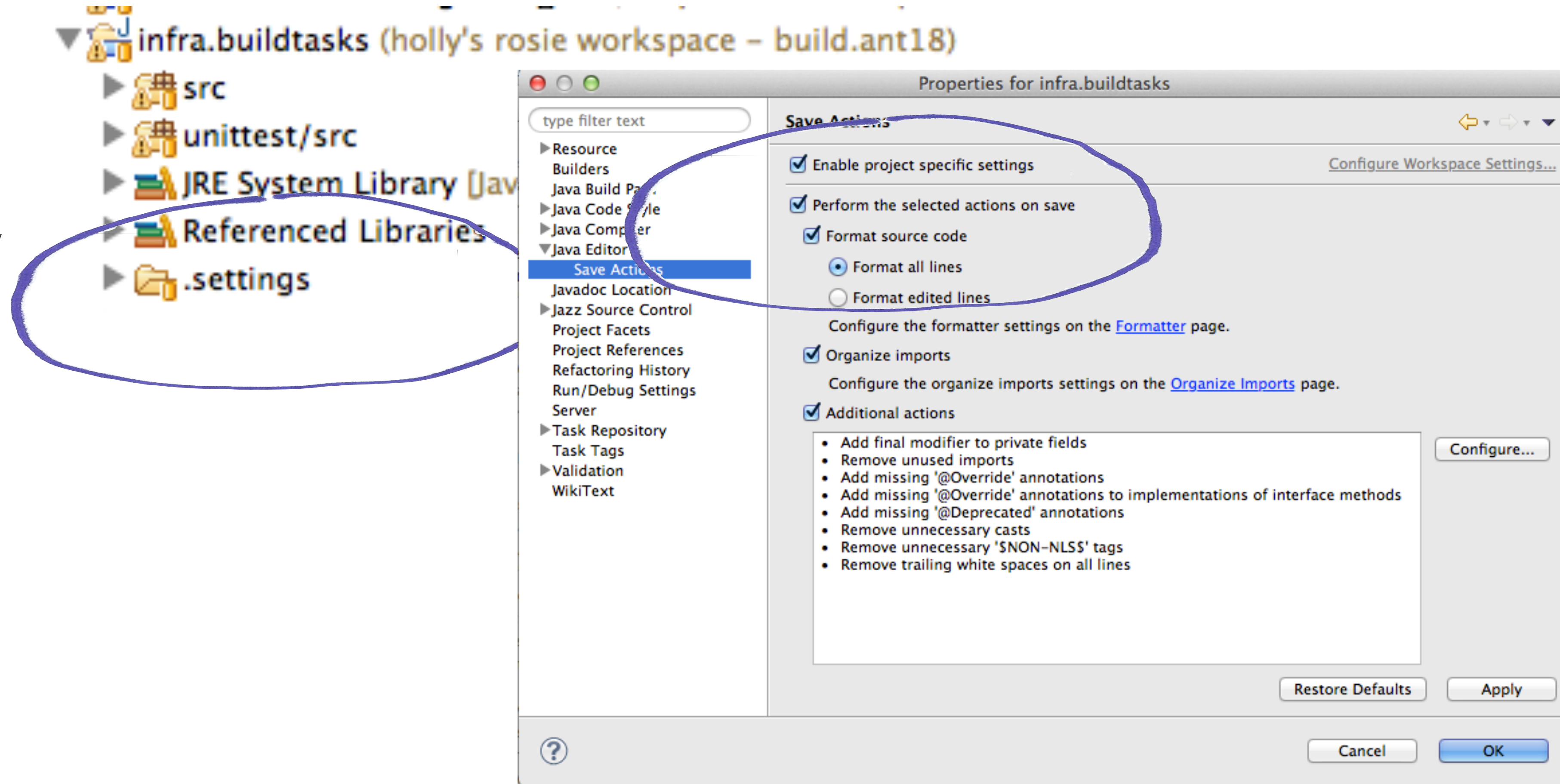
What can we automate?

Automatically generated



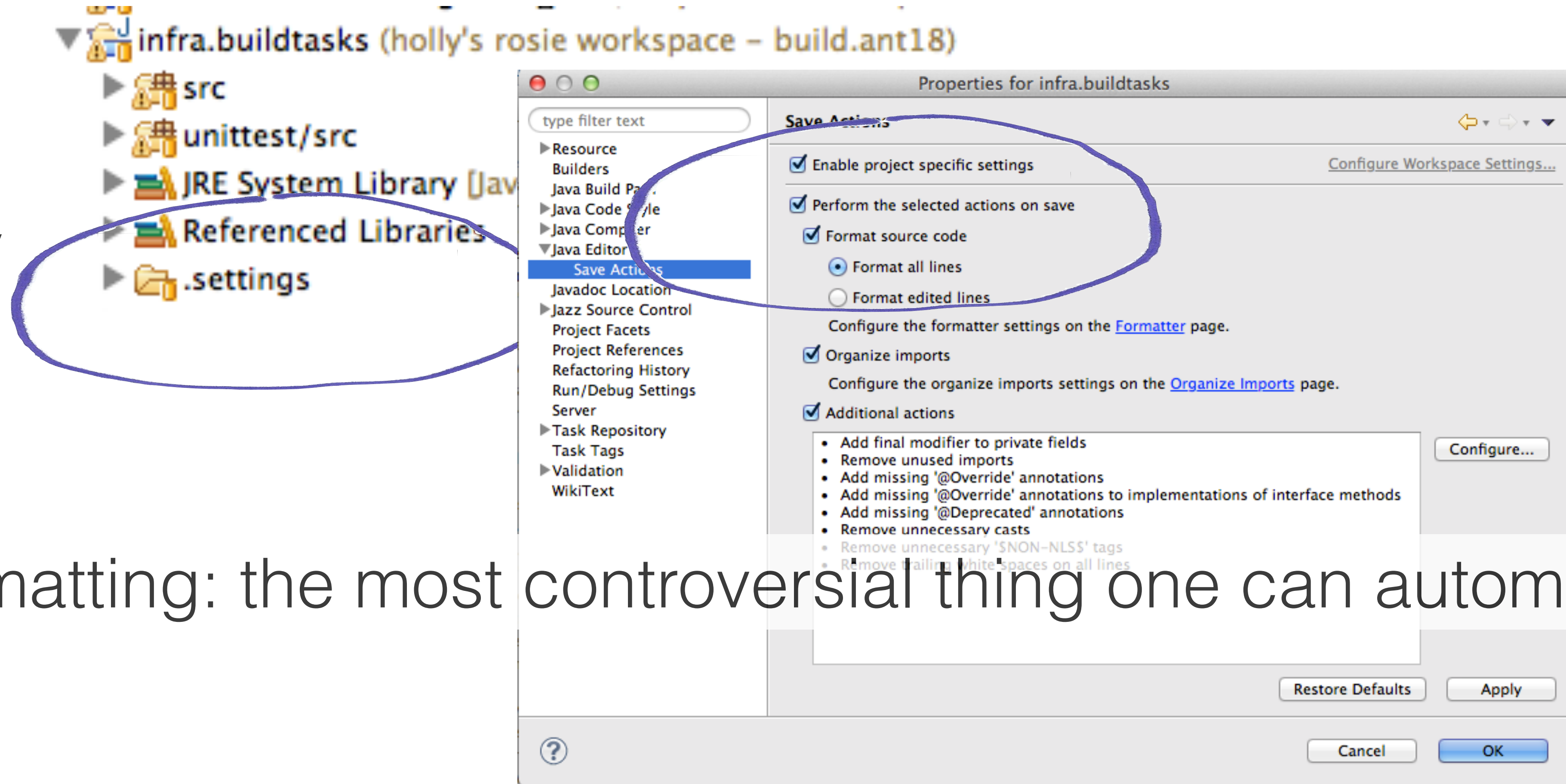
What can we automate?

Automatically generated



What can we automate?

Automatically generated



Formatting: the most controversial thing one can automate.

What can we automate?

```
1  
2 /*  
3  * IBM  
4  *  
5  * OCO Source Materials  
6  *  
7  * Copyright IBM Corp. 2013, 2015  
8  *  
9  * The source code for this program is not published or otherwise divested  
10 * of its trade secrets, irrespective of what has been deposited with the  
11 * U.S. Copyright Office.  
12 */  
13
```

What can we automate?

```
1 1
2 /*
3  * IBM
4  *
5  * OCO Source Materials
6  *
7  * Copyright IBM Corp. 2013, 2015
8  *
9  * The source code for this program is not published or otherwise divested
10 * of its trade secrets, irrespective of what has been deposited with the
11 * U.S. Copyright Office.
12 */
13
```

Copyright statements

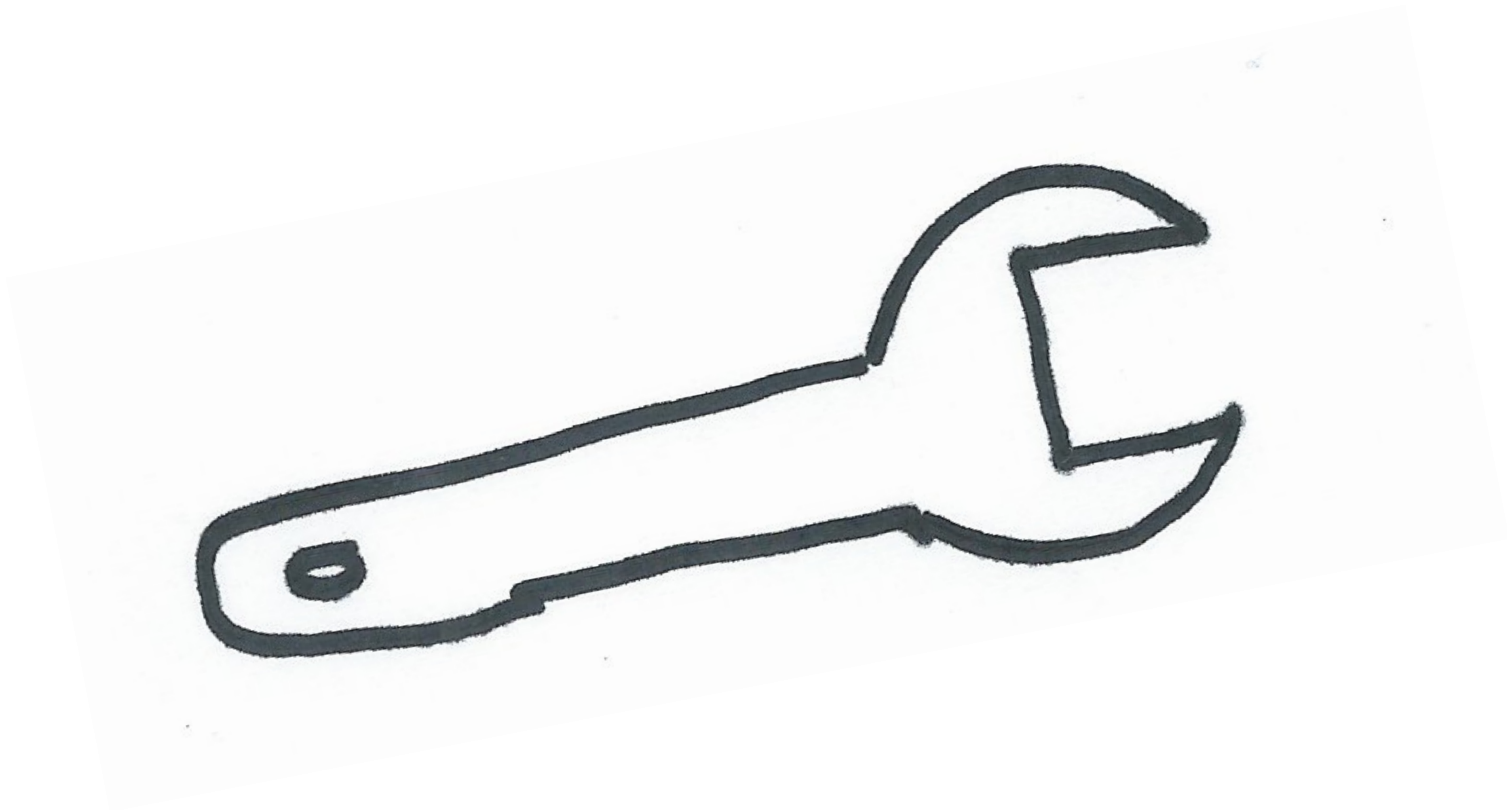
What can we automate?

```
/*  
 * 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.  
 */
```

Maybe.

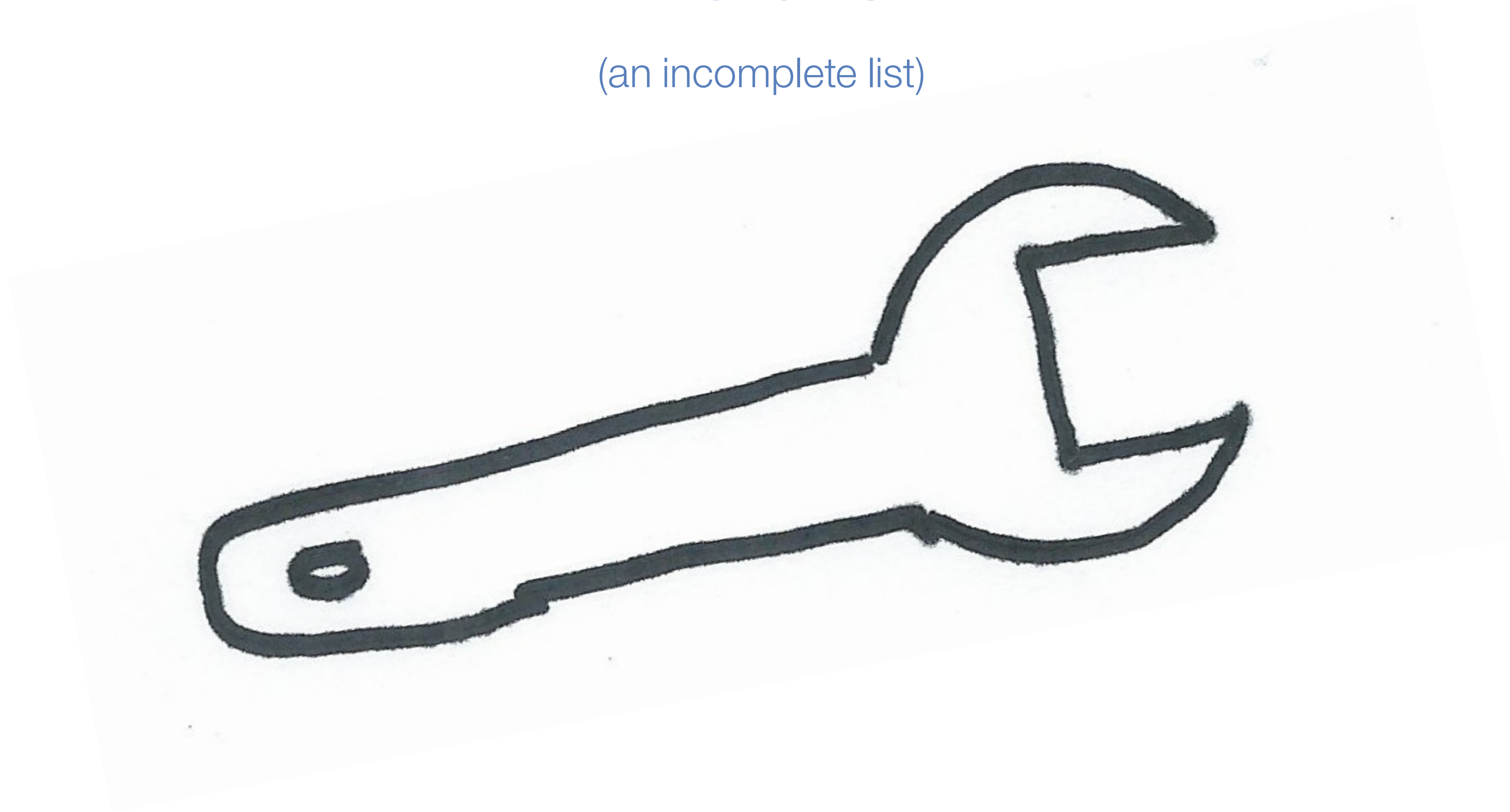
(The second most controversial thing one can automate.)

Copyright statements



Tools

(an incomplete list)



Tools

(an incomplete list)



Tools

(an incomplete list)

Shell scripts



Tools

(an incomplete list)

Shell scripts

sed



Tools

(an incomplete list)

Shell scripts

sed

awk



Tools

(still an incomplete list)

Scripting

python

ruby



Tools

(still an incomplete list)

```
#!/usr/bin/env node
```

```
const path = require('path');  
const fs = require('fs');  
const cp = require('cp');
```

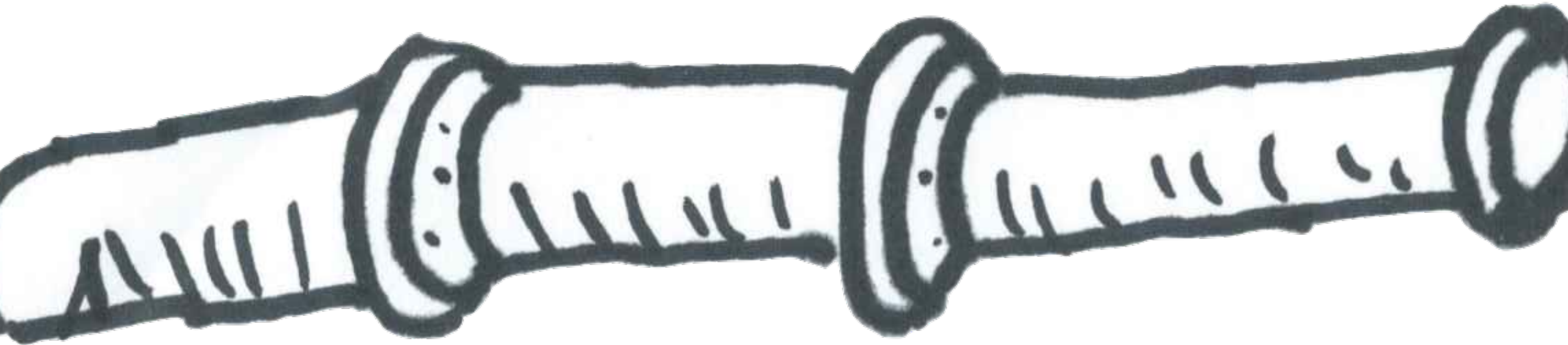
```
if (process.argv.length < 3) {  
    console.log("Usage: usefulScript something somethingElse");  
    process.exit(1);  
}
```

```
// Do something useful
```



Tools

(still an incomplete list)



Tools

(still an incomplete list)

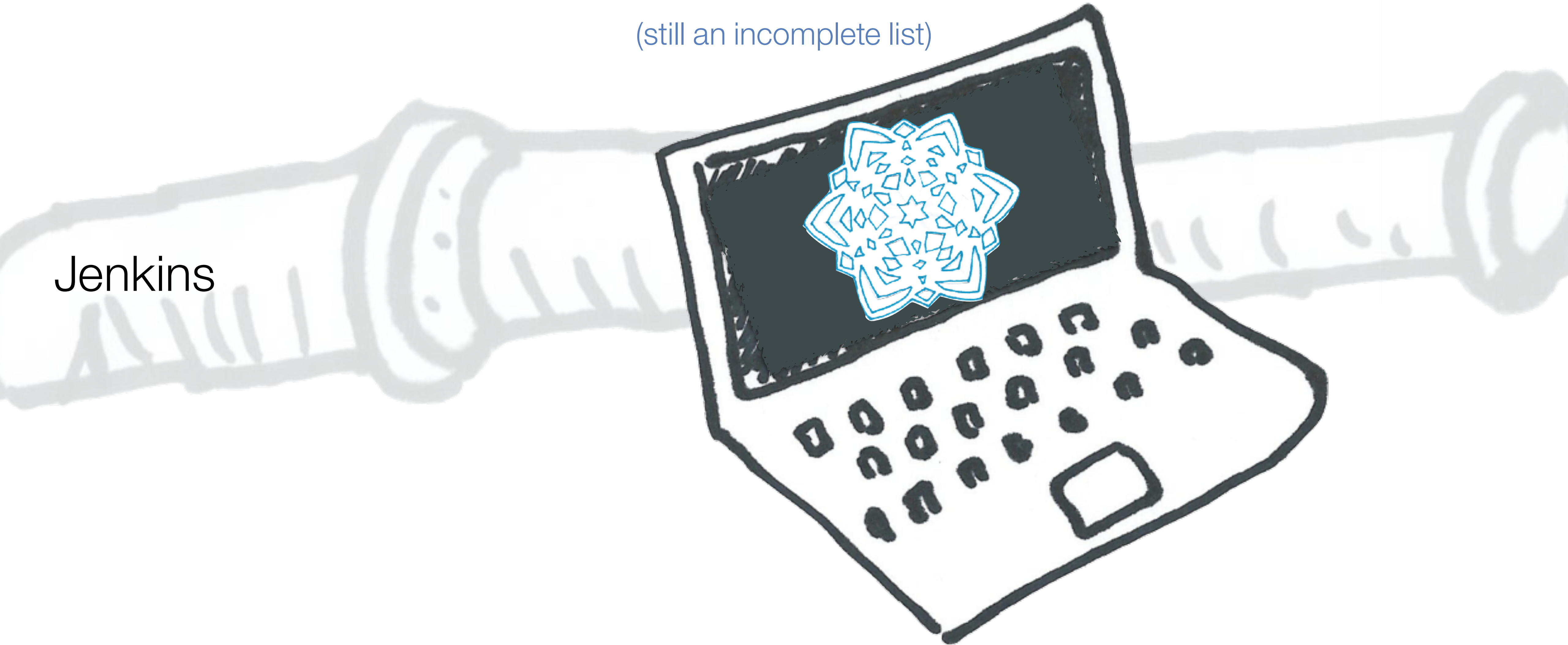
Jenkins



Tools

(still an incomplete list)

Jenkins



Tools

(still an incomplete list)

Jenkins
Concourse



Tools

(still an incomplete list)

Jenkins
Concourse

Tools

(still an incomplete list)



Jenkins
Concourse
Rational Team Concert

Tools

(still an incomplete list)

Jenkins
Concourse
Rational Team Concert
Bluemix Build and Deploy

The screenshot displays a pipeline view with three stages:

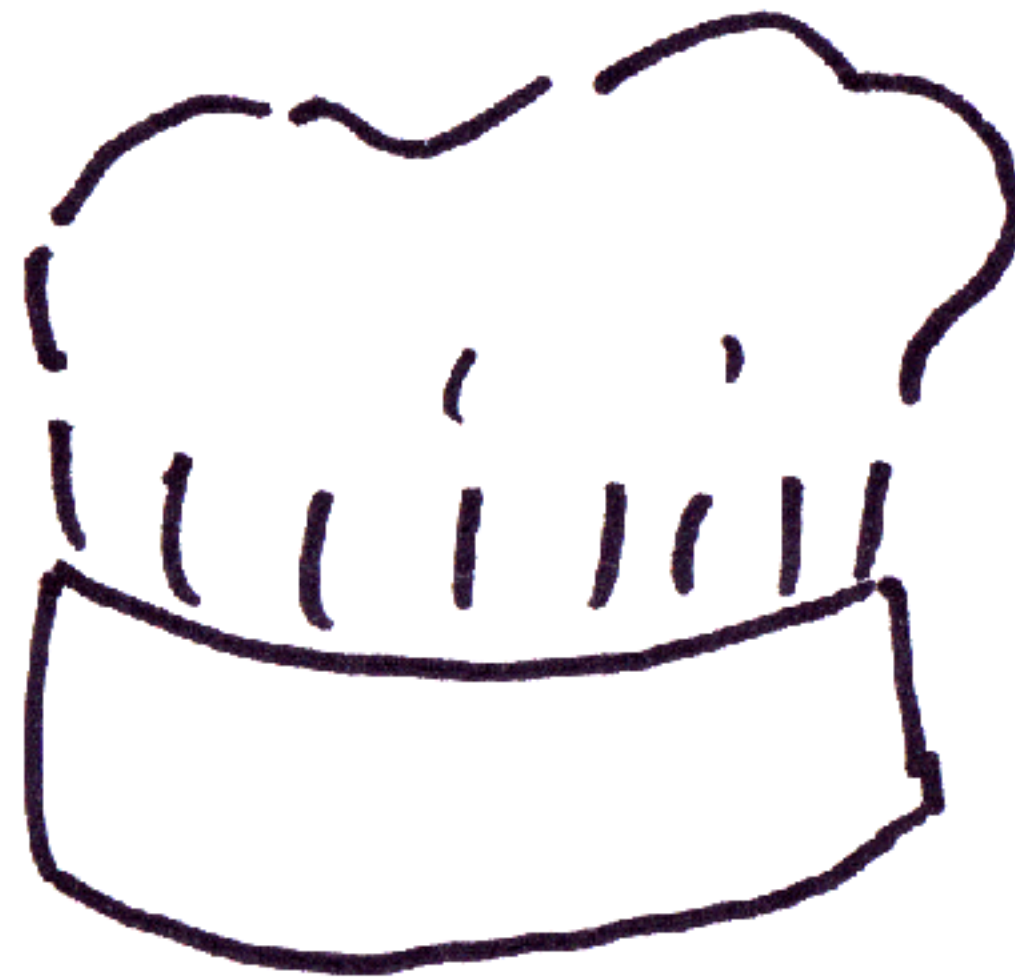
- Build and Test:** STAGE PASSED. LAST INPUT: Git URL. JOBS: Build Succeeded.
- Deploy:** STAGE PASSED. LAST INPUT: Stage: Build and T... JOBS: Deploy Succeeded.
- Batch Processes:** STAGE RUNNING... LAST INPUT: Stage: Build and T... JOBS: Update ... Succeeded, Update ... Succeeded, Update... Running.

Tools

(yep, still an incomplete list)

Tools

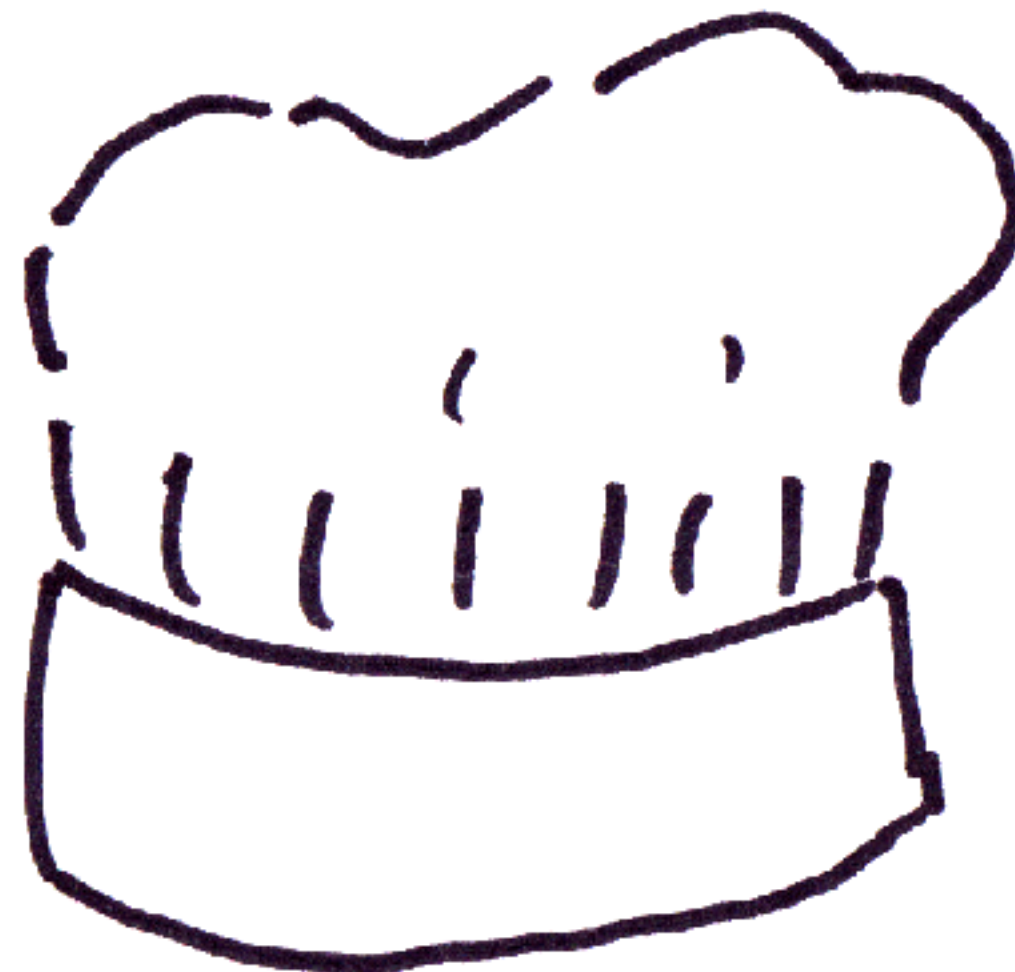
(yep, still an incomplete list)



Chef

Tools

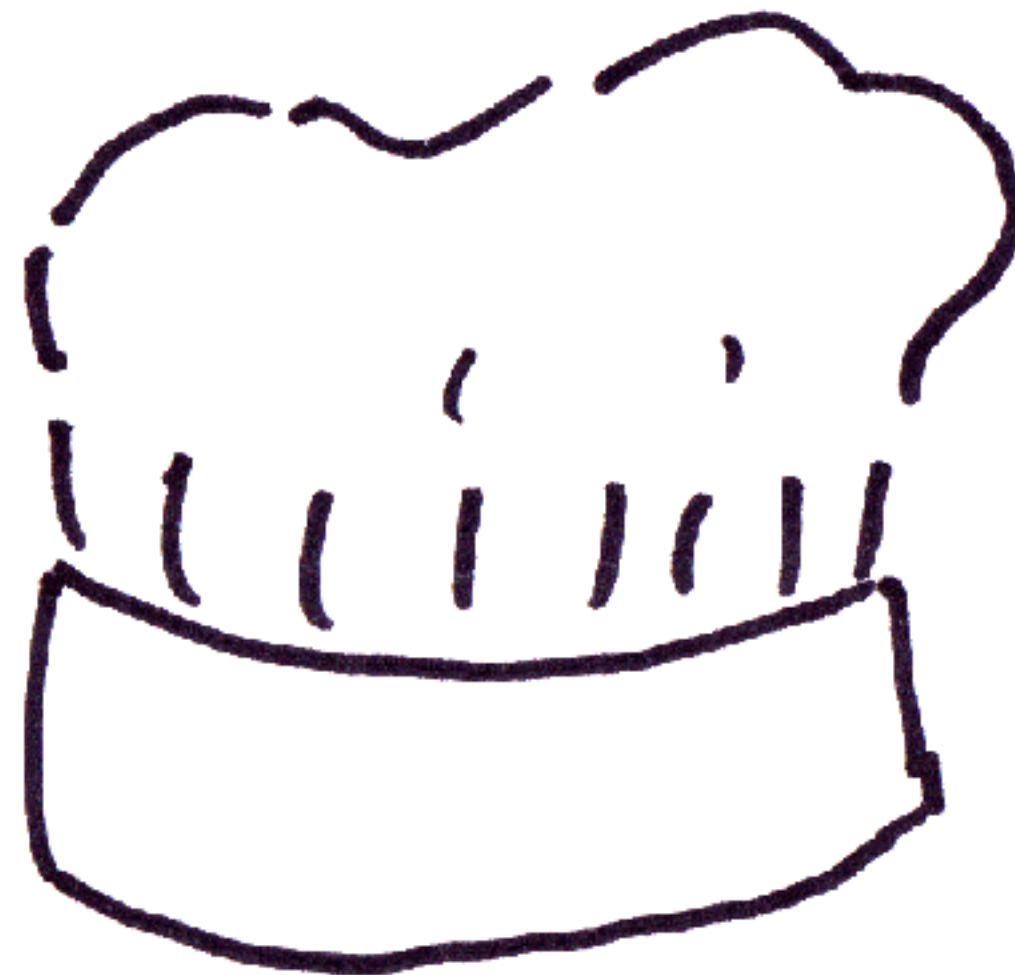
(yep, still an incomplete list)



Chef
Puppet

Tools

(yep, still an incomplete list)



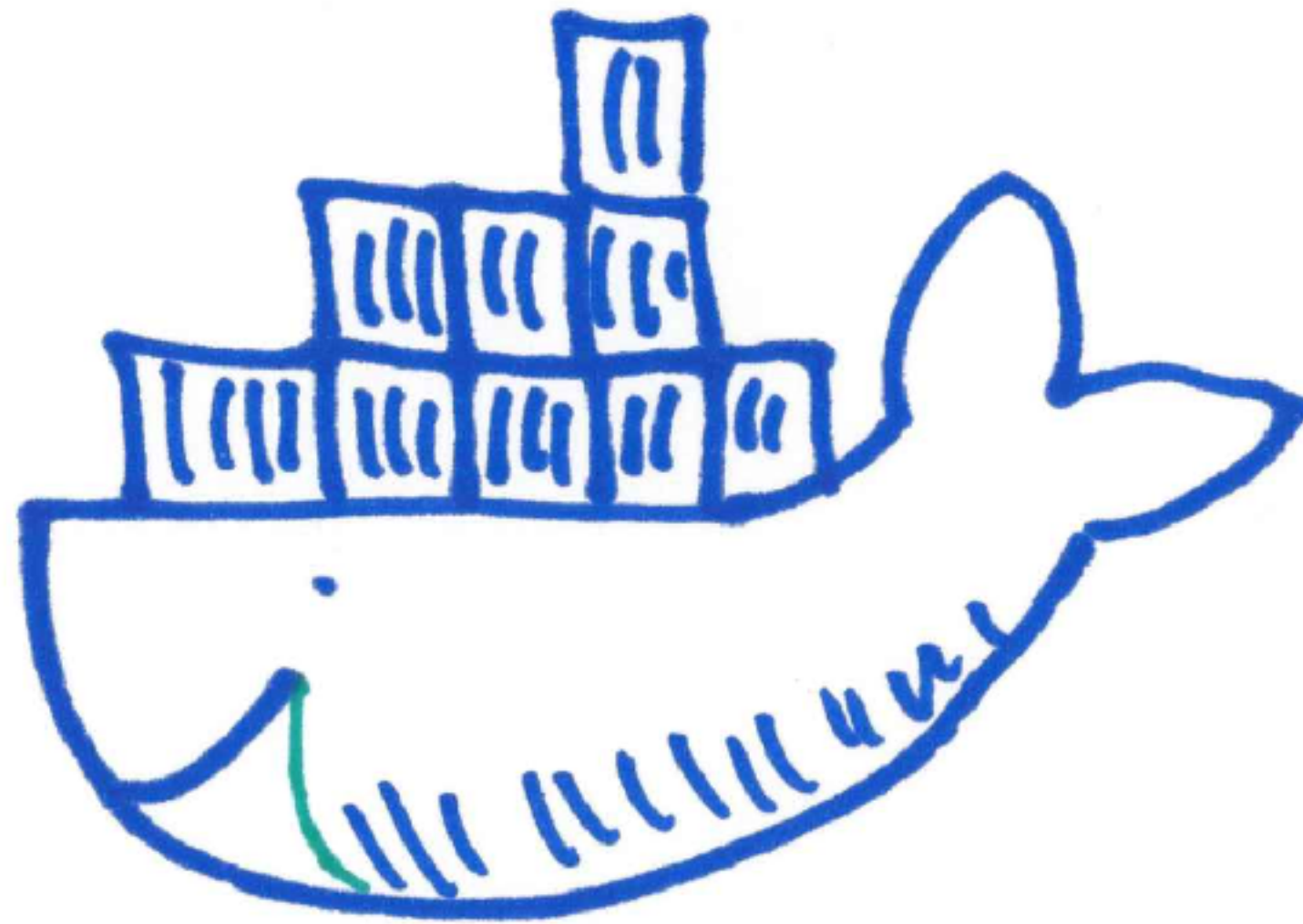
Chef

Puppet

sprout-wrap

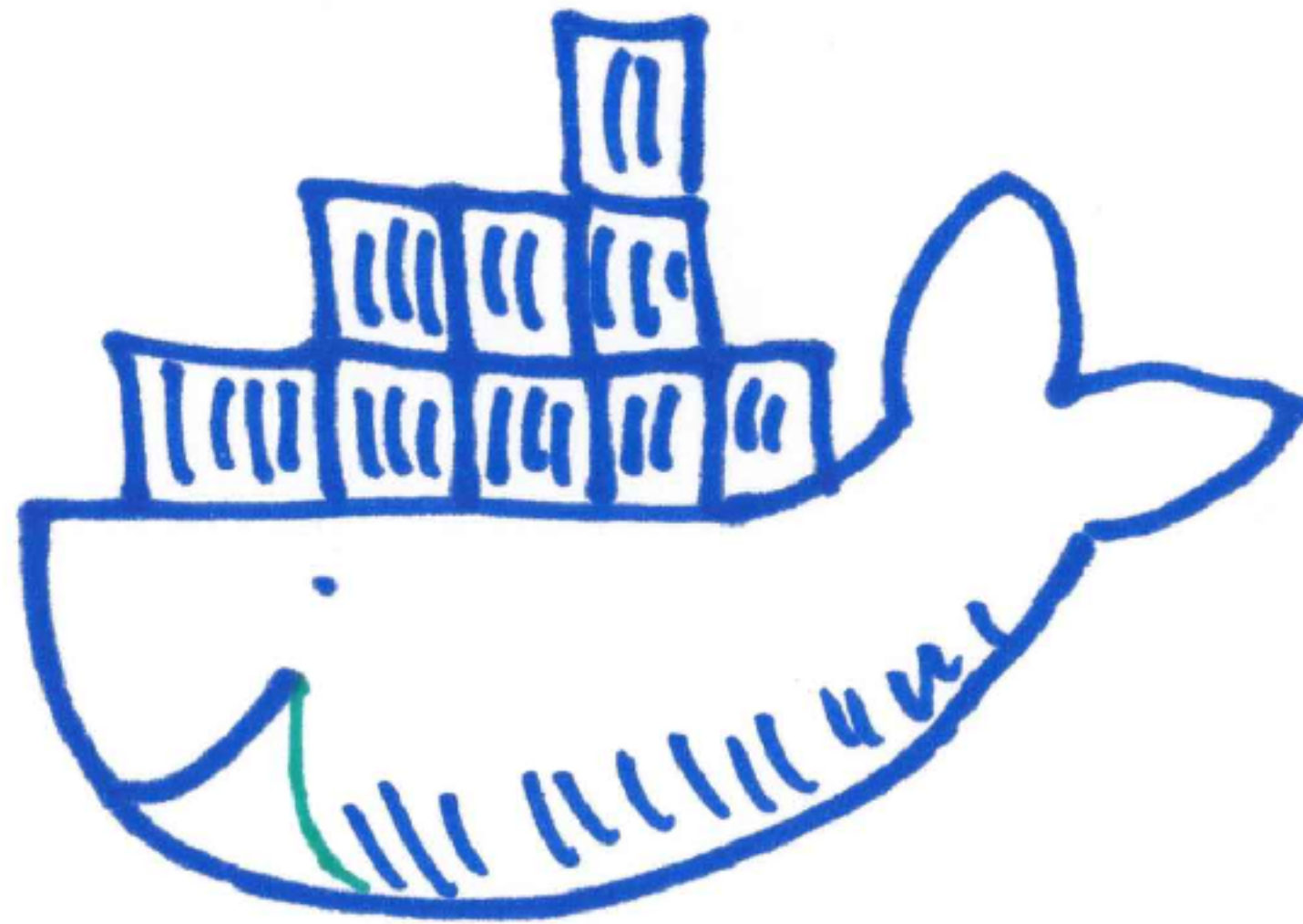
Tools

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



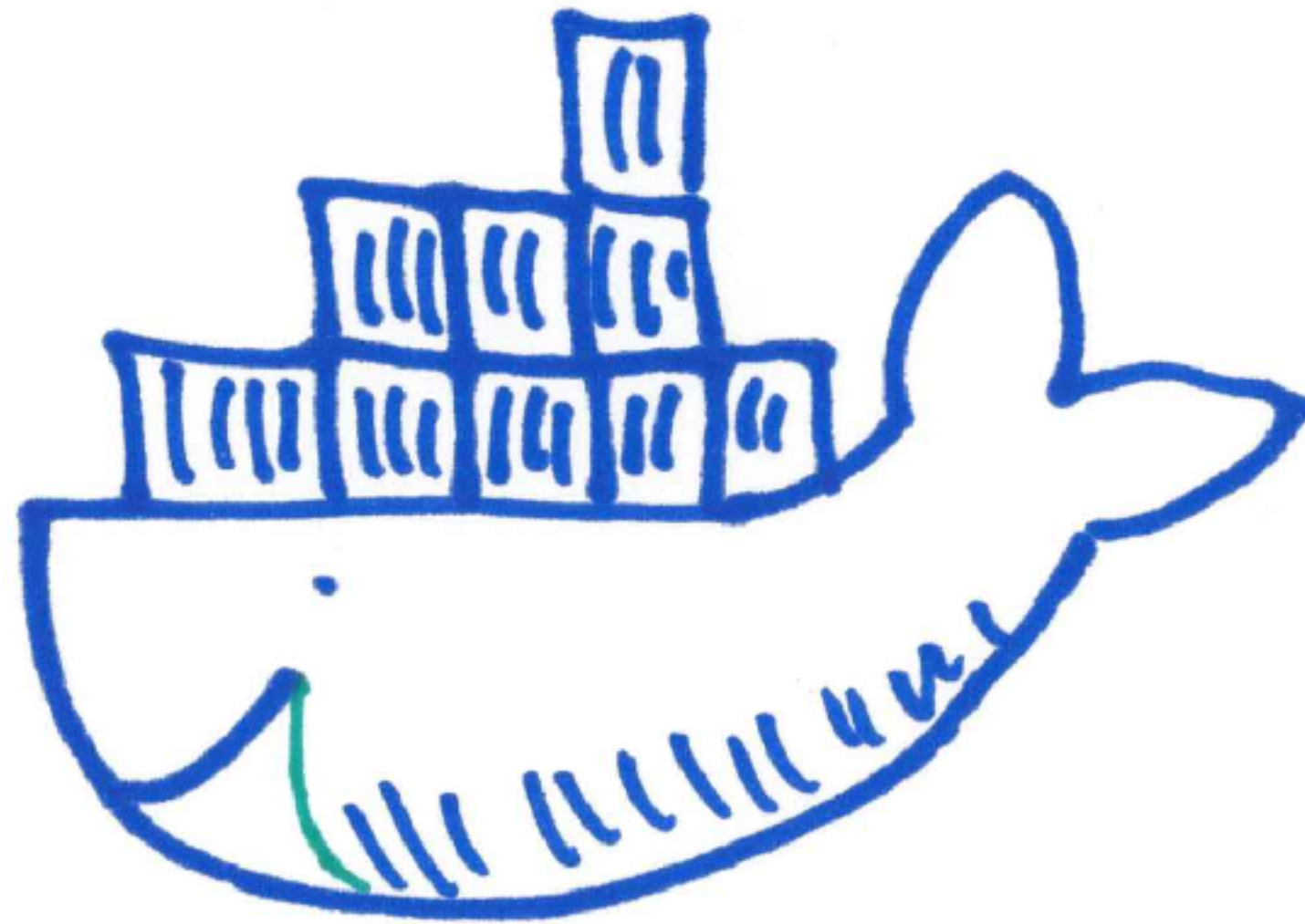
Tools

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



Tools

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



Docker, VMWare, and Vagrant images

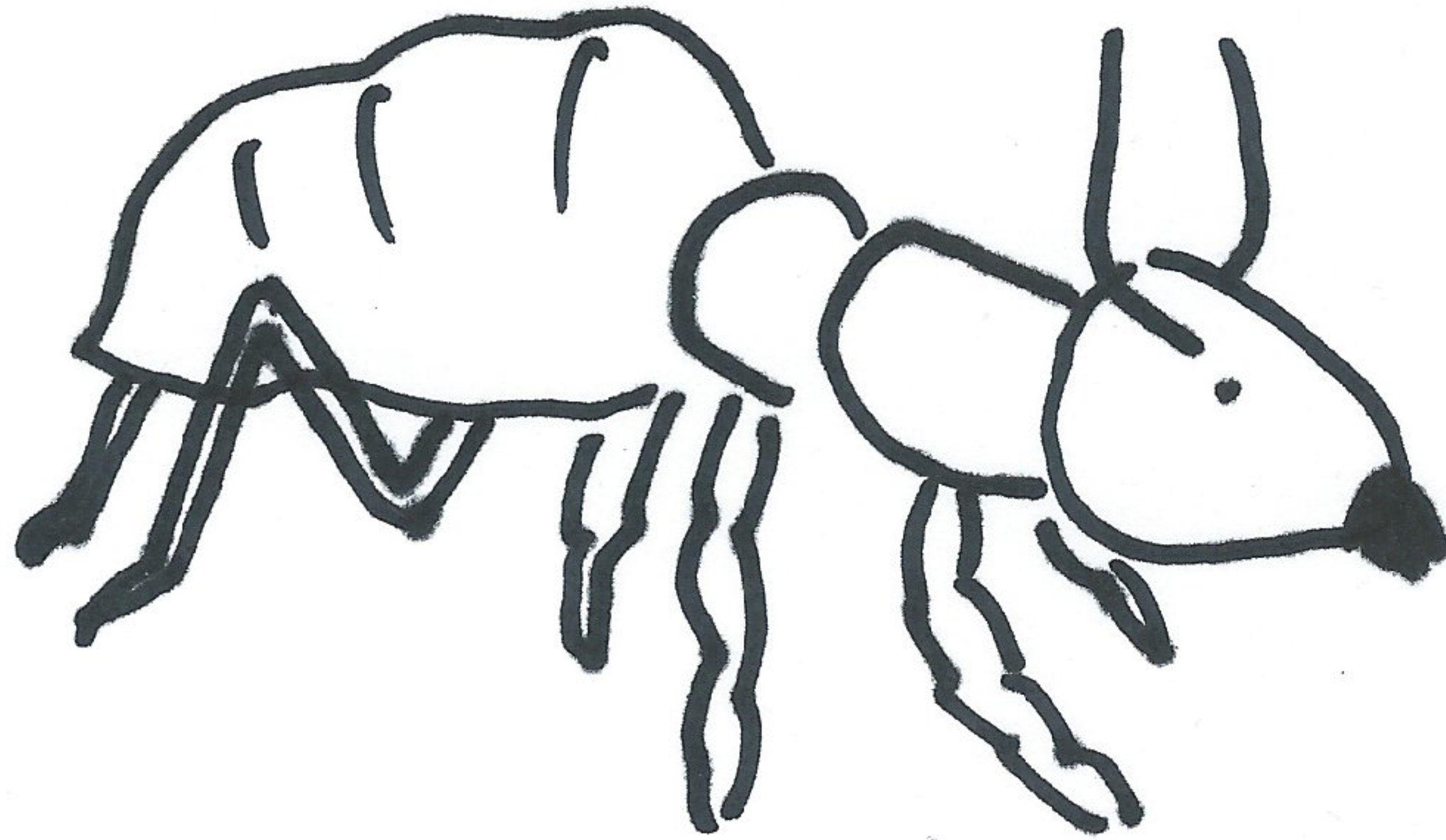
example
It doesn't have to be fancy

example
It doesn't have to be fancy



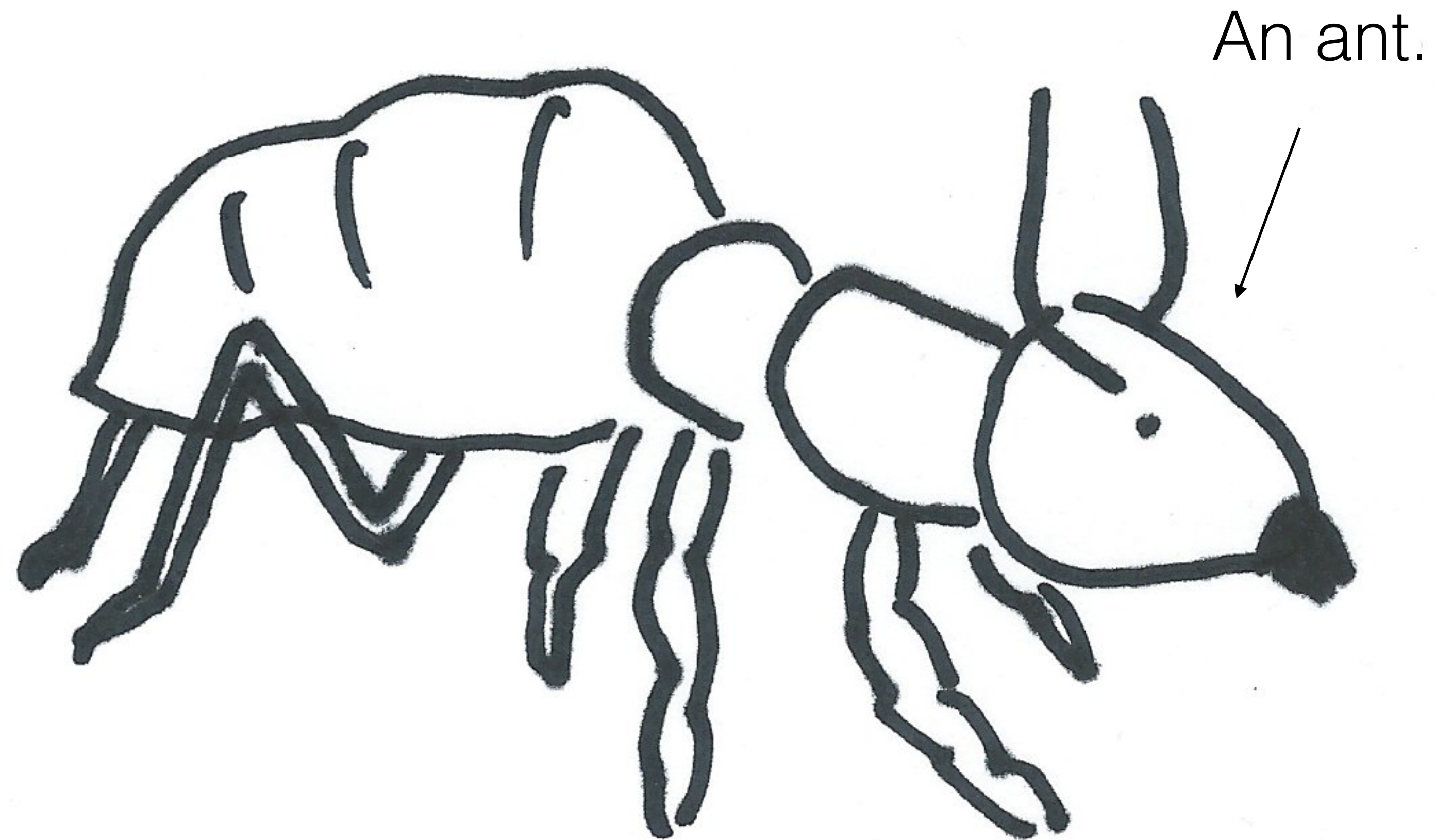
Tools

(still an incomplete list)



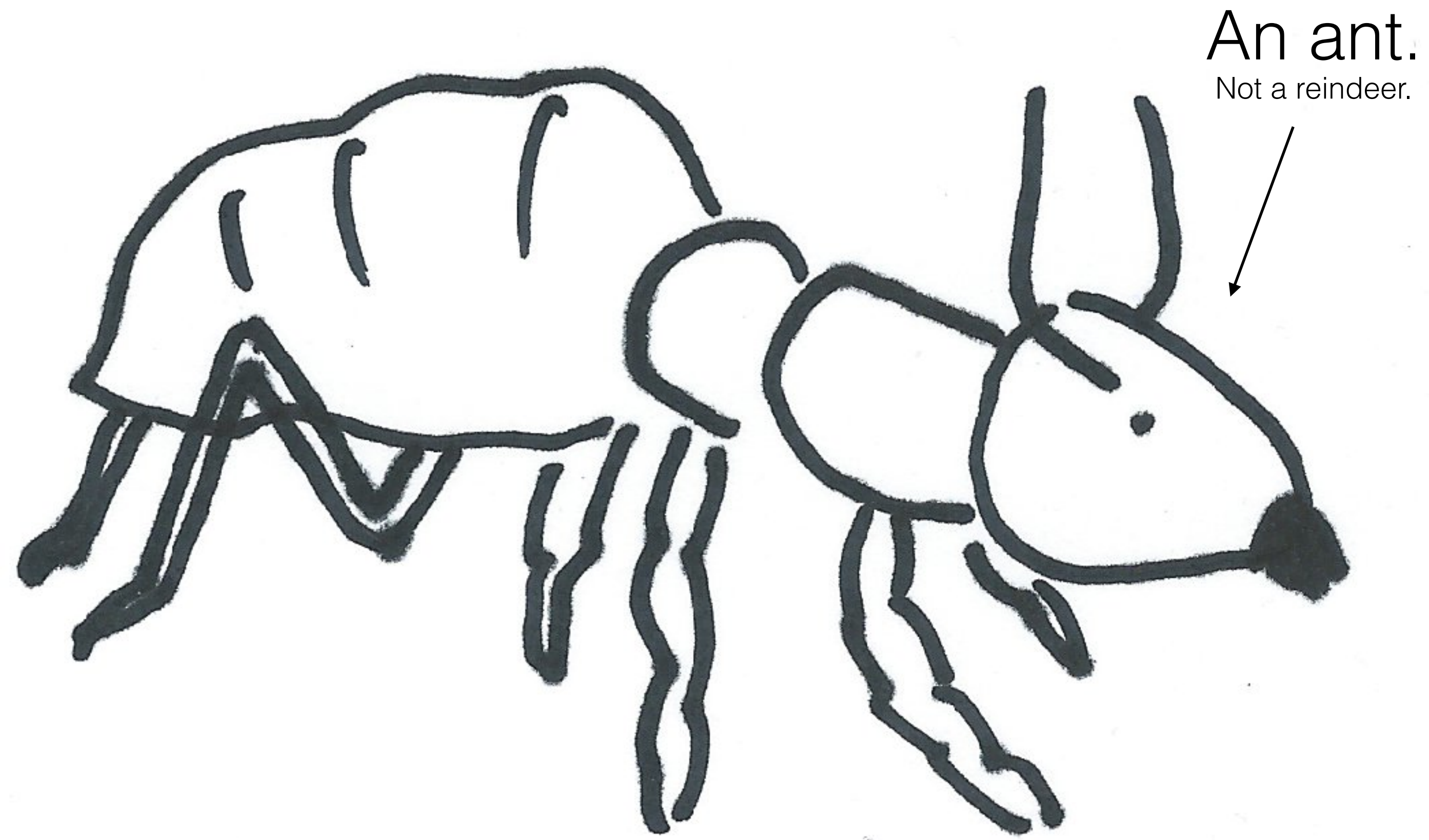
Tools

(still an incomplete list)



Tools

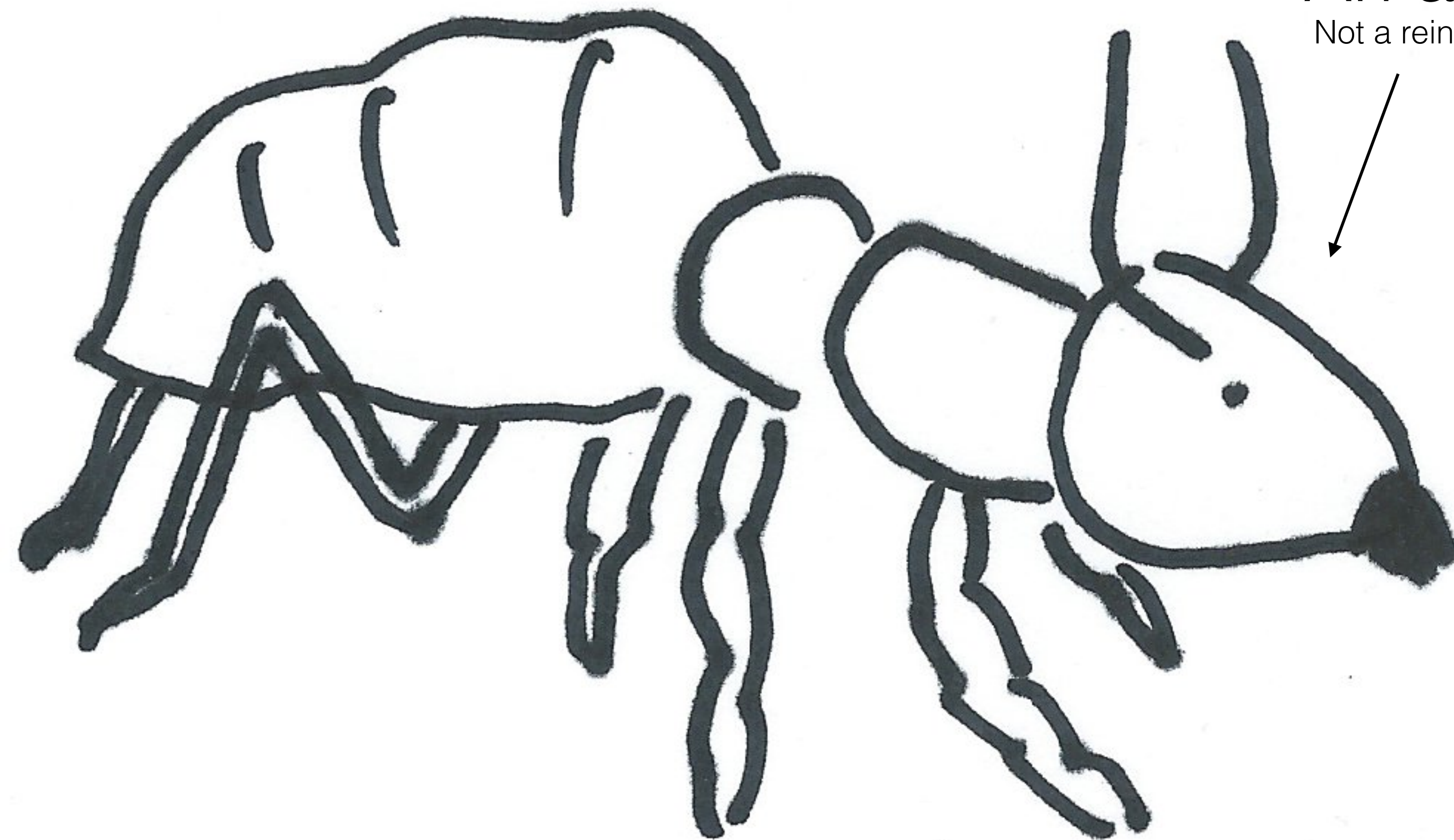
(still an incomplete list)



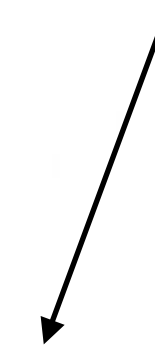
Tools

(still an incomplete list)

Ant



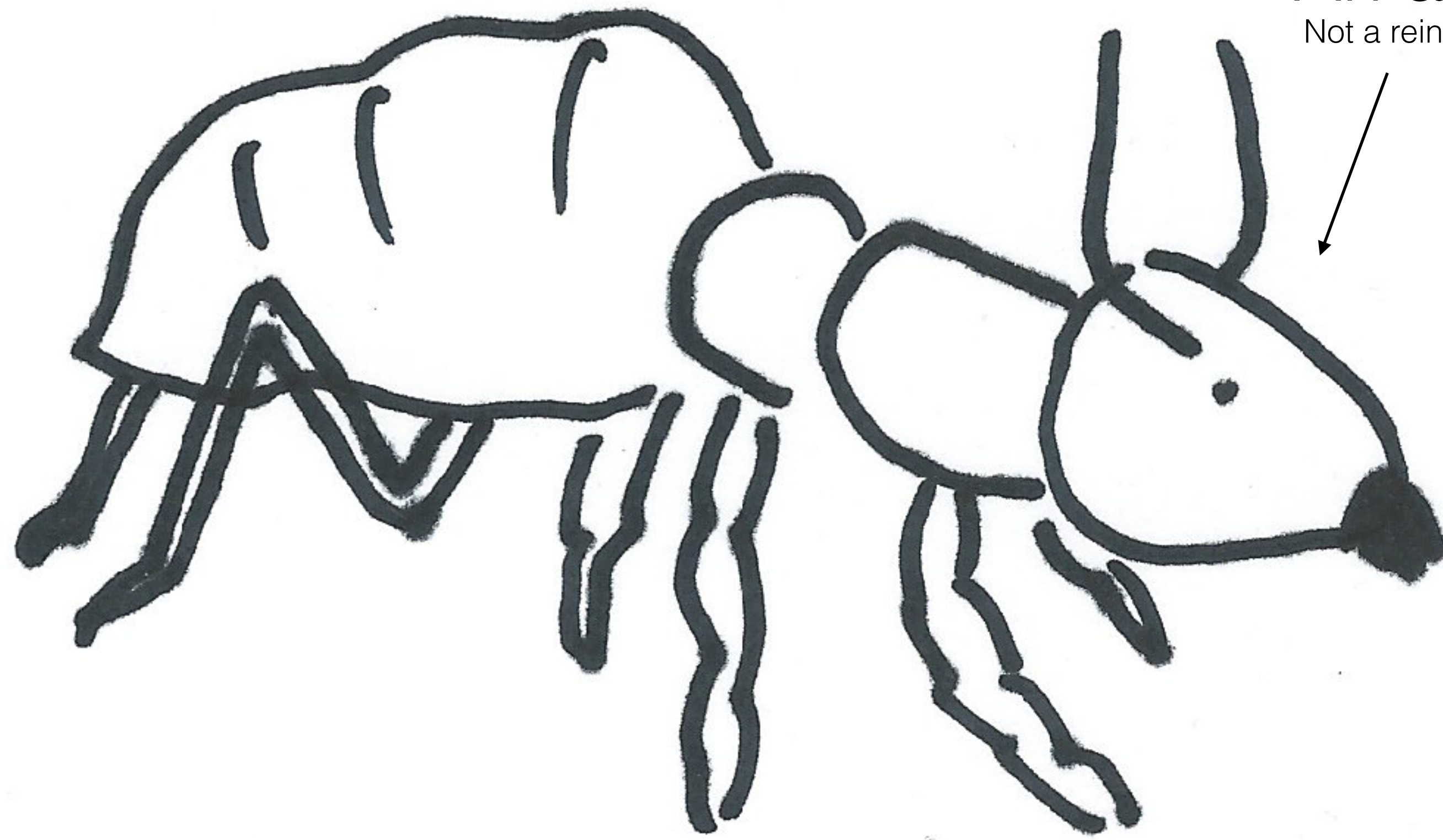
An ant.
Not a reindeer.



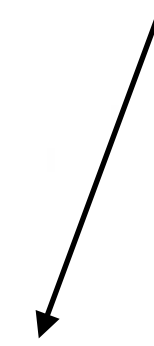
Tools

(still an incomplete list)

Ant
Maven



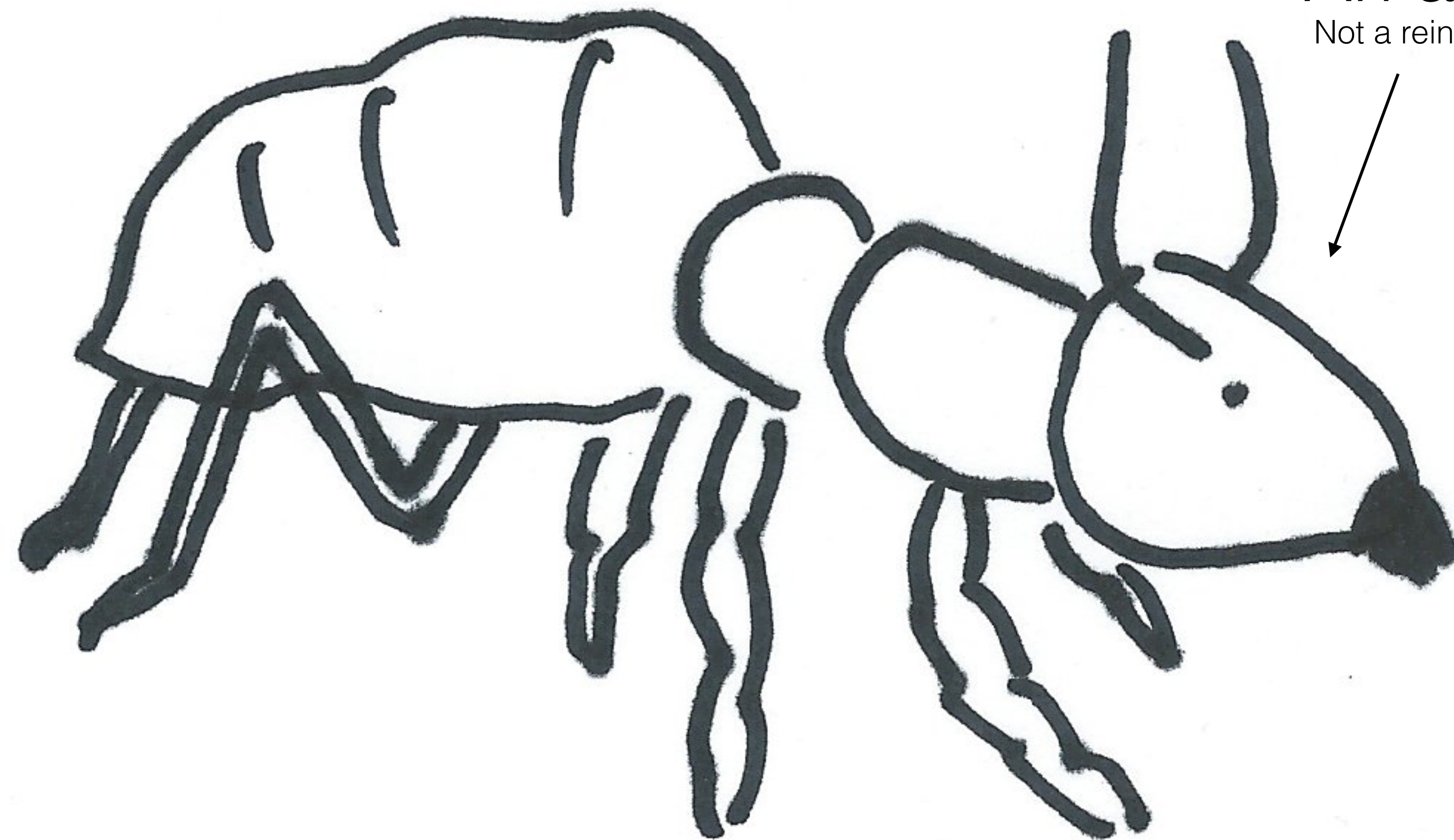
An ant.
Not a reindeer.



Tools

(still an incomplete list)

Ant
Maven
Gradle



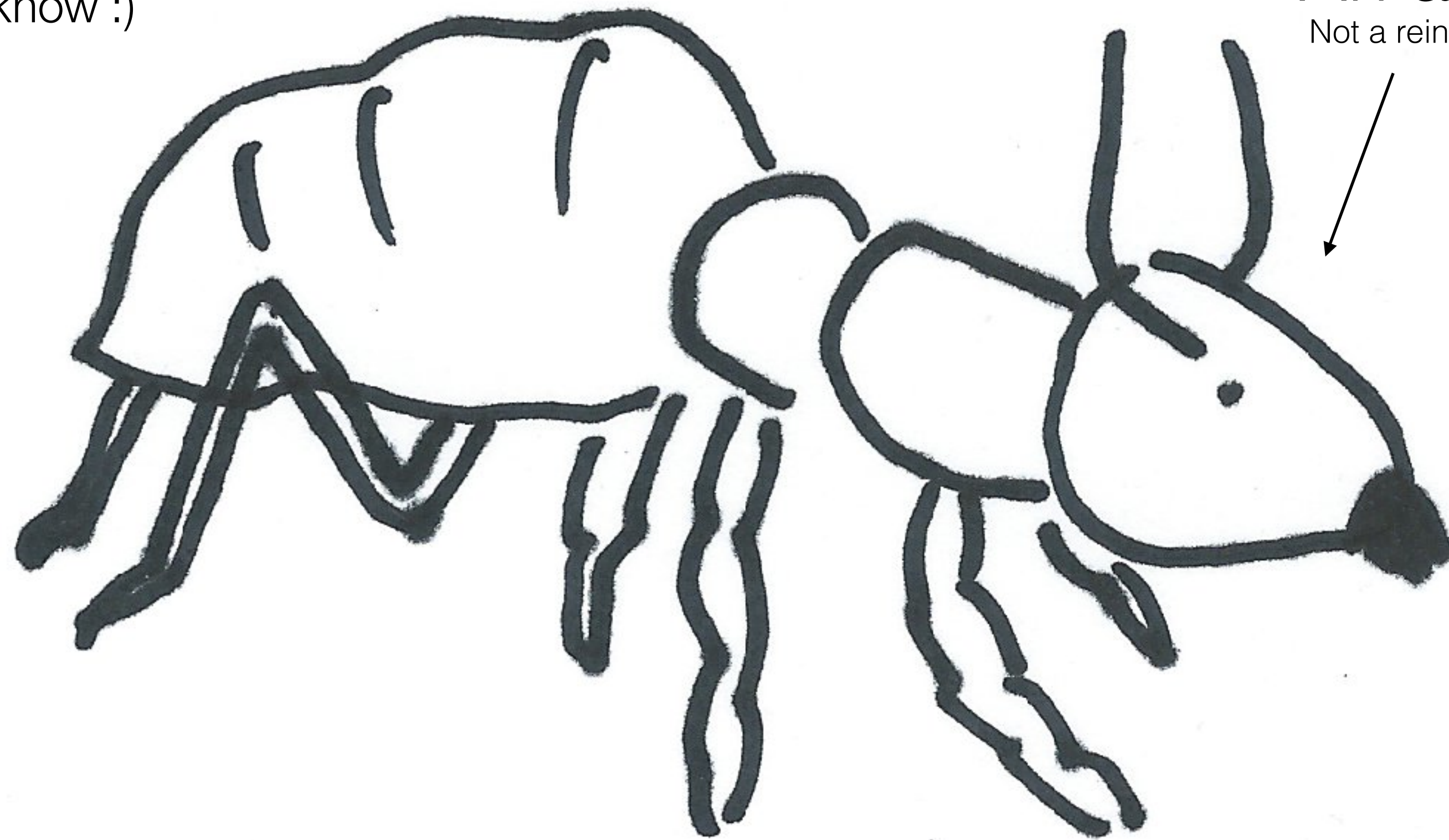
An ant.
Not a reindeer.

Tools

(still an incomplete list)

Ant
Maven
Gradle

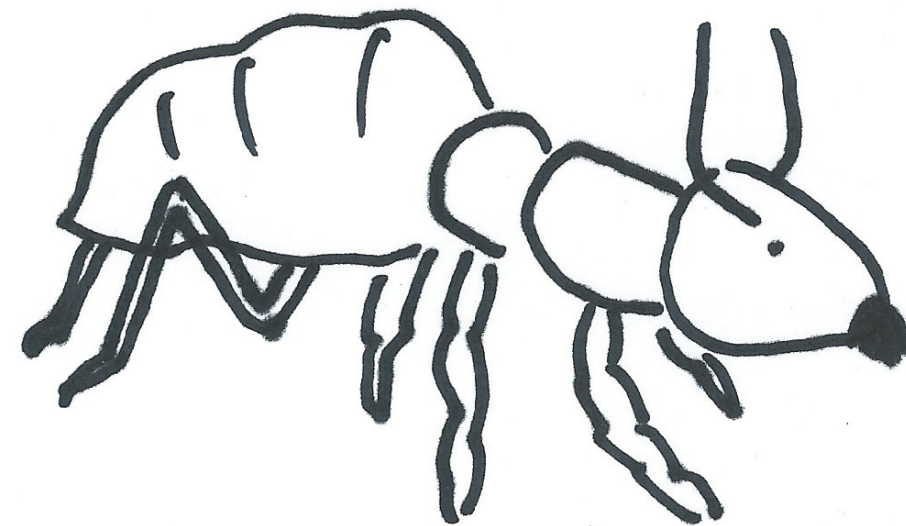
Non-Java build tools I don't know :)



An ant.
Not a reindeer.

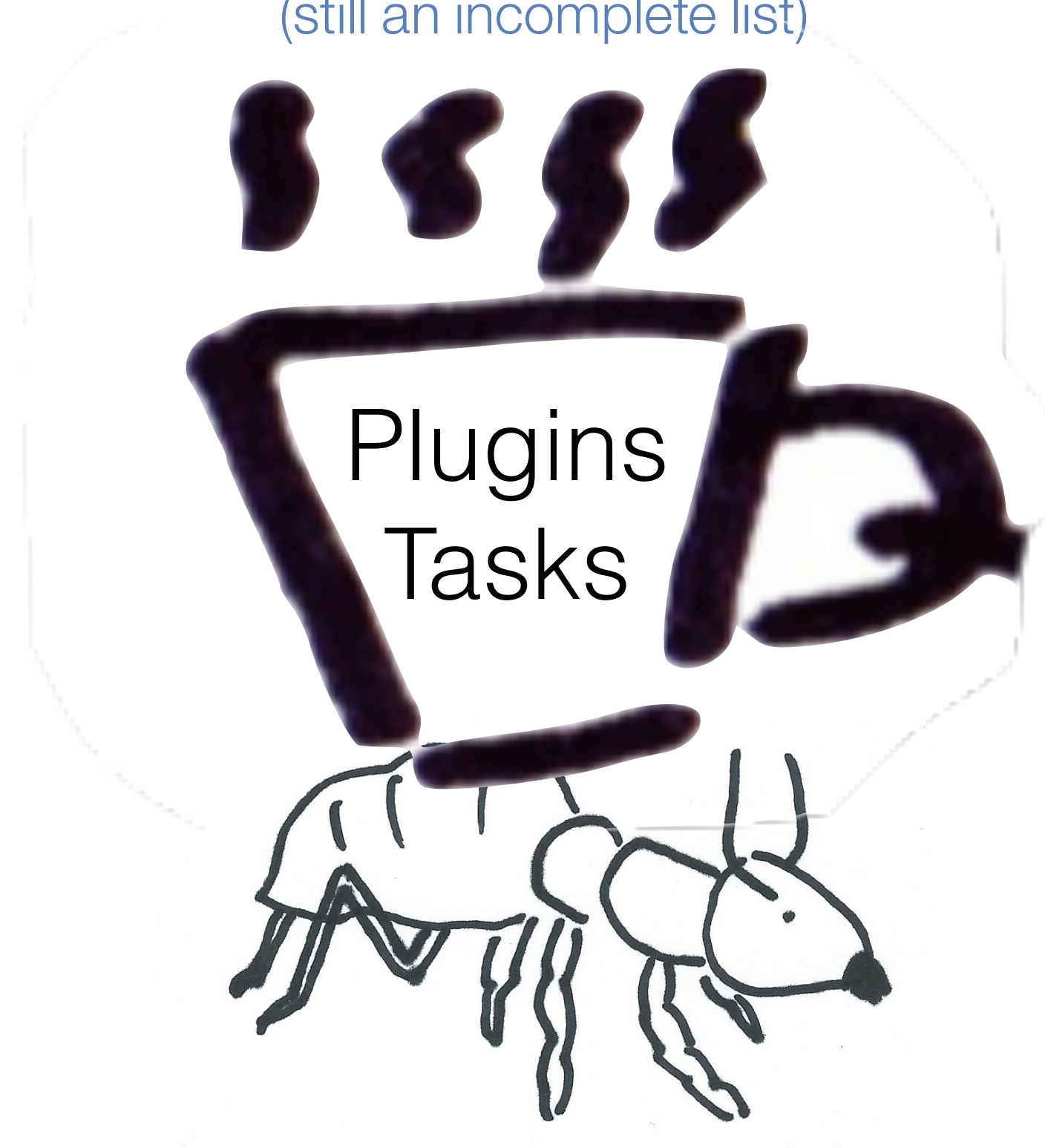
Tools

(still an incomplete list)



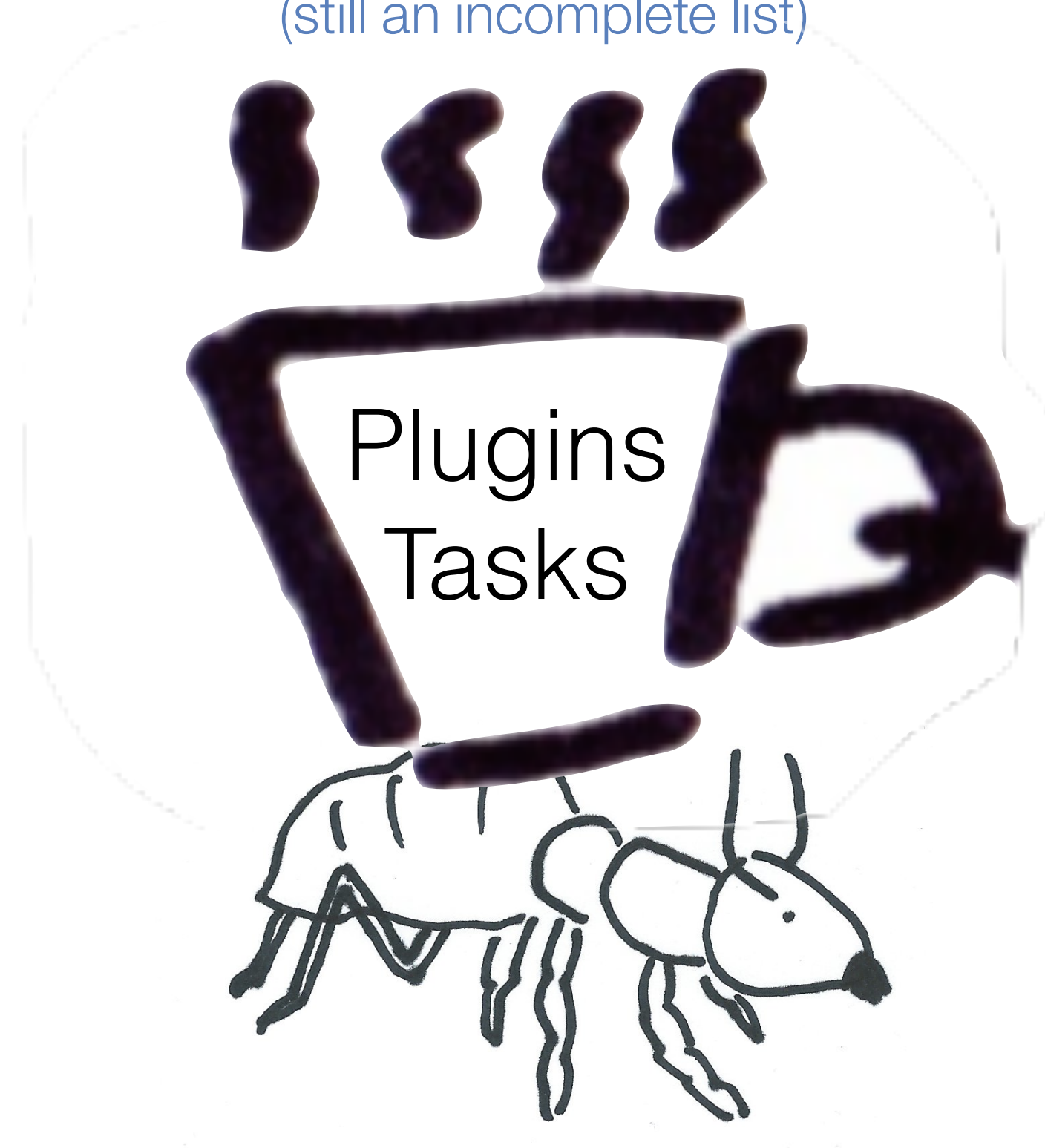
Tools

(still an incomplete list)



Tools

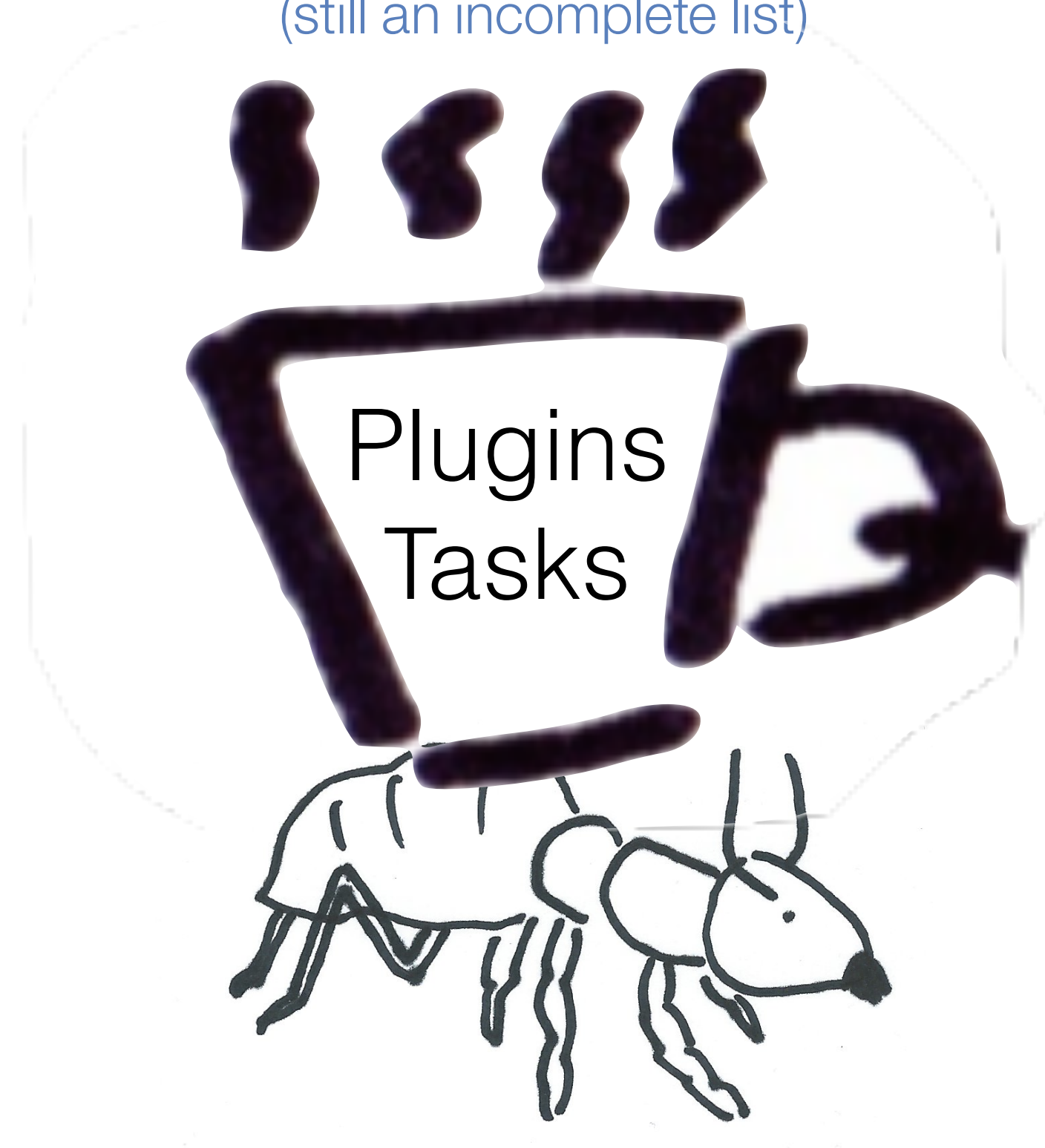
(still an incomplete list)



Know your build tool.

Tools

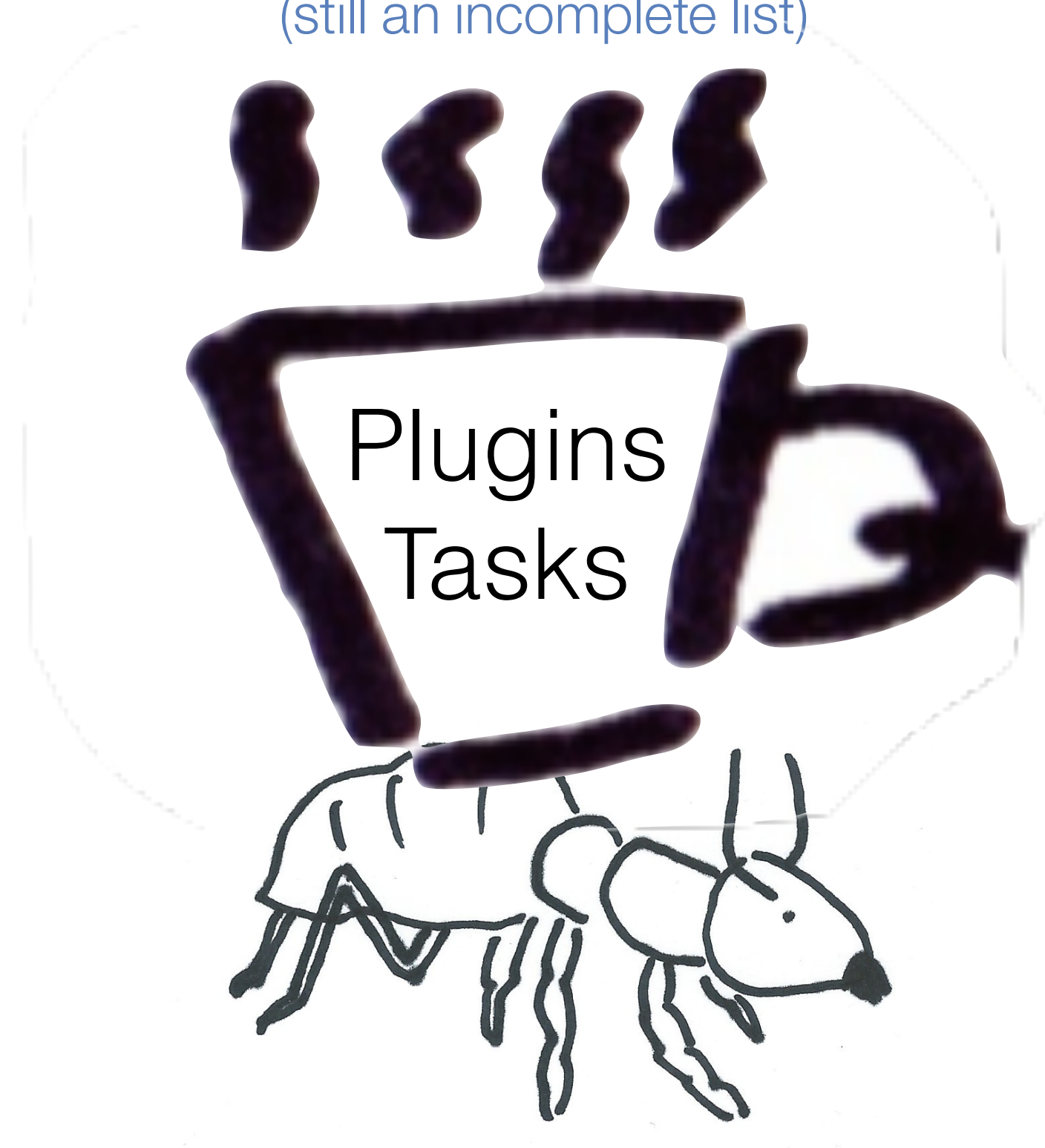
(still an incomplete list)



Know your build tool.
Extend your build tool.

Tools

(still an incomplete list)



Know your build tool.
Extend your build tool.

Tools

(still an incomplete list)



Srikanth K M 11:37 AM ☆

@here Is the REST API for cf ic cpi exposed to users? I do not see it here : <http://ccsapi-doc.mybluemix.net/#/>



Reggie Robot BOT 11:37 AM

One sec, I'll ping the interrupt pair for you...

The current interrupt pair is:

Tim Glover-Poultn

Matthew Green: @



fat-controller BOT 7:59 PM

Spotted approval request - raising IDS ticket...

Train is waiting at the station, ticket 96381, waiting on approval from one of: @ralph,@colin,@tonyg,@cullepl,@fat-controller,
<https://jazzop27.rtp.raleigh.ibm.com:9443/ccm/resource/itemName/com.ibm.team.workitem.WorkItem/96381>

(prod-trains approval to deploy Sensu check to monitor for Ibaas agent on network nodes. squad: Container Runtime)



tonyg 10:20 PM
approve 96381



fat-controller BOT 10:20 PM
approval recorded in RTC

Ticket 96381 resolved


Mind the doors please! Choo Choo 🚂🚂 @marian




marian 10:20 PM
Thanks

Tools

(still an incomplete list)


 **Srikanth K M** 11:37 AM ☆
@here Is the REST API for cf ic cpi exposed to users? I do not see it here : <http://ccsapi-doc.mybluemix.net/#/>


 **Reggie Robot** BOT 11:37 AM
One sec, I'll ping the interrupt pair for you...


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Spotted approval request - raising IDS ticket...
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<https://jazzop27.rtp.raleigh.ibm.com:9443/ccm/resource/itemName/com.ibm.team.workitem.WorkItem/96381>
(prod-trains approval to deploy Sensu check to monitor for Ibaas agent on network nodes. squad: Container Runtime)

 **tonyg** 10:20 PM
approve 96381

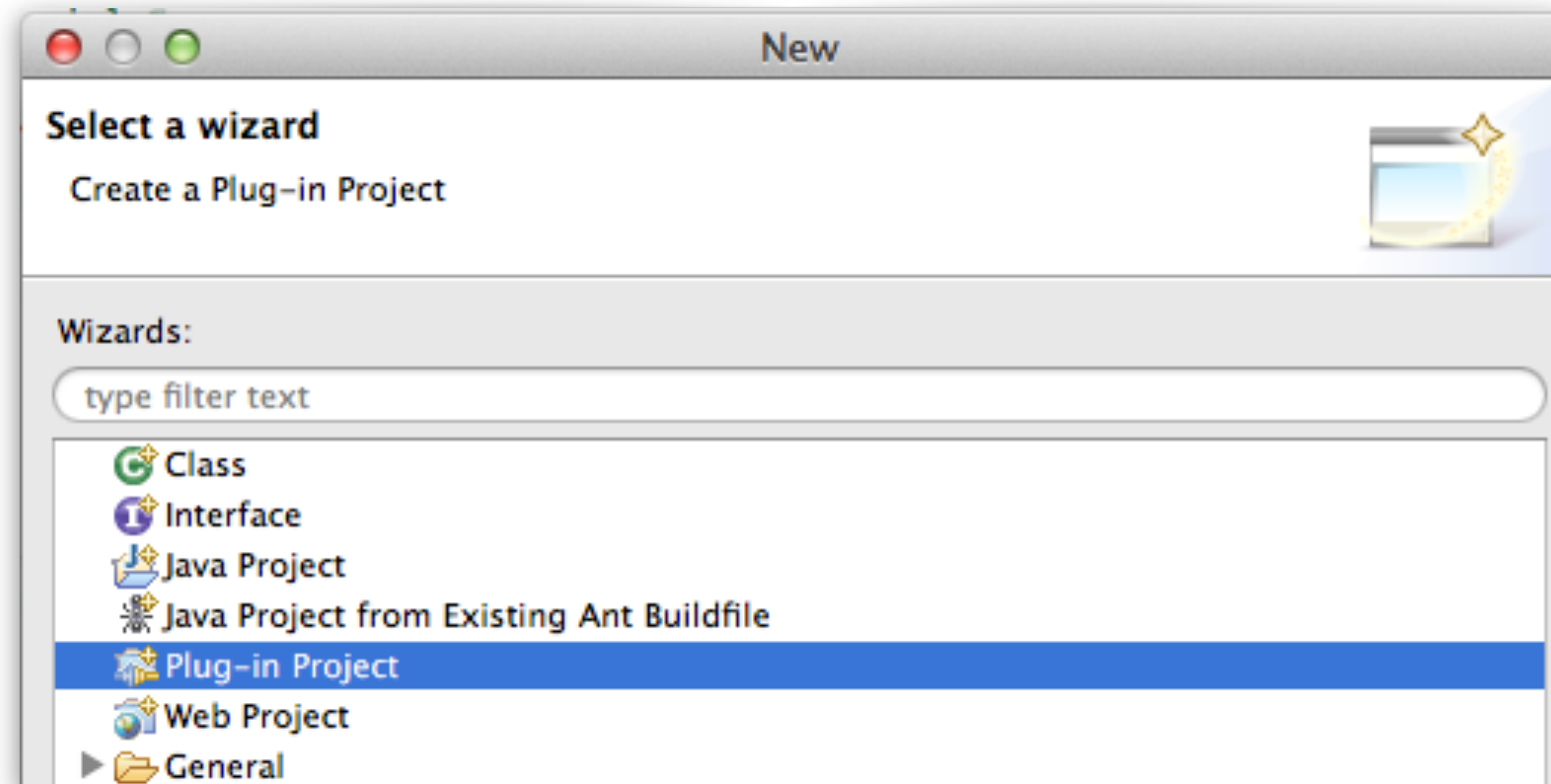
 **fat-controller** BOT 10:20 PM
approval recorded in RTC
Ticket 96381 resolved
Mind the doors please! Choo Choo 🚂🚂 @marian

 **marian** 10:20 PM
Thanks

Chat
integrations

Tools

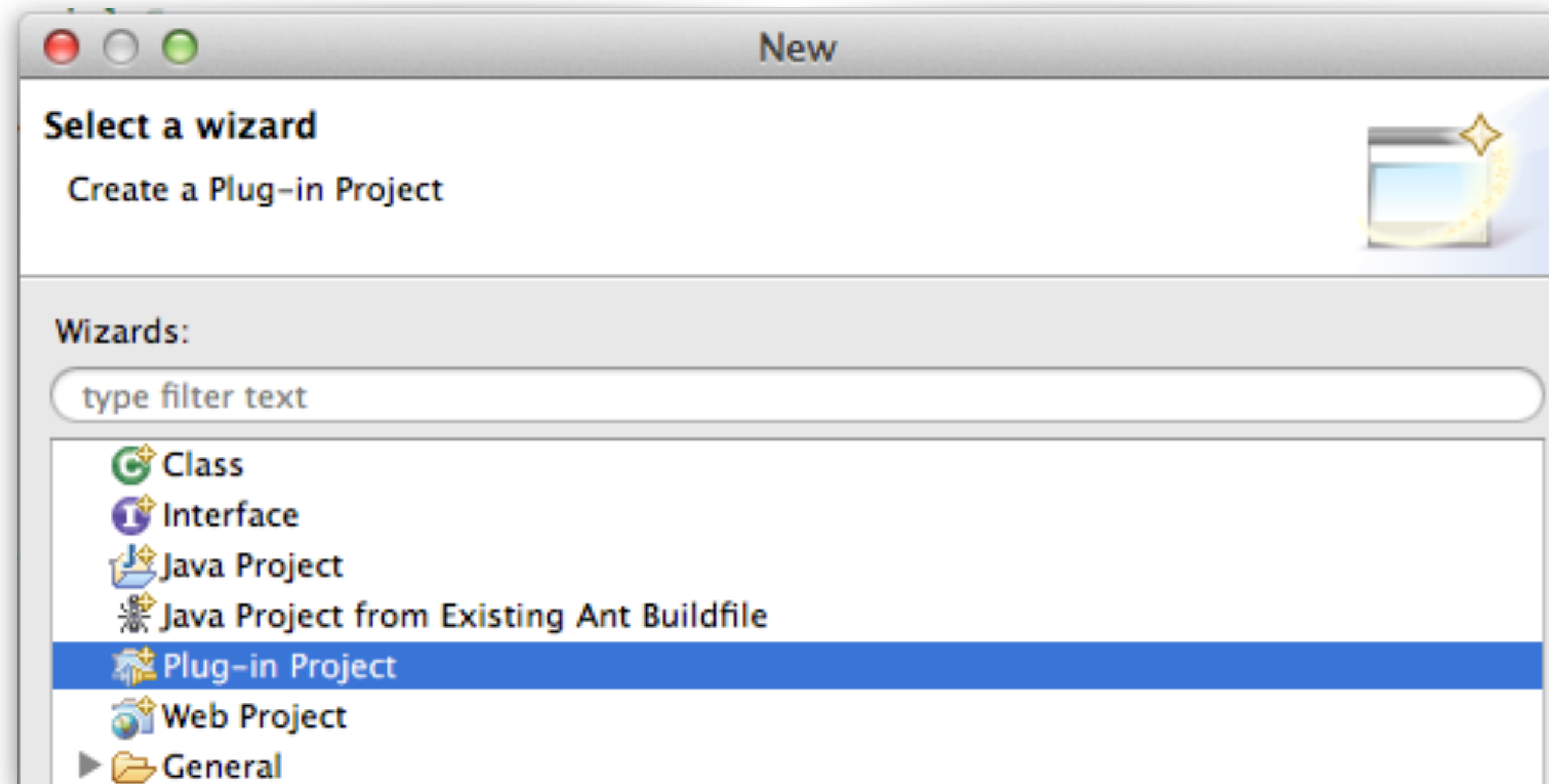
(still an incomplete list)



Tools

(still an incomplete list)

Eclipse plugins



Tools

(still an incomplete list)



Tools

(still an incomplete list)



Web applications

Tools

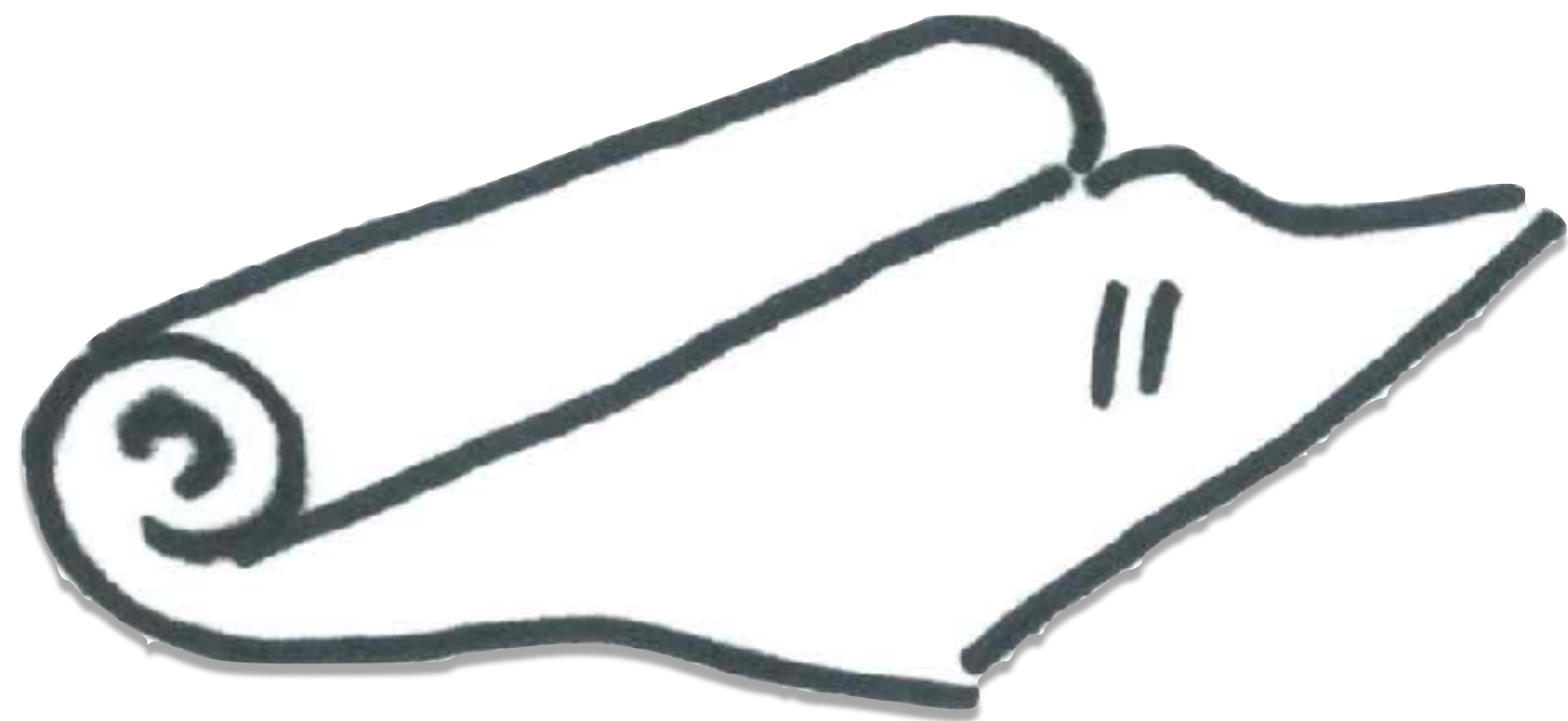
(still an incomplete list)



Web applications

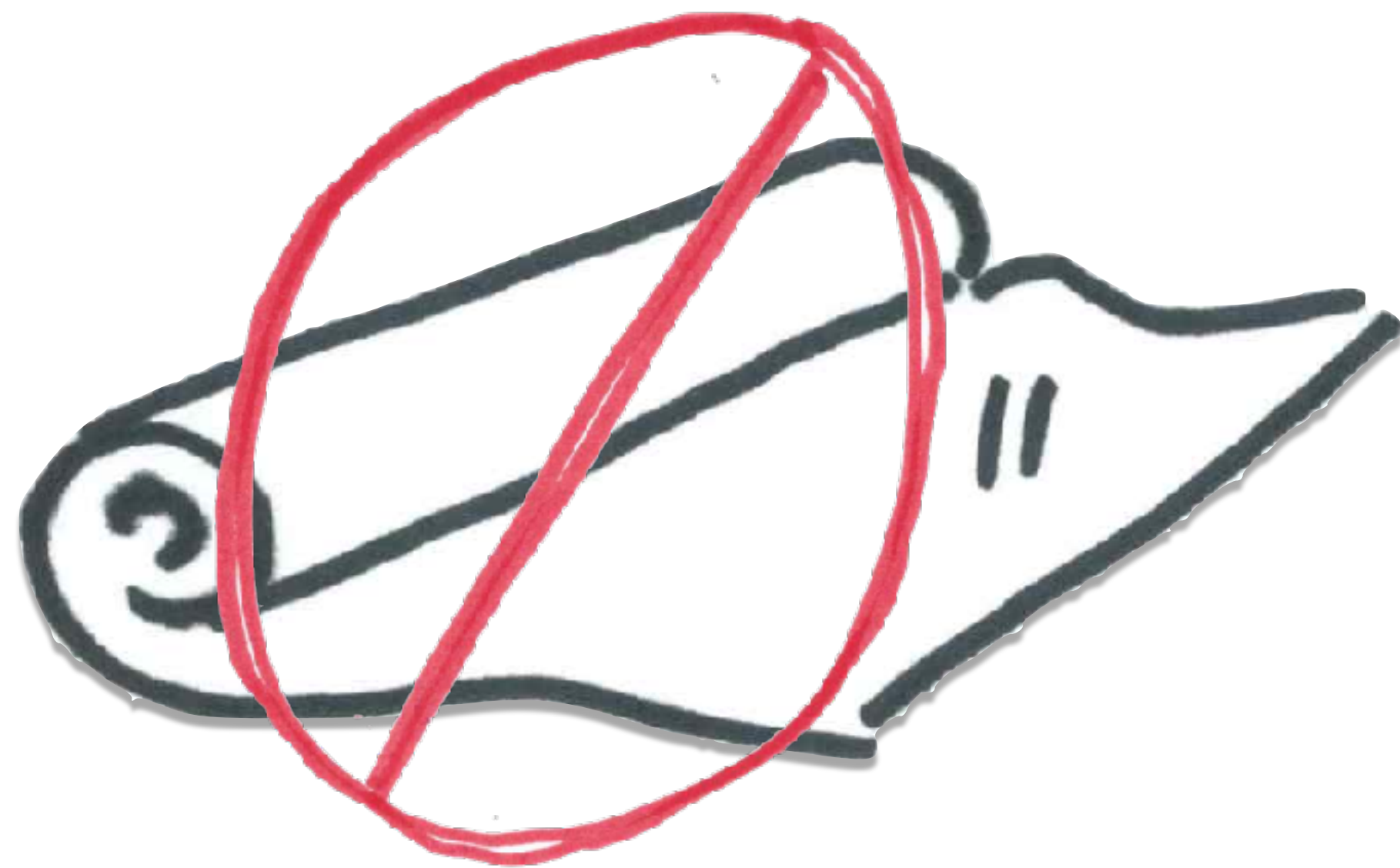
(If a UI is involved, proceed with caution)

Rolling your own



Rolling your own

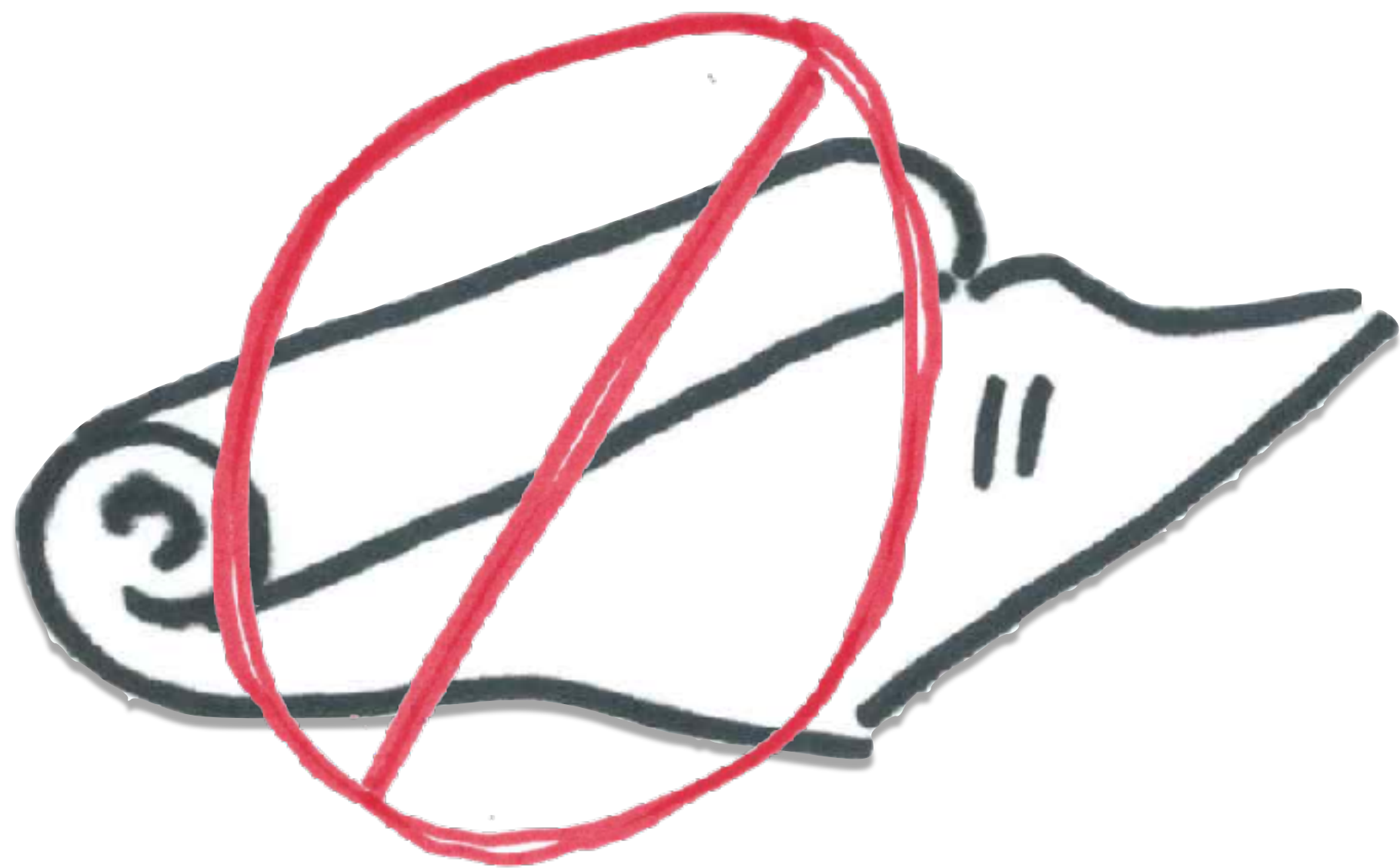
Beware not-invented-here



Rolling your own

Beware not-invented-here

Are you *sure* no one else has done this?

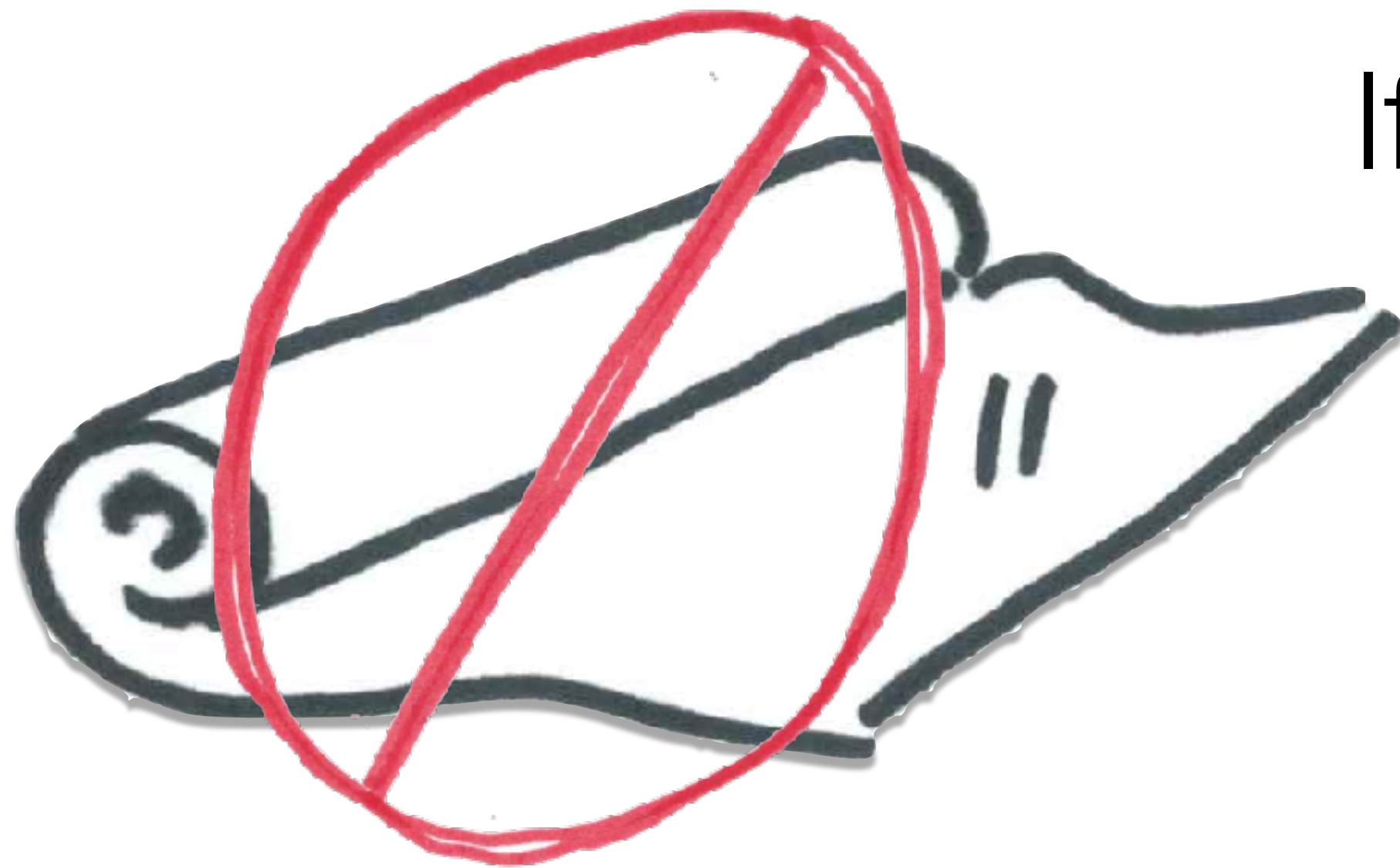


Rolling your own

Beware not-invented-here

Are you *sure* no one else has done this?

If not, maybe there's a good reason?



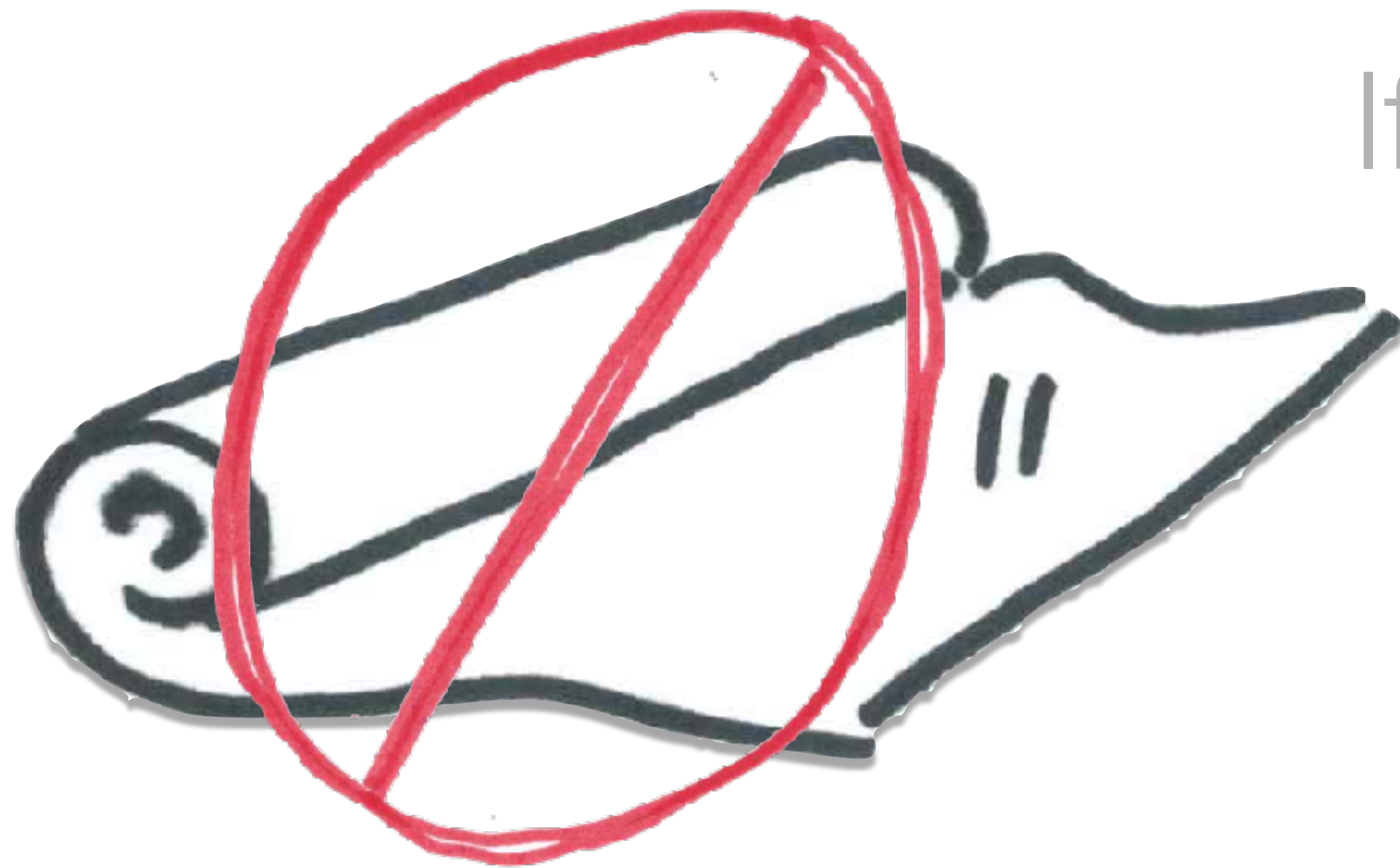
Rolling your own

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

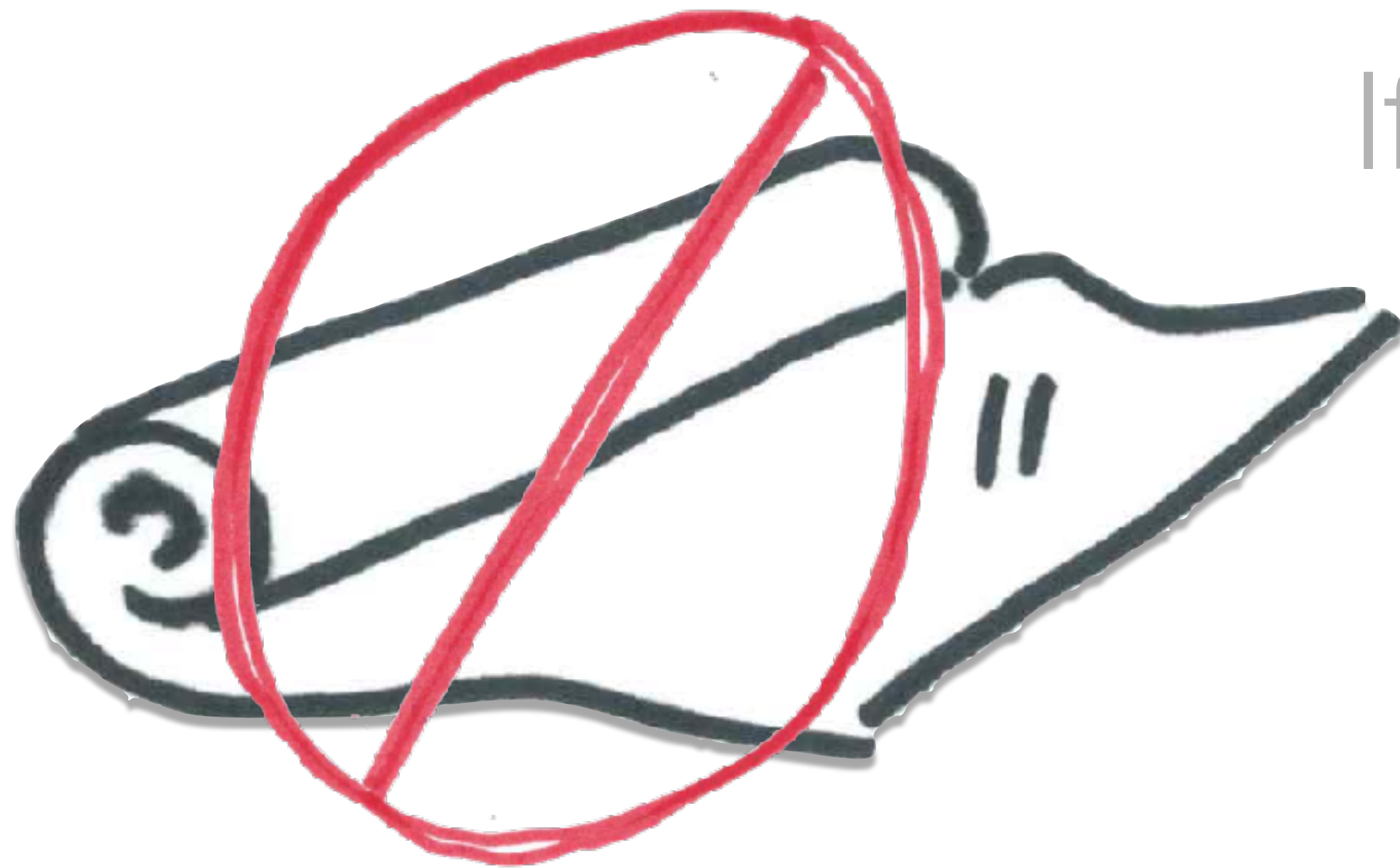
Beware not-invented-here

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**?



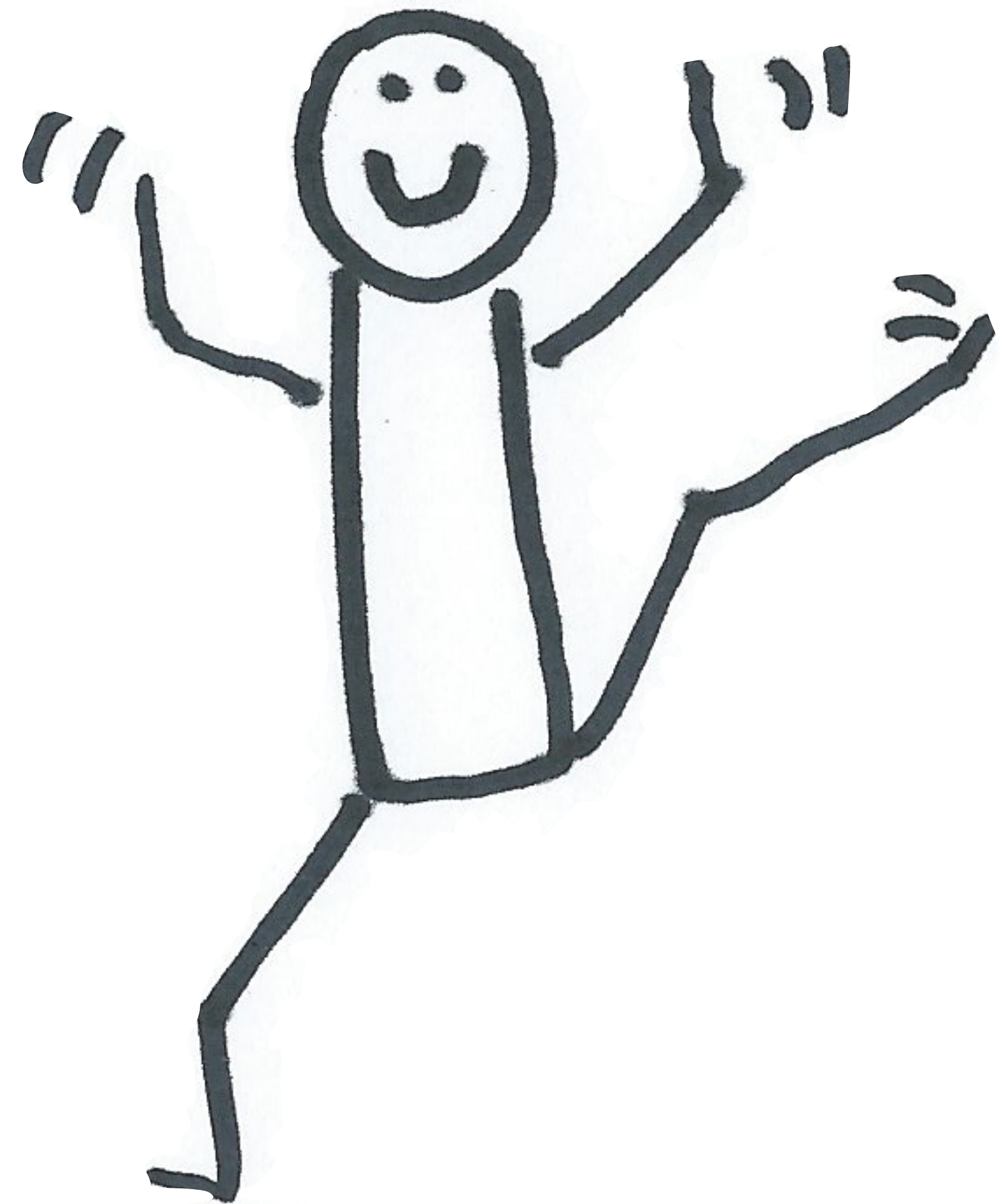
Finally ...

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**?



Why are we here?

Why are we here?

To make things *better*.

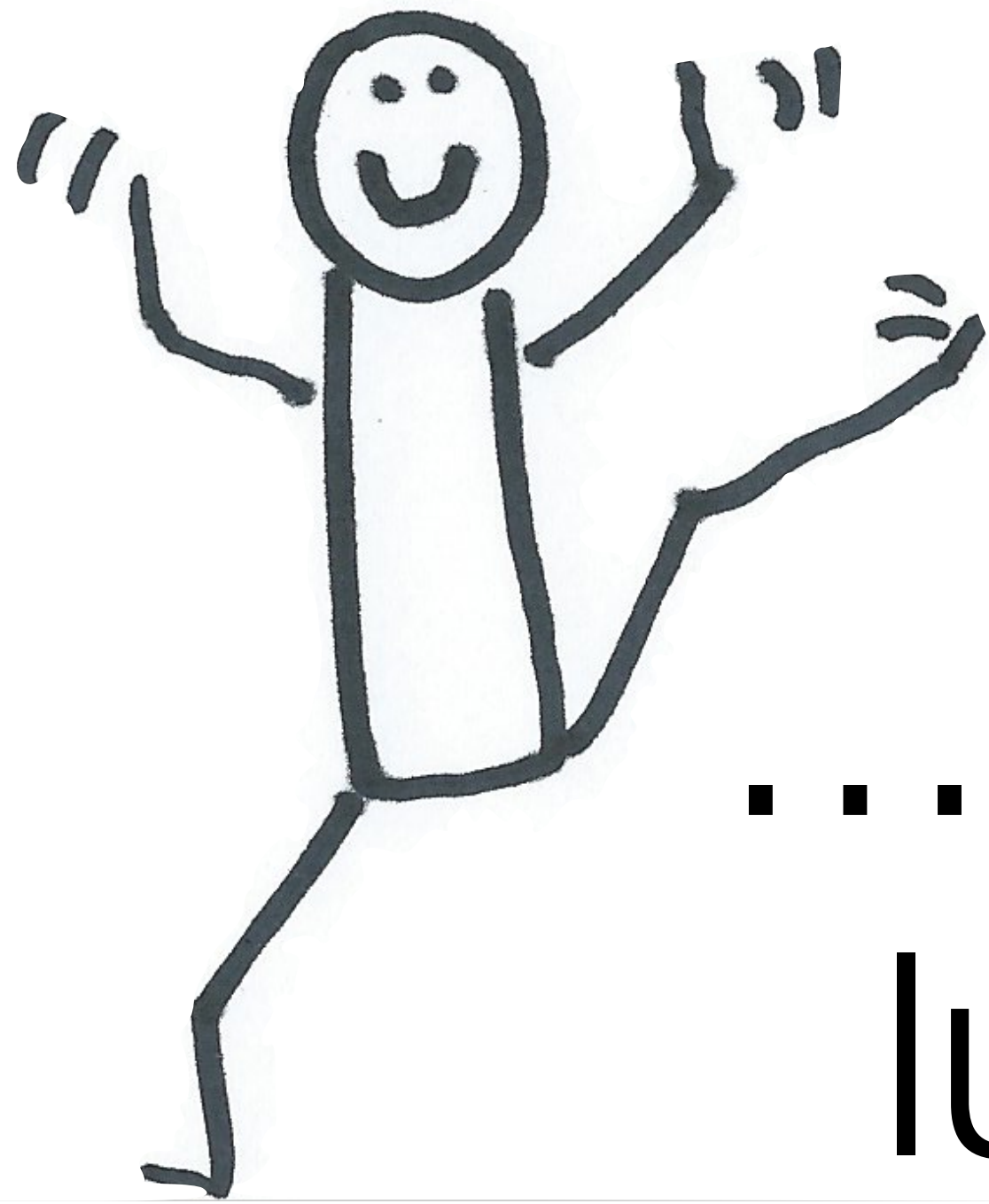
Automate stuff ...

Automate stuff ...

... so we can use
our power for what
really matters.



... and then ...



... and then ...

... take the love and good
luck in our jobs that we
have and *share* it.



Any Questions?

@holly_cummins
www.bluemix.net
www.wasdev.net