

Building Clouds

PivotalTM

Who am I?

What we do

How we do it

Who am I?

What we do

How we do it

Who am I?

What we do

How we do it



Massive Organization
Hundreds of web applications

Pivotal

Massive Organization

Hundreds of web applications

The image shows the Pivotal website's homepage. At the top left is the Pivotal logo. To its right are links for PaaS, BIG DATA, AGILE, OSS, and a search icon. An orange "GET STARTED" button is located at the top right. The main title "COMMITTED TO OPEN SOURCE SOFTWARE." is displayed prominently in large, bold, dark letters. Below the title is a subtitle: "Pivotal is Committed to Driving the Future of Open Source Software." A teal button with the text "JOIN OUR COMMUNITY →" is centered below the subtitle. The page features several colored boxes containing logos and names of open source projects: Cloud Foundry Community (blue box), Spring (dark grey box), Hadoop (black box), Grails (green box), Redis (red box), Gretty (light blue box), RabbitMQ (orange box), Open Chorus Project (grey box), MADlib (light blue box), Apache Tomcat (yellow box), and The Apache Software Foundation (dark blue box).

CF Diego Public

125 Search project

Current/Backlog

36 29 Sep - Current Pts: 6 of 19

Hide accepted stories

staging Improve rep and executor logging (MJS, d_o)

dependencies-as-submodules diego-cats should be split out into github.com/cloudfoundry-incubator/diego-cats, which should be a submodule of diego-release (MJS, MF)

staging Wait until NATS is up rather than panic on startup (ABHI, d_o)

charter, staging Downloads and Uploads during staging are substantially slower in Diego than in the DEA (mfirr)

staging The route-emitter appears to be filling up its disk (ABHI)

staging, A metrics The Diego Health dashboard should include BOSH metrics for disk usage (percent) and memory usage (percent) for all components (ABHI)

staging FileCache is not managing the cache properly (MF)

staging Diego chokes when running many concurrent staging requests (MJS)

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staging The executor should limit the number of concurrent downloads (MJS, vftg)

staging Executor is showing a (slow) but persistent memory leak associated with staging (mfirr)

staging Archiver should use greybeard tar if available (vftg, mfirr, MF)

delete syslog-forwarder from diego-release (ABHI, mfirr, MJS)

blocked, stability:ketchup, staging, A, A metrics Converger should emit action-taken counters to metron, datadog should display rates for these (d_o, vftg, vftg)

blocked Add metron support for http metrics over Varz (d_o, JMT)

staging When downloading a buildpack, check the MD5 (d_o)

charter, staging Explore reducing the number of disk writes when Downloading a file (vftg, JP)

charter Investigate upload performance (ABHI, MF)

staging Error when deleting a diego staged app after diego disabled (d_o, MJS)

staging Deploy Diego to A1, add A1 dashboards (mfirr)

staging Droplet should be gzipped inside container before streaming out

blocked, stability:ketchup, staging, A, A metrics CC Bridge components should emit metrics via metron (ABHI, d_o)

6 Oct Pts: 18

pipeline, staging Deploy to prod + datadog dashboard + staging smoke tests Start

staging Tell all CF-related teams that use prod to opt into Diego staging Start

PROD: Beta staging (opt-in) Finish

misc Executor's /var/vcap/data/executor/tmp should be cleaned up on startup (a la /var/vcap/data/executor_cache is) Start

pipeline Unit tests on the pipeline should run with -race Start

data race in monitor_step_test Start

misc, pipeline Our bash errands (DATS and Smoke Tests) should be separate deployments Start

charter, misc Make sure we don't ever shell out with untrusted environment variables Start

misc ensure diego-release README is up to date Start

blocked, misc unlock etcd in all the places once etcd has been fixed on master Start

misc run go fmt against all the things Start

misc preparetodiego should detect unpushed changes in submodules Start

misc, running, A, A metrics Diego's runtime metrics server should move into the cell, and only one metrics server should run at a time Start

misc, polish:misc change any reference of warden to garden Start

misc, pipeline Diego dashboard should also display cf deploy events Start

misc, pipeline Deploy completed event is not reported to DataDog when a diego deploy fails Start

Allocations for Pivotal Labs					ALLOCATIONS	ADMIN
Allocations by project		Show 4 weeks, starting this week in Cloud Foundry			GO	
		previous 4 weeks next 4 weeks		Allows Interviews		
Show Everyone		with skills		Choose skills		
9th week	09/29/14	10/06/14	10/13/14	10/20/14		
Cloud Foundry (Benchmarking)	0/66.6 (0%)	0/67.6 (0%)	0/68.2 (0%)	0/70 (0%)	73 people	
Cloud Foundry (BOSH) Mee (CLI)	David C L P	David C L P	David C L P	David C L P	Aakash Shah	
Cloud Foundry (Build Packs) McGarvey (CLI)	Adam S A	Adam S A	Andrea L	Andrea L	Abhijit Hiremagalur	
Cloud Foundry (CLI) Mee (CLI)	Andrea L	Andrea L	Andrei D	Andrei D	Alex Jackson	
Cloud Foundry (Cloud Ops) Mee (CLI)	Andrei D	Andrei D	Dmitriy K P	Dmitriy K P	Alex Suraci	
Cloud Foundry (Developer Console) Mee (CLI)	Dmitriy K P	Dmitriy K P	Karl I	Karl I	Amit Gupta	
Cloud Foundry (LAMB) Mee (CLI)	Karl I	Karl I	Kris H C	Kris H C	Anand Gaitonde	
Cloud Foundry (LAMB) Mee (CLI)	Kris H C	Kris H C	Maria S	Maria S	Andrew Bruce	
Cloud Foundry (LAMB) Mee (CLI)	Maria S	Maria S	Phan L	Phan L	Andrew Poydence	
Cloud Foundry (LAMB) Mee (CLI)	Phan L	Phan L	Zachary A I	Zachary A I	Aram Price	
Cloud Foundry (LAMB) Mee (CLI)	Zachary A I	Zachary A I			Brenda Chan	
Cloud Foundry (Build Packs) McGarvey (CLI)	Jacques C	Dave G	Dave G	Dave G	Brian Cunnie	
Cloud Foundry (Build Packs) McGarvey (CLI)	Mark K P	Jacques C	Jacques C	Jacques C	Caleb Miles	
Cloud Foundry (Build Packs) McGarvey (CLI)	Rasheed A	Mark K P	Mark K P	Mark K P	Charles Wu	
Cloud Foundry (Build Packs) McGarvey (CLI)	Rick R	Rasheed A	Rasheed A	Rasheed A	Chris Haueter	
Cloud Foundry (Build Packs) McGarvey (CLI)	Rick R	Rick R	Rick R	Rick R	Christian Williams	
Cloud Foundry (CLI) Mee (CLI)	Daniel A	Daniel A	Daniel A	Daniel A	Christopher Piraino	
Cloud Foundry (CLI) Mee (CLI)	David V A	Derek R	Derek R	Derek R	Daniel Levine	
Cloud Foundry (CLI) Mee (CLI)	Derek R	Greg O P	Greg O P	Greg O P	Dave Liebreich	
Cloud Foundry (CLI) Mee (CLI)	Greg O P	Simon L A	Simon L A	Simon L A	David C Lee	
Cloud Foundry (CLI) Mee (CLI)	Simon L A	Tyler S	Tyler S	Tyler S	David Sabeti	
Cloud Foundry (CLI) Mee (CLI)	Tyler S				Dieu Cao	
Allows Interviews, Remote Pairing					Dmitriy Kalinin	
Cloud Foundry (Cloud Ops) Mee (CLI)	Chris A	Chris A	Adam S	Adam S	Eric Malm	
Cloud Foundry (Cloud Ops) Mee (CLI)	Gary L	Gary L	Chris A	Chris A	Frank Kotsianas	
Cloud Foundry (Cloud Ops) Mee (CLI)	Kai X	Kai X	Gary L	Gary L	Gary Liu	
Cloud Foundry (Cloud Ops) Mee (CLI)	Tony H A	Tony H A	Kai X	Kai X	Georg Apitz	
Cloud Foundry (Cloud Ops) Mee (CLI)			Tony H A	Tony H A	Greg Oehmen	
Cloud Foundry (Developer Console) Mee (CLI)	Colin O A	Colin O A	Colin O A	Colin O A	Jason Smith	
Cloud Foundry (Developer Console) Mee (CLI)	Monty S O	Monty S O	Monty S O	Monty S O	Jennifer Black	
Cloud Foundry (Developer Console) Mee (CLI)	Ryan T	Ryan T	Ryan T	Ryan T	Jesse Alford	
Cloud Foundry (Developer Console) Mee (CLI)	Scott T P	Scott T P	Scott T P	Scott T P	Jesse Zhang	
Cloud Foundry (Developer Console) Mee (CLI)	Utako U	Utako U	Utako U	Utako U	Johannes Petzold	
Cloud Foundry (Developer Console) Mee (CLI)	Whitney S	Whitney S	Whitney S	Whitney S	John Tuley	
Cloud Foundry Documentation 11th week	Jennifer B	Jennifer B	Jennifer B	Jennifer B	Jonathan Berkhahn	
Cloud Foundry Documentation 11th week	Kim H	Kim H	Kim H	Kim H	Julian Friedman	
Cloud Foundry Documentation 11th week	Max H	Max H	Max H	Max H	Kai Xiang	
Cloud Foundry (LAMB) Mee (CLI)	Alex J P	Alex J P	Alex J P	Alex J P	Kam Leung	
Cloud Foundry (LAMB) Mee (CLI)	Andrew P	Alex Stupakov	Alex Stupakov	Alex Stupakov	Karl Isenberg	
Cloud Foundry (LAMB) Mee (CLI)	Georg A	Andrew P	Andrew P	Andrew P	Kim Hoffman	
Cloud Foundry (LAMB) Mee (CLI)	John T A	Georg A	Georg A	Georg A	Kris Hicks	

CEDR
4d • • • X • X X • • •

CIBG
1y • • • • • • • • •

GITS
2mo • • • X X X X X X X

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LAST BUILD: 13h
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PCK
13d • • • • • • • • •

PMEE
LAST BUILD: 7d
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• X X X X

ROBO
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3h • • X X • • • X • X

jgem
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jpy
6d • • • • X • • • X •

[manage projects](#)

PivotalTM

Massive Organization
Hundreds of **complex** web applications

Pivotal. PaaS BIG DATA AGILE OSS [GET STARTED](#)

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Pivotal is Committed to Driving the Future of Open Source Software.

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CLOUD FOUNDRY COMMUNITY

spring

hadoop

Grails

redis

Greendroid

RabbitMQ

Open Chorus Project

MADlib

Apache Tomcat

The Apache Software Foundation

CF Diego Public Current/Backlog

29 Sep - Current

Hide accepted stories

121 | Search project ?

19 stories

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37 stories

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1 Oct

18 stories

Allocations for Pivotal Labs ALLOCATIONS ADMIN

Allocations by project Show 4 weeks, starting this week in Cloud Foundry X GO

Allocations by project Show previous 4 weeks | next 4 weeks | Allows Interviews

Everyone with skills Choose skills

09/29/14 10/06/14 10/13/14 10/20/14

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Karl I	Dmitriy K	Dmitriy K	Karl I	Karl I
Kris H	Kris H	Kris H	Maria S	Maria S
Maria S	Maria S	Phan L	Phan L	Zachary A
Phan L	Phan L	Zachary A	Zachary A	Zachary A
Zachary A	Zachary A	Zachary A	Zachary A	Zachary A
Cloud Foundry (CLI)	Jacques C	Dave G	Dave G	Dave G
McGarvey (CLJ)	Mark K	Jacques C	Jacques C	Jacques C
Rasheed A	Rasheed A	Mark K	Mark K	Mark K
Rick R	Rick R	Rasheed A	Rasheed A	Rick R
Daniel	Daniel	Daniel	Daniel	Daniel
David V	Derek R	Derek R	Derek R	Derek R
Derek R	Greg O	Greg O	Greg O	Greg O
Greg O	Simon L	Simon L	Simon L	Simon L
Simon L	Tyler S	Tyler S	Tyler S	Tyler S
Tyler S	Tyler S	Tyler S	Tyler S	Tyler S
Cloud Foundry (Cloud Ops)	Chris A	Chris A	Adam S	Adam S
Mee (CLJ)	Gary L	Gary L	Chris A	Chris A
Kai X	Kai X	Gary L	Gary L	Kai X
Tony H	Tony H	Kai X	Kai X	Tony H
Cloud Foundry (Developer Console)	Colin O	Colin O	Colin O	Colin O
Mee (CLJ)	Monty S	Monty S	Monty S	Monty S
Ryan T	Ryan T	Ryan T	Ryan T	Ryan T
Scott T	Scott T	Scott T	Scott T	Scott T
Utako U	Utako U	Utako U	Utako U	Utako U
Whitney S	Whitney S	Whitney S	Whitney S	Whitney S
Jennifer B	Jennifer B	Jennifer B	Jennifer B	Jennifer B
Kim H	Kim H	Kim H	Kim H	Kim H
Max H	Max H	Max H	Max H	Max H
Alex J	Alex J	Alex J	Alex J	Alex J
Andrew P	Alex Stupakov	Alex Stupakov	Alex Stupakov	Alex Stupakov
Georg A	Andrew P	Andrew P	Andrew P	Andrew P
John T	Georg A	Georg A	Georg A	Georg A

73 people

Aakash Shah
Abhijit Hiremagalur
Alex Jackson
Alex Suraci
Amit Gupta
Anand Geltonde
Andrew Bruce
Andrew Poydence
Aram Price
Brenda Chan
Brian Cumine
Caleb Miles
Charles Wu
Chris Hauefer
Christian Williams
Christopher Piraino
Daniel Levine
Dave Liebreich
David C Lee
David Sabeti
Dieu Cao
Dmitriy Kalinin
Eric Malm
Frank Kotsianas
Gary Liu
Georg Apitz
Greg Oehmen
Jason Smith
Jennifer Black
Jesse Alford
Jesse Zhang
Johannes Petzold
John Tuley
Jonathan Berkahn
Julian Friedman
Kai Xiang
Kam Leung
Karl Isenberg
Kim Hoffman
Kris Hicks
Madhura Bhave
Maria Shalybinia
Mark DeLillo
Mark Kropf
Mark Rushakoff
Matt Reider

CEDR CIBG

4d 1y LAST BUILD: 13h

GITS LF

2mo 0 VELOCITY 0% VOLATILITY 0 UNINITIATED STARTED FINISHED DELIVERED ACCEPTED REJECTED

PCK PMEE

13d 1 1 VELOCITY 316% VOLATILITY 0 UNINITIATED STARTED FINISHED DELIVERED ACCEPTED REJECTED

ROBO WHT

1d 1mo 1 VELOCITY 0 UNINITIATED STARTED FINISHED DELIVERED ACCEPTED REJECTED

jcor jgem

3h 6d 1 VELOCITY 0 UNINITIATED STARTED FINISHED DELIVERED ACCEPTED REJECTED

jpy

6d 1 VELOCITY 0 UNINITIATED STARTED FINISHED DELIVERED ACCEPTED REJECTED

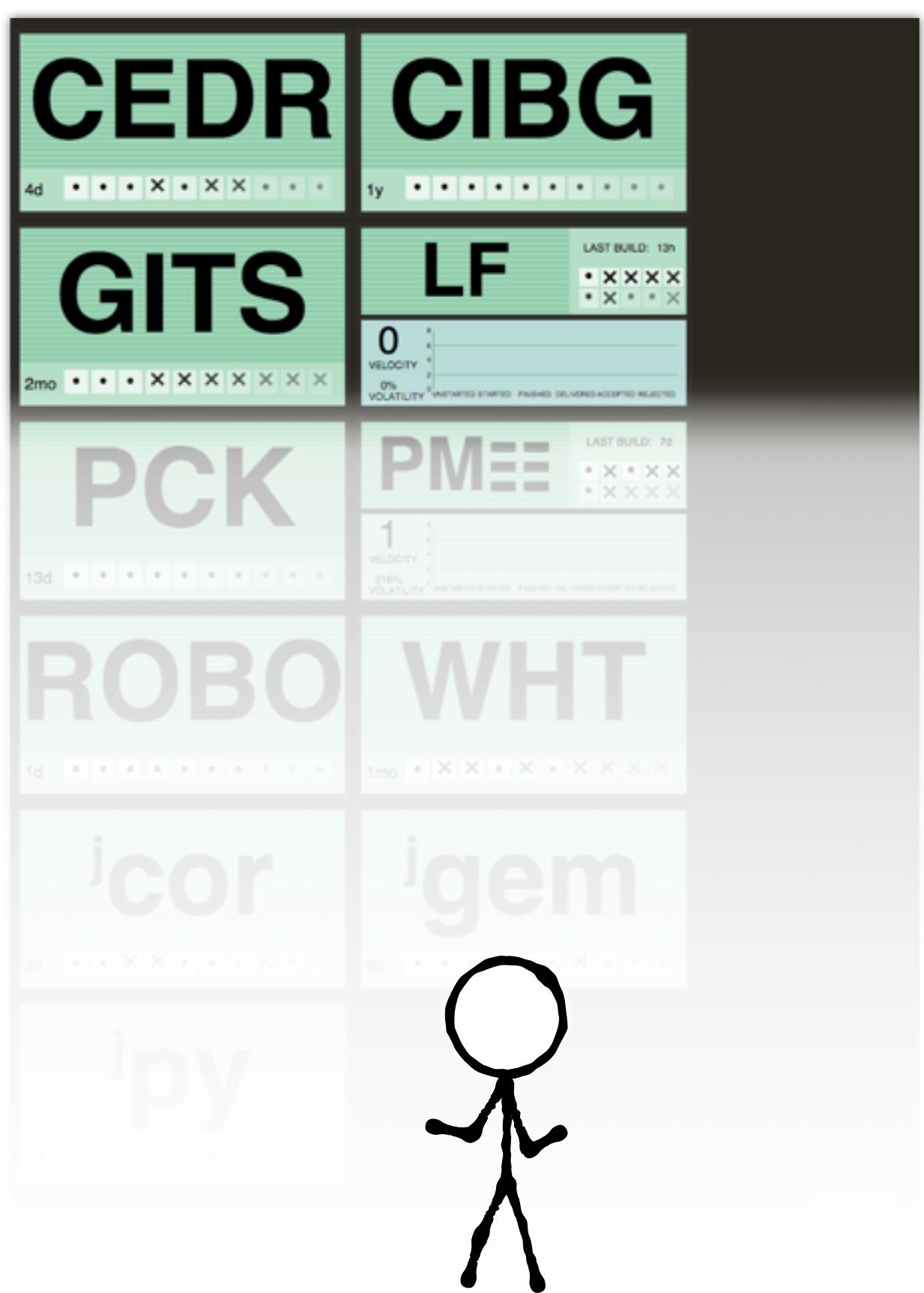
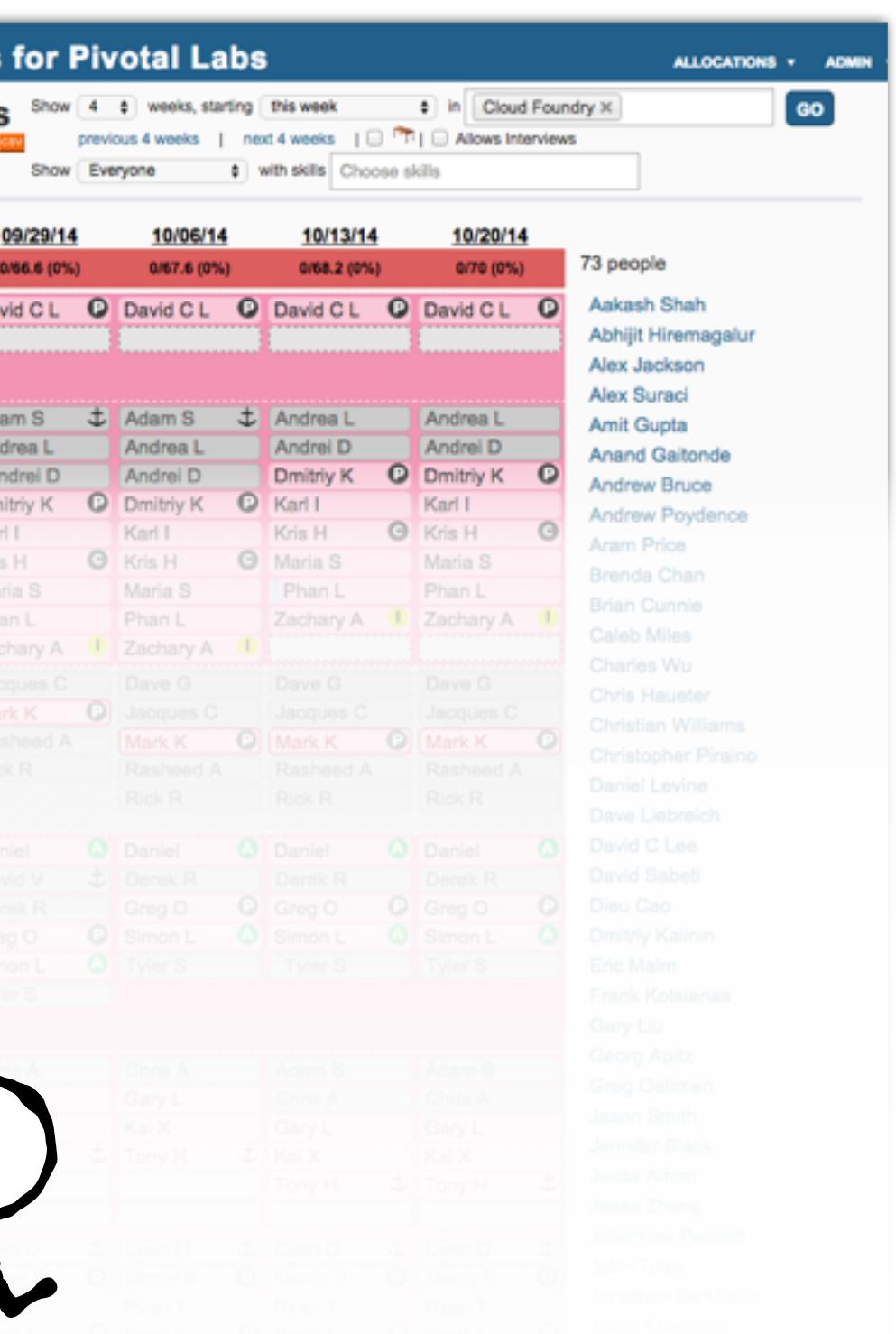
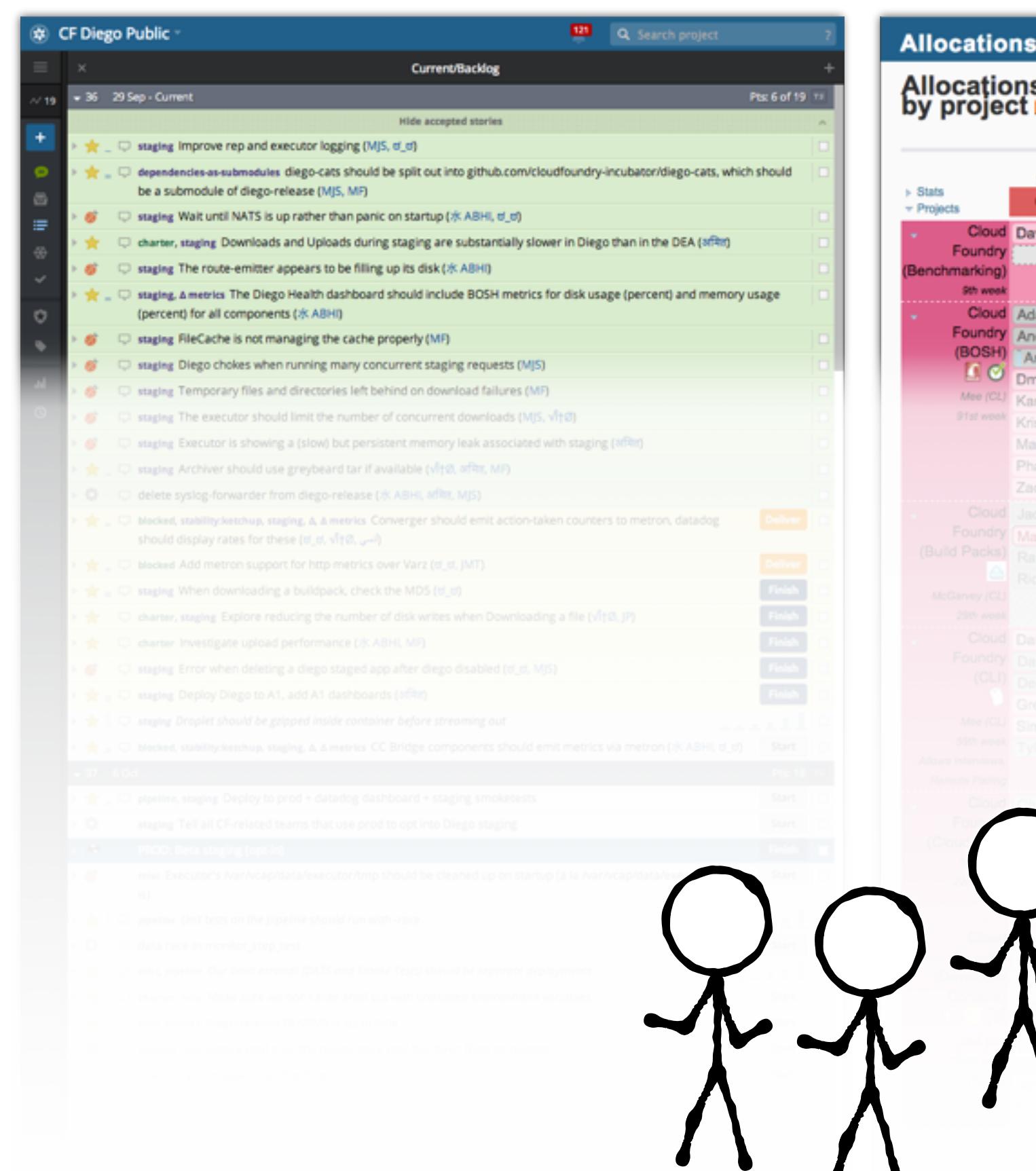
manage projects

PivotalTM

Built by many teams of developers

Massive Organization

Hundreds of web applications



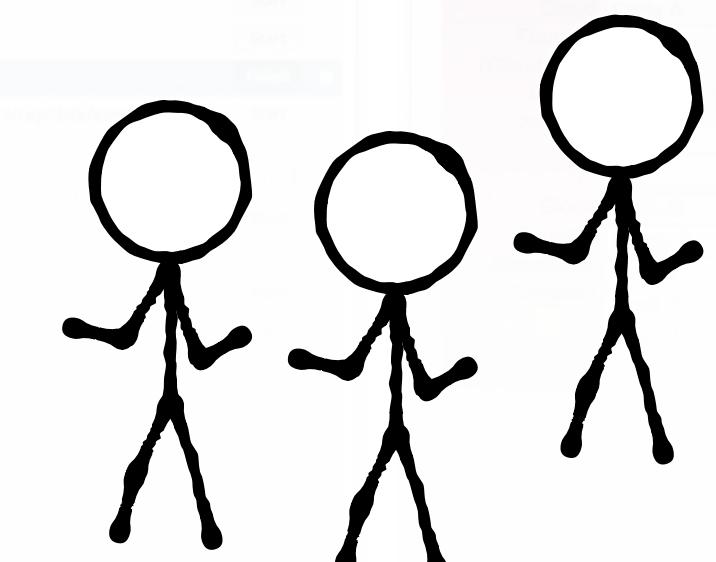
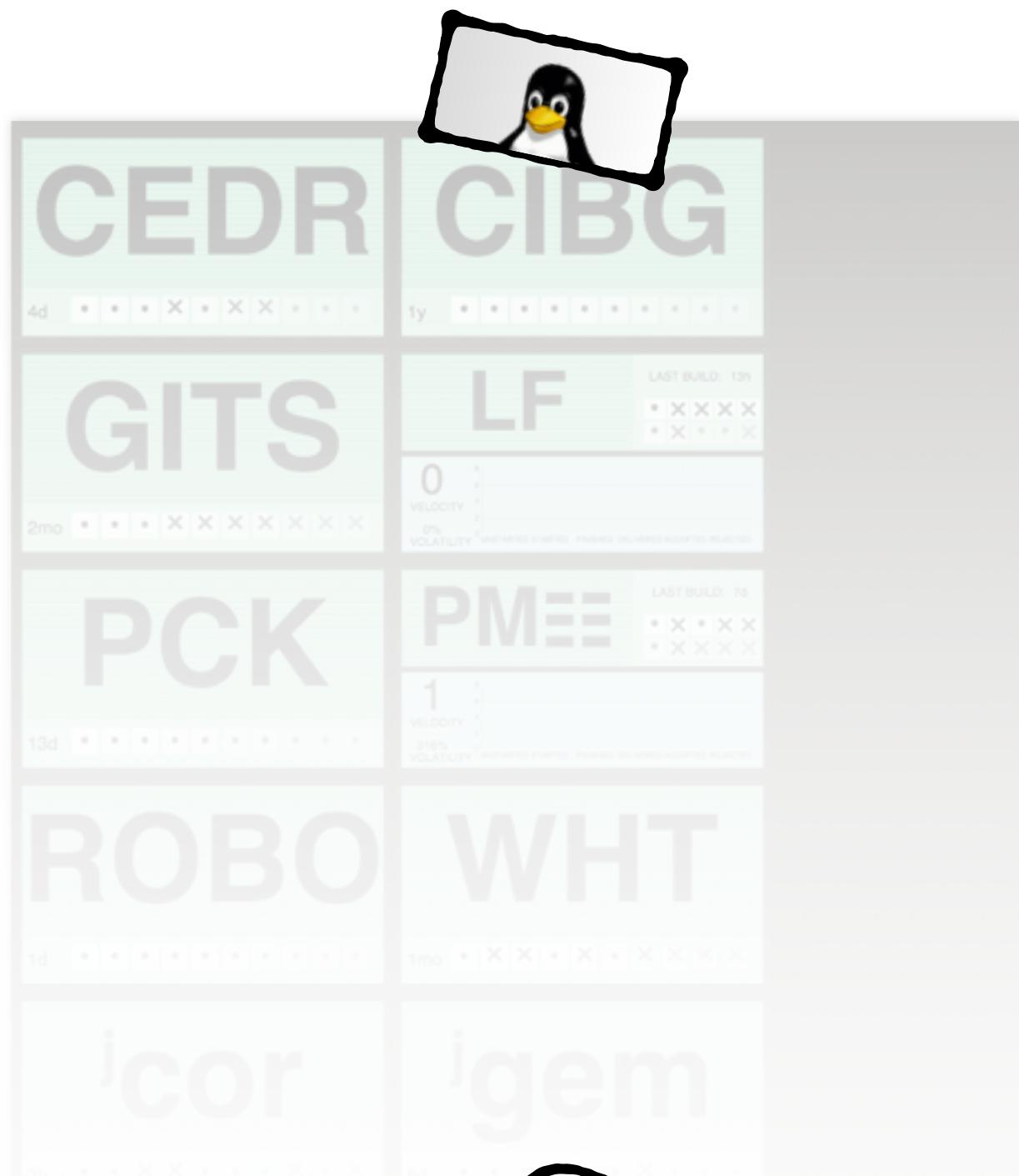
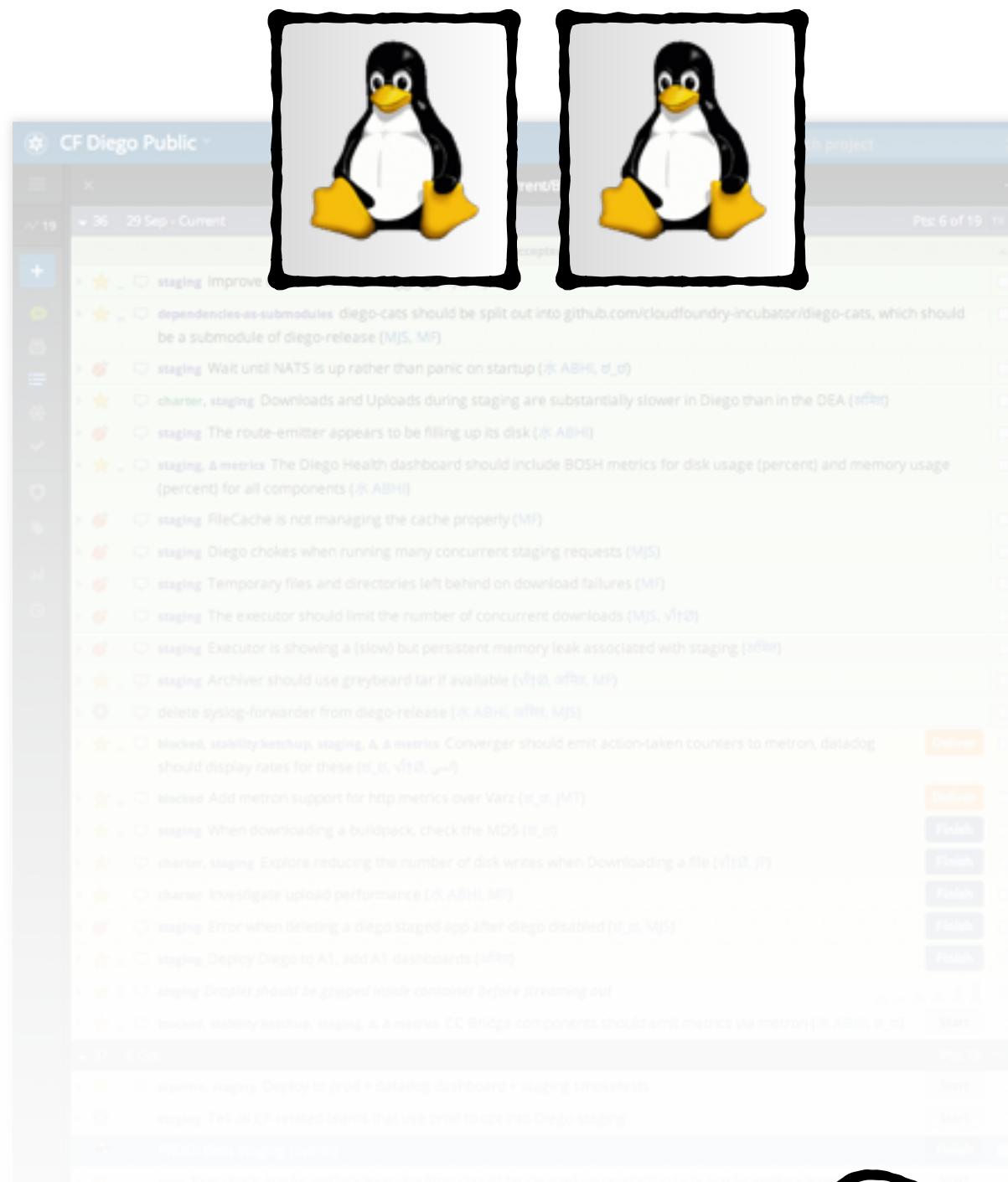
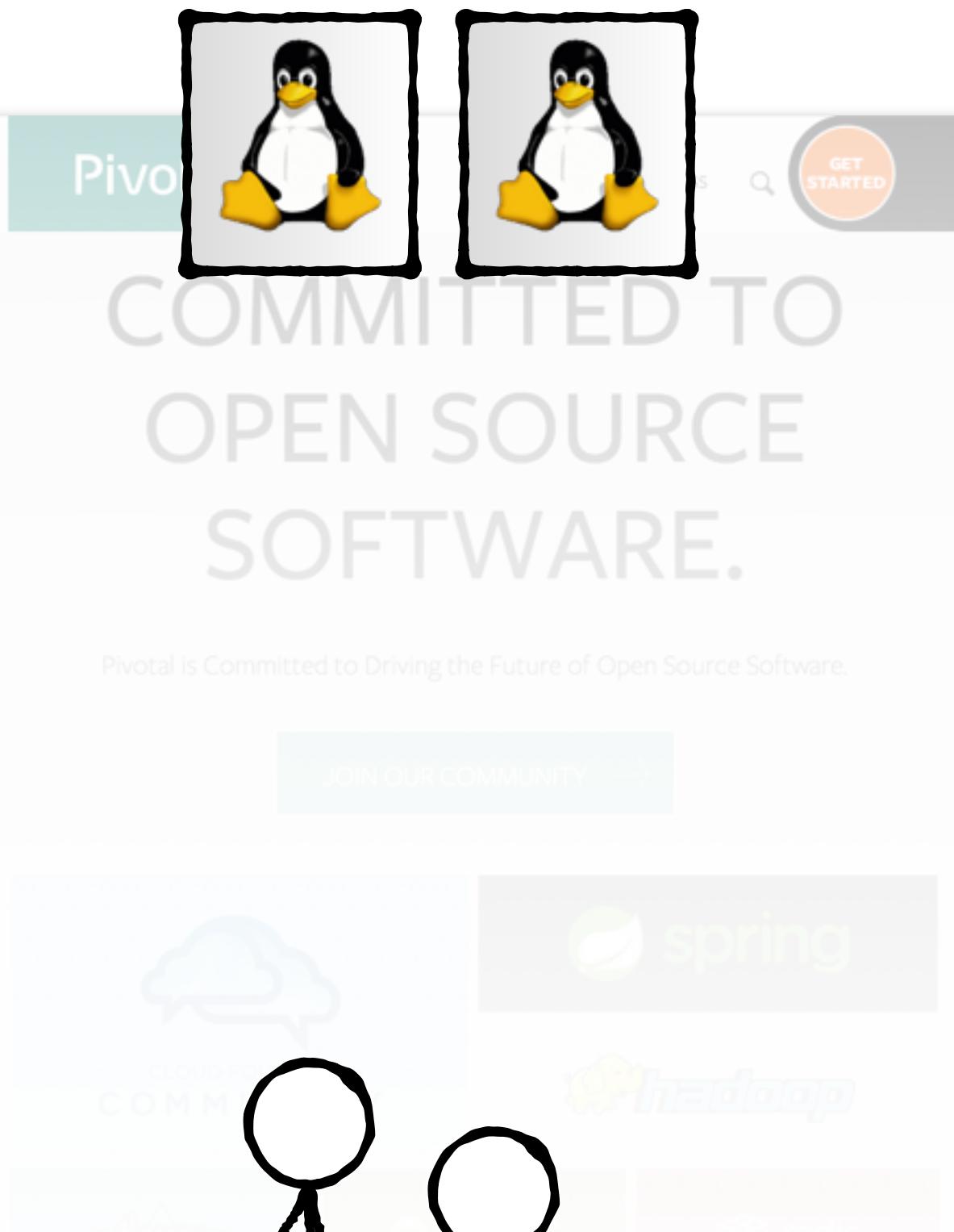
Pivotal

Built by many teams of developers

Running on many different servers

Massive Organization

Hundreds of web applications



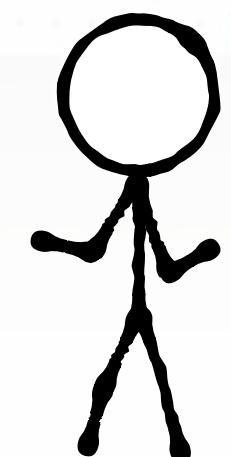
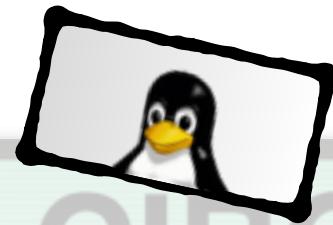
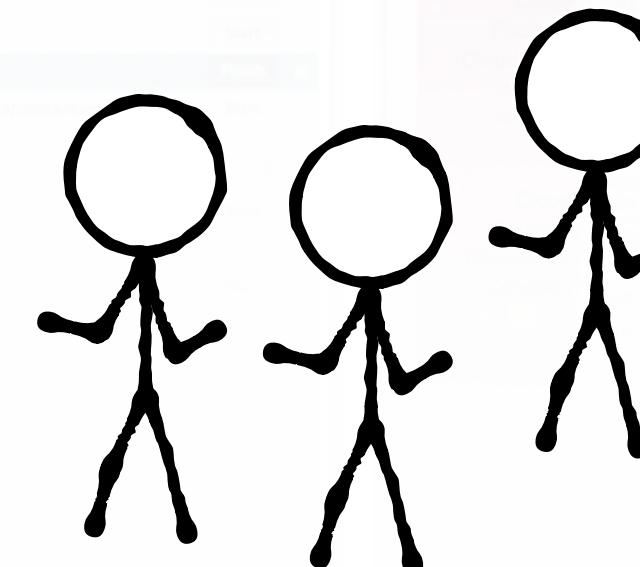
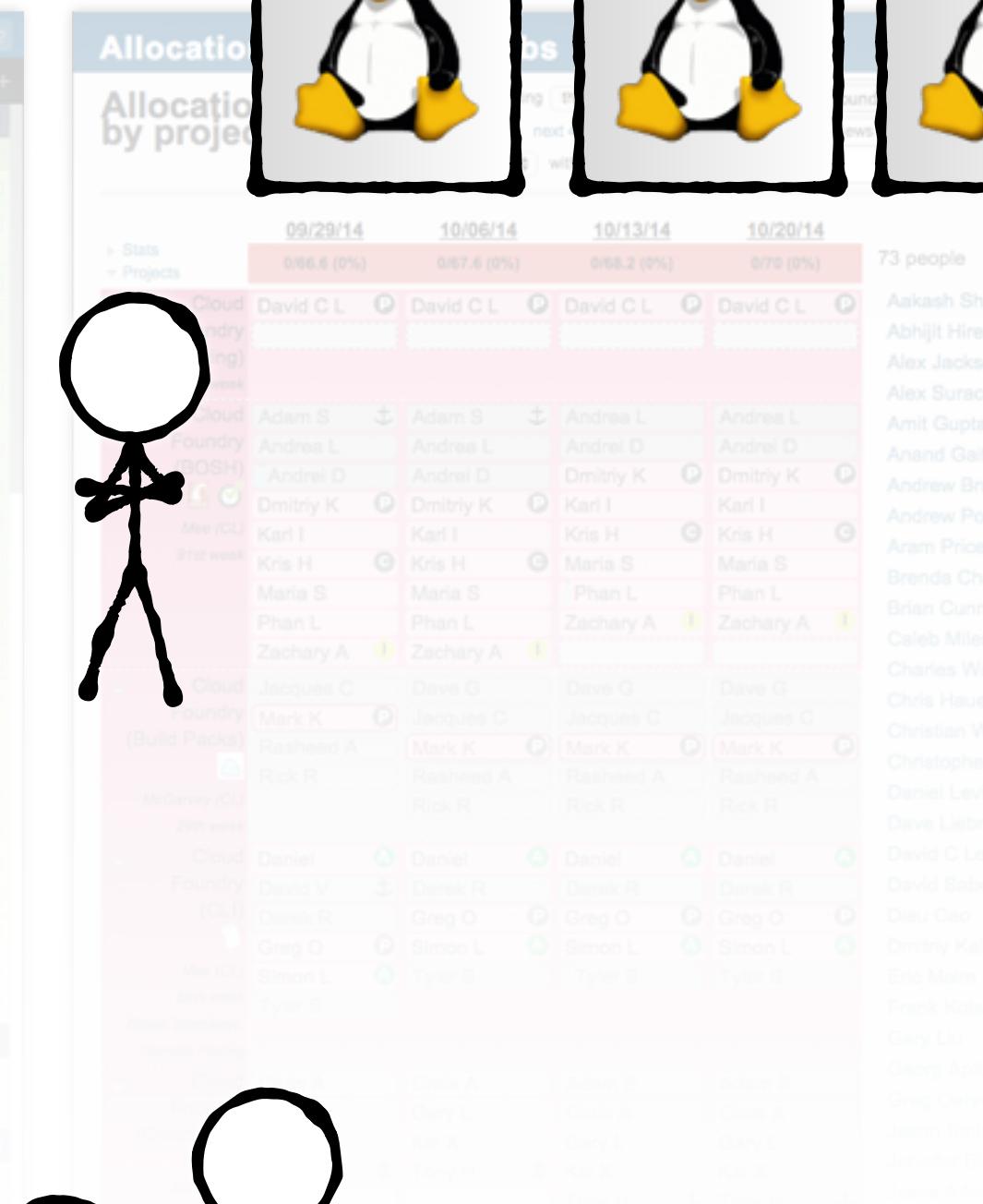
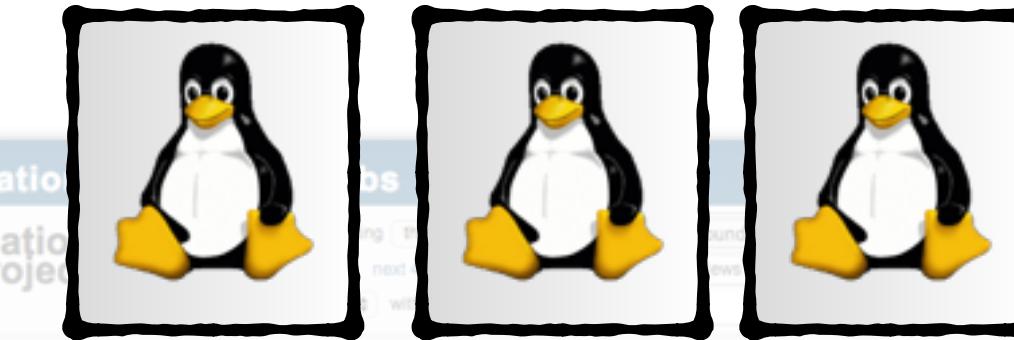
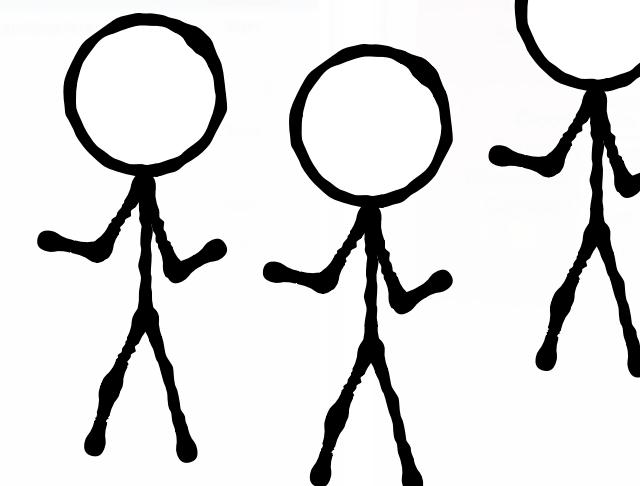
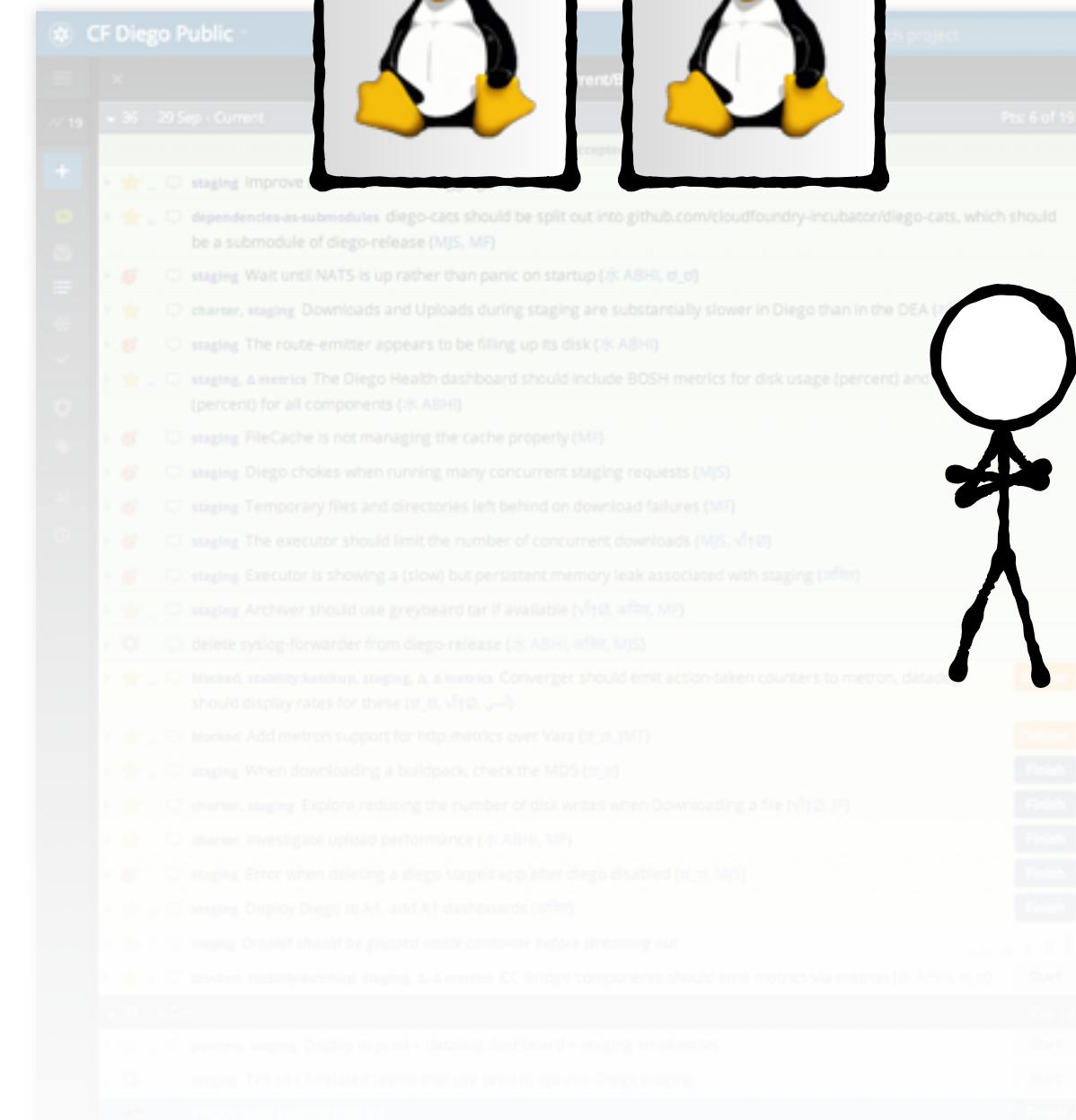
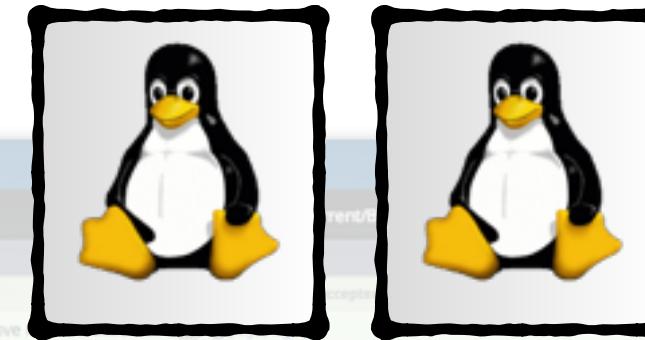
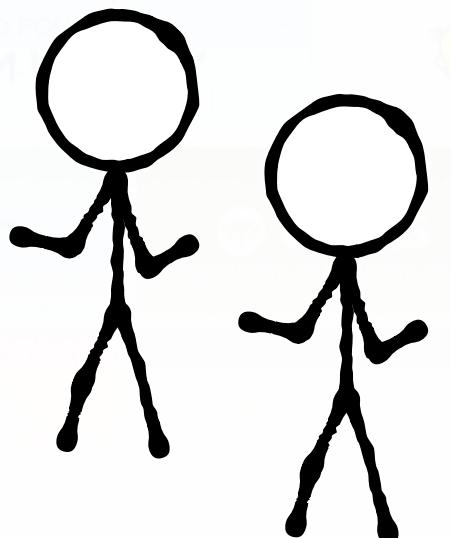
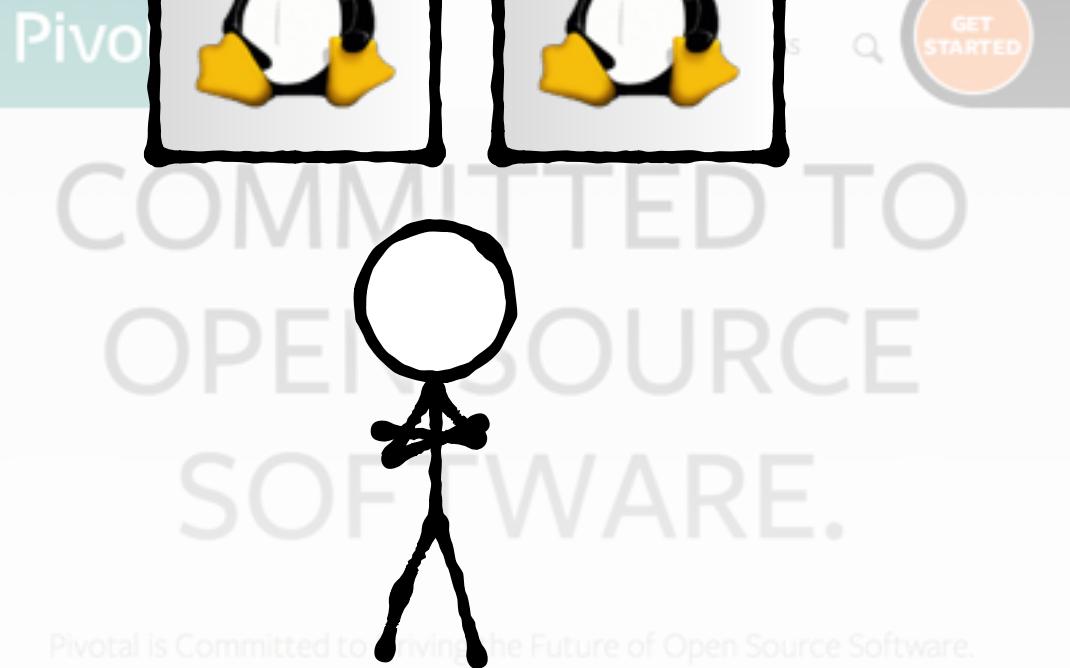
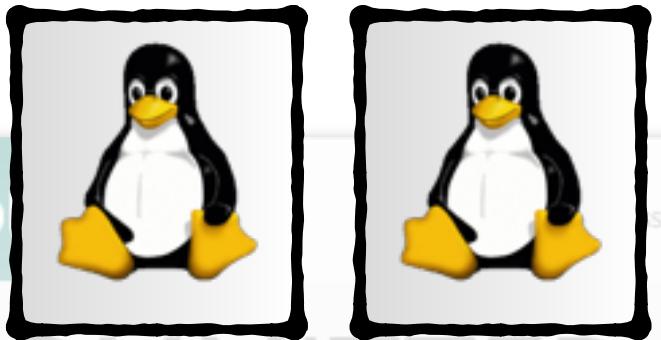


Built by many teams of developers

Running on many different servers

Massive Organization

Hundreds of web applications



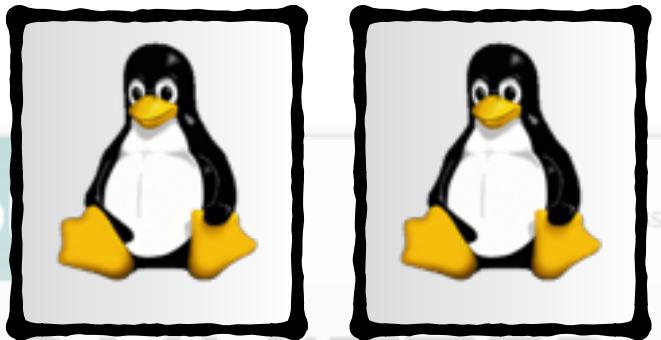


Built by many teams of developers

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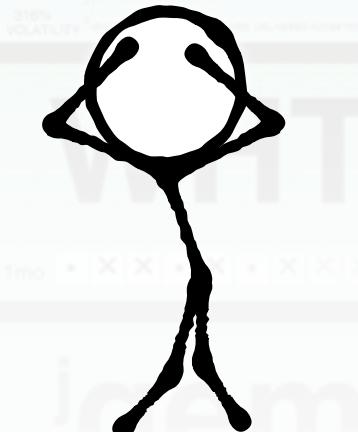
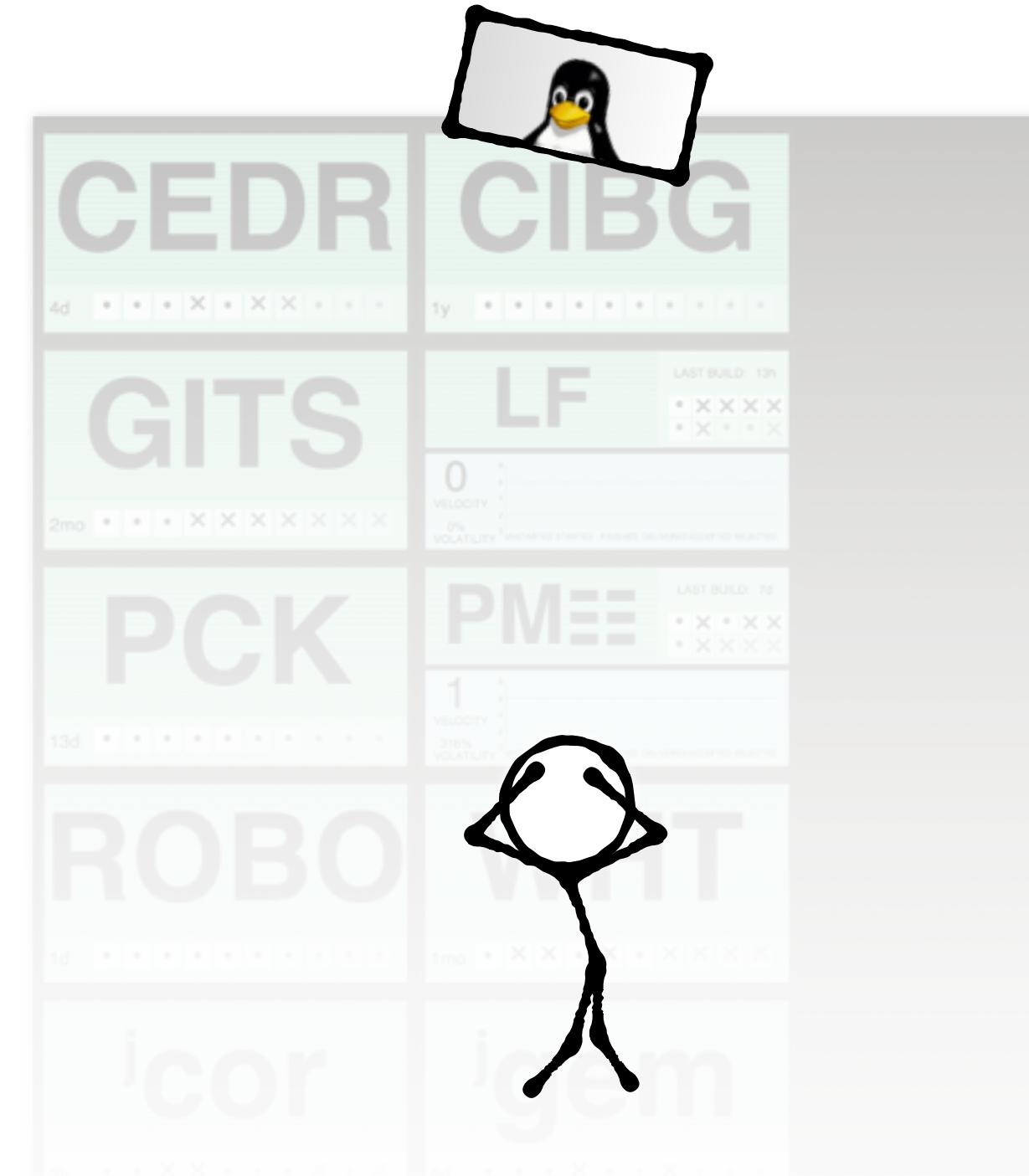
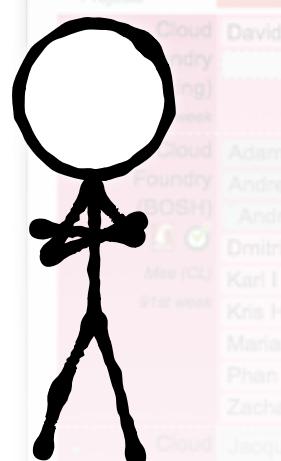
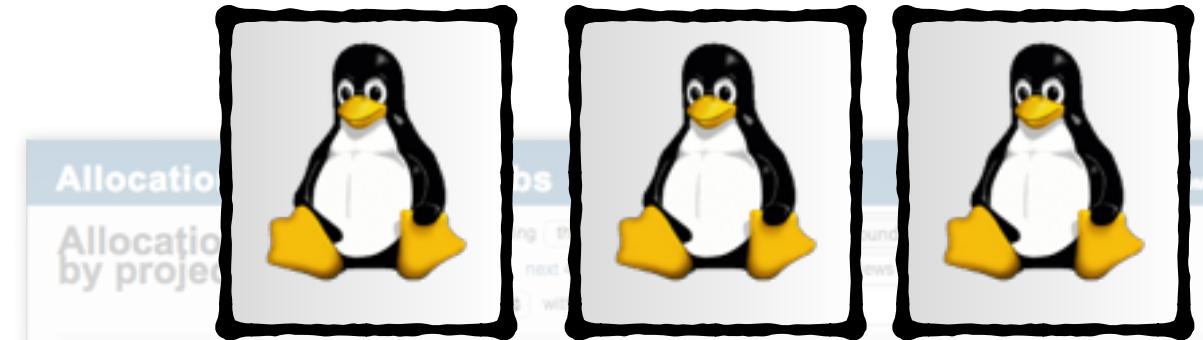
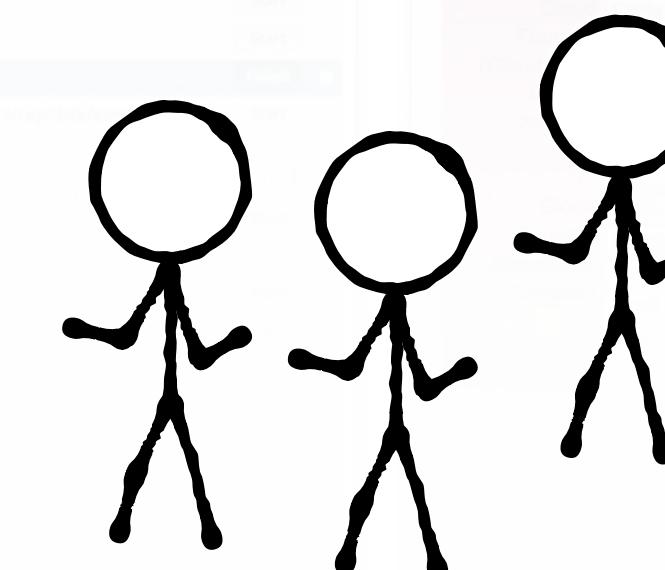
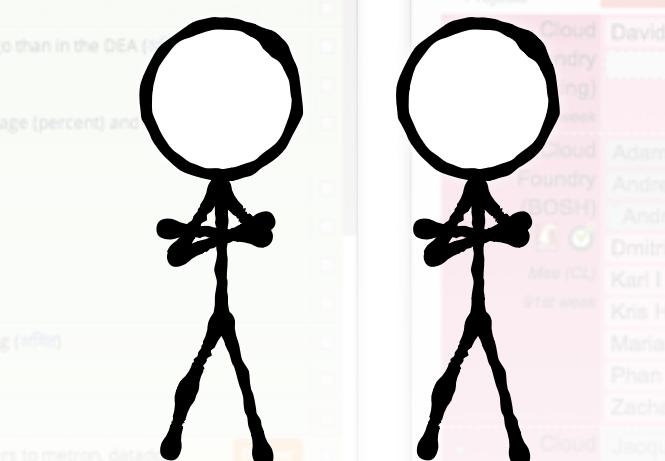
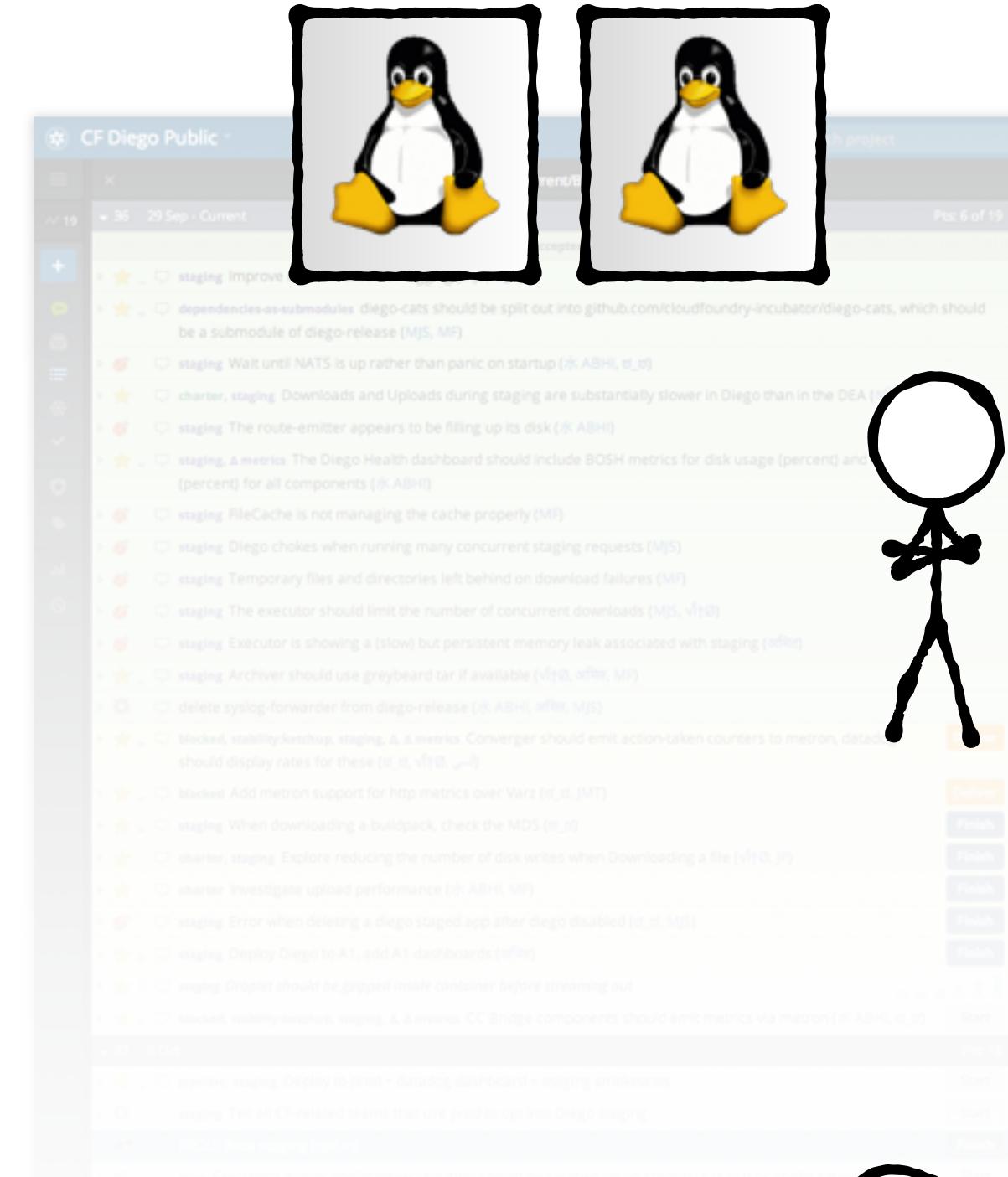
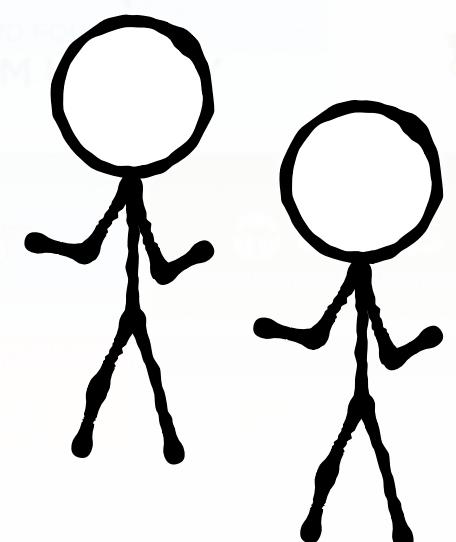
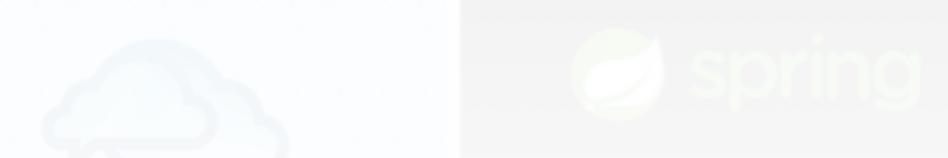
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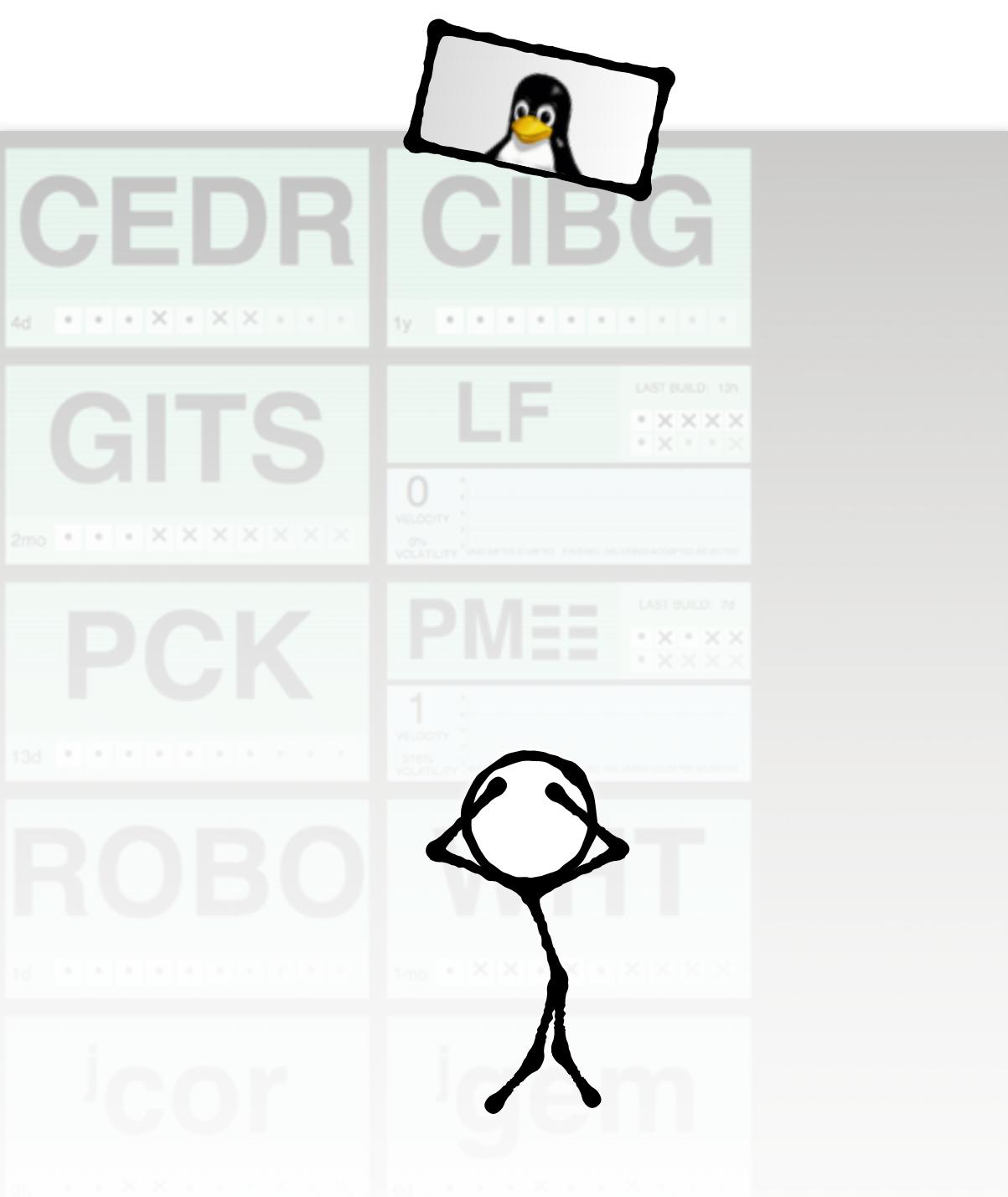
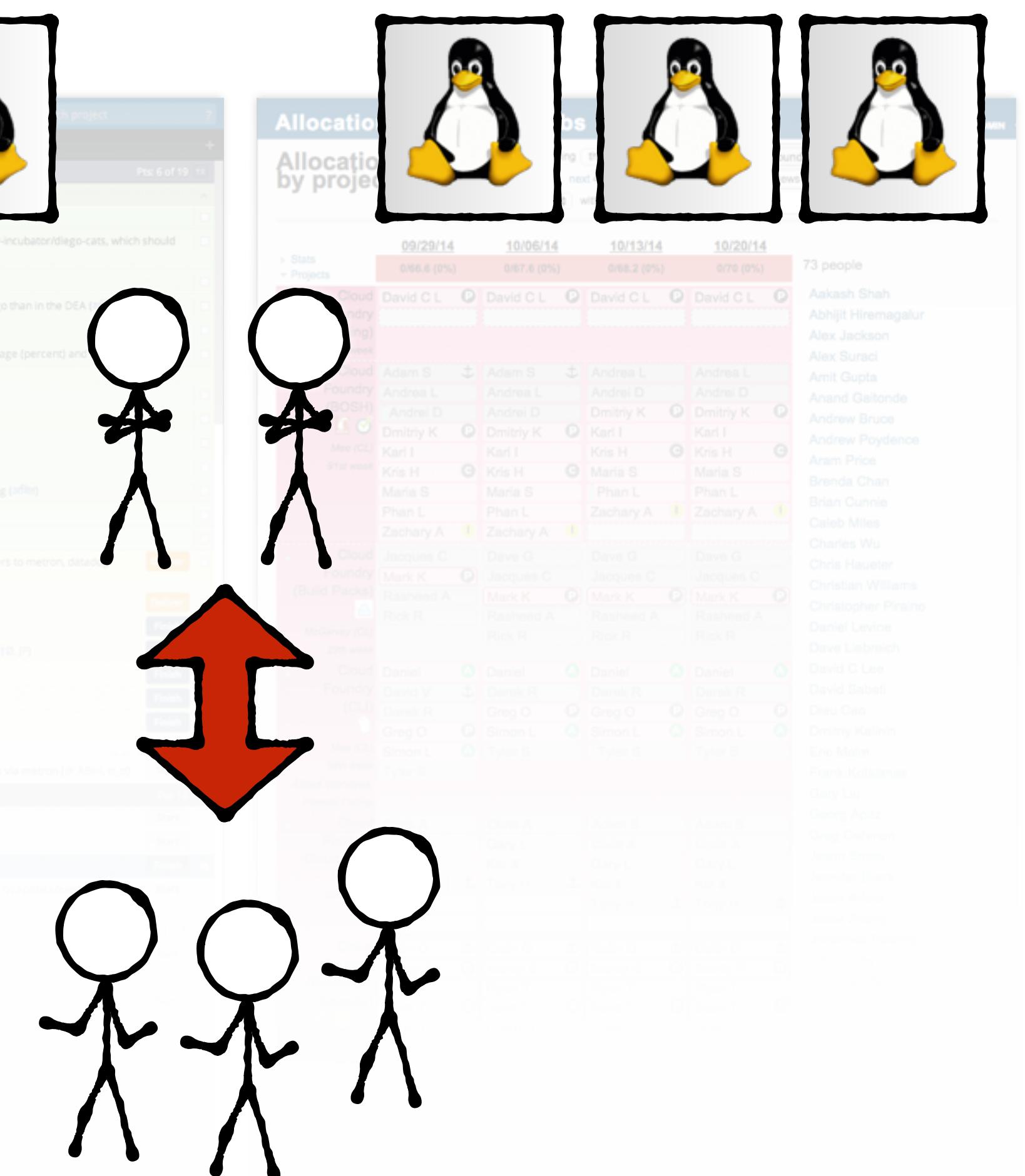
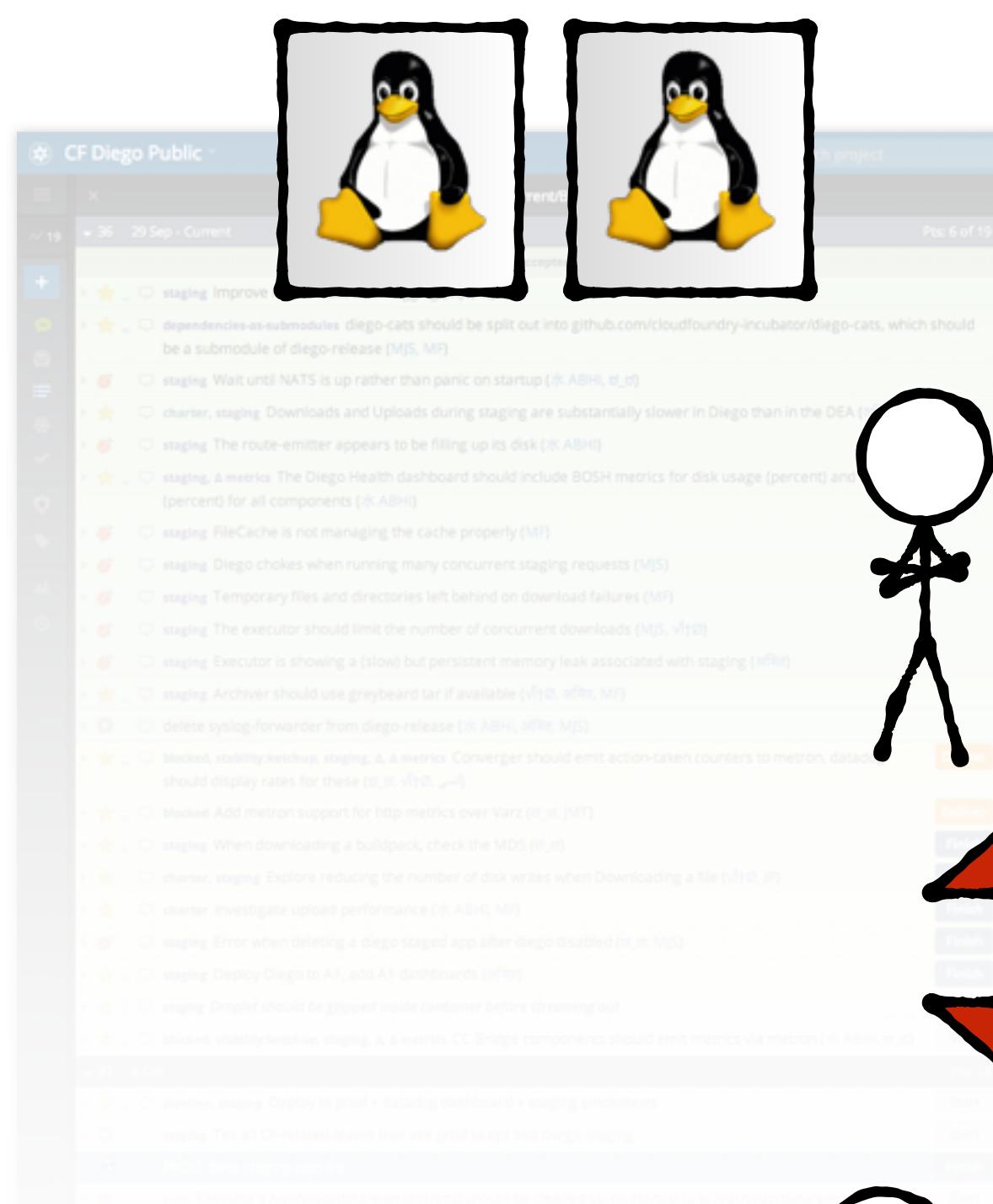
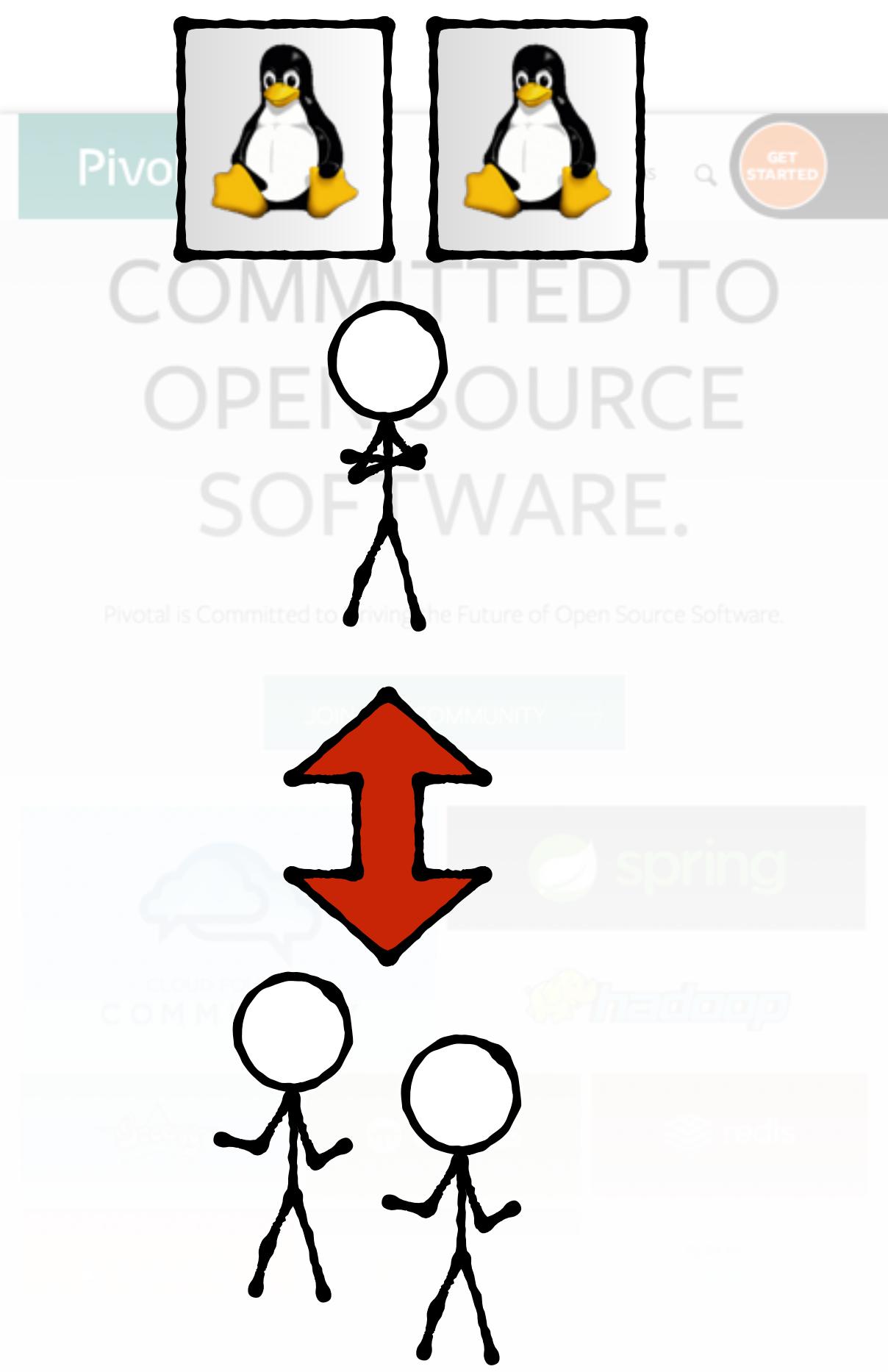


COMMITTED TO
OPEN SOURCE
SOFTWARE.

Pivotal is Committed to Driving the Future of Open Source Software.

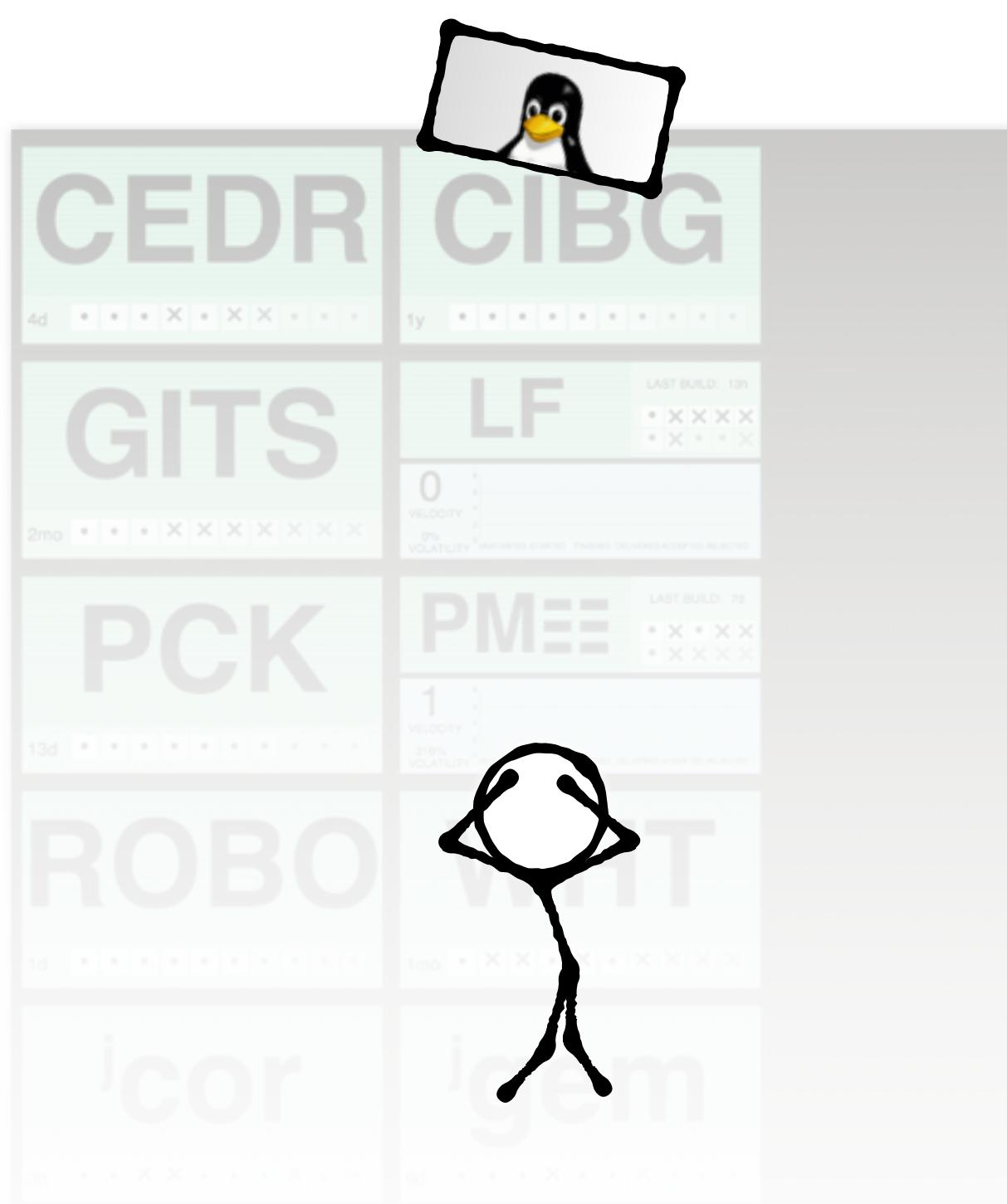
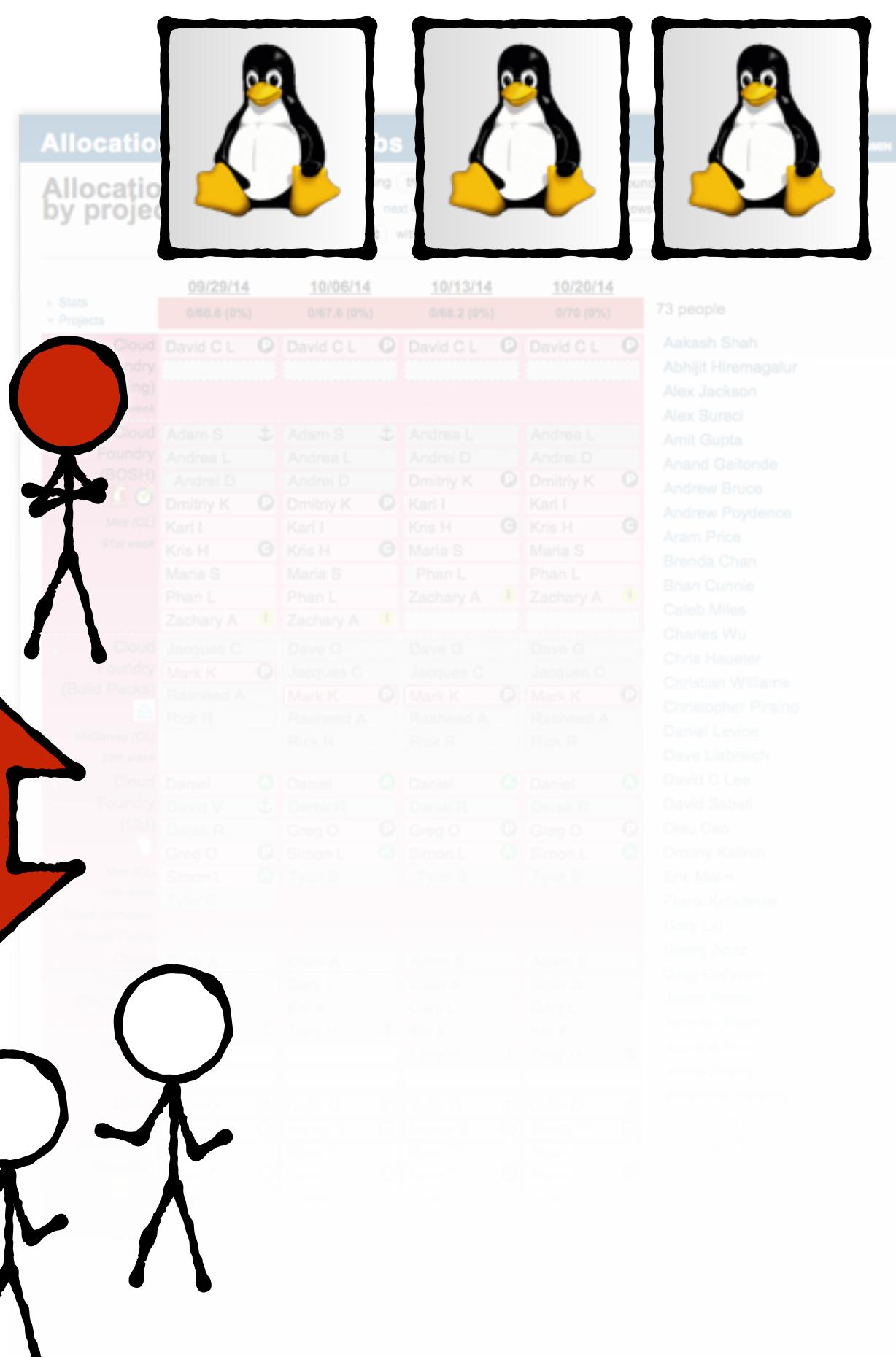
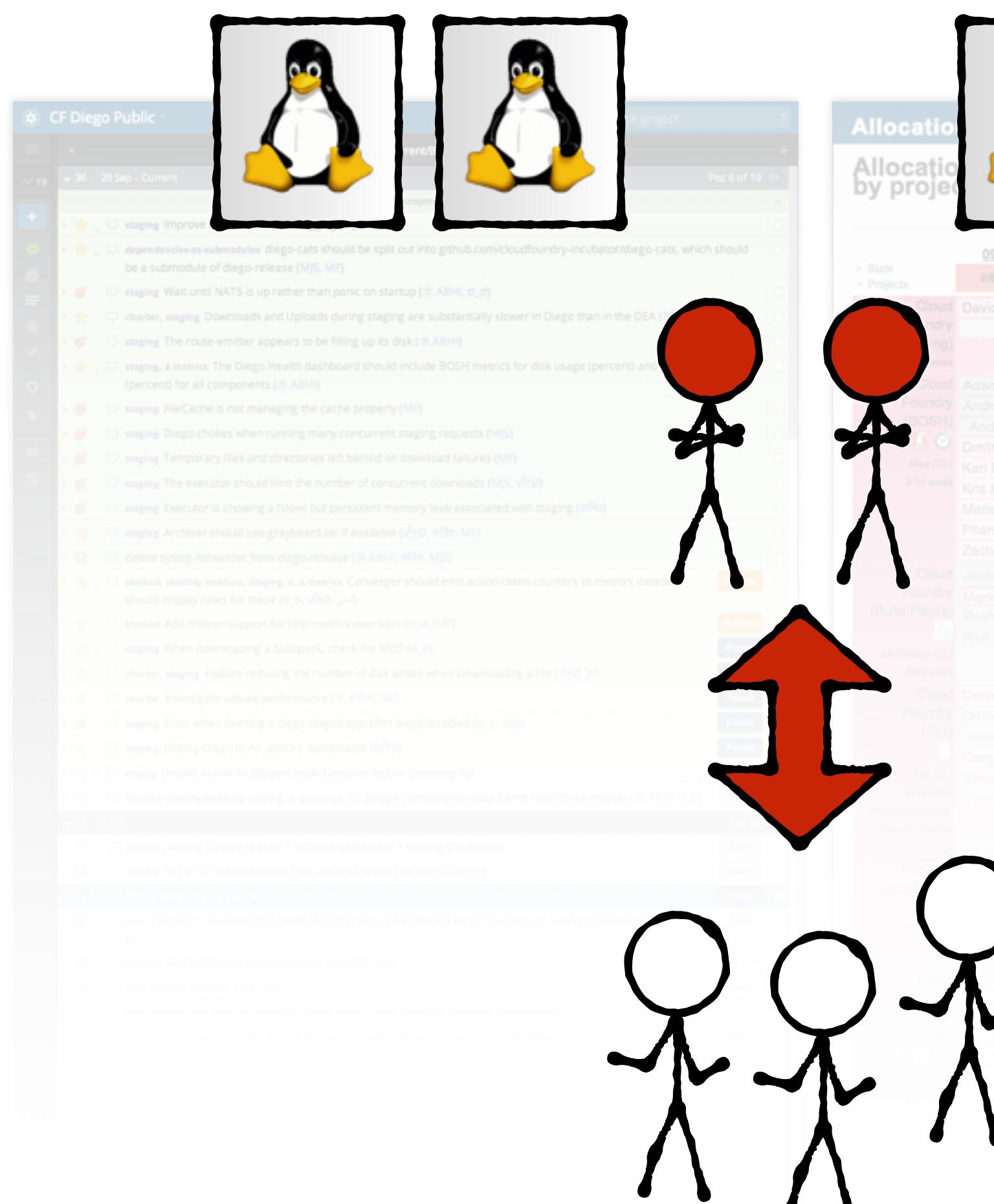
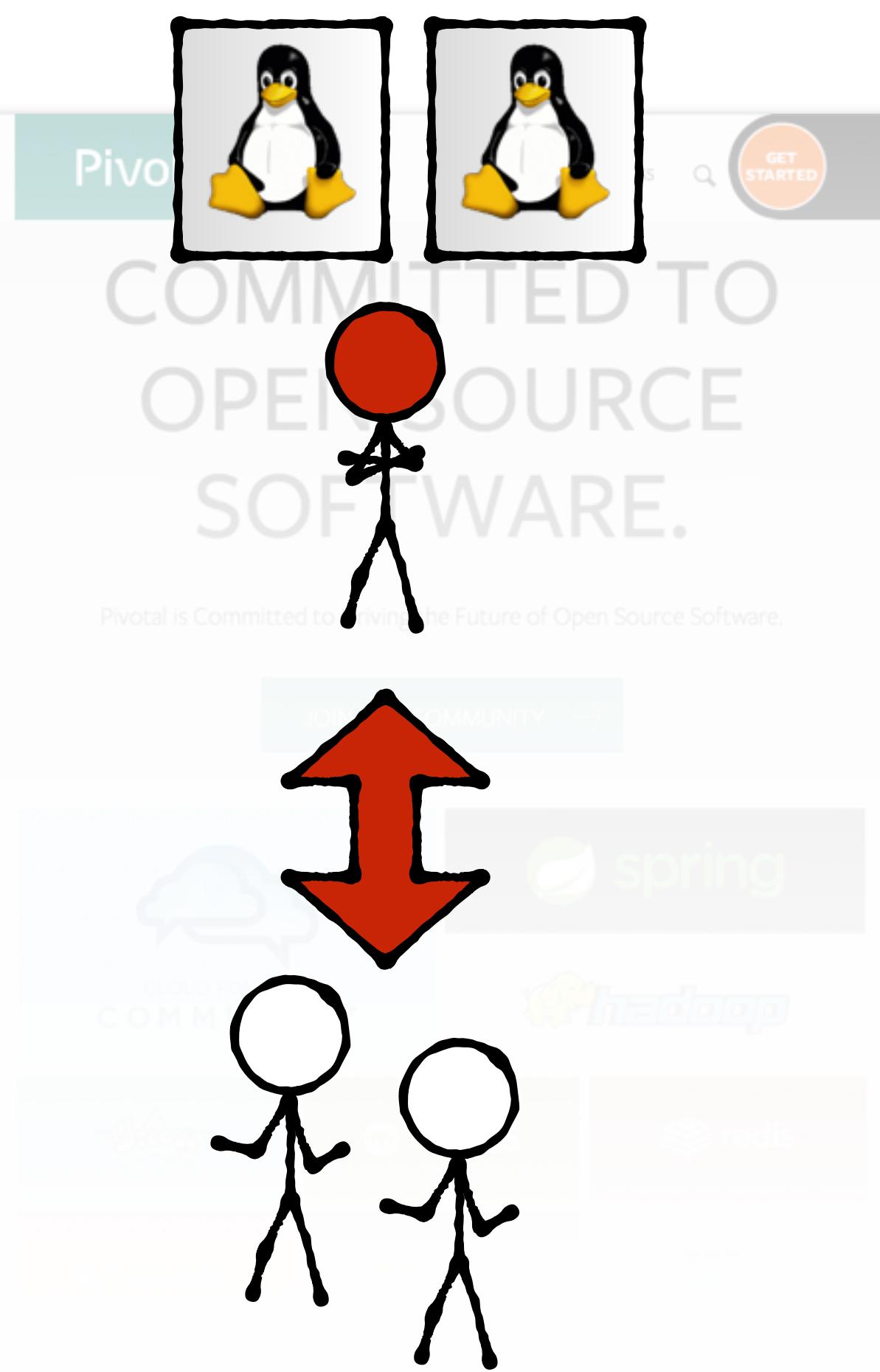


Source of conflict and miscommunication



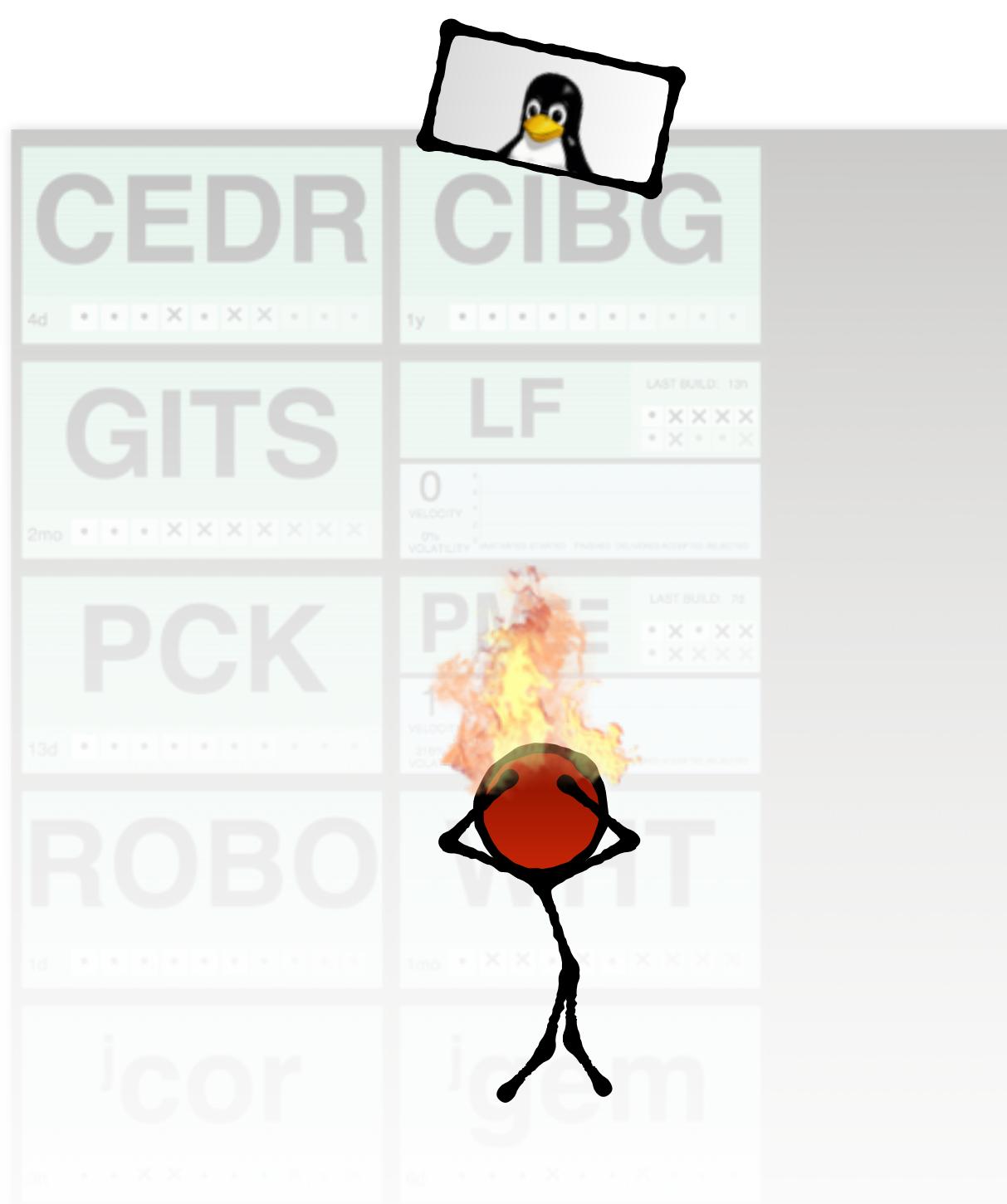
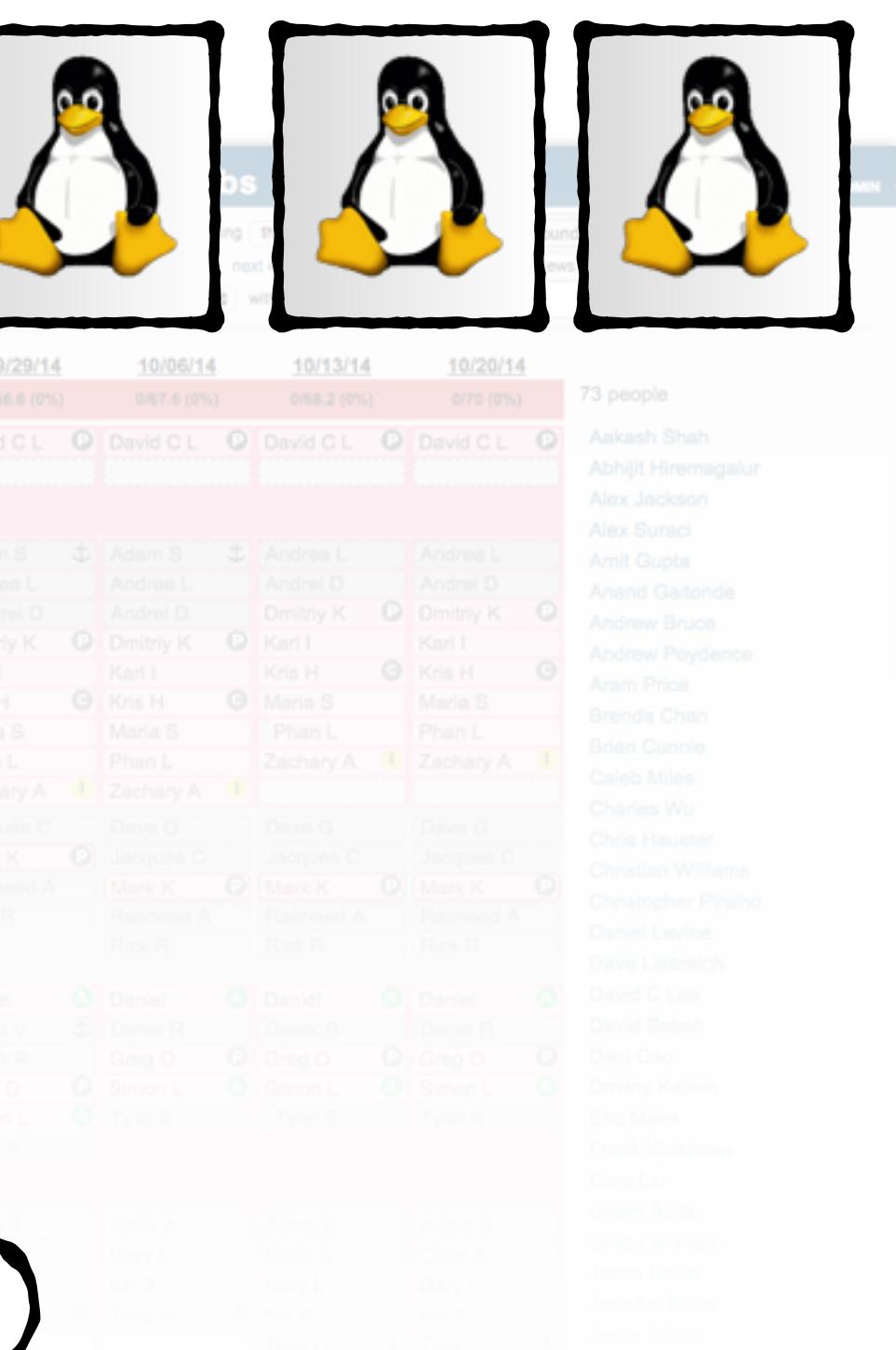
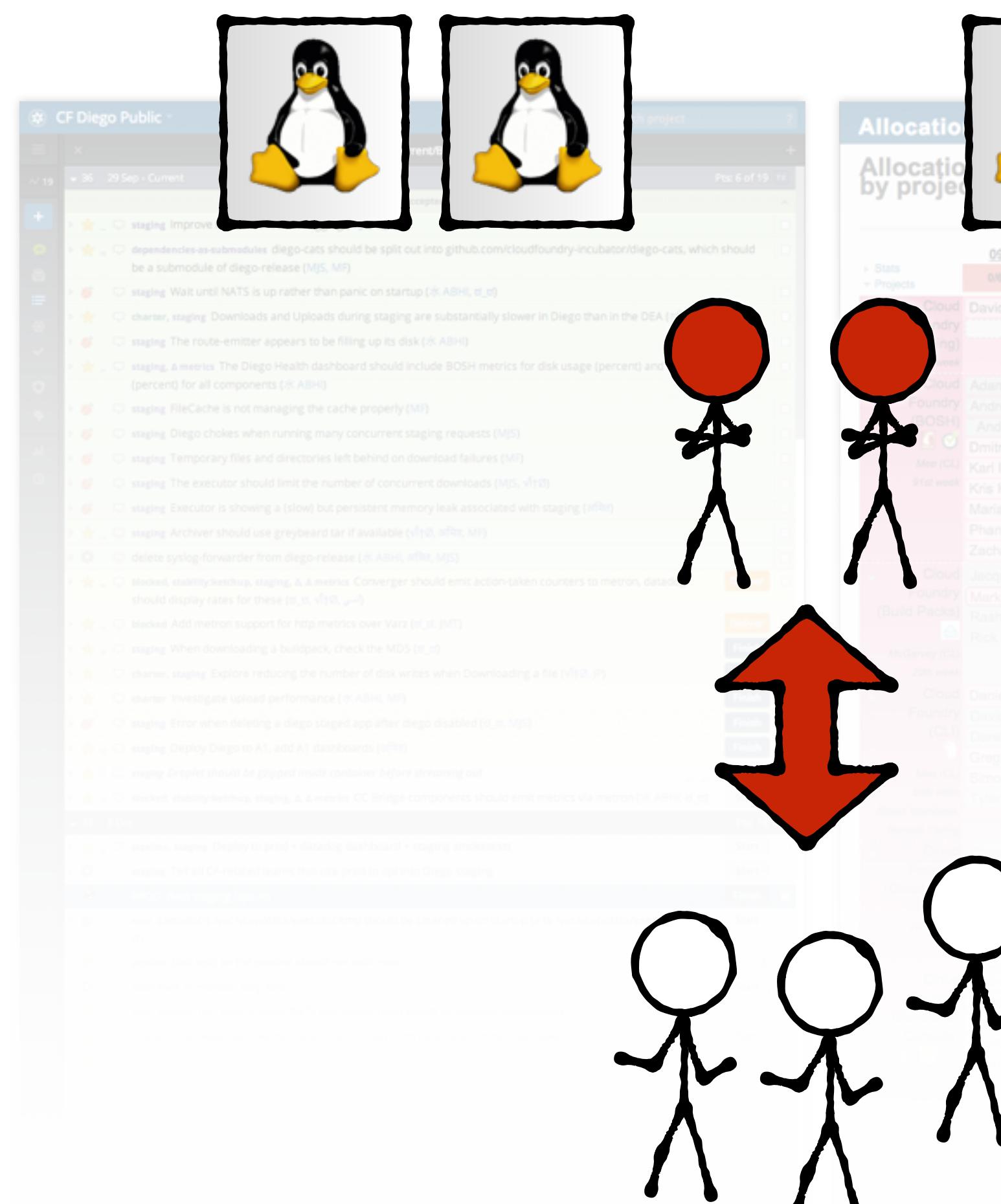
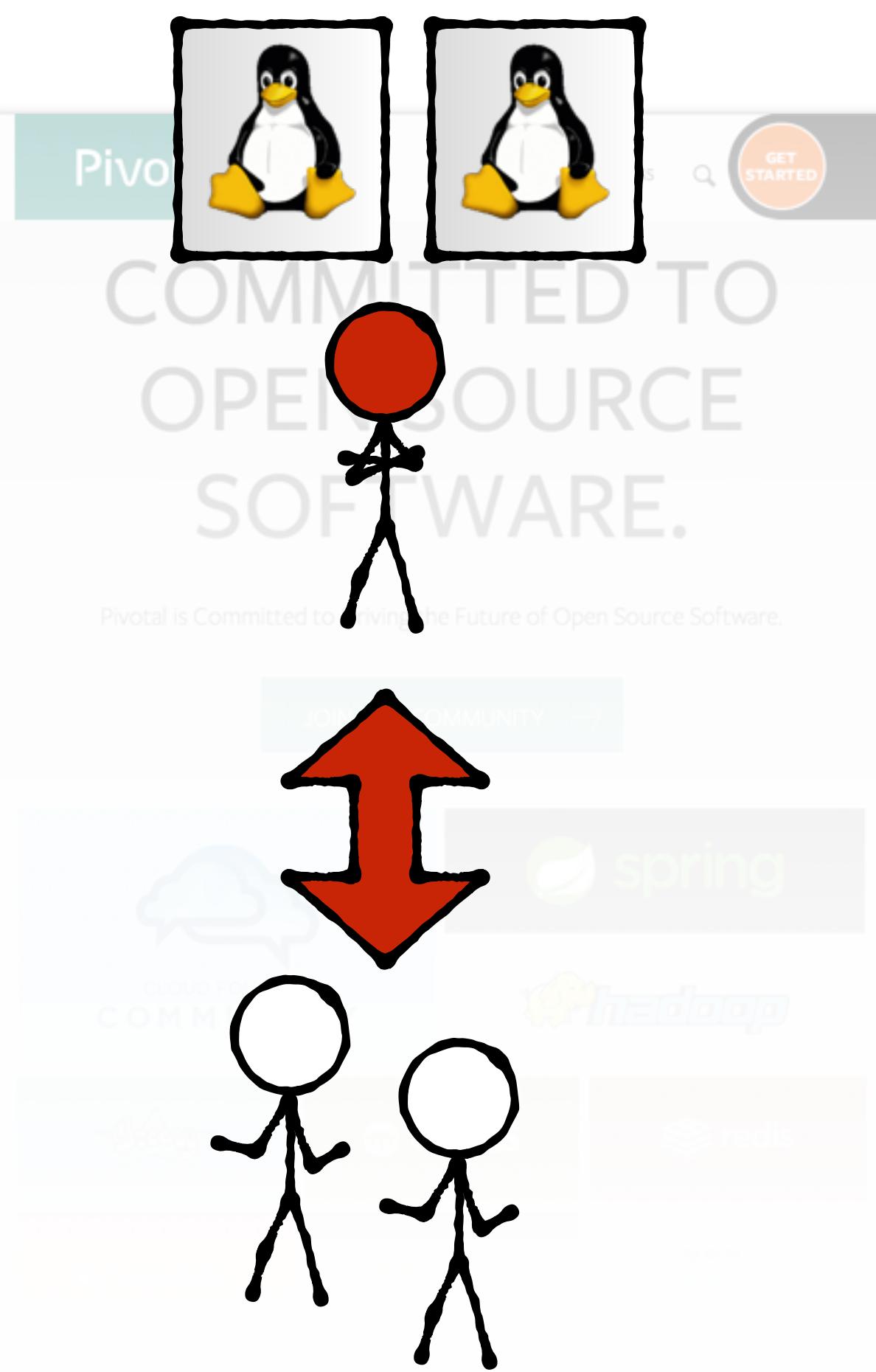
Source of conflict and miscommunication

Overworked sysadmins



Source of conflict and miscommunication

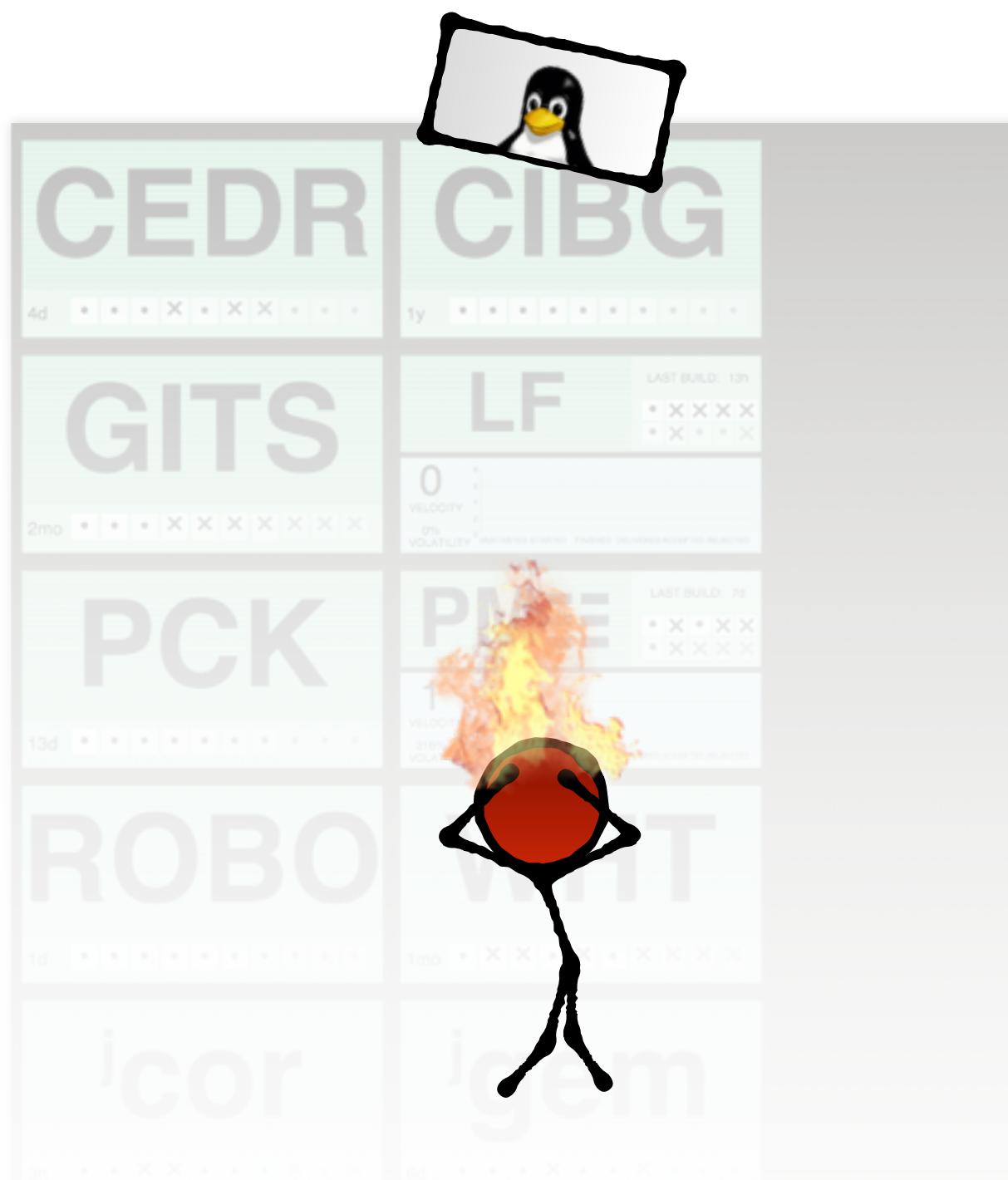
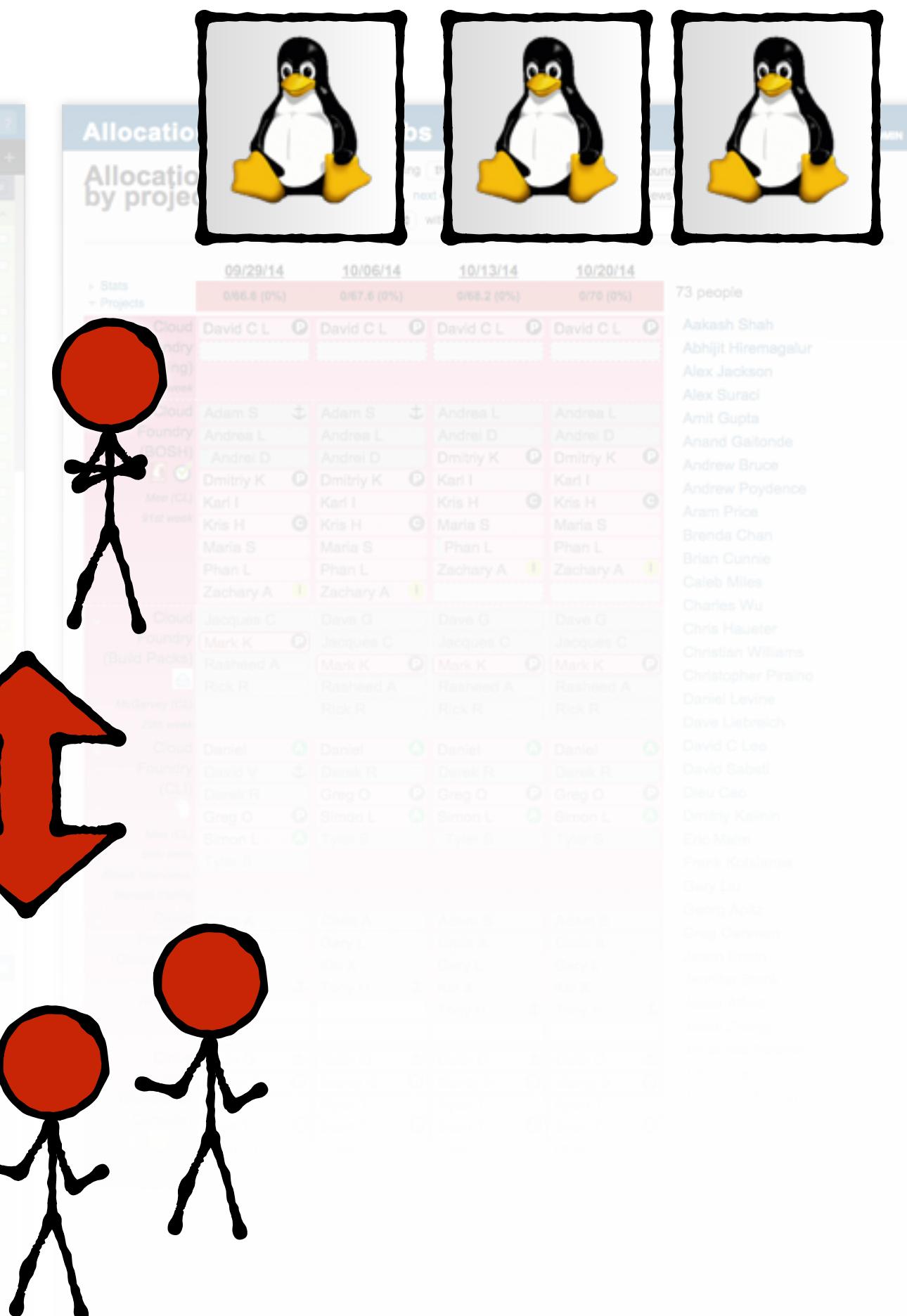
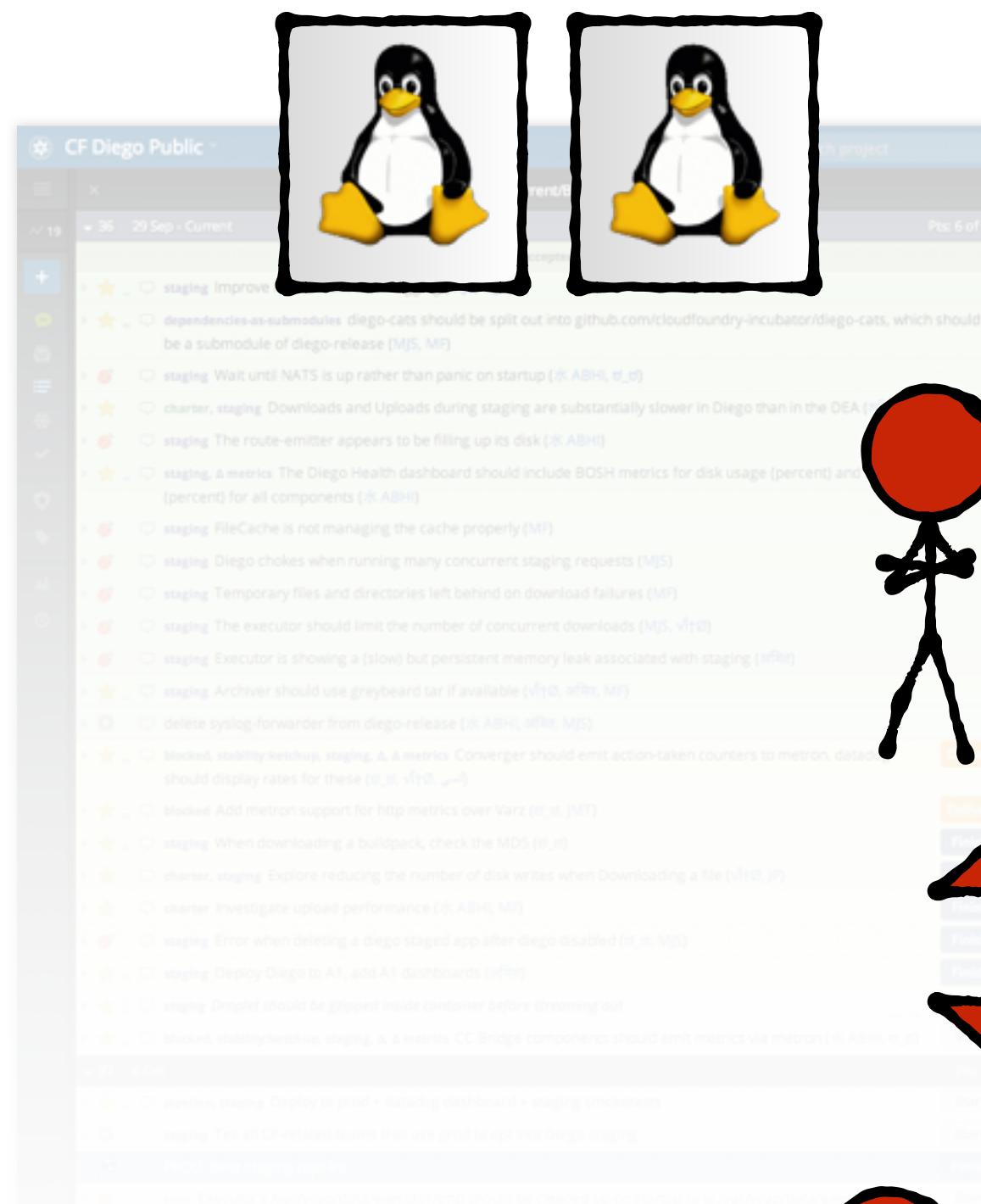
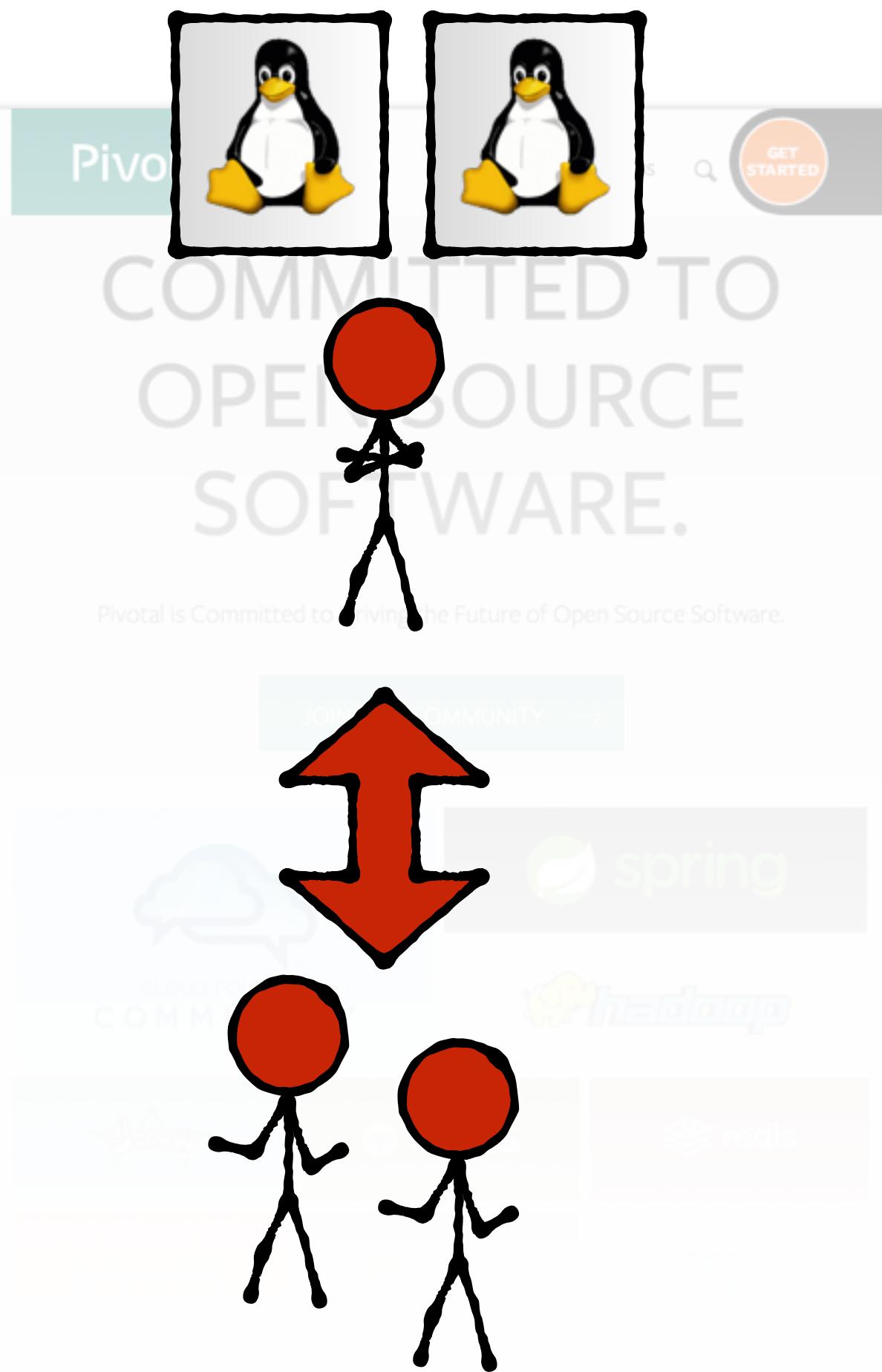
Overworked sysadmins



Source of conflict and miscommunication

Overworked sysadmins

Inefficient, blocked, developers trying to update their apps

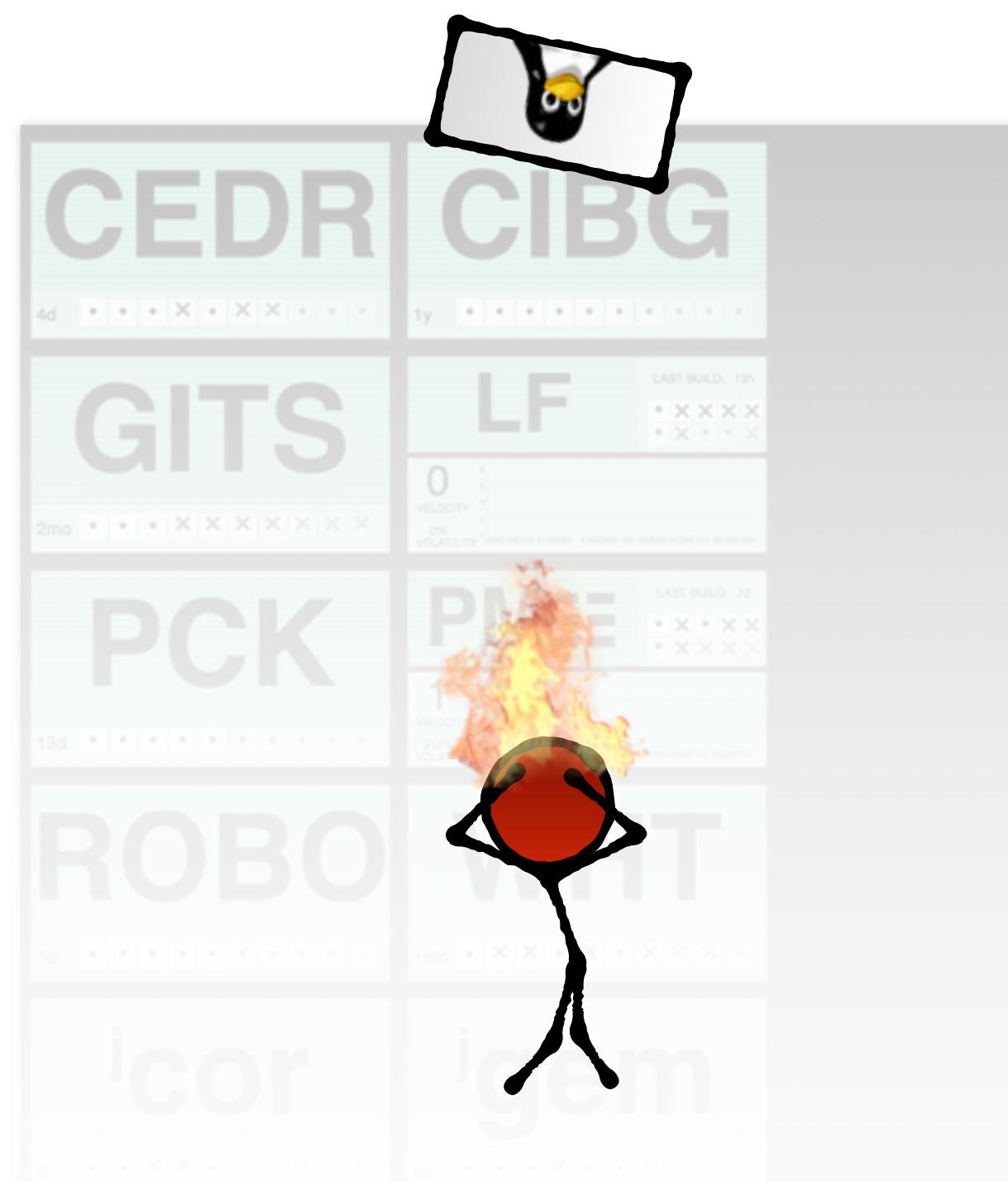
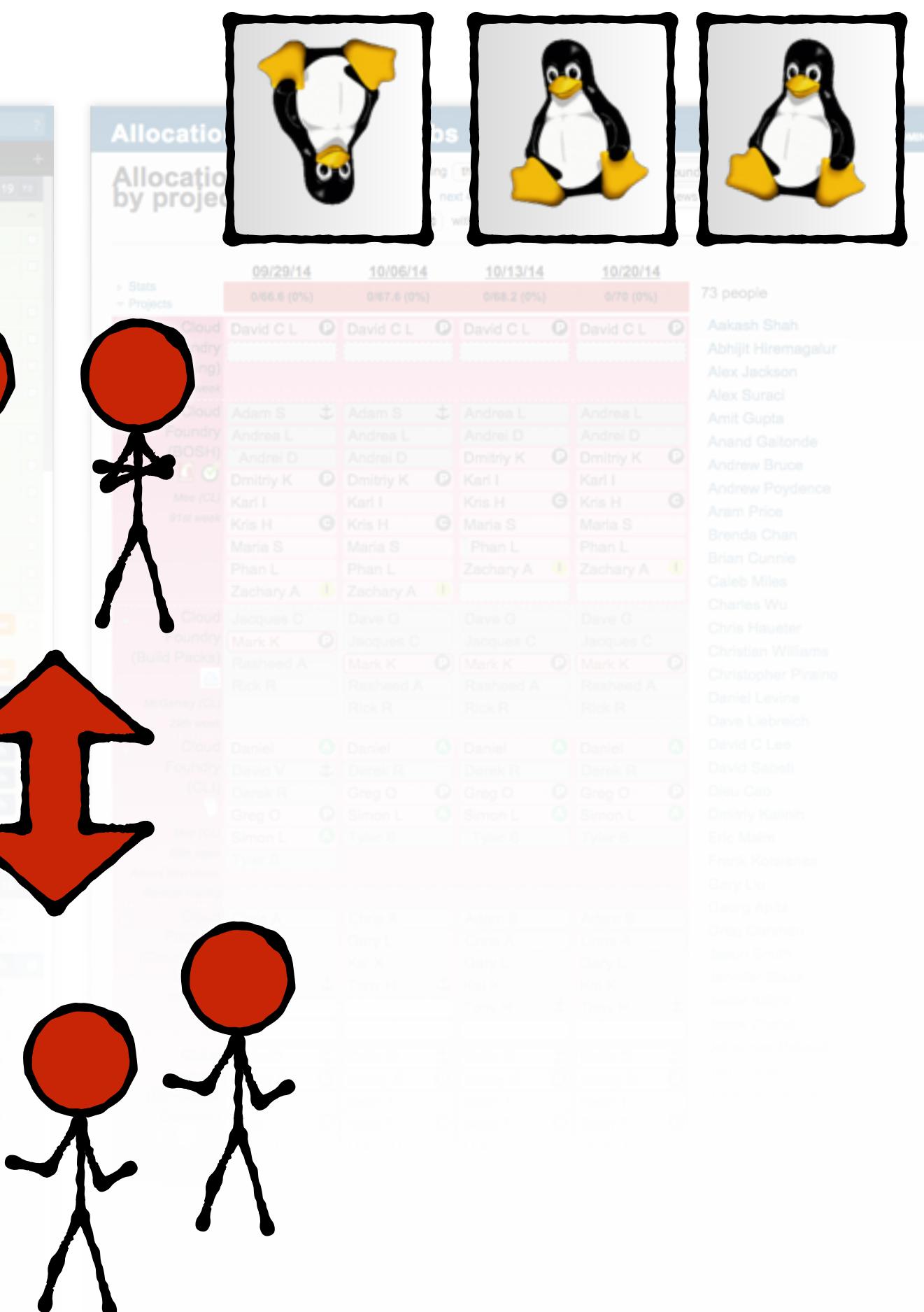
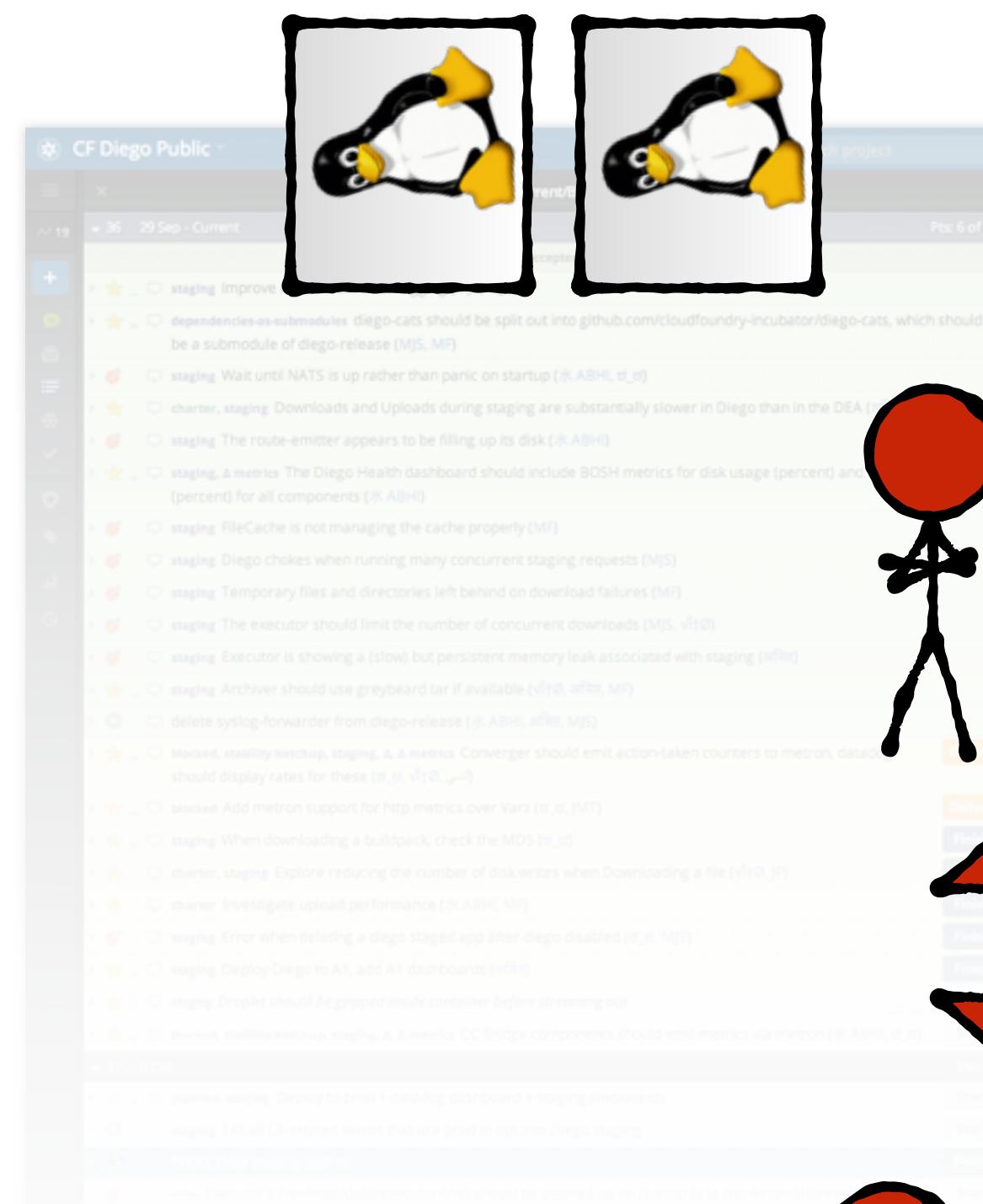
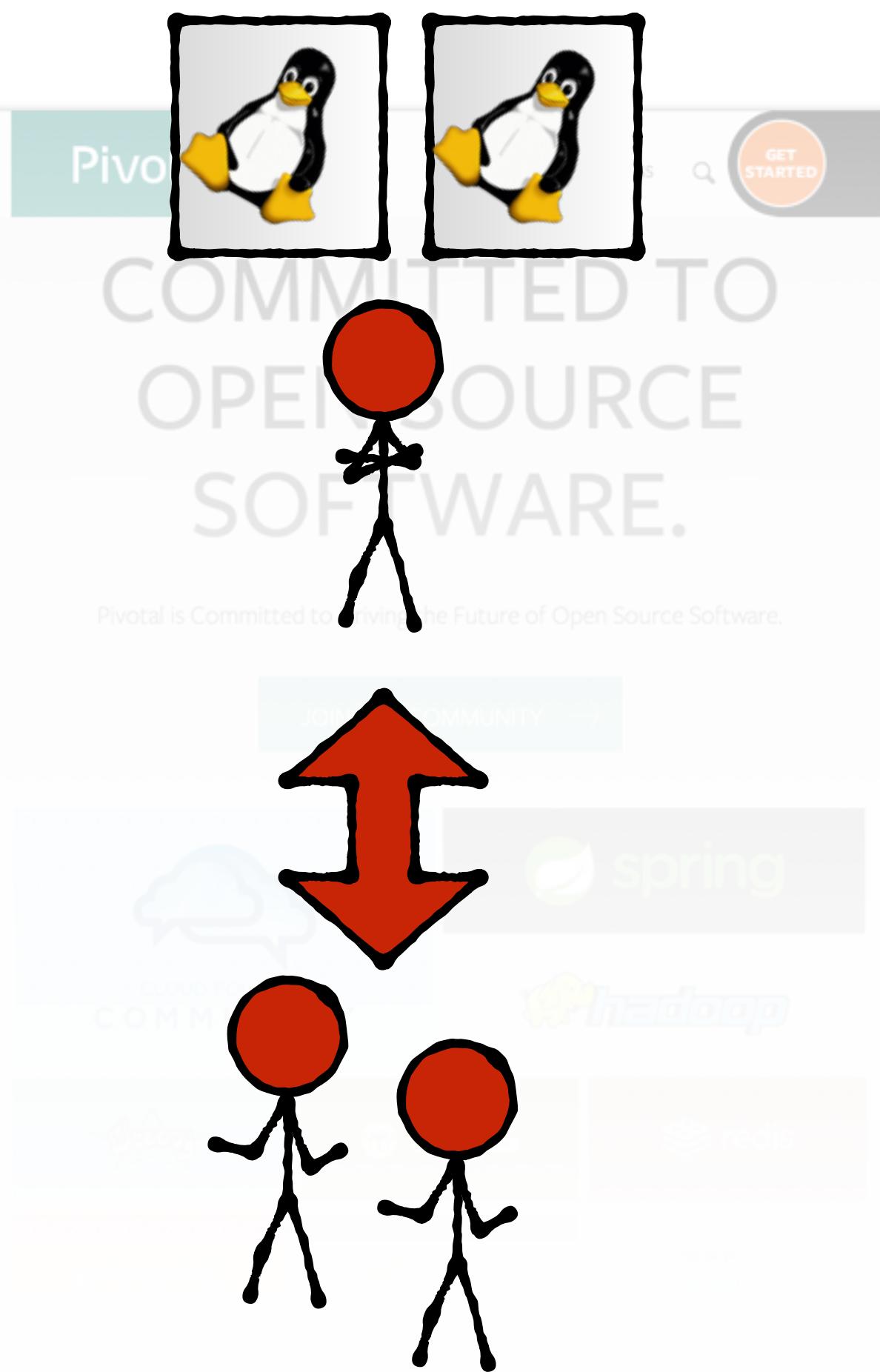


Source of conflict and miscommunication

Overworked sysadmins

Inefficient, blocked, developers trying to update their apps

Inconsistent configurations





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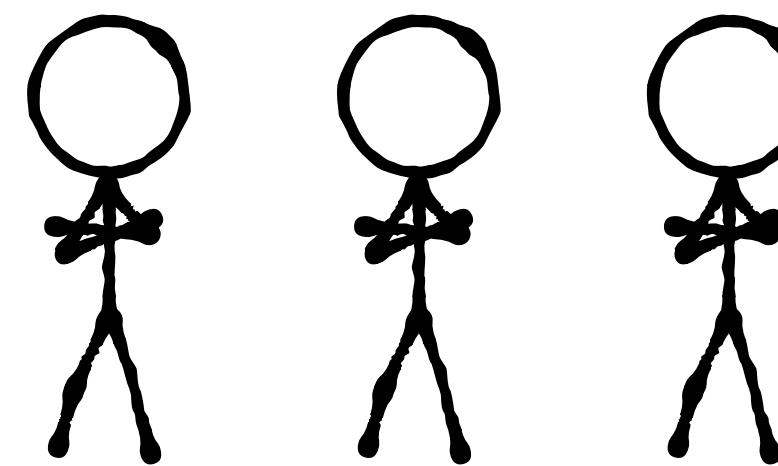
Platform as a Service



CLOUD
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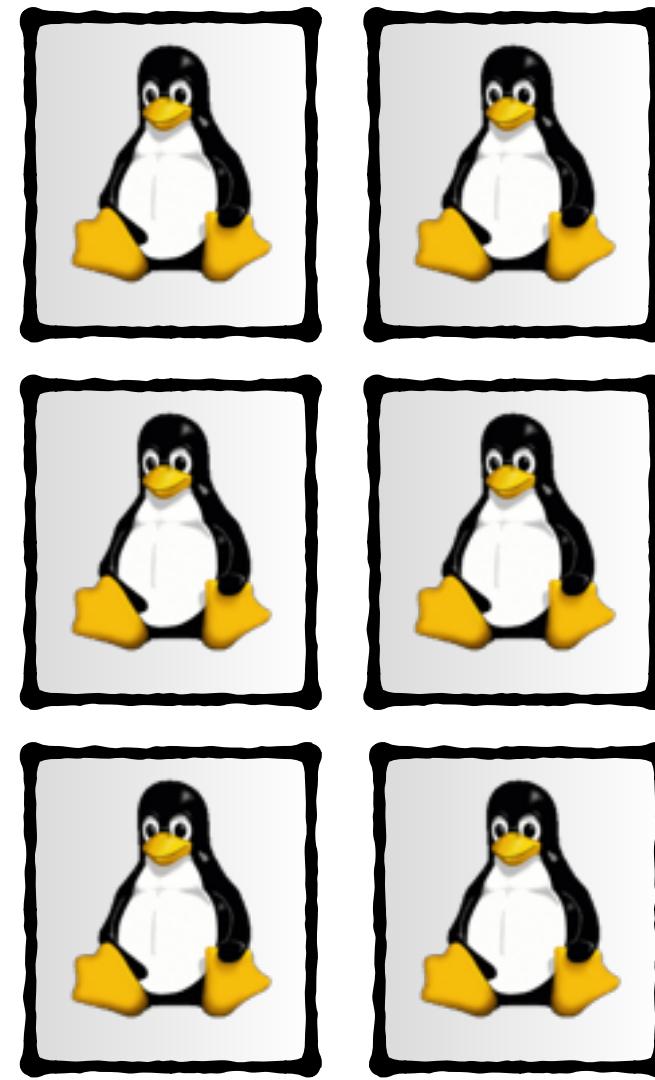
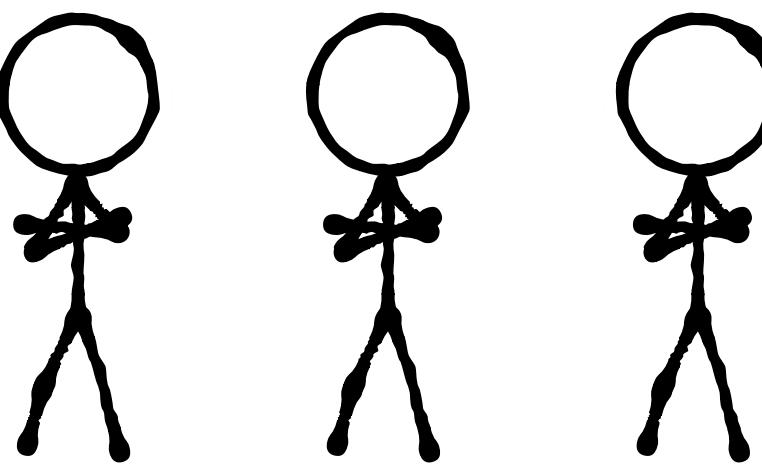


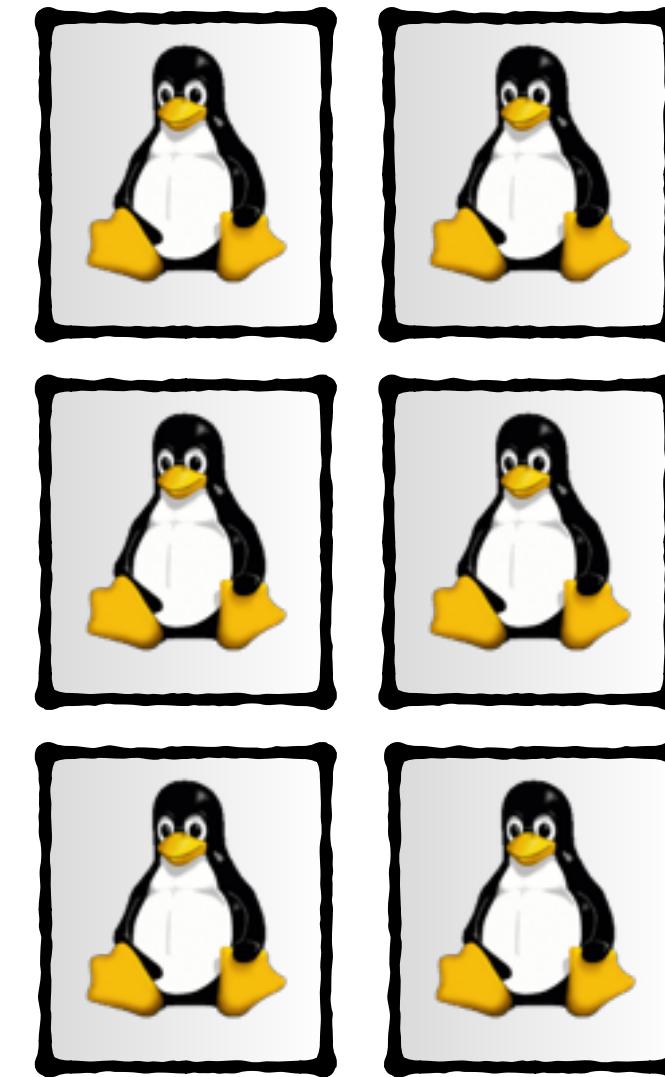
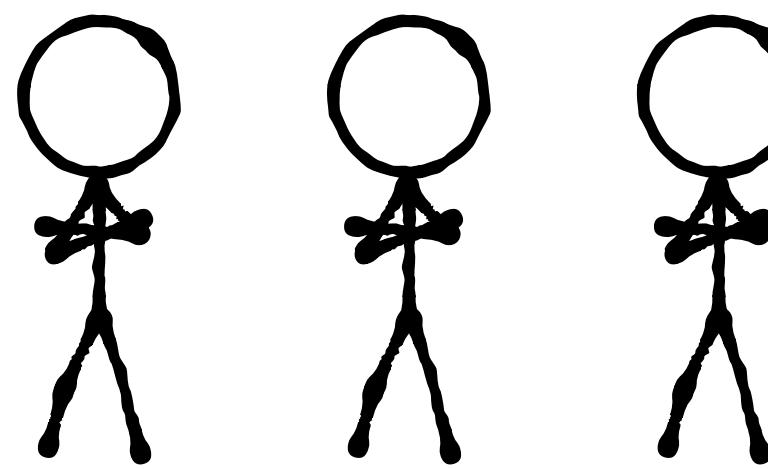
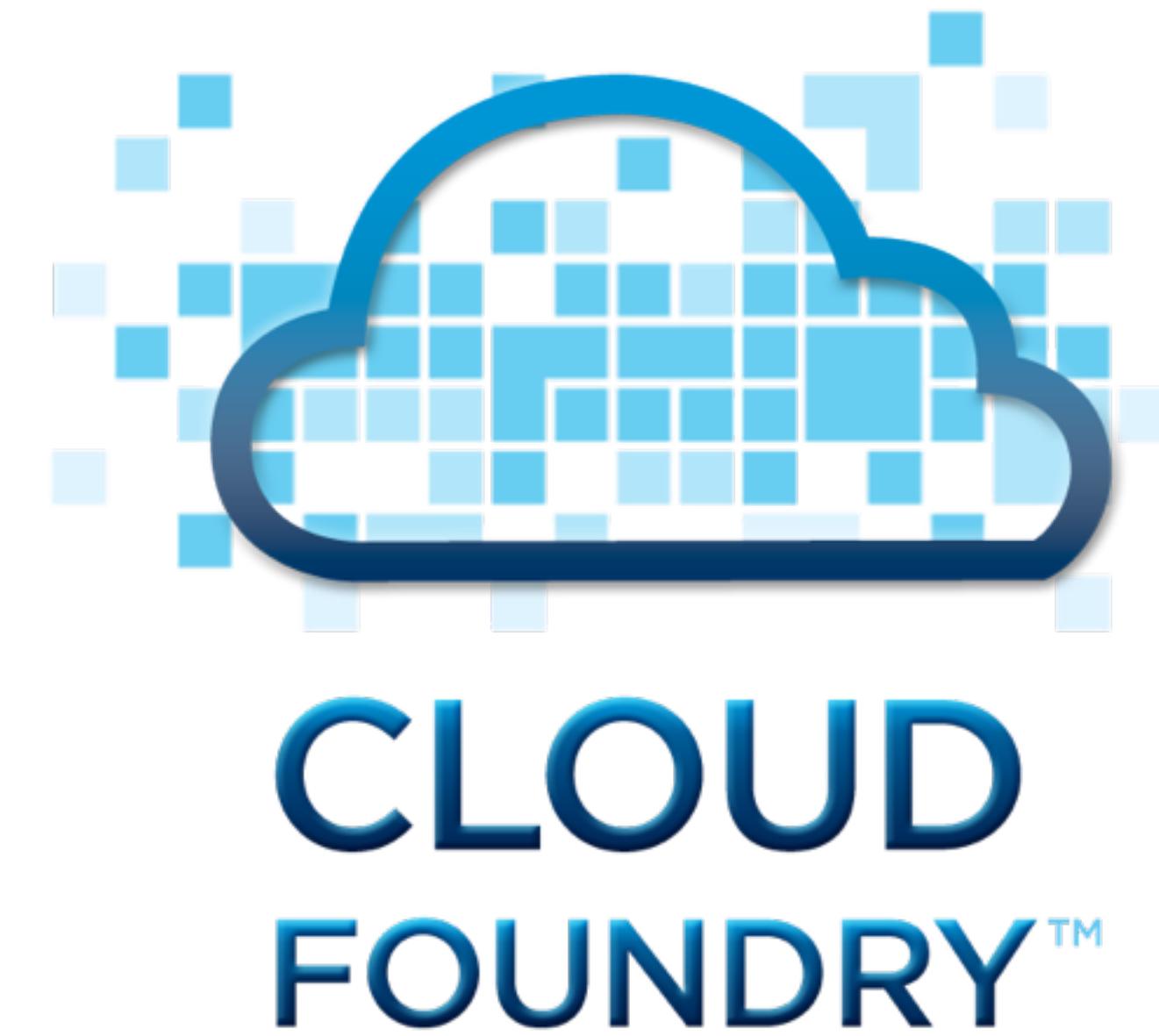
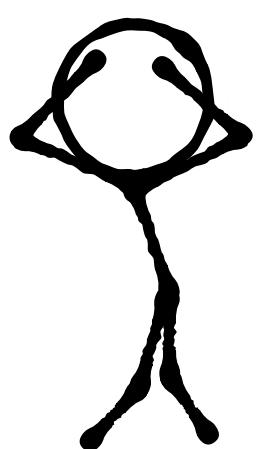
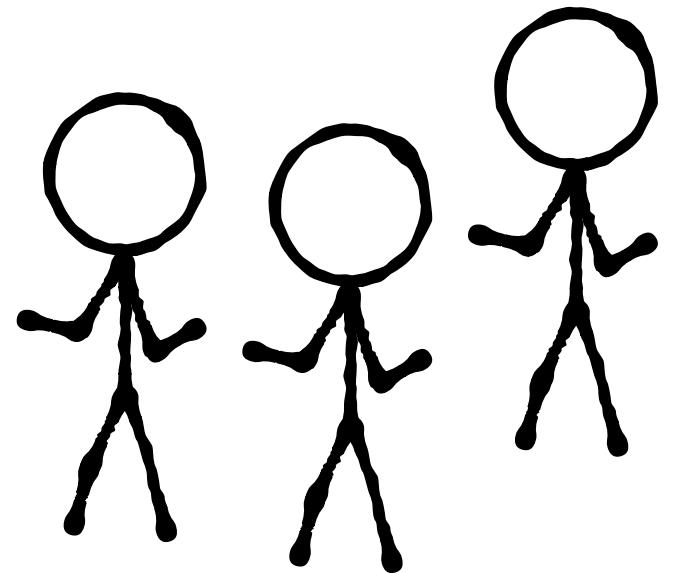
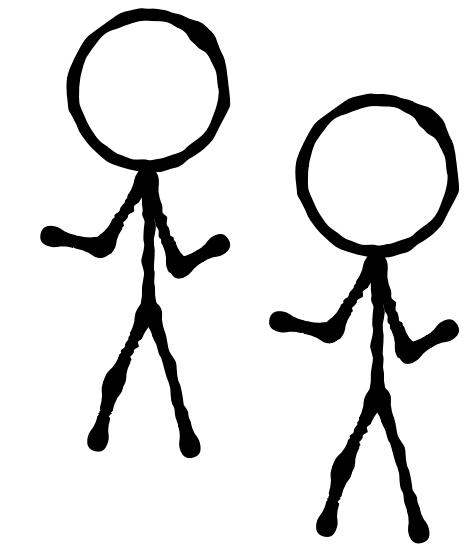
CLOUD
FOUNDRY™

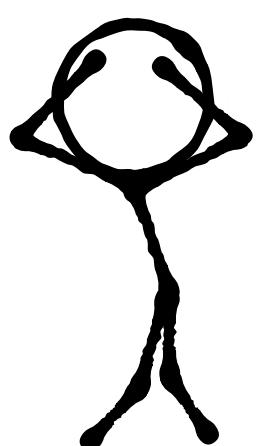
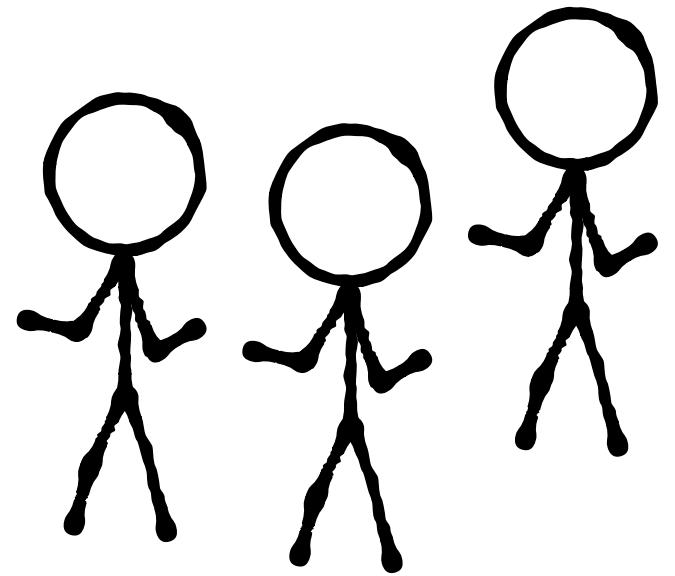
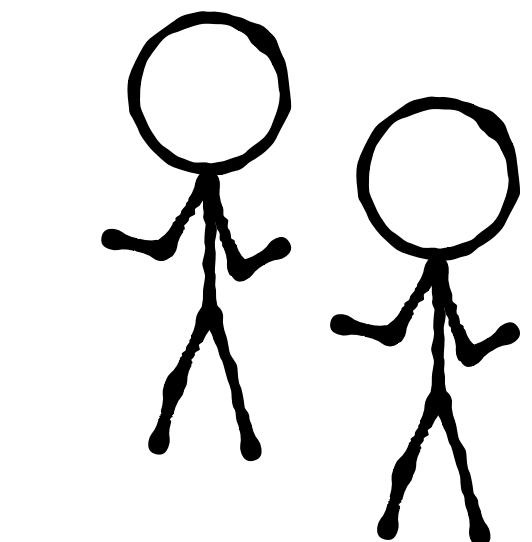




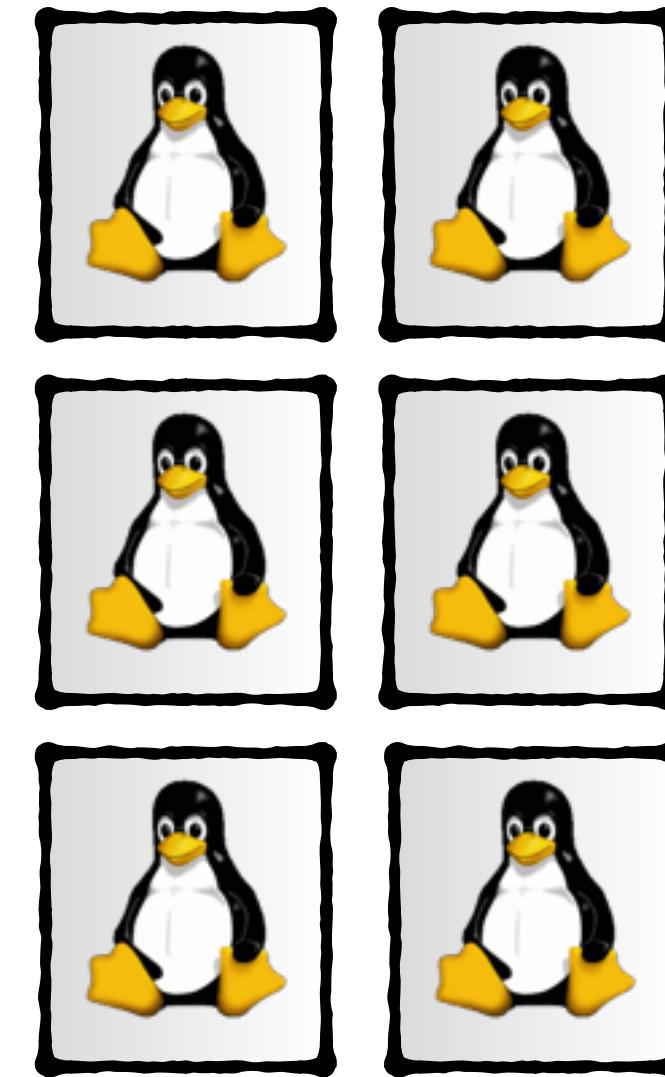
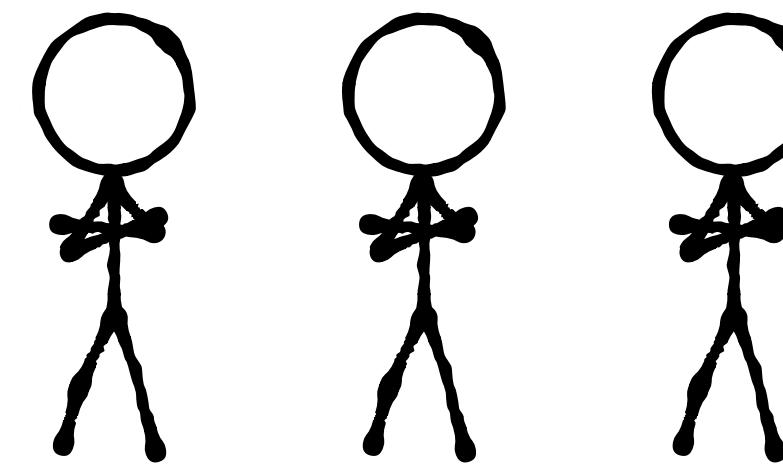
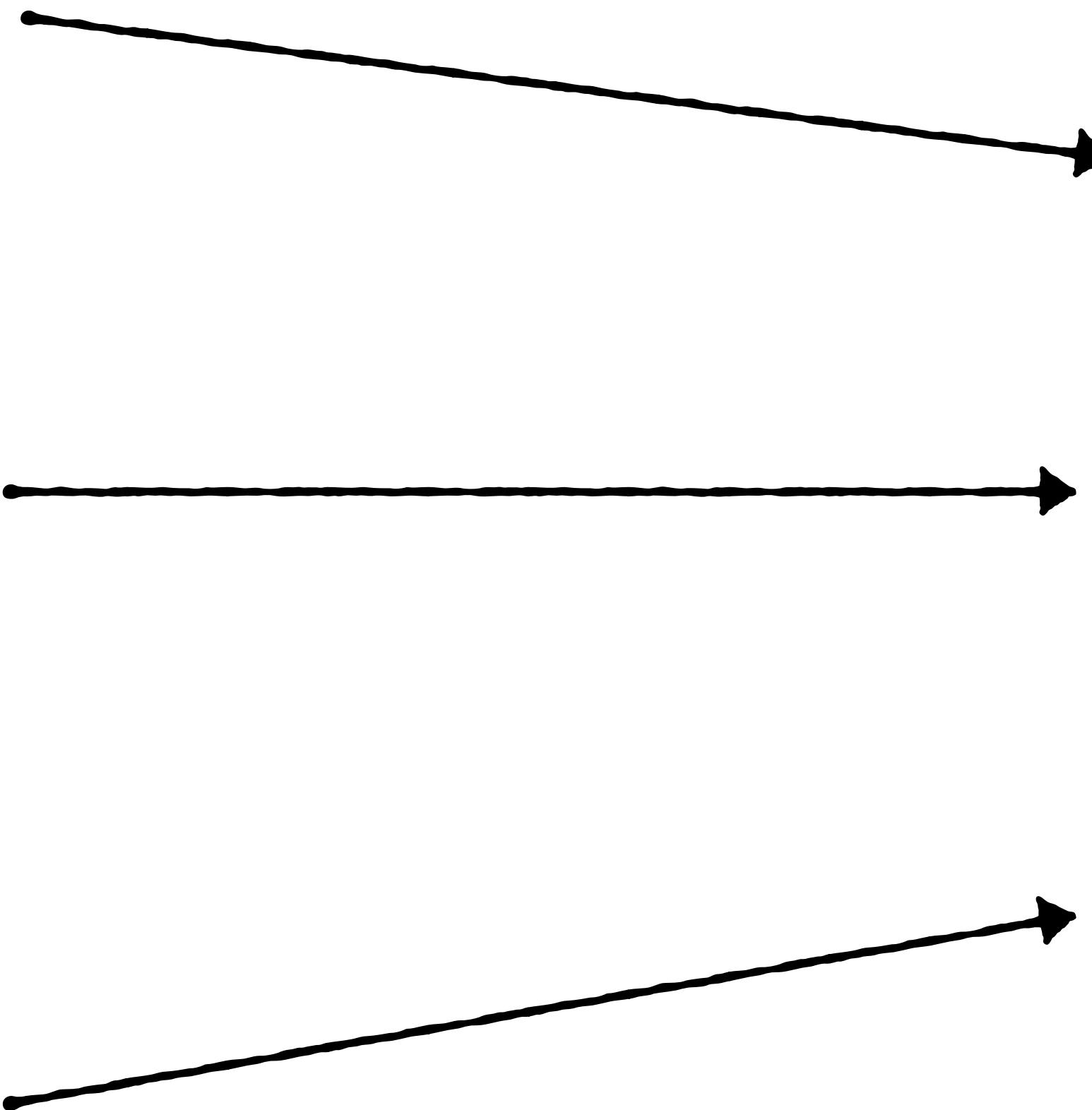
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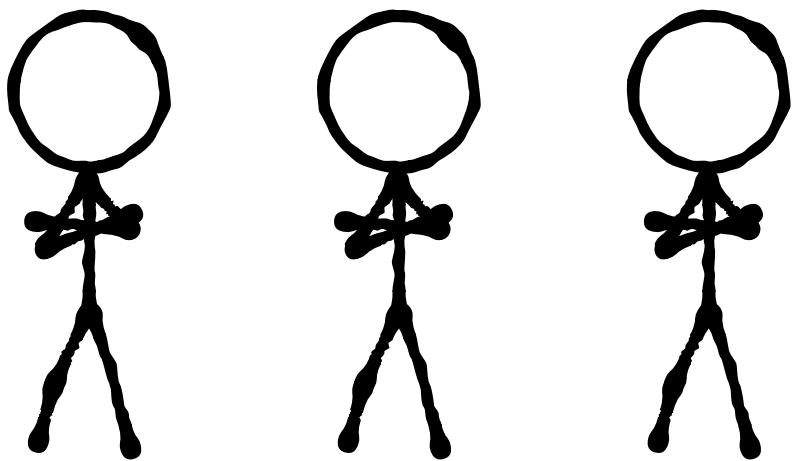
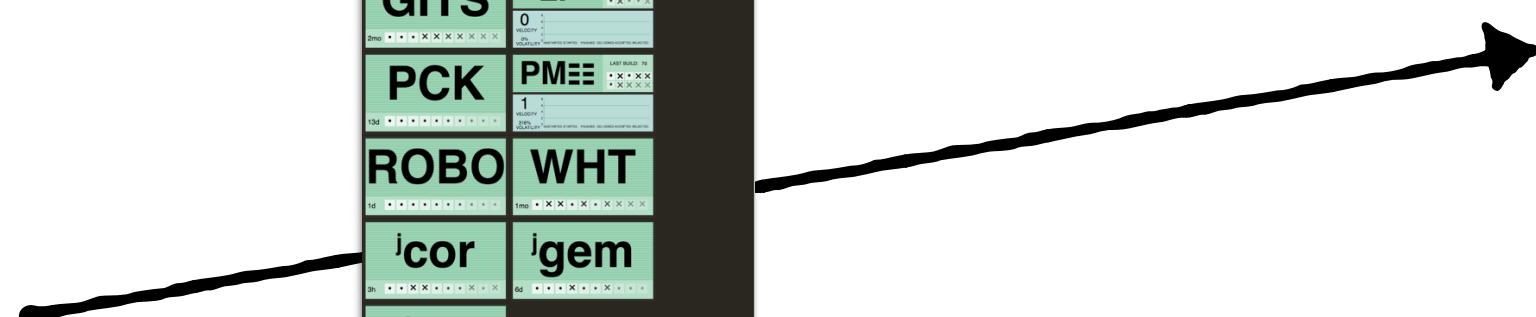
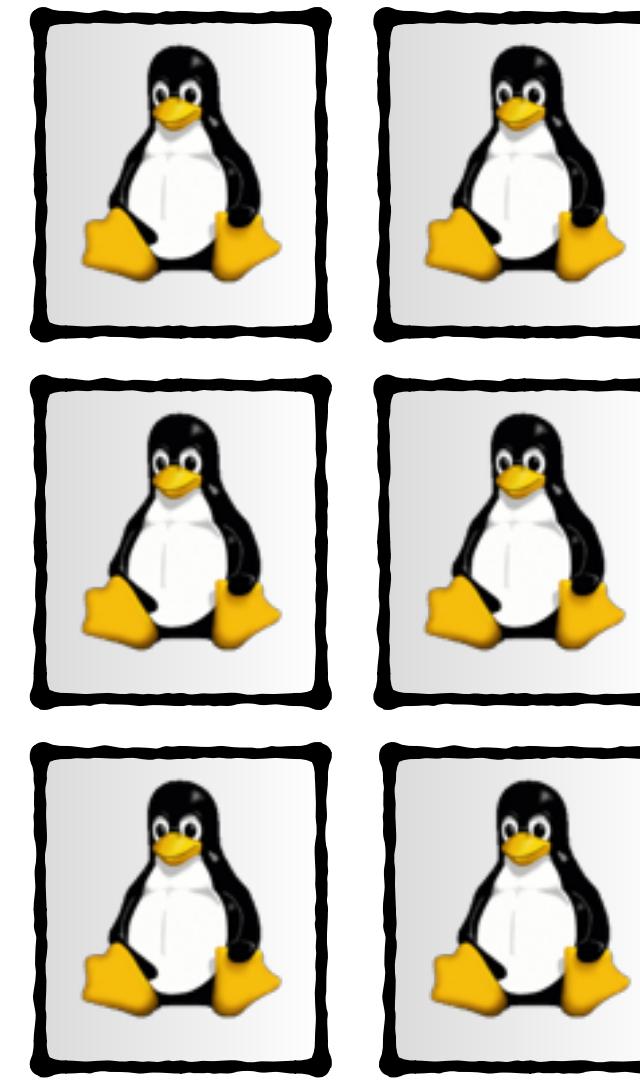
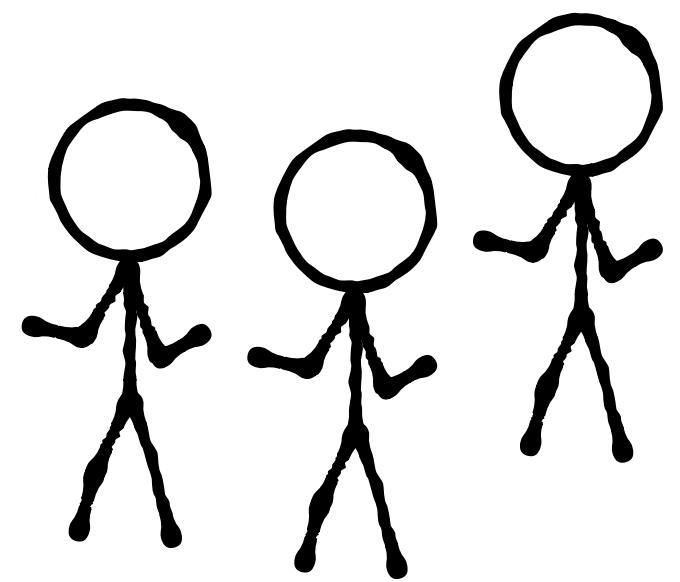
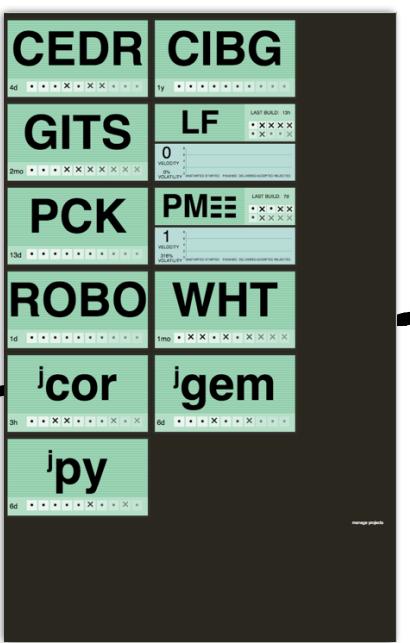
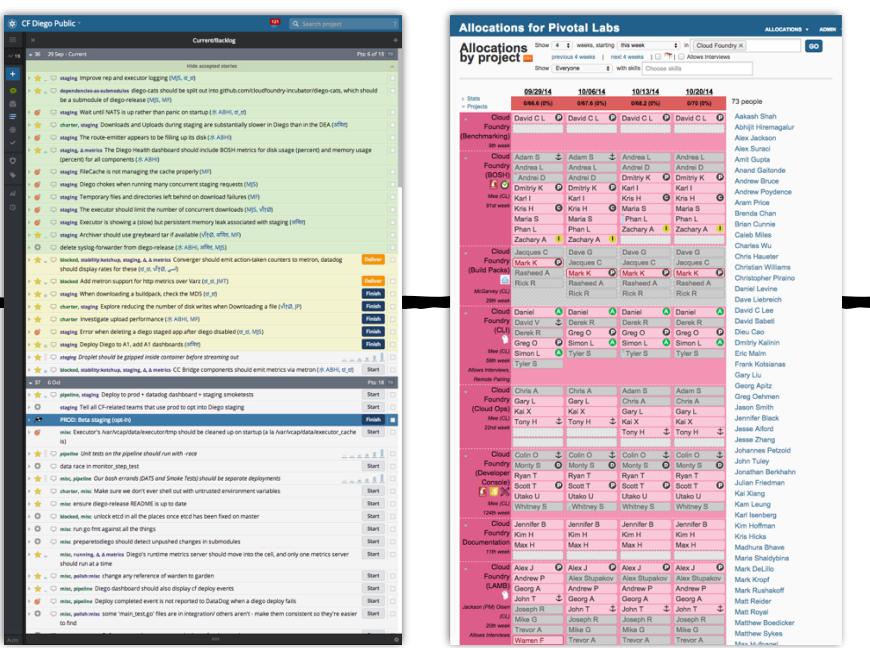
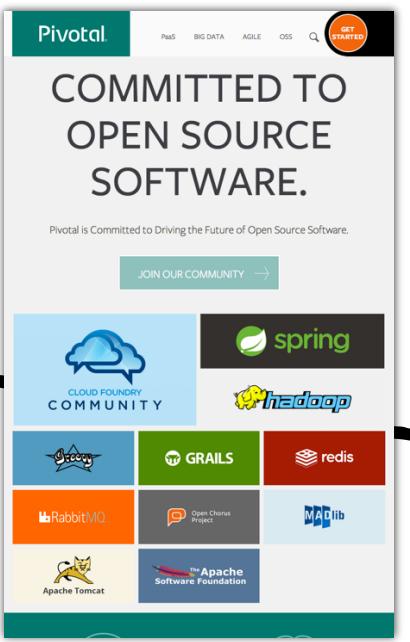
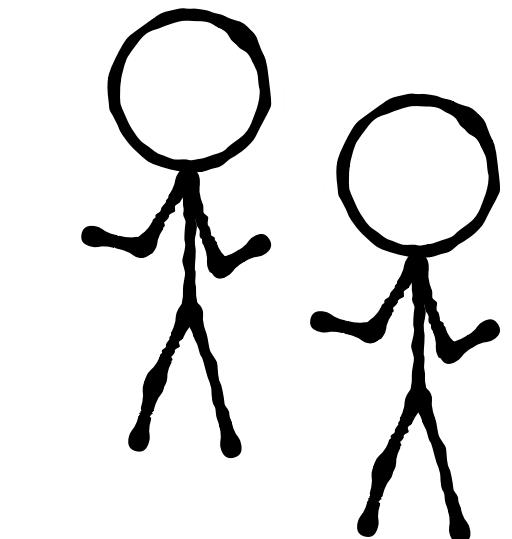


> cf push



Code

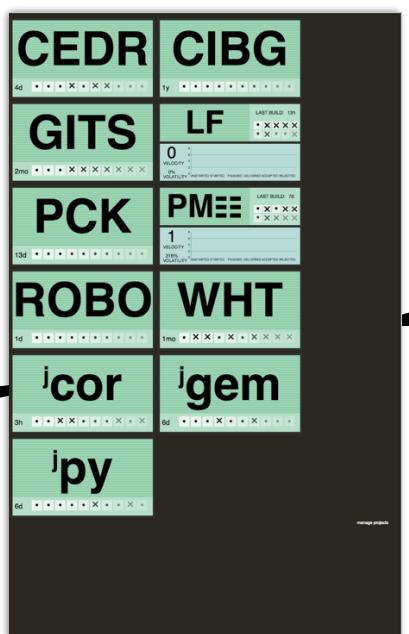
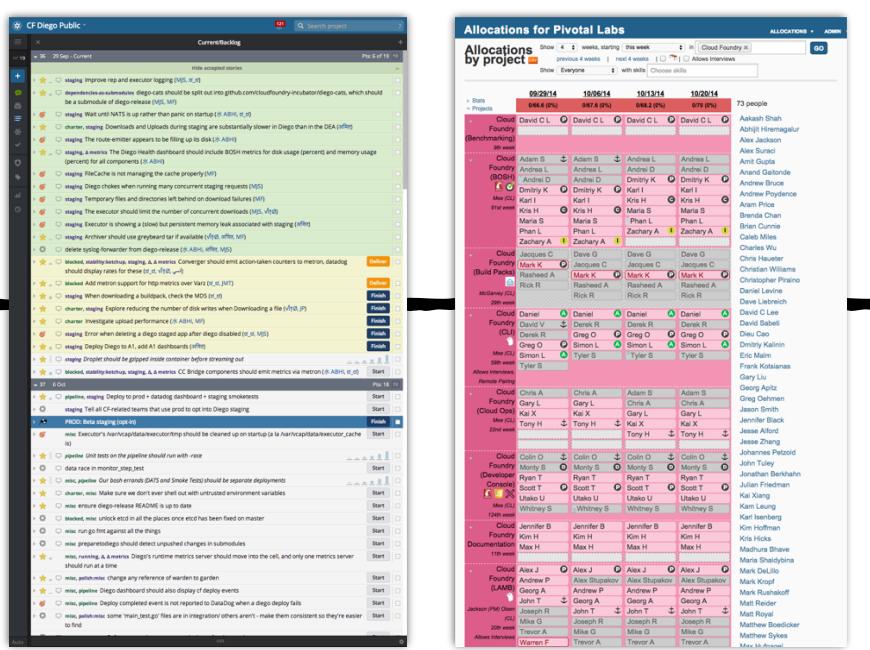
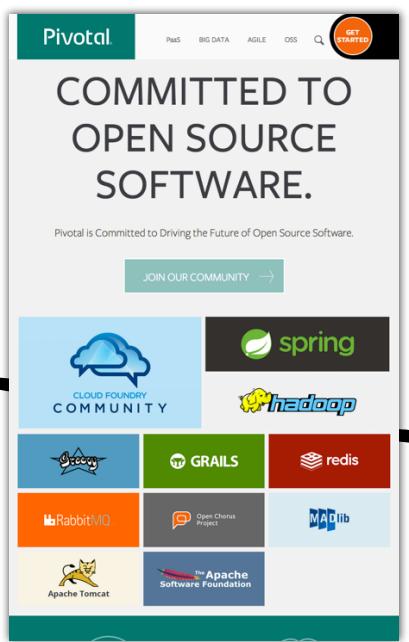
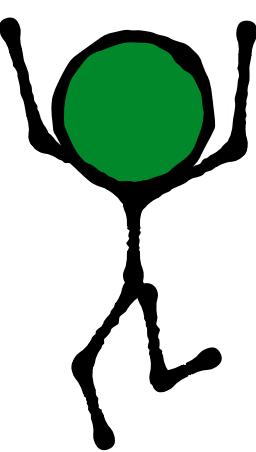
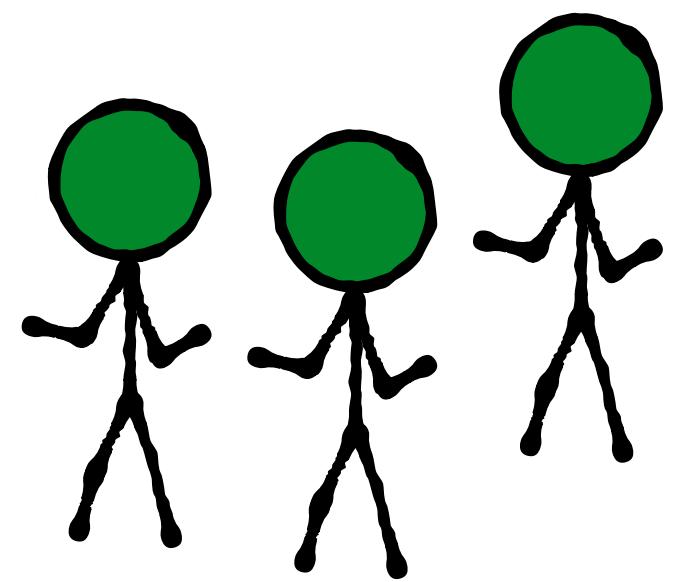
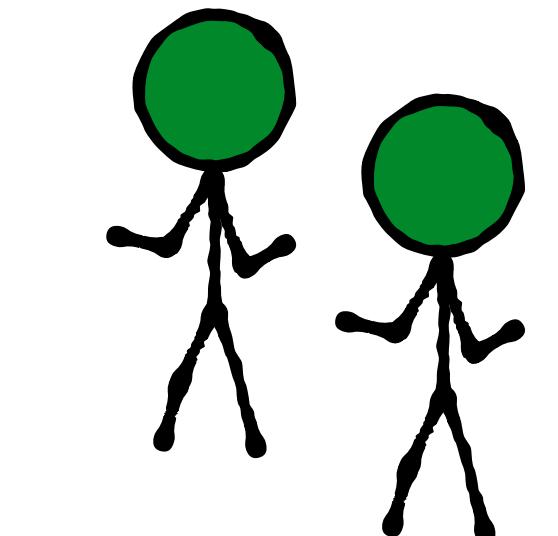
Running Applications



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Code

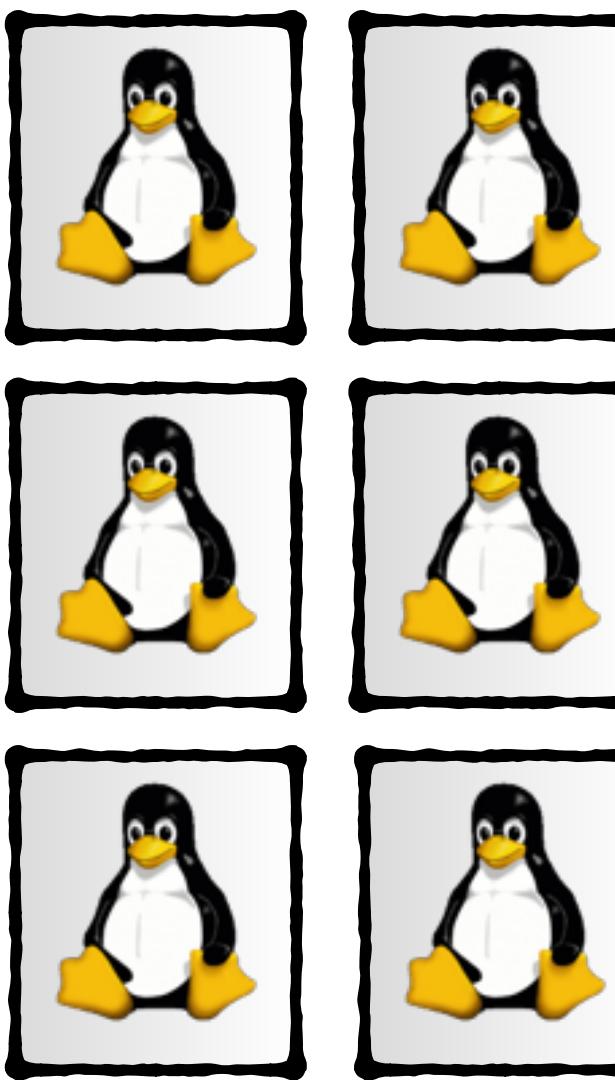
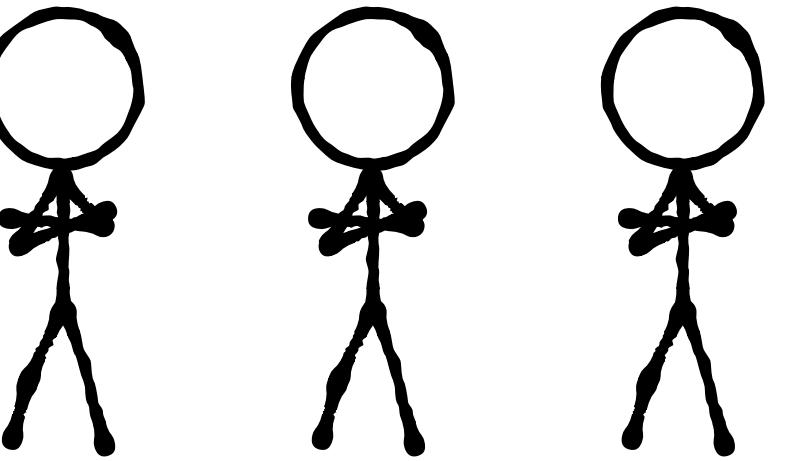
Running Applications



> cf push

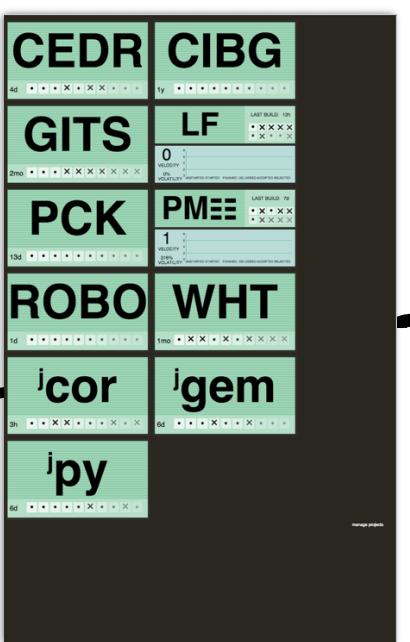
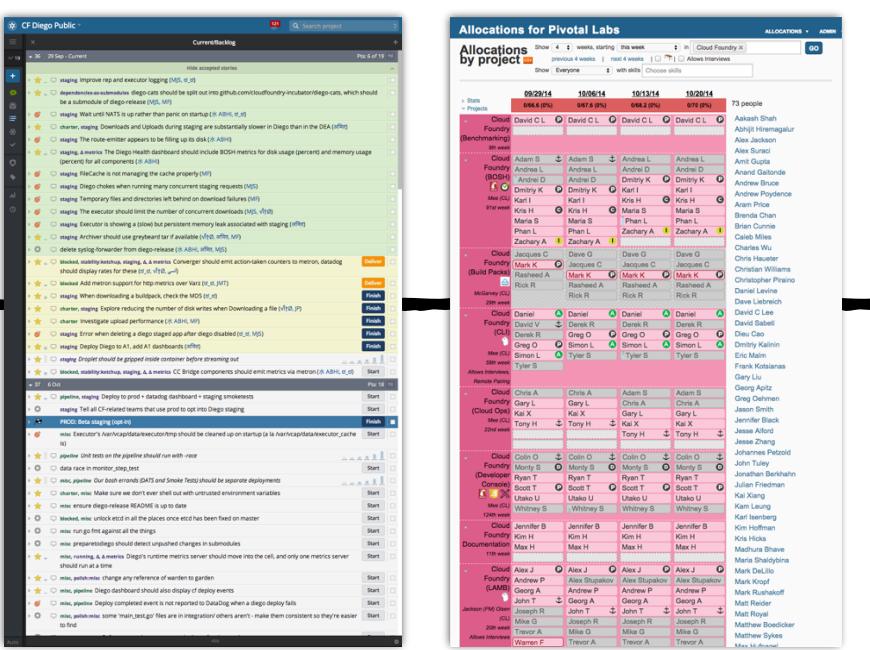
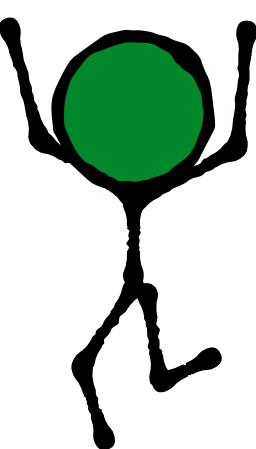
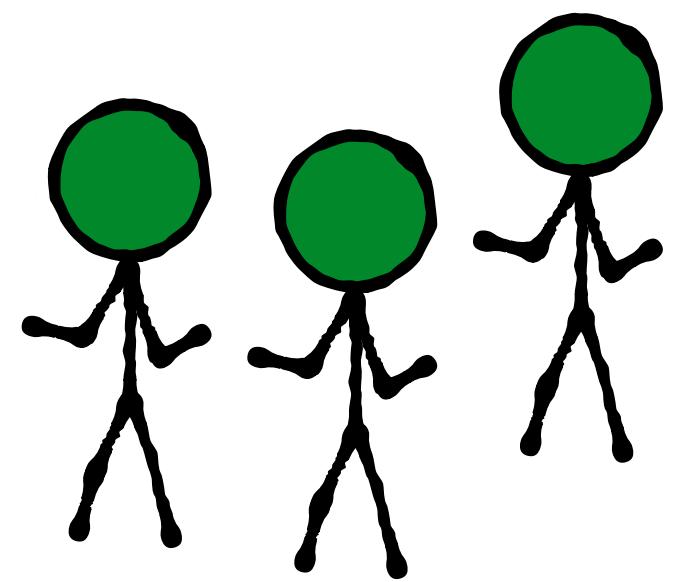
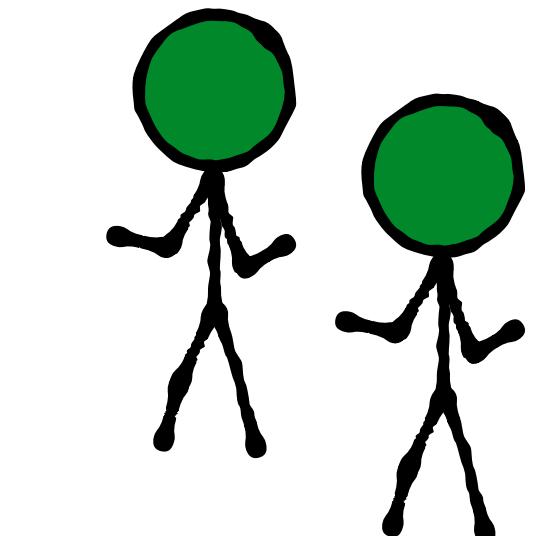


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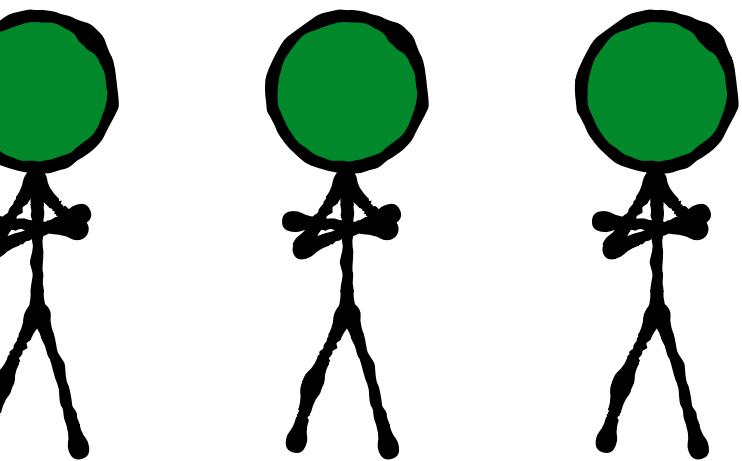
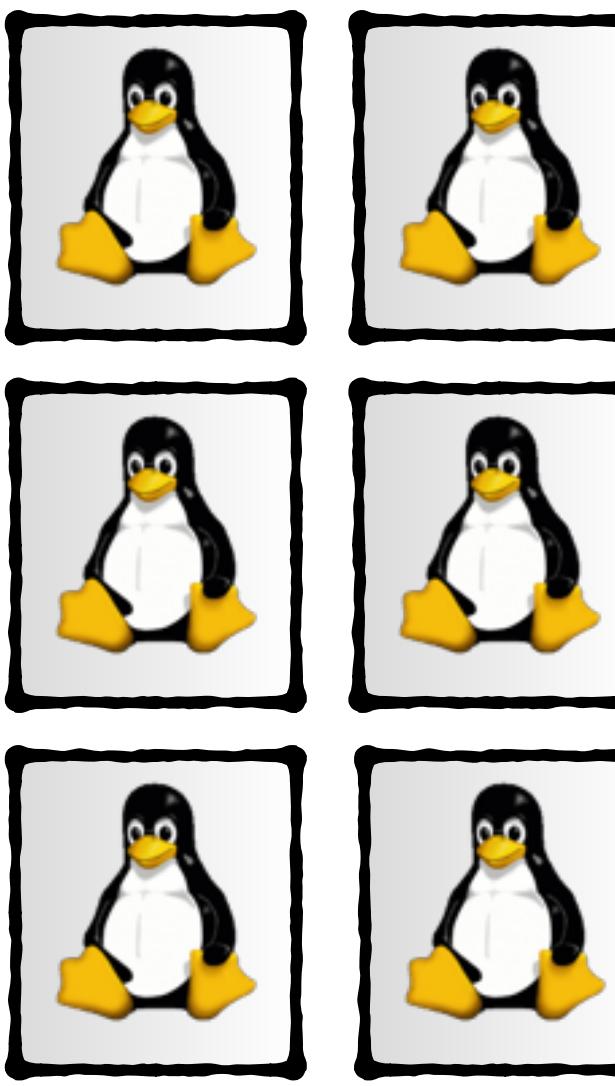


Code

Running Applications



> cf push





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FOUNDRY™

Platform as a Service



CLOUD
FOUNDRY™

Open source **Platform** as a Service



CLOUD
FOUNDRY™

Open source **Platform** as a Service
that runs on many clouds



Who am I?

What we do

How we do it

PivotalTM

culture

(why you should work here!)

Pairing

Testing

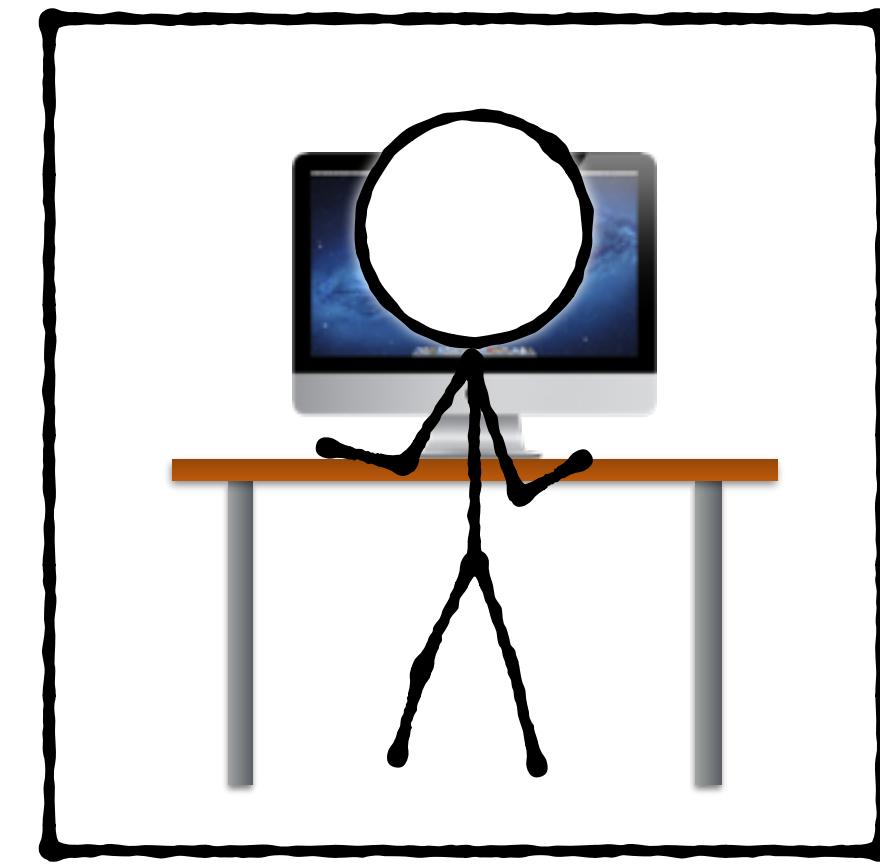
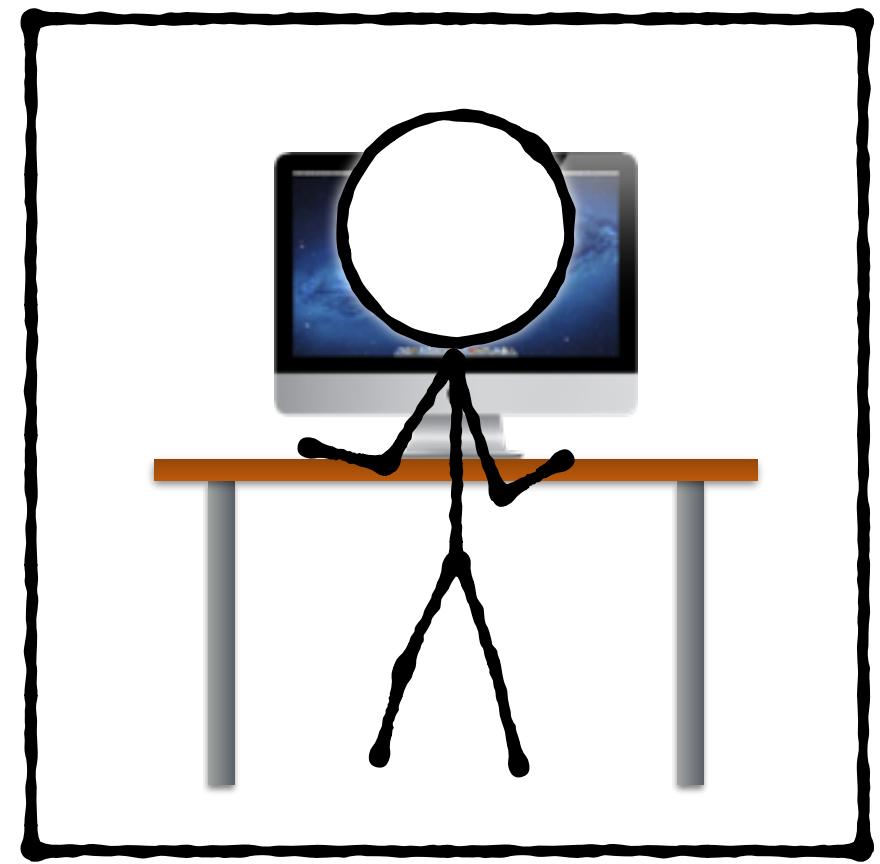
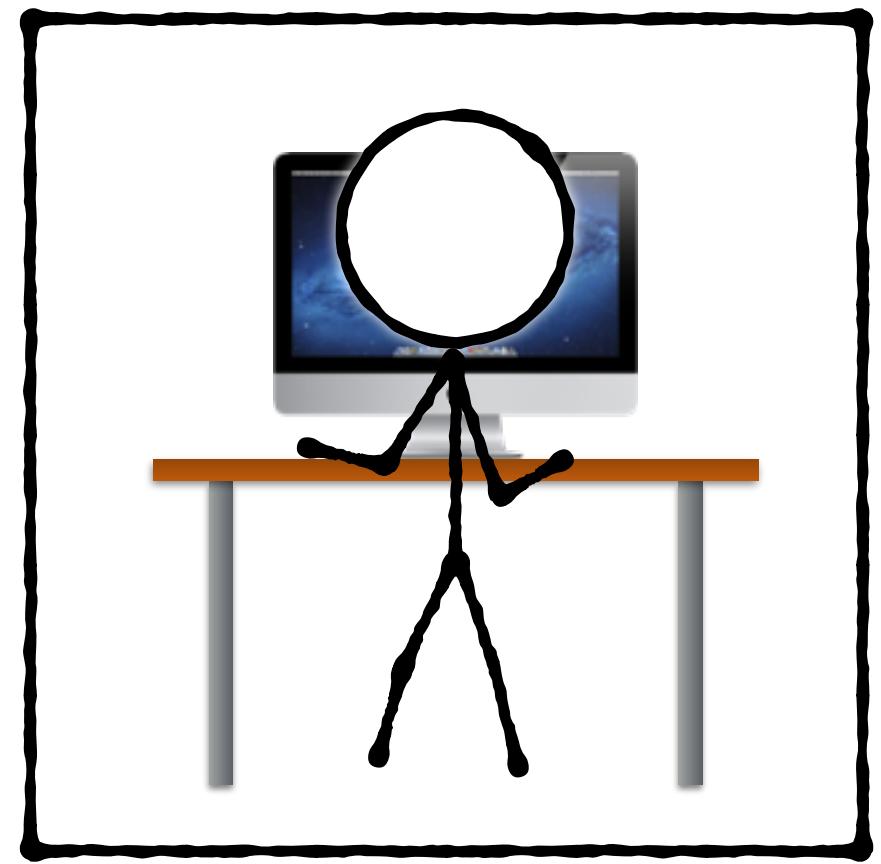
Agile Planning

PivotalTM

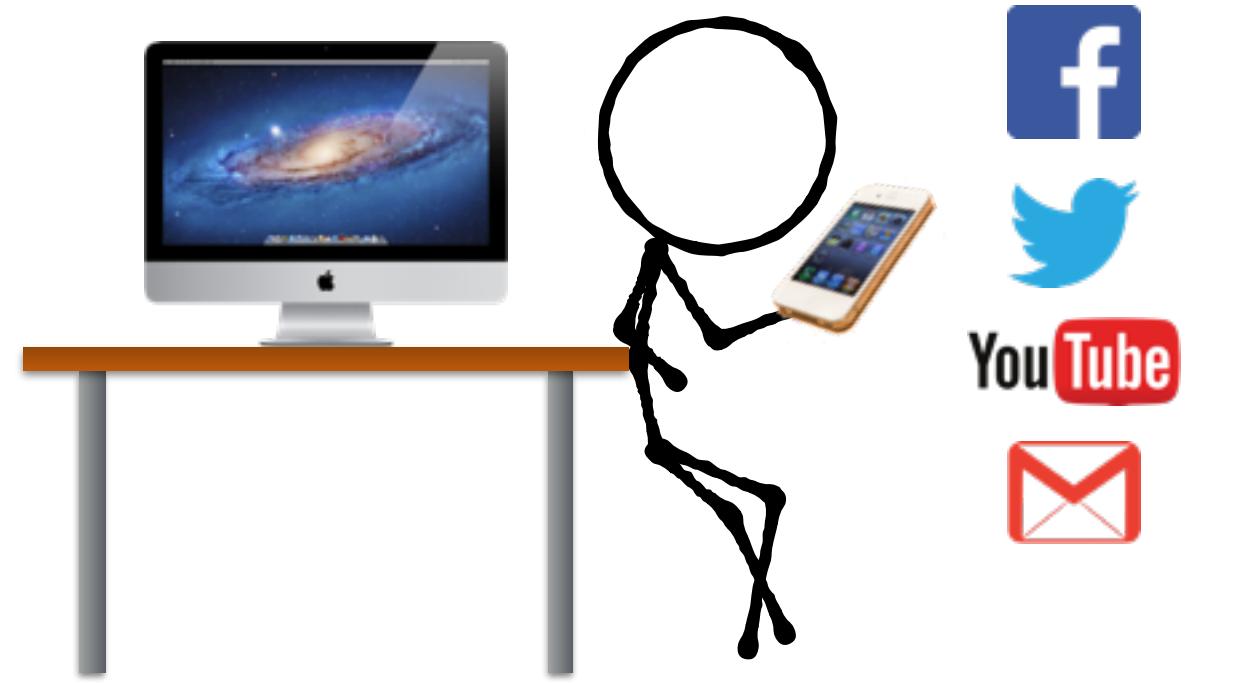
culture

(why you should work here!)

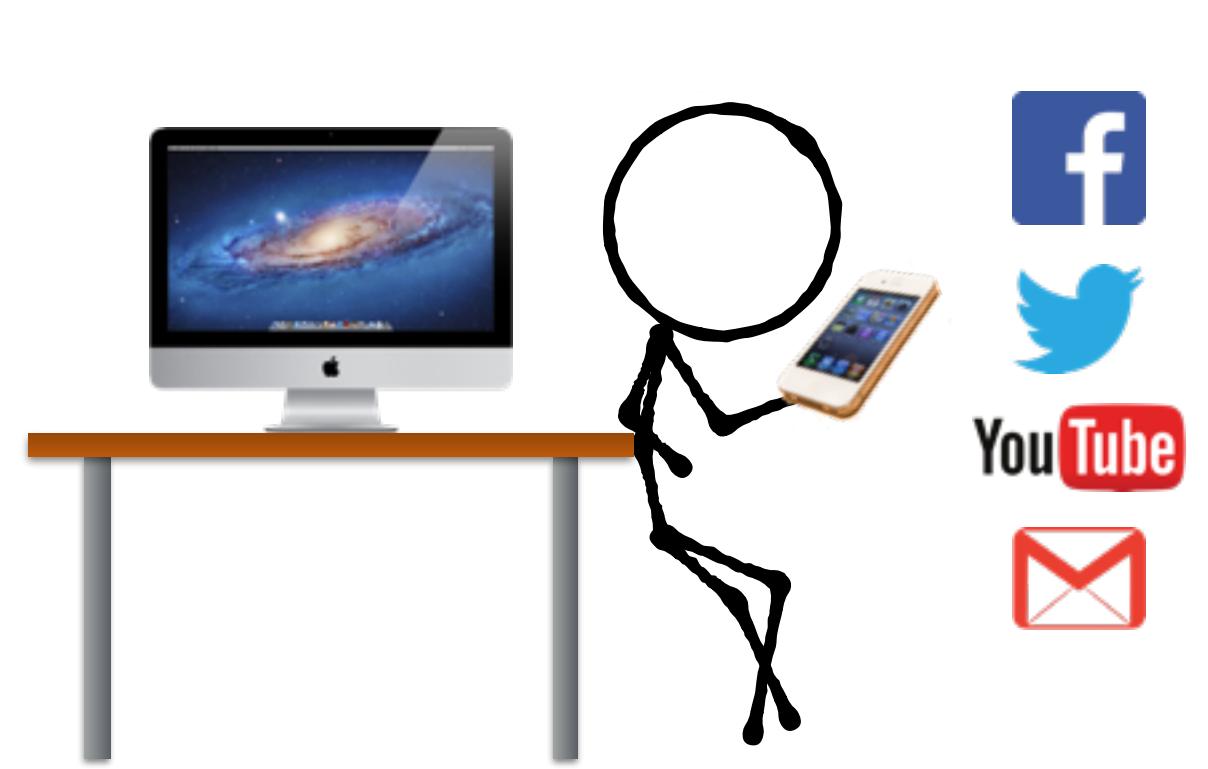
Pairing
Testing
Agile Planning



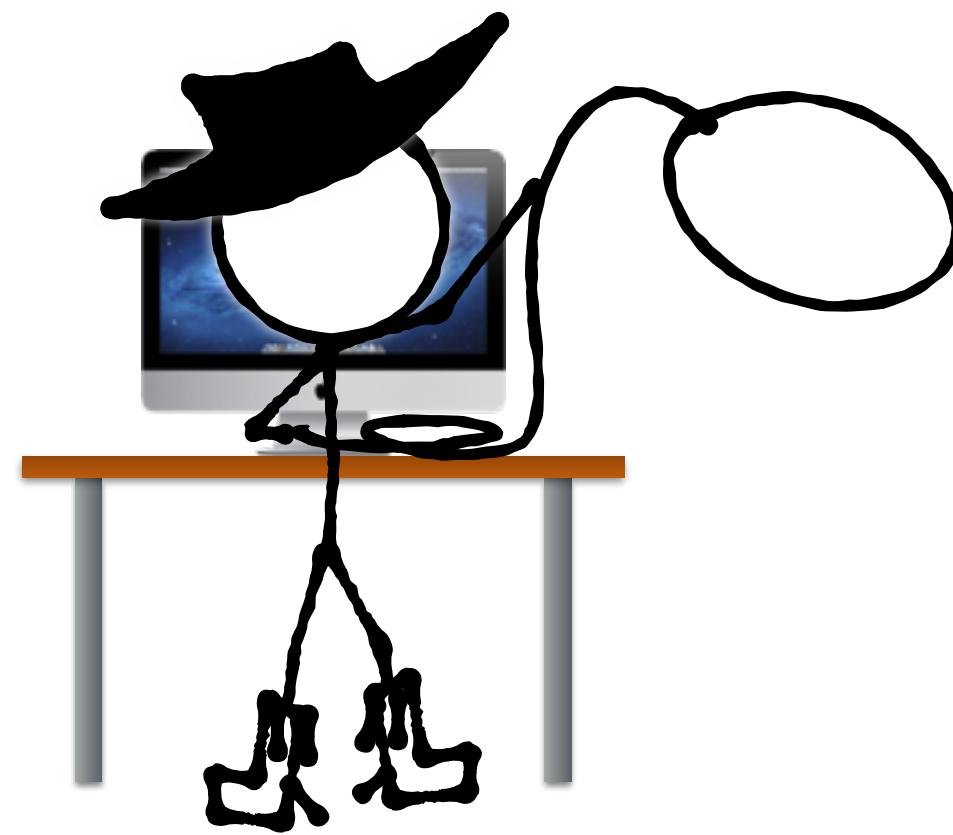
Distraction



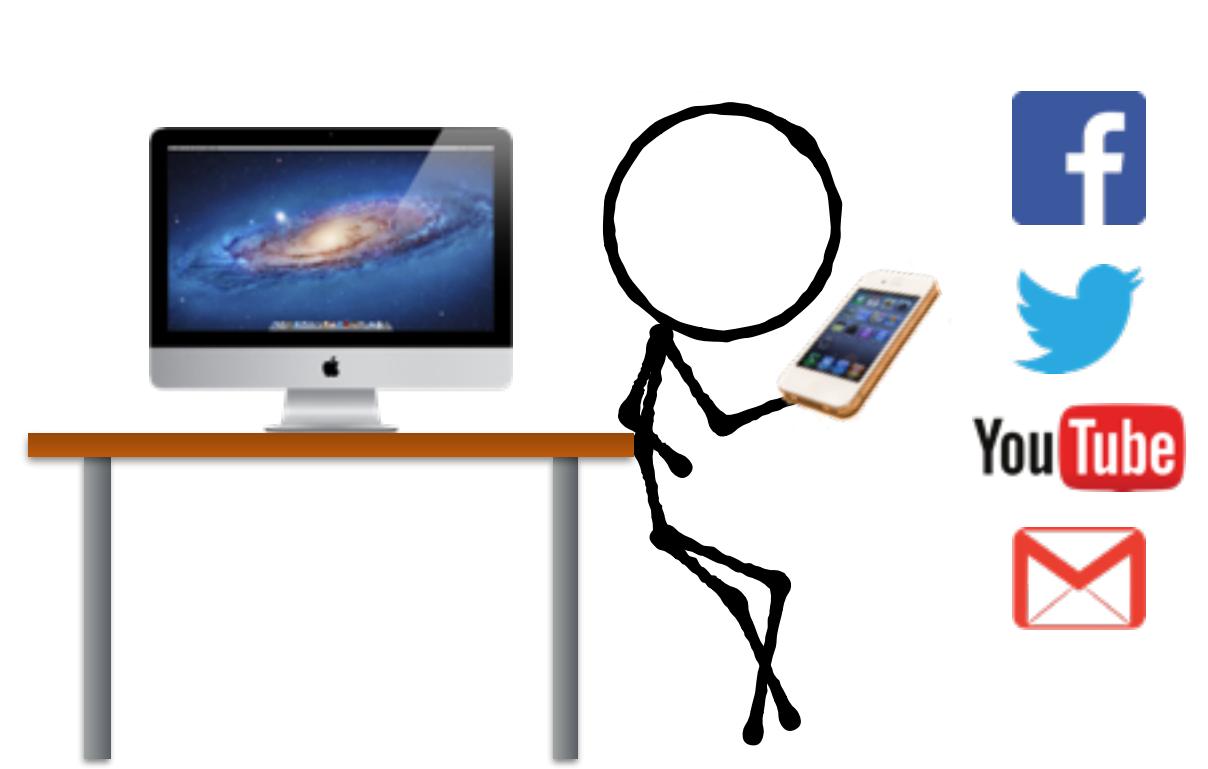
Distraction



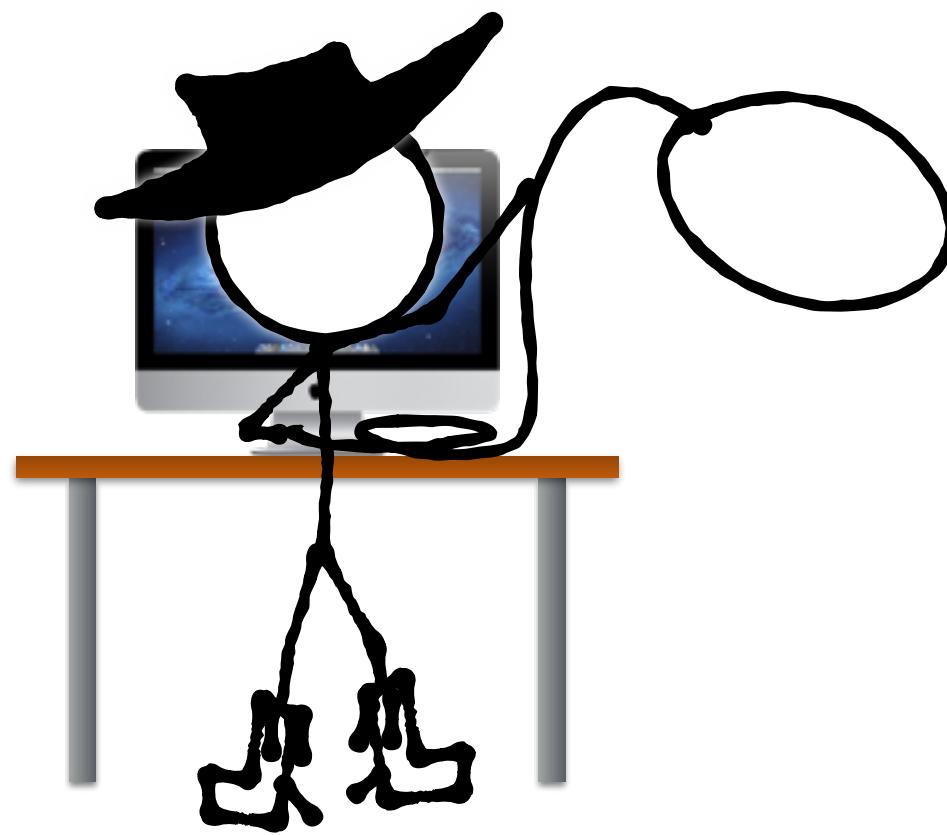
Cowboyism



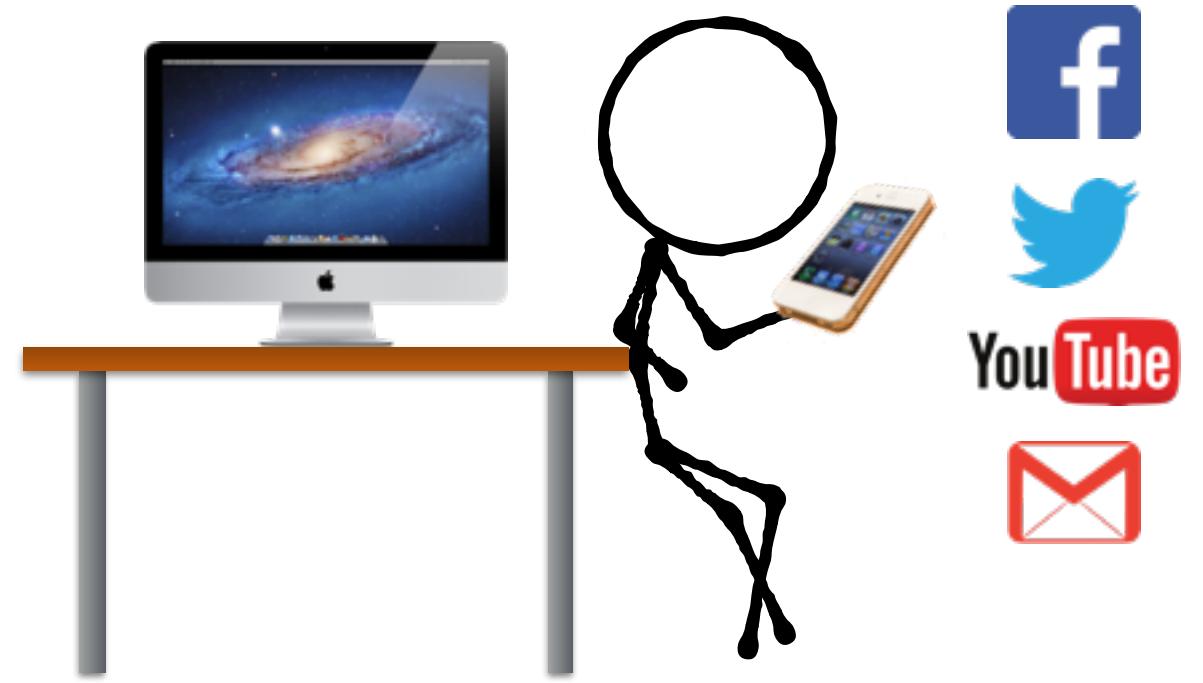
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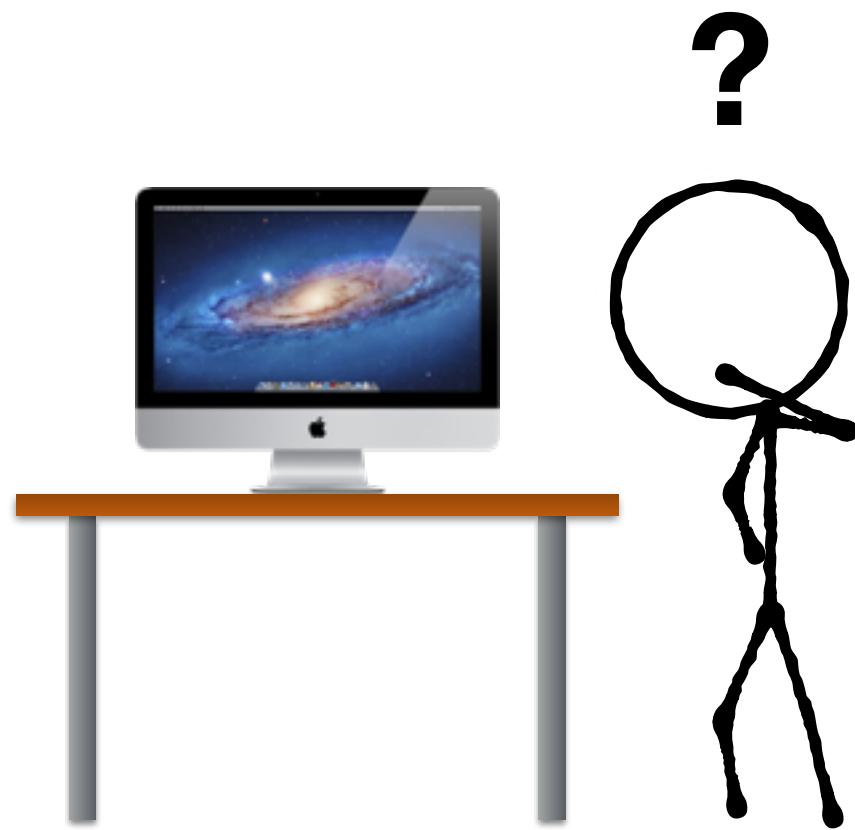
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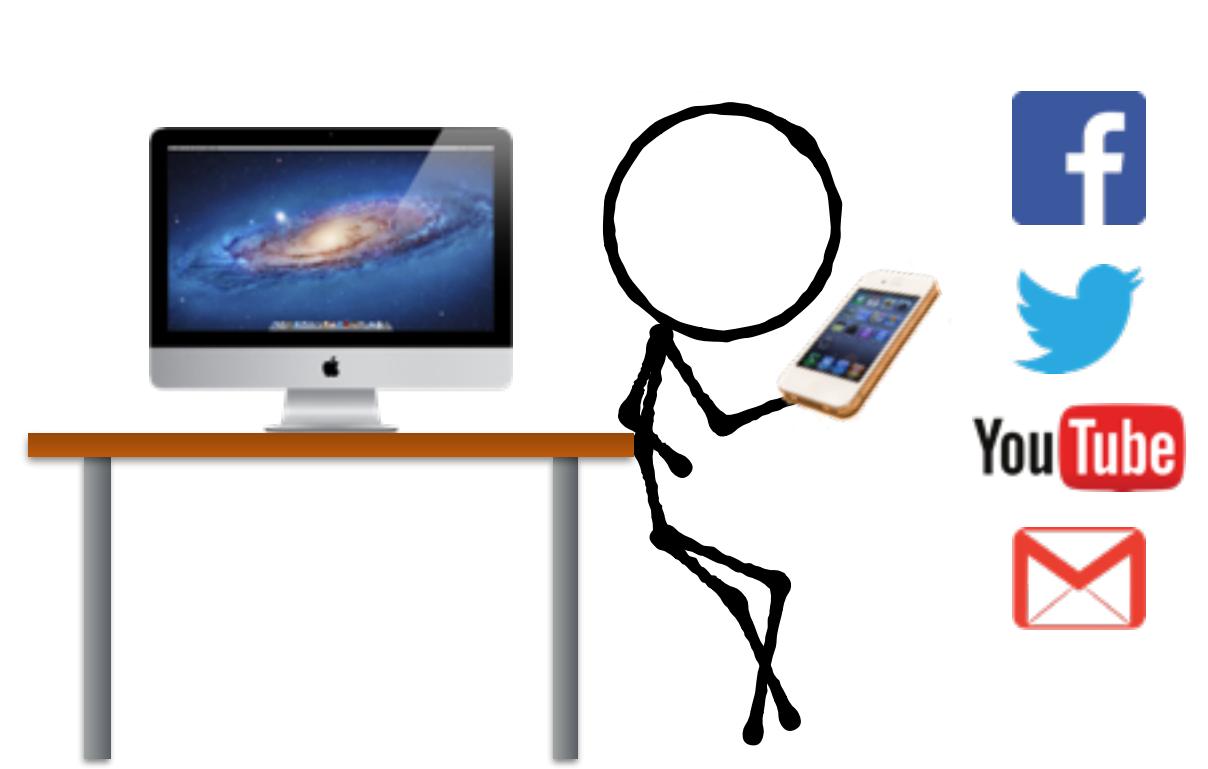
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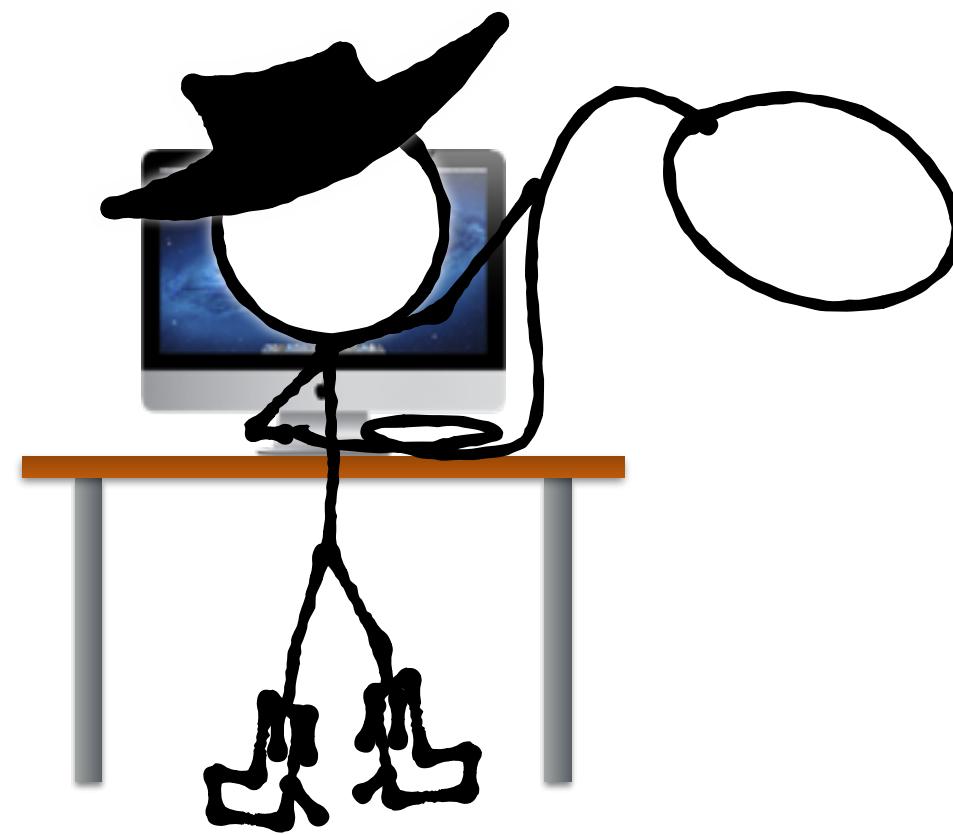
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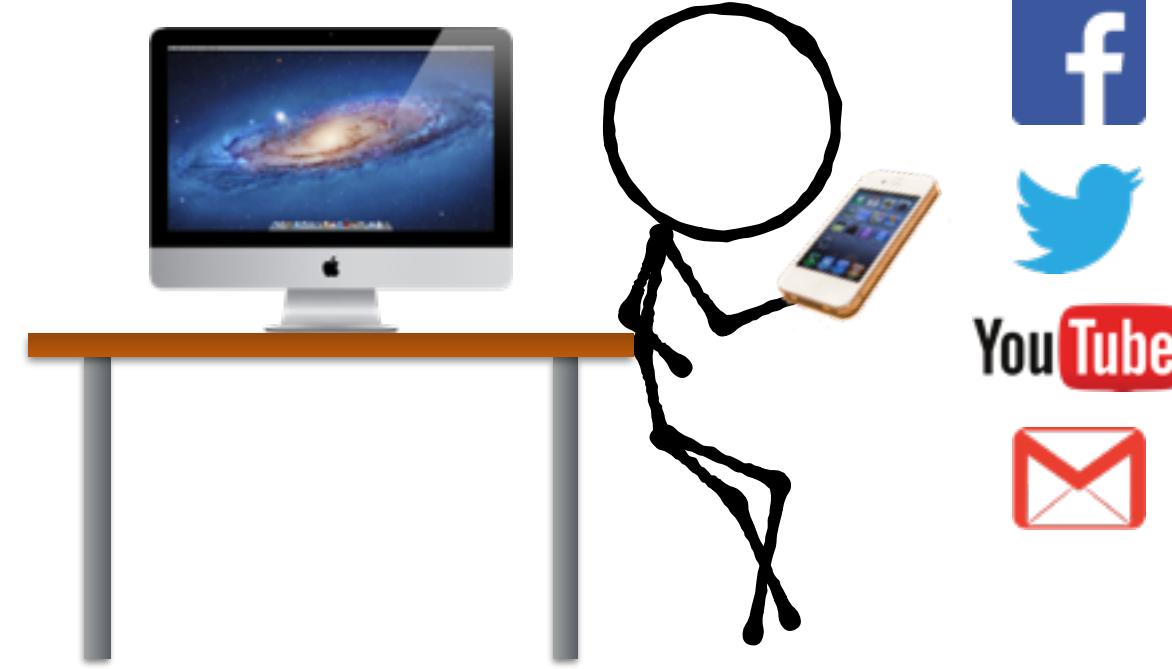
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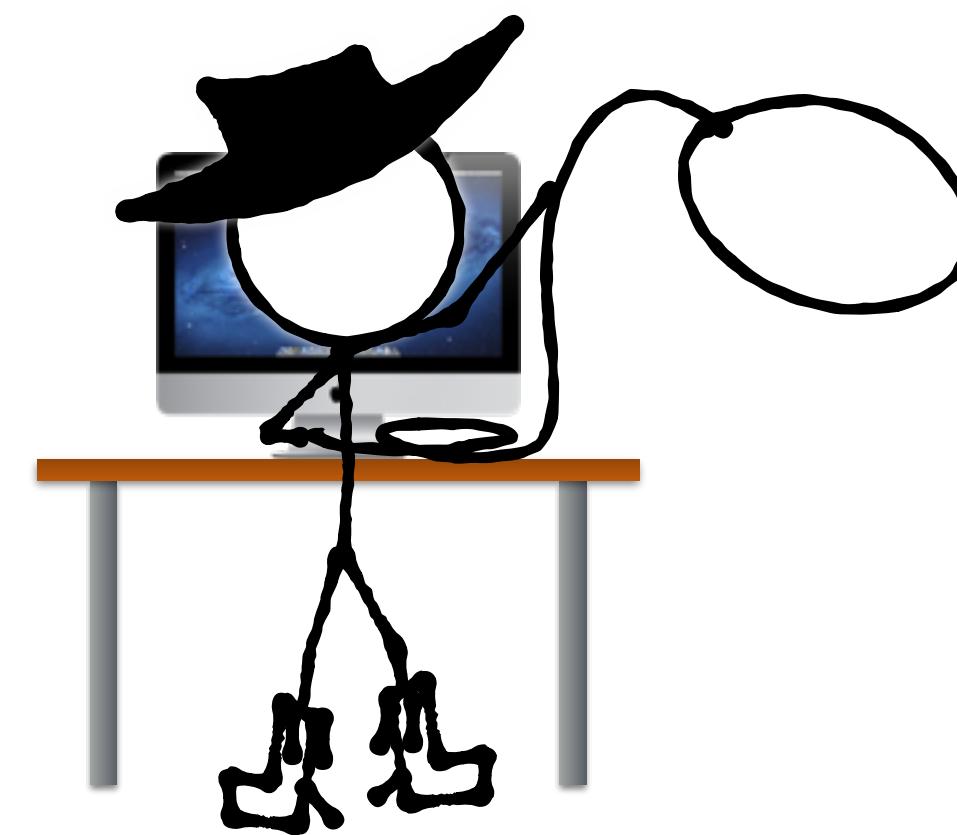
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Distraction



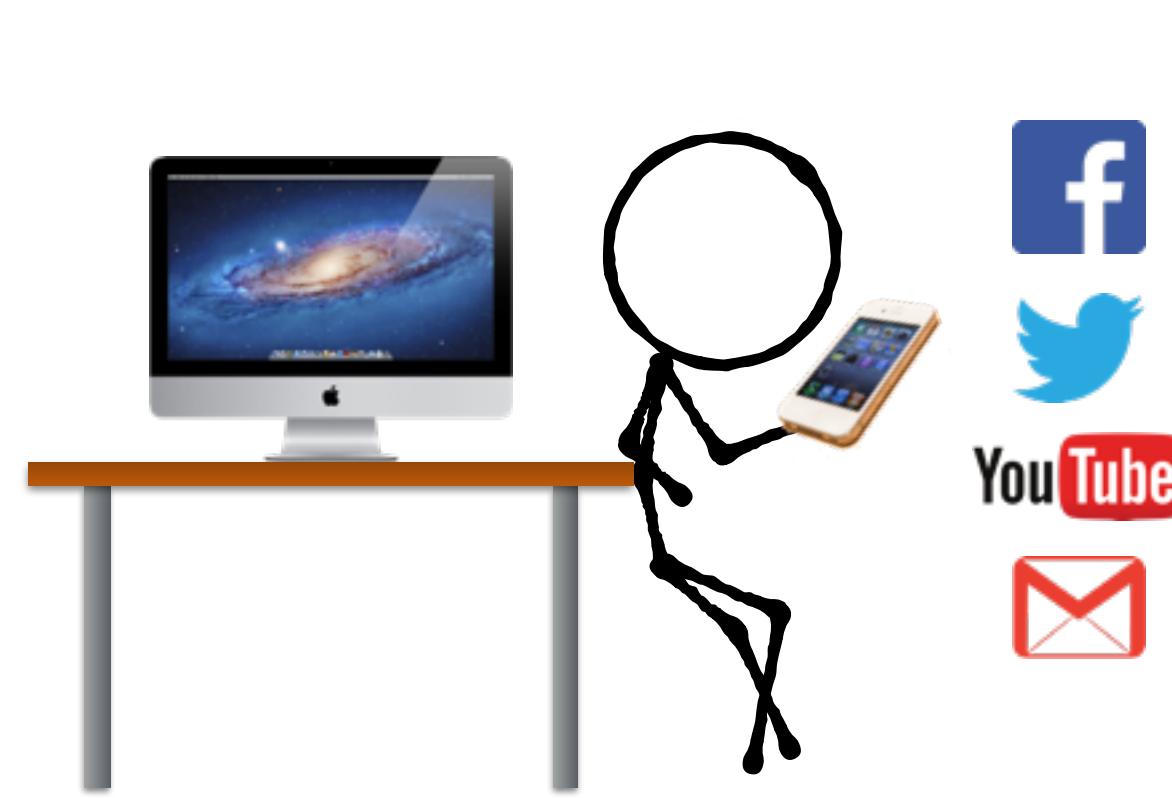
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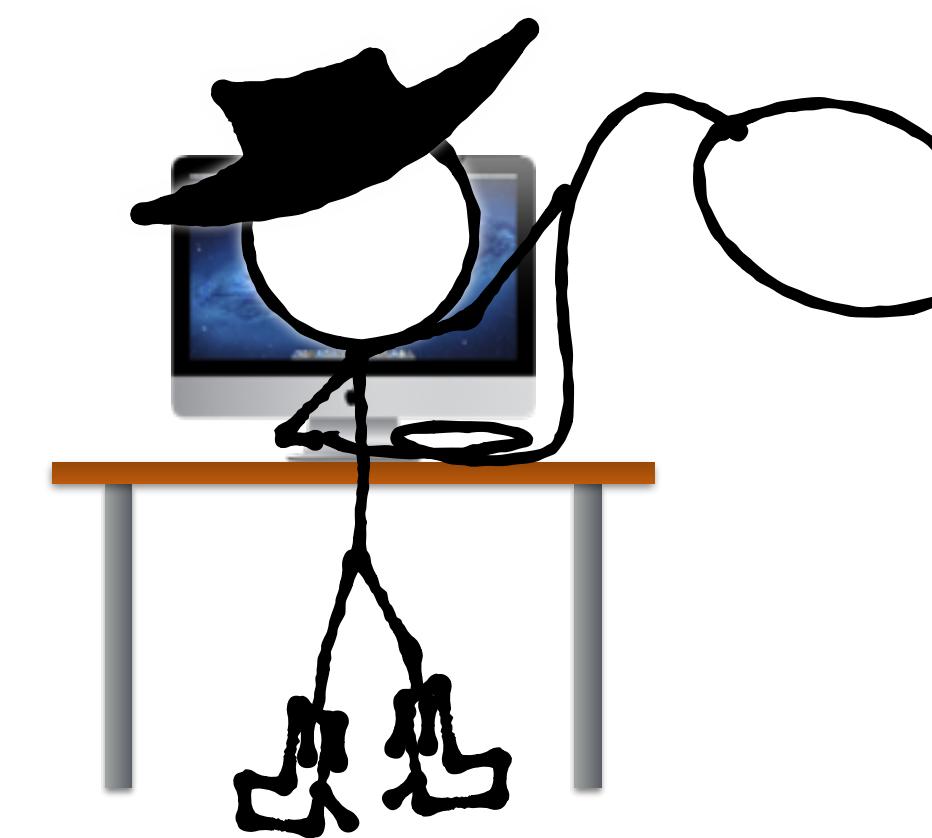
Unsustainable



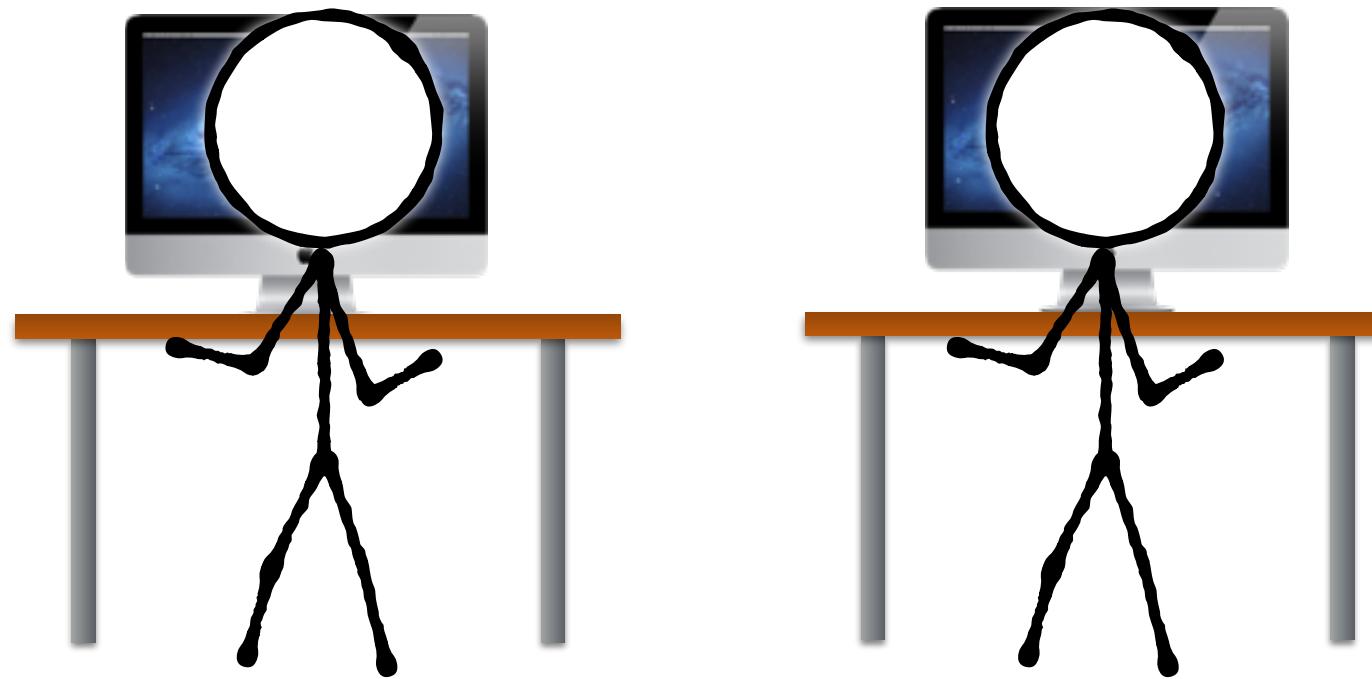
Distraction



Cowboyism

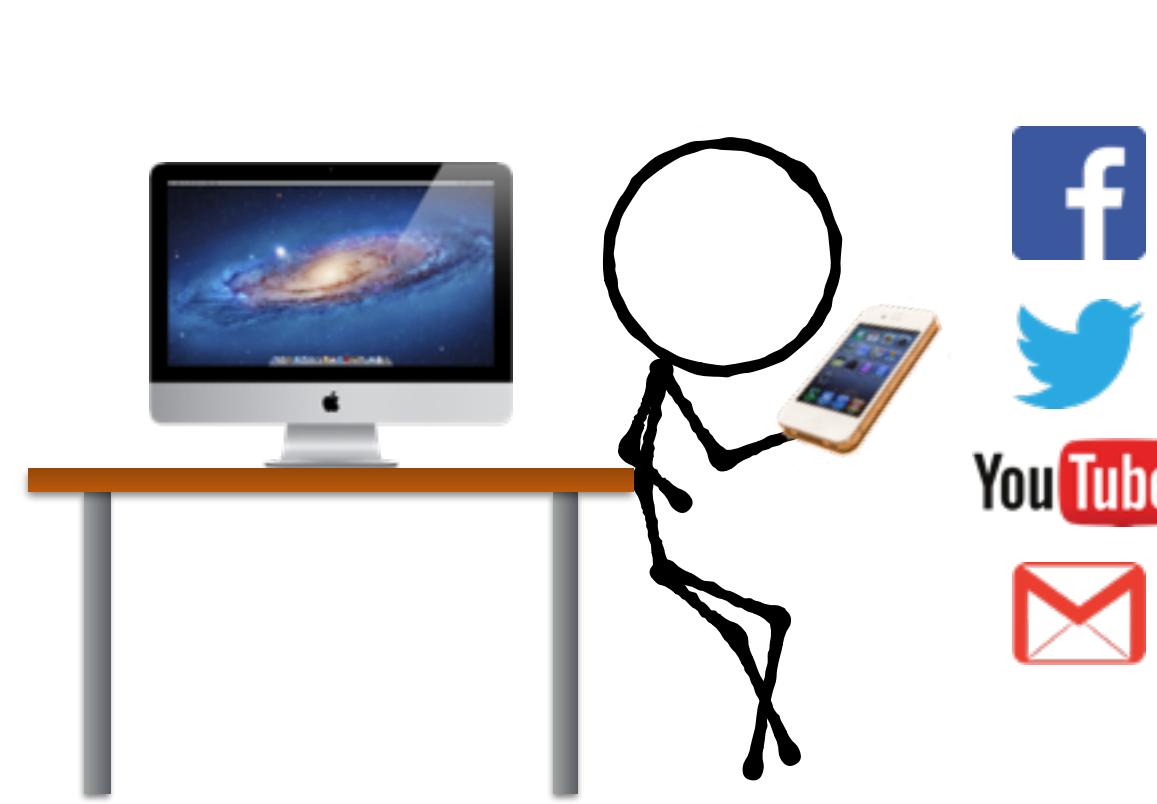


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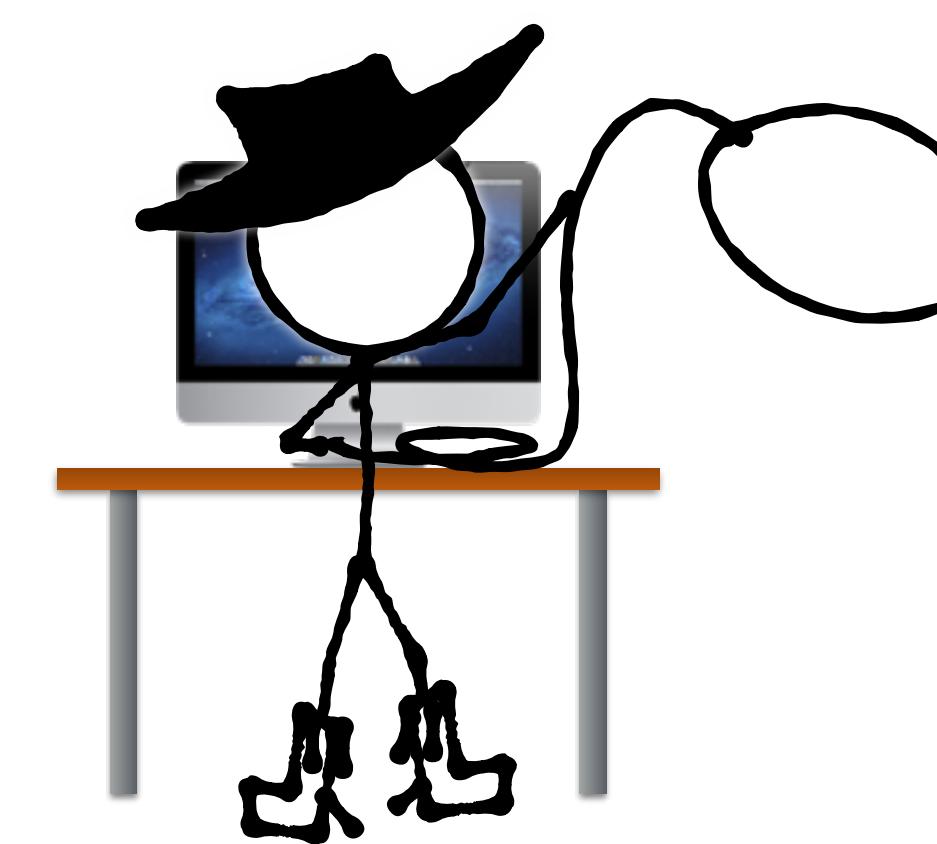


Miscommunication

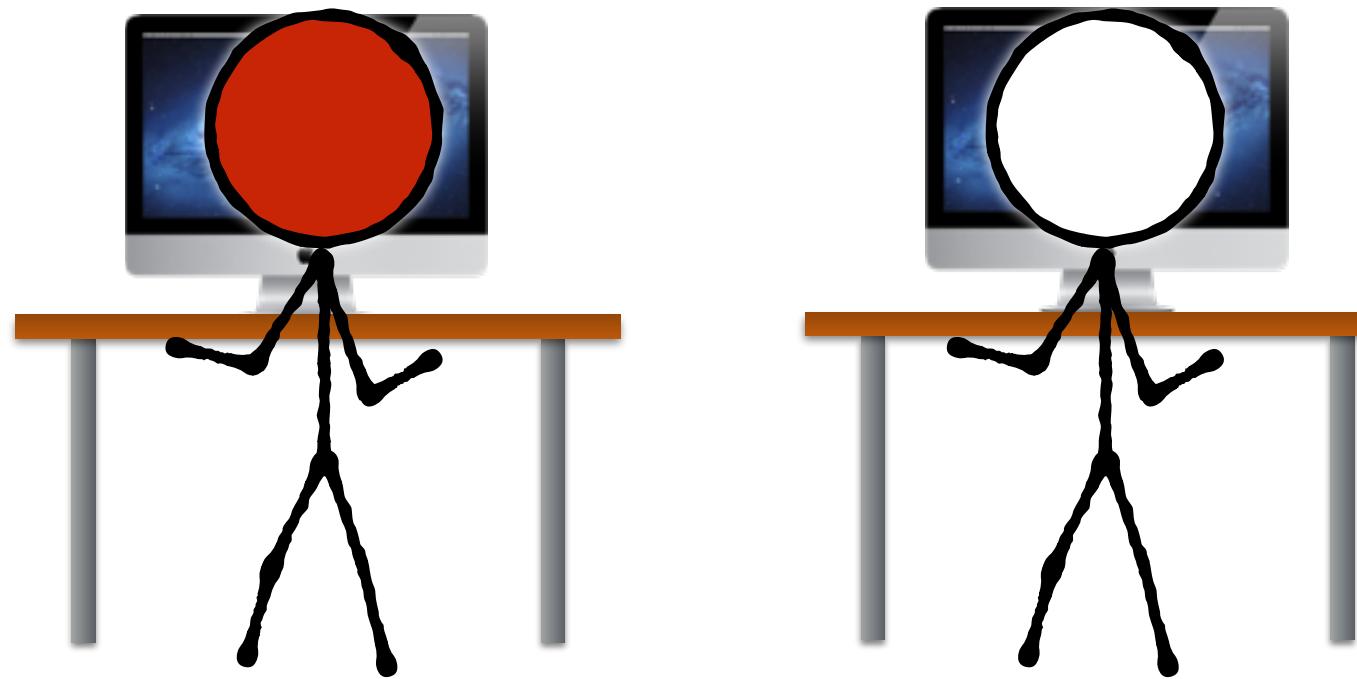
Distraction



Cowboyism



Unsustainable

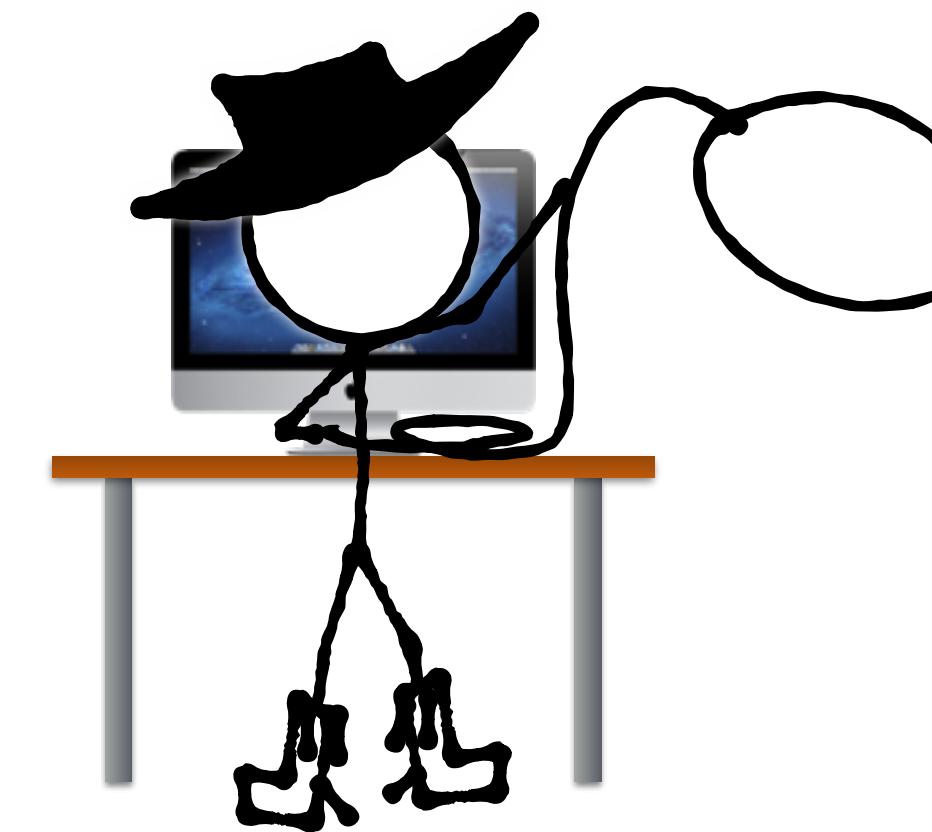


Miscommunication

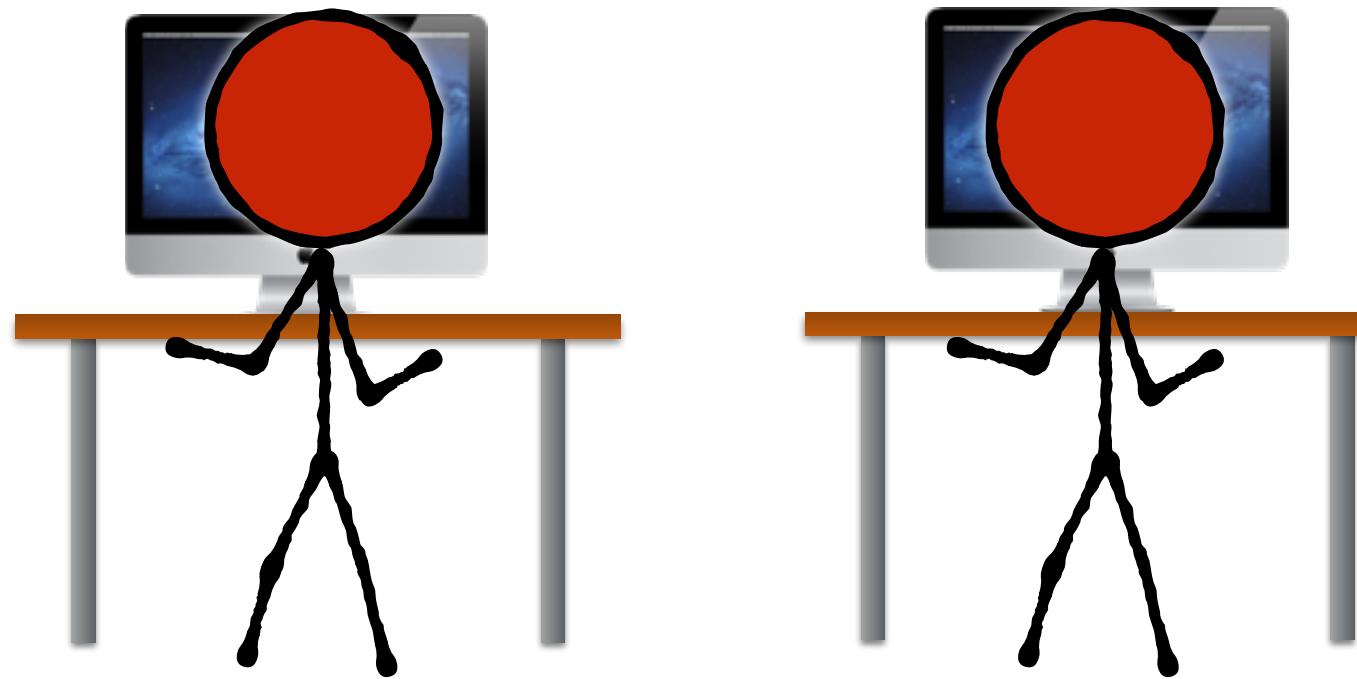
Distraction



Cowboyism

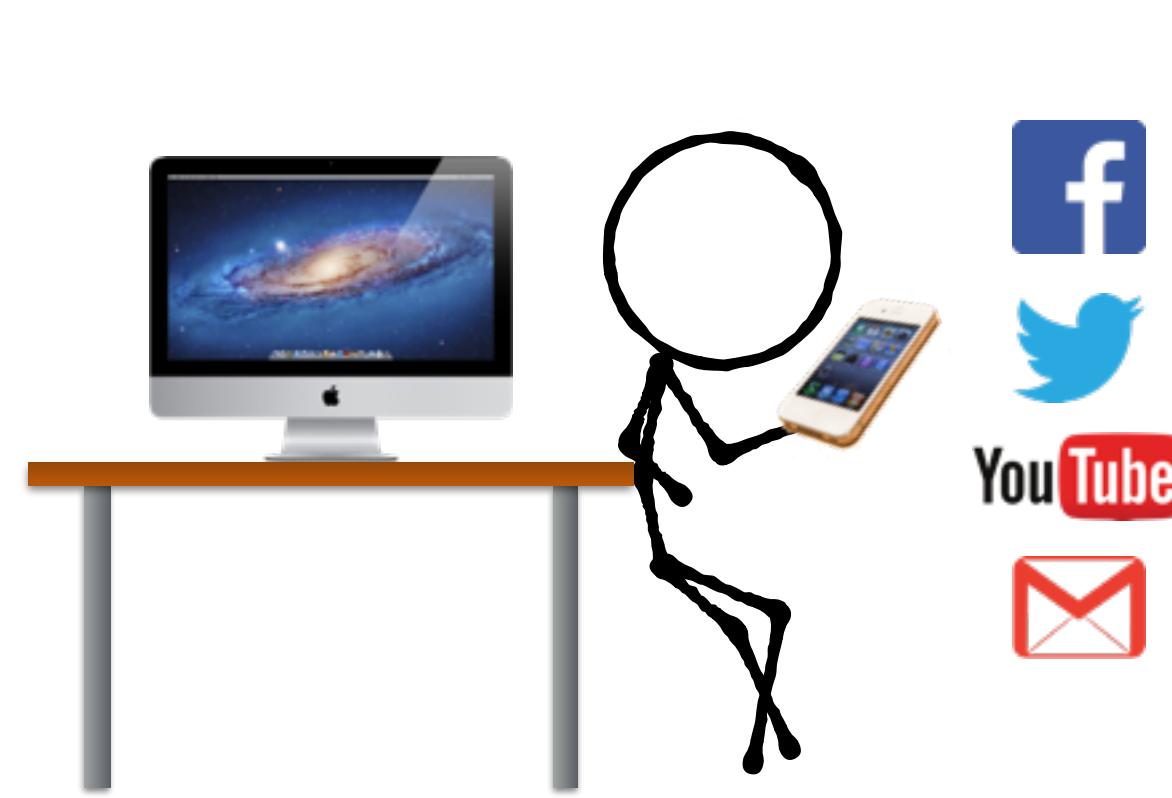


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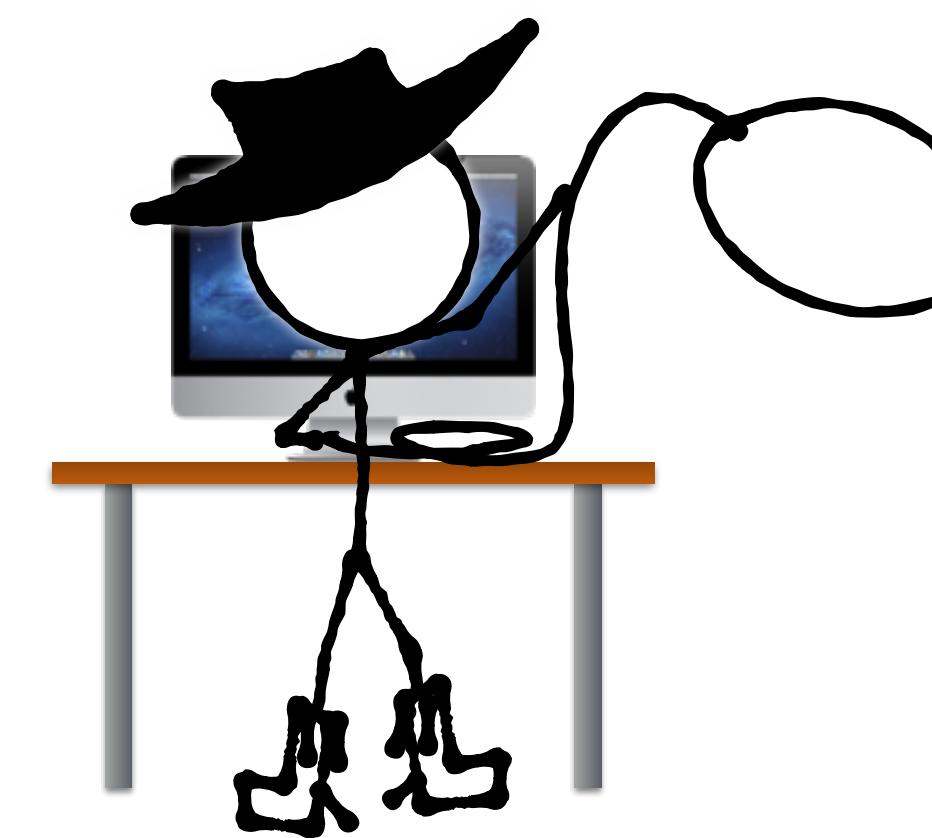


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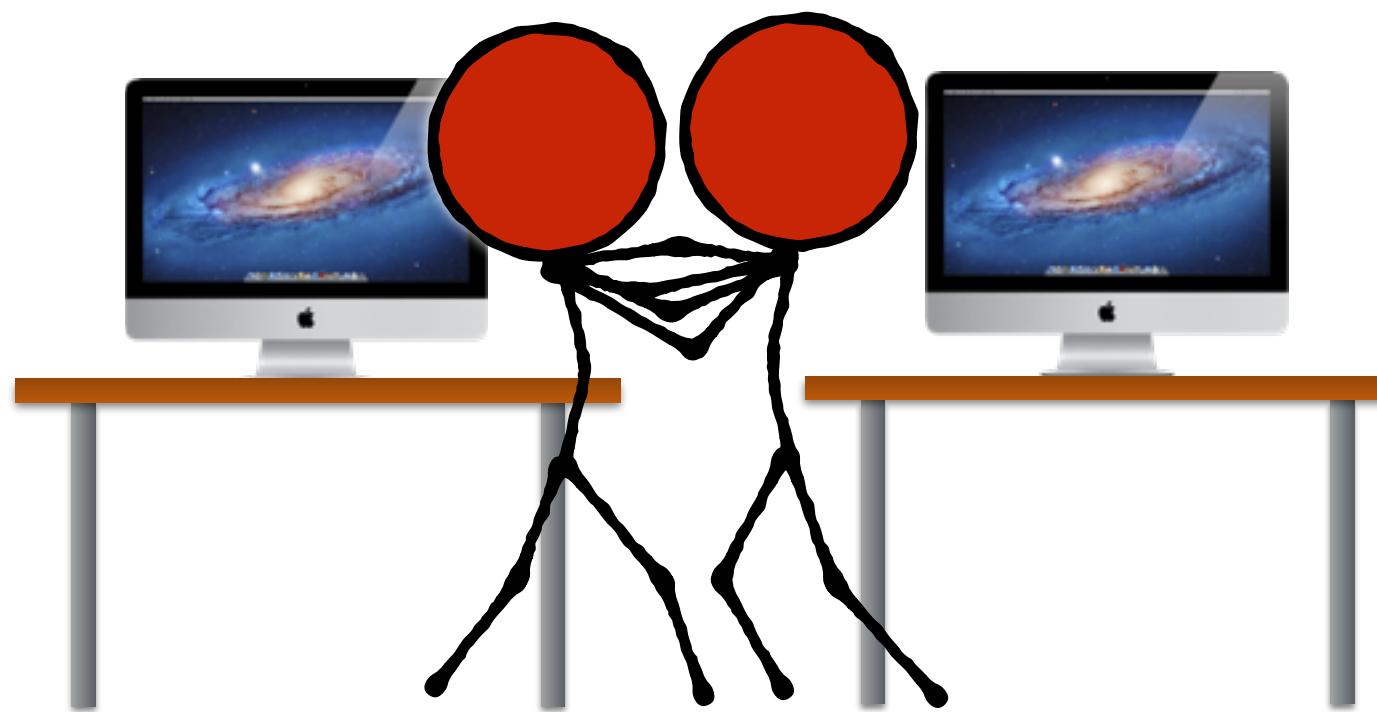
Distraction



Cowboyism



Unsustainable

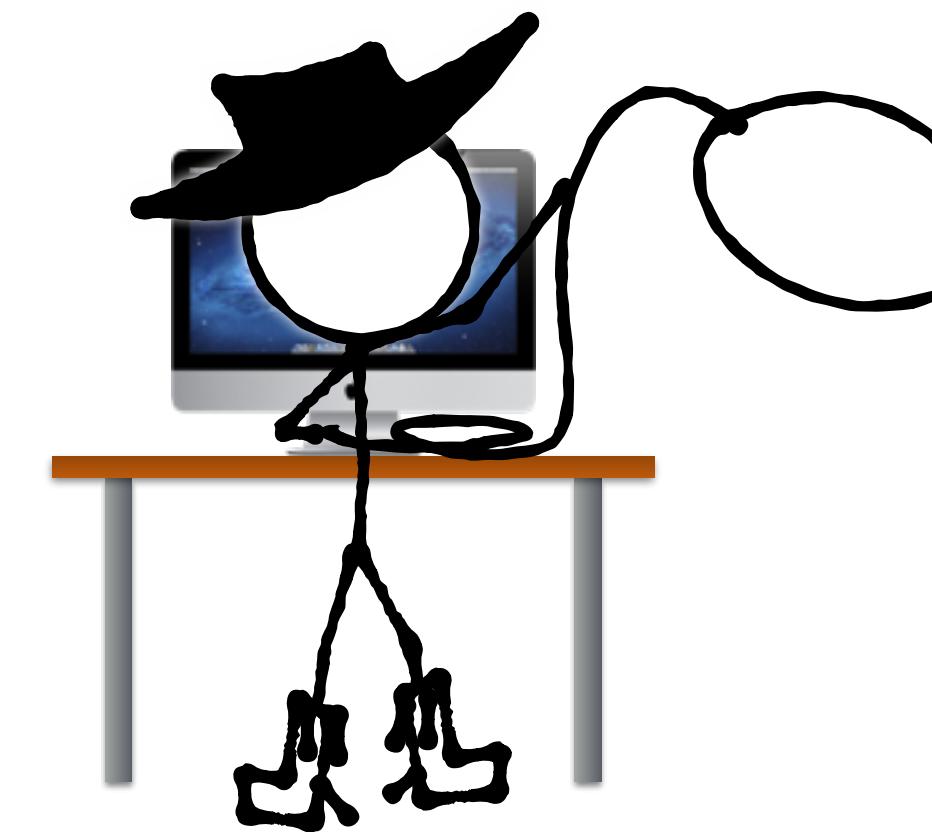


Miscommunication

Distraction



Cowboyism

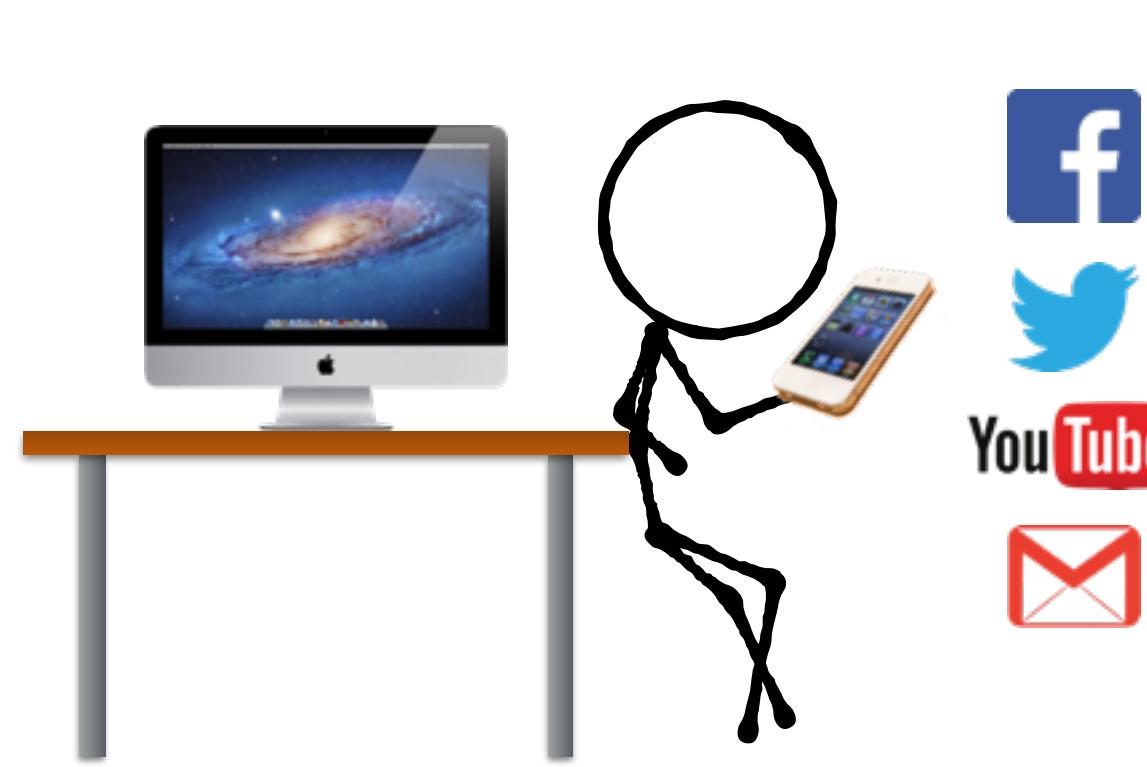


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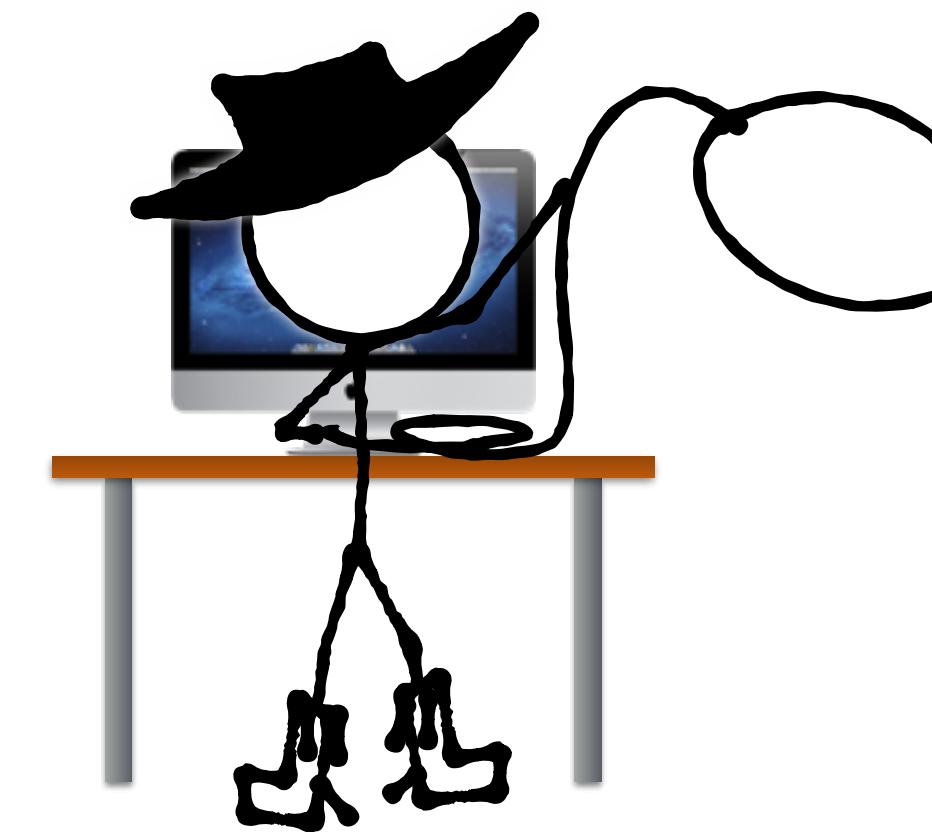


Miscommunication

Distraction



Cowboyism



Unsustainable

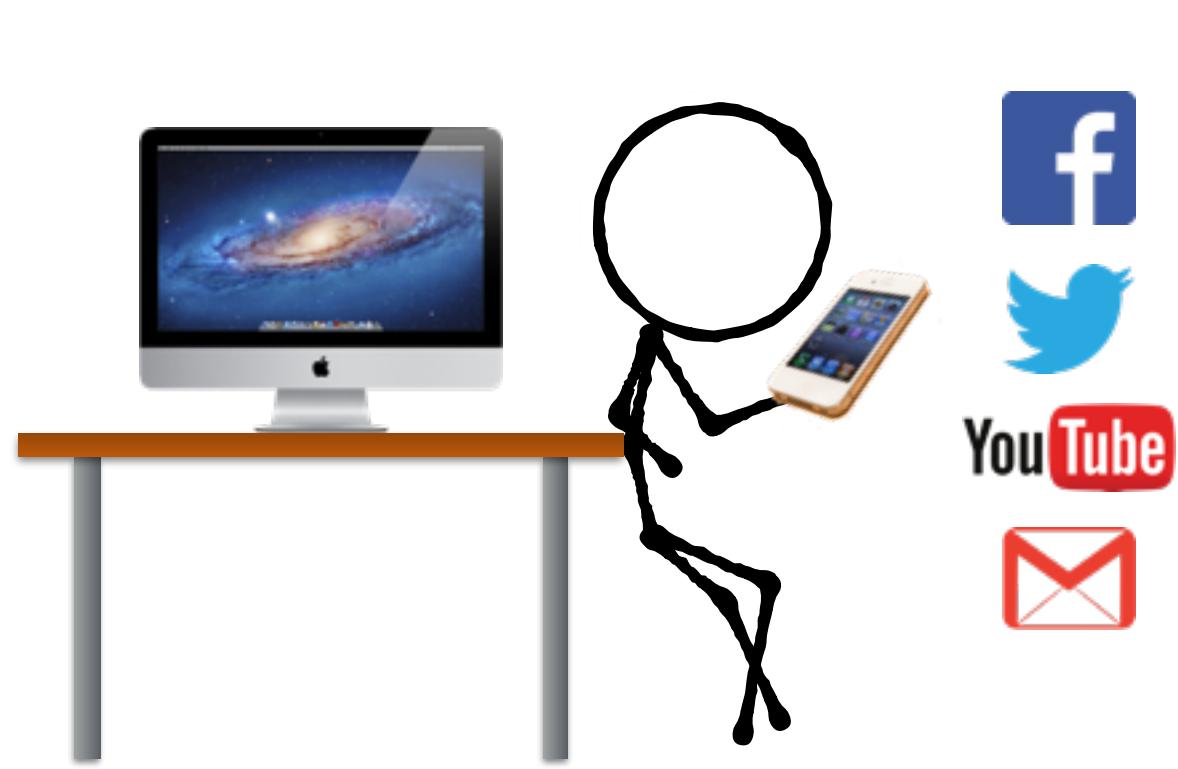


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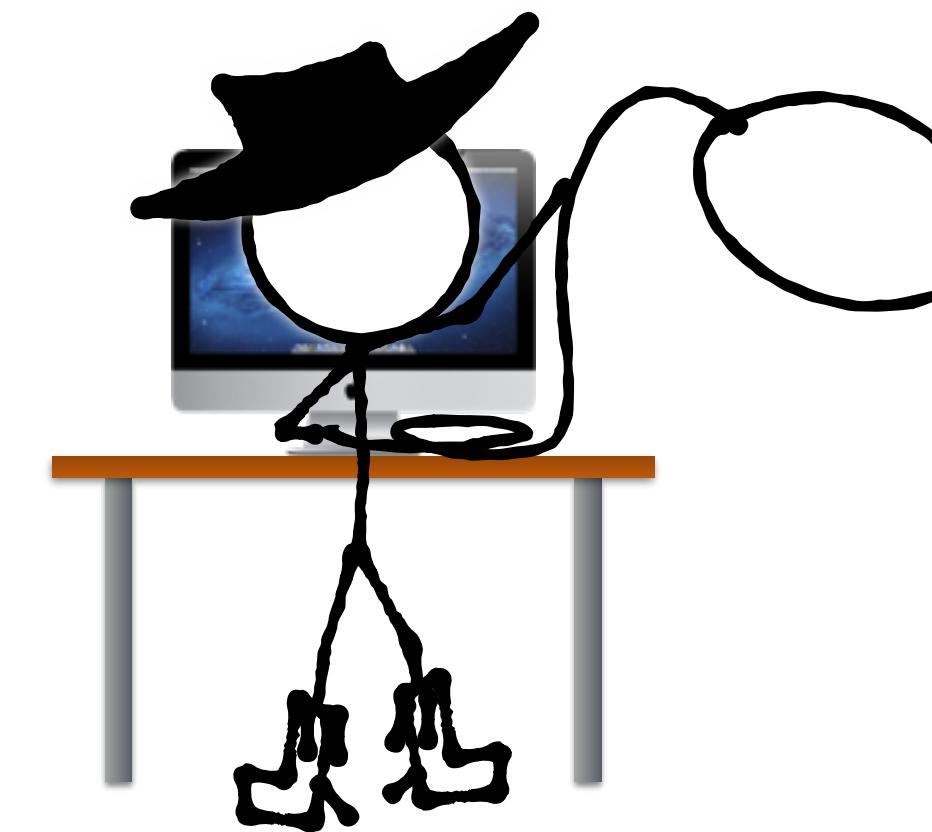


Stuck

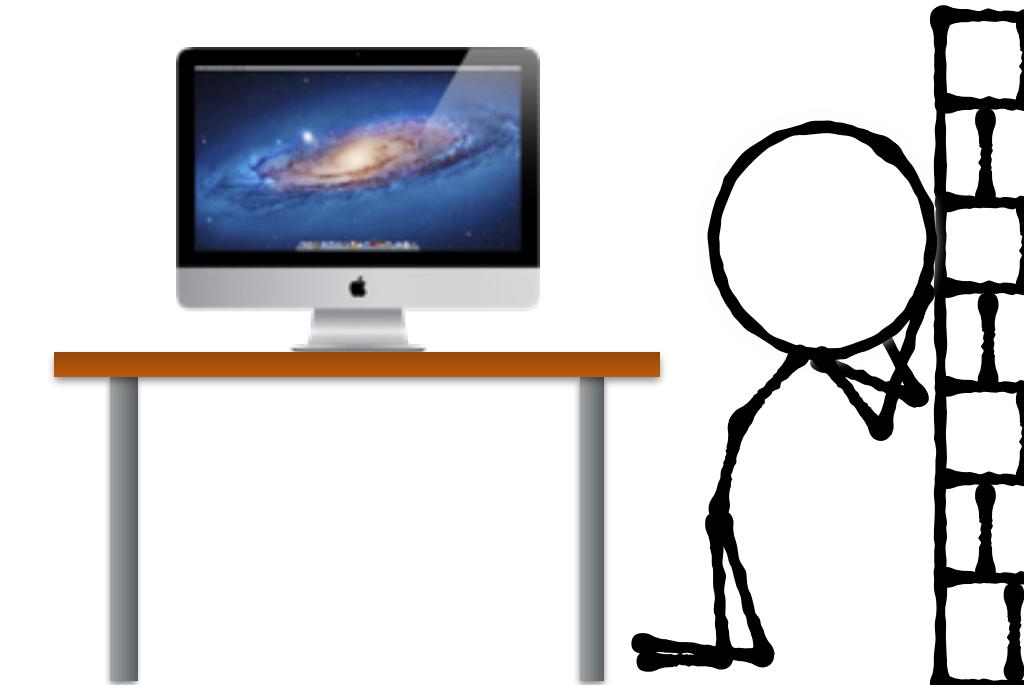
Distraction



Cowboyism



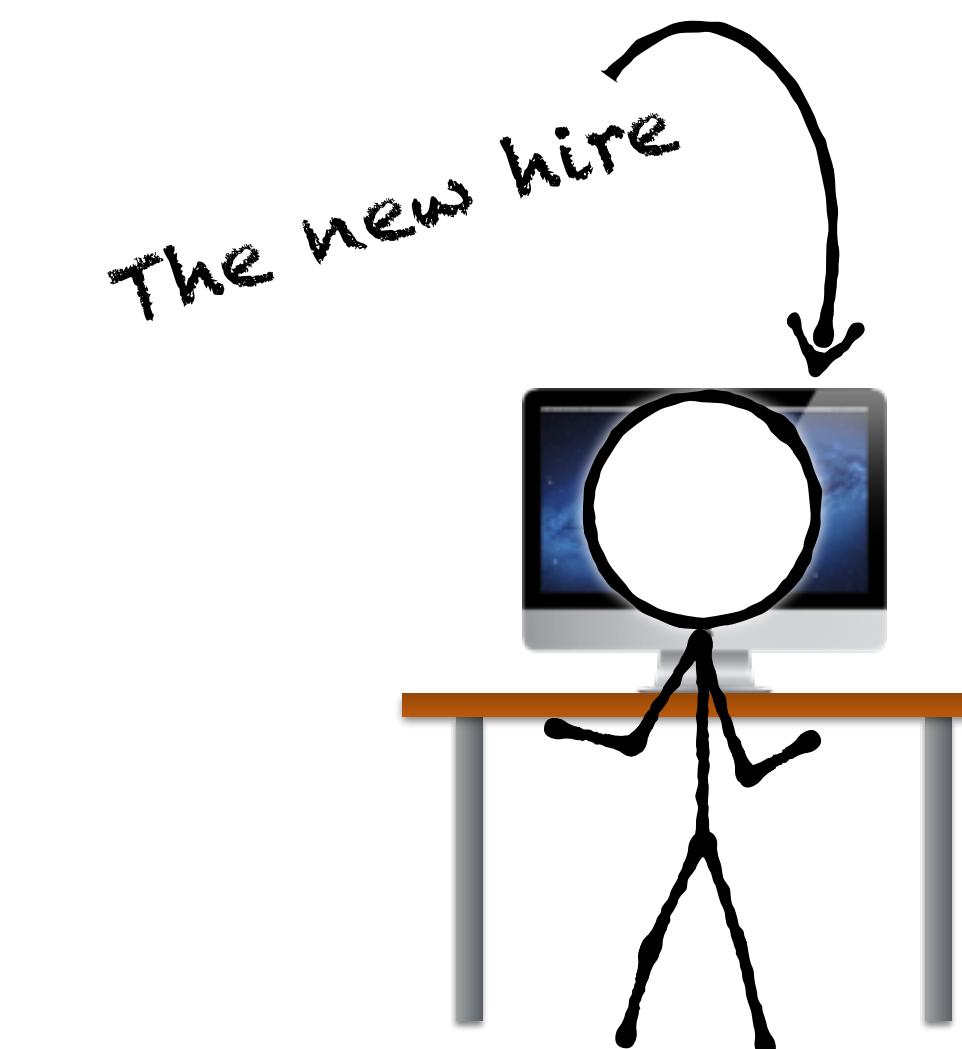
Unsustainable



Miscommunication

Stuck

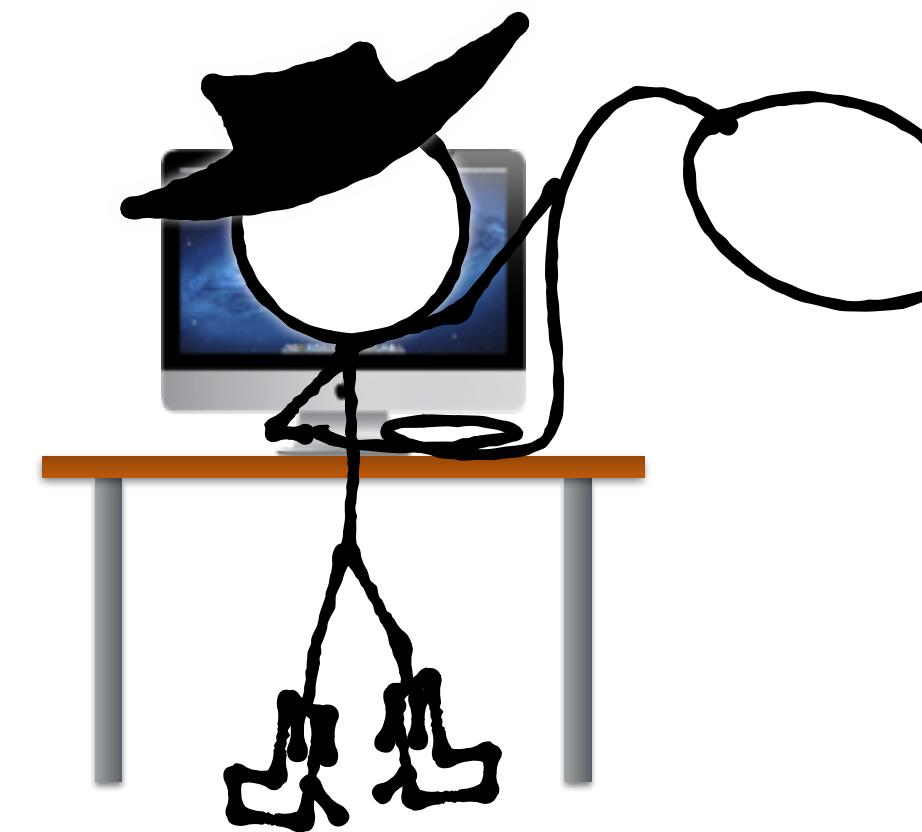
Noobs



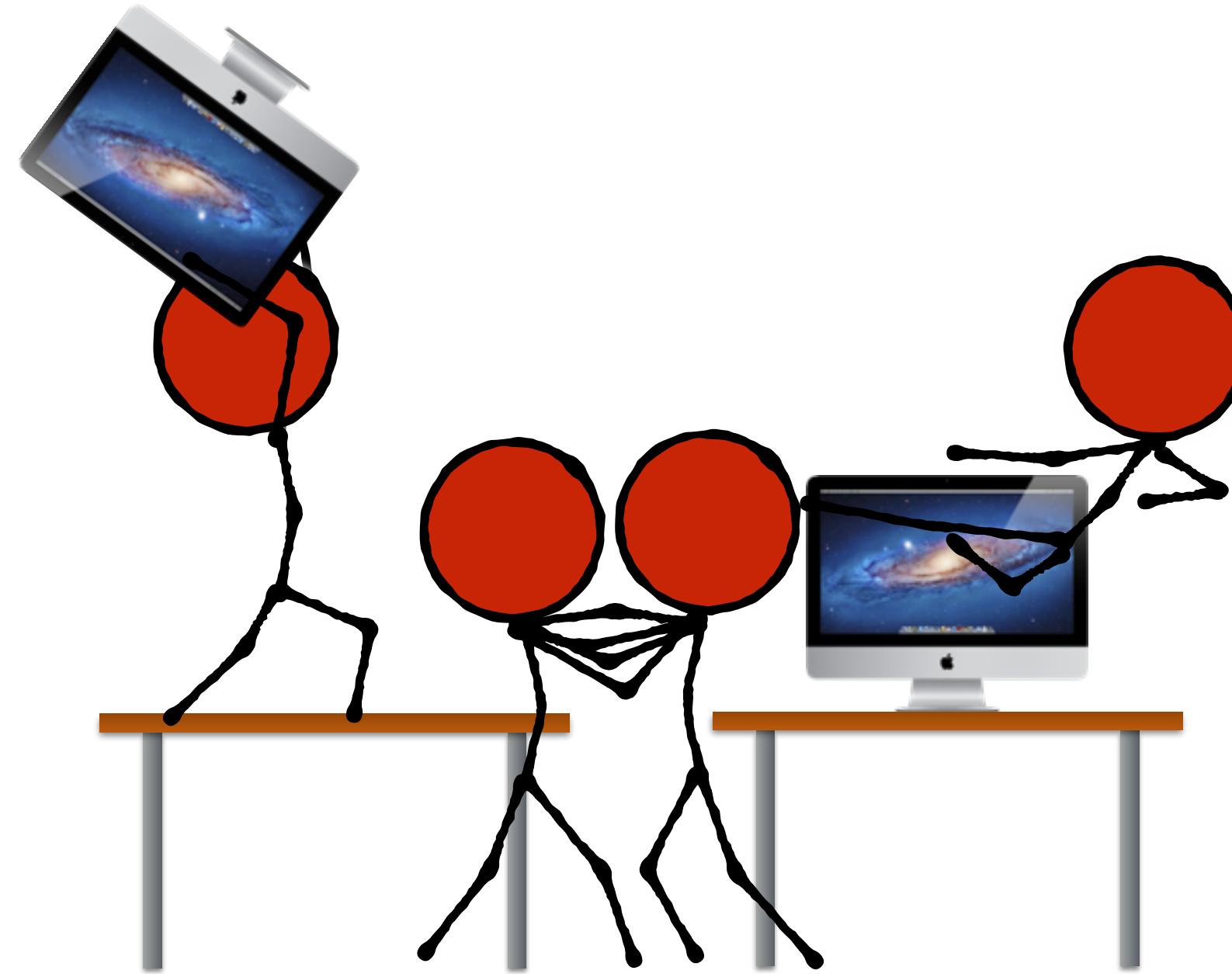
Distraction



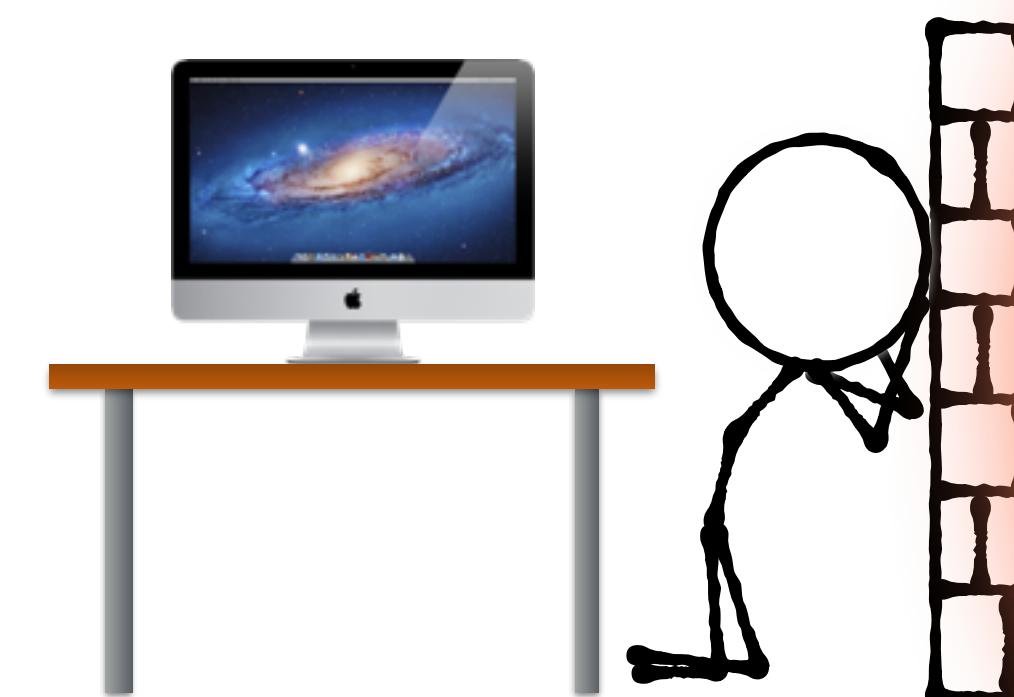
Cowboyism



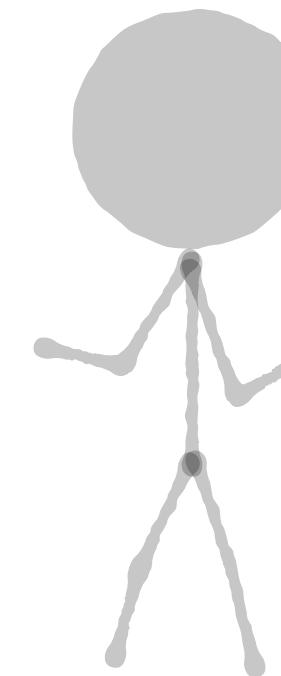
Unsustainable

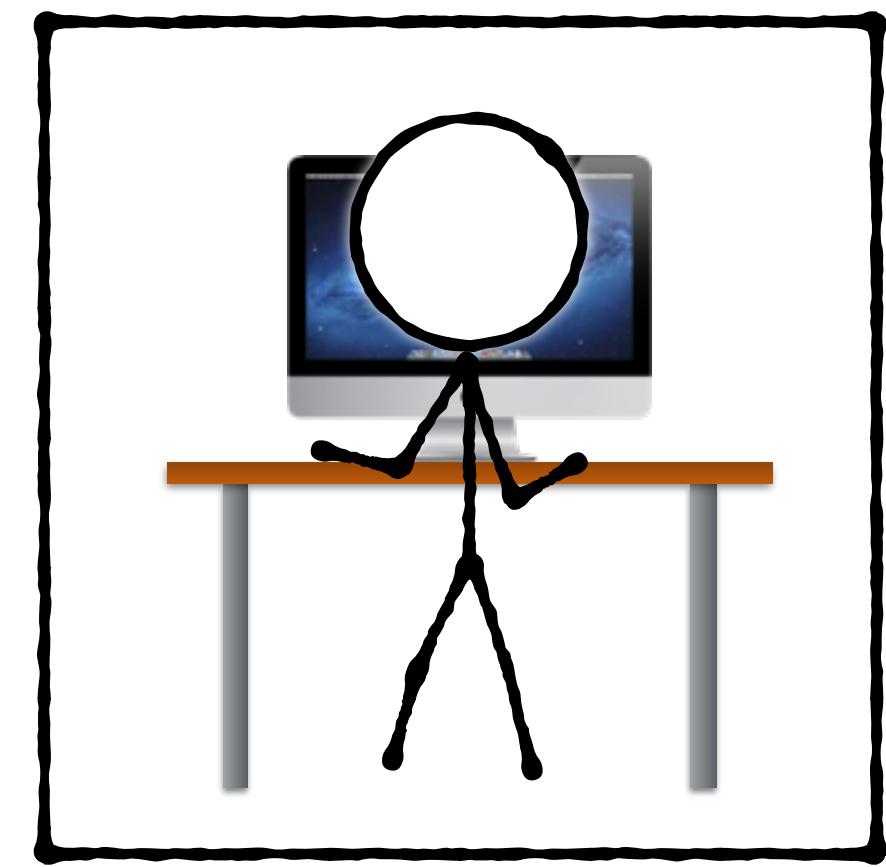
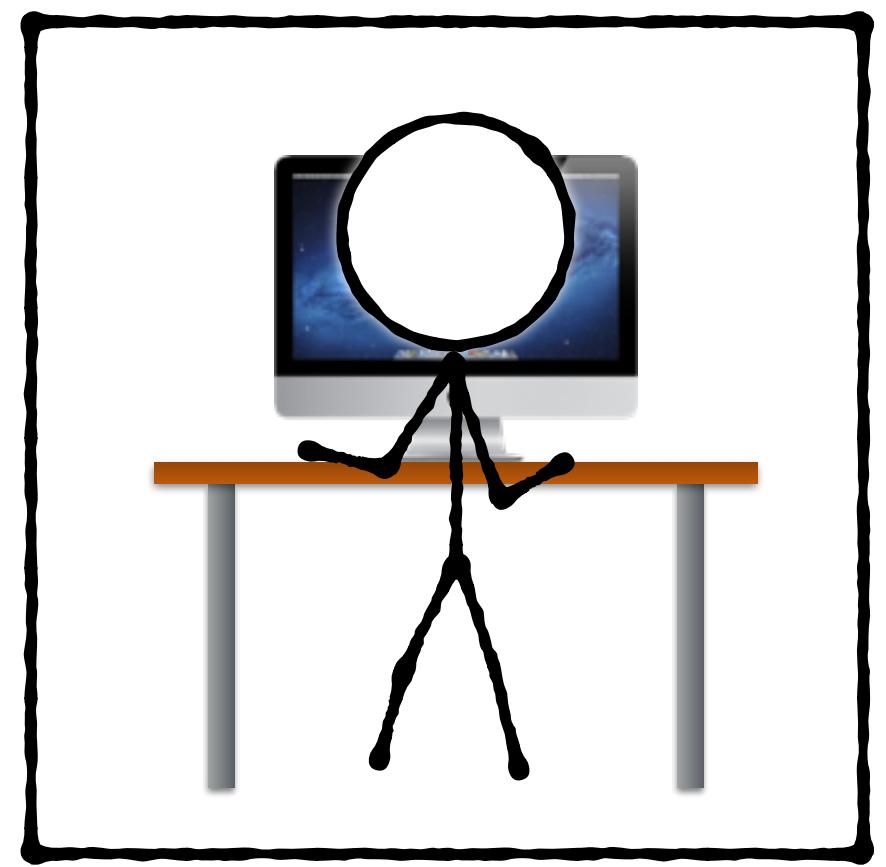
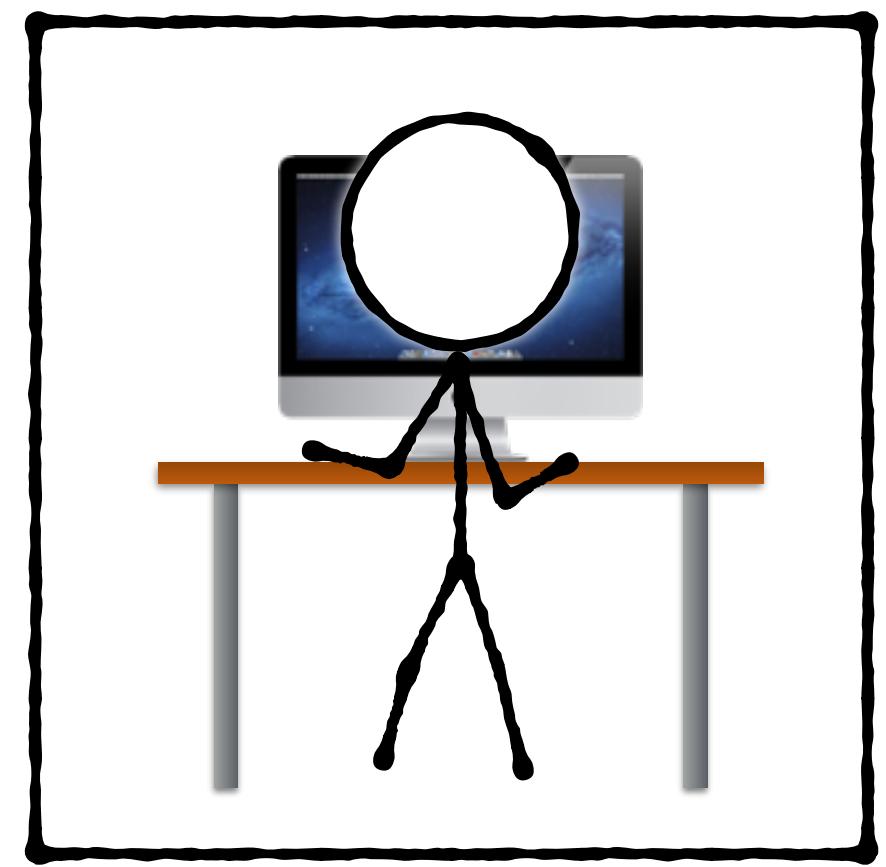


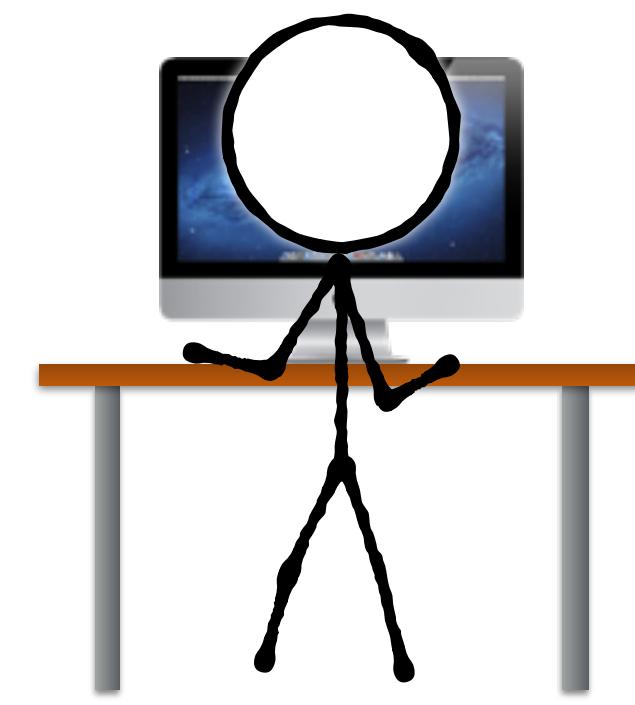
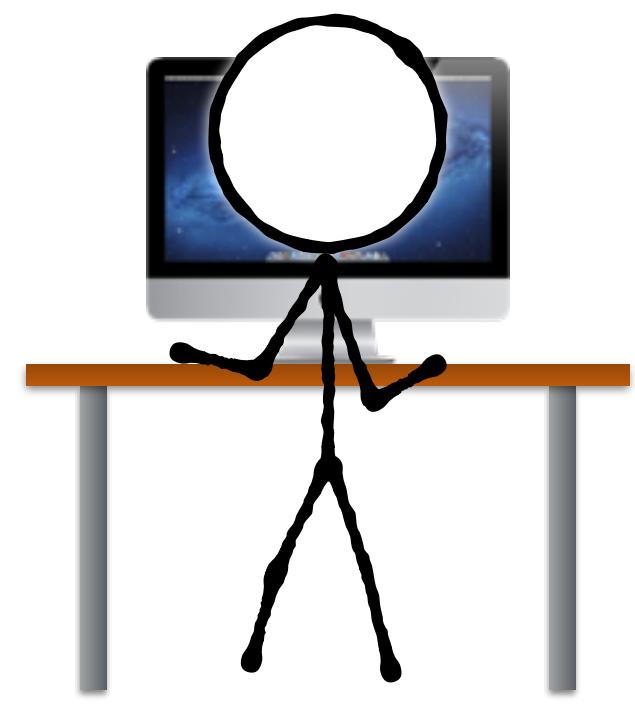
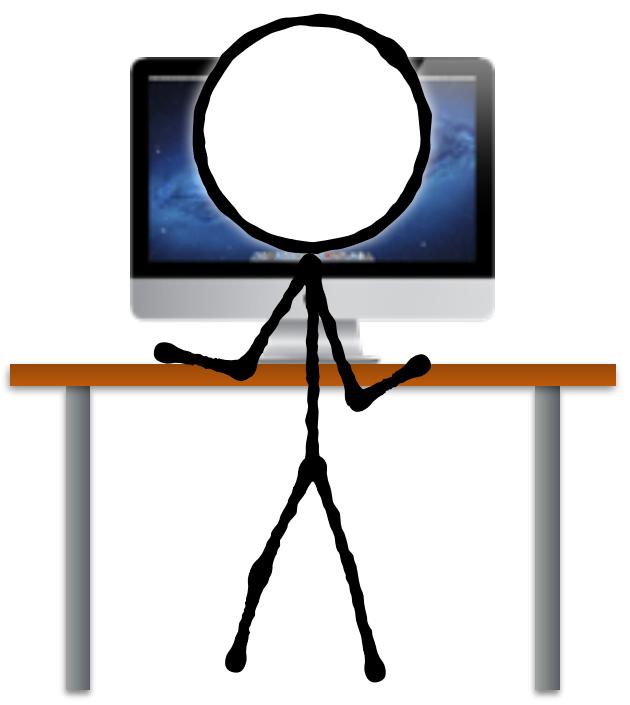
Miscommunication

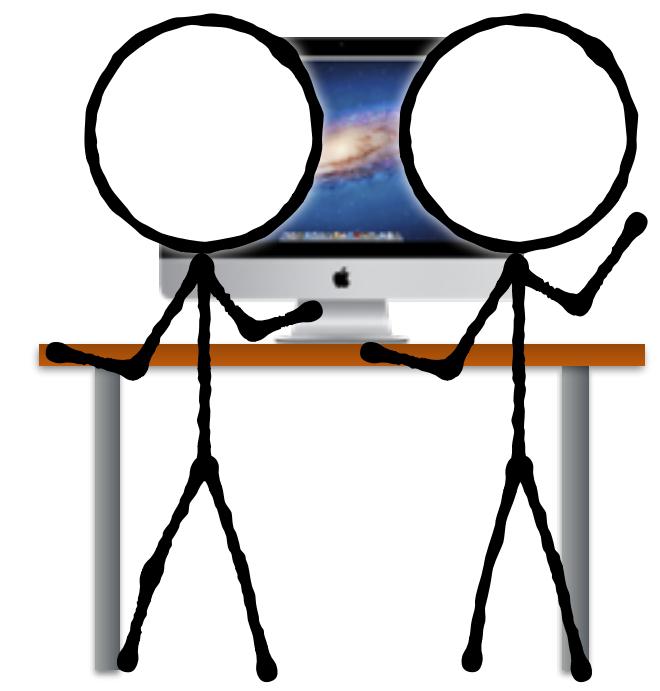
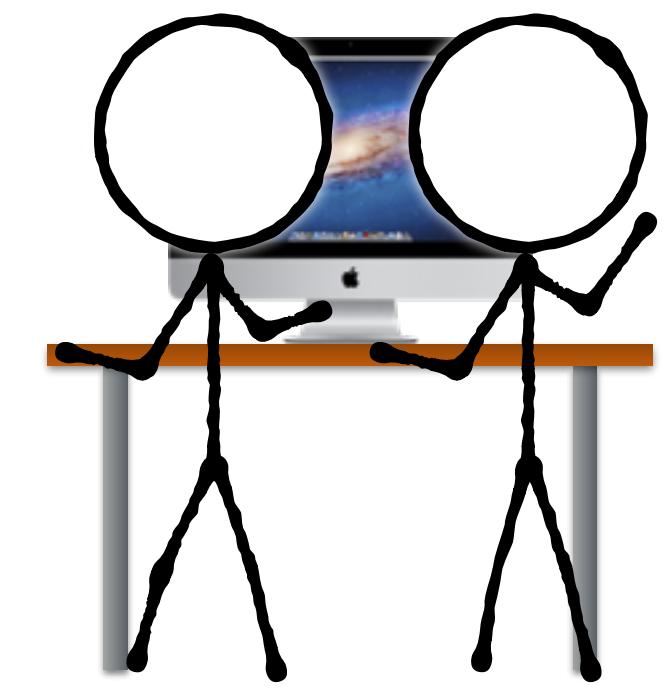
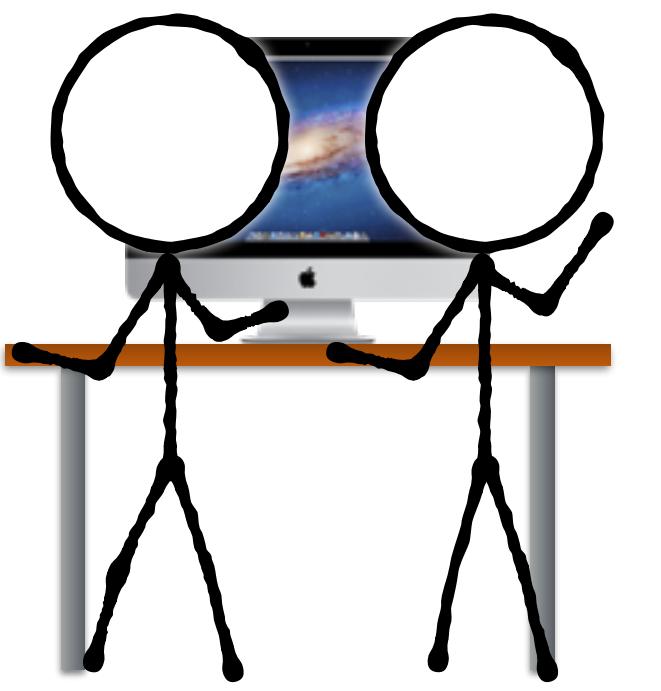


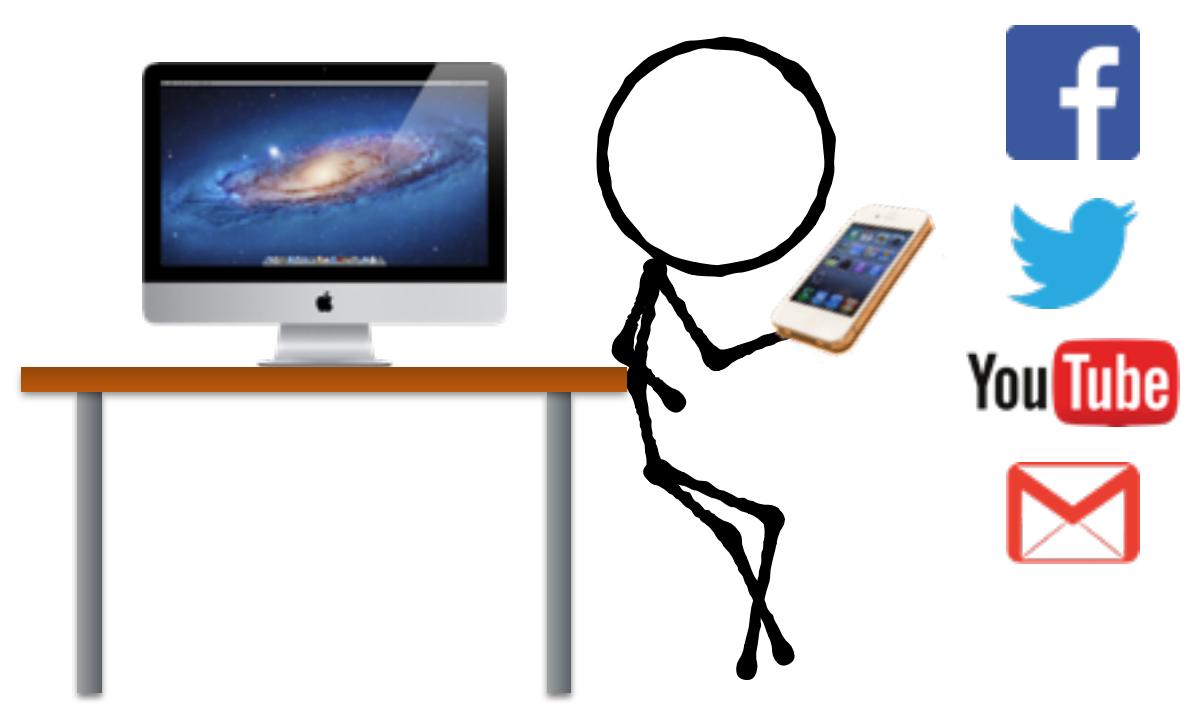
Stuck



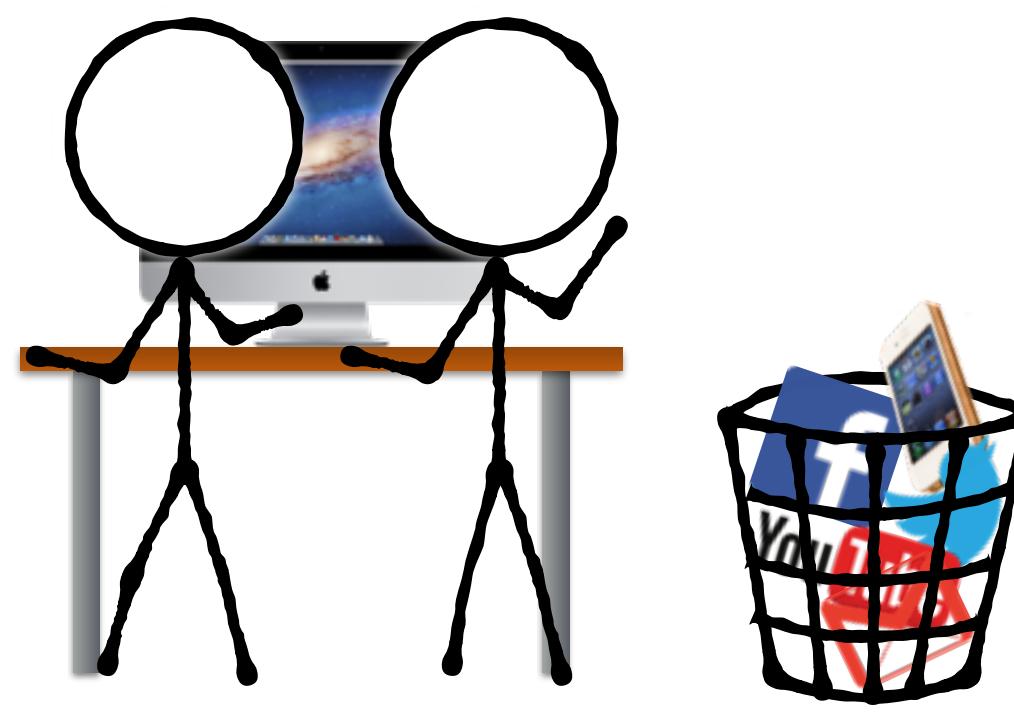




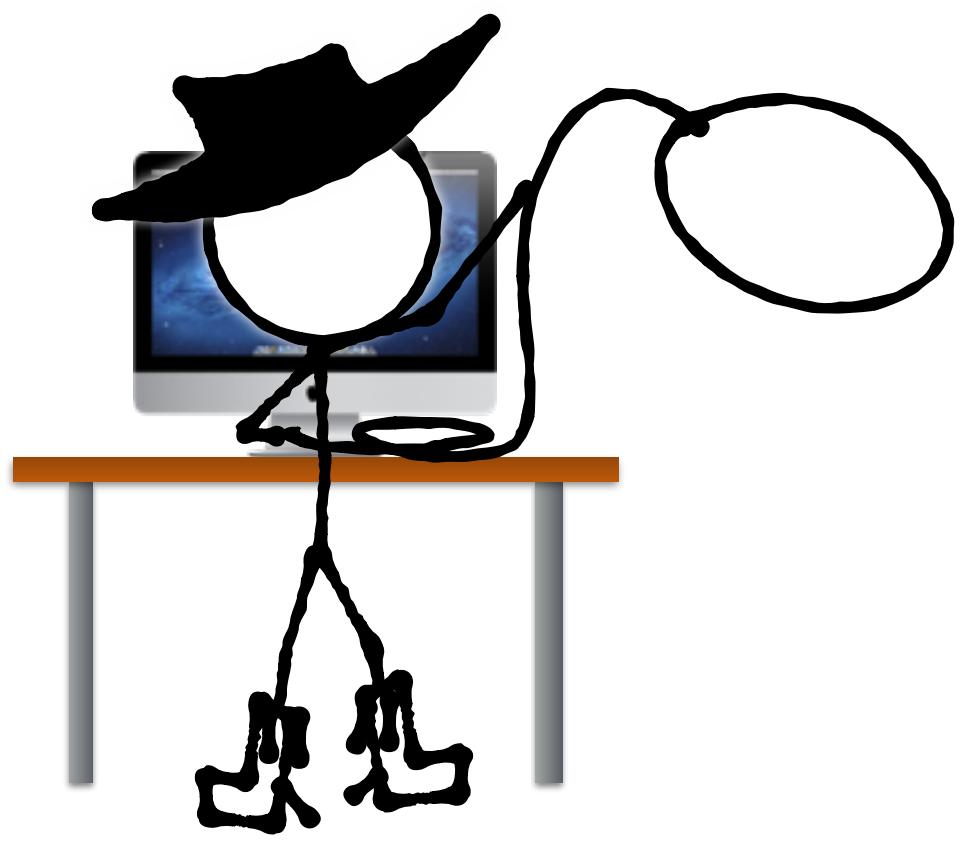




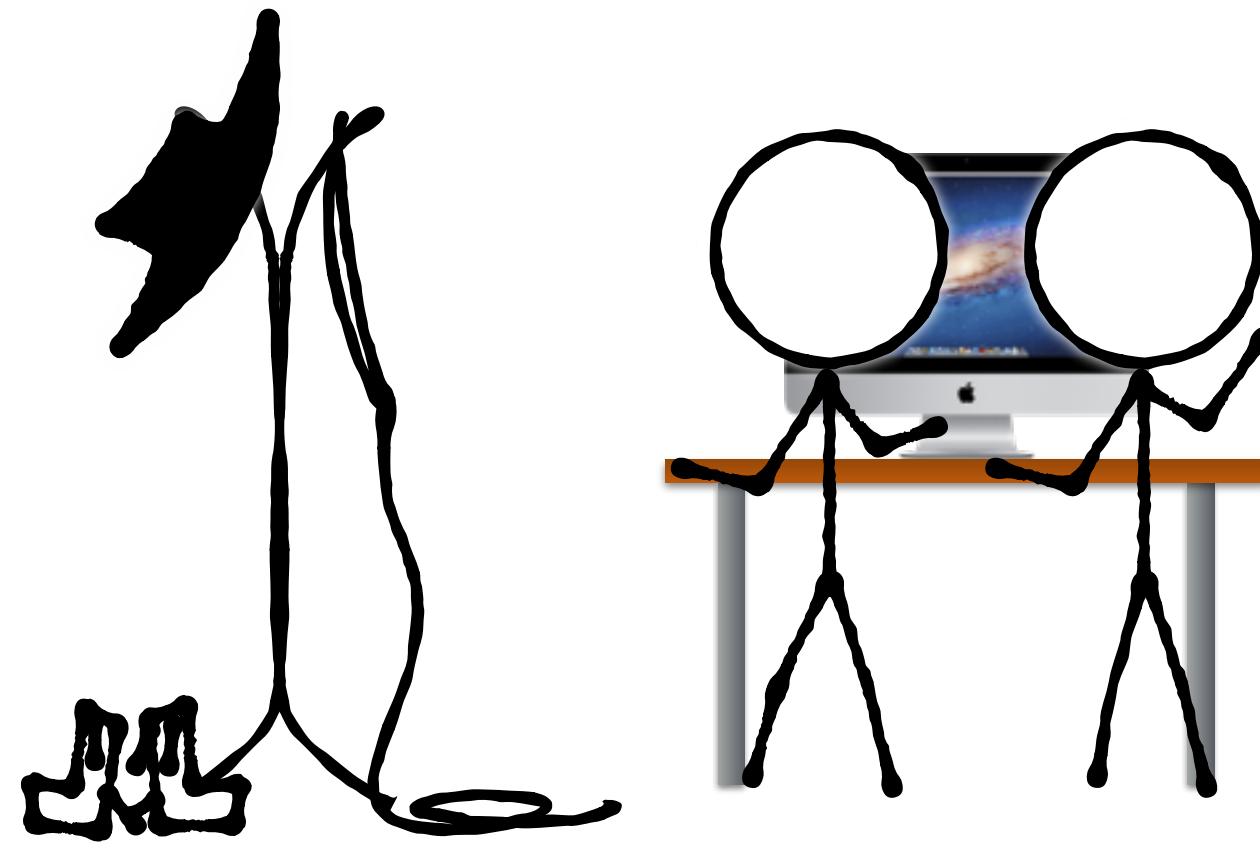
Distraction



Distraction-free



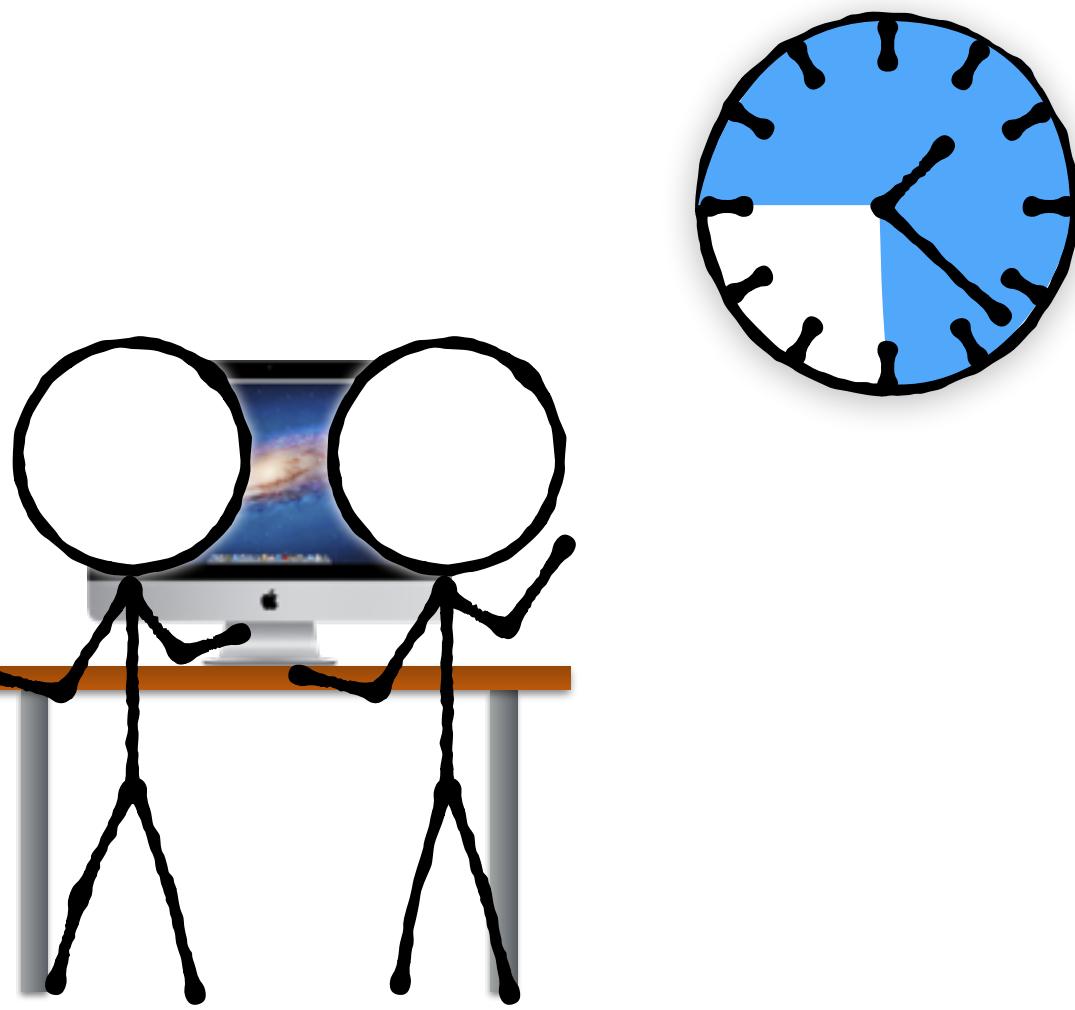
Cowboyism



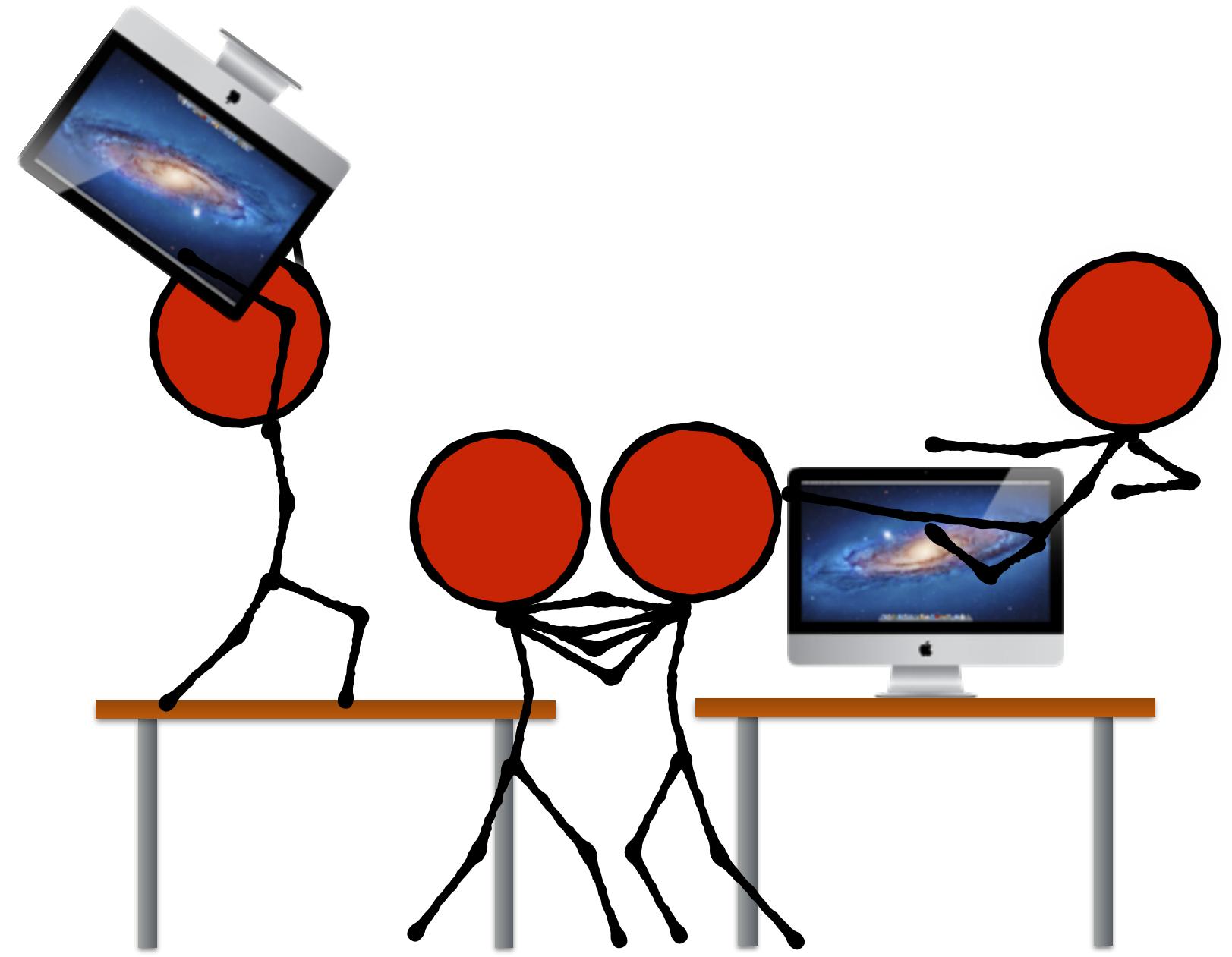
Collaboration



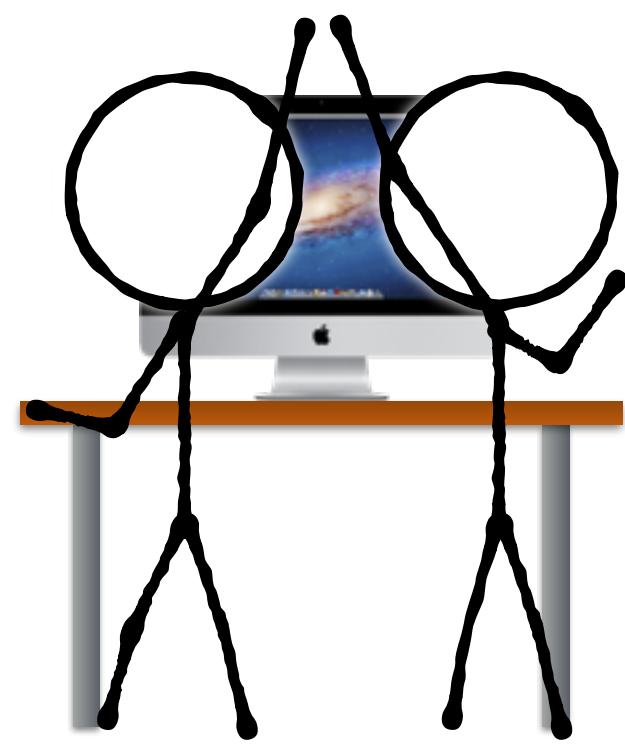
Unsustainable



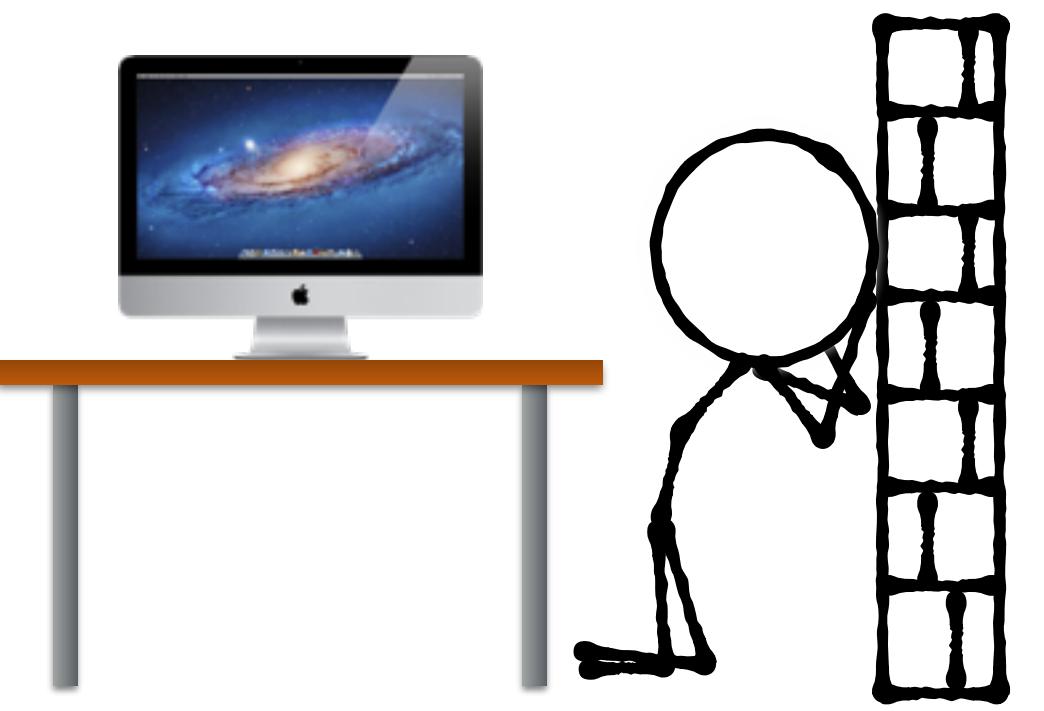
Sustainable



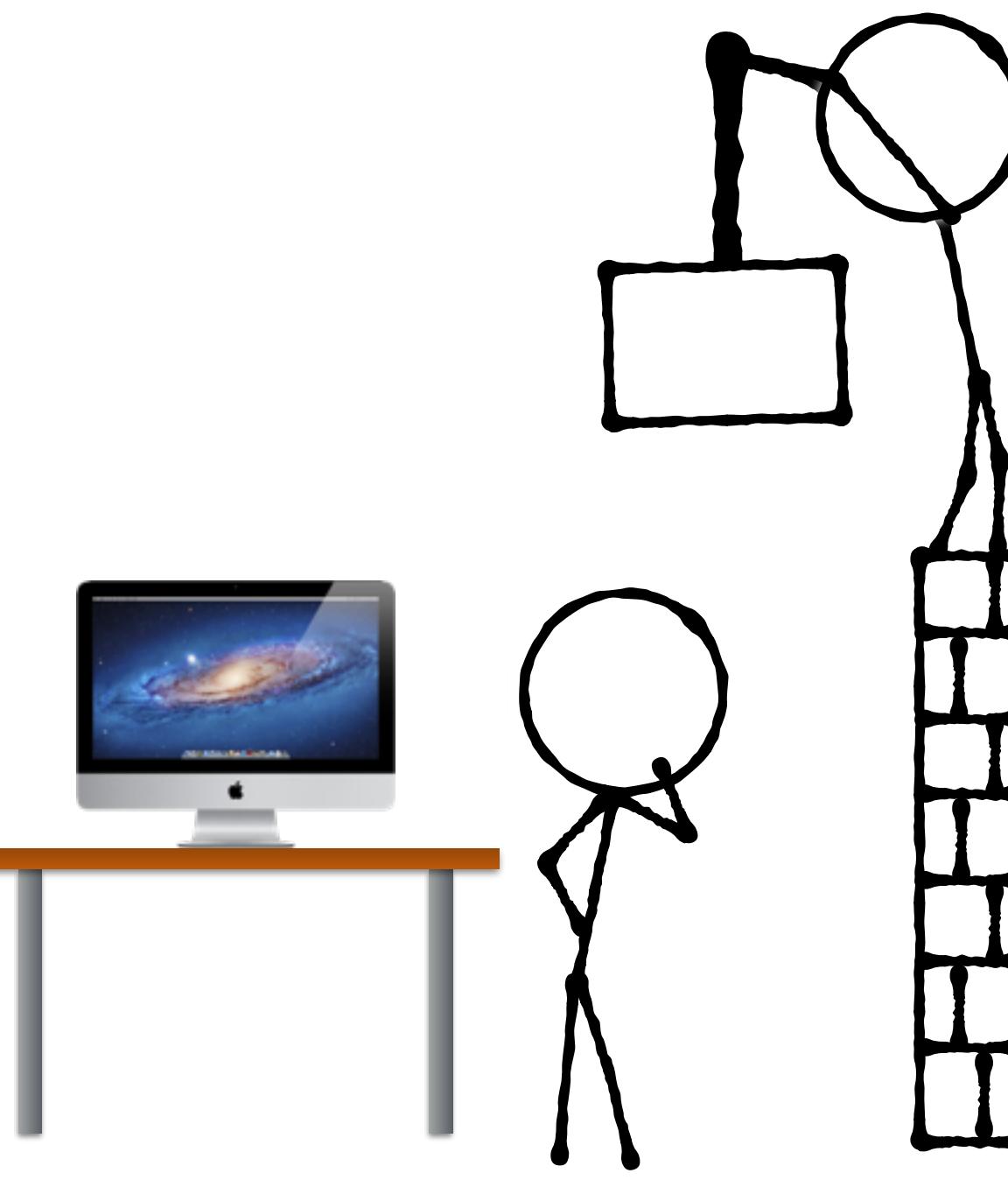
Miscommunication



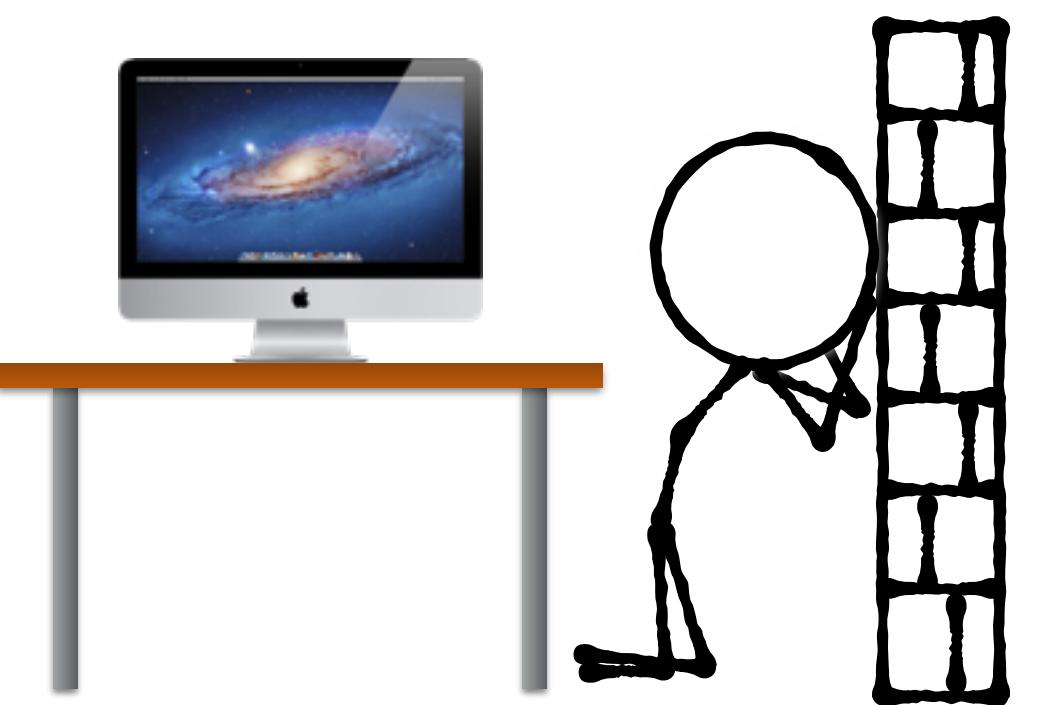
Constant Communication



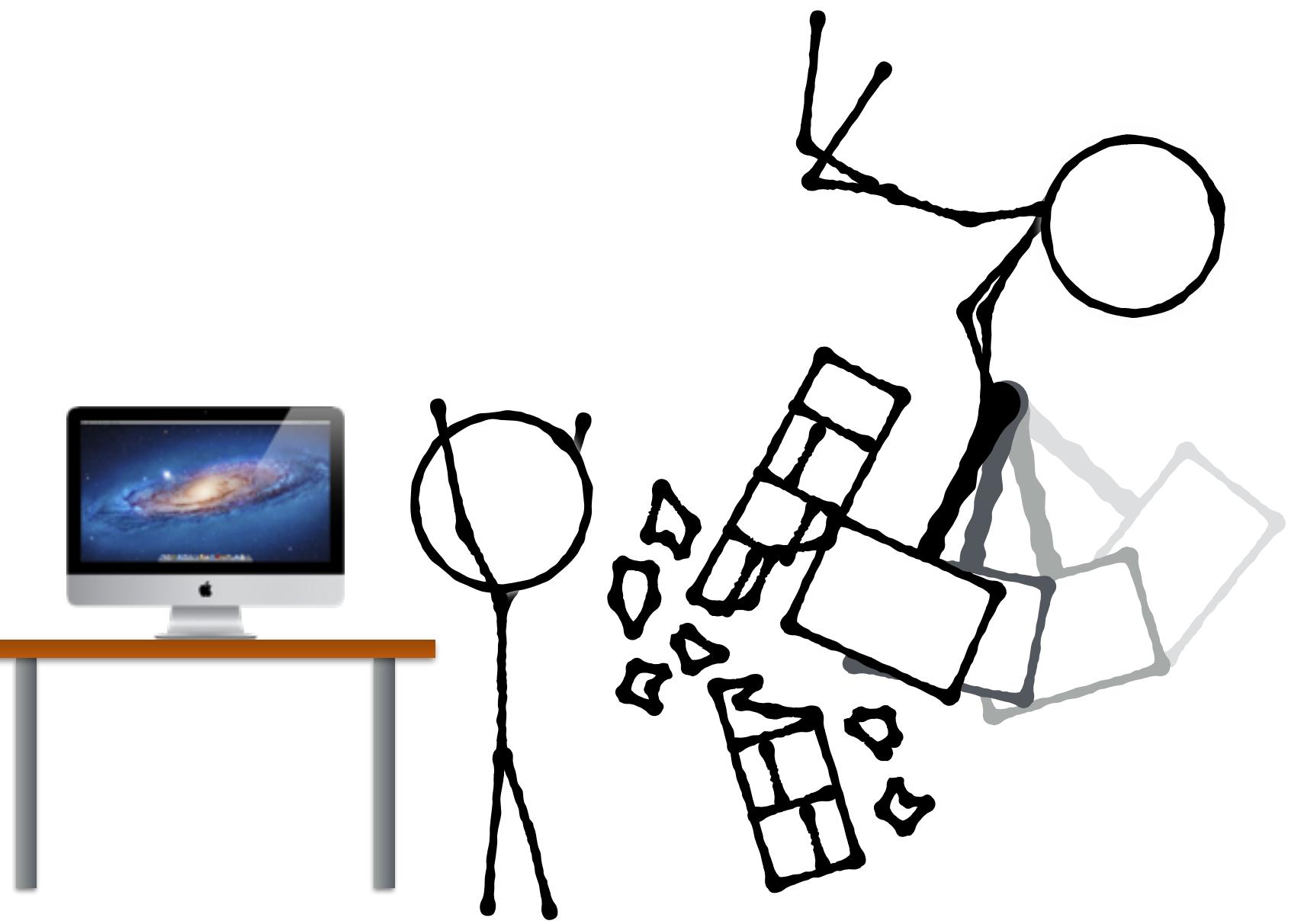
Stuck



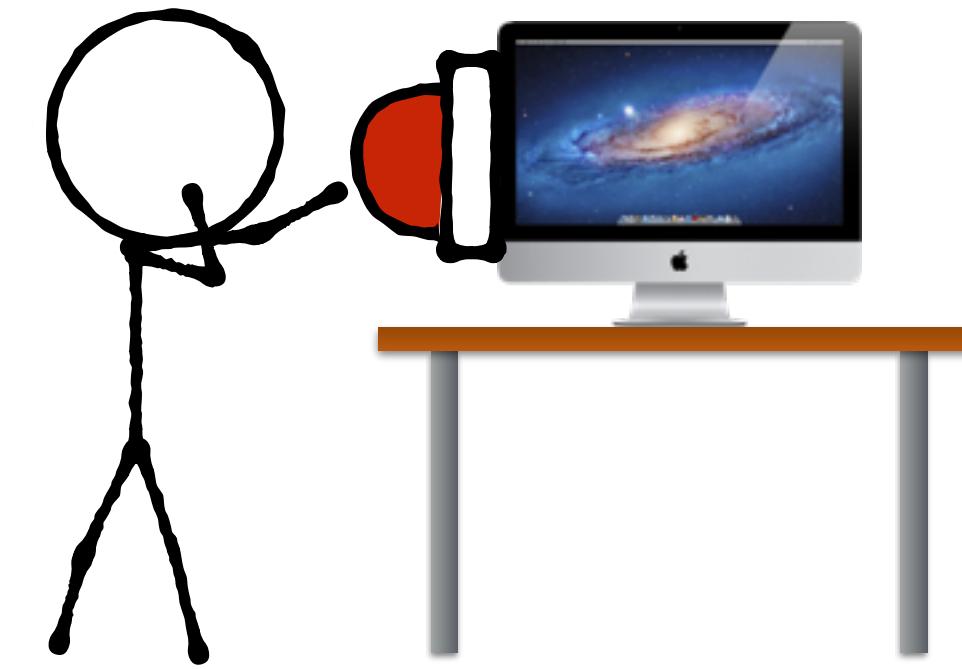
Unstuck



Stuck



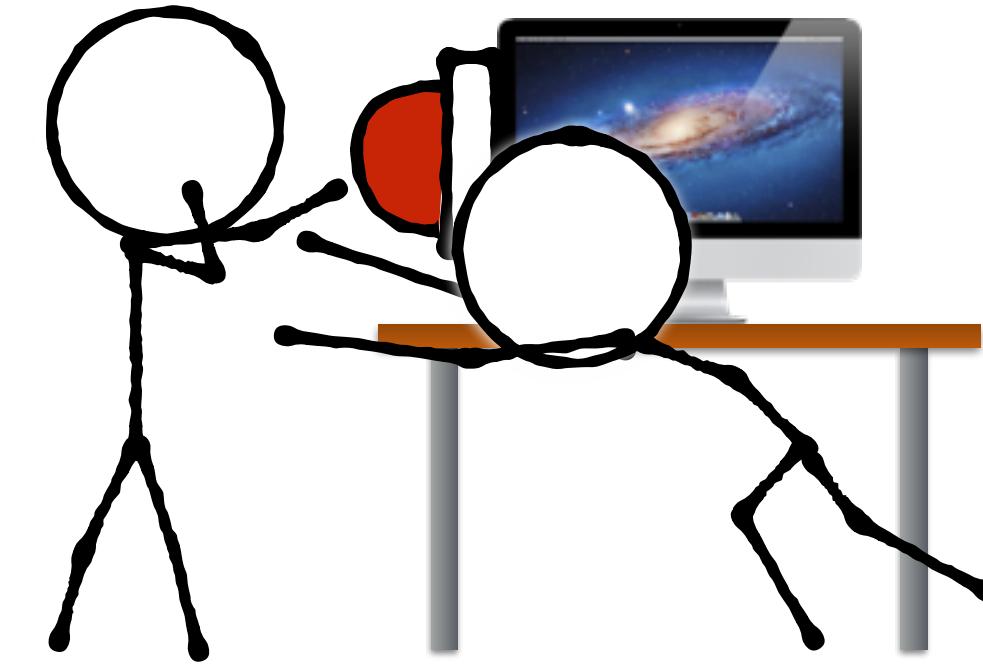
Unstuck



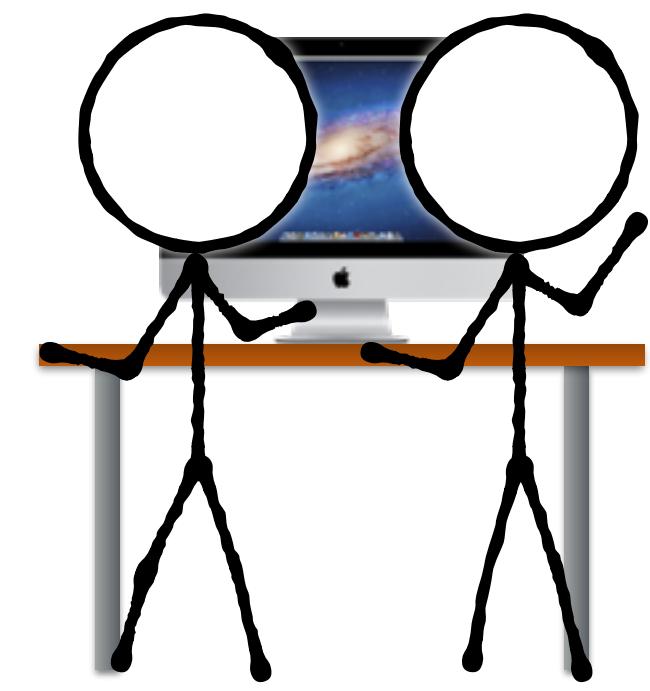
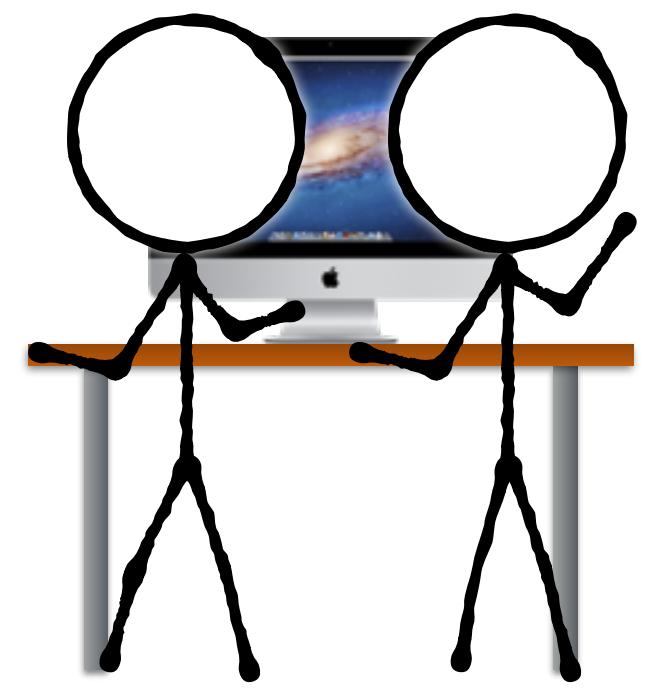
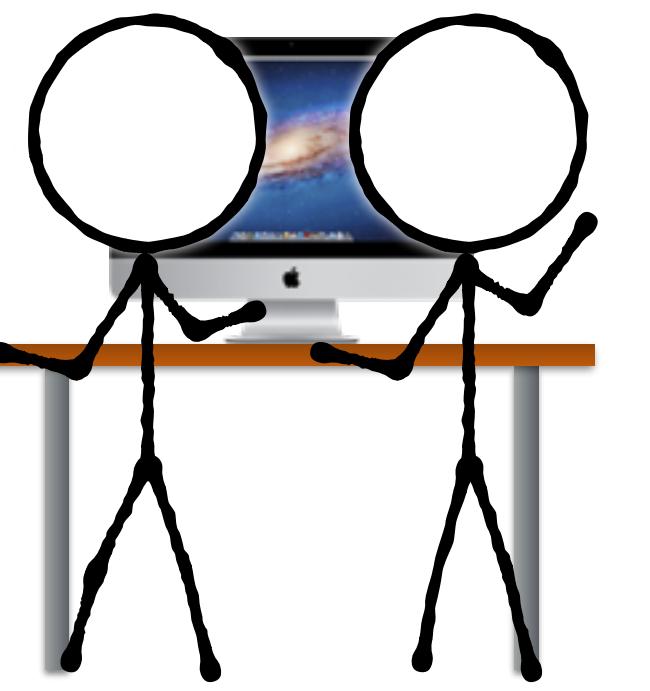
Noobs



Noobs



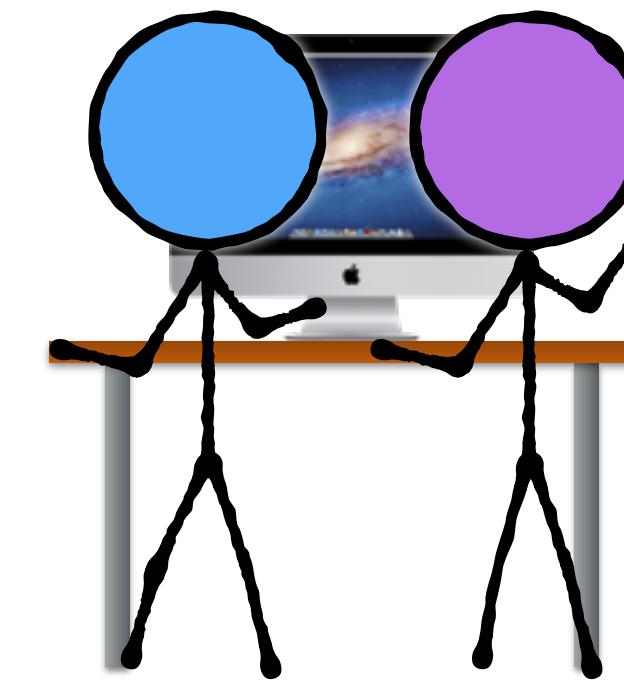
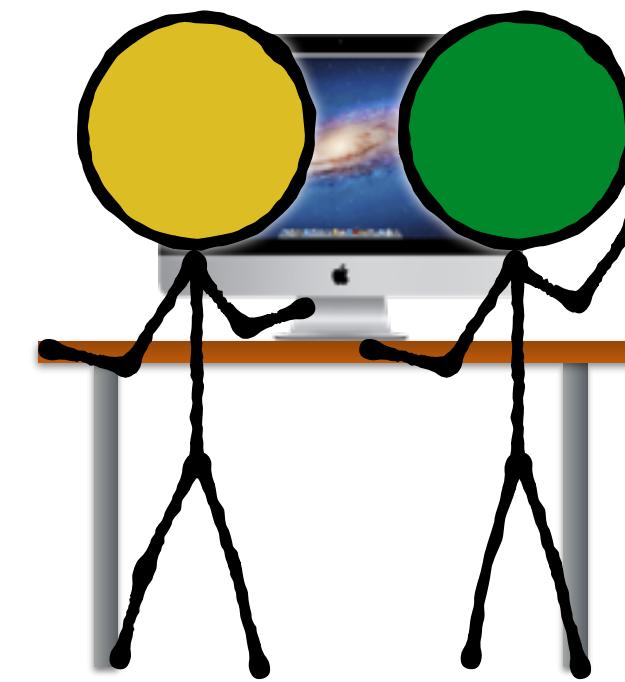
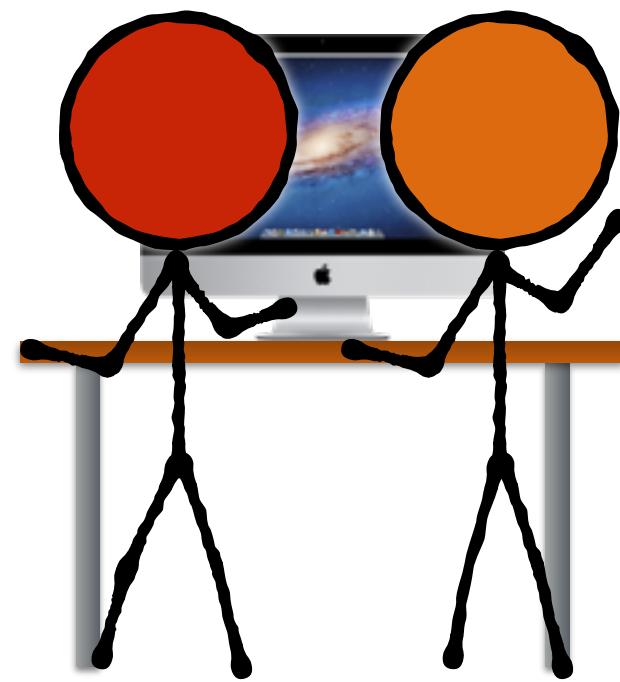
Teachers



We rotate pairs

Every day

More pairs means more possible pairings

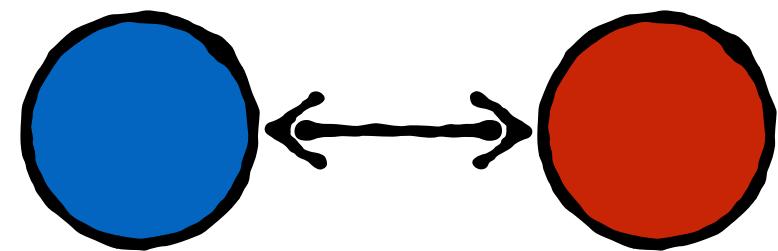


We rotate pairs

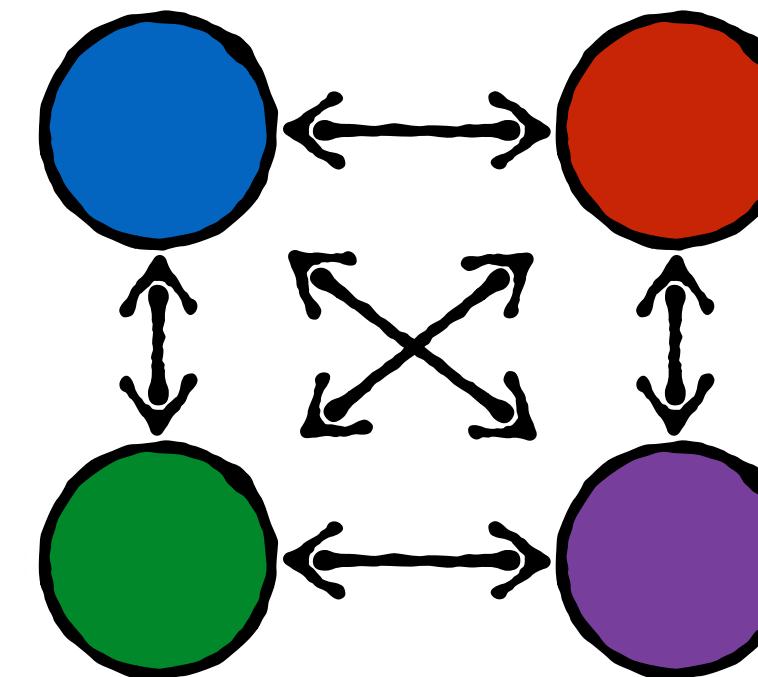
Every day

More pairs means more possible pairings

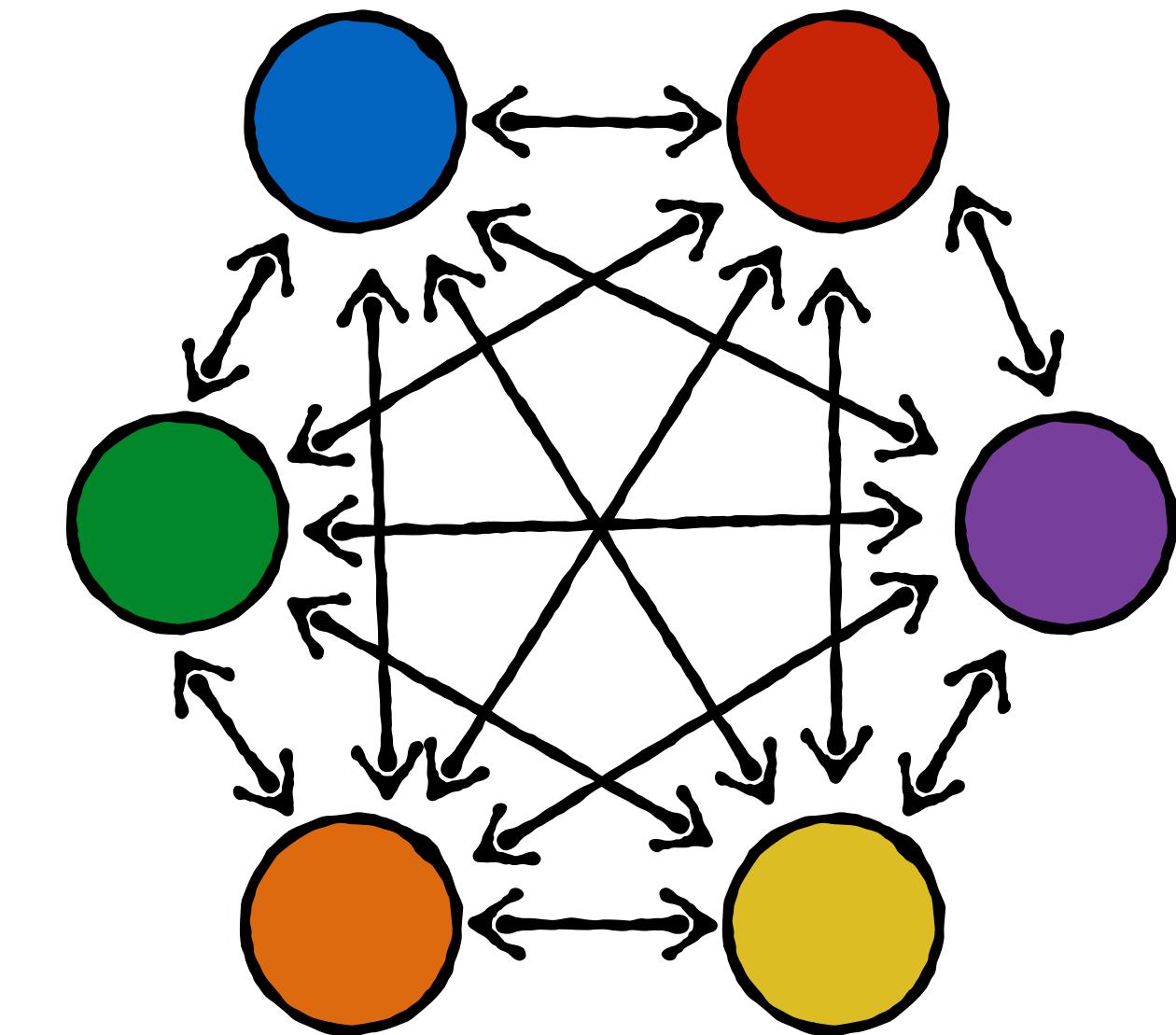
1 Pair



2 Pairs



3 Pairs



1 Pairing

3 Pairings

15 Pairings







MONDAY NIGHT PING PONG
• STANISLAV
• BEERTON
• PALLADTO
• PINE
• SHINDAI
• UNERBAK

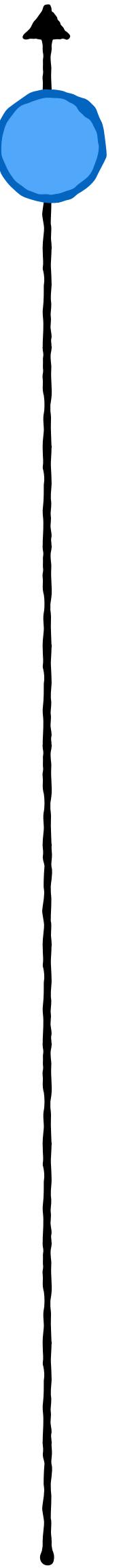


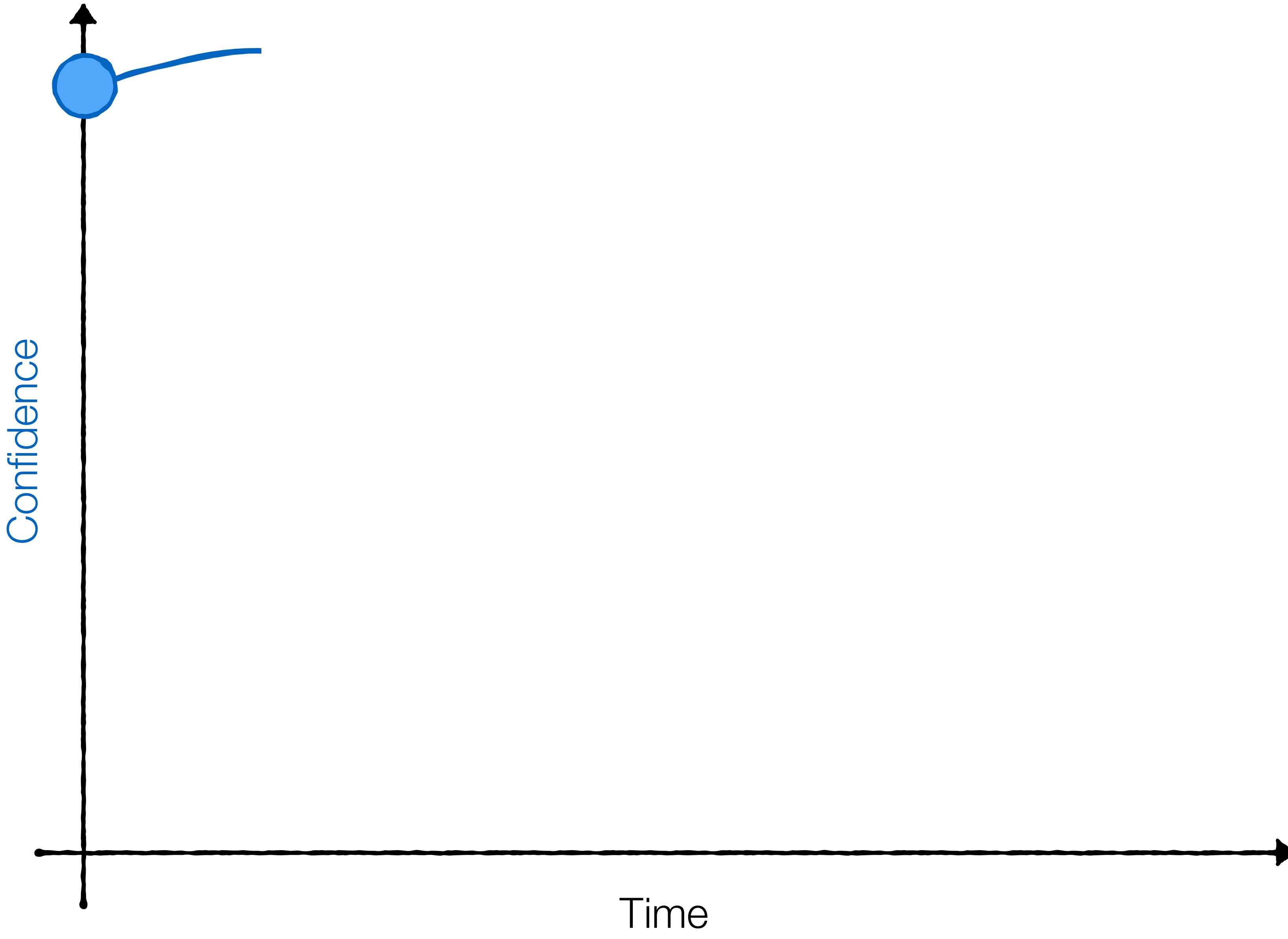
PivotalTM
culture

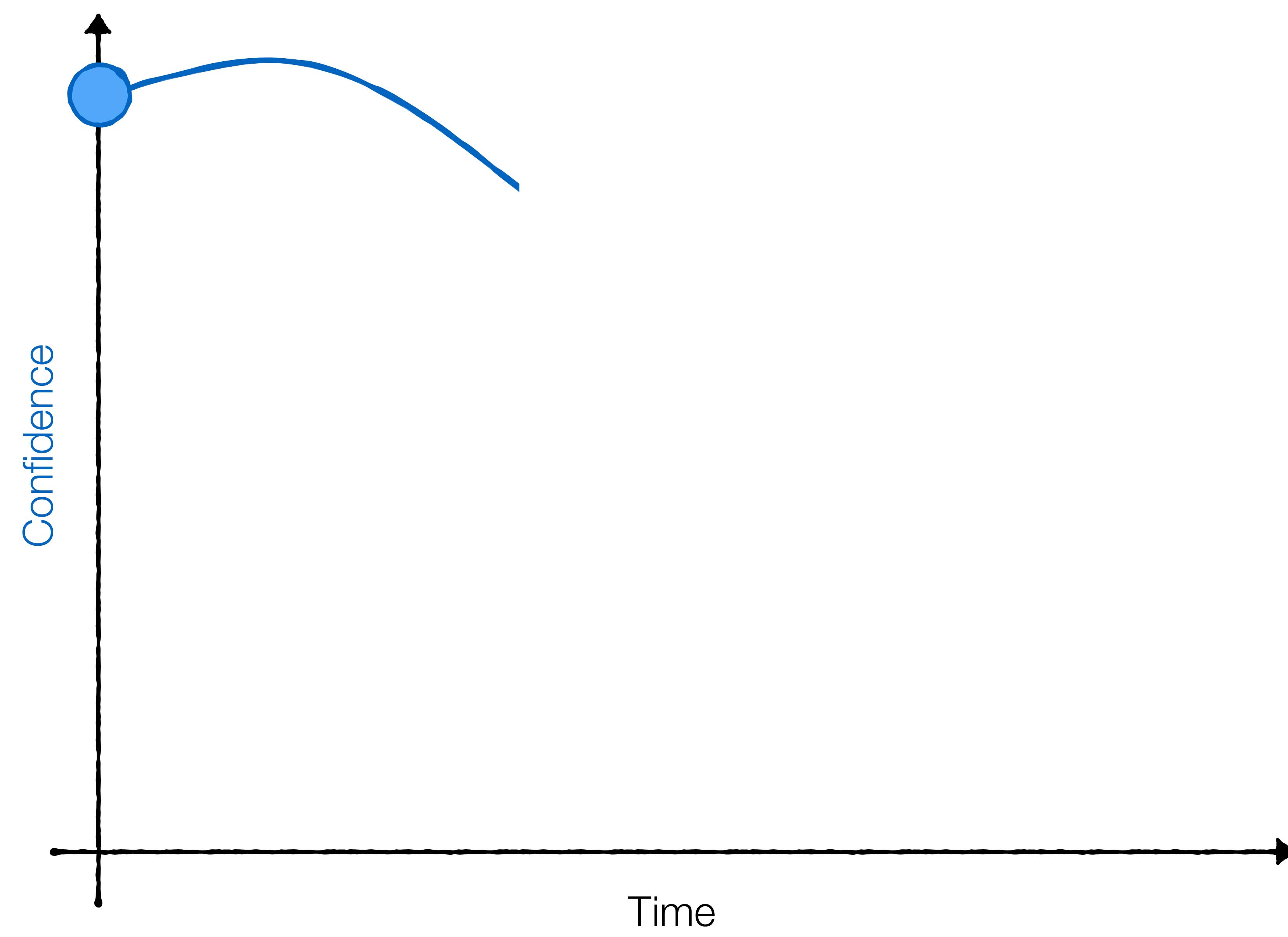
Pairing
Testing
Agile Planning

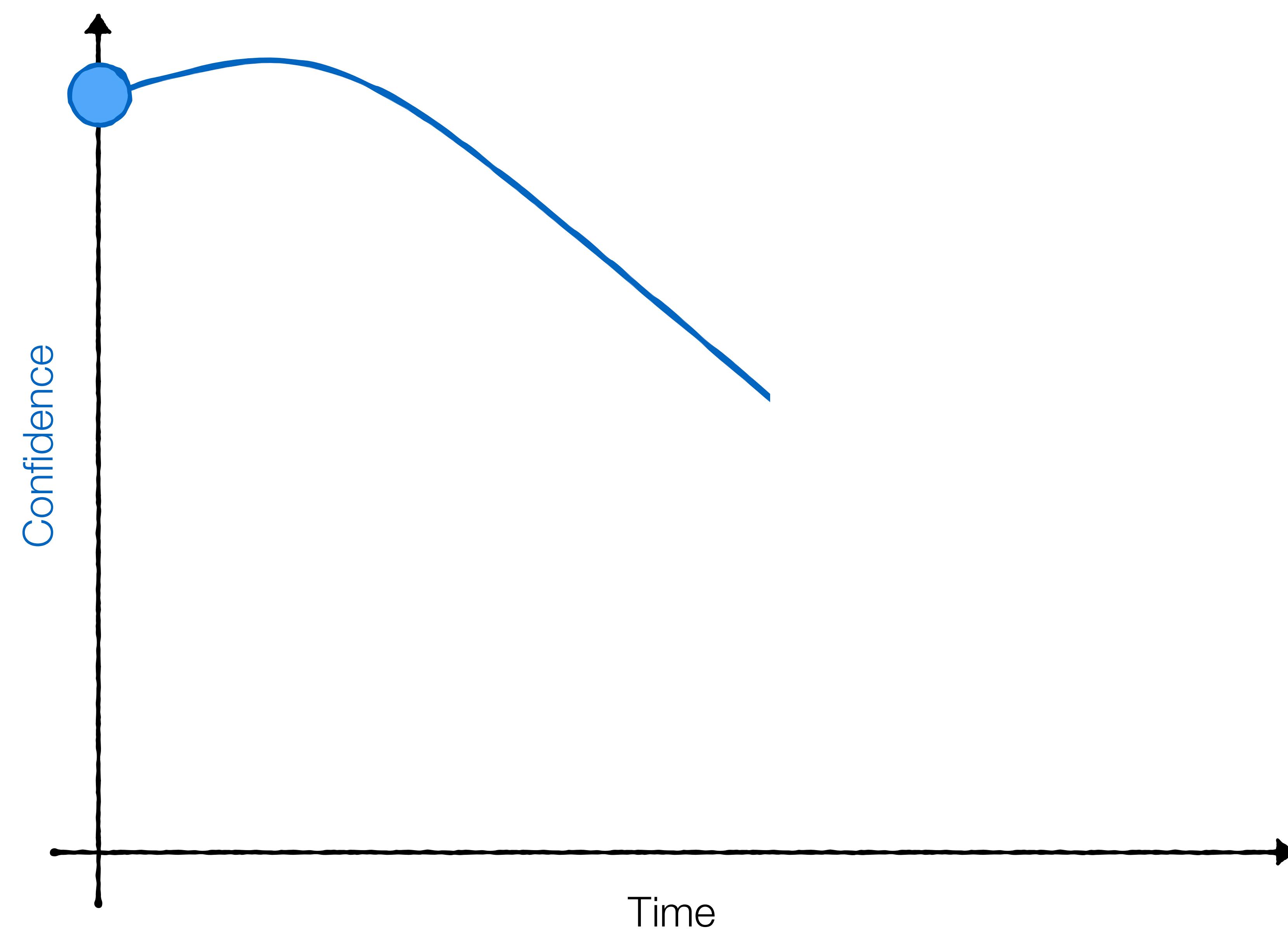


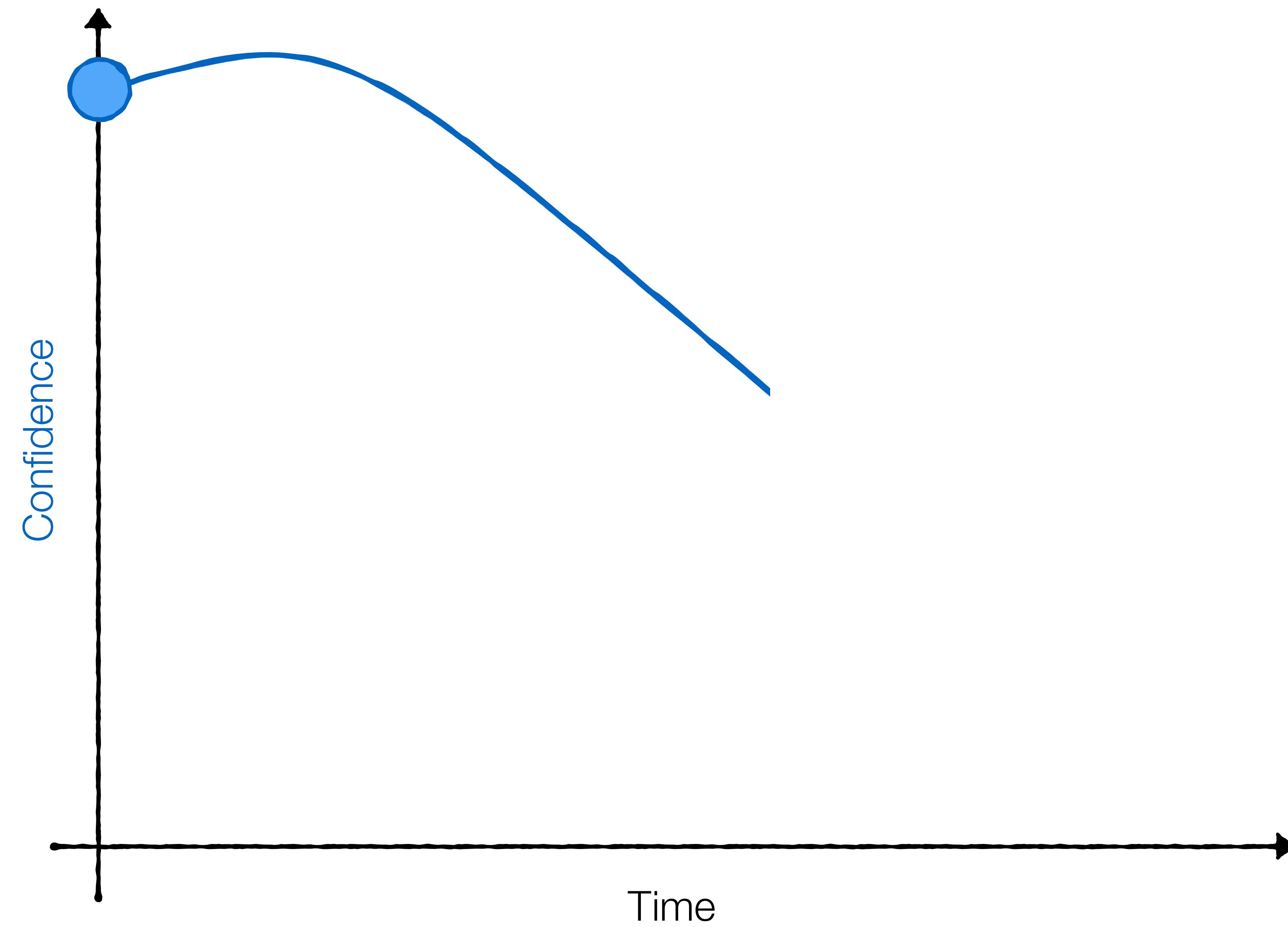
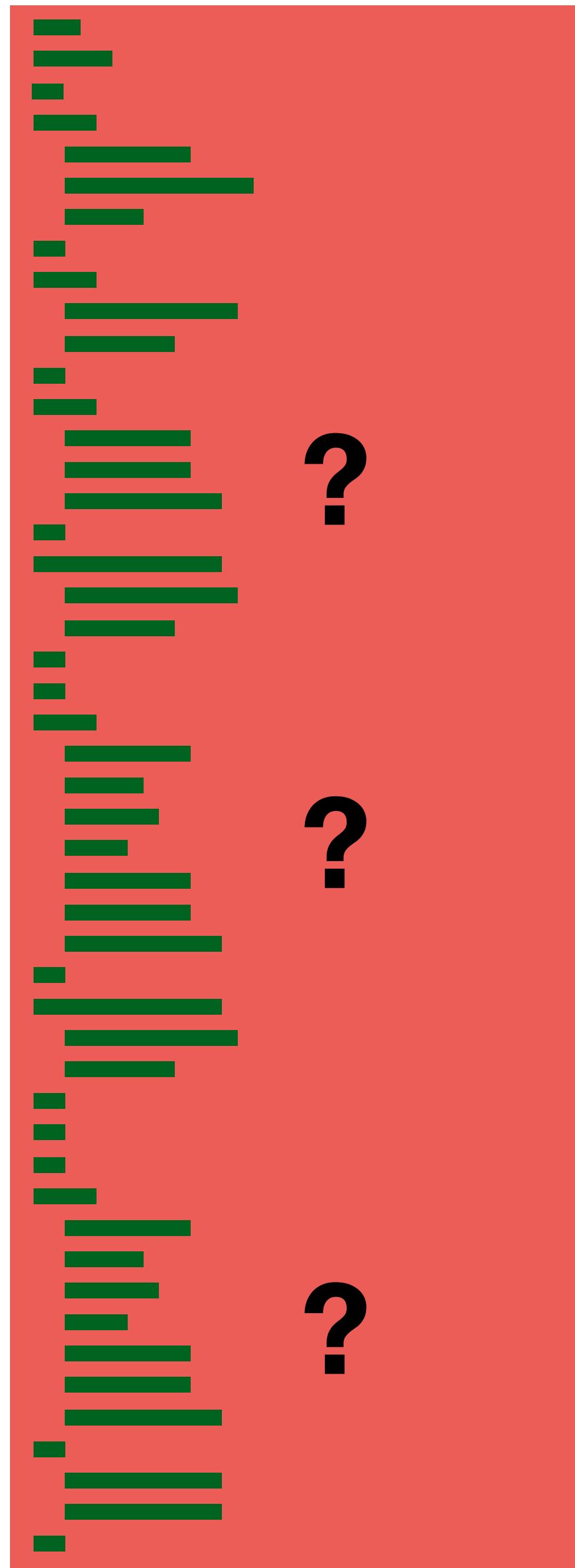
Confidence

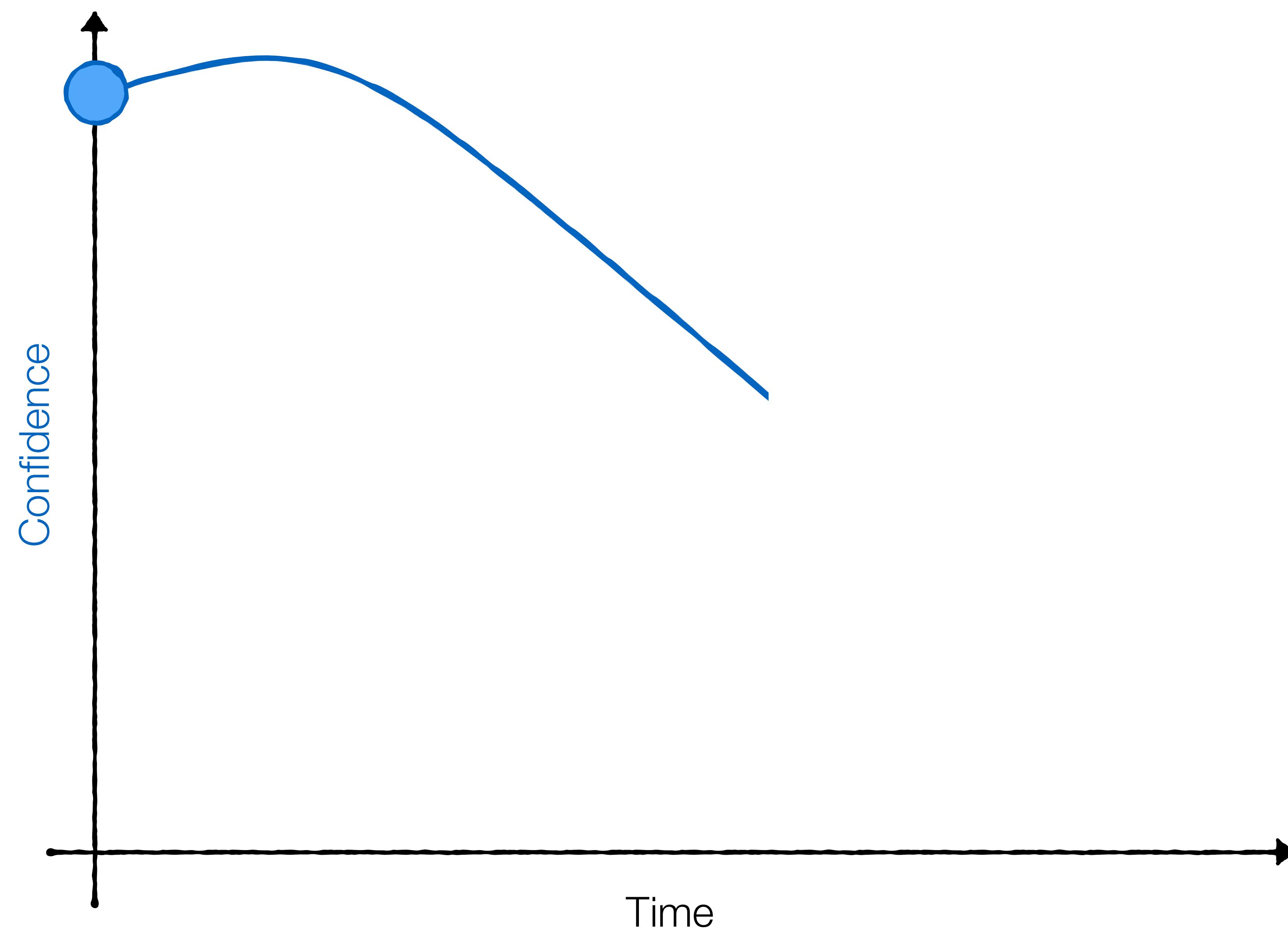
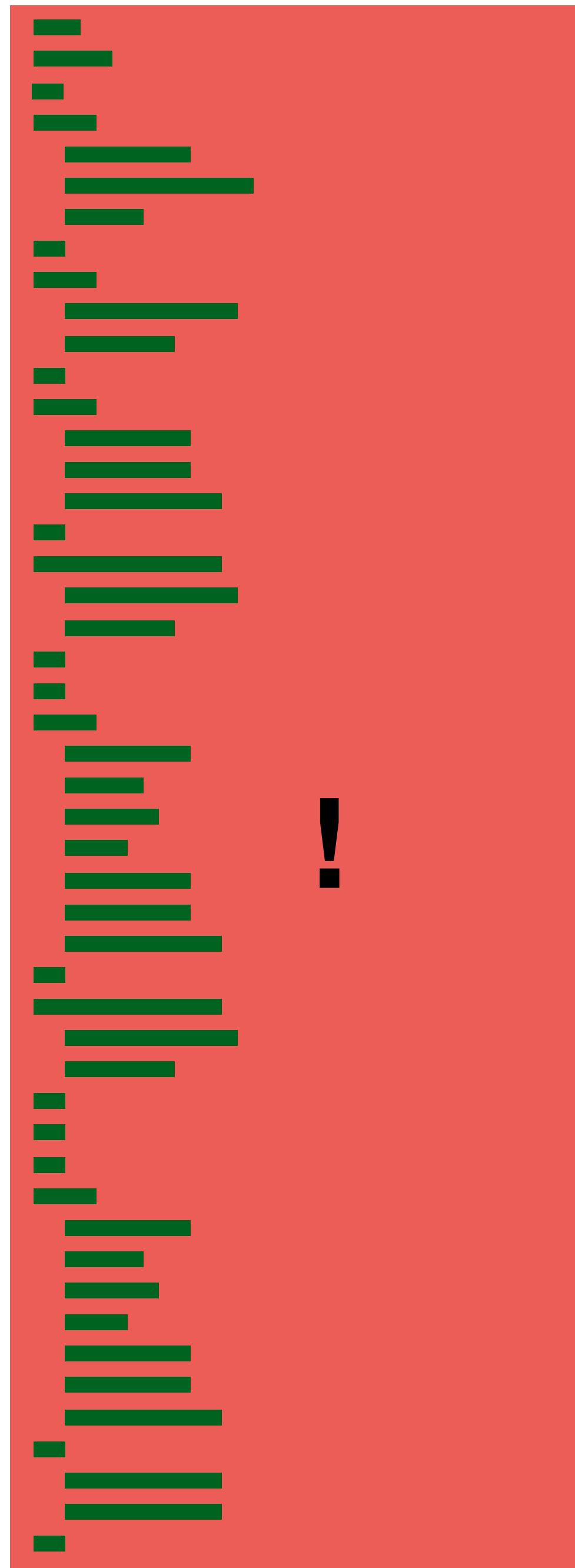


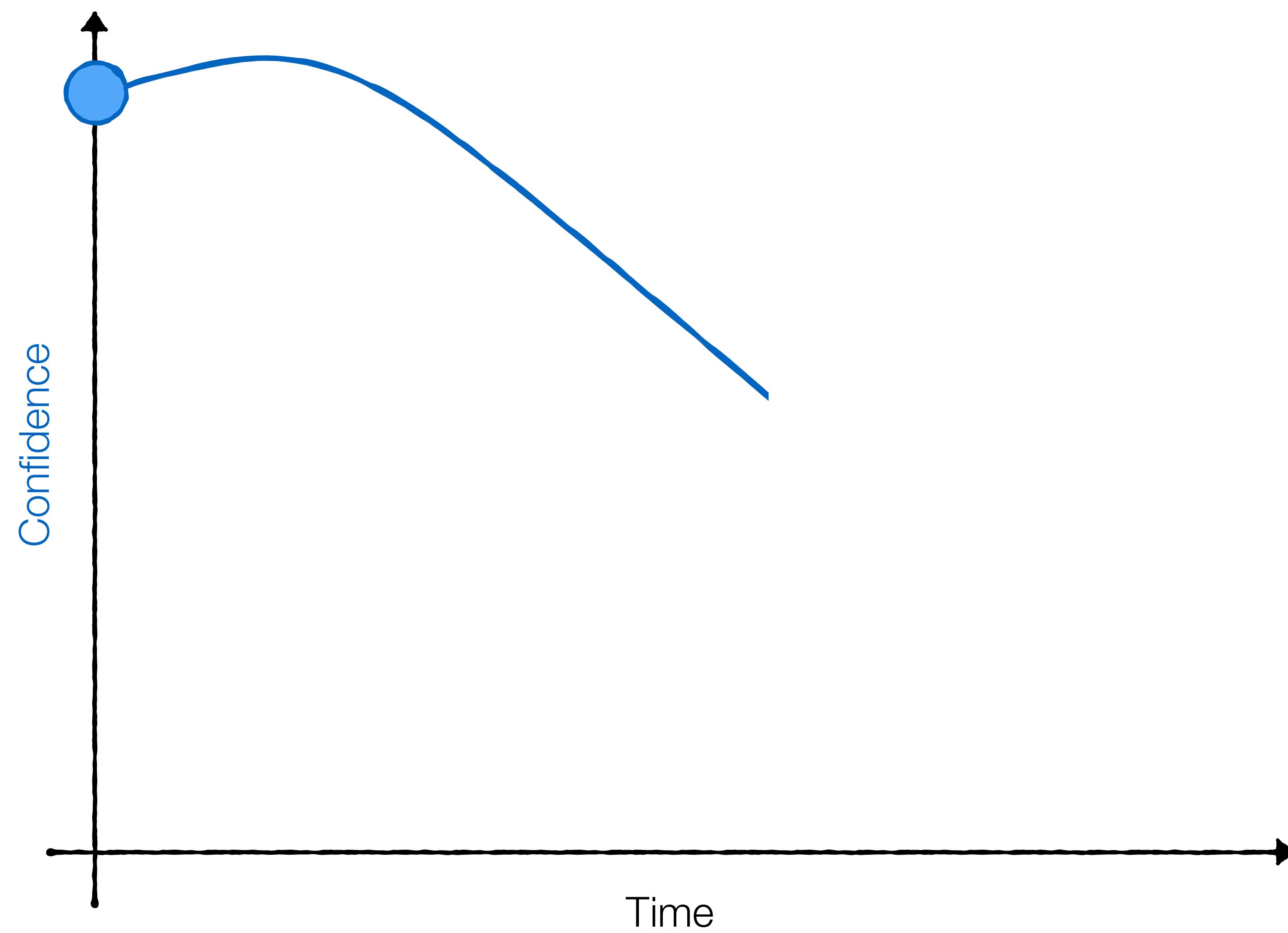


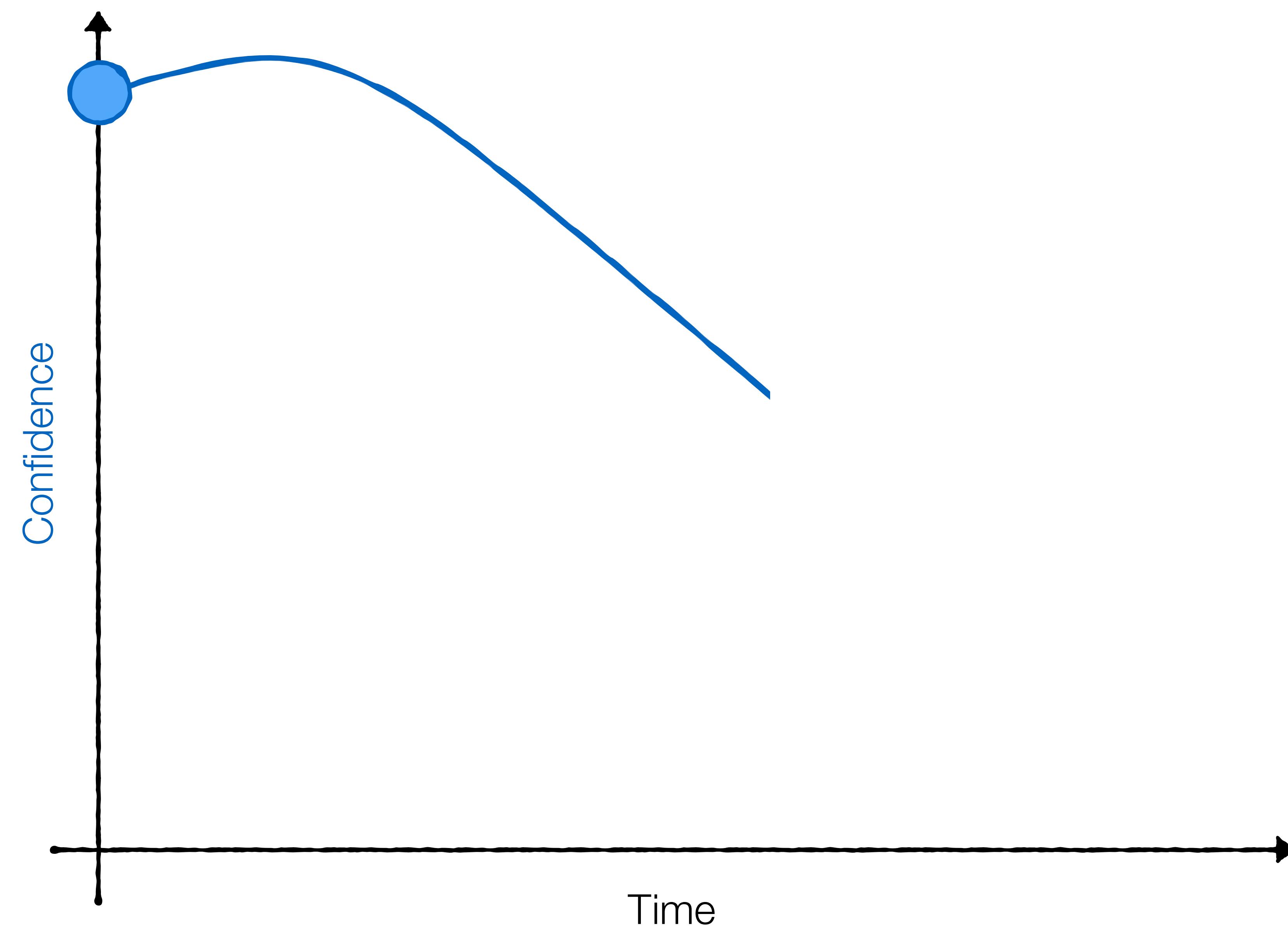


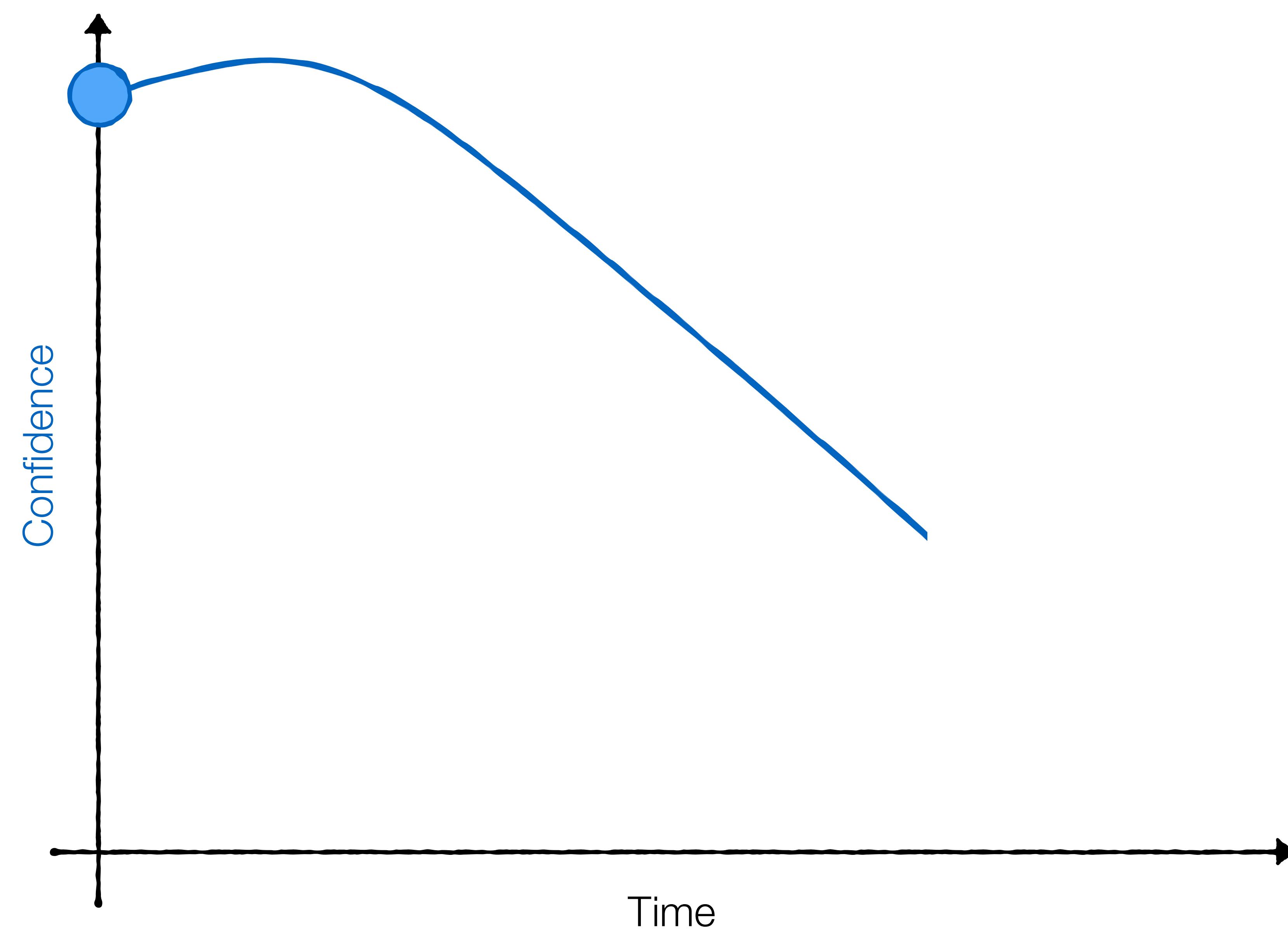


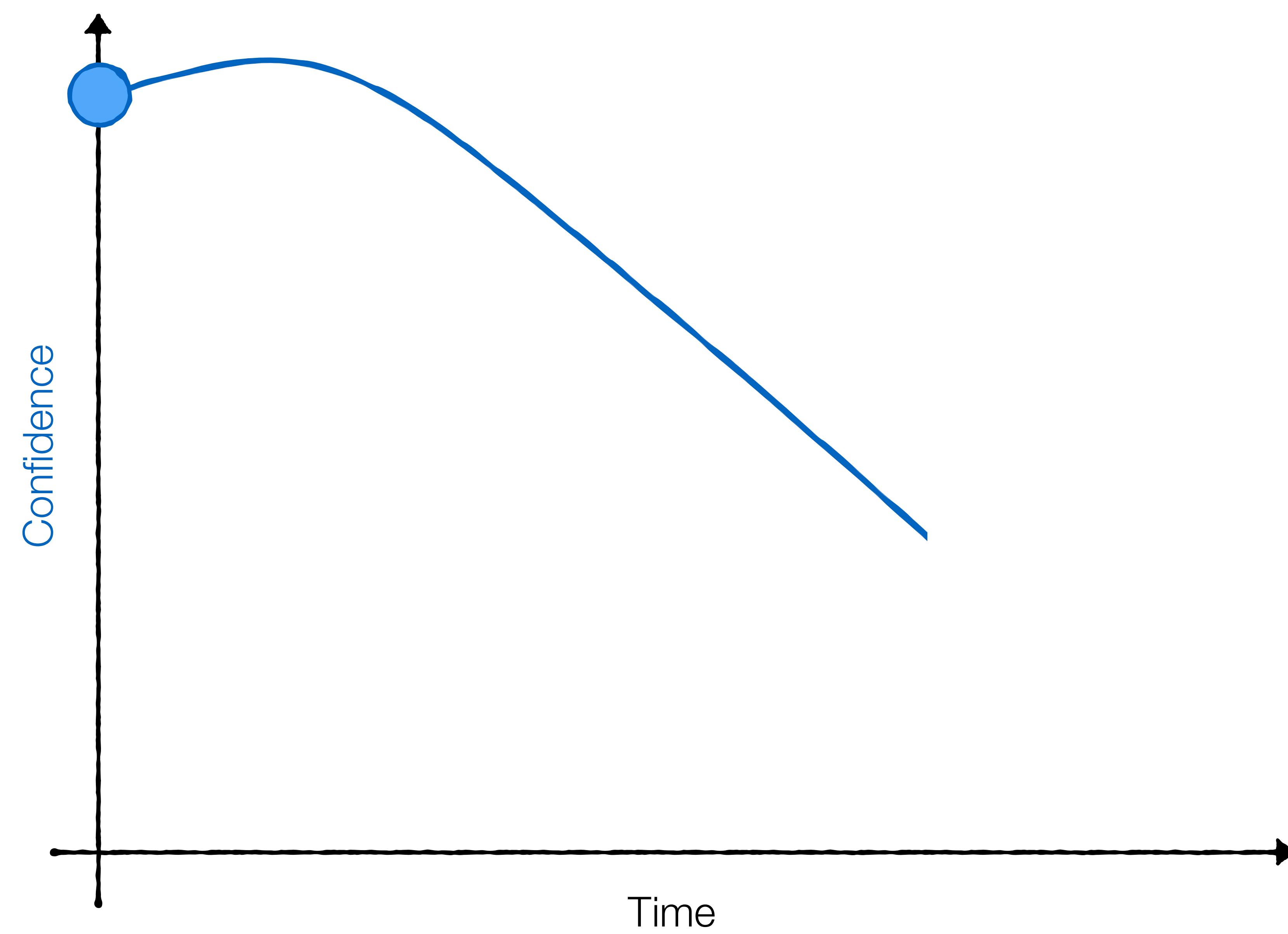
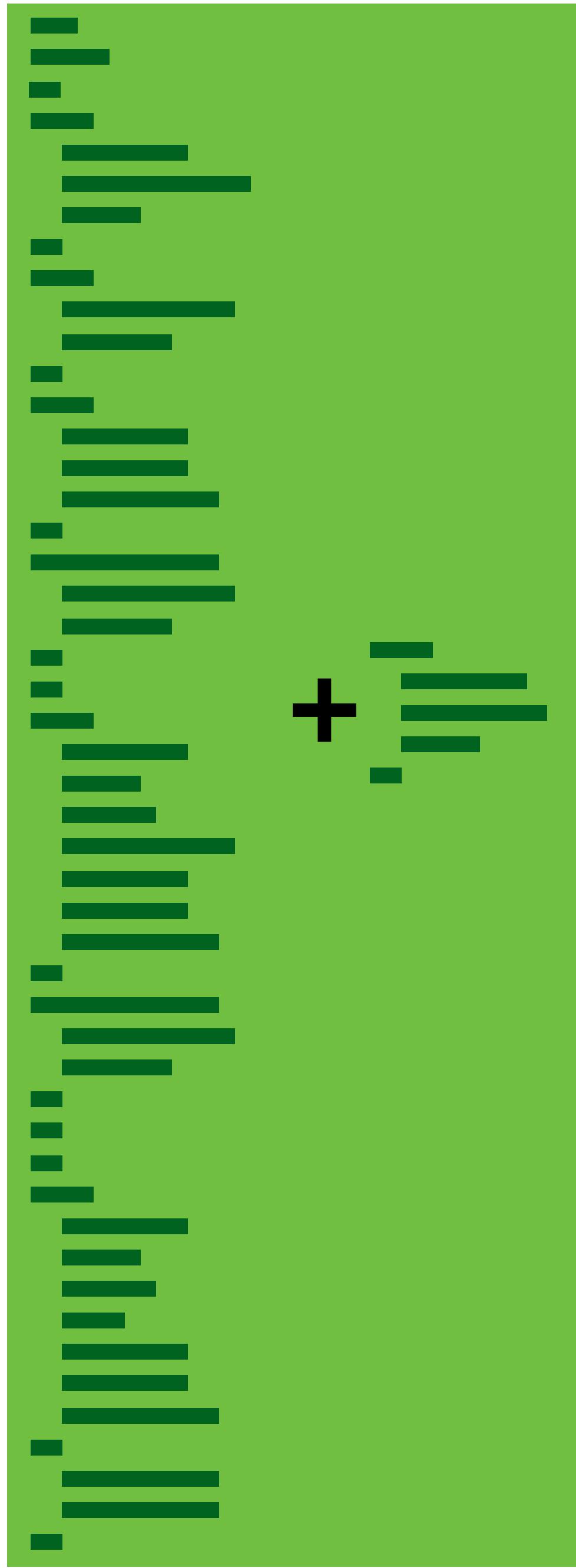


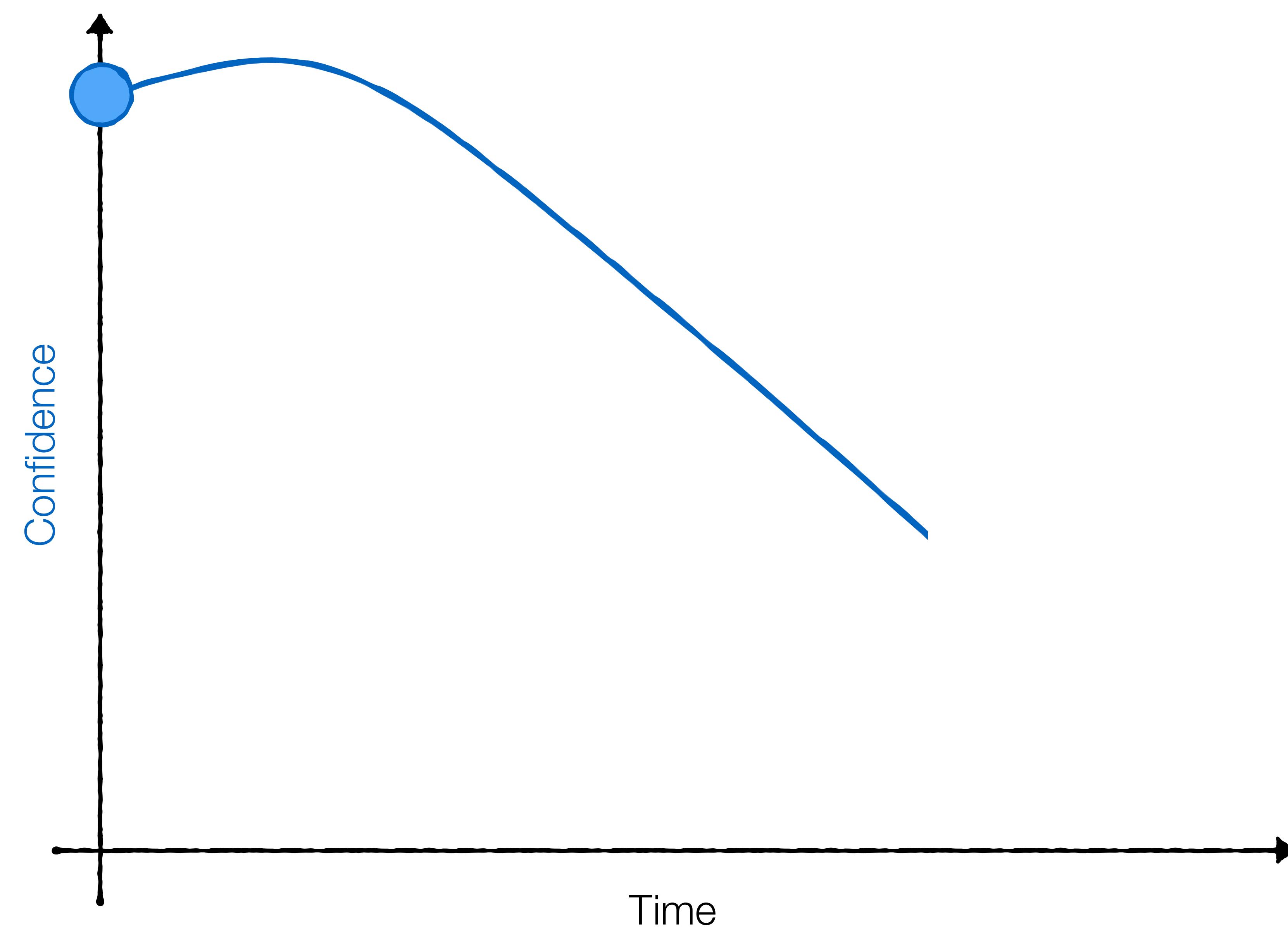
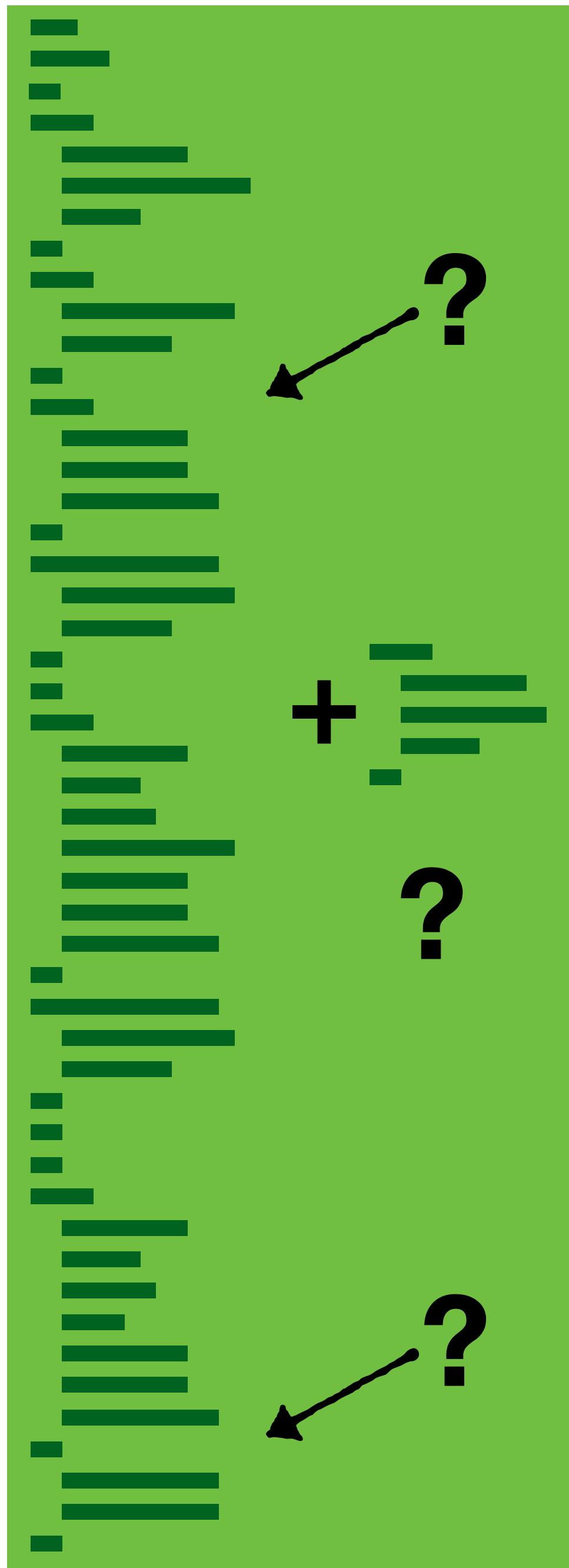


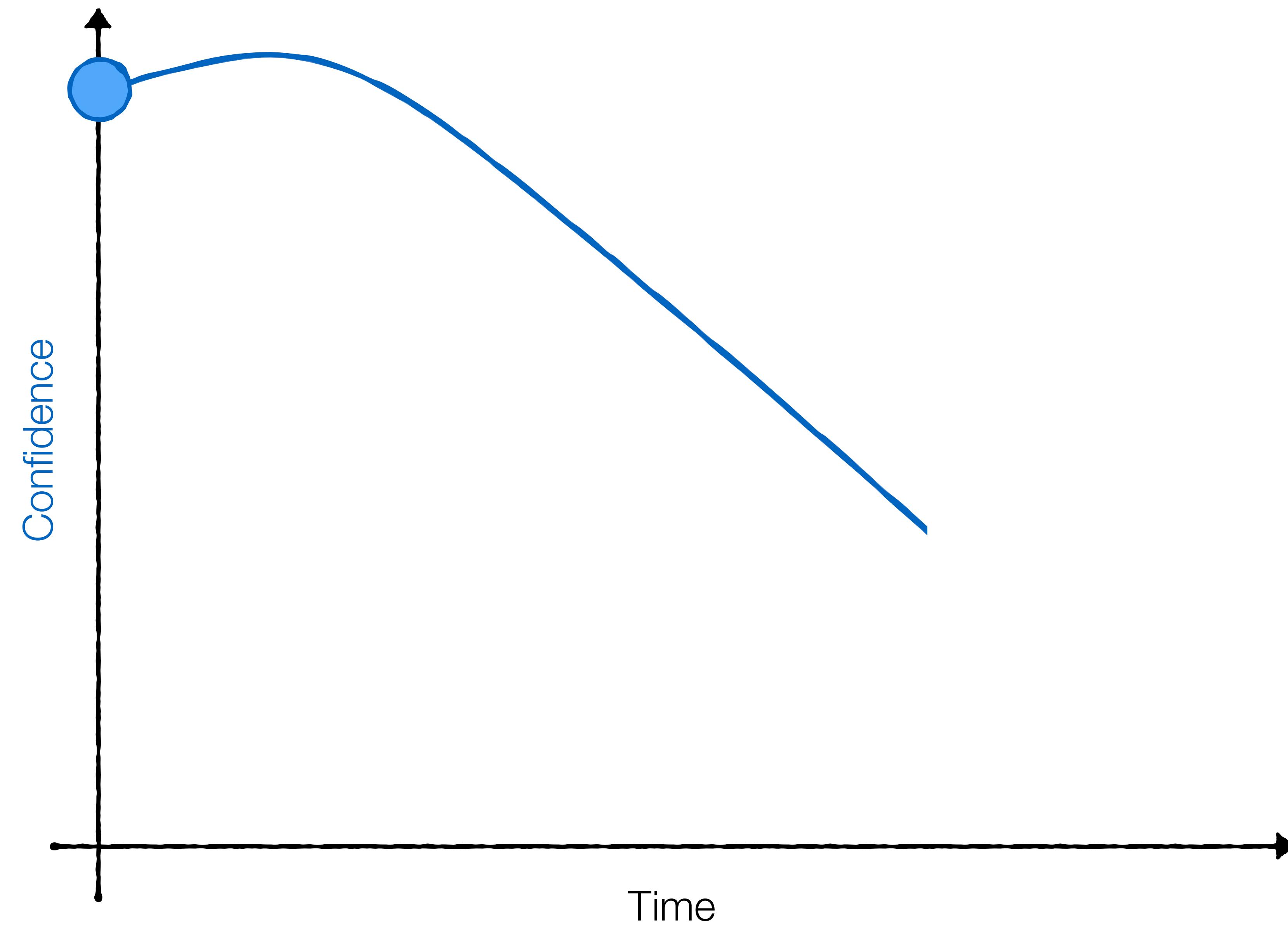
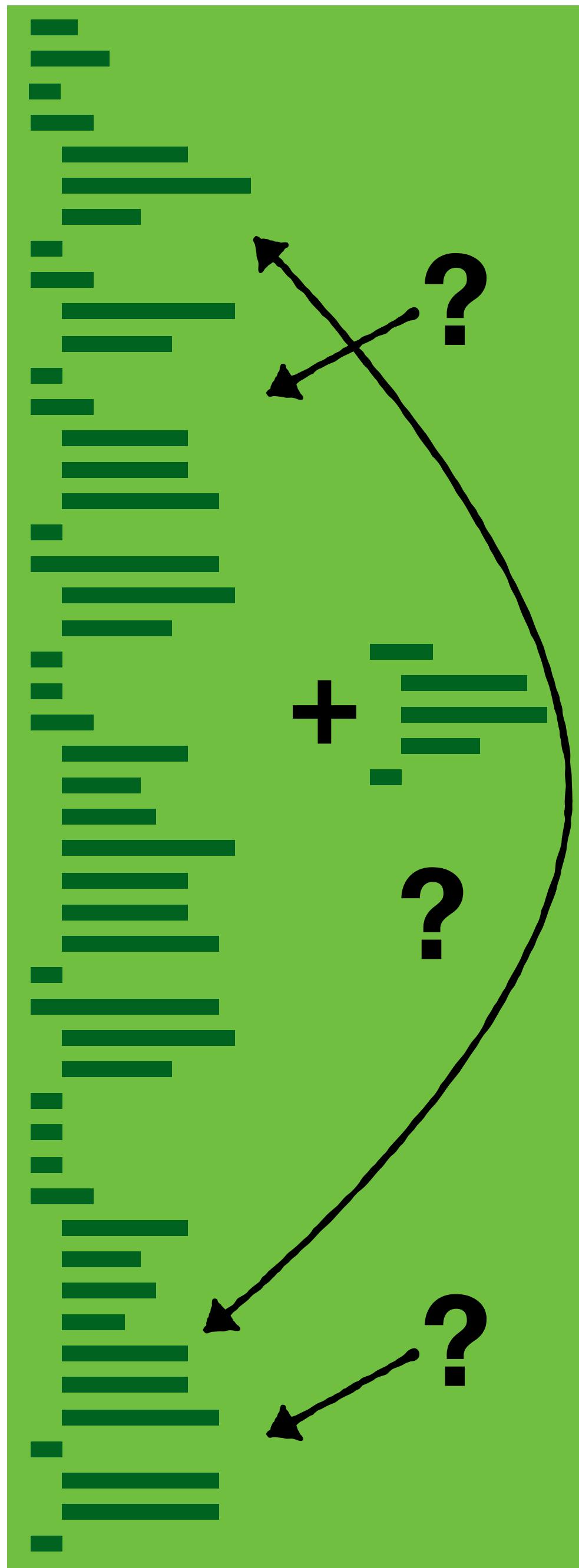


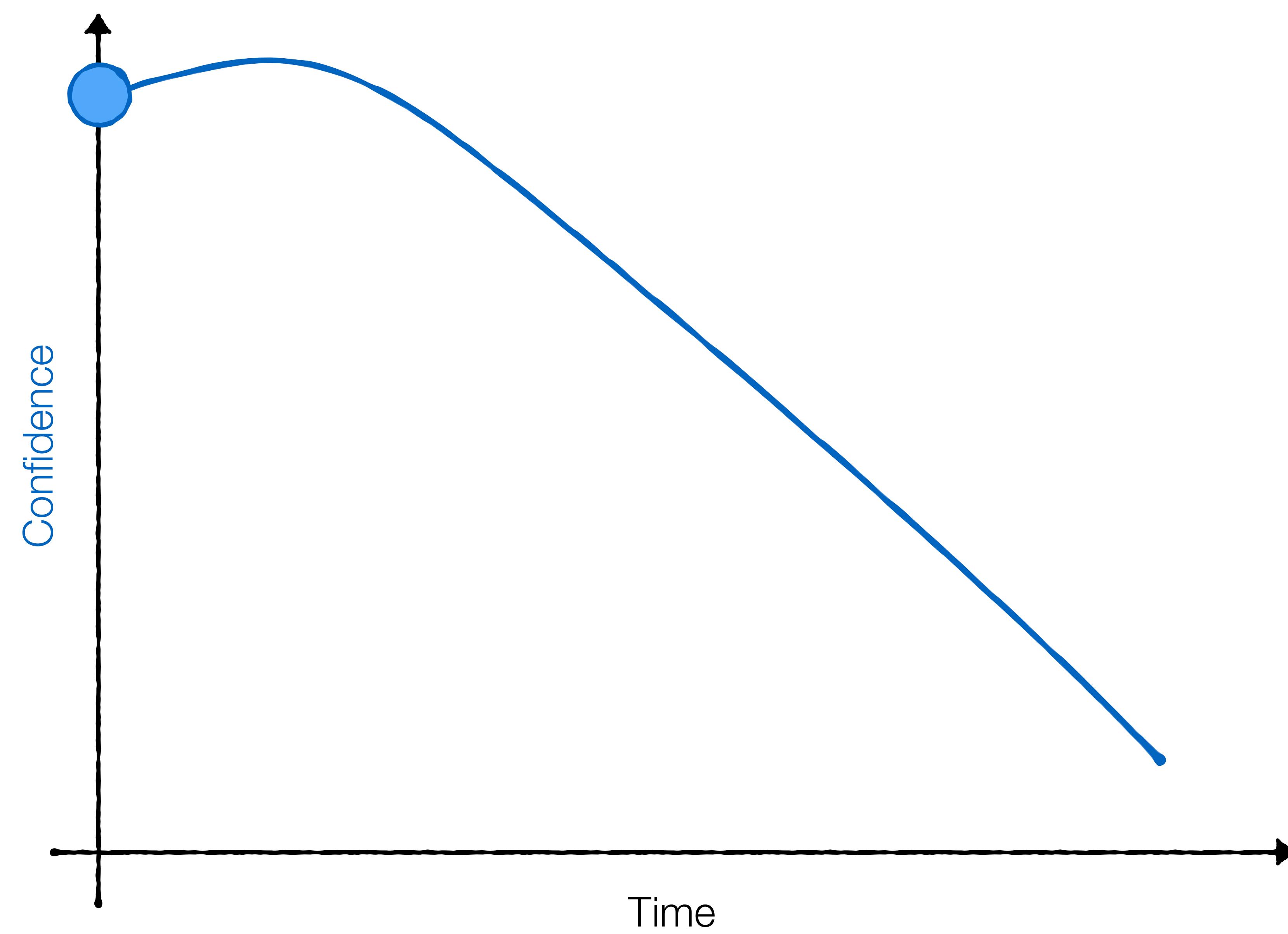
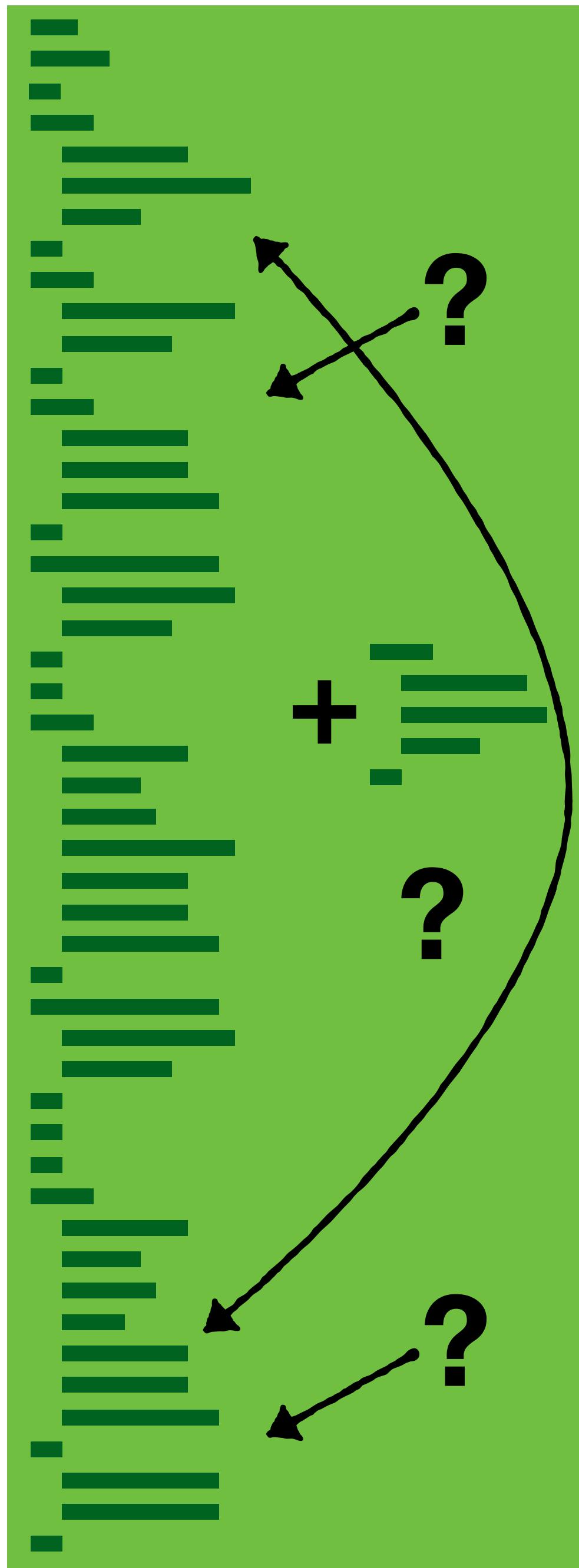


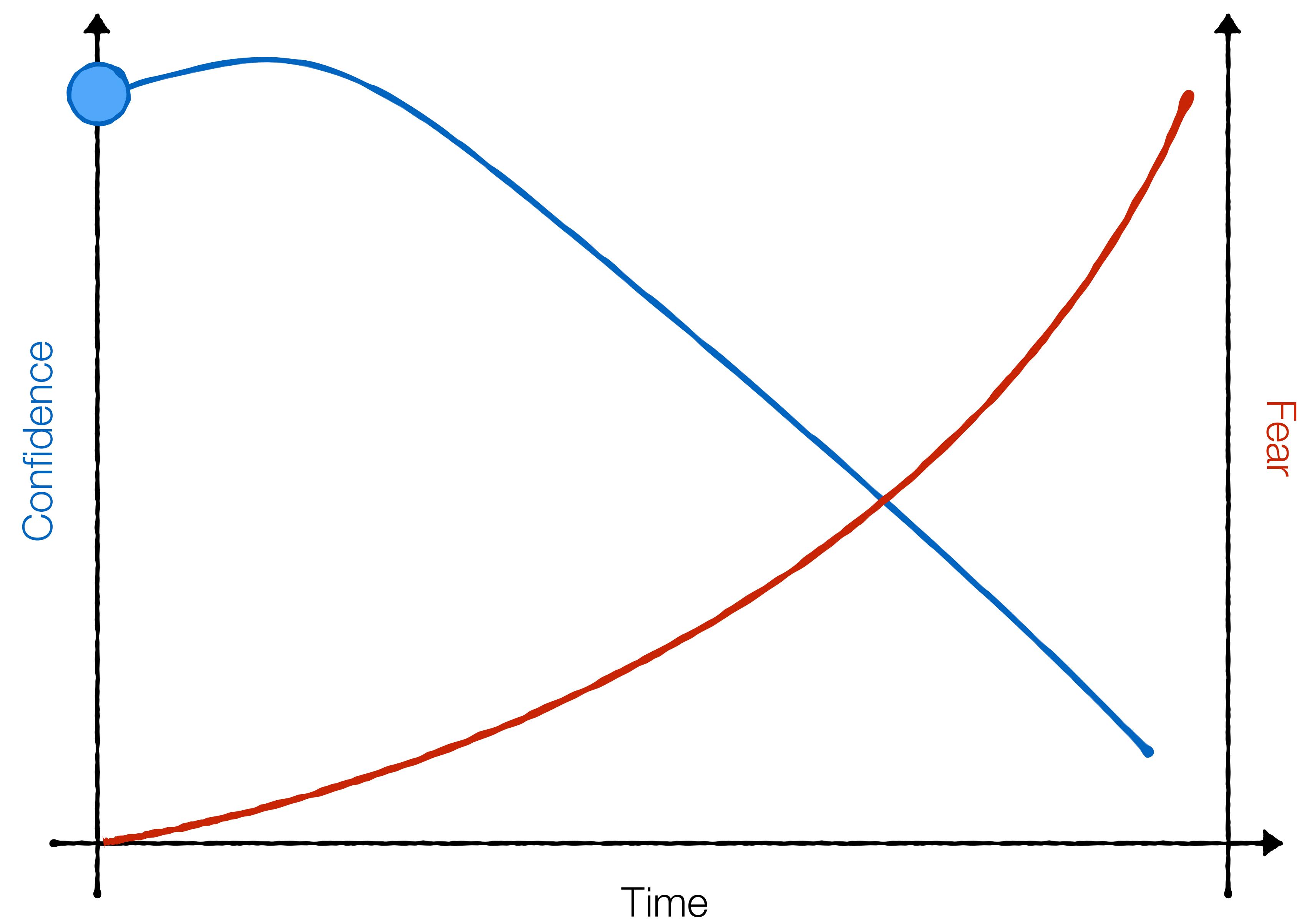




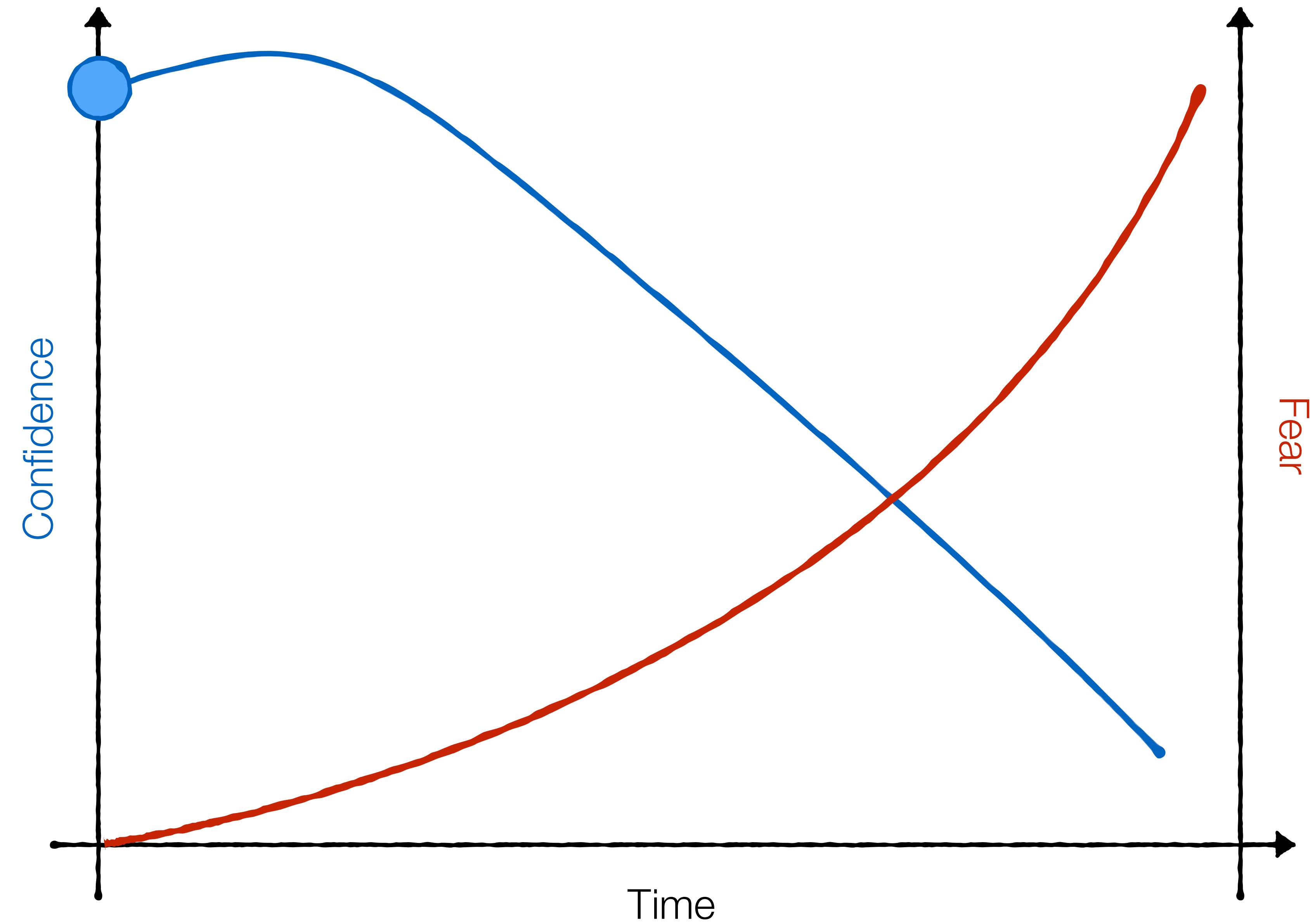






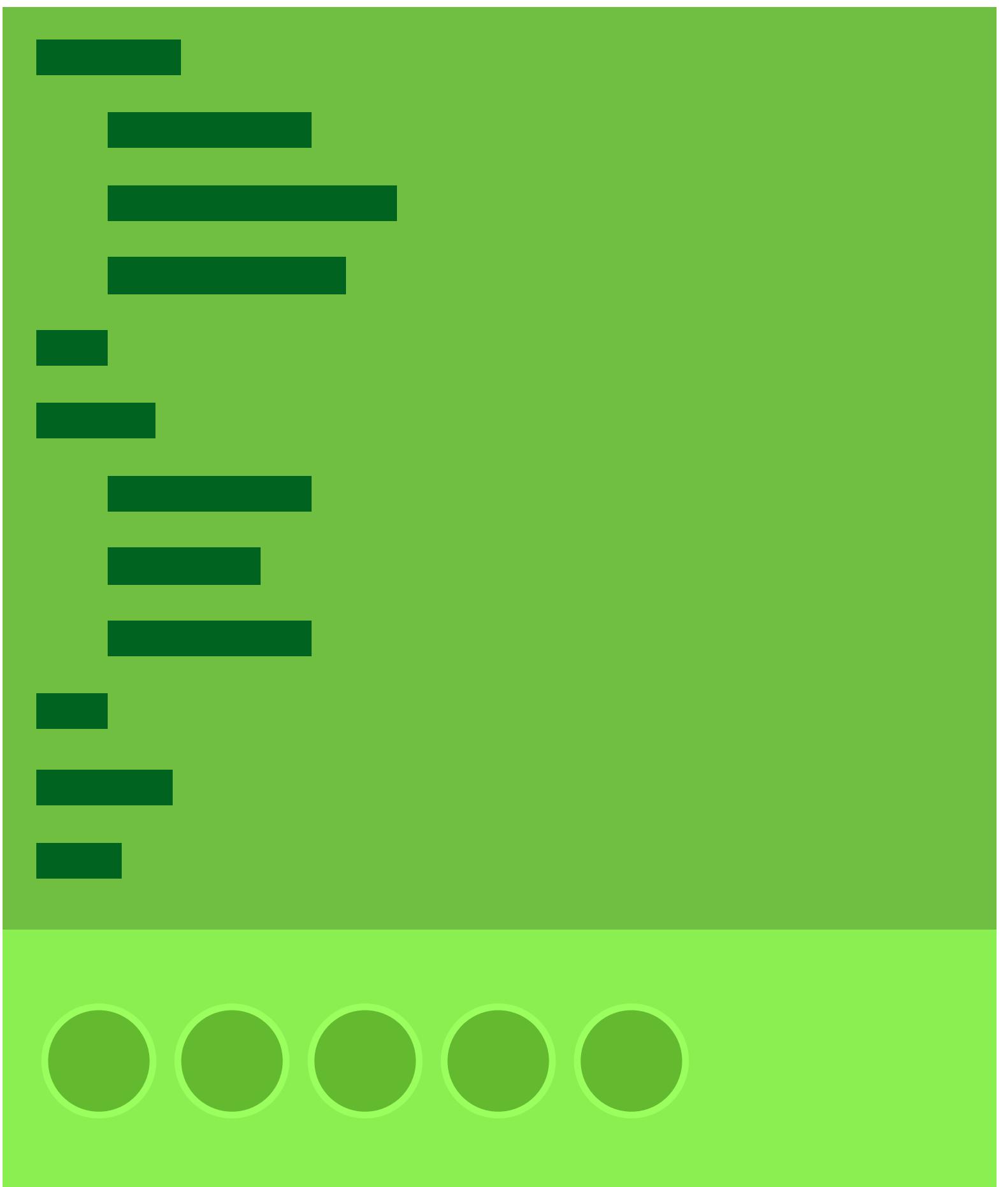


This
SUCKS

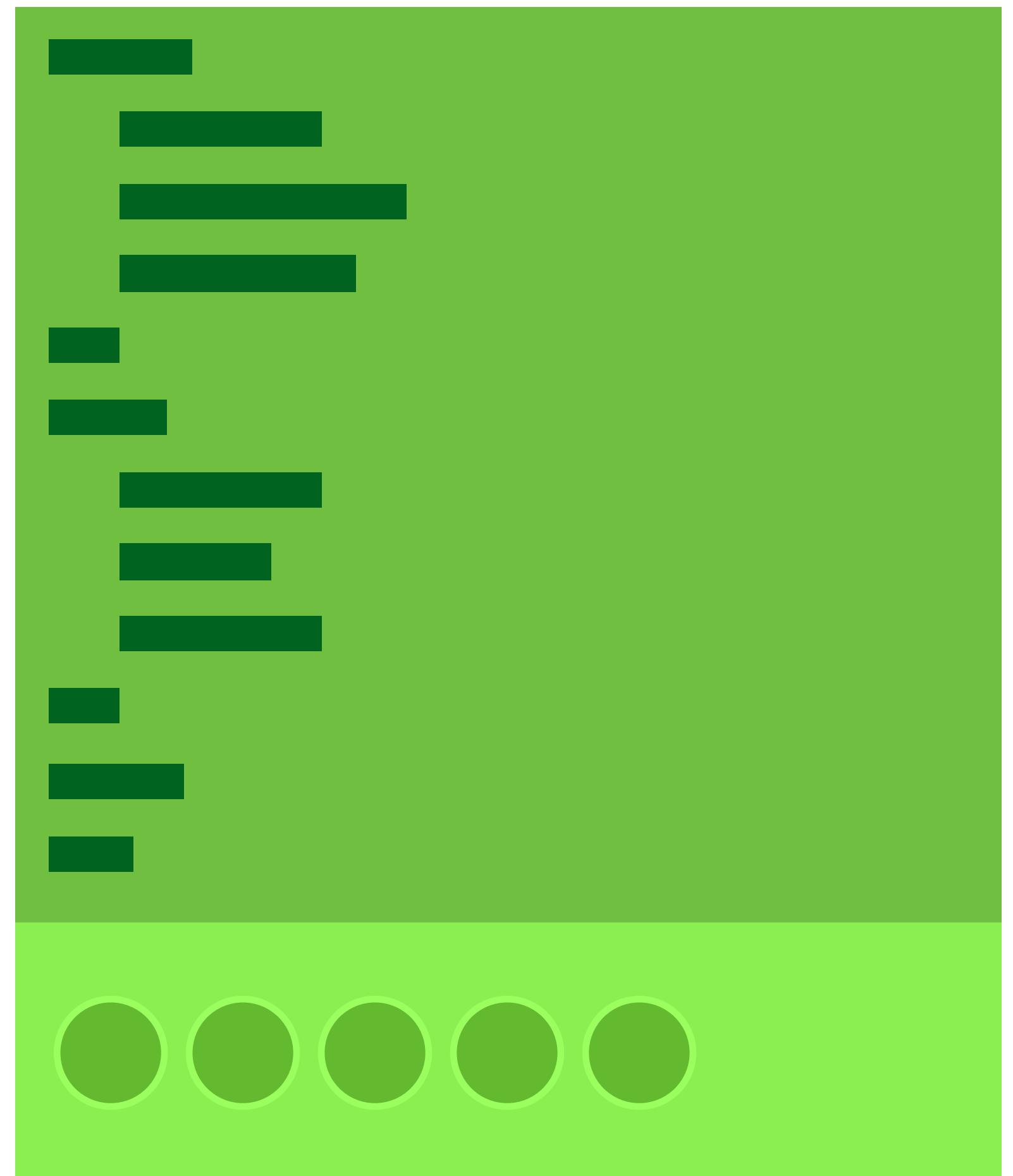


There is a better way...

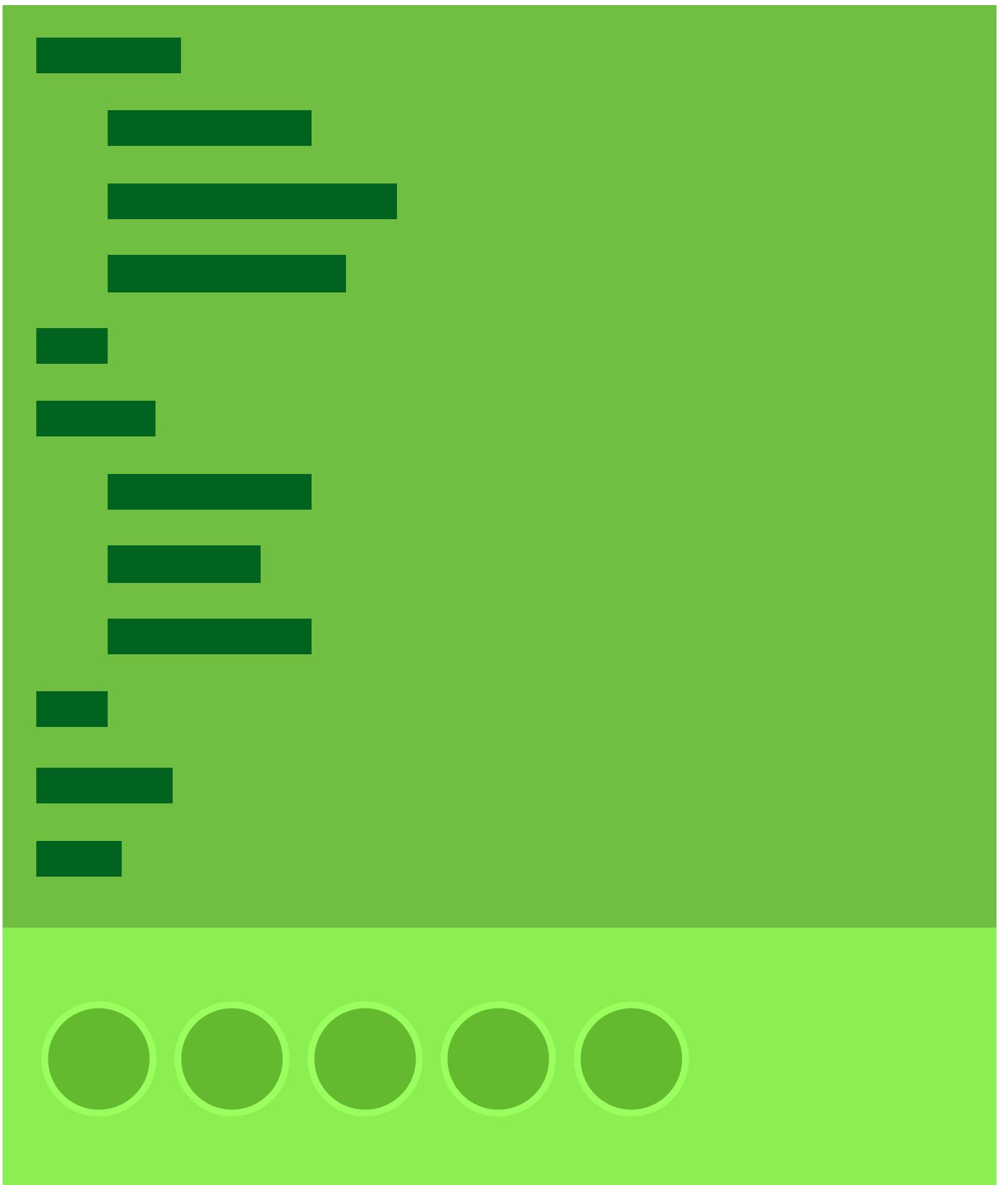
Automated tests!



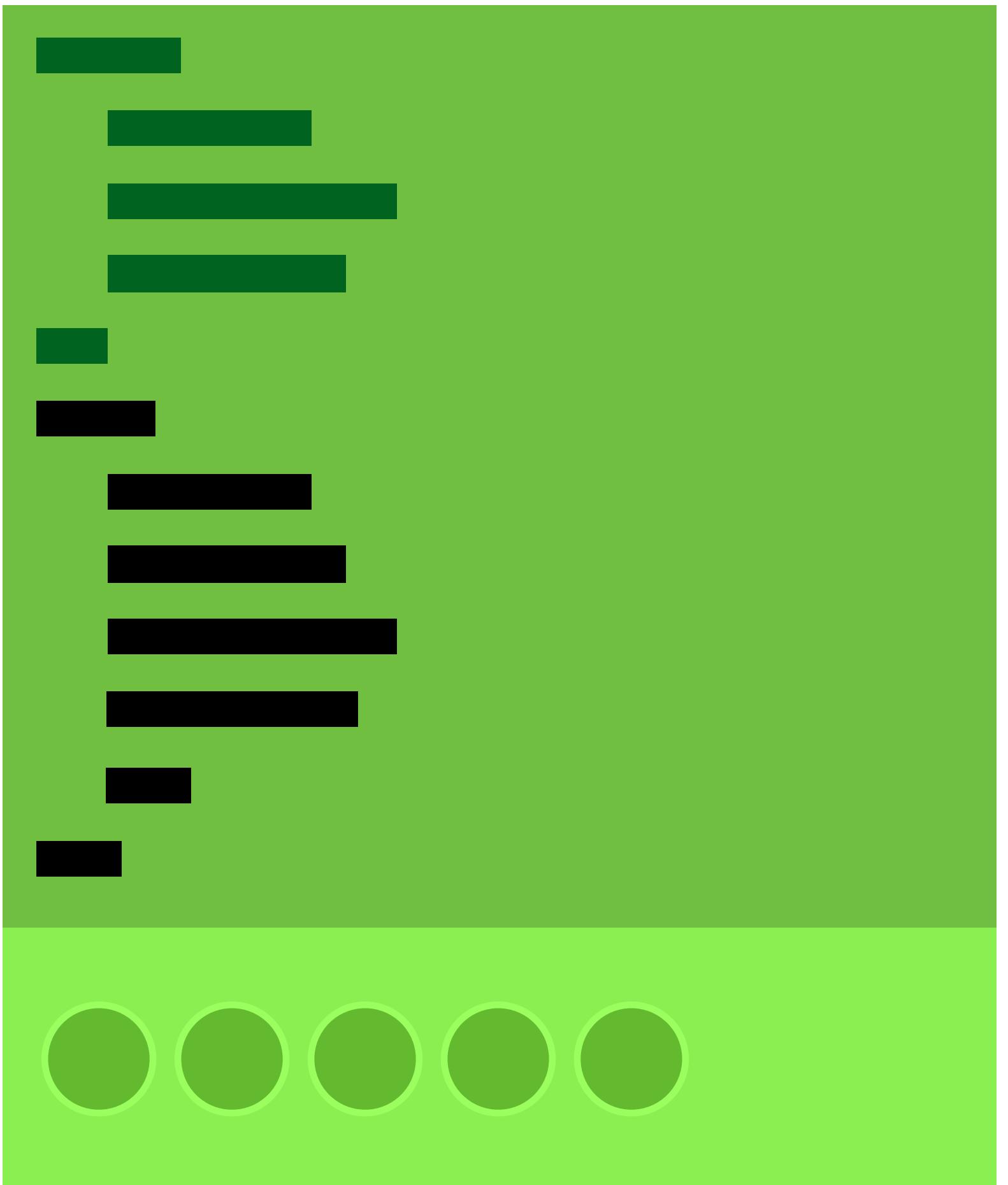
Automated tests!
Guarantee your code works



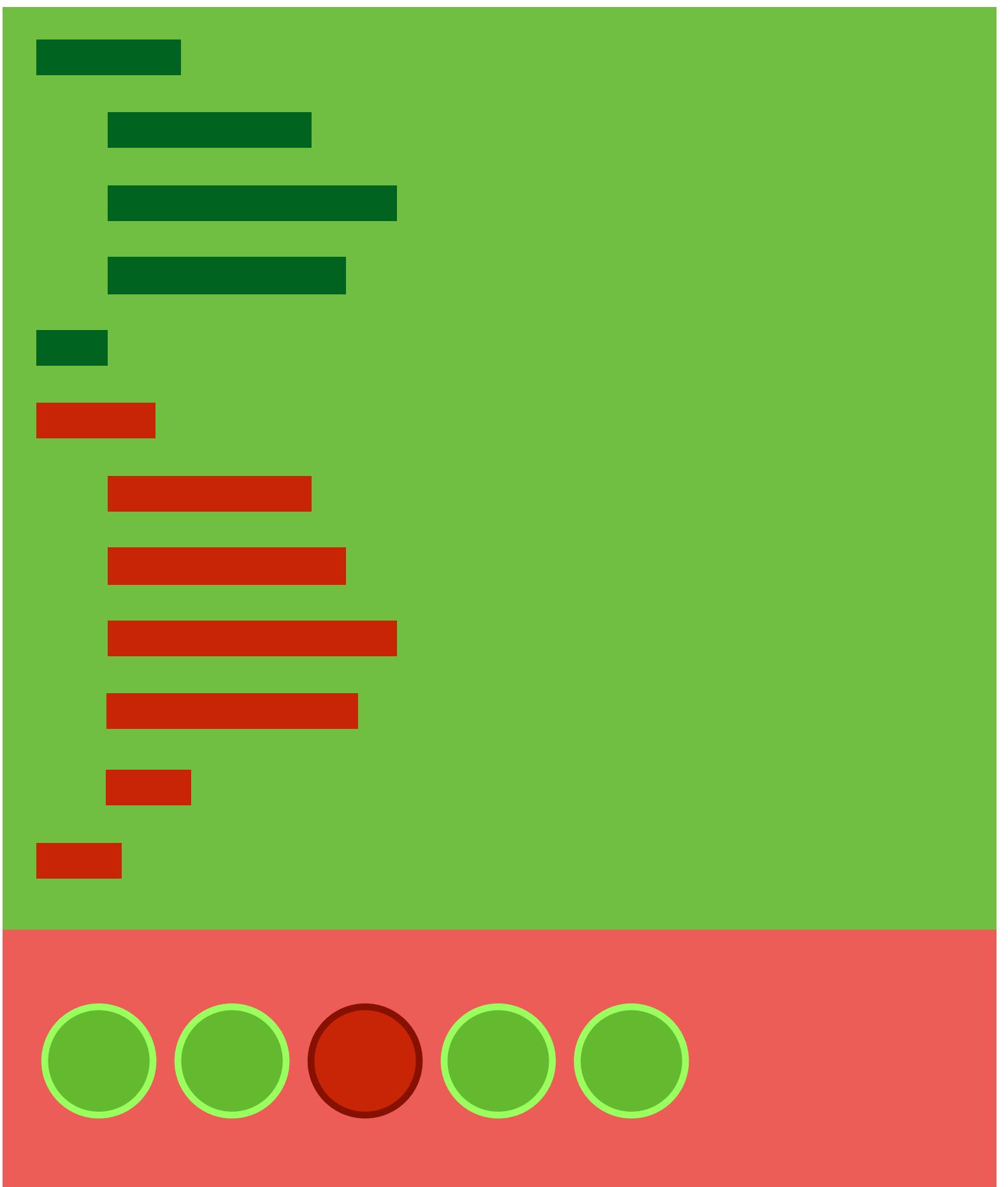
Automated tests!
Guarantee your code works
...as you refactor



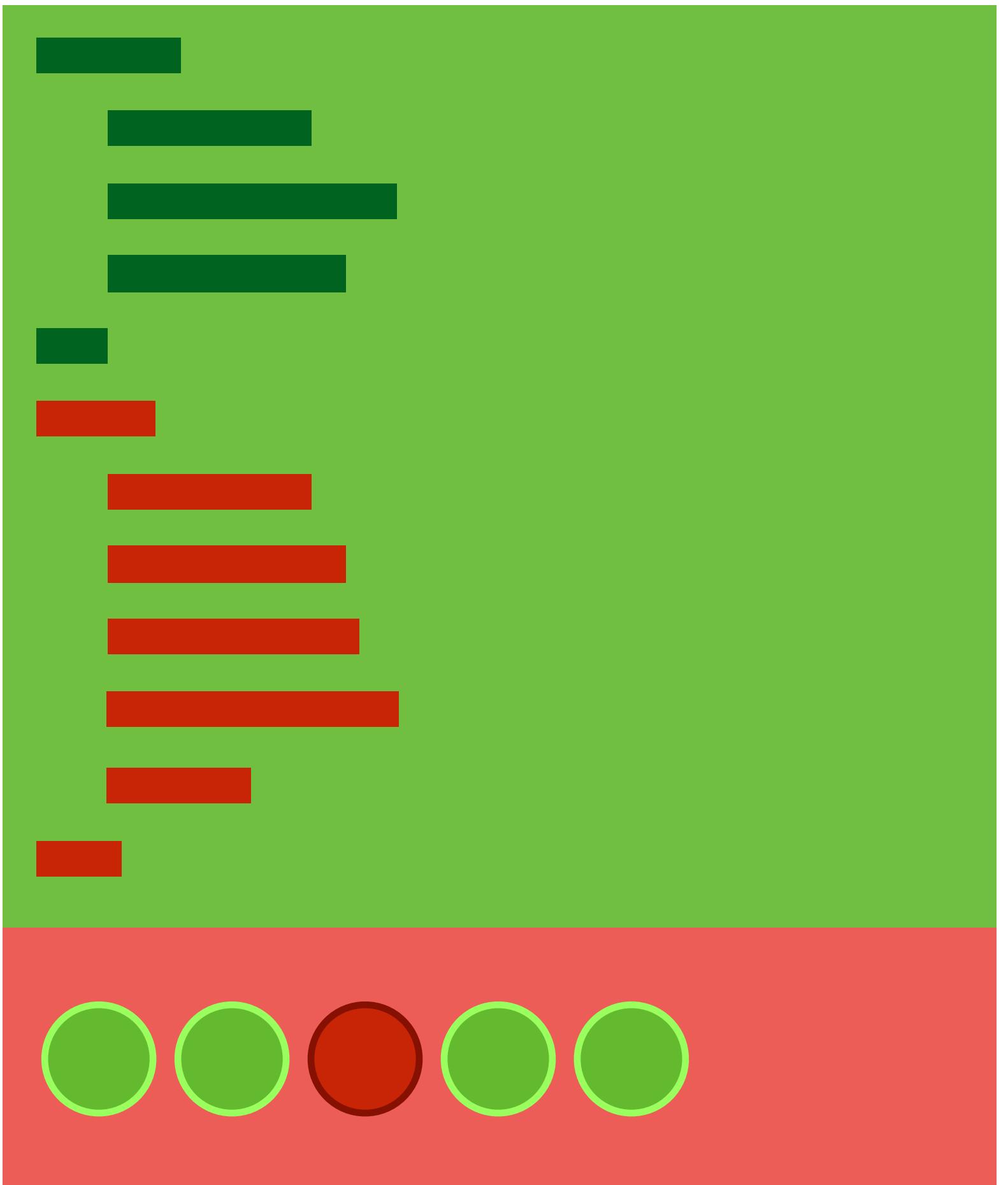
Automated tests!
Guarantee your code works
...as you refactor



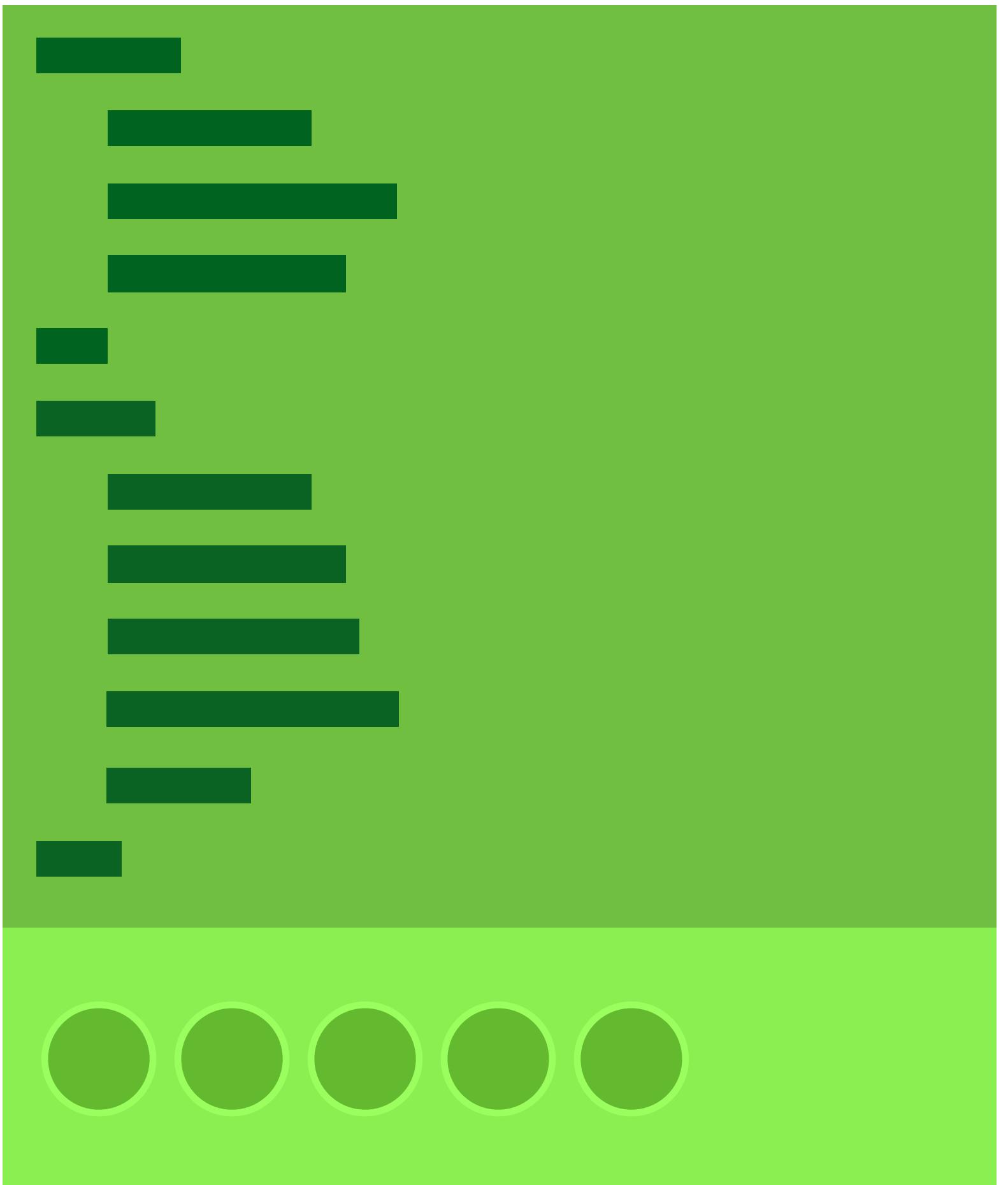
Automated tests!
Guarantee your code works
...as you refactor



Automated tests!
Guarantee your code works
...as you refactor



Automated tests!
Guarantee your code works
...as you refactor

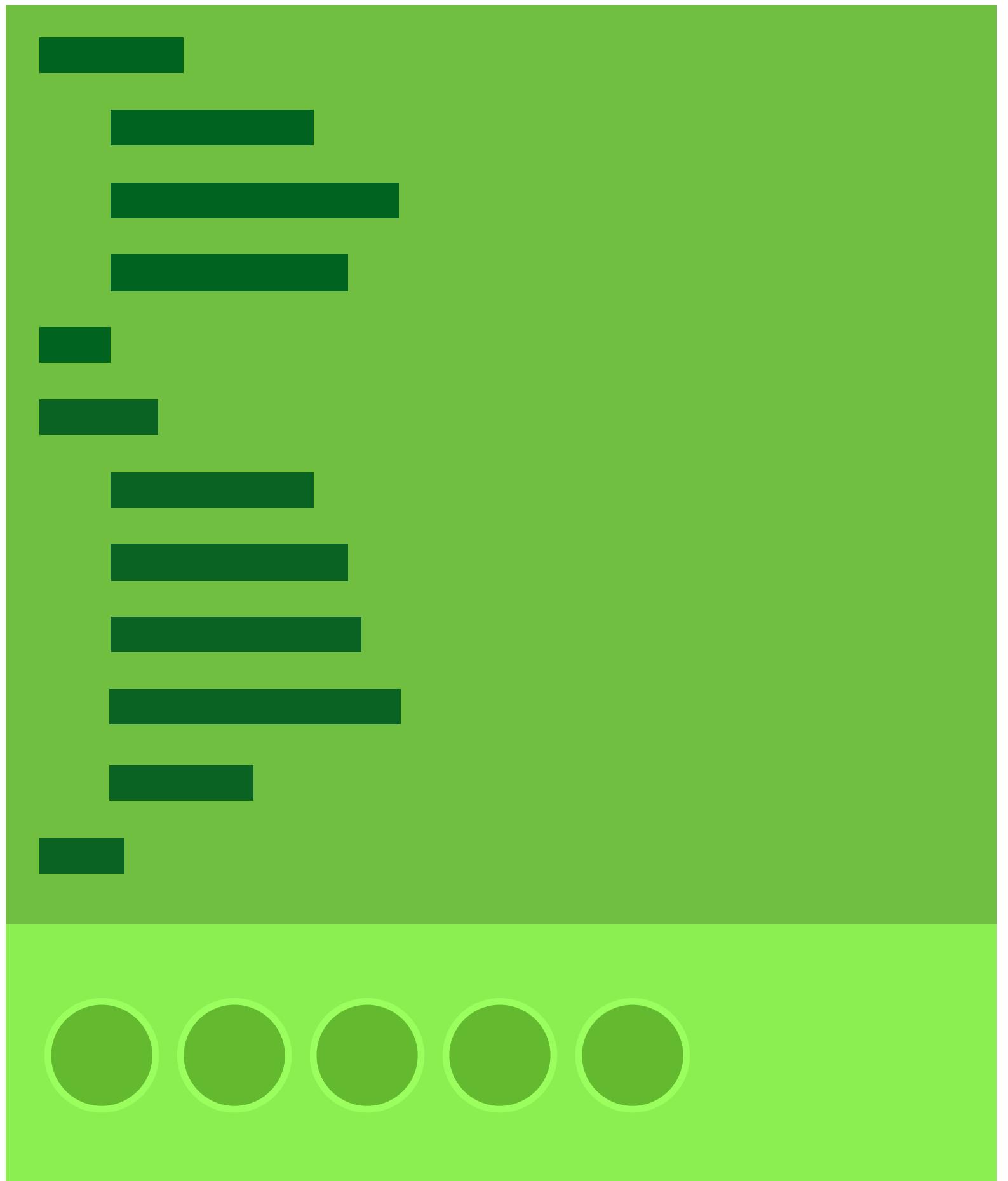


Automated tests!

Guarantee your code works

...as you refactor

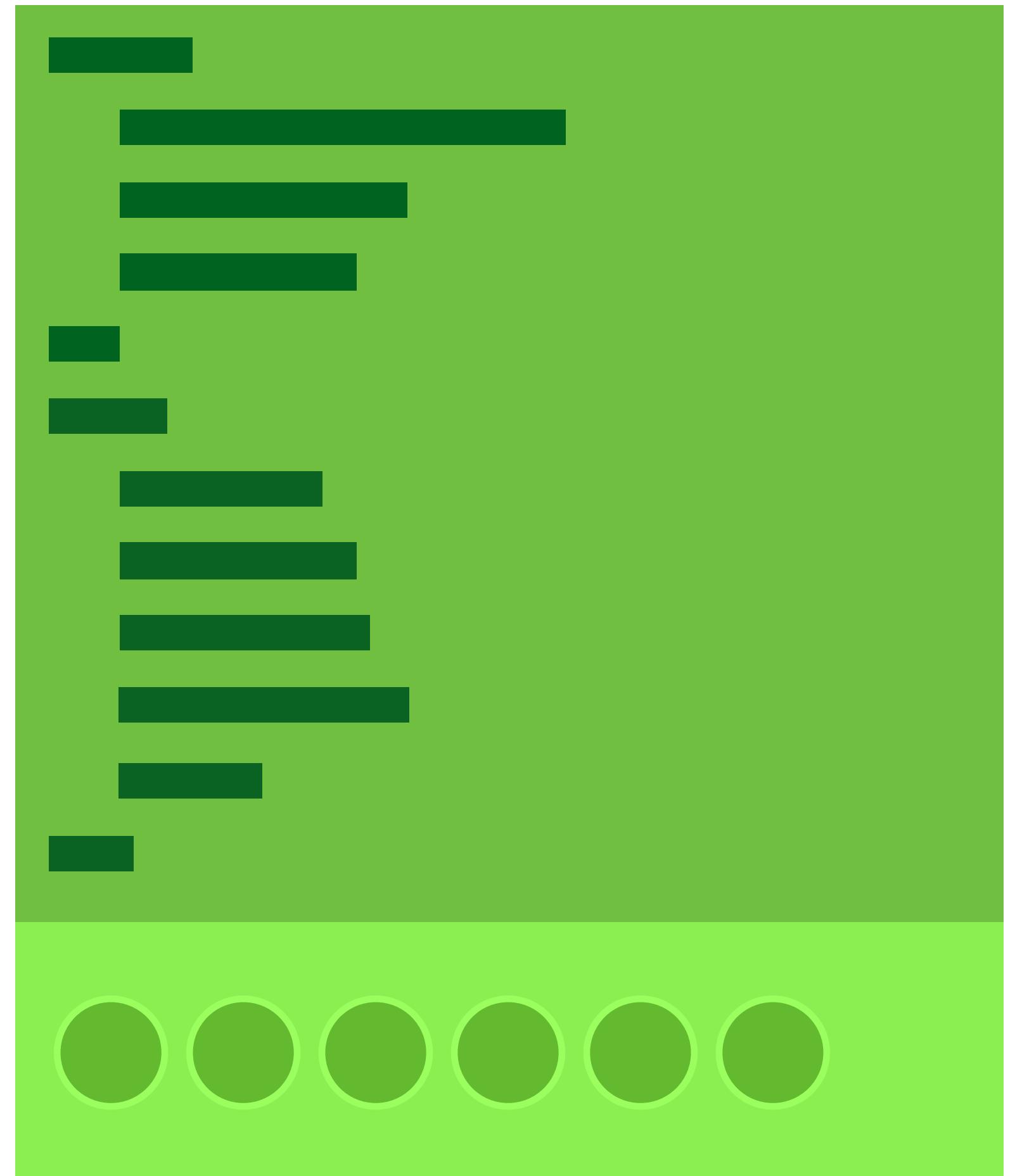
...as you add new features



Automated tests!

Guarantee your code works
...as you refactor

...as you add new features



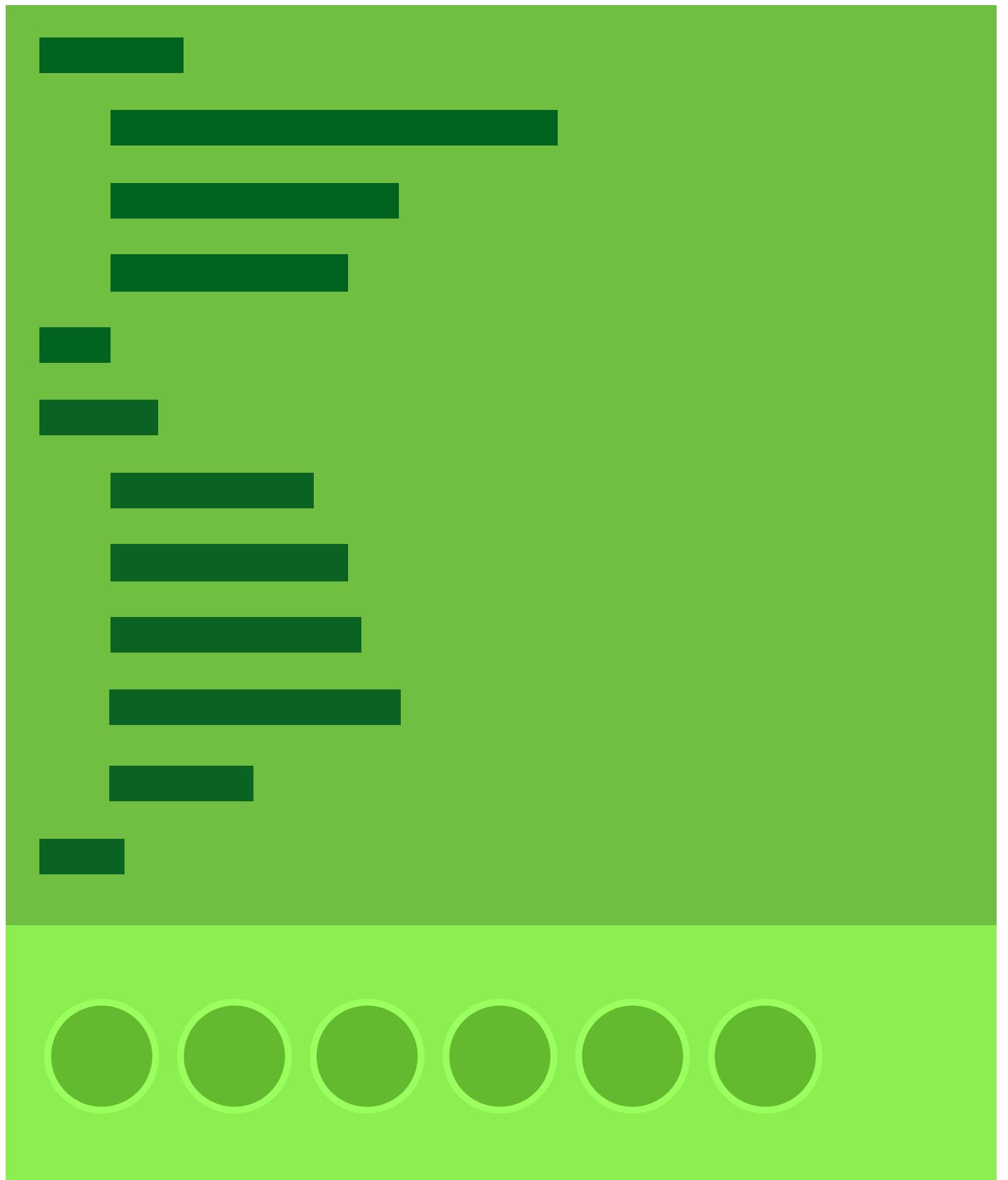
Automated tests!

Guarantee your code works

...as you refactor

...as you add new features

...as you fix bugs



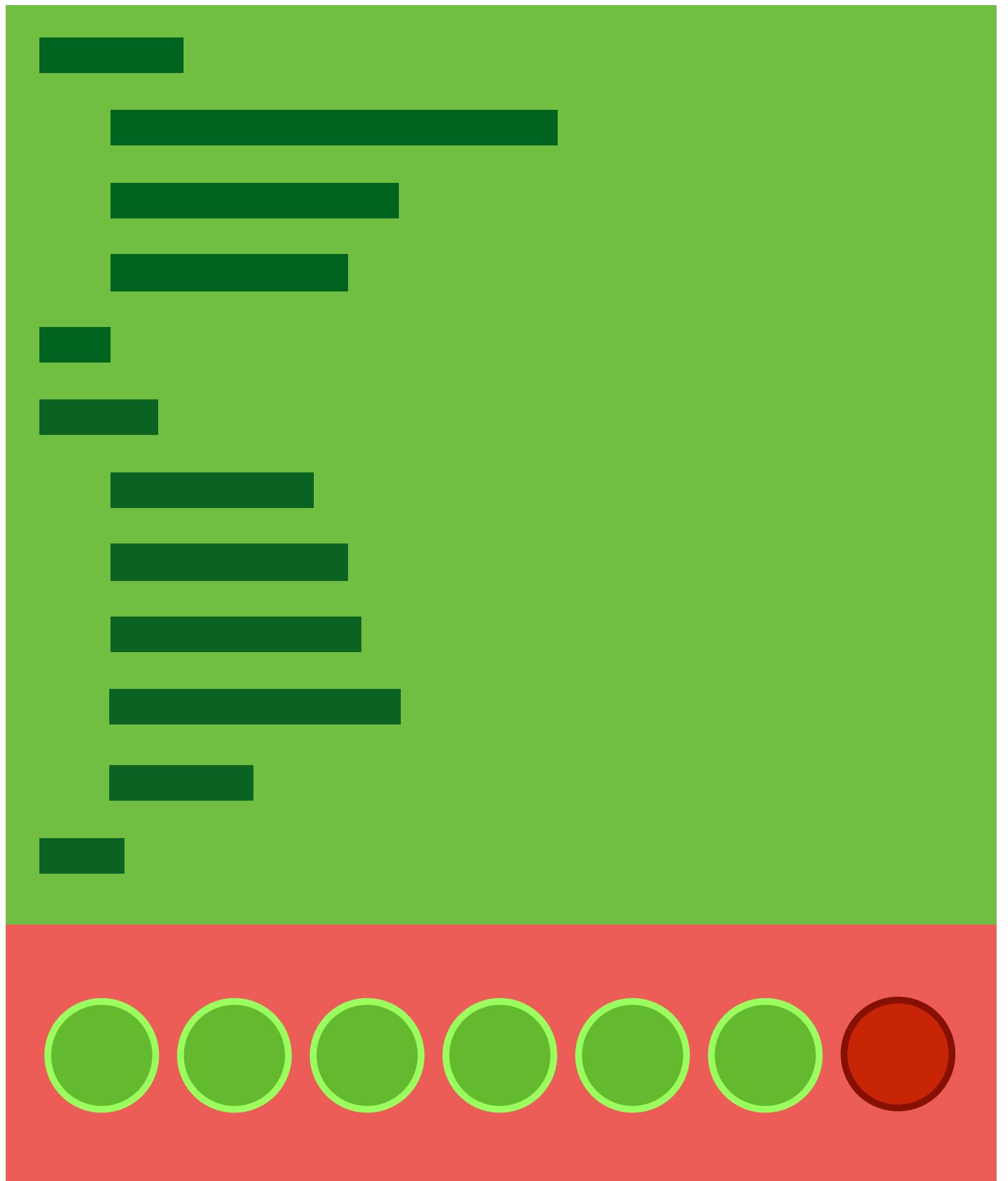
Automated tests!

Guarantee your code works

...as you refactor

...as you add new features

...as you fix bugs



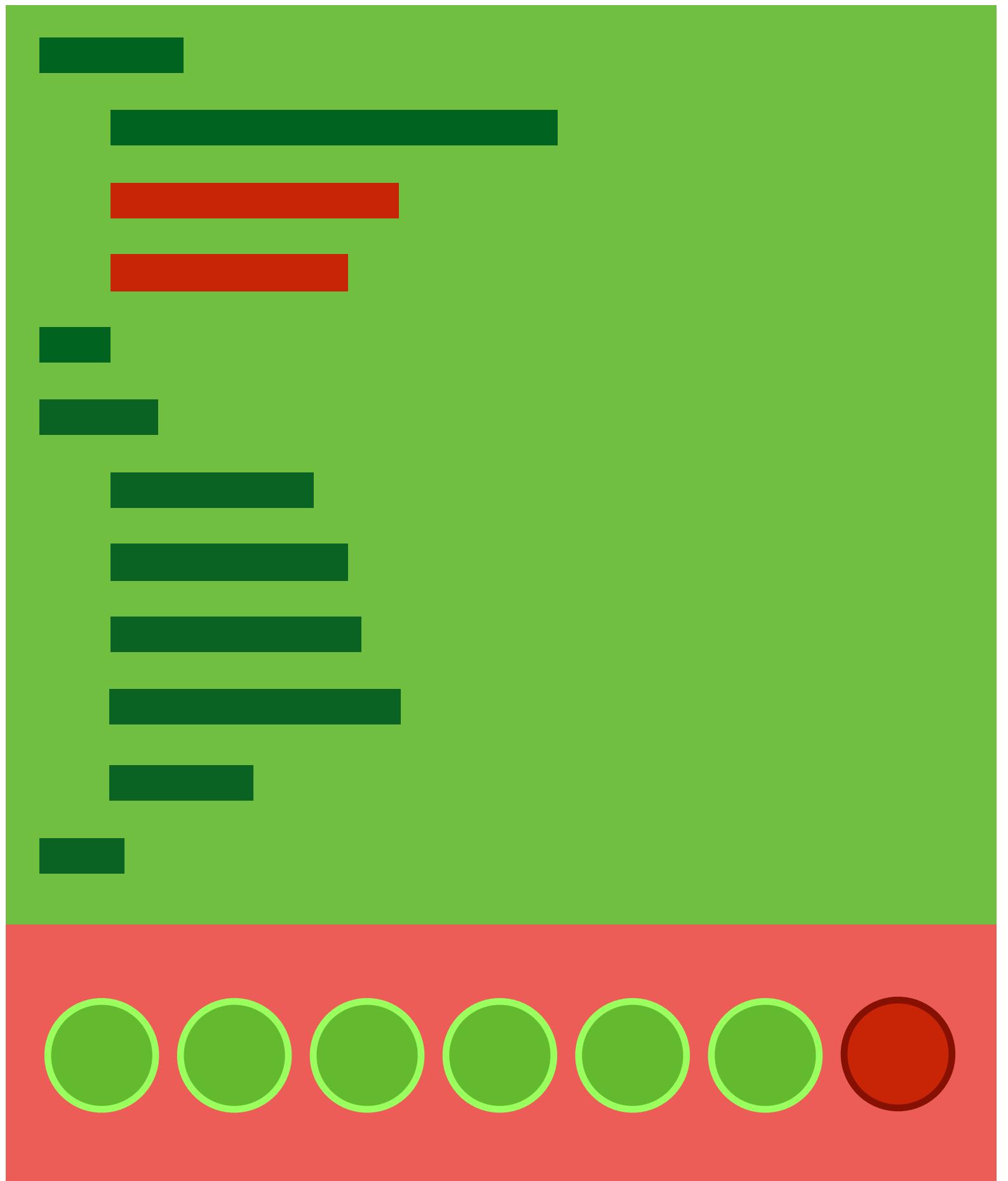
Automated tests!

Guarantee your code works

...as you refactor

...as you add new features

...as you fix bugs



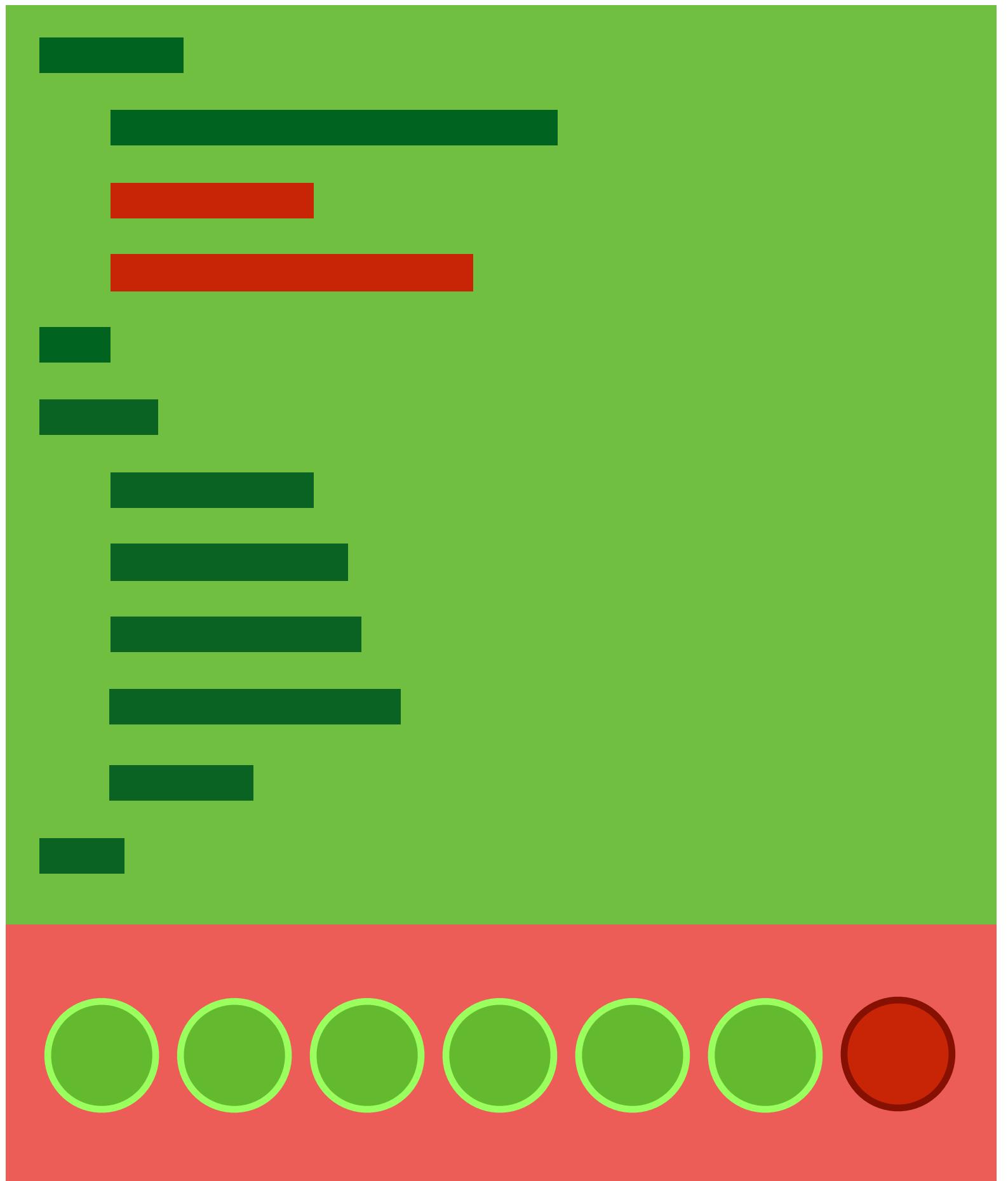
Automated tests!

Guarantee your code works

...as you refactor

...as you add new features

...as you fix bugs



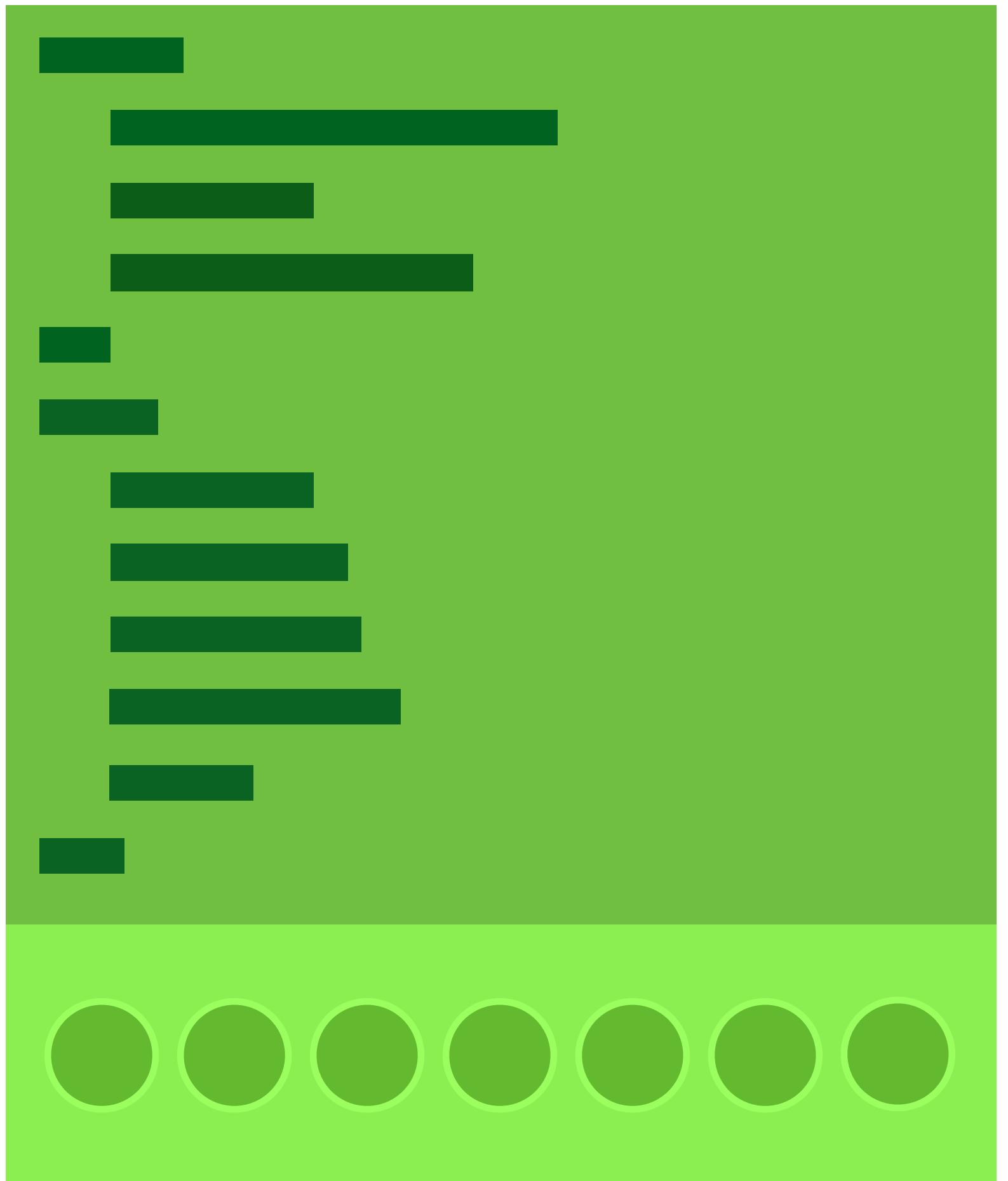
Automated tests!

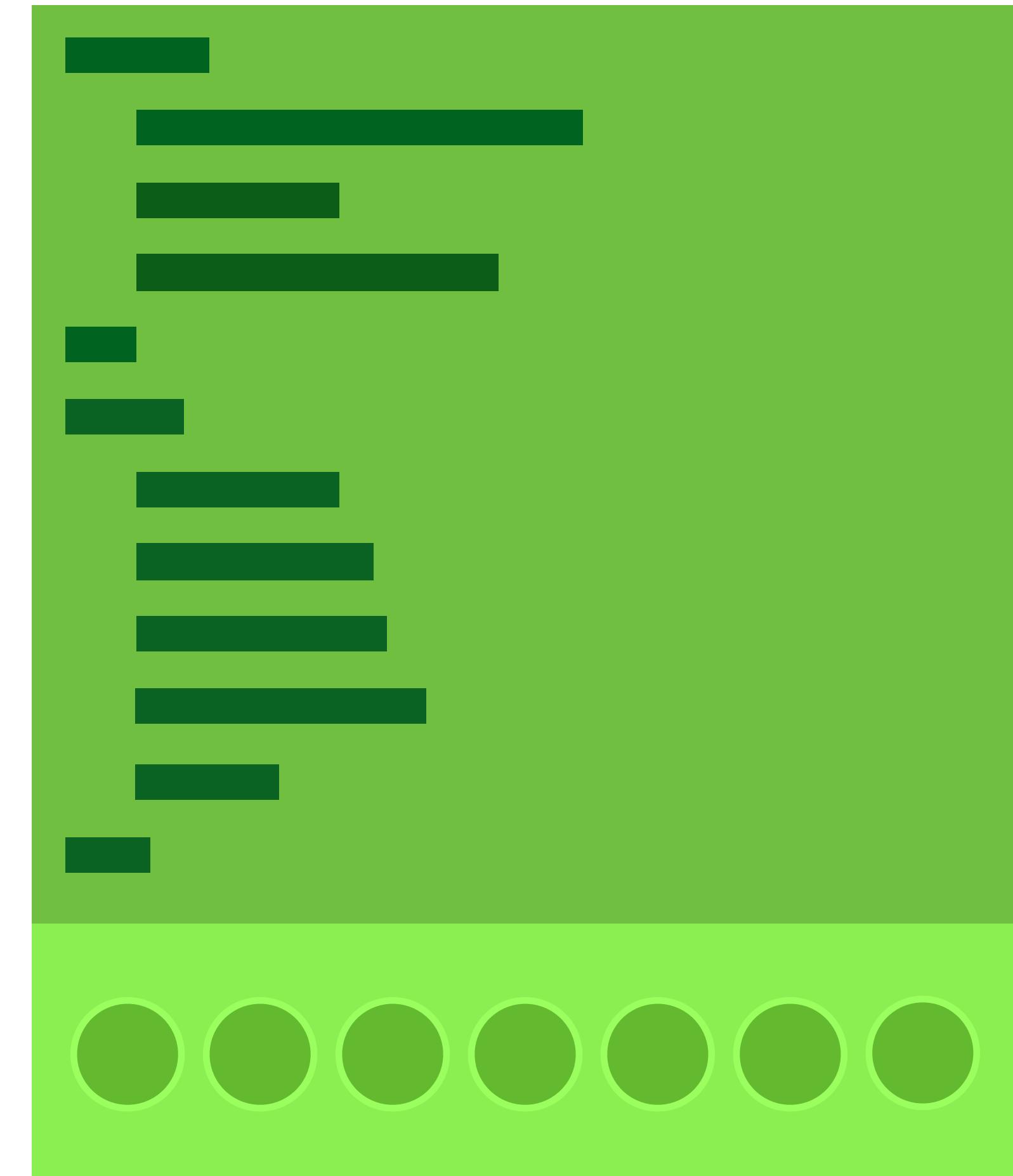
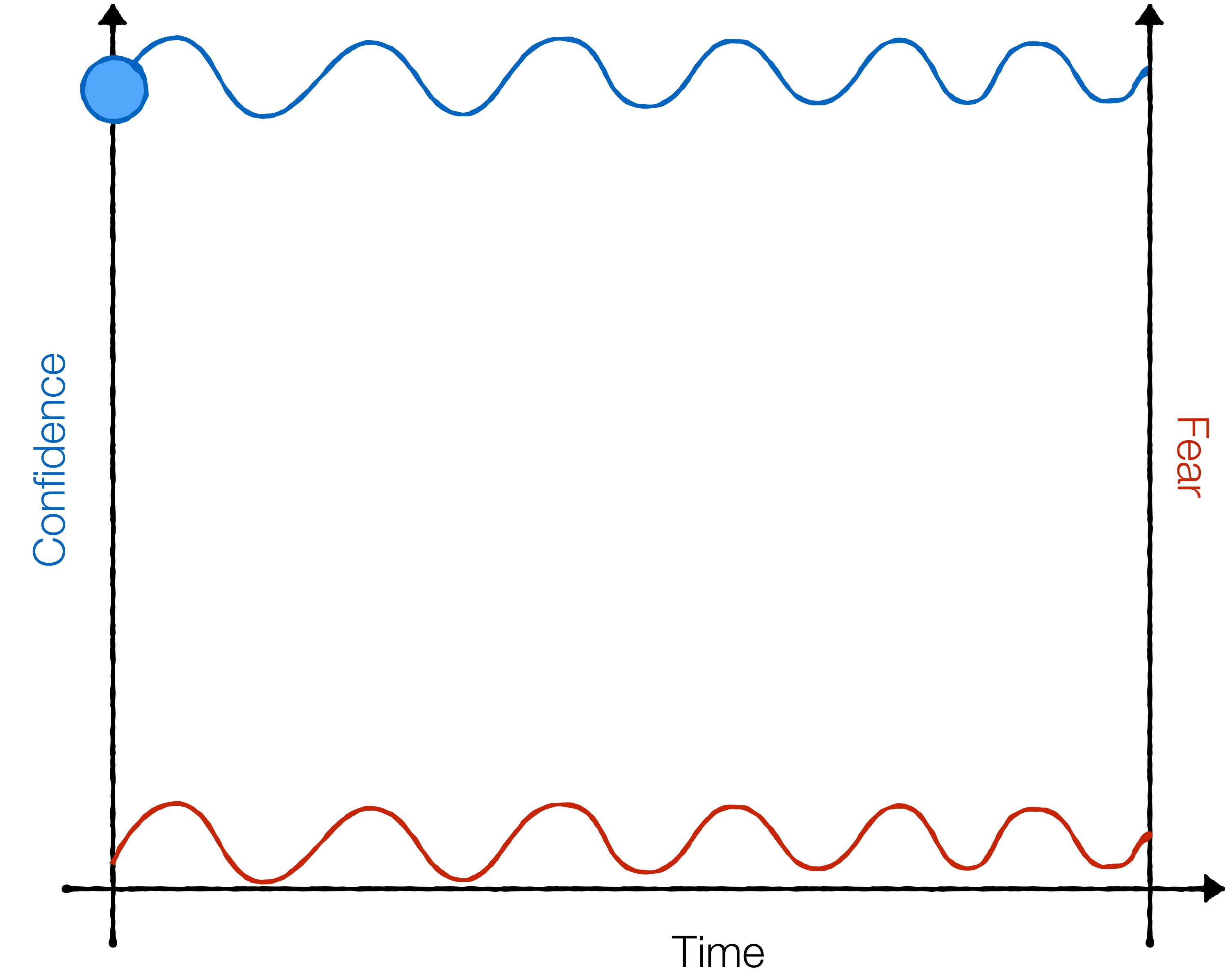
Guarantee your code works

...as you refactor

...as you add new features

...as you fix bugs





Testing

PivotalTM

TDD: Test-Driven-Development

TDD: Test-Driven-Development

=

Testing

TDD: Test-Driven-Development

=

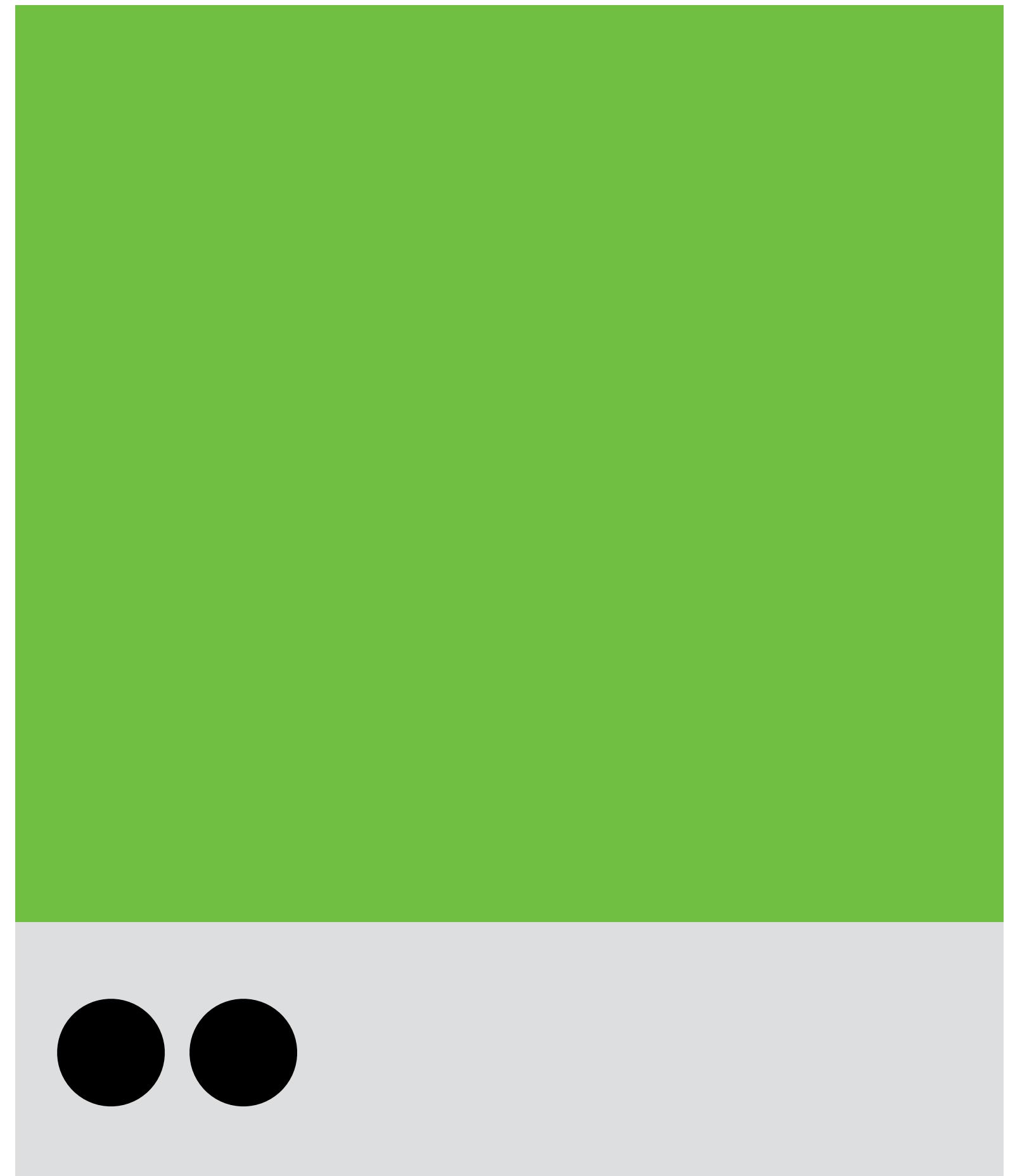
Testing

+

Discipline

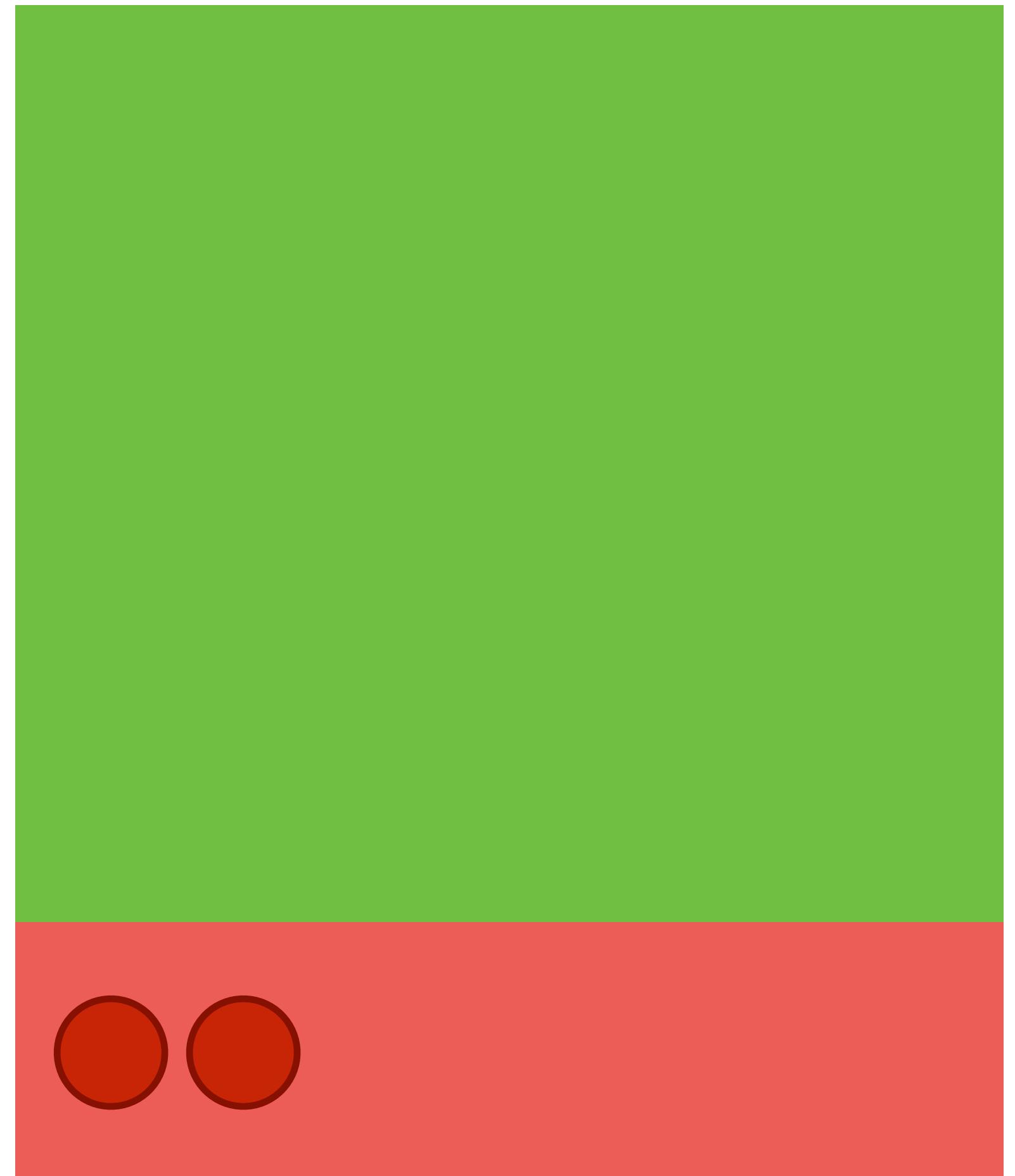
TDD Cycle

Tests



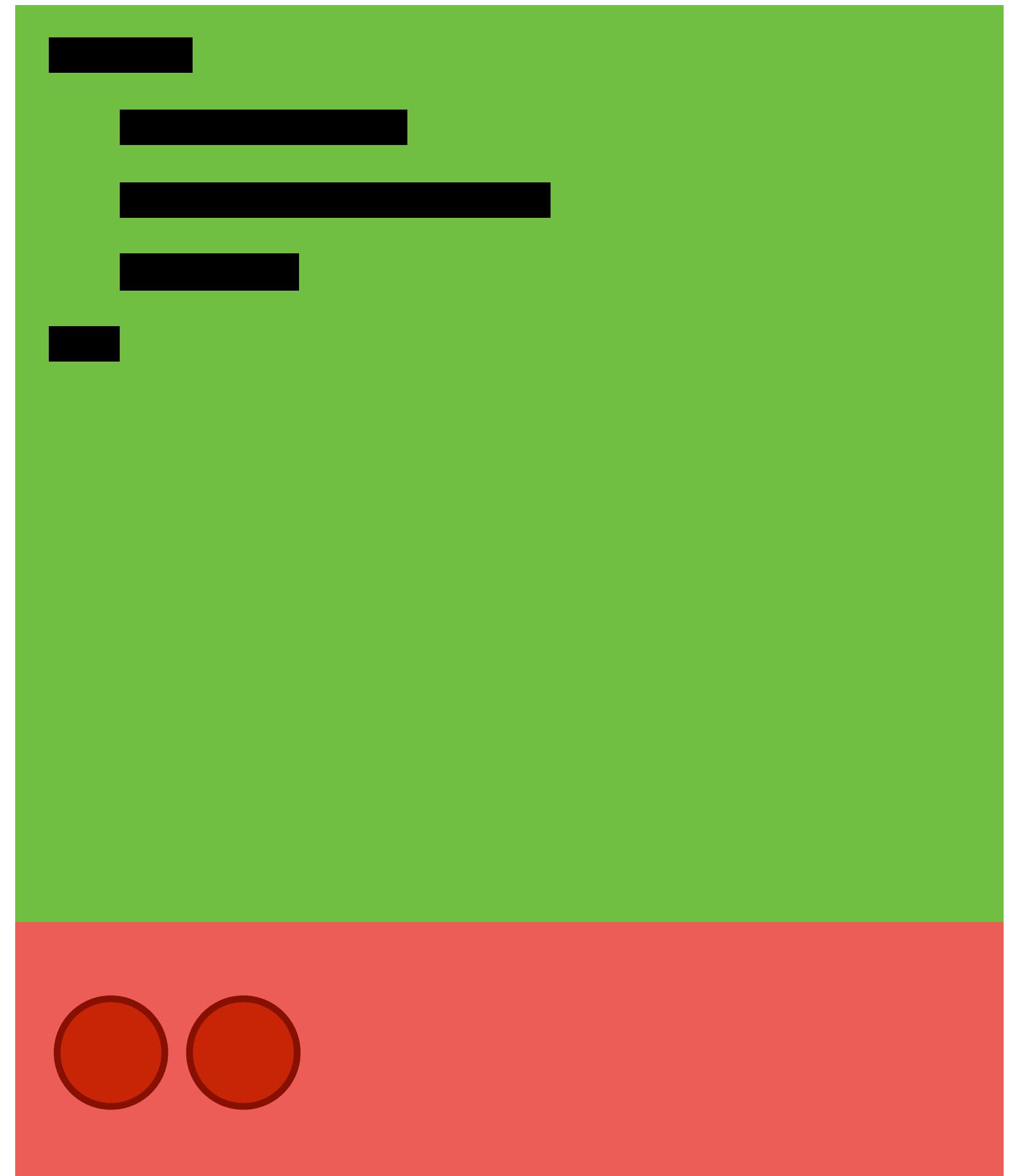
TDD Cycle

Tests, red



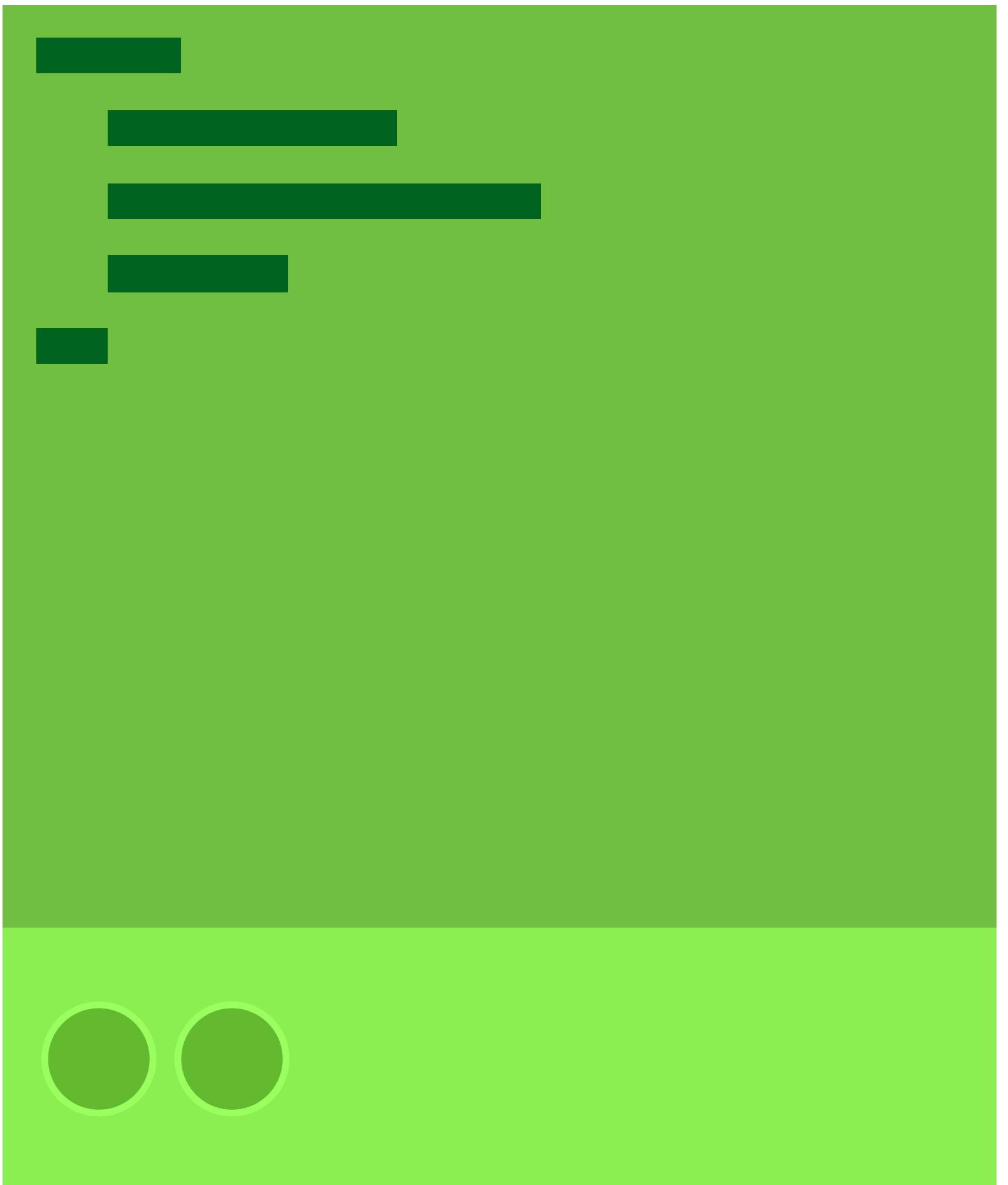
TDD Cycle

Tests, red, code



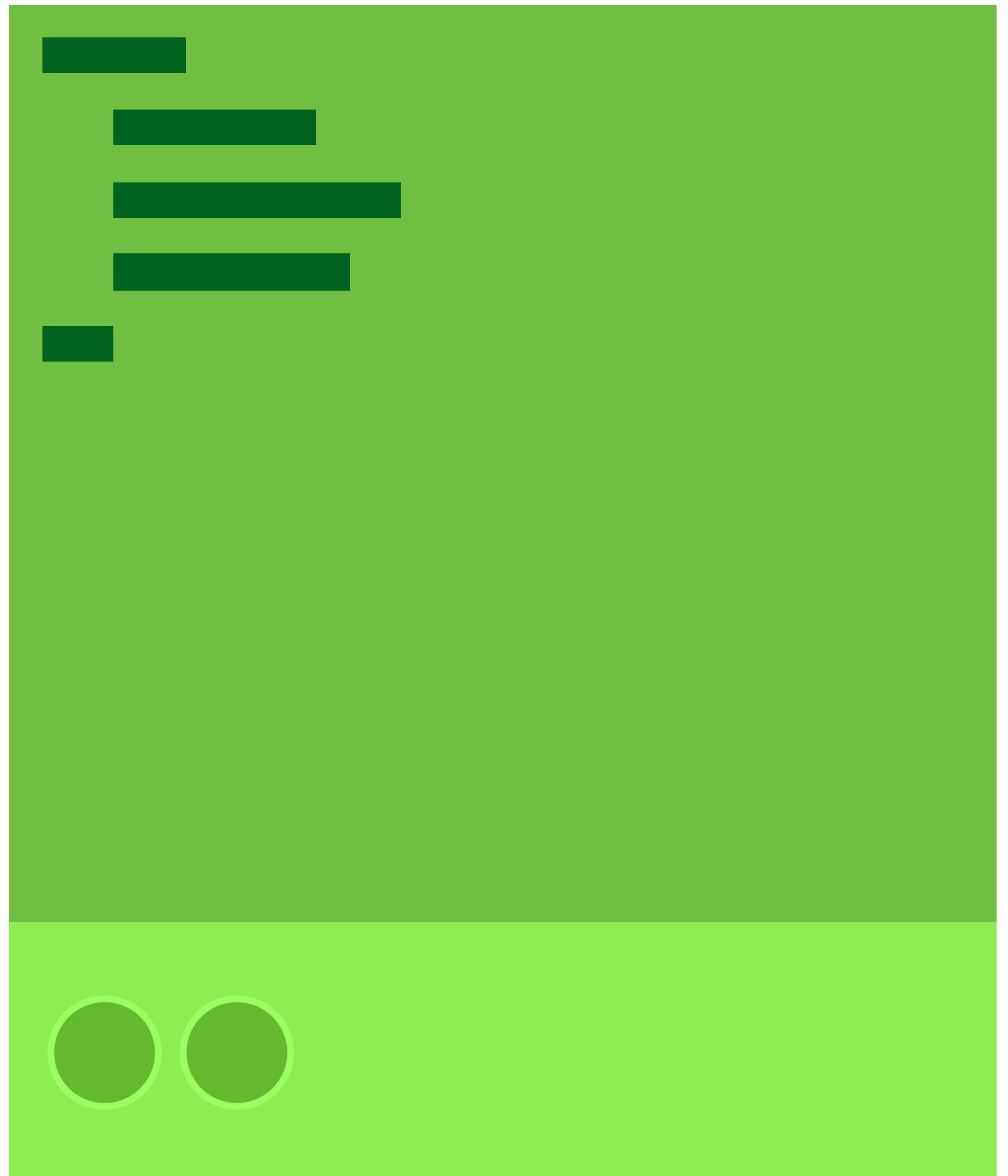
TDD Cycle

Tests, red, code, green



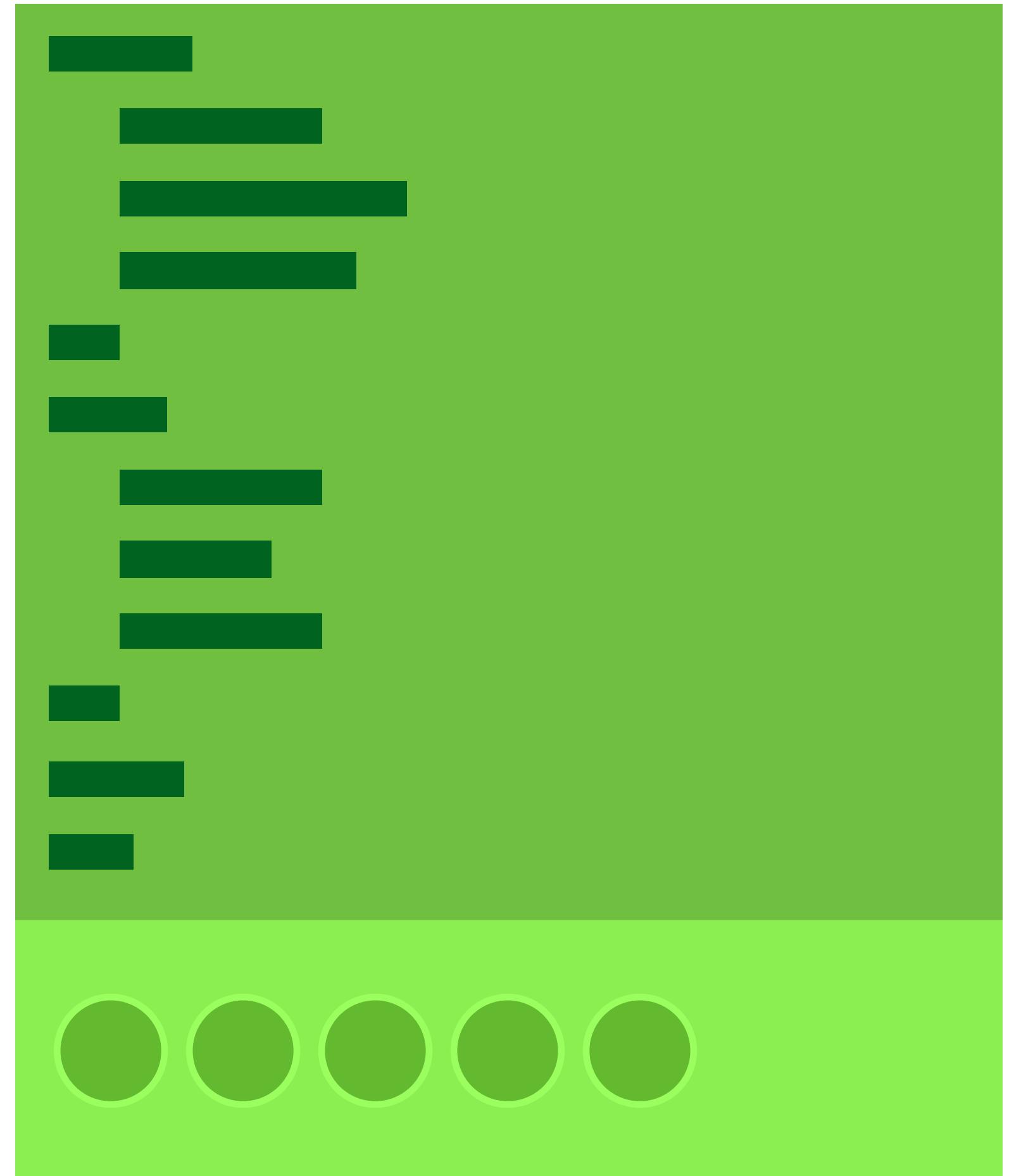
TDD Cycle

Tests, red, code, green, refactor



TDD Cycle

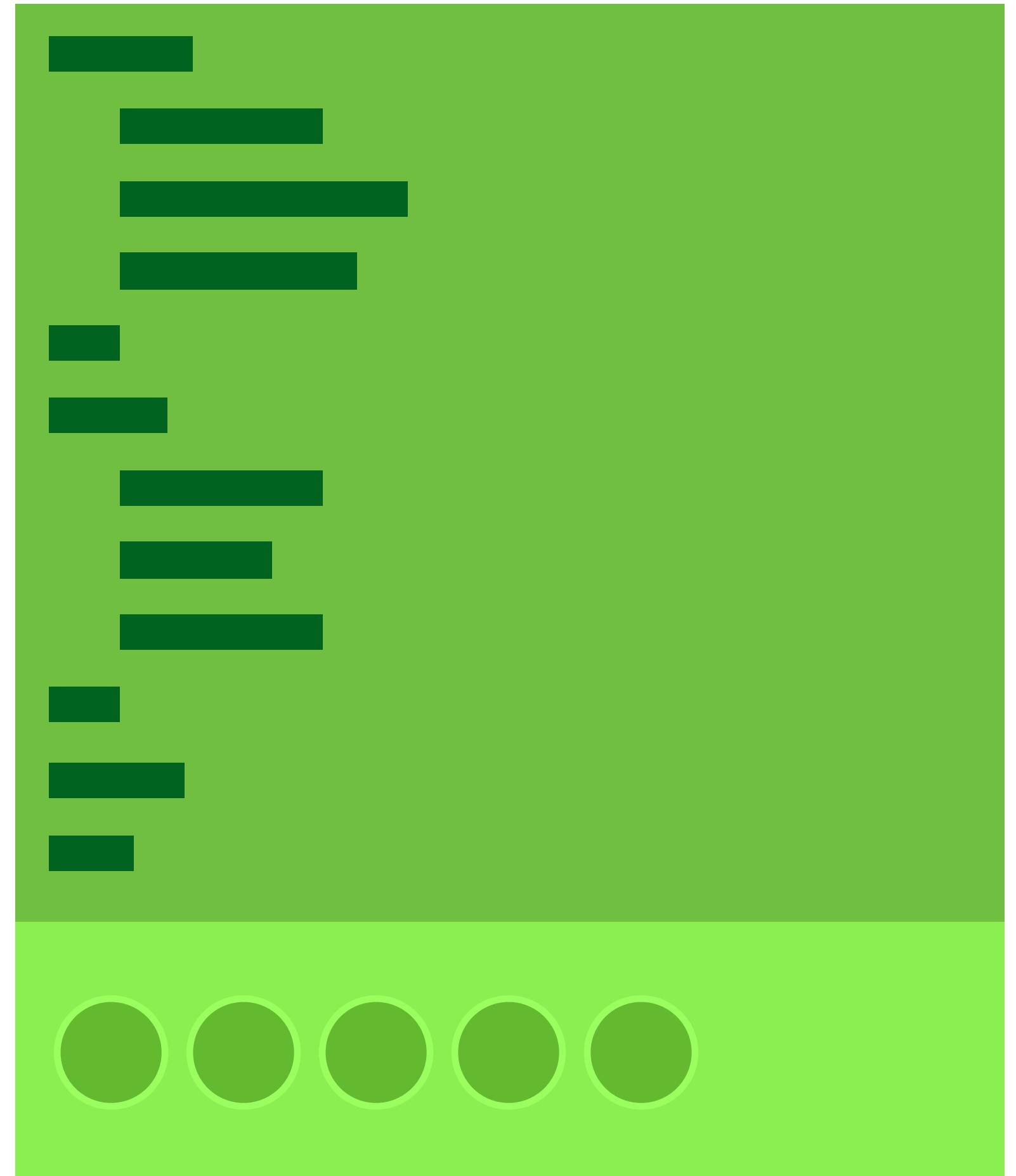
Tests, red, code, green, refactor, repeat



TDD Cycle

Tests, red, code, green, refactor, repeat

Why?

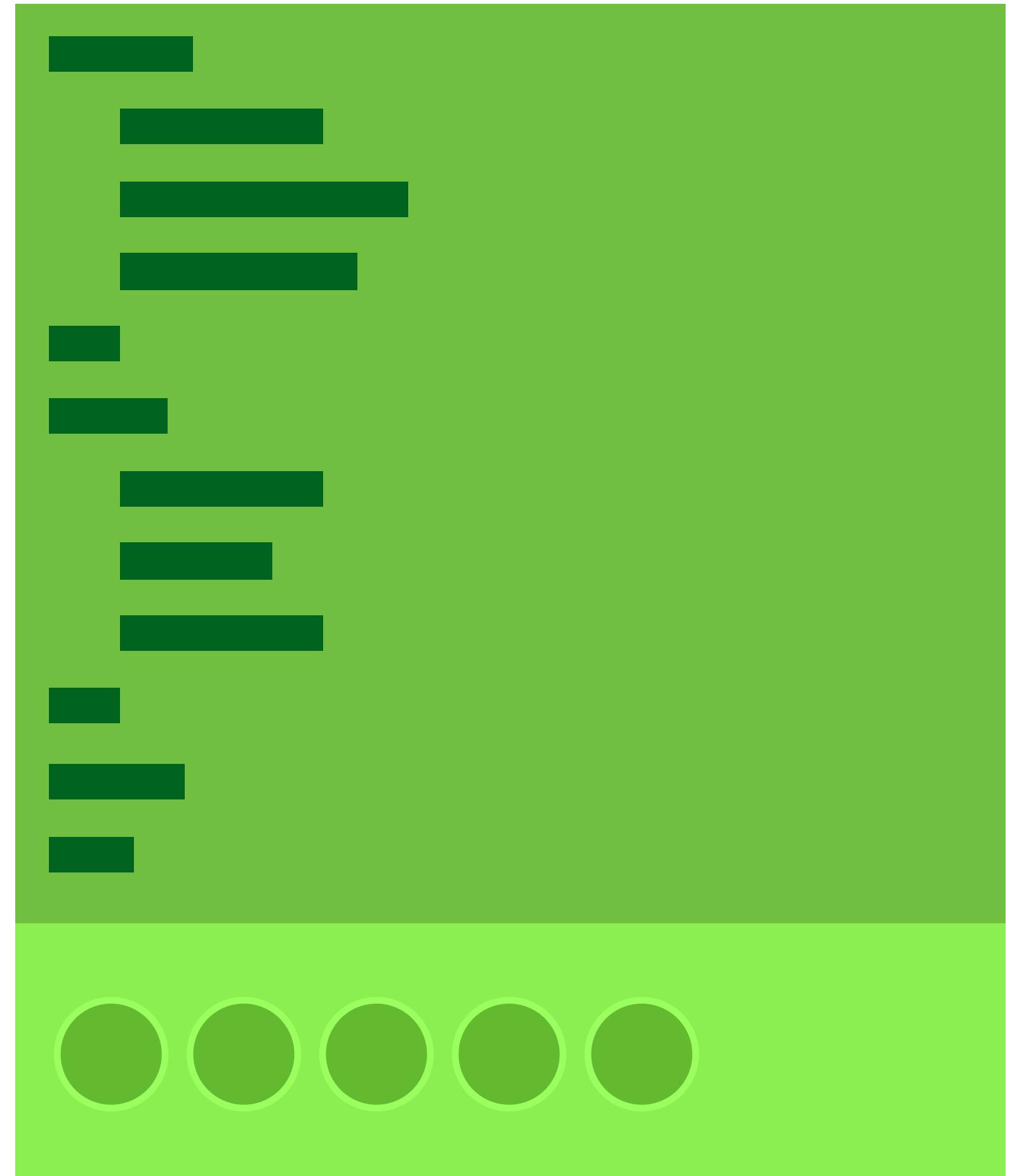


TDD Cycle

Tests, red, code, green, refactor, repeat

Why?

Test Quality

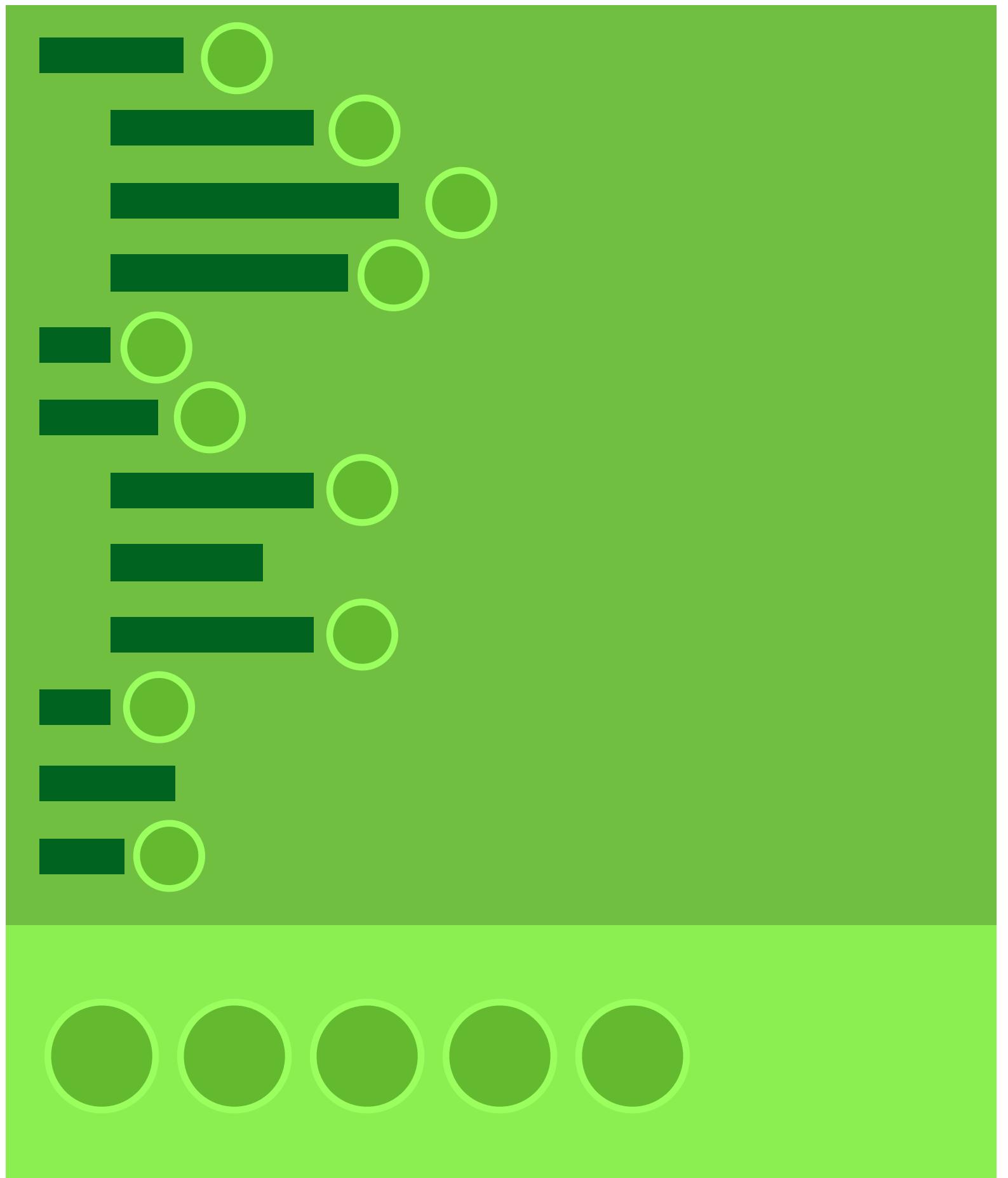


TDD Cycle

Tests, red, code, green, refactor, repeat

Why?

Test Quality
Coverage



TDD Cycle

Tests, red, code, green, refactor, repeat

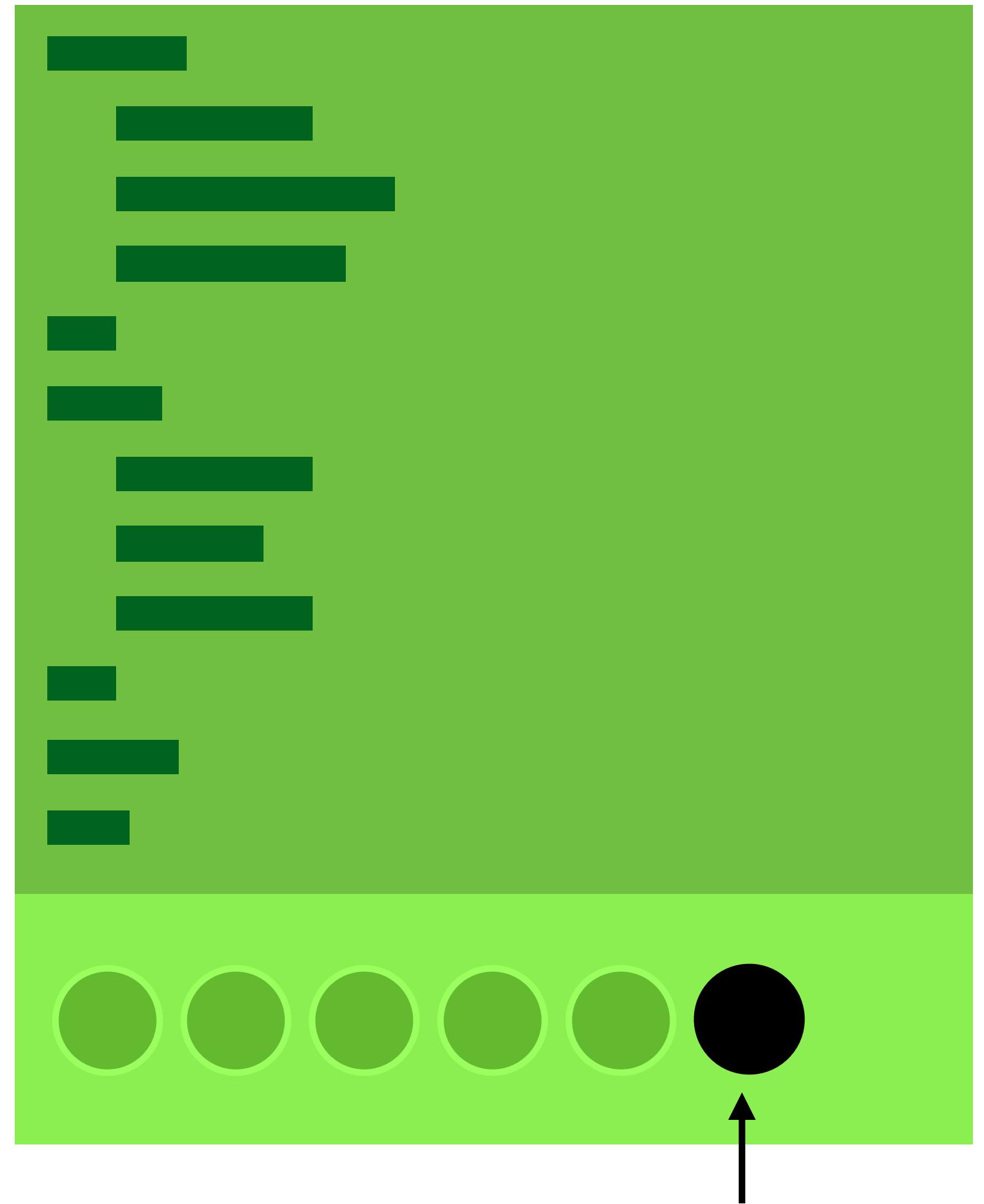
Why?

Test Quality

Coverage

Tests = Communication

- 1) Great when pair programming



Agree on what
we're doing next

TDD Cycle

Tests, red, code, green, refactor, repeat

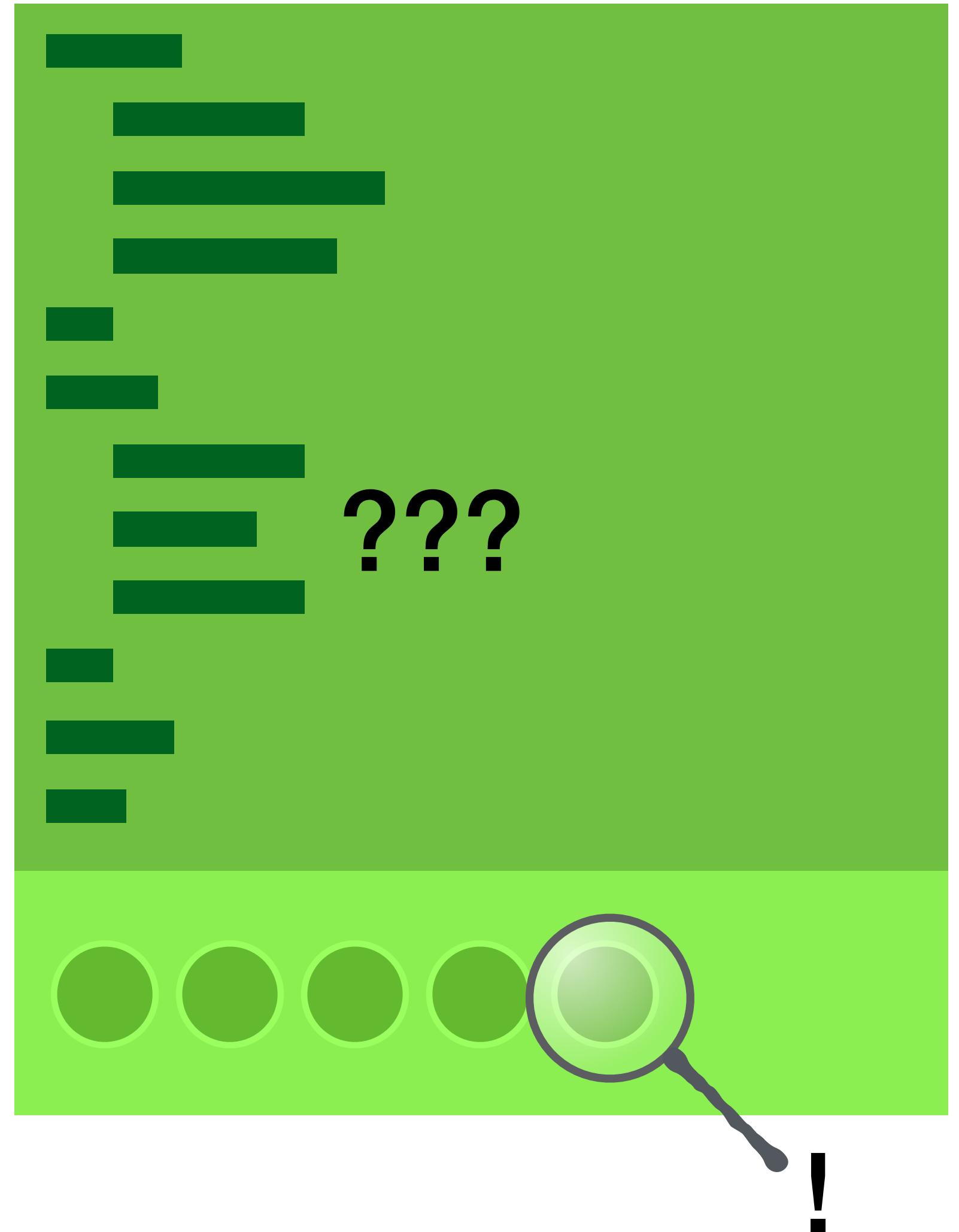
Why?

Test Quality

Coverage

Tests = Communication

- 1) Great when pair programming
- 2) Better documentation than comments



TDD Cycle

Tests, red, code, green, refactor, repeat

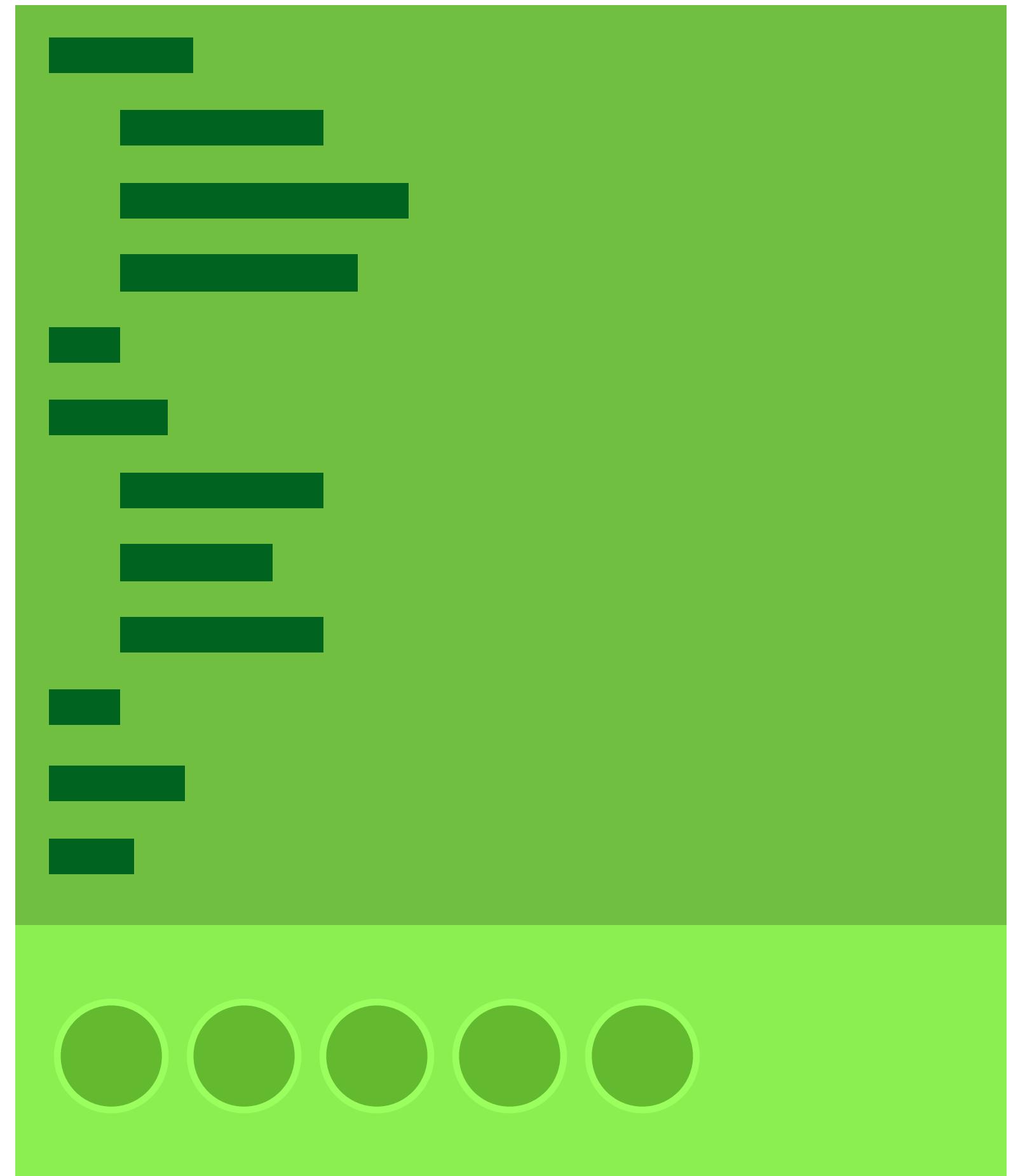
Why?

Test Quality

Coverage

Tests = Communication

Better Code



TDD Cycle

Tests, red, code, green, refactor, repeat

Why?

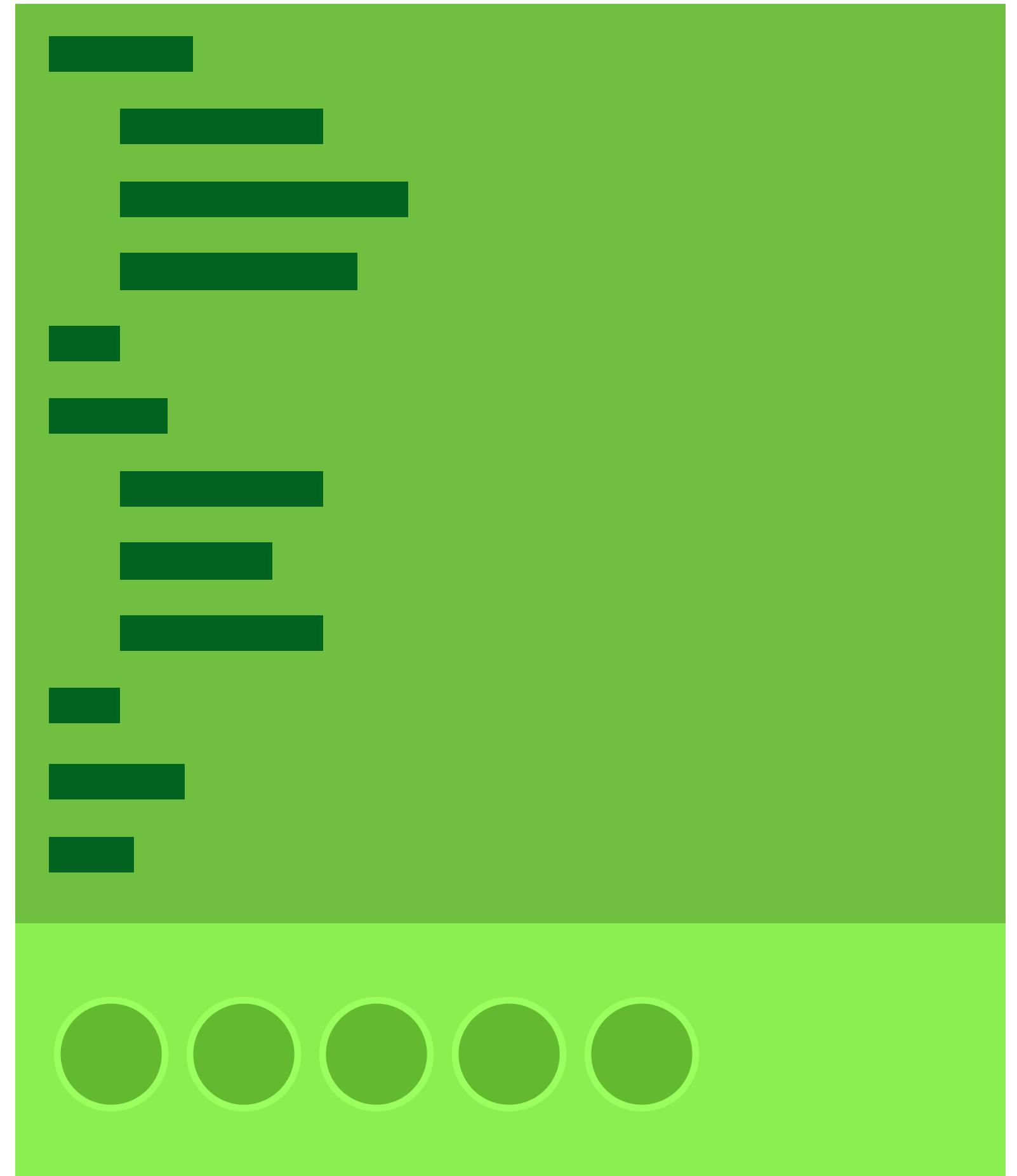
Test Quality

Coverage

Tests = Communication

Better Code

Code has to be testable



TDD Cycle

Tests, red, code, green, refactor, repeat

Why?

Test Quality

Coverage

Tests = Communication

Better Code

Code has to be testable



TDD Cycle

Tests, red, code, green, refactor, repeat

Why?

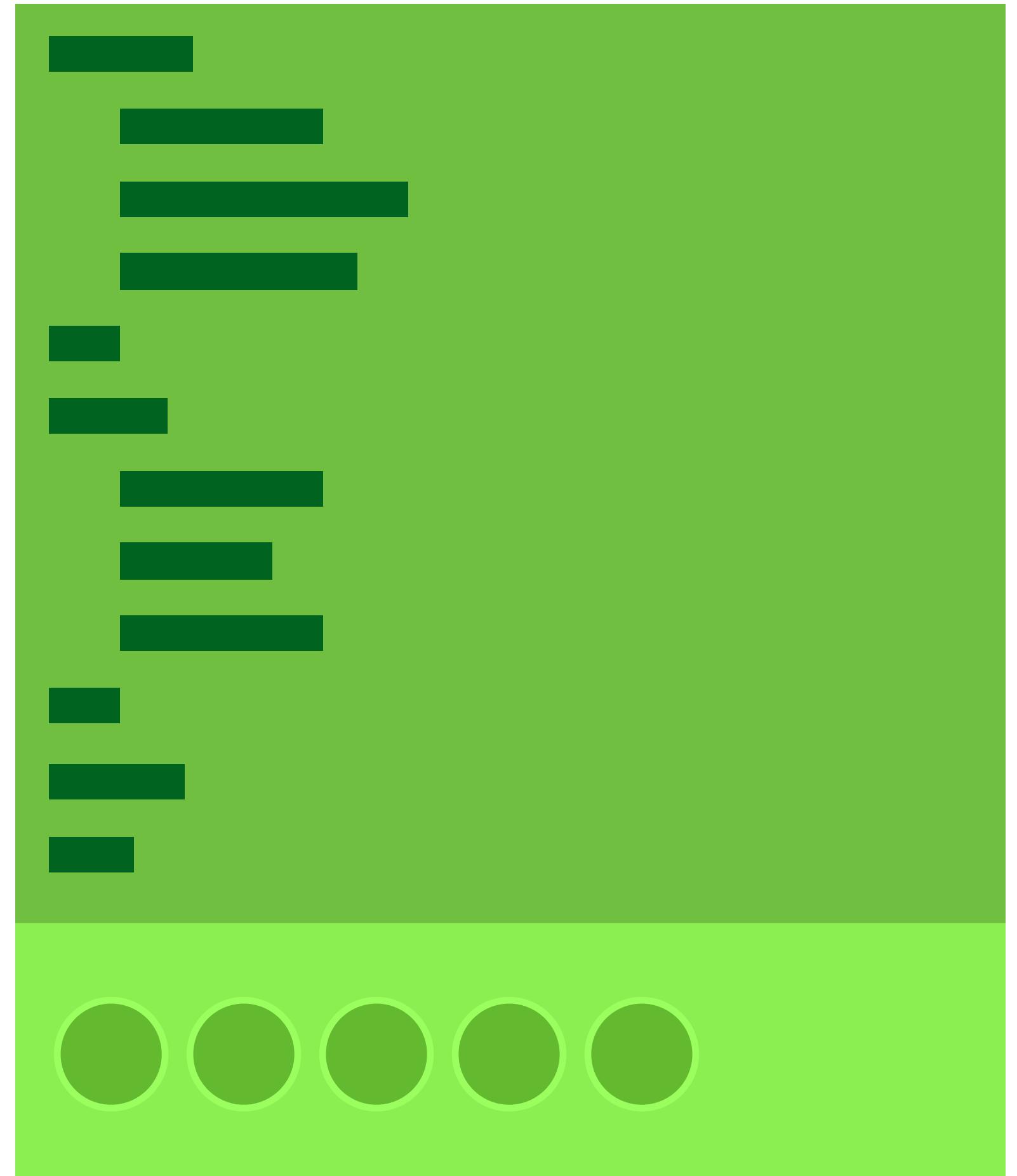
Test Quality

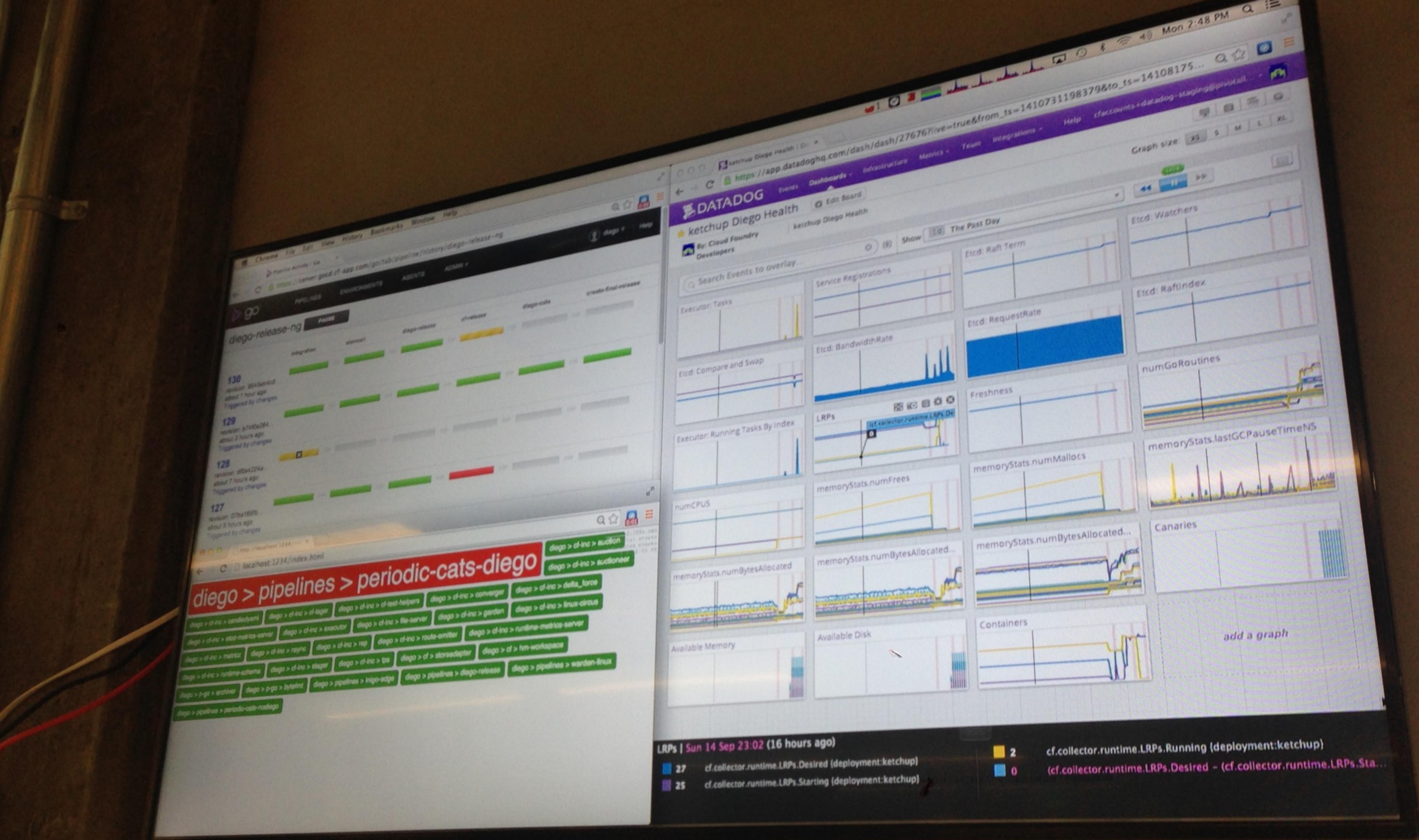
Coverage

Tests = Communication

Better Code

Code has to be testable







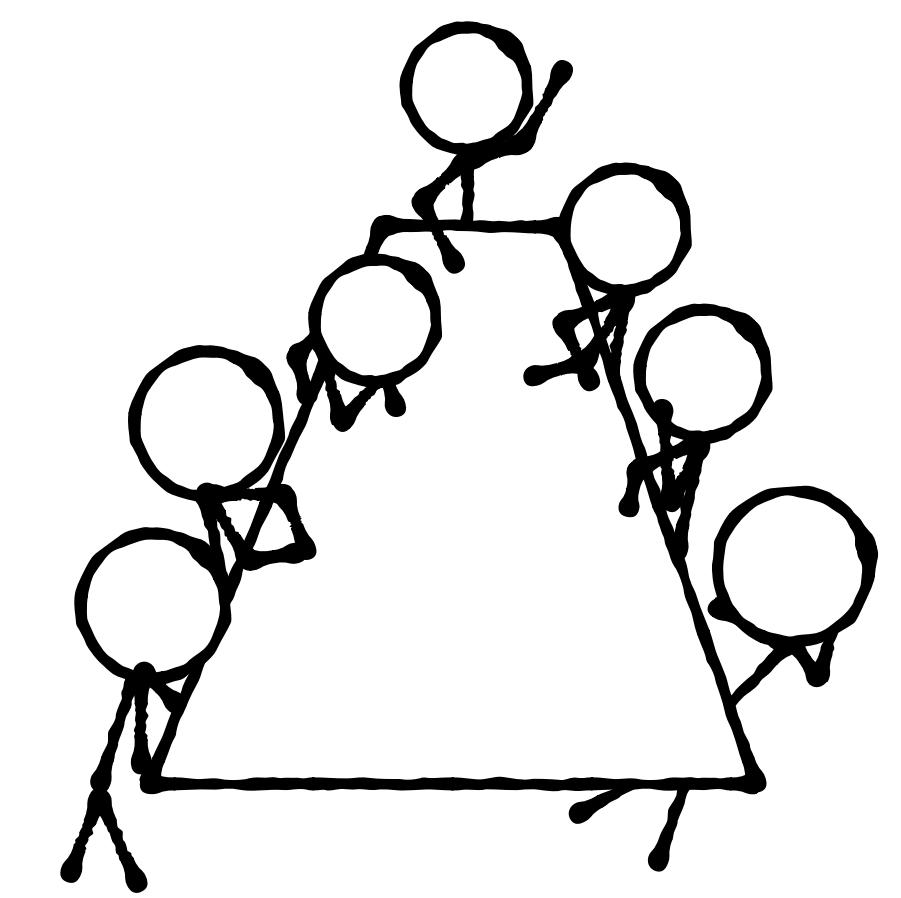
EXIT

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18500
2254

PROD

PivotalTM
culture

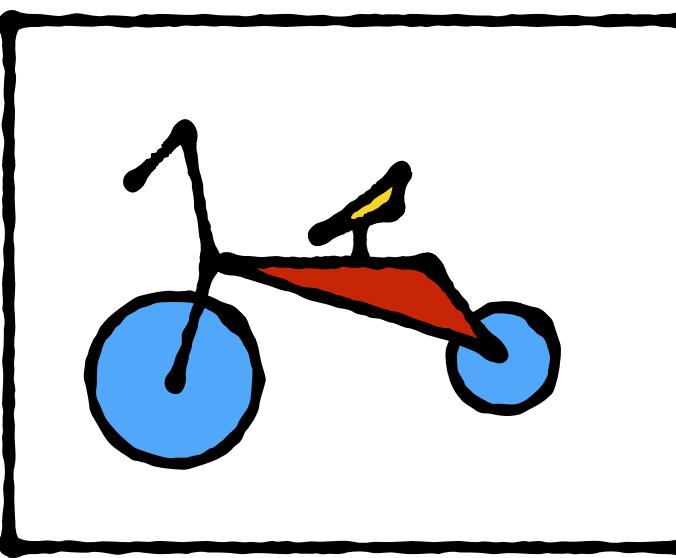
Pairing
Testing
Agile Planning



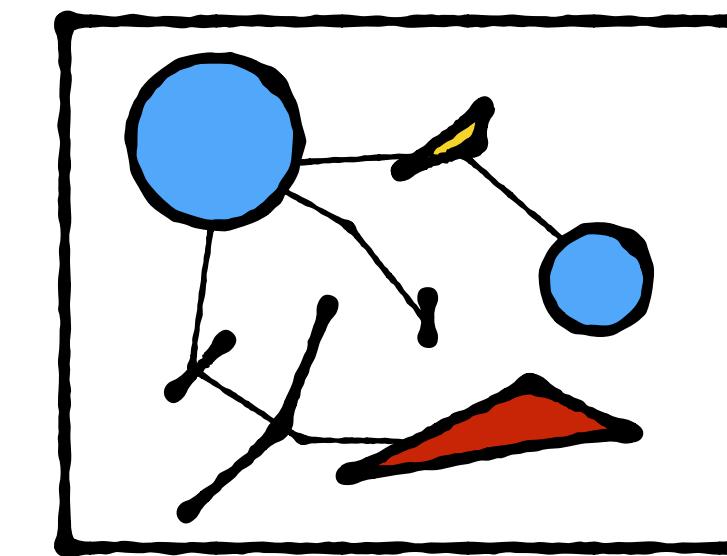
Stakeholders

A→B
Human-Powered
Edgy but chic
Target market:
recovering gen-X

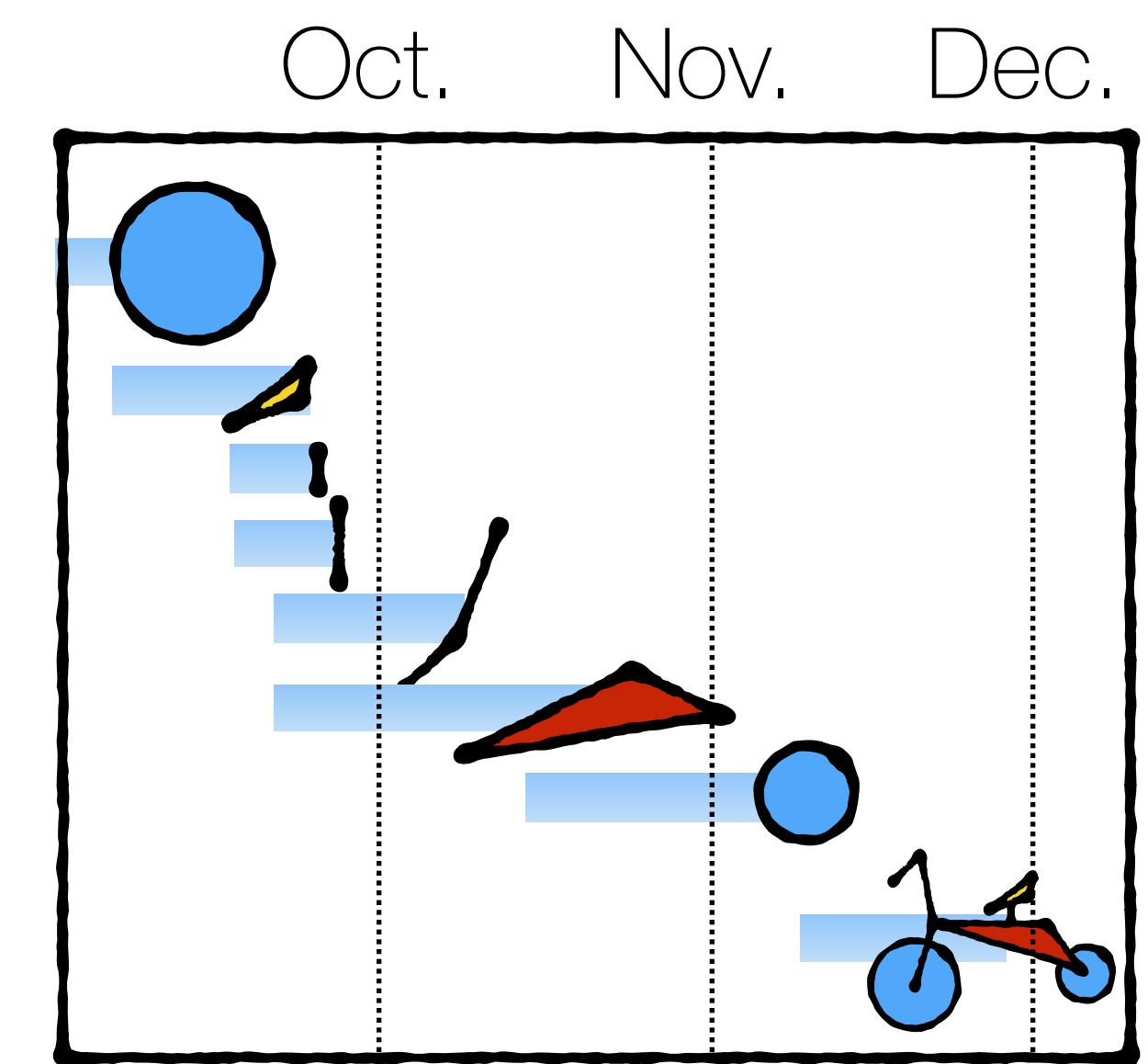
Define
Requirements



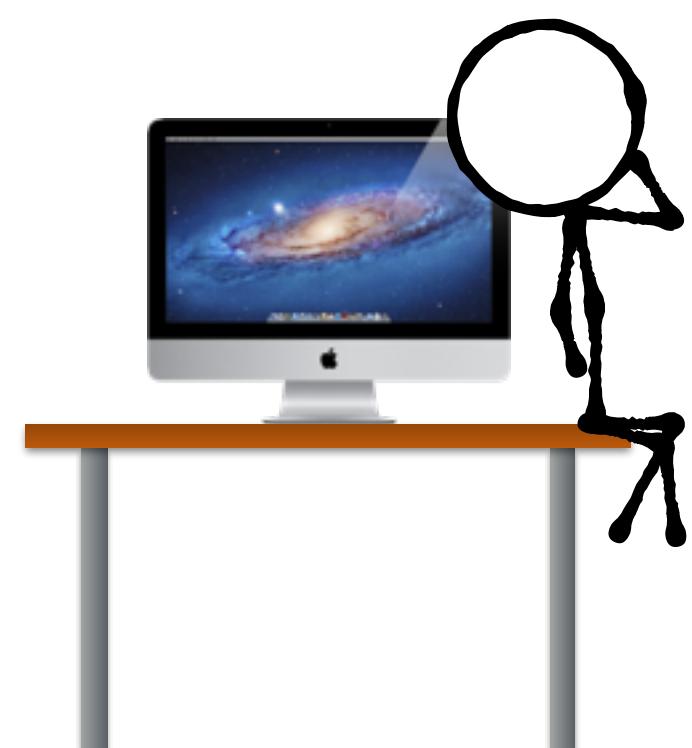
Architect/
Design



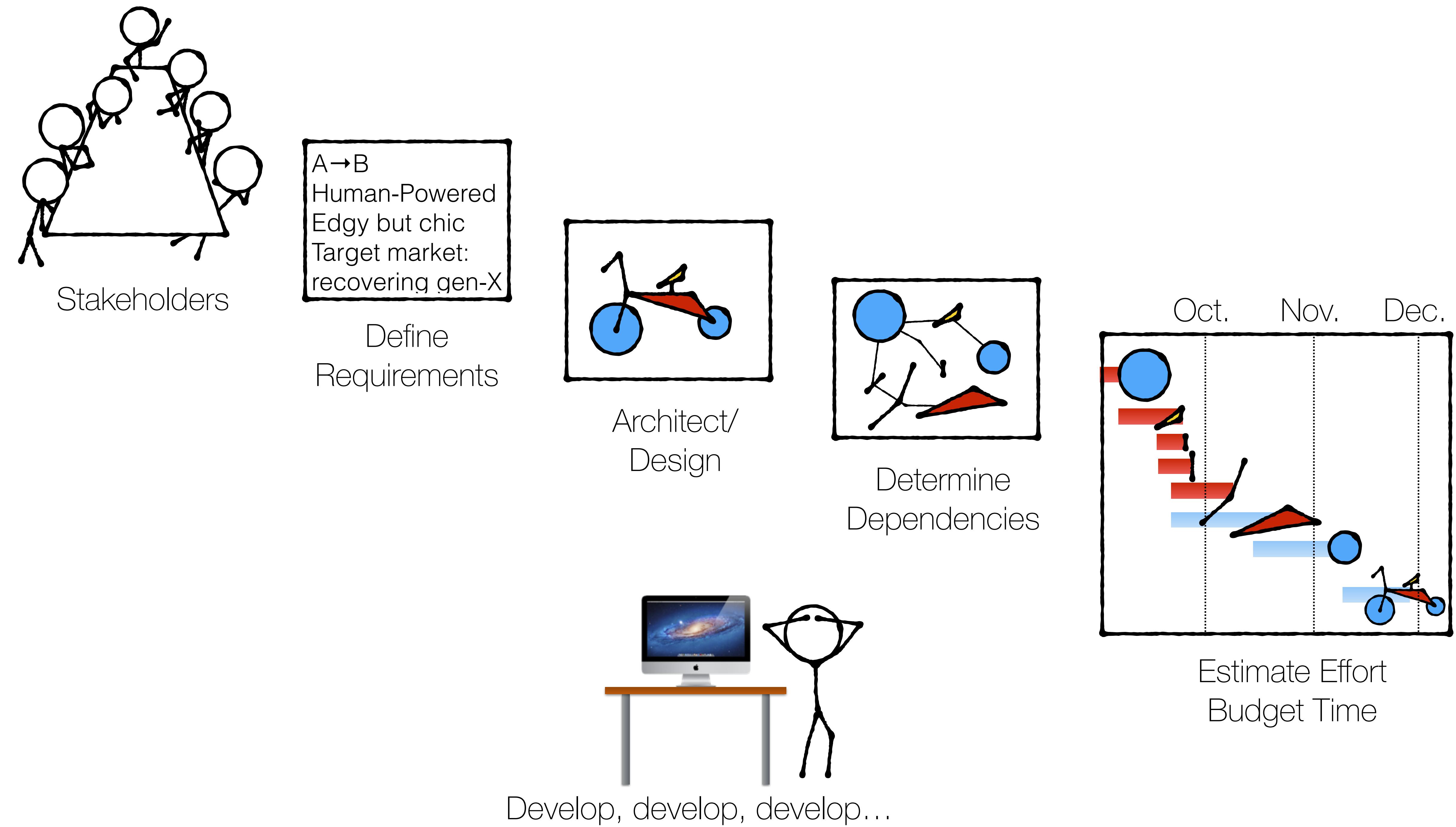
Determine
Dependencies

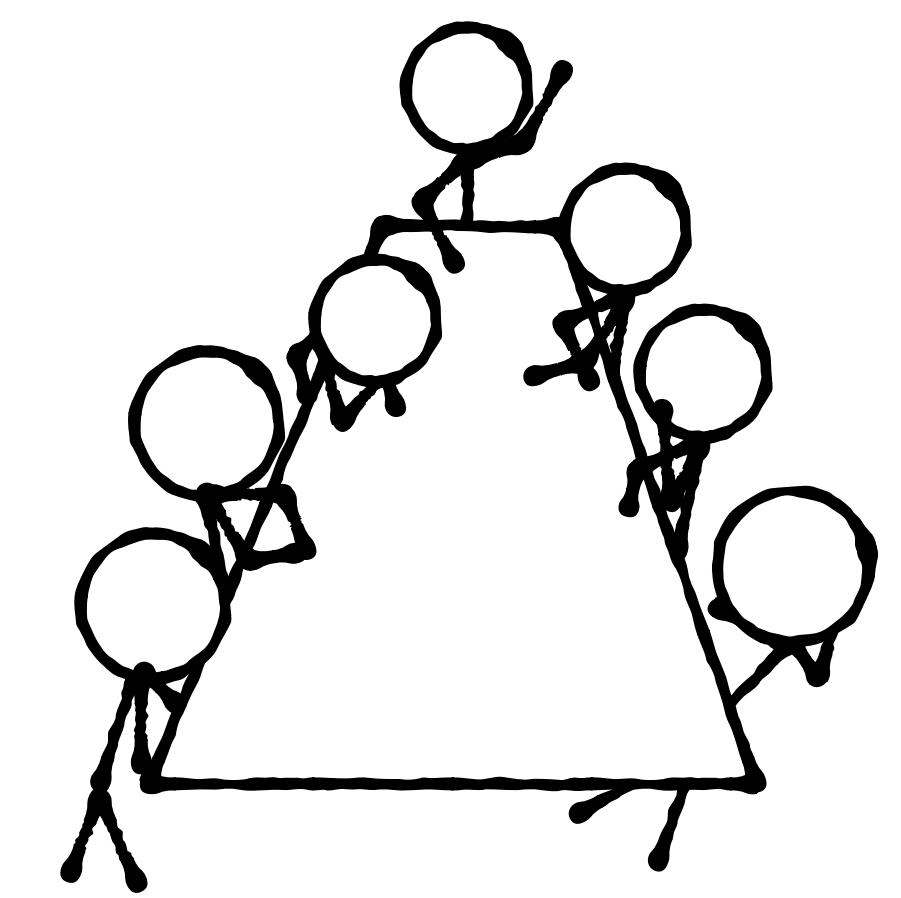


Estimate Effort
Budget Time



Develop, develop, develop...

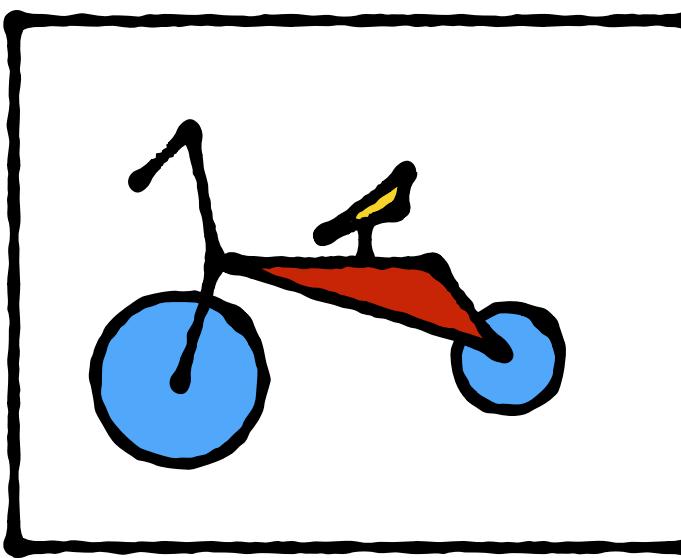




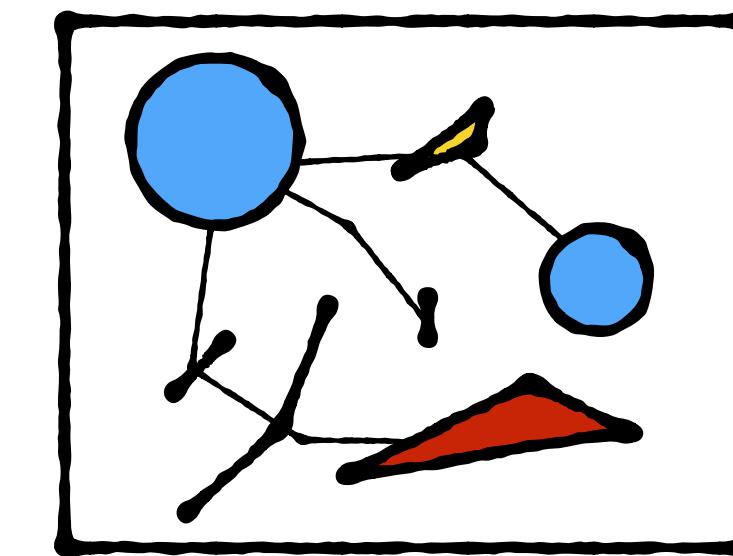
Stakeholders

A→B
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Define
Requirements



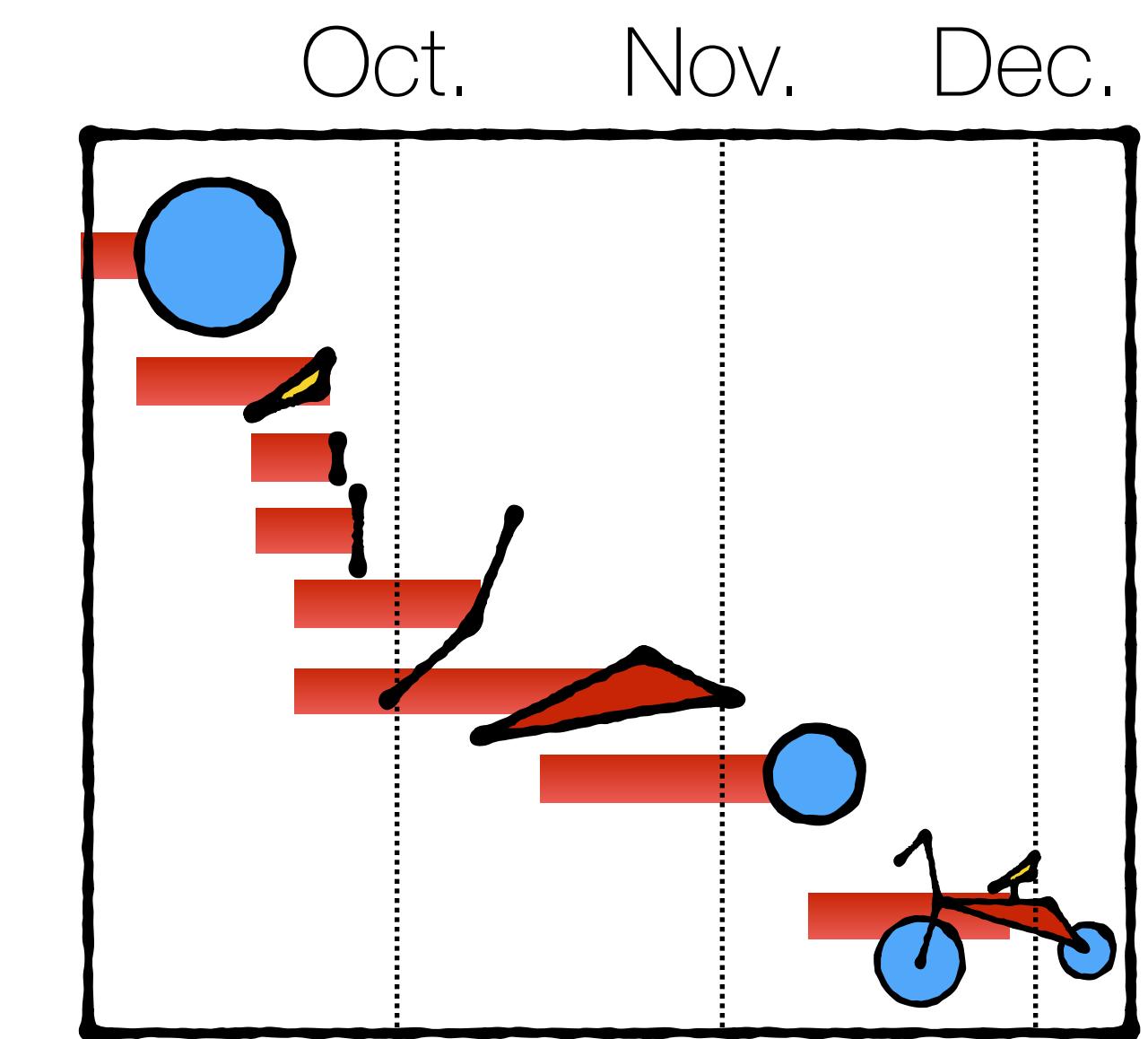
Architect/
Design



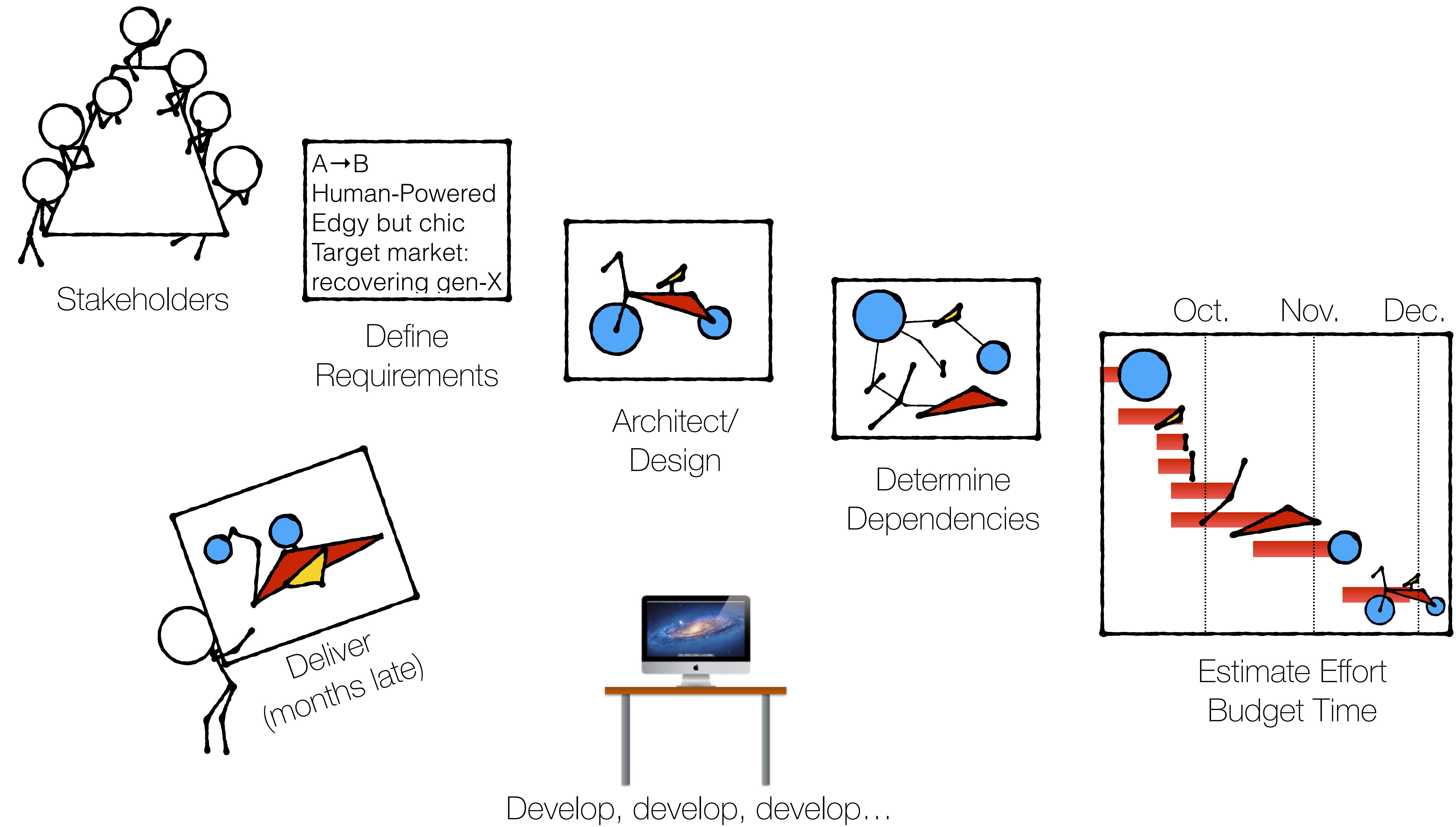
Determine
Dependencies

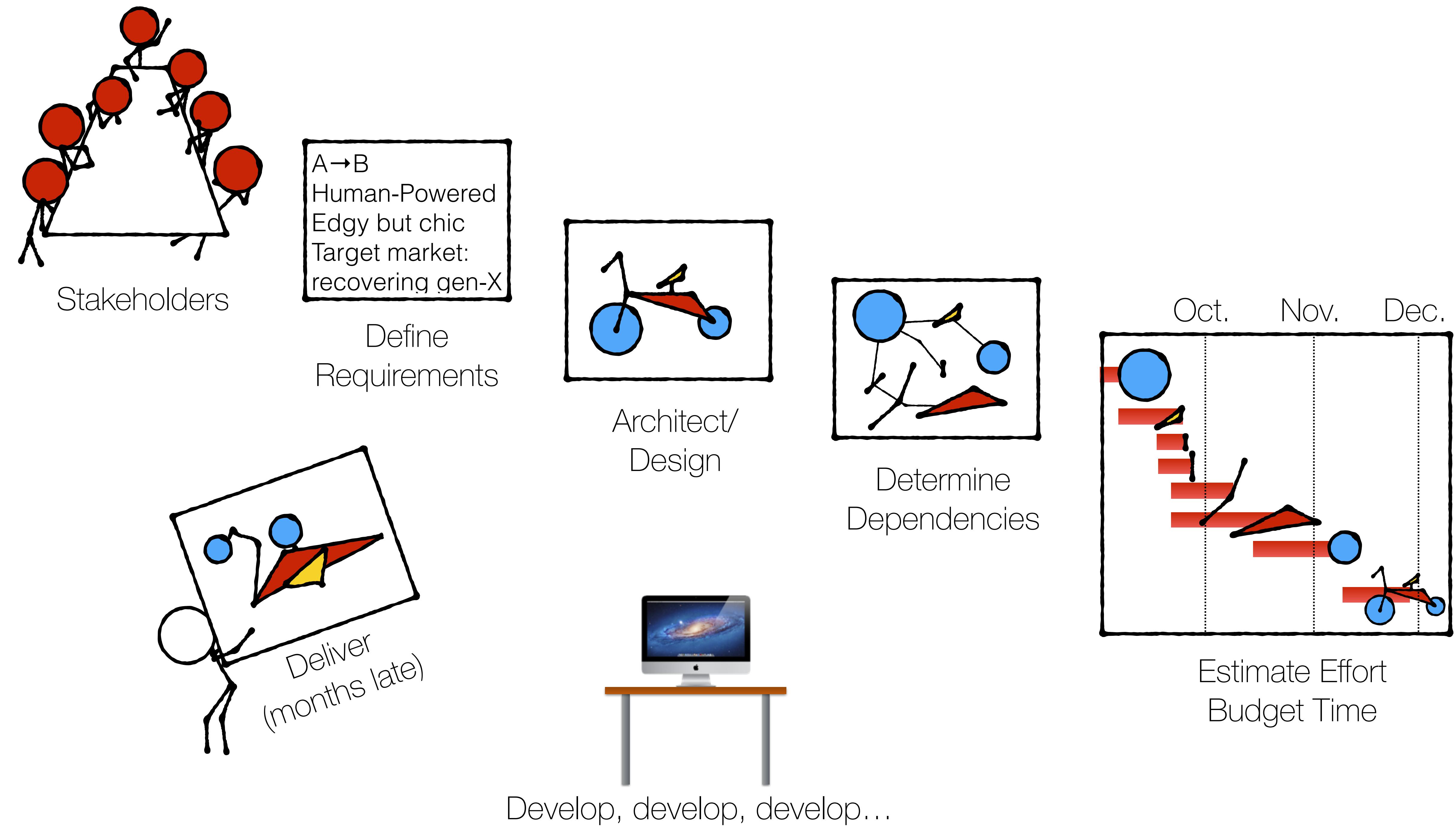


Develop, develop, develop...

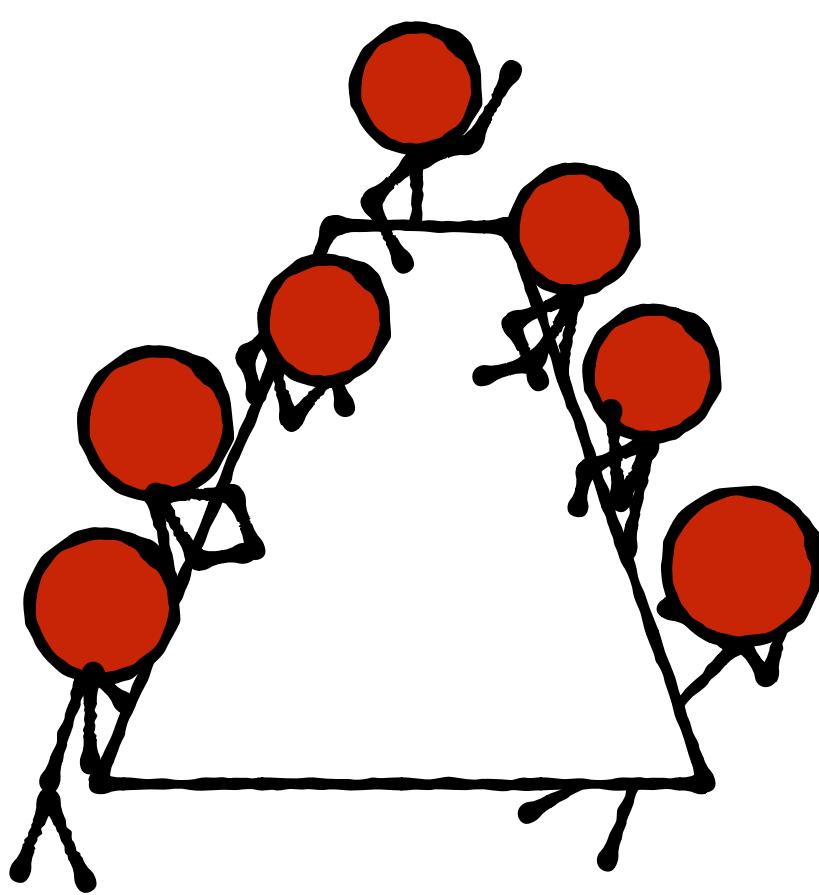


Estimate Effort
Budget Time





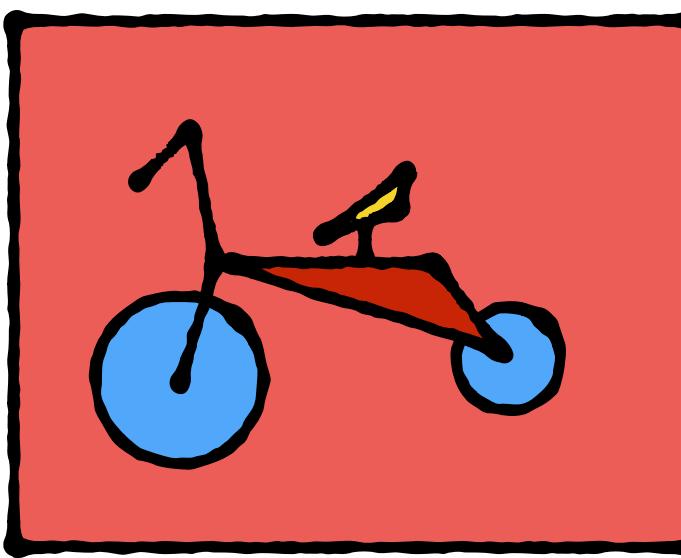
Upfront planning divorced from reality



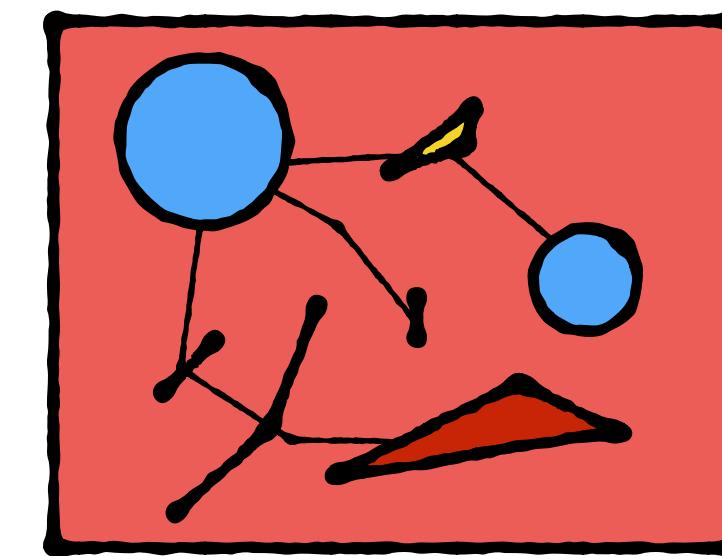
Stakeholders

A→B
Human-Powered
Edgy but chic
Target market:
recovering gen-X

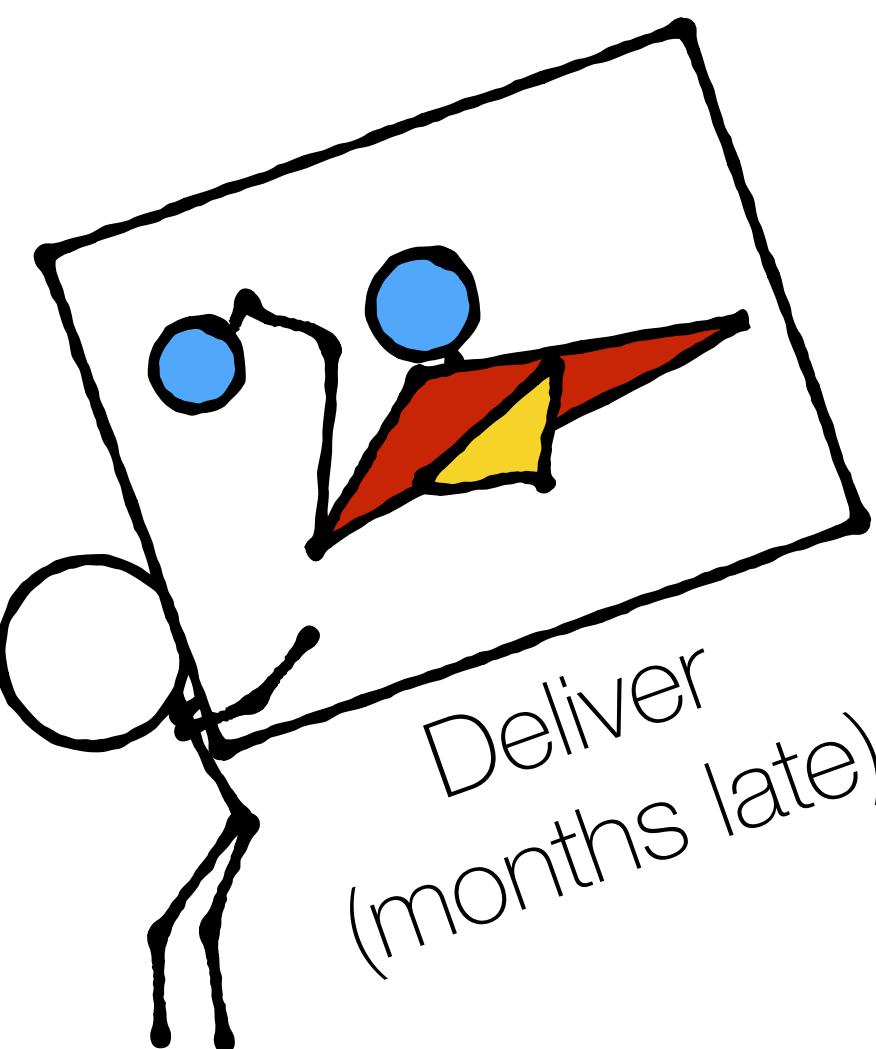
Define
Requirements



Architect/
Design



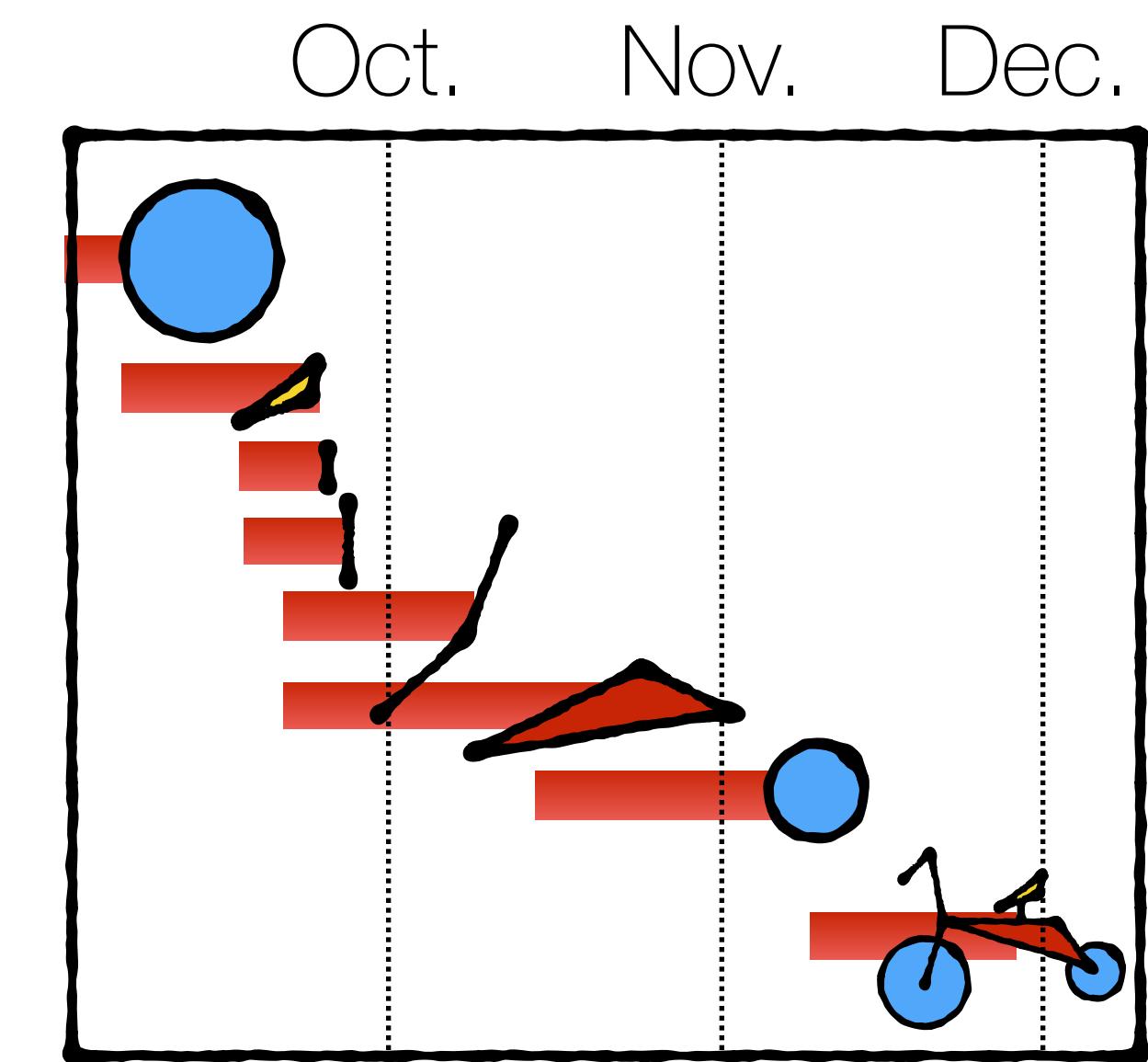
Determine
Dependencies



Deliver
(months late)



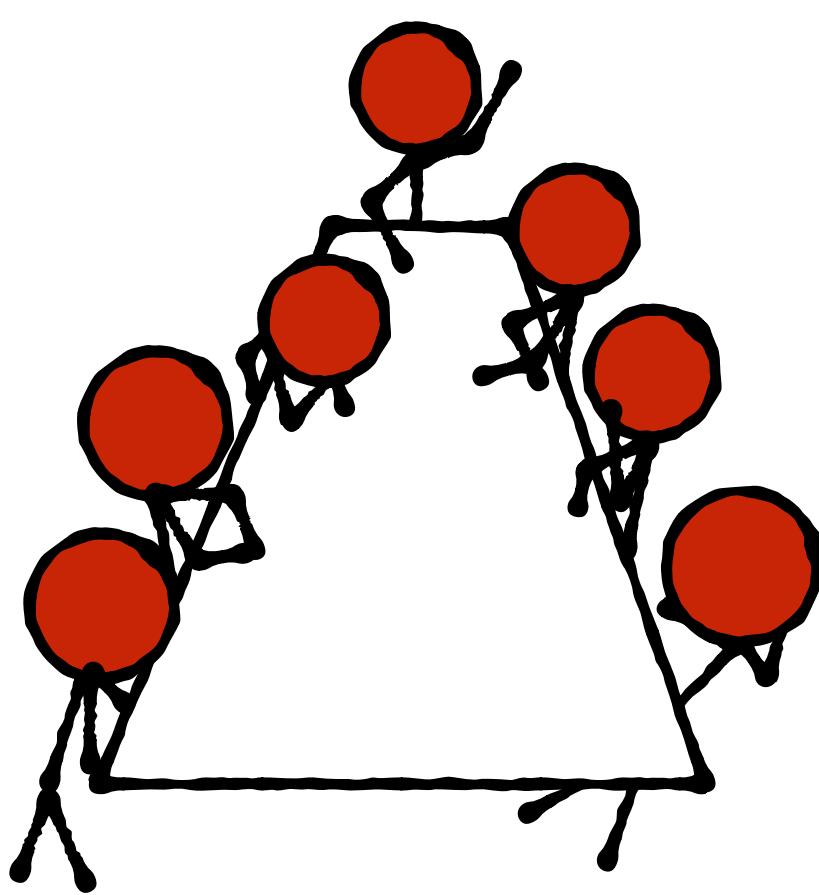
Develop, develop, develop...



Oct. Nov. Dec.
Estimate Effort
Budget Time

Upfront planning divorced from reality

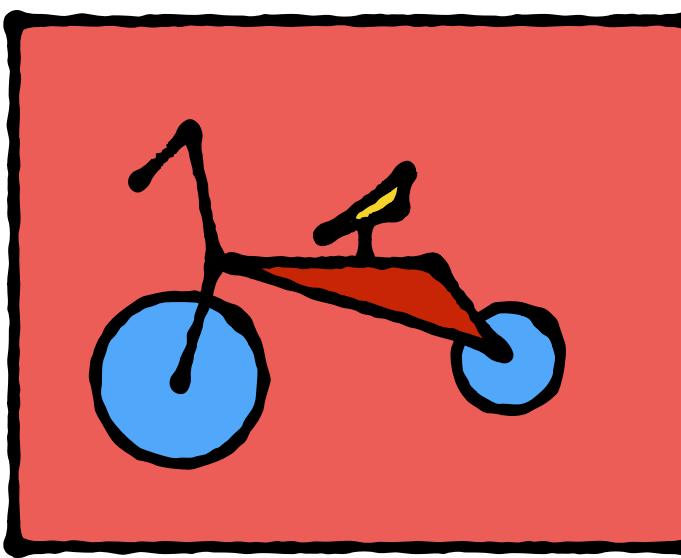
Artificial deadlines divorced from reality



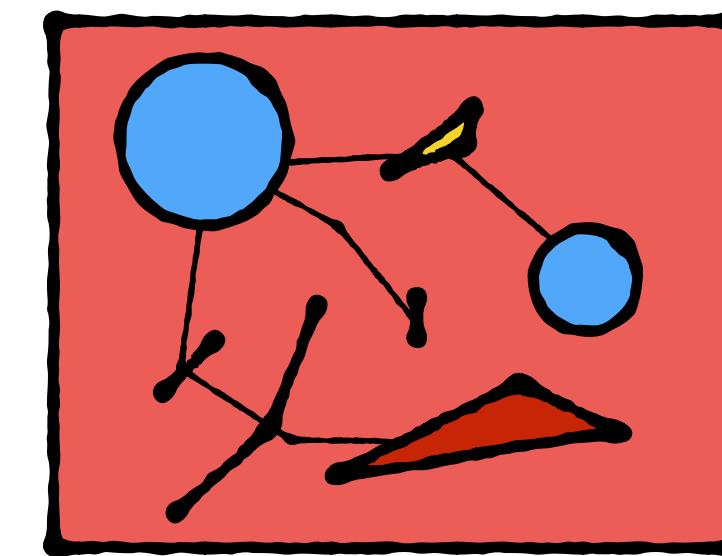
Stakeholders

A→B
Human-Powered
Edgy but chic
Target market:
recovering gen-X

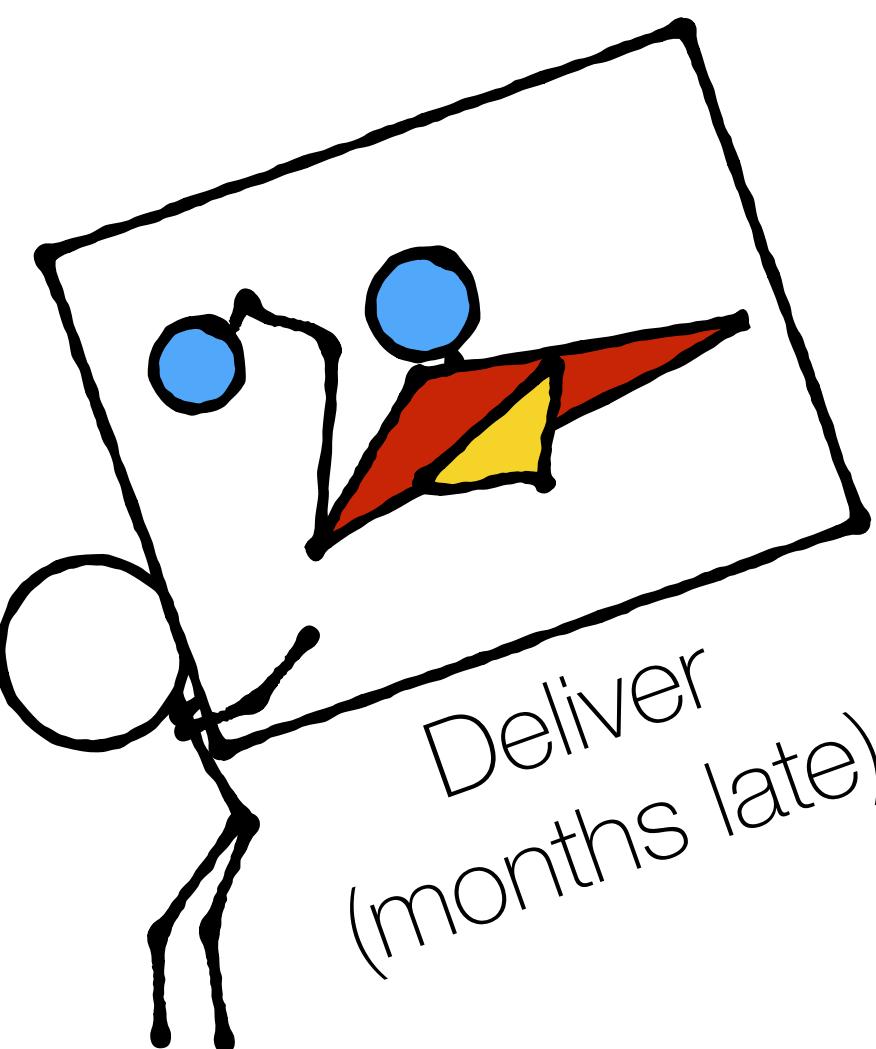
Define
Requirements



Architect/
Design



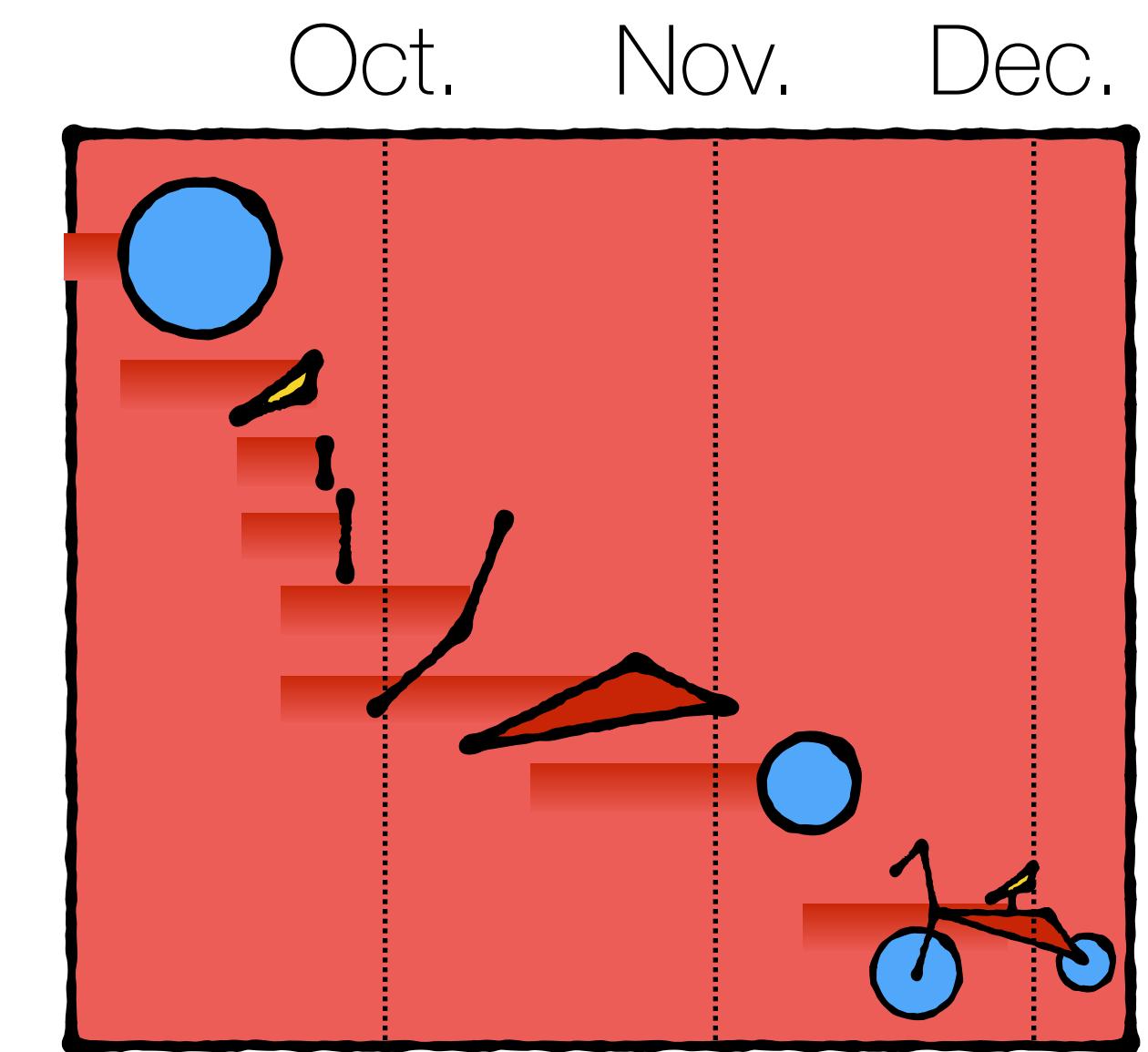
Determine
Dependencies



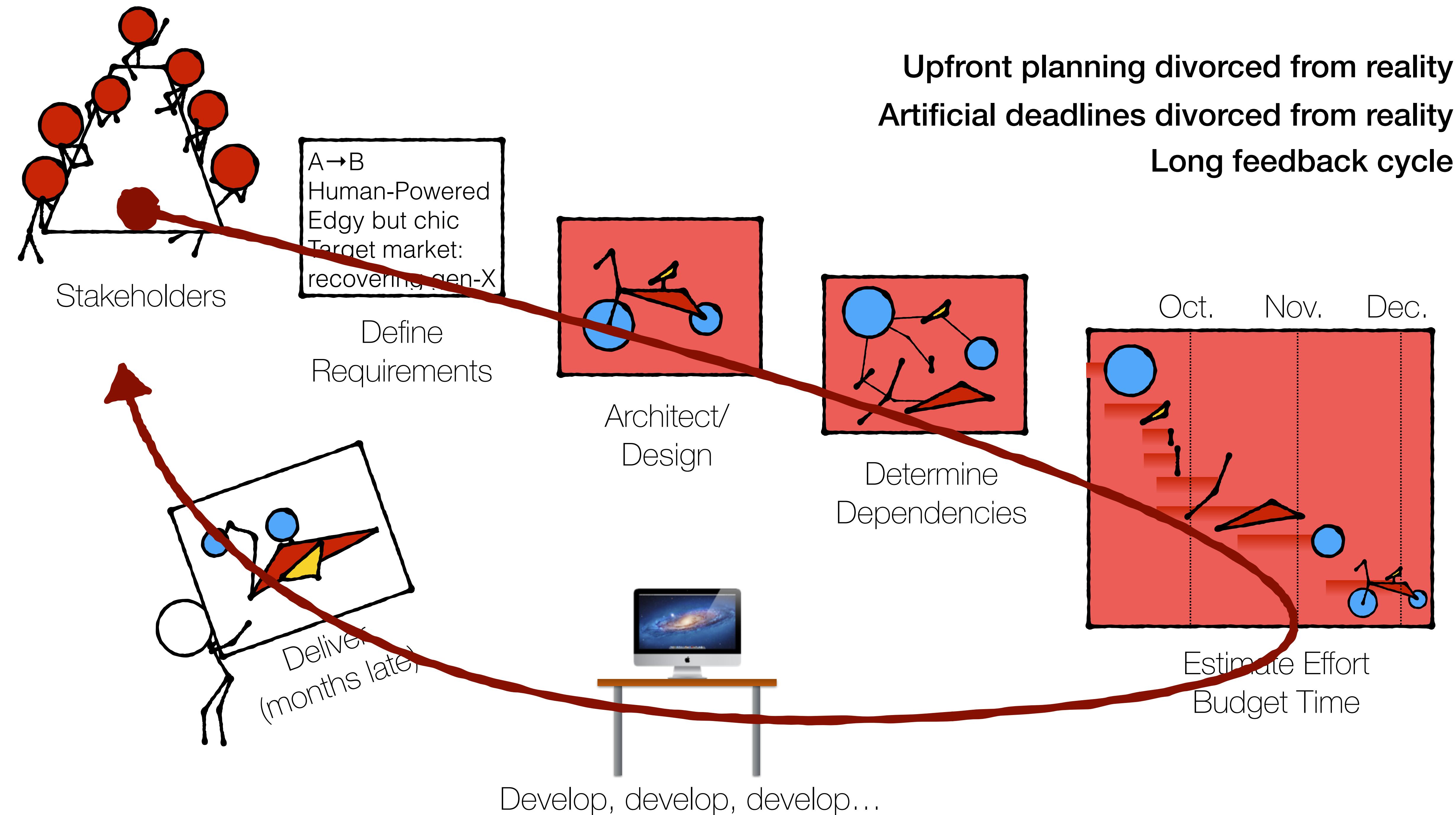
Deliver
(months late)



Develop, develop, develop...



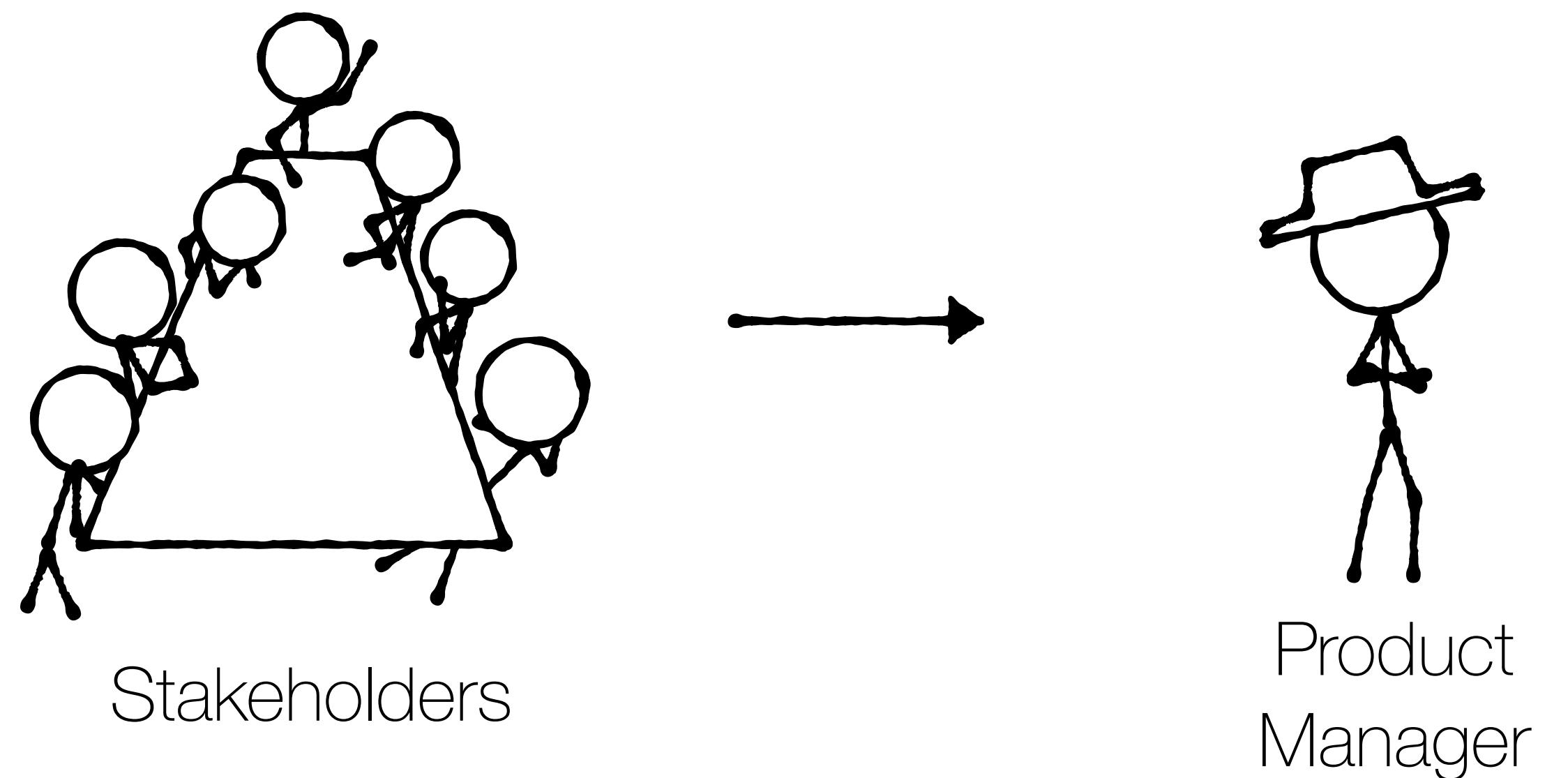
Oct. Nov. Dec.
Estimate Effort
Budget Time

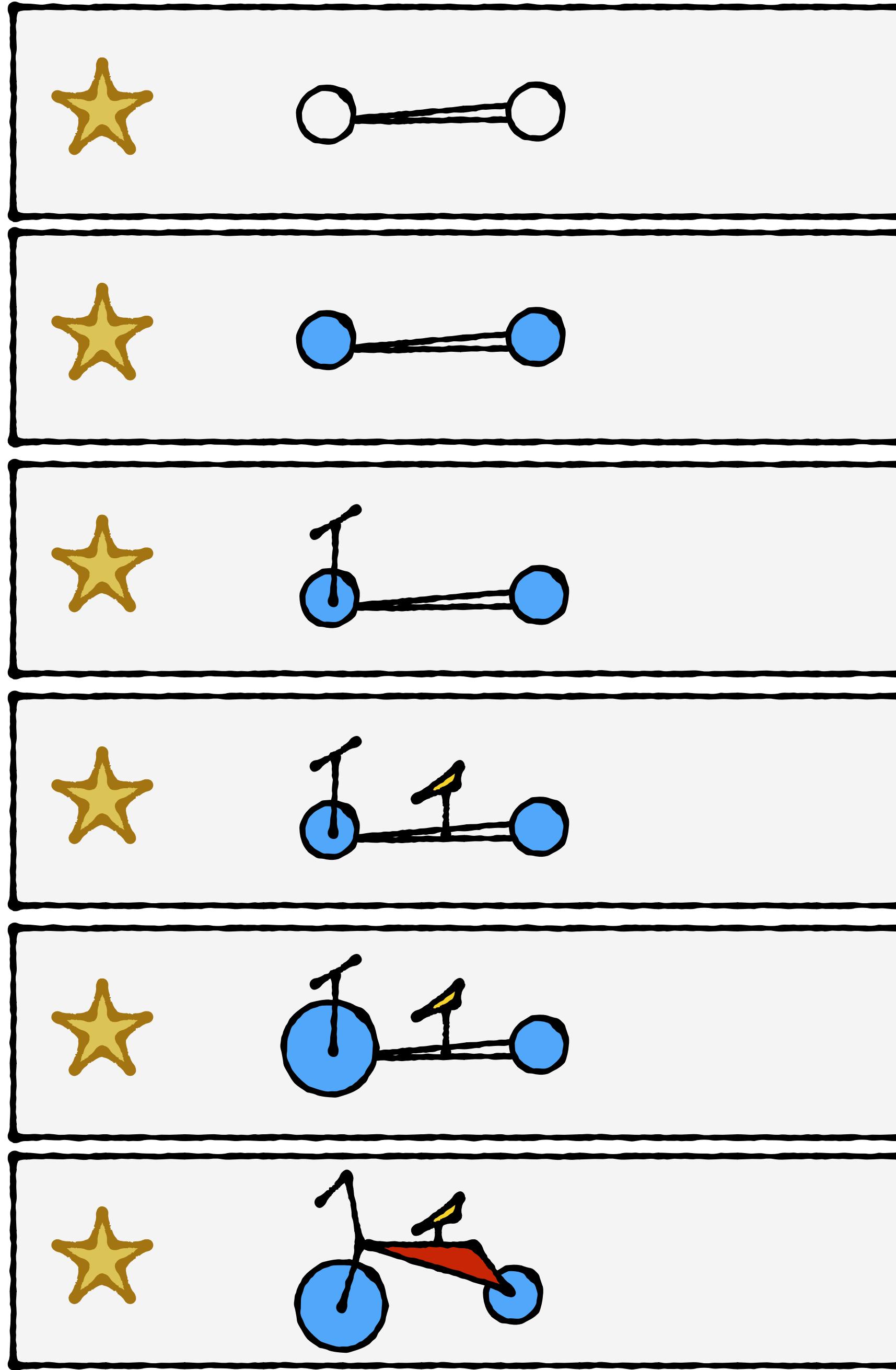
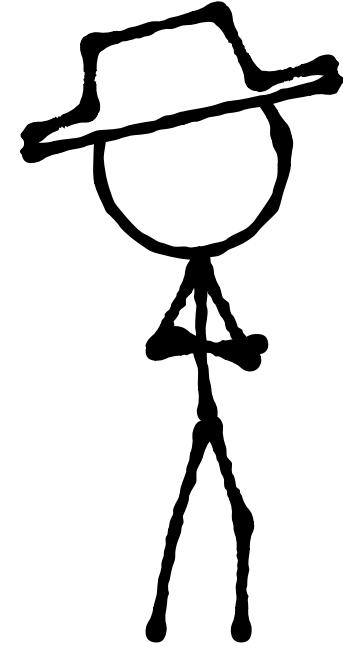


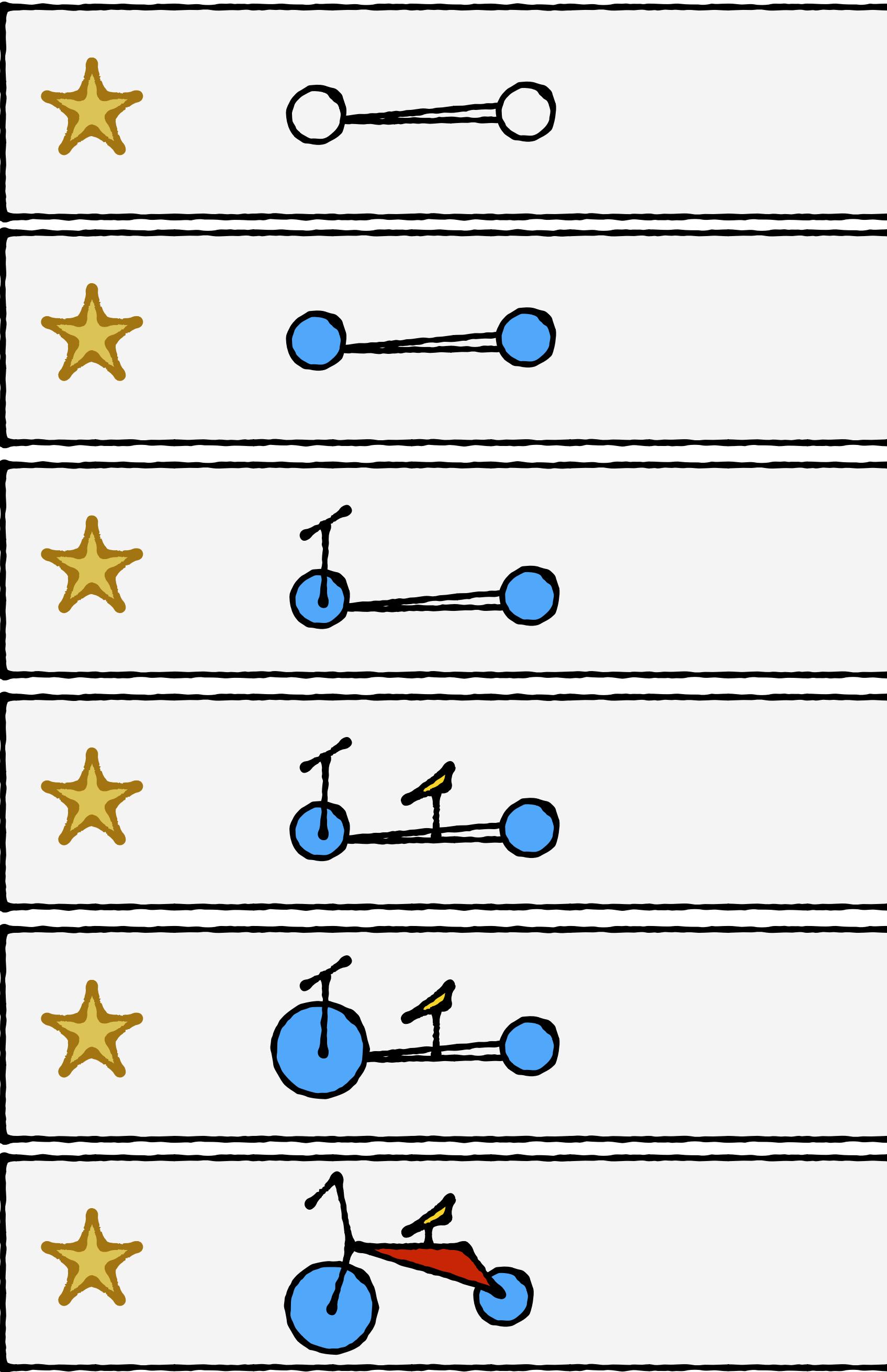
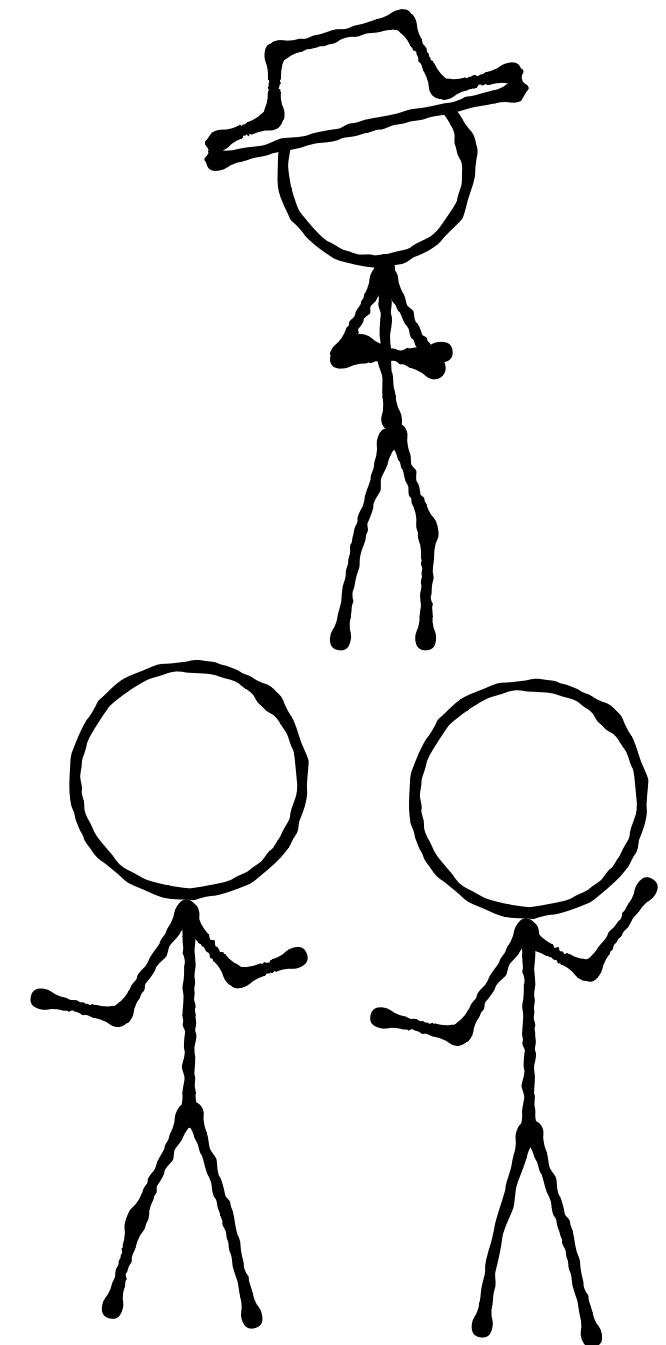


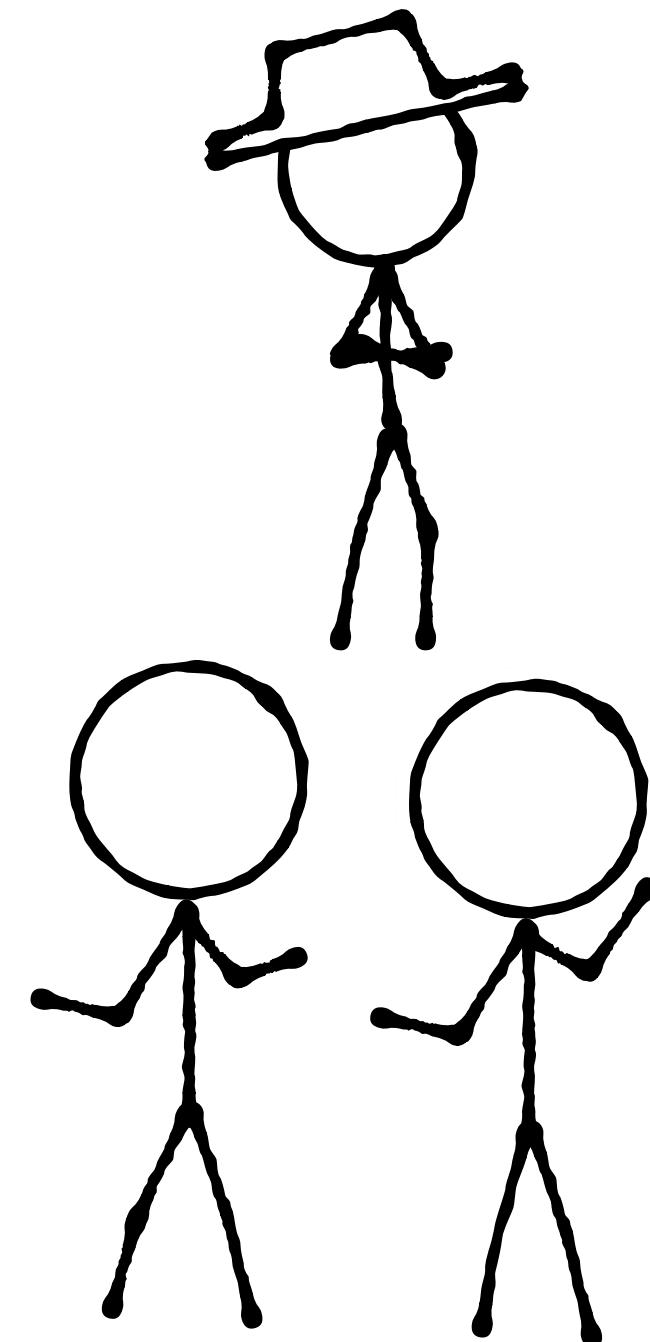
PivotalTracker

Agile, Data-Driven, Product Management

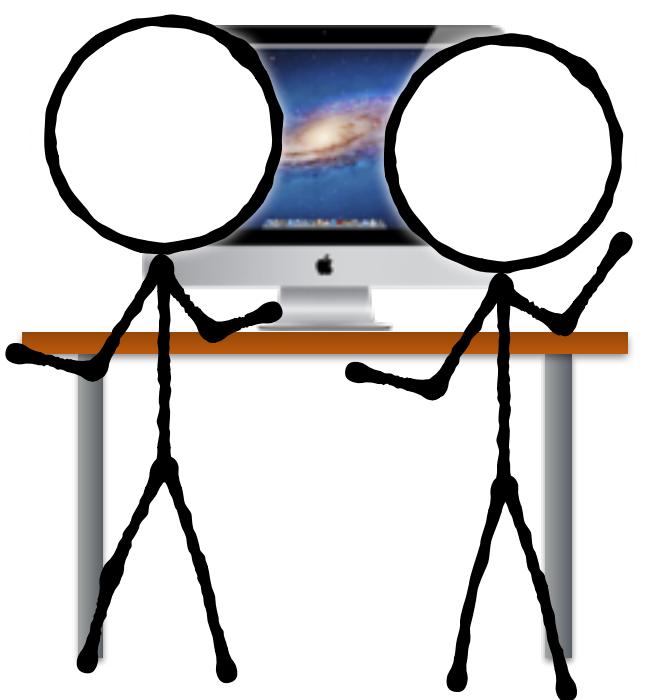
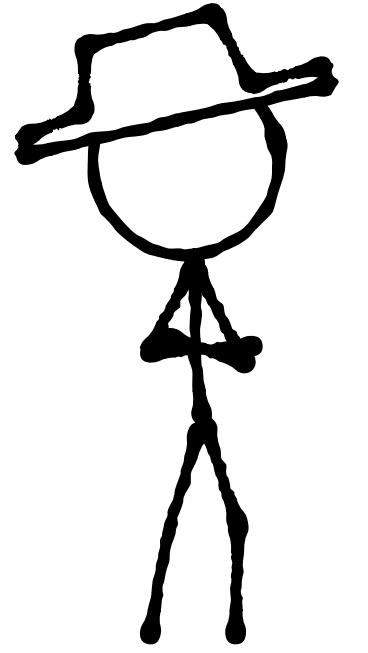






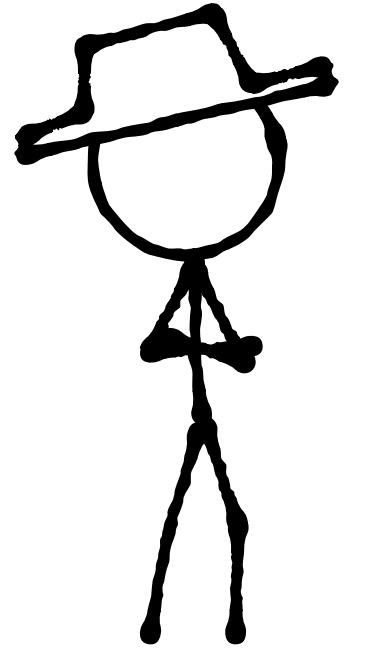


★	○—○—○	5
★	○—○—○	1
★	○—○	2
★	○—○—○	2
★	○—○	1
★	○—○—○	8

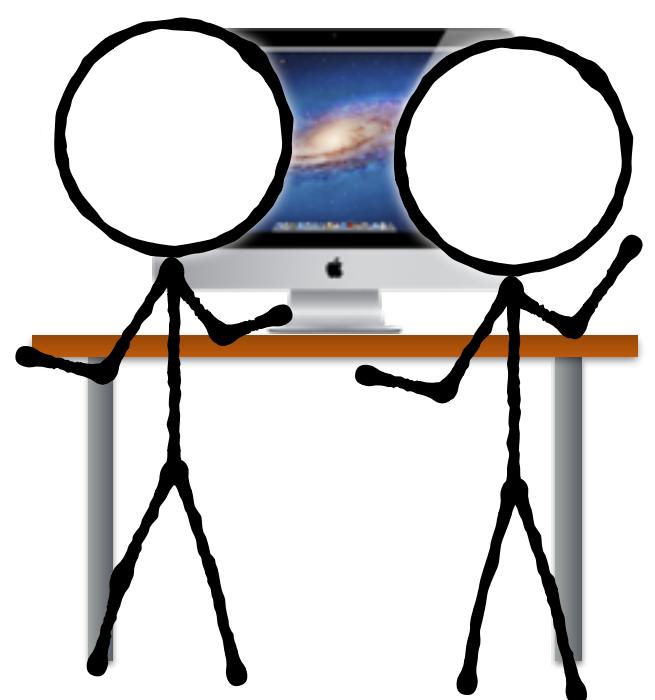


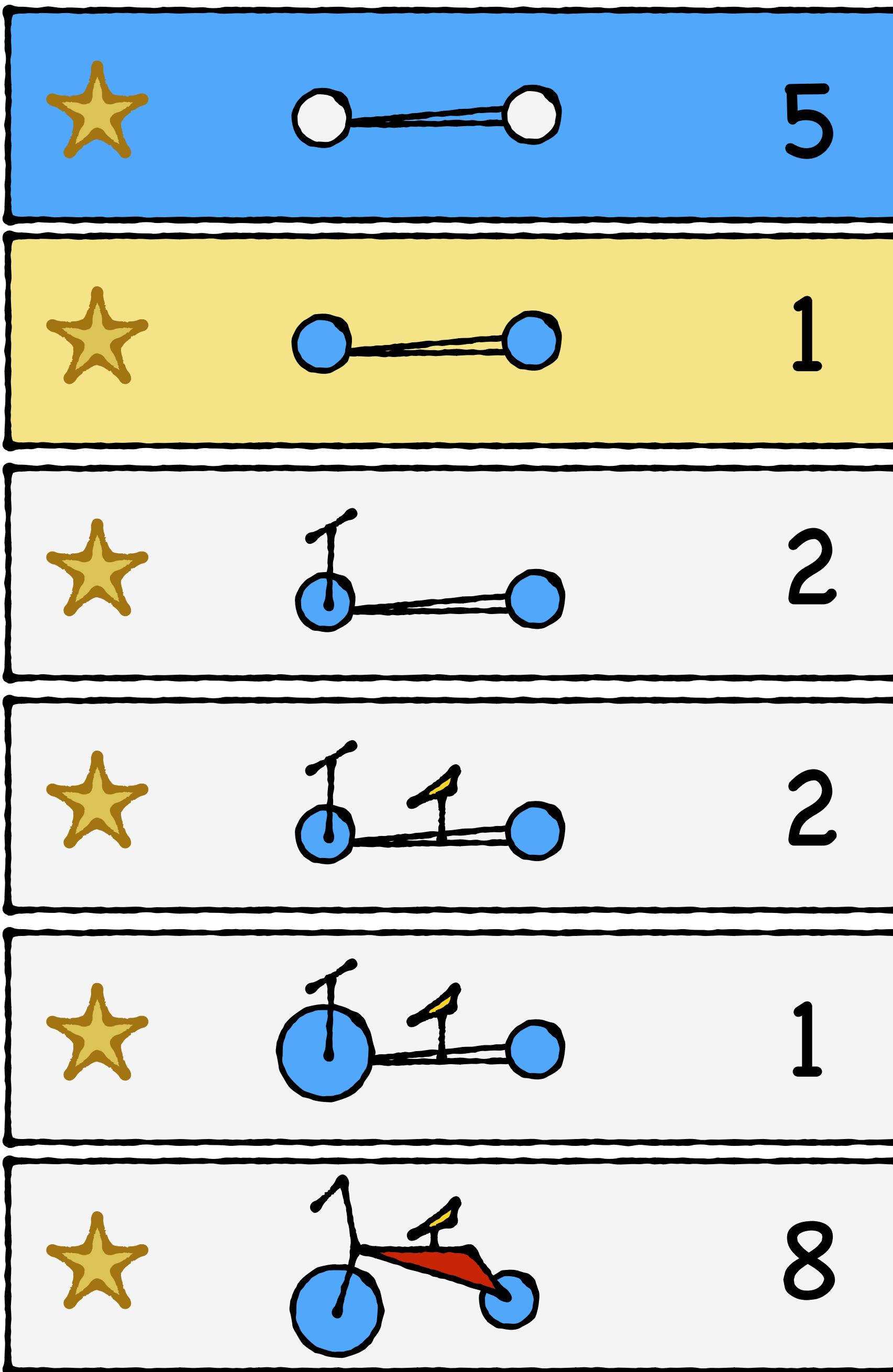
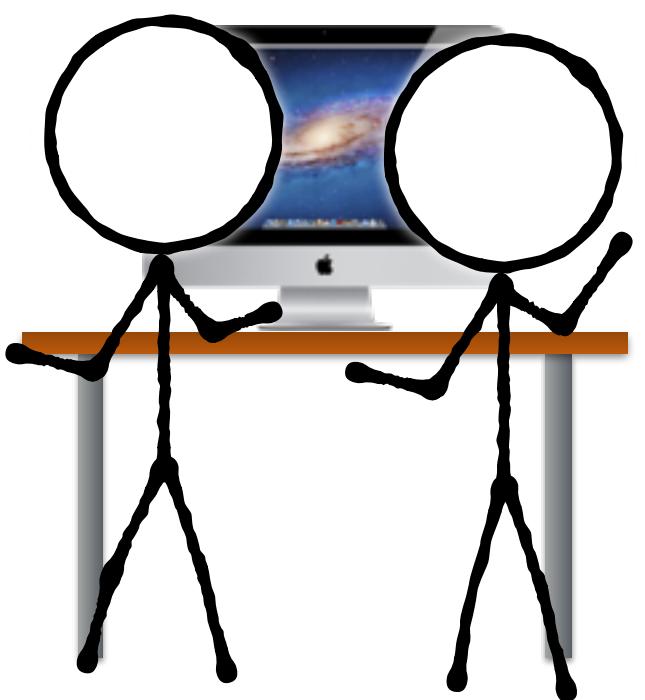
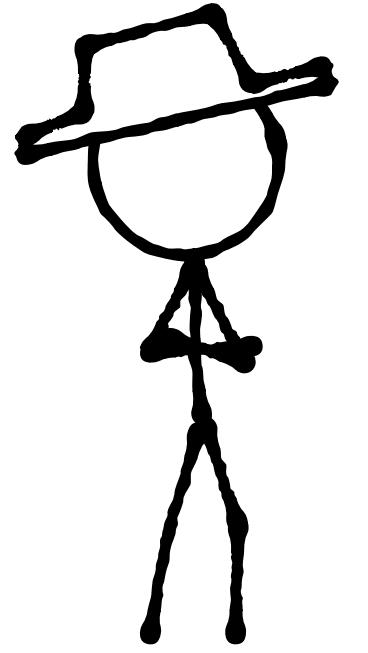
★	5
★	1
★	2
★	2
★	1
★	8

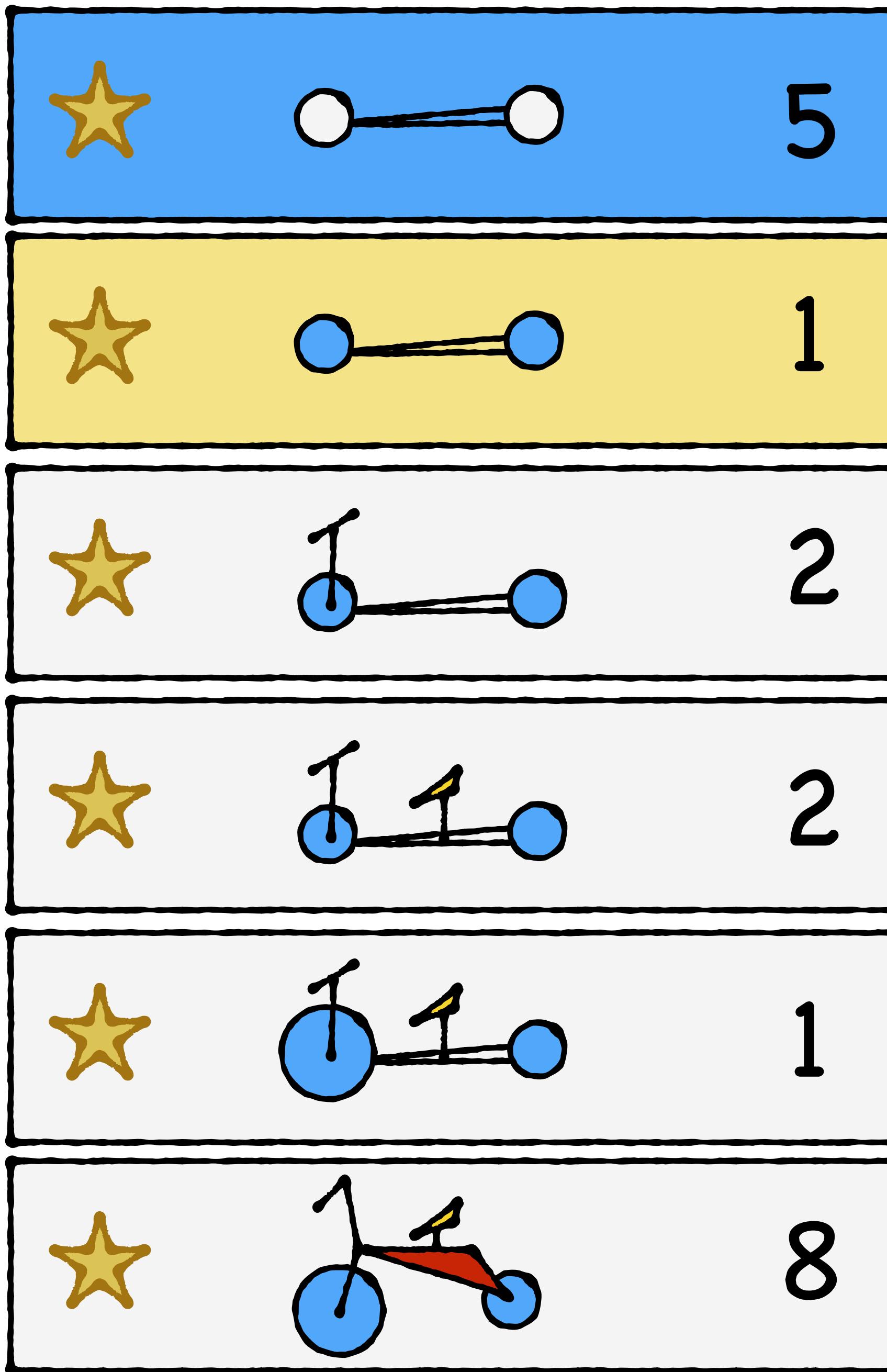
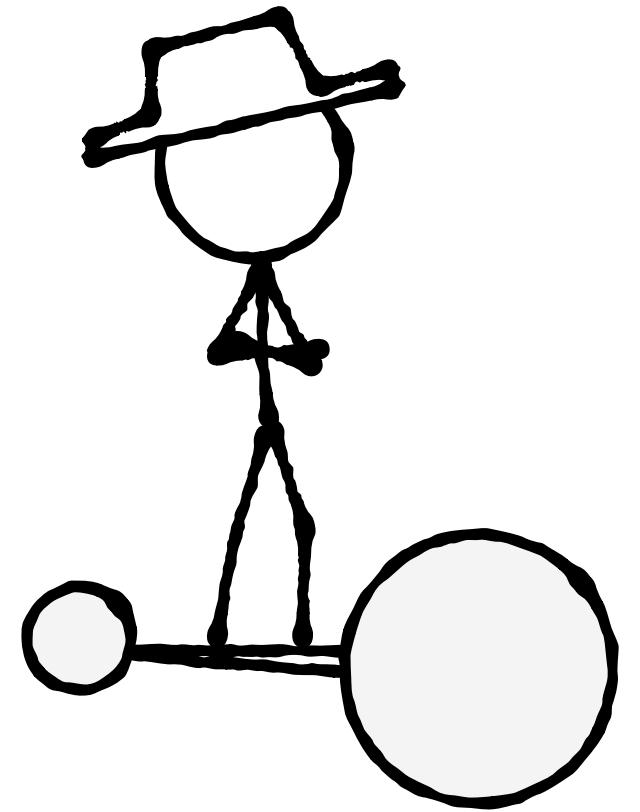
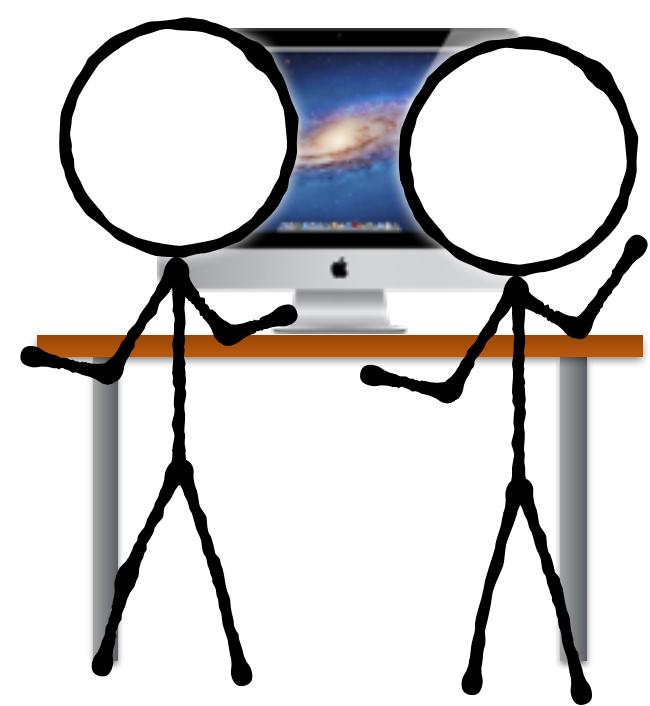
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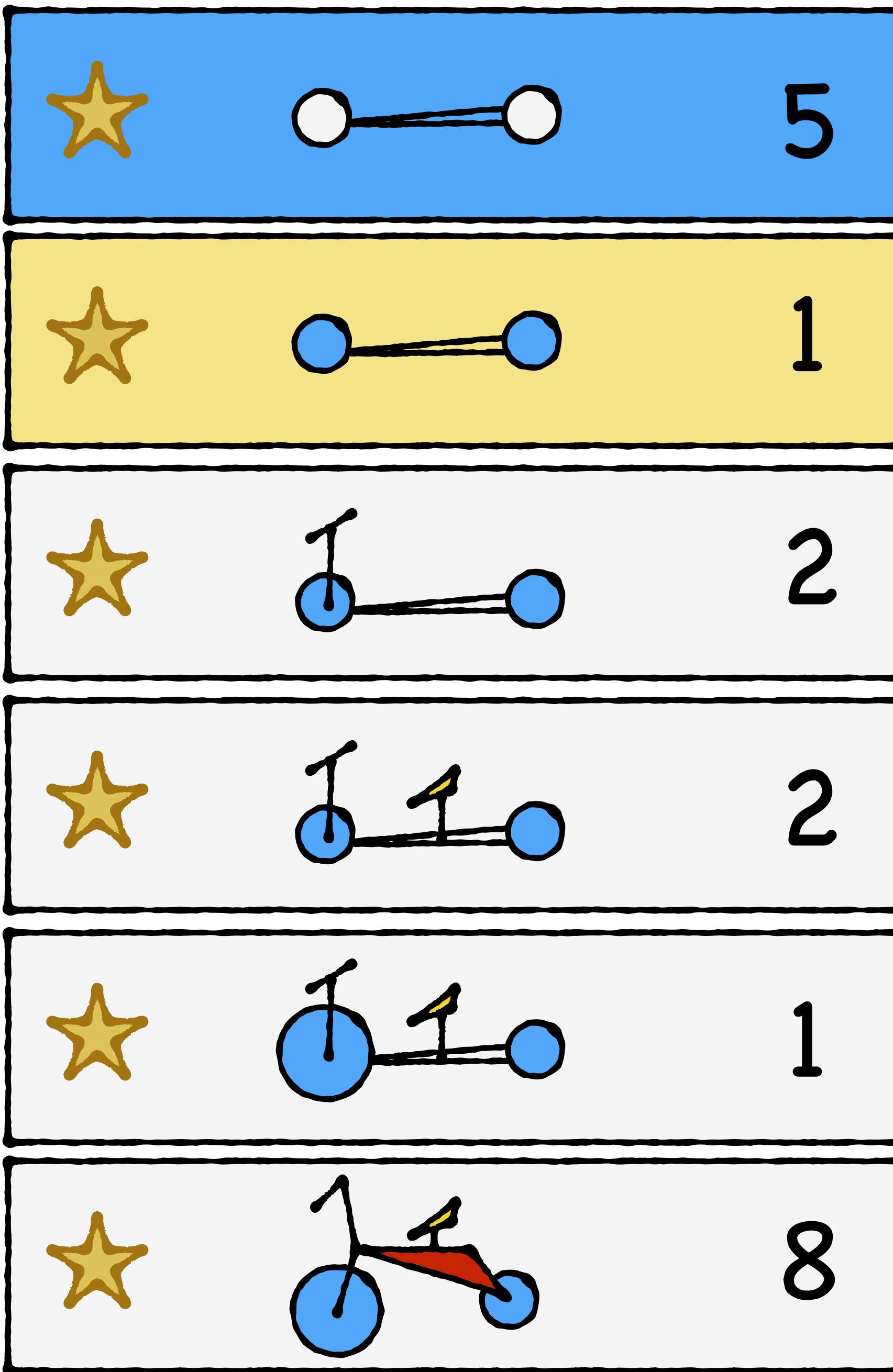
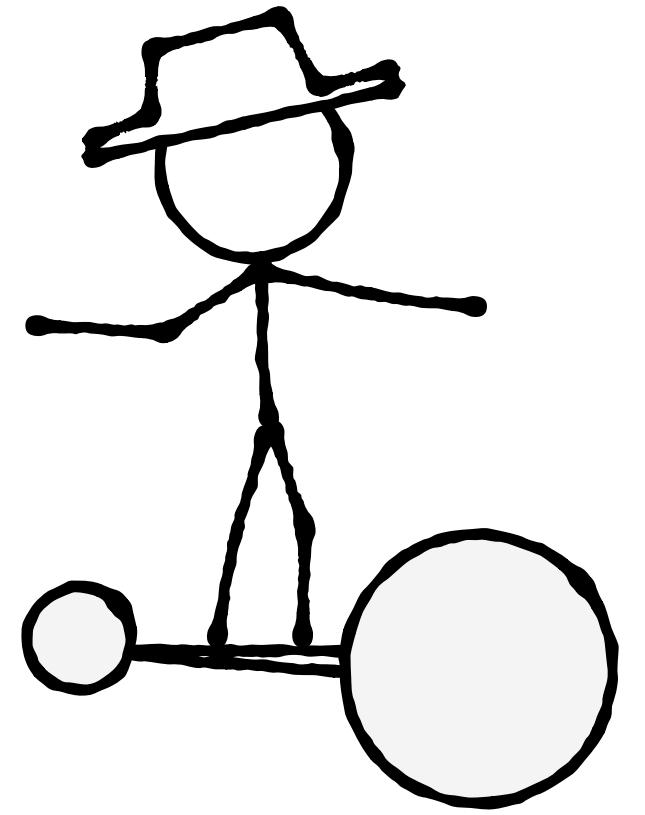
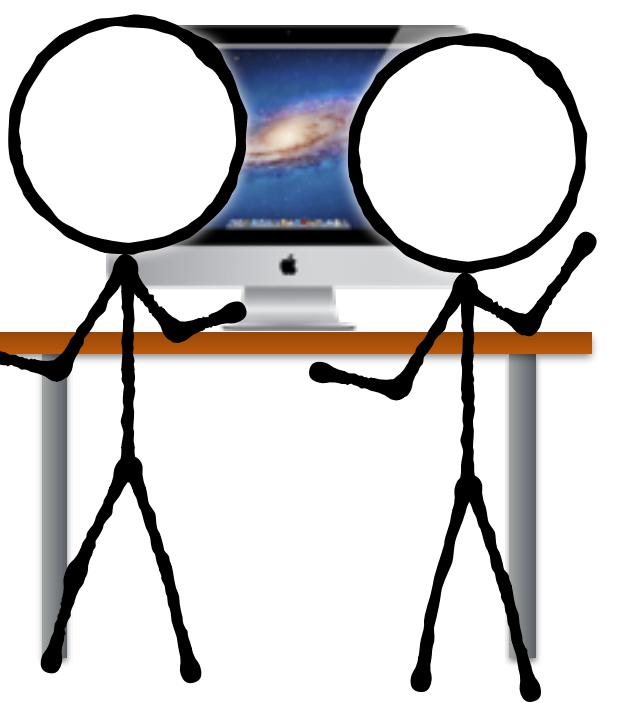


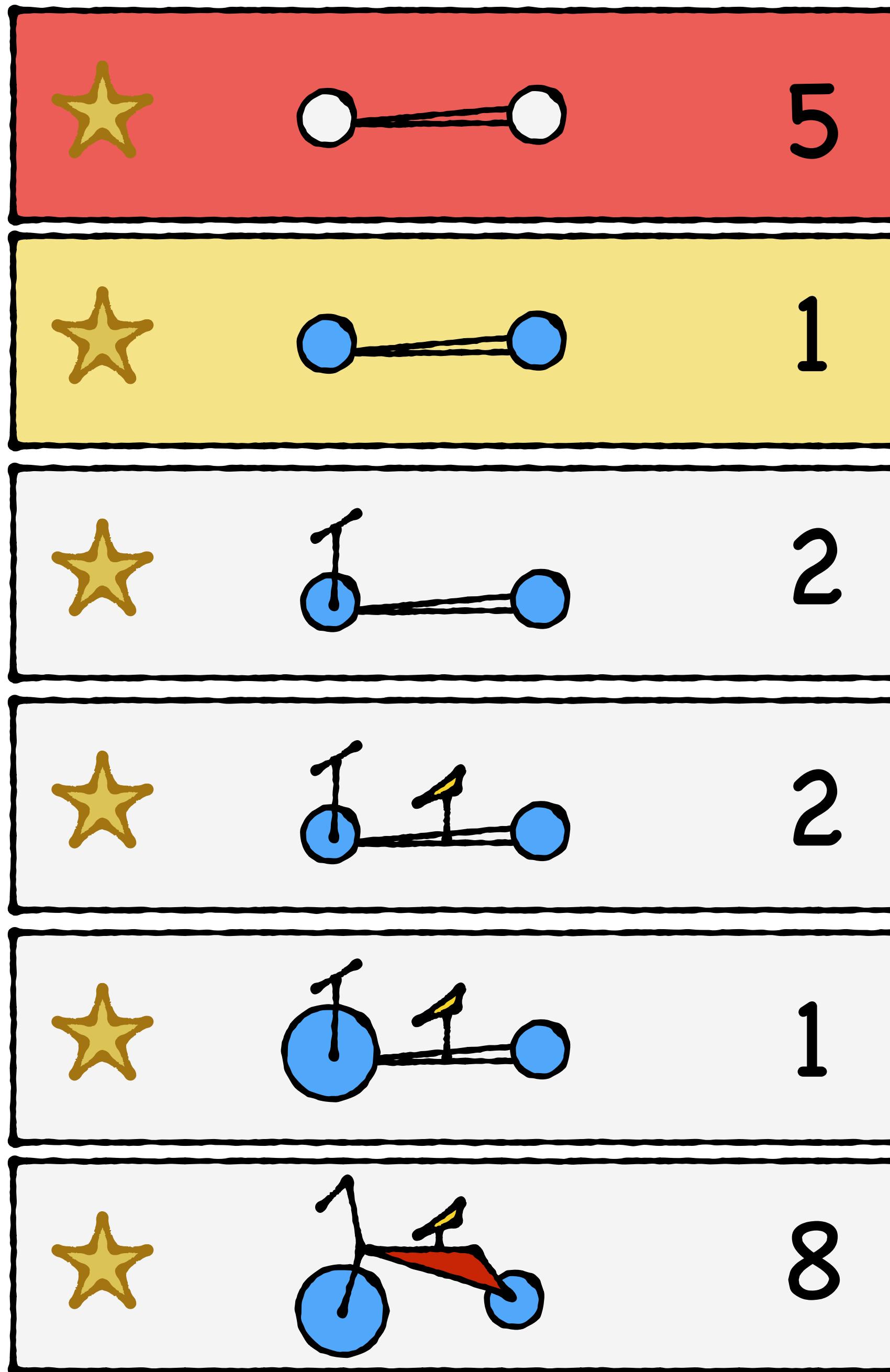
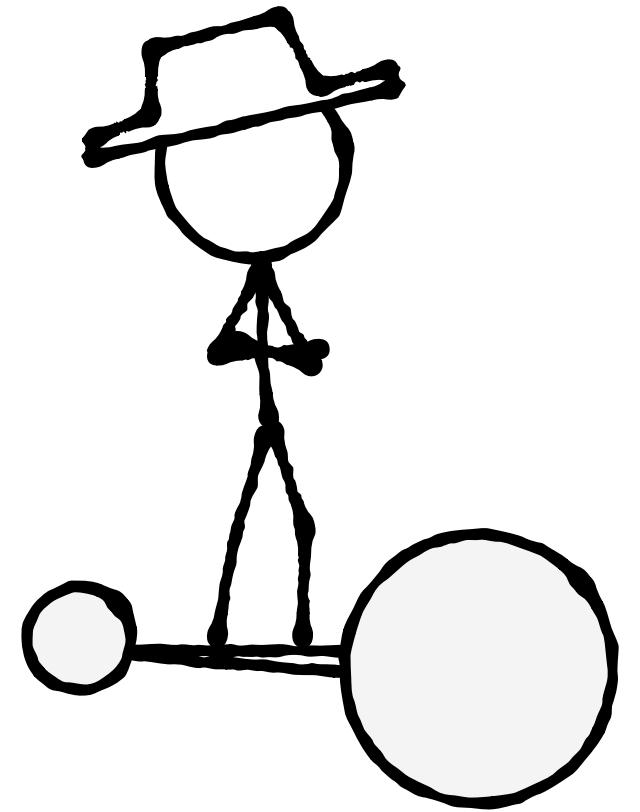
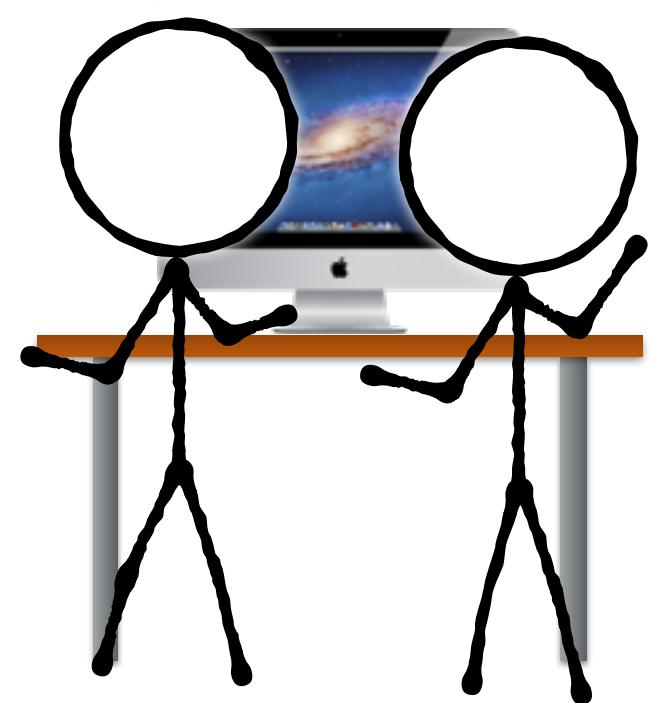
★	● — ●	5
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★	— ● ●	2
★	— ● 1	2
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★	— ● 1	8

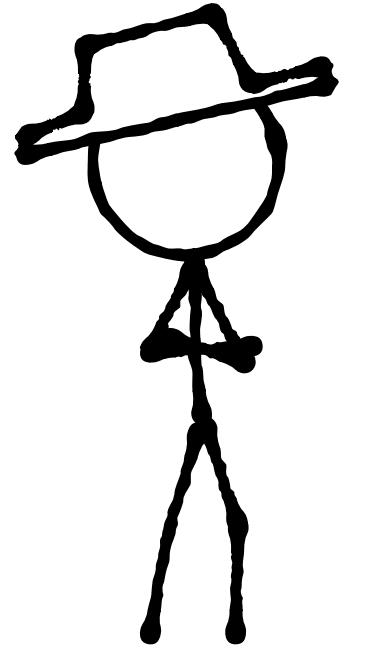




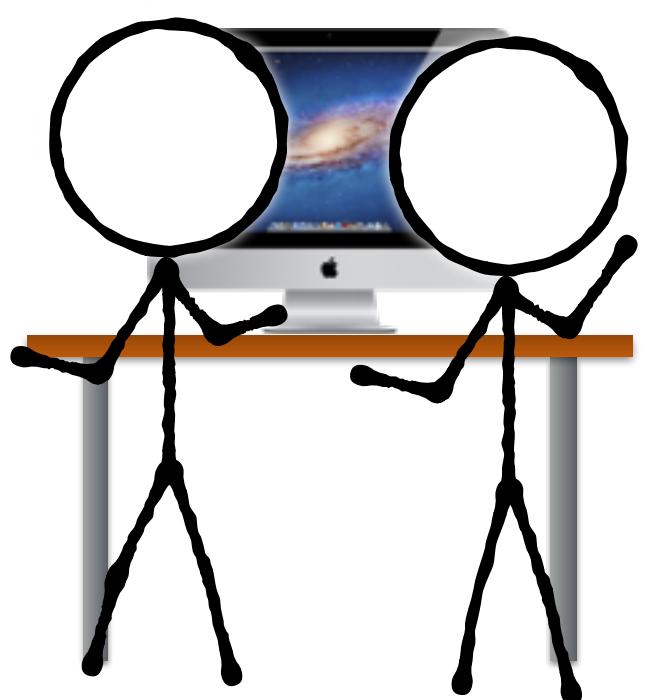


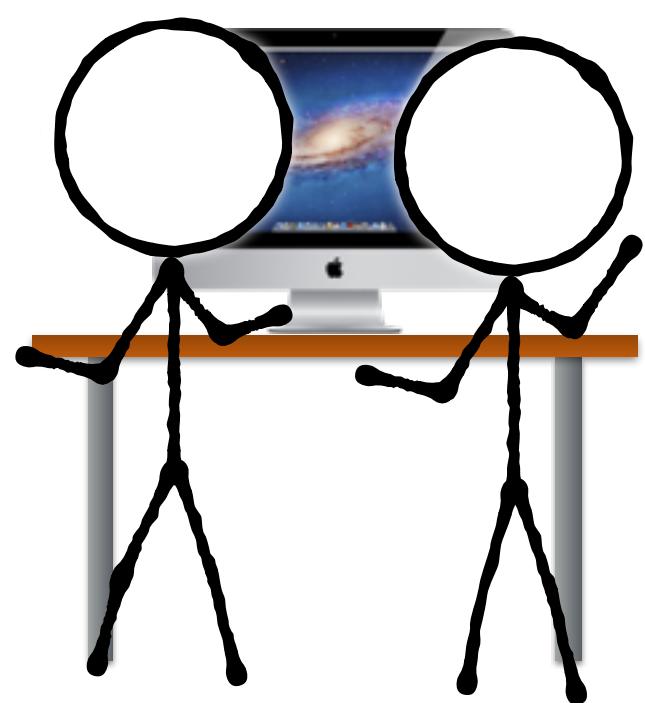
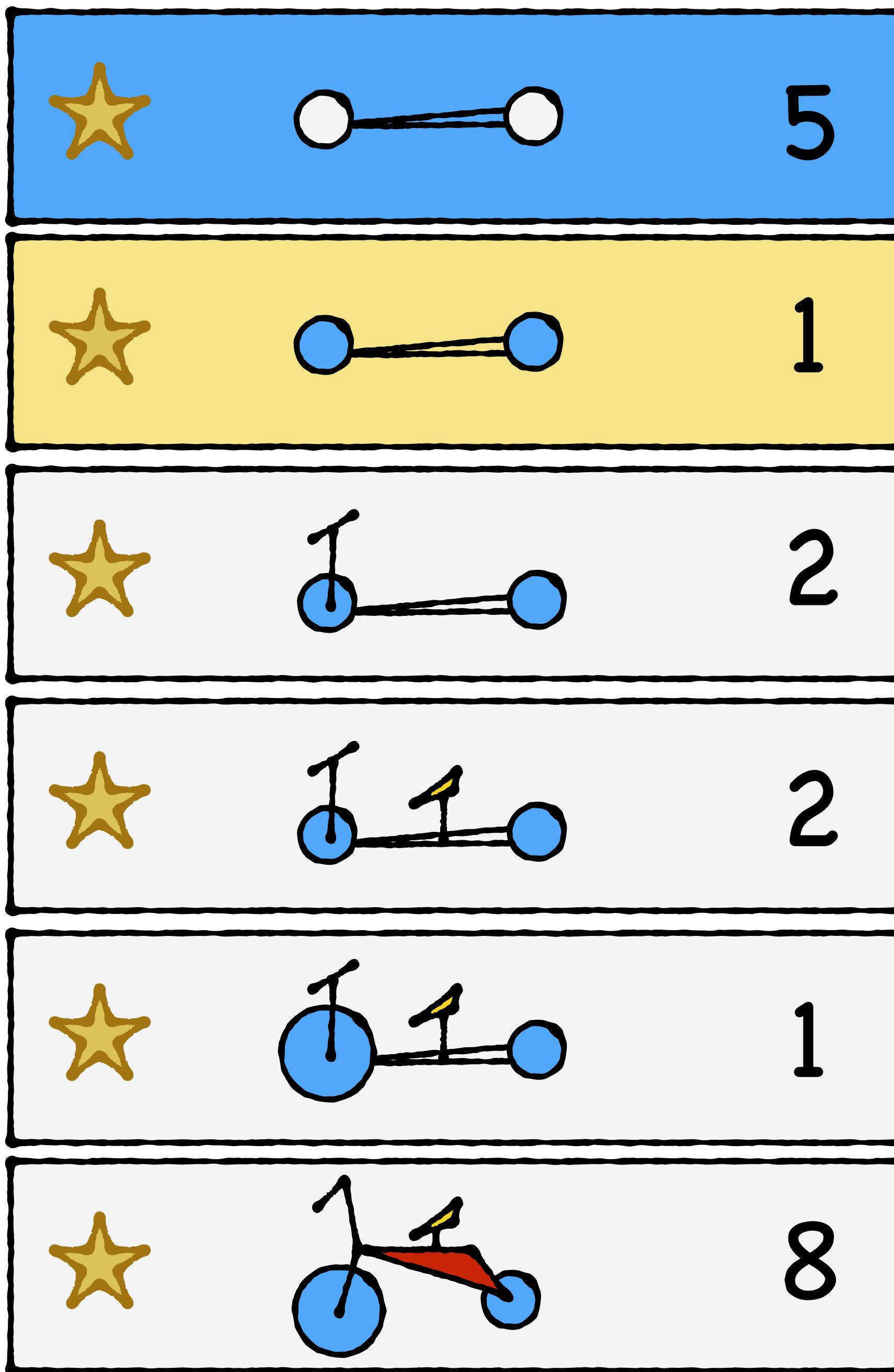
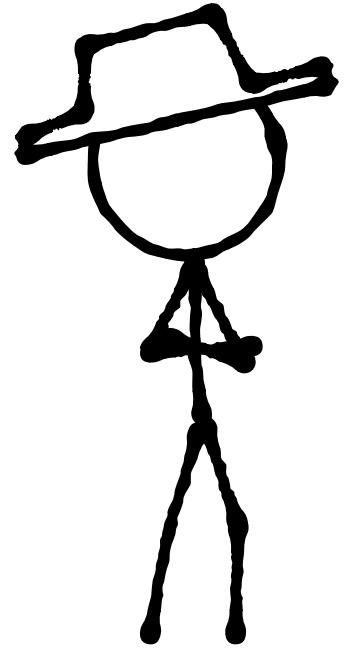


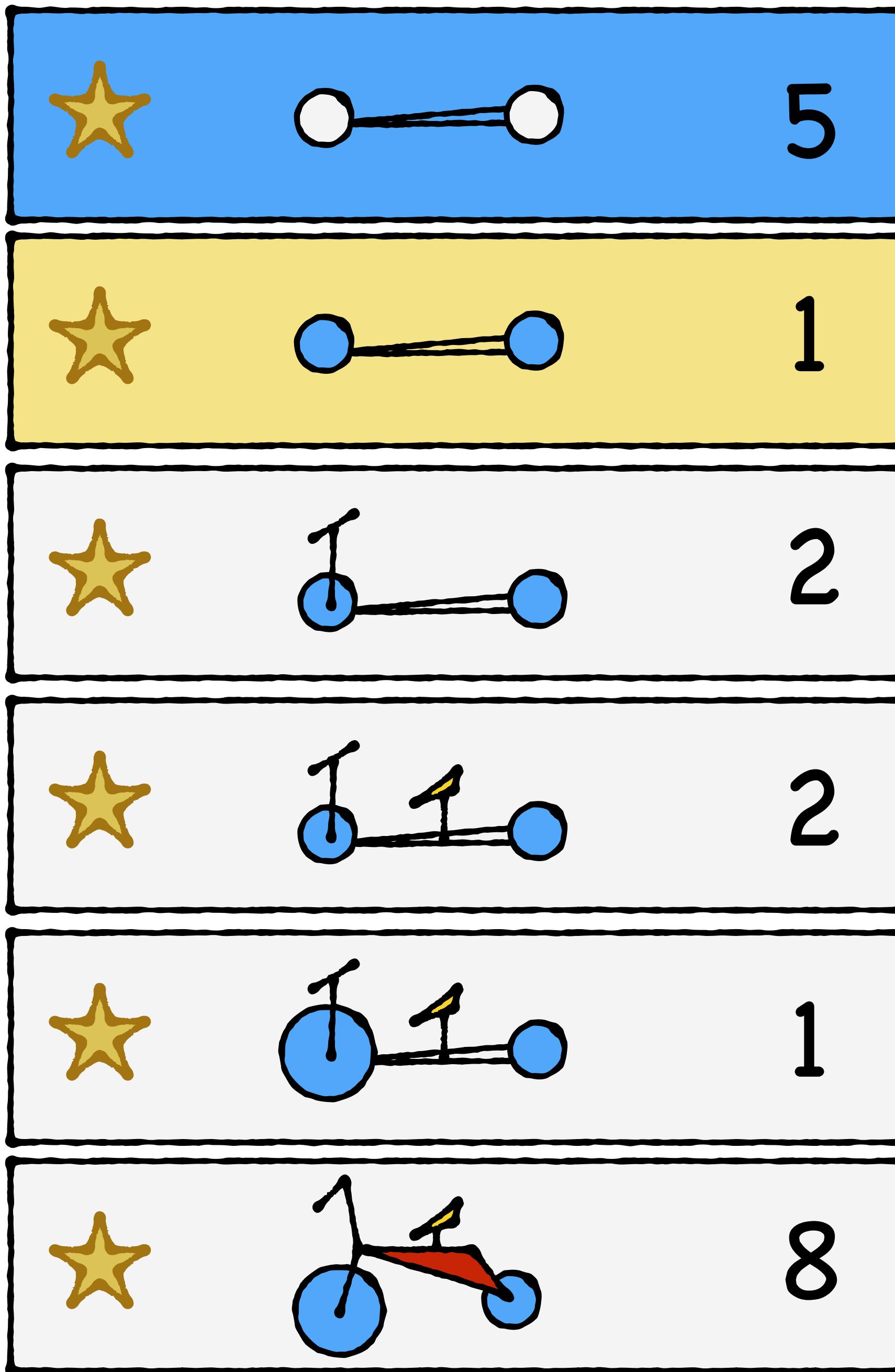
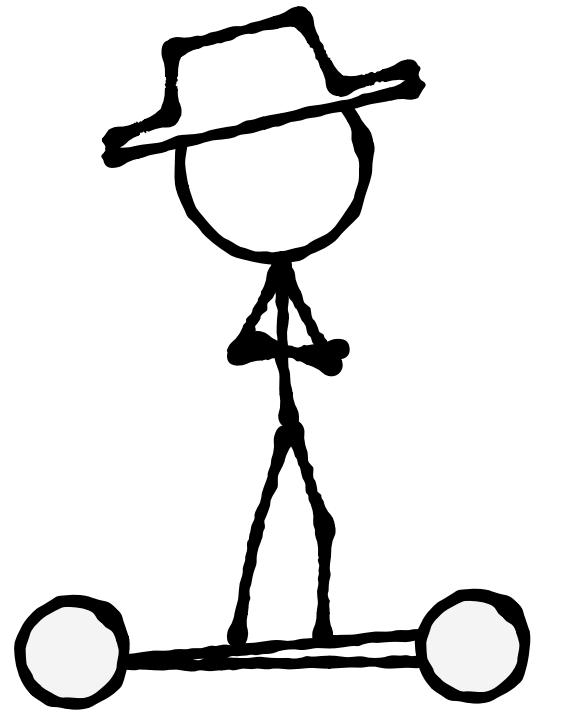
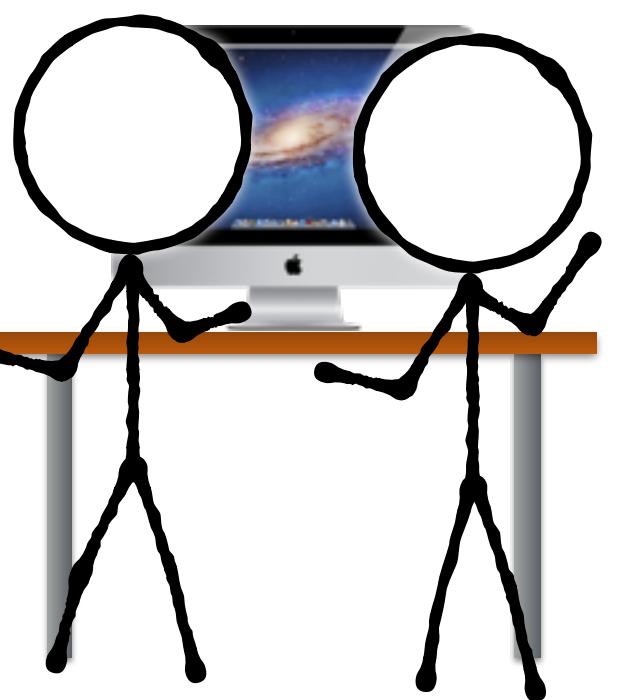


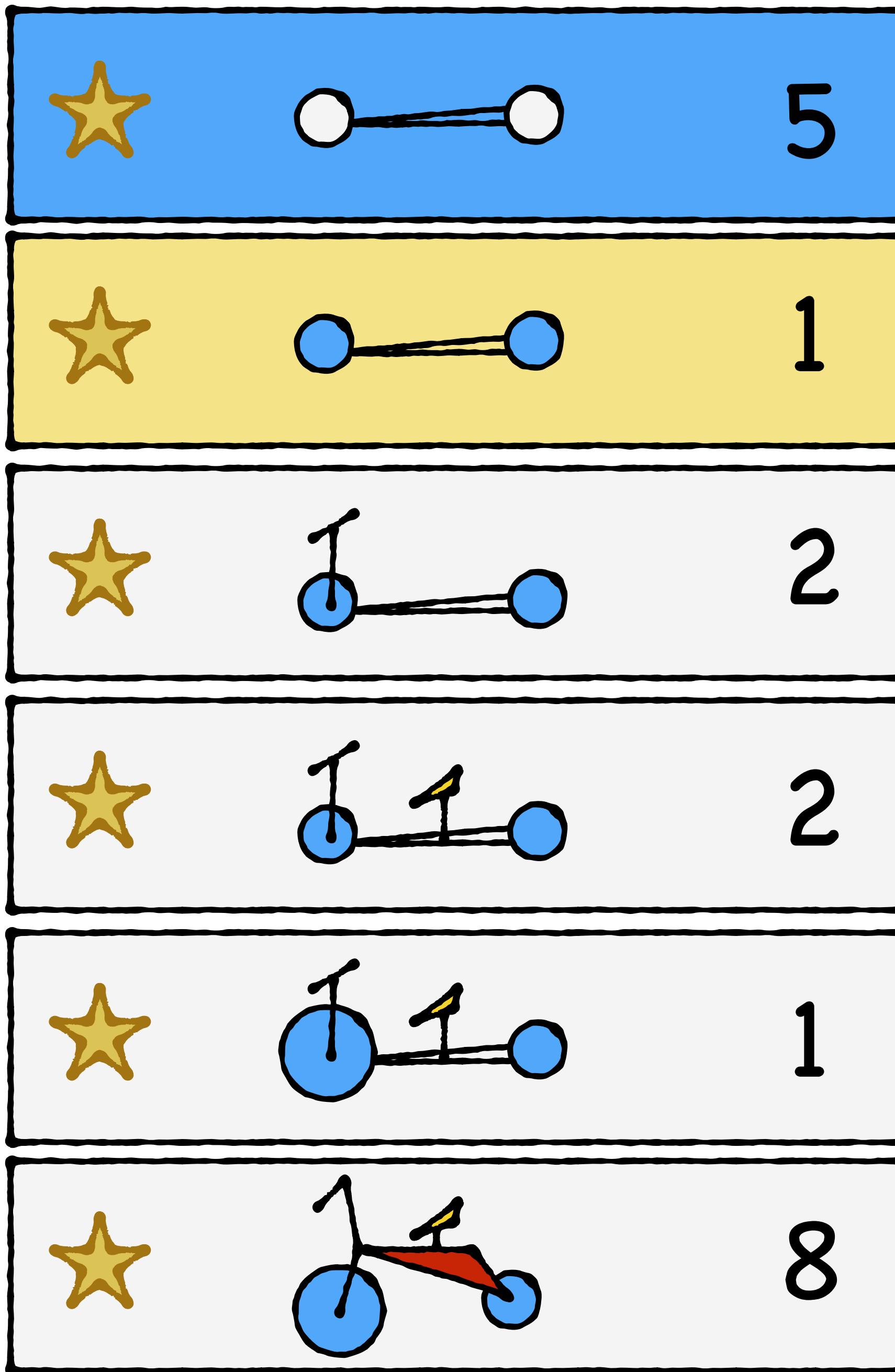
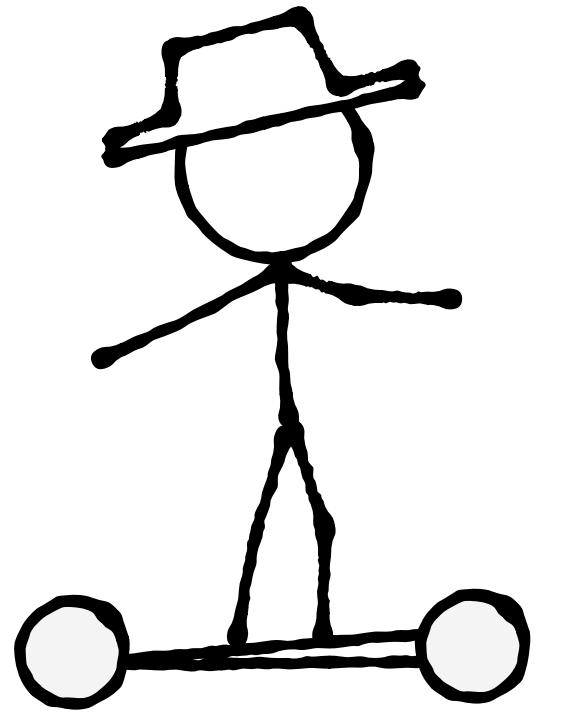
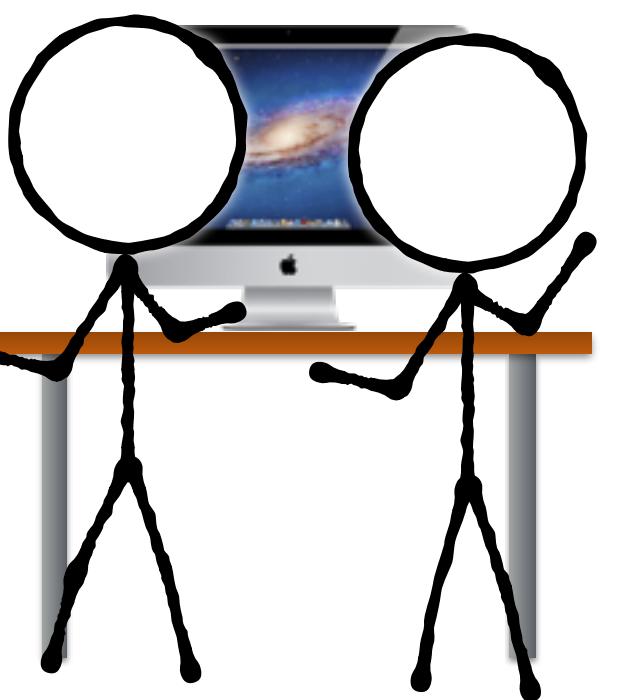


★	● — ●	5
★	● — ●	1
★	— ● ●	2
★	— ● 1	2
★	— ● 1	1
★	— ● 1	8

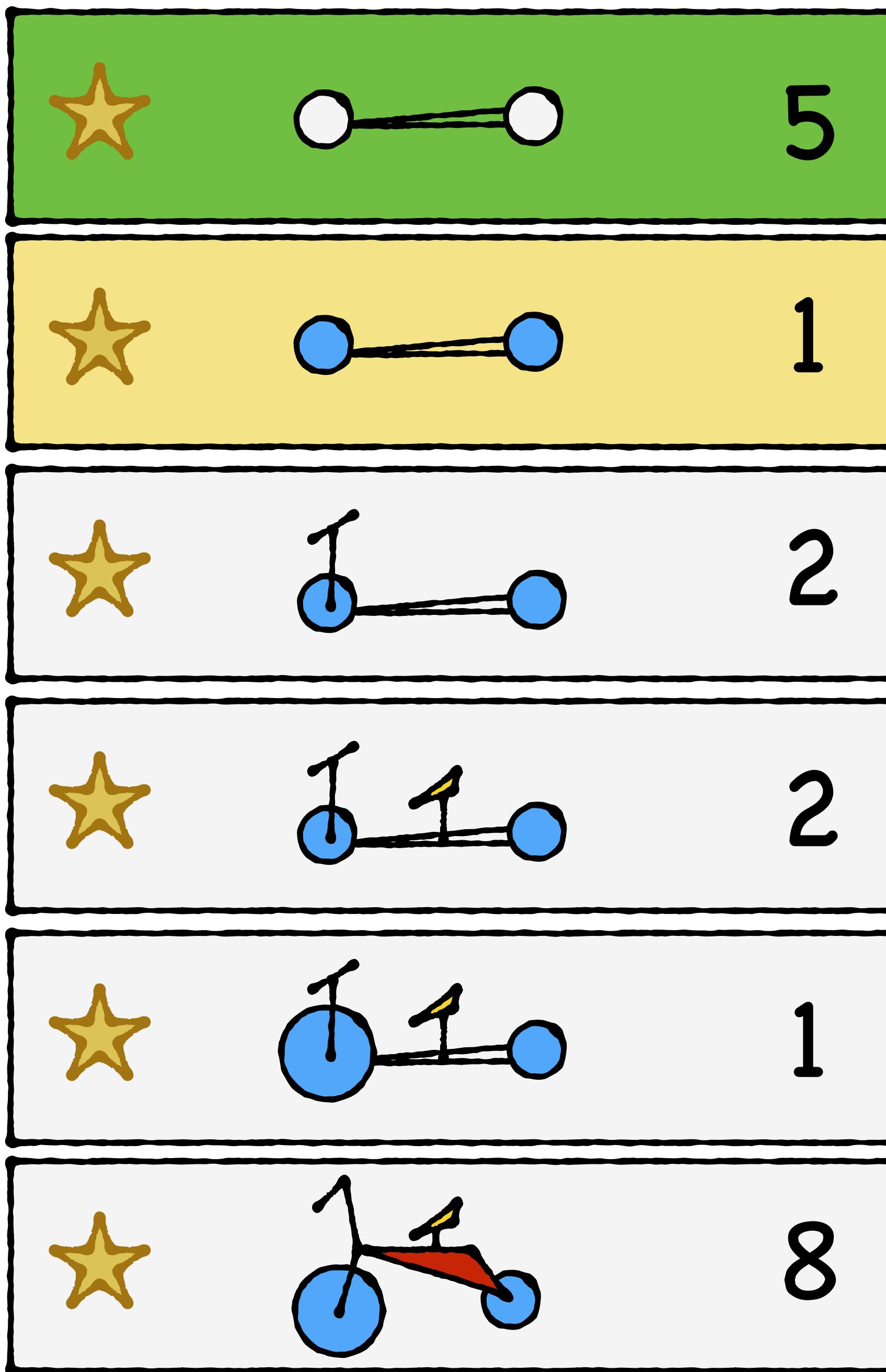
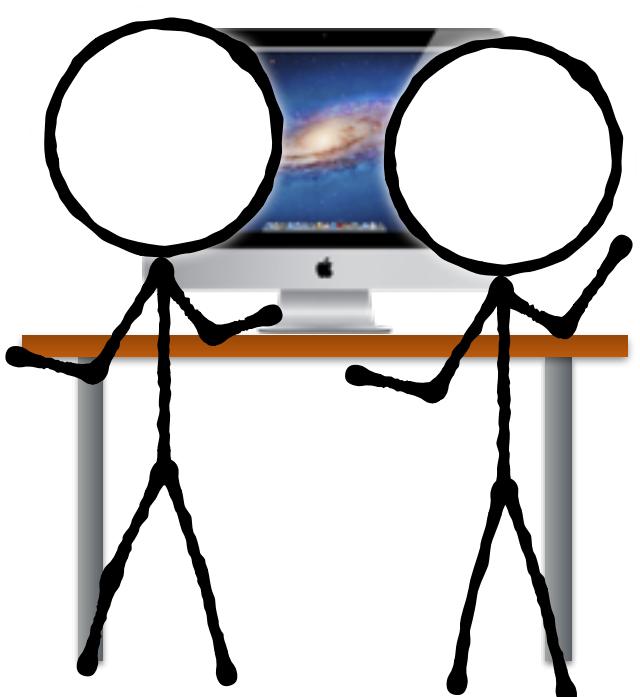
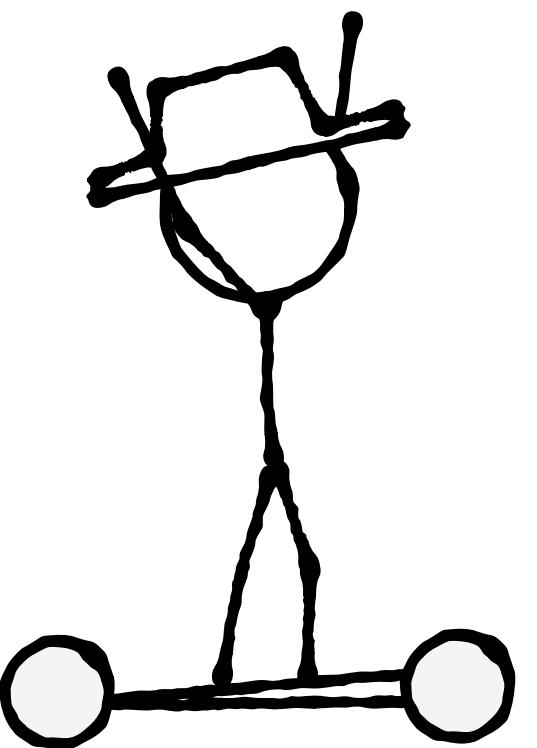




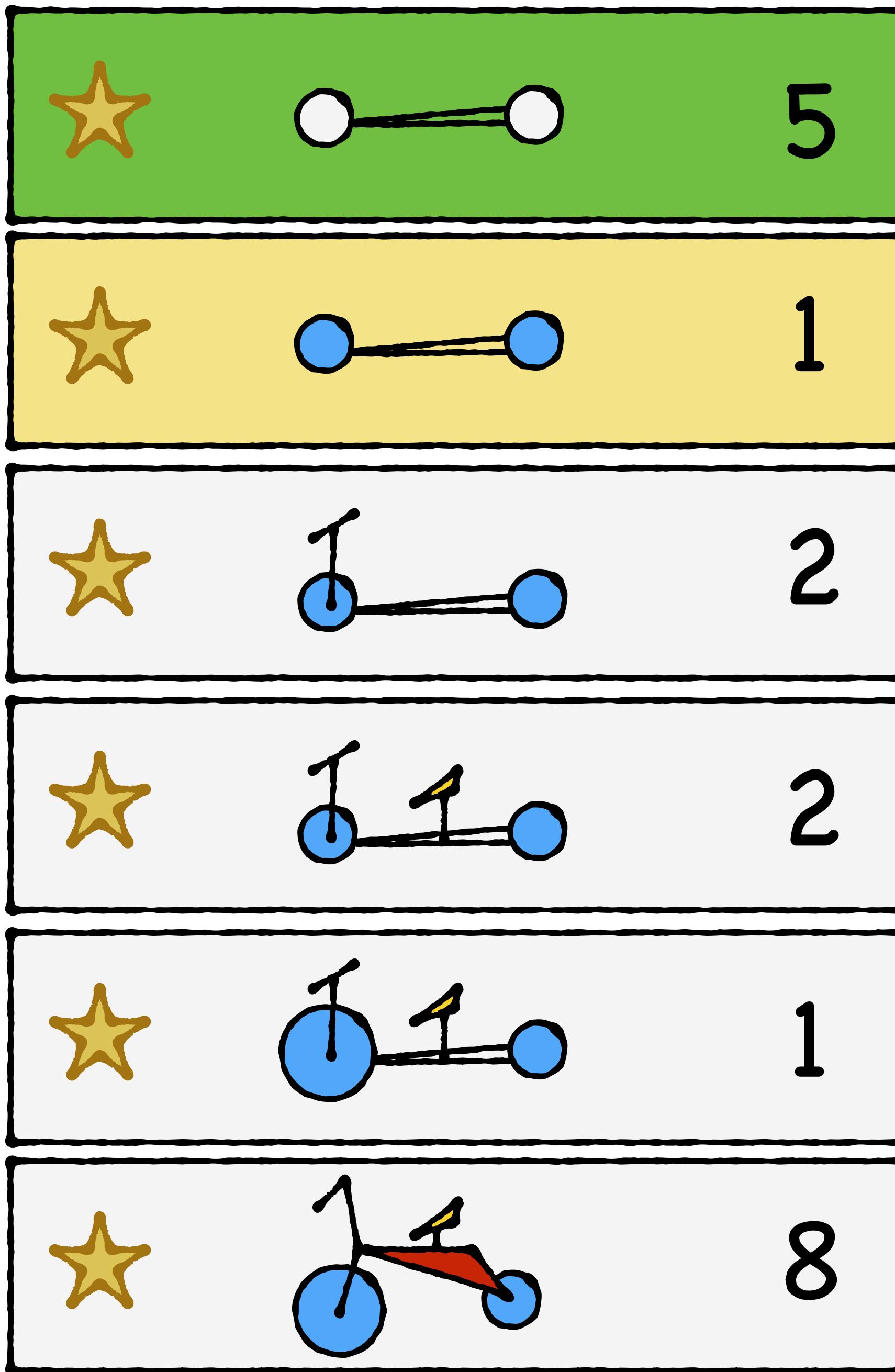
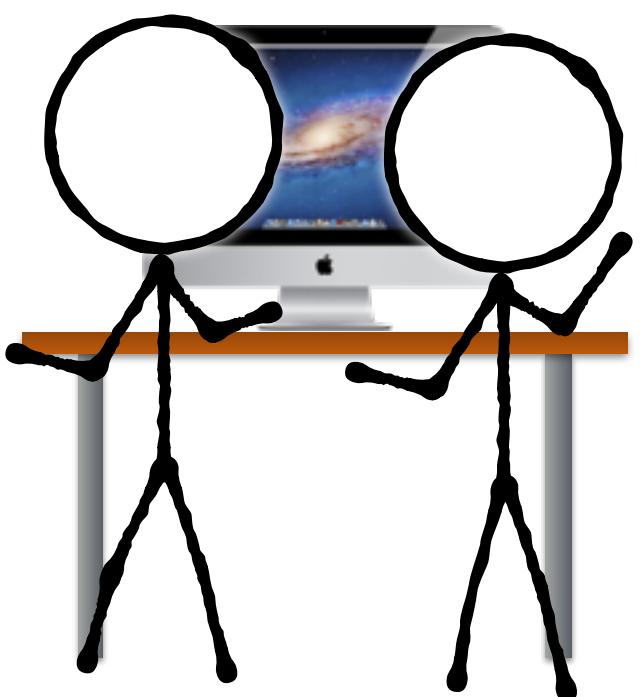
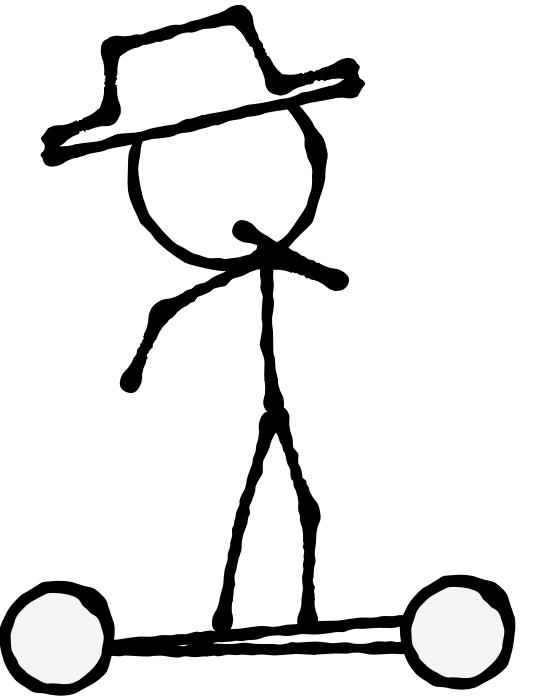




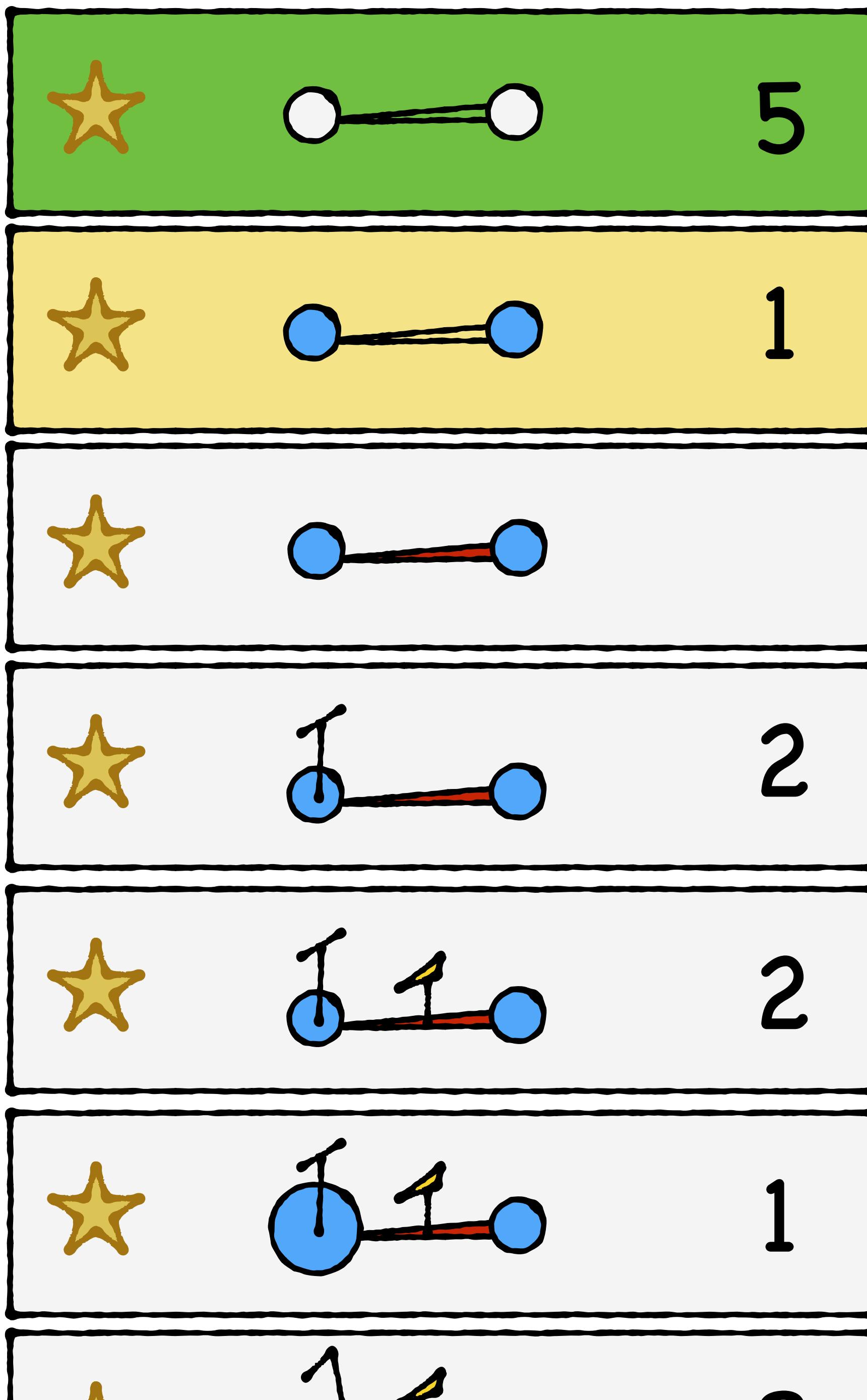
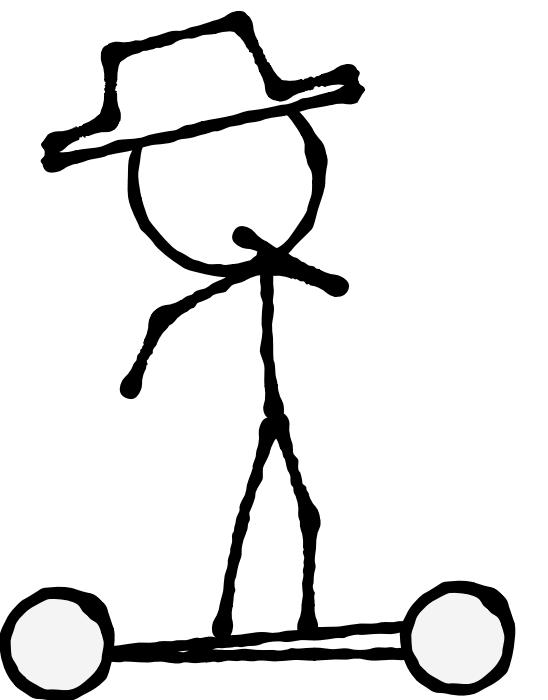
Short feedback cycles



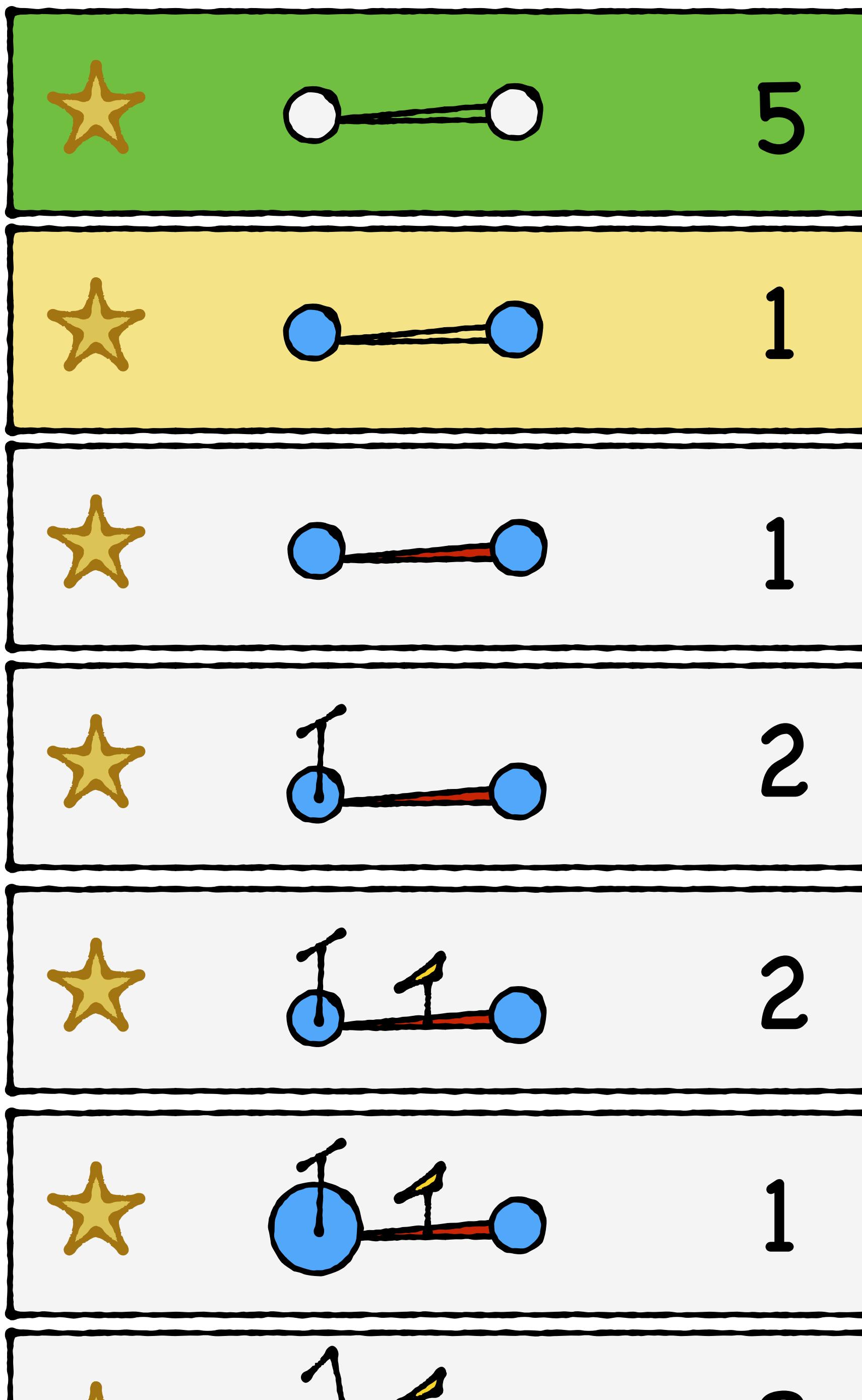
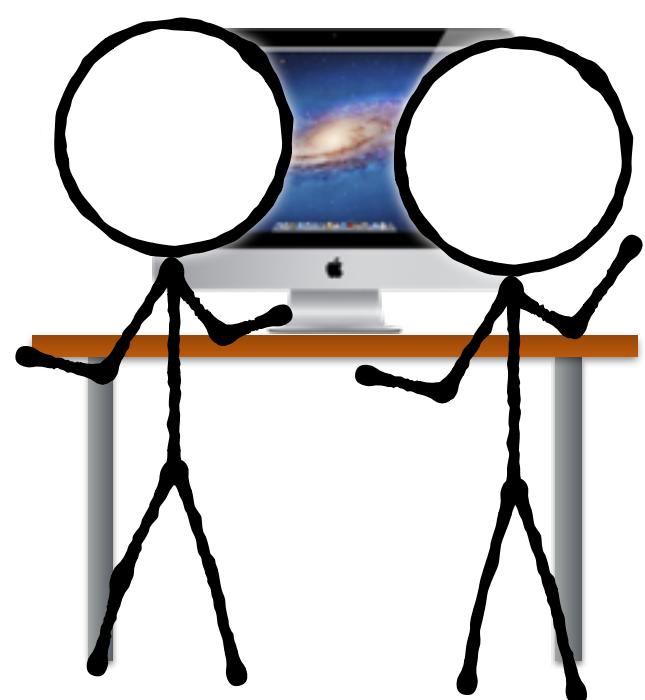
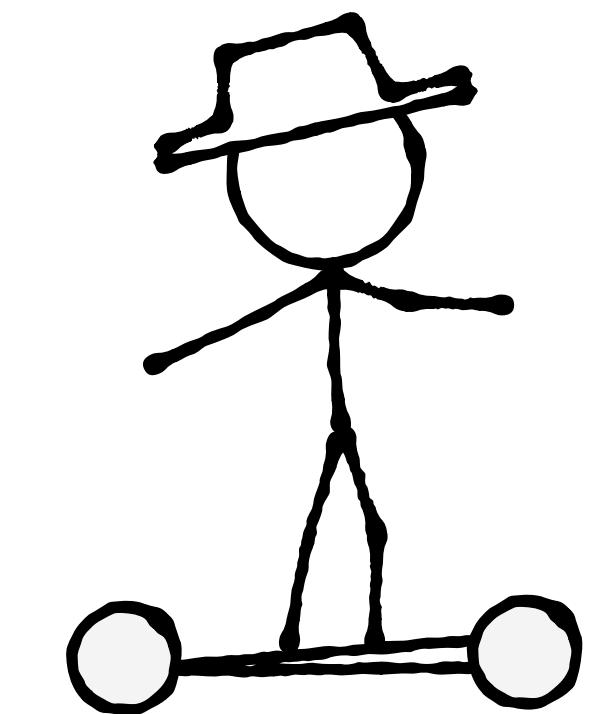
Short feedback cycles



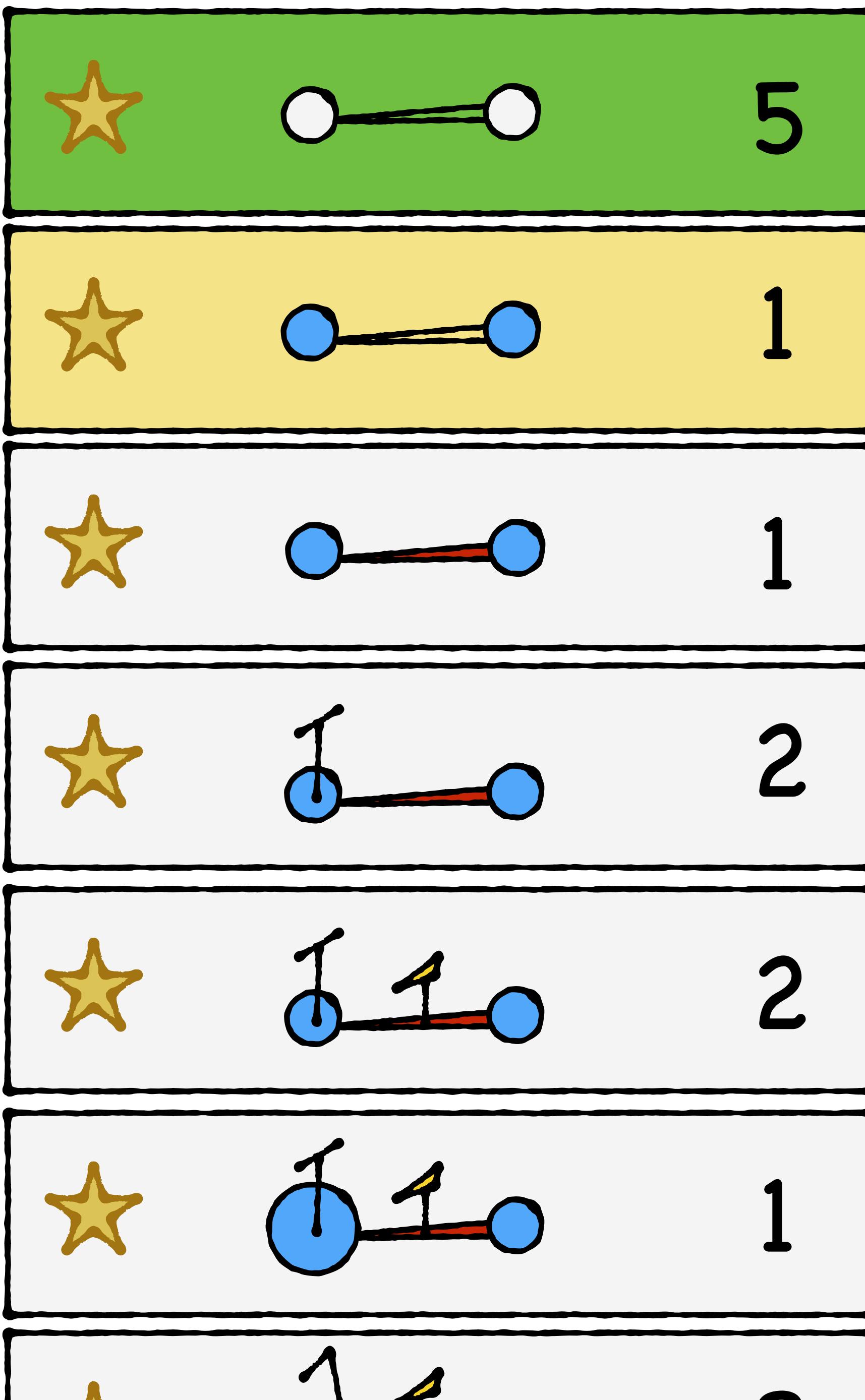
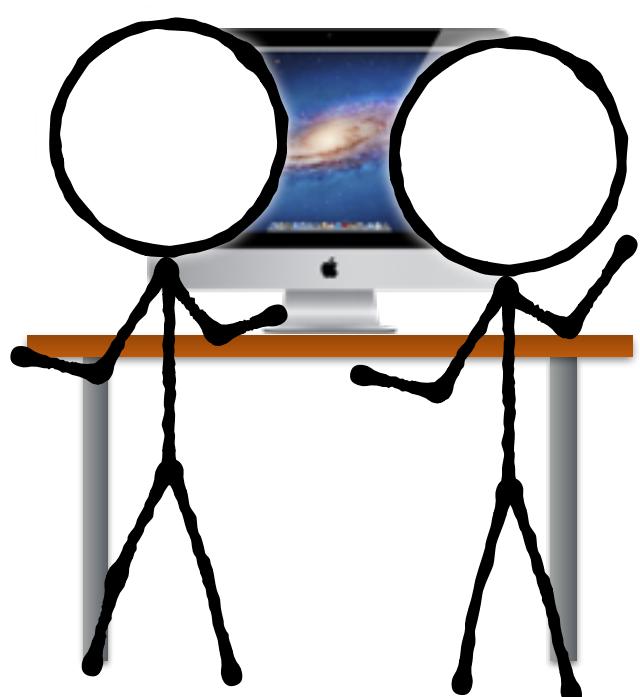
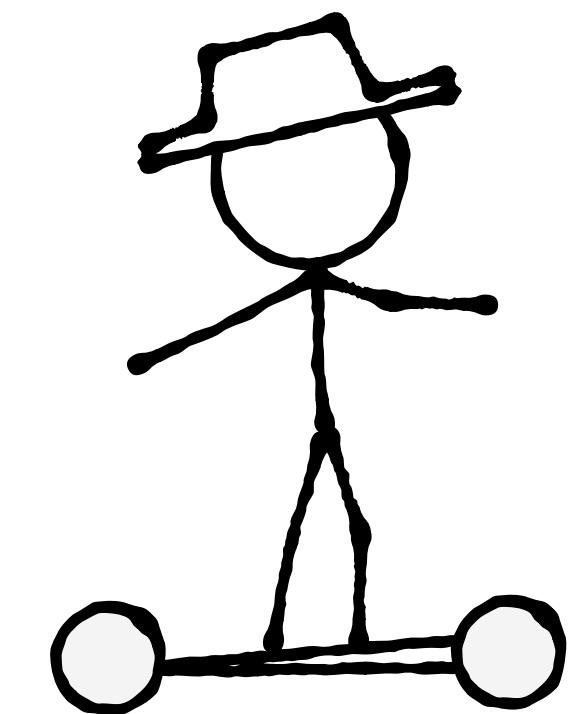
Short feedback cycles



Short feedback cycles

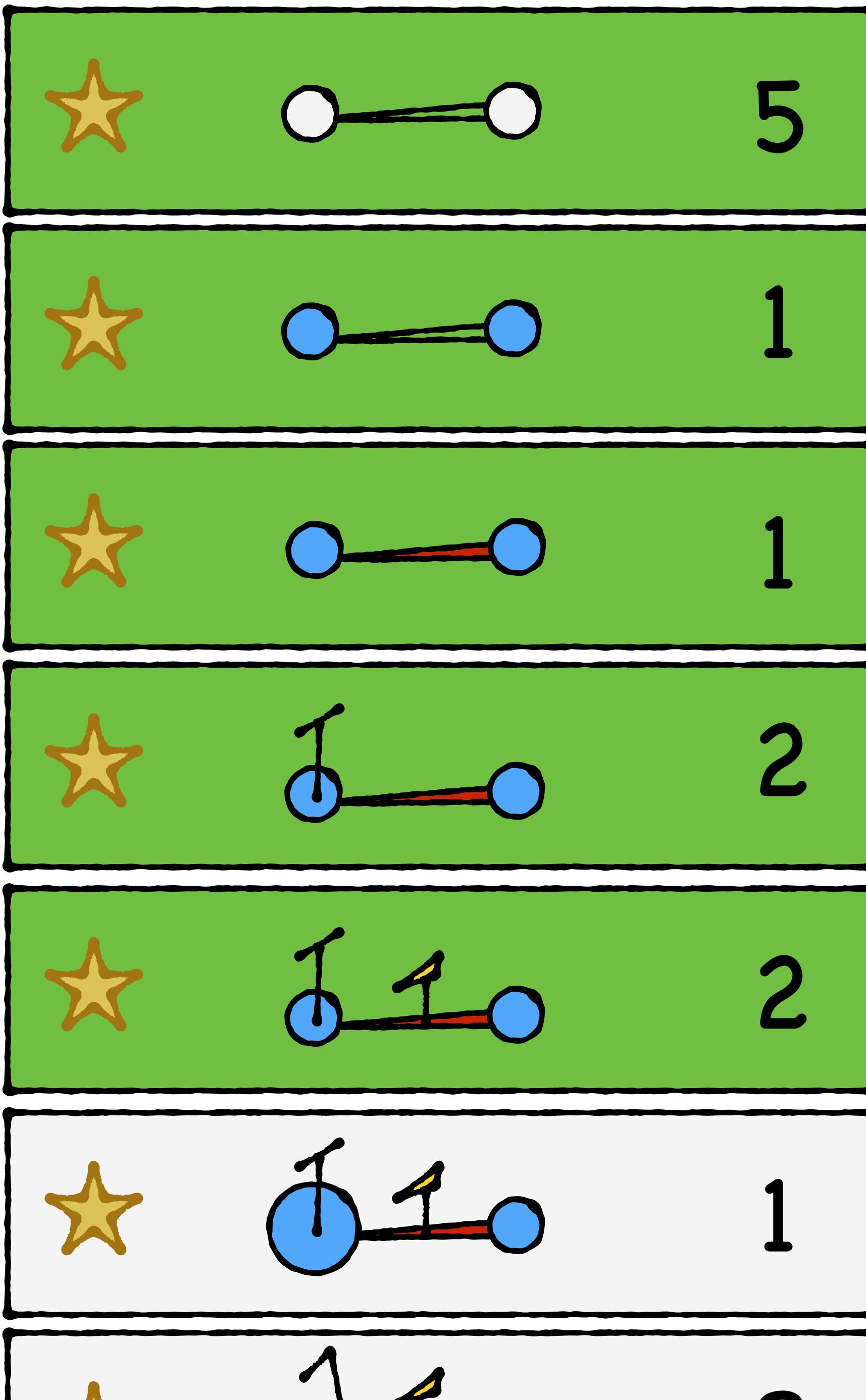


Short feedback cycles
Changing design in
response to feedback

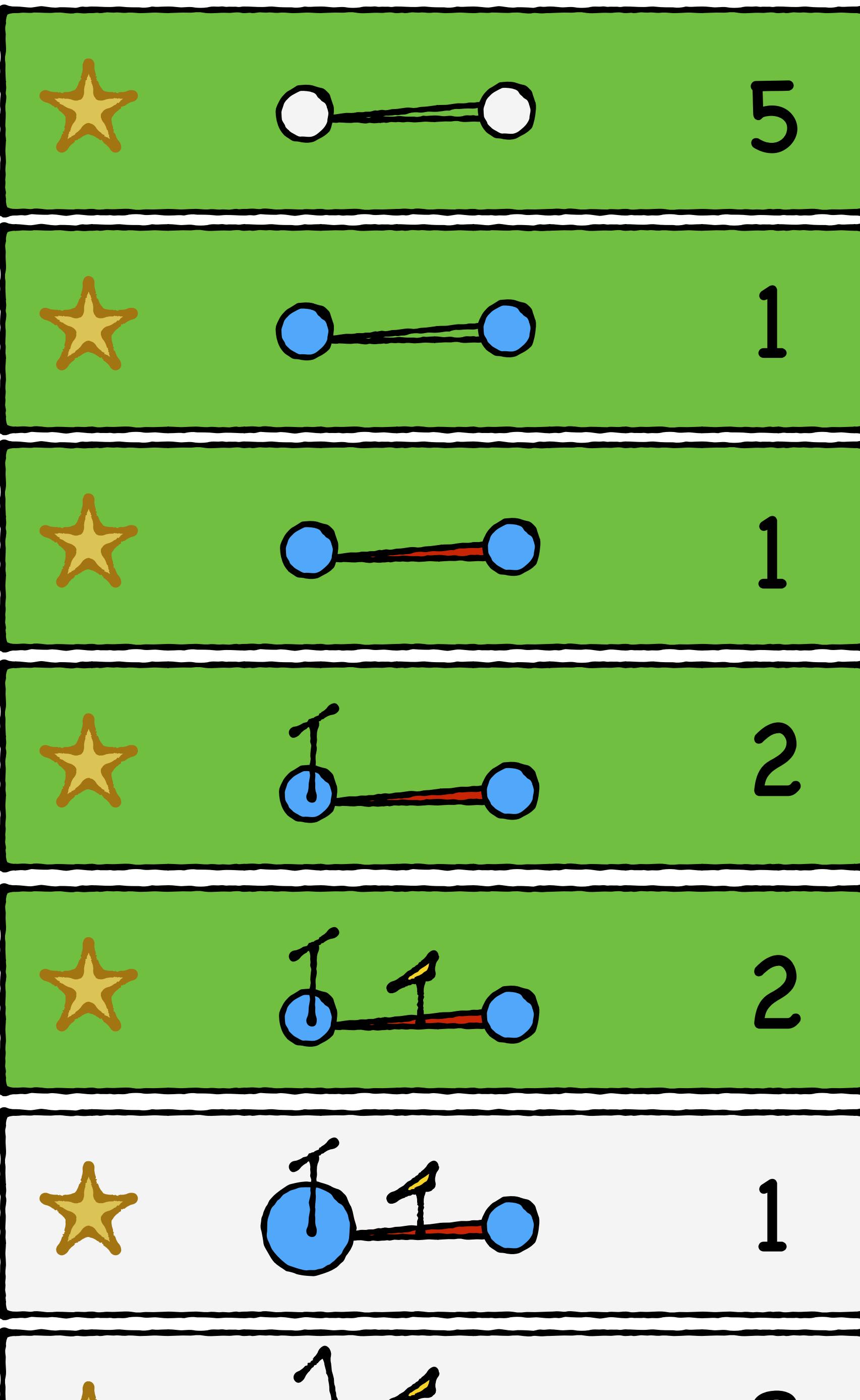
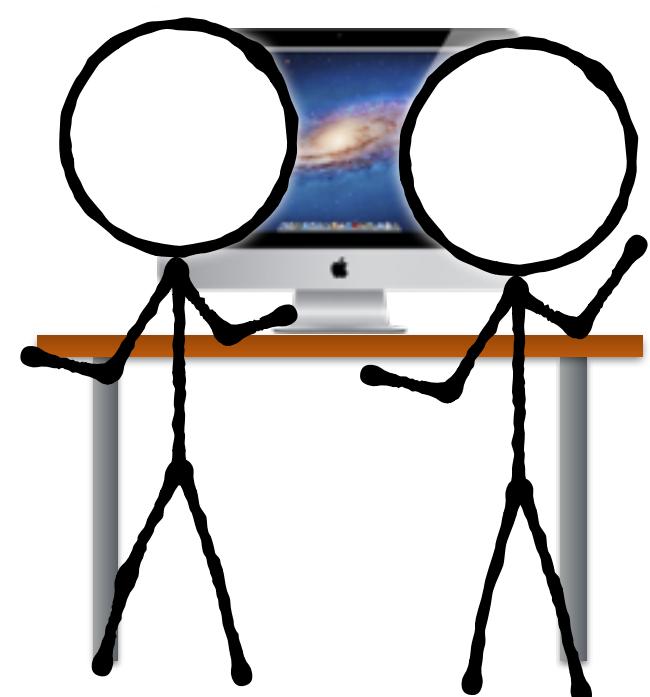
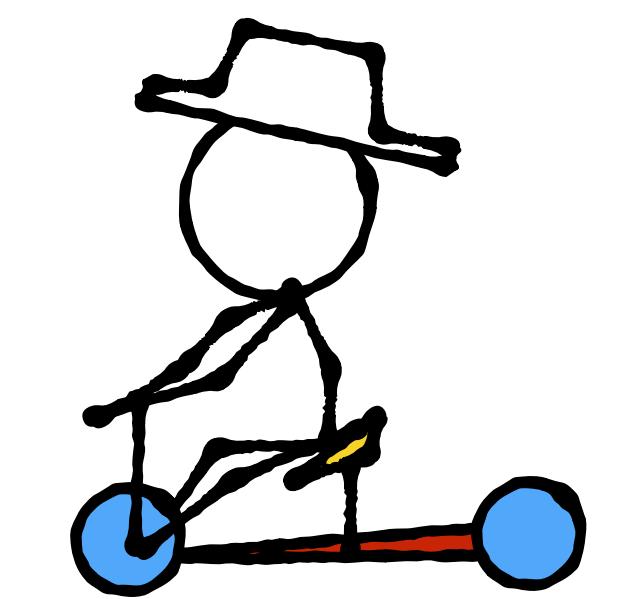


Short feedback cycles

Changing design in response to feedback

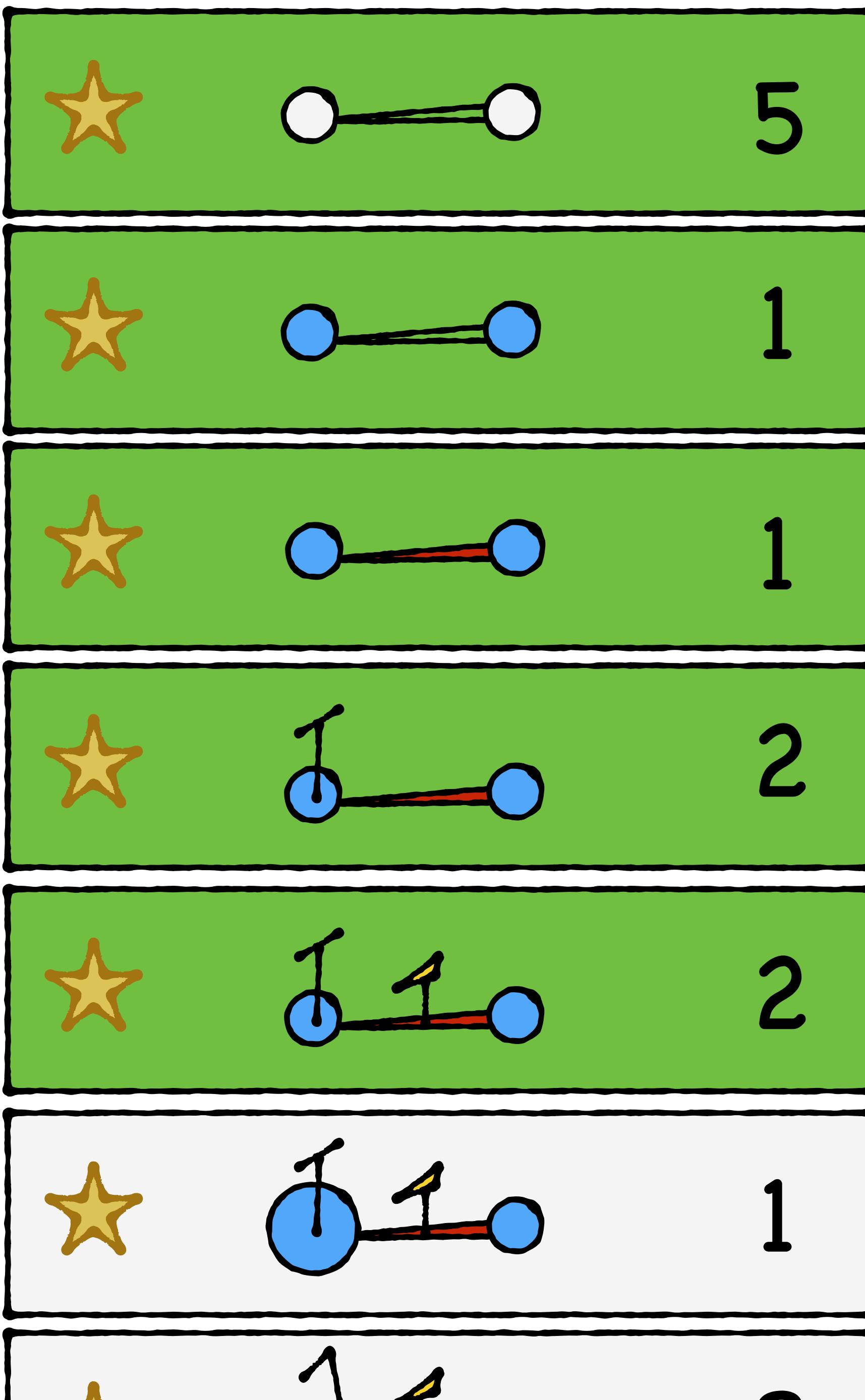
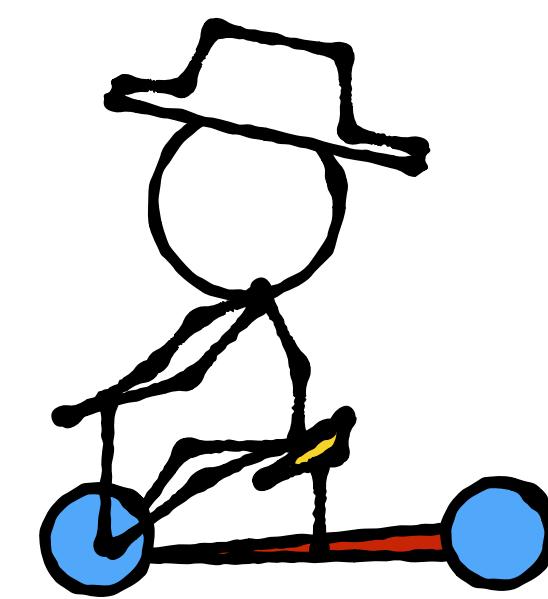


Short feedback cycles
Changing design in
response to feedback



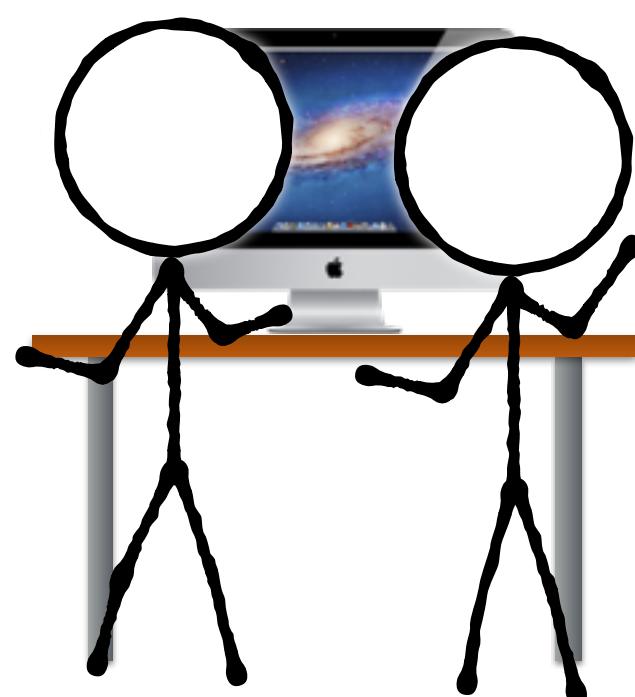
← DATA

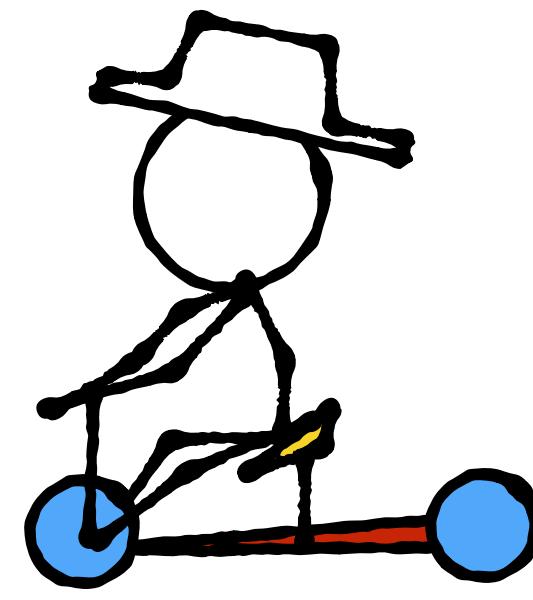
Short feedback cycles
Changing design in
response to feedback



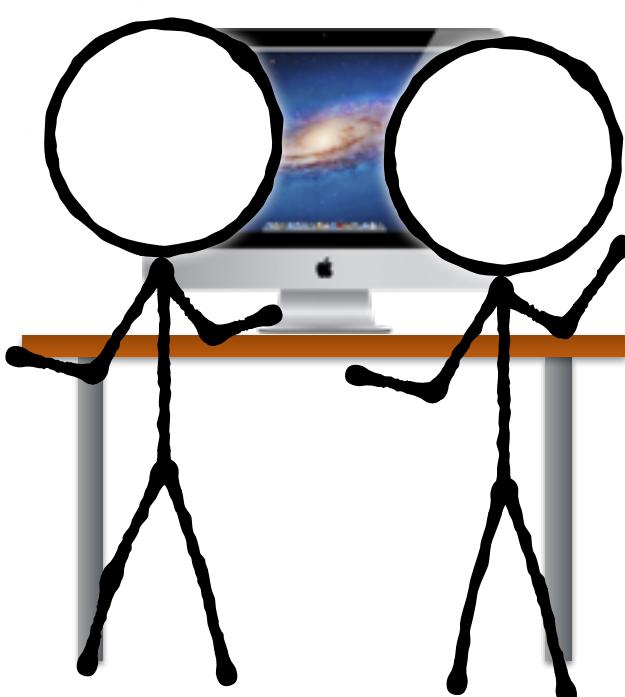
← **DATA**

velocity = points/week

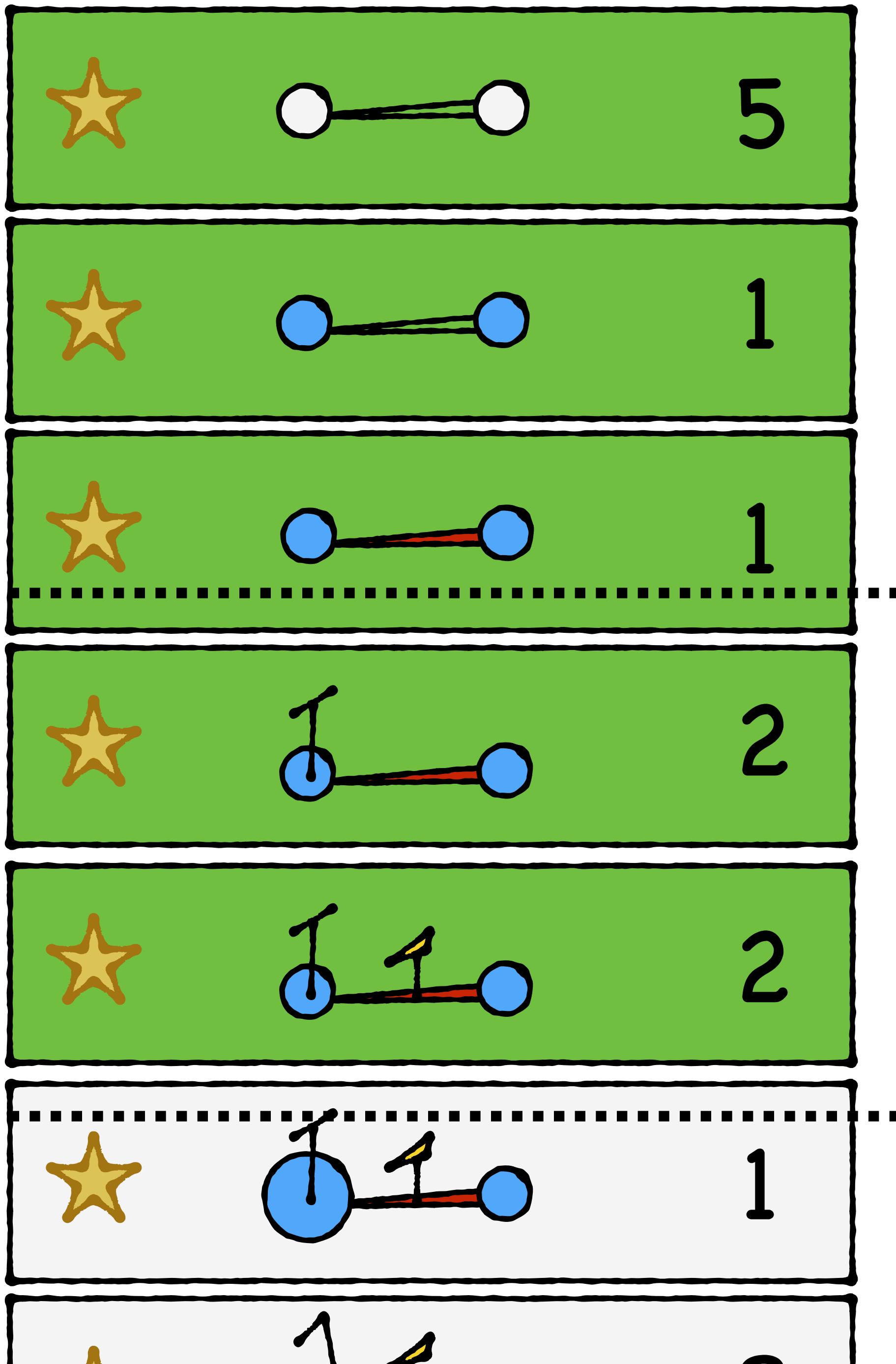




Oct.



Nov.

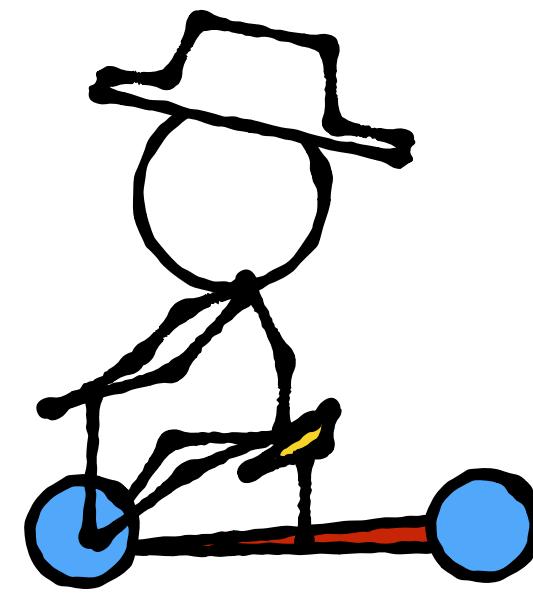


Short feedback cycles
Changing design in
response to feedback

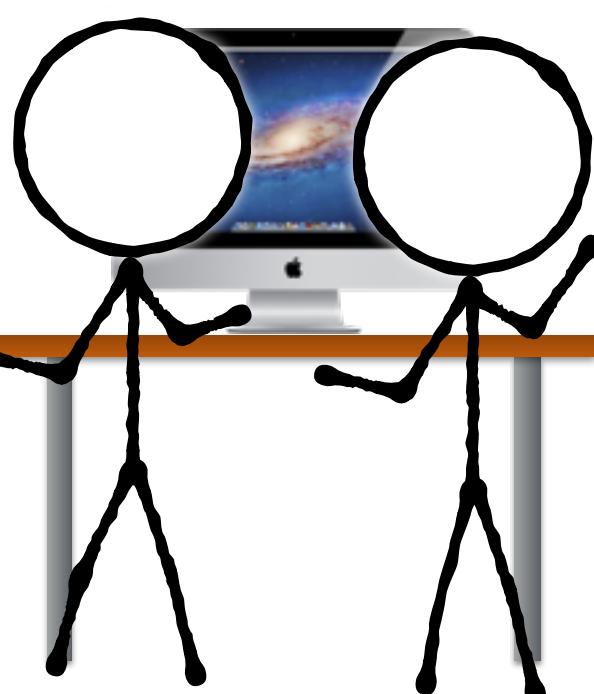
← **DATA**

velocity = points/week

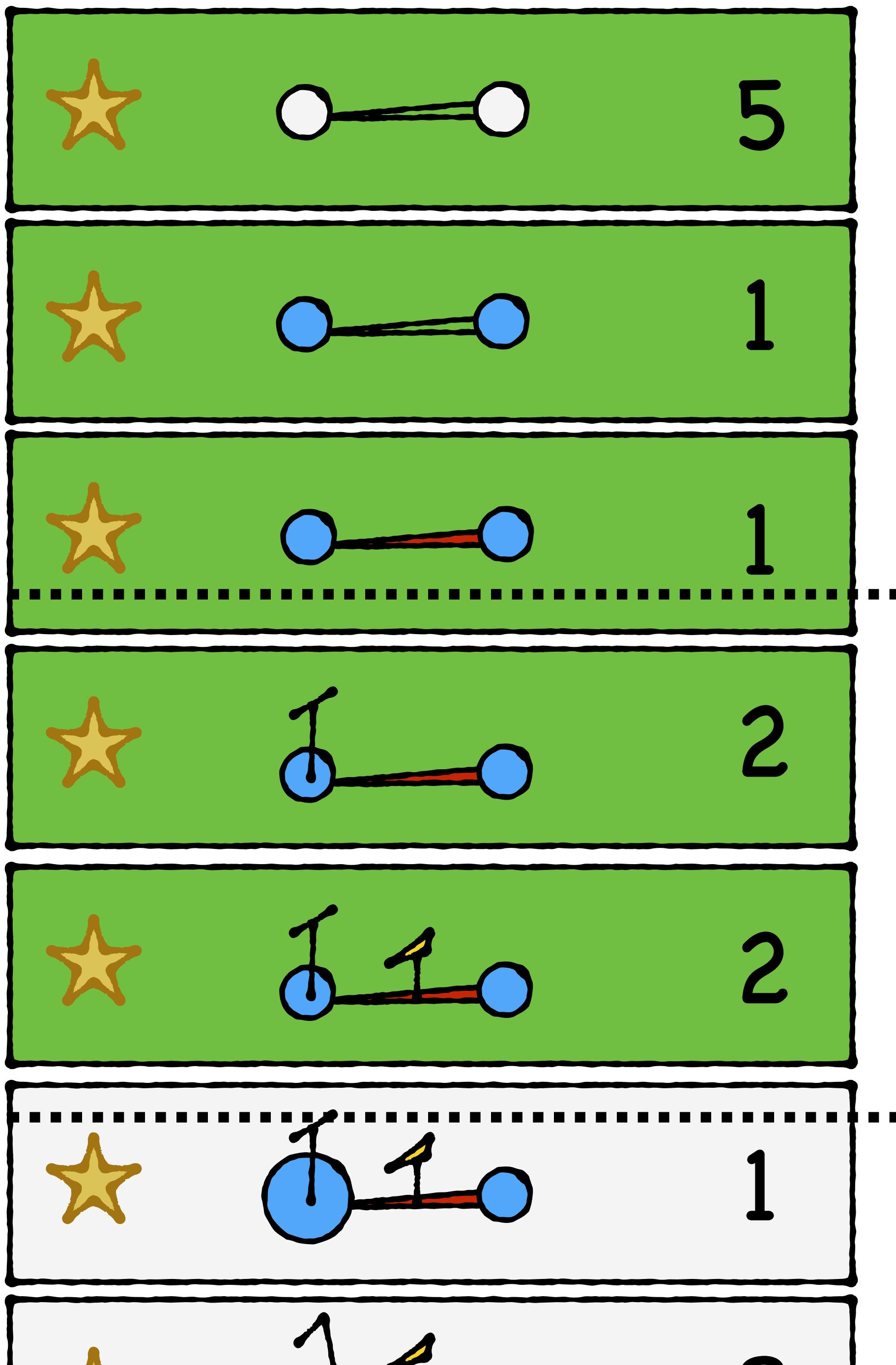
Enables data-driven
delivery predictions



Oct.



Nov.



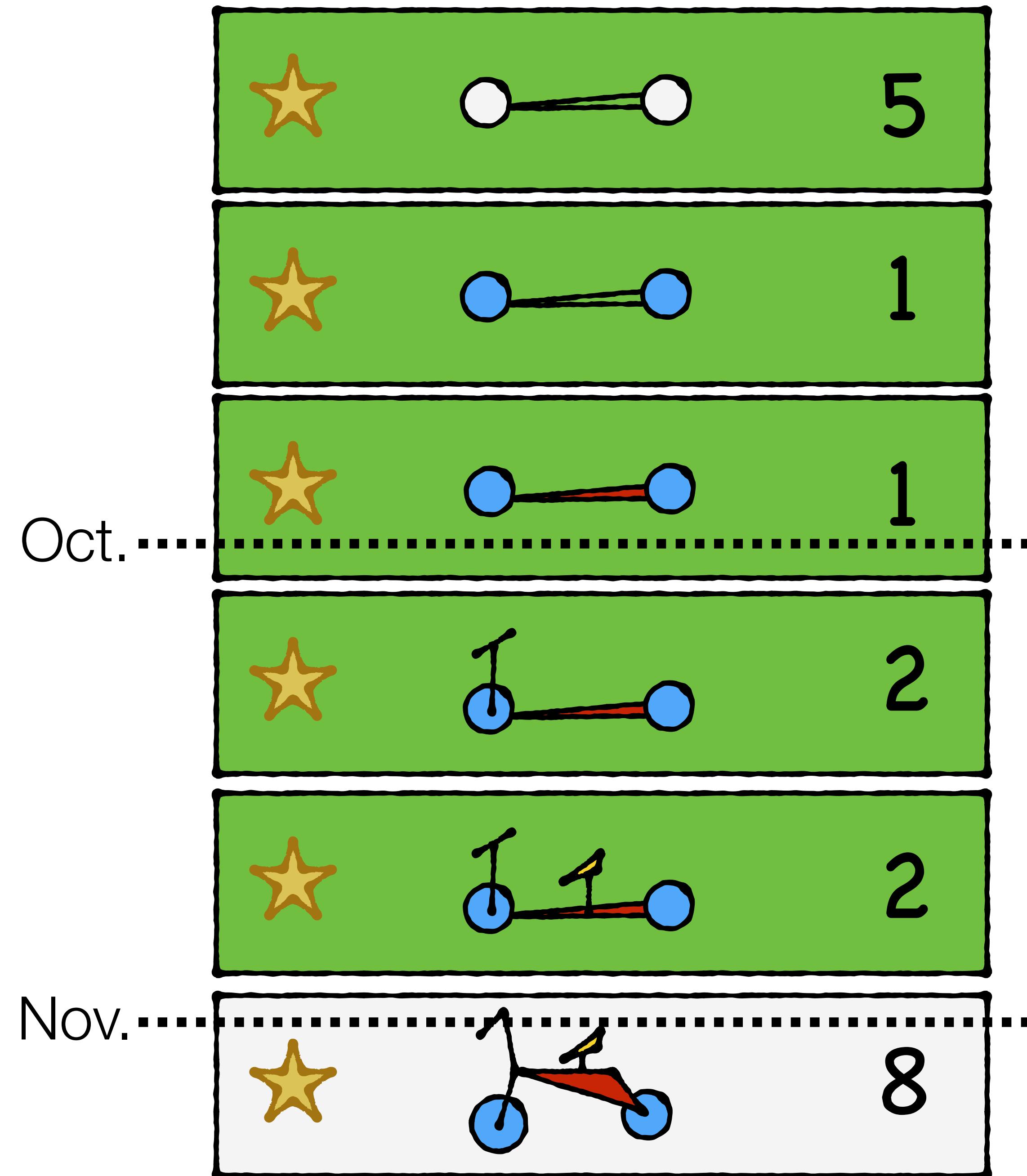
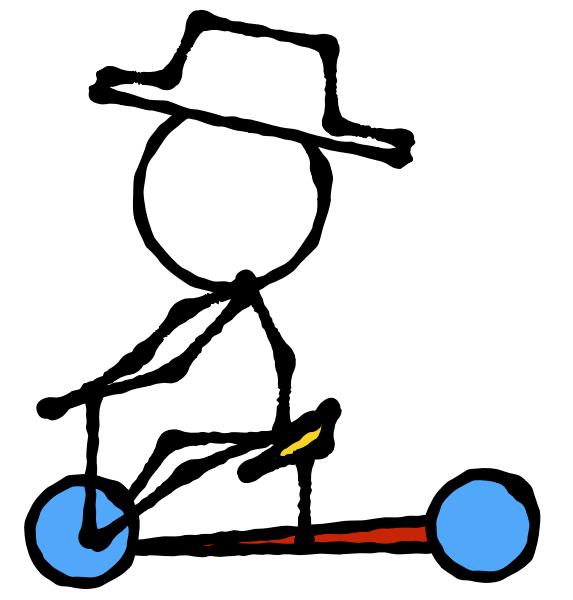
Short feedback cycles
Changing design in
response to feedback

← **DATA**

velocity = points/week

Enables data-driven
delivery predictions

To hit a deadline:



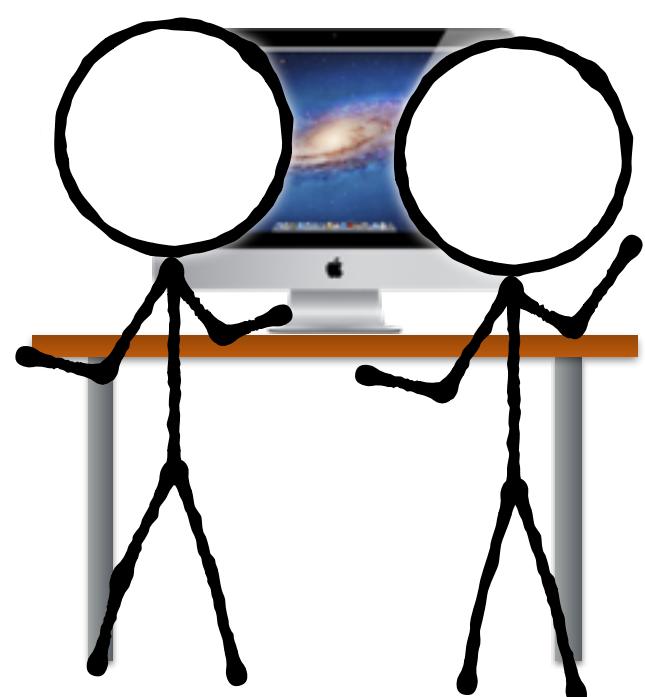
Short feedback cycles
Changing design in
response to feedback

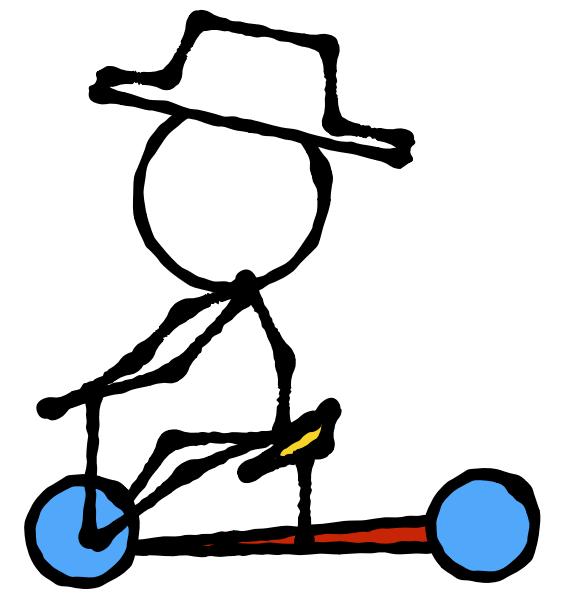
← **DATA**

velocity = points/week

Enables data-driven
delivery predictions

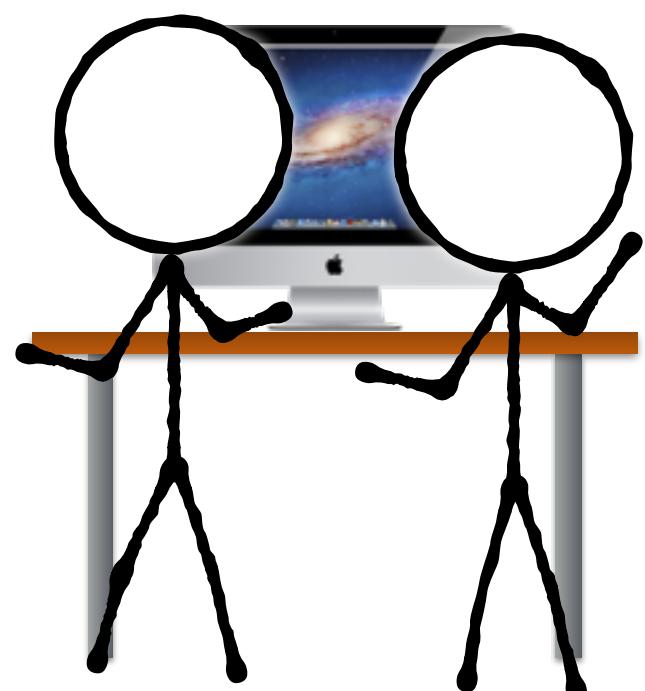
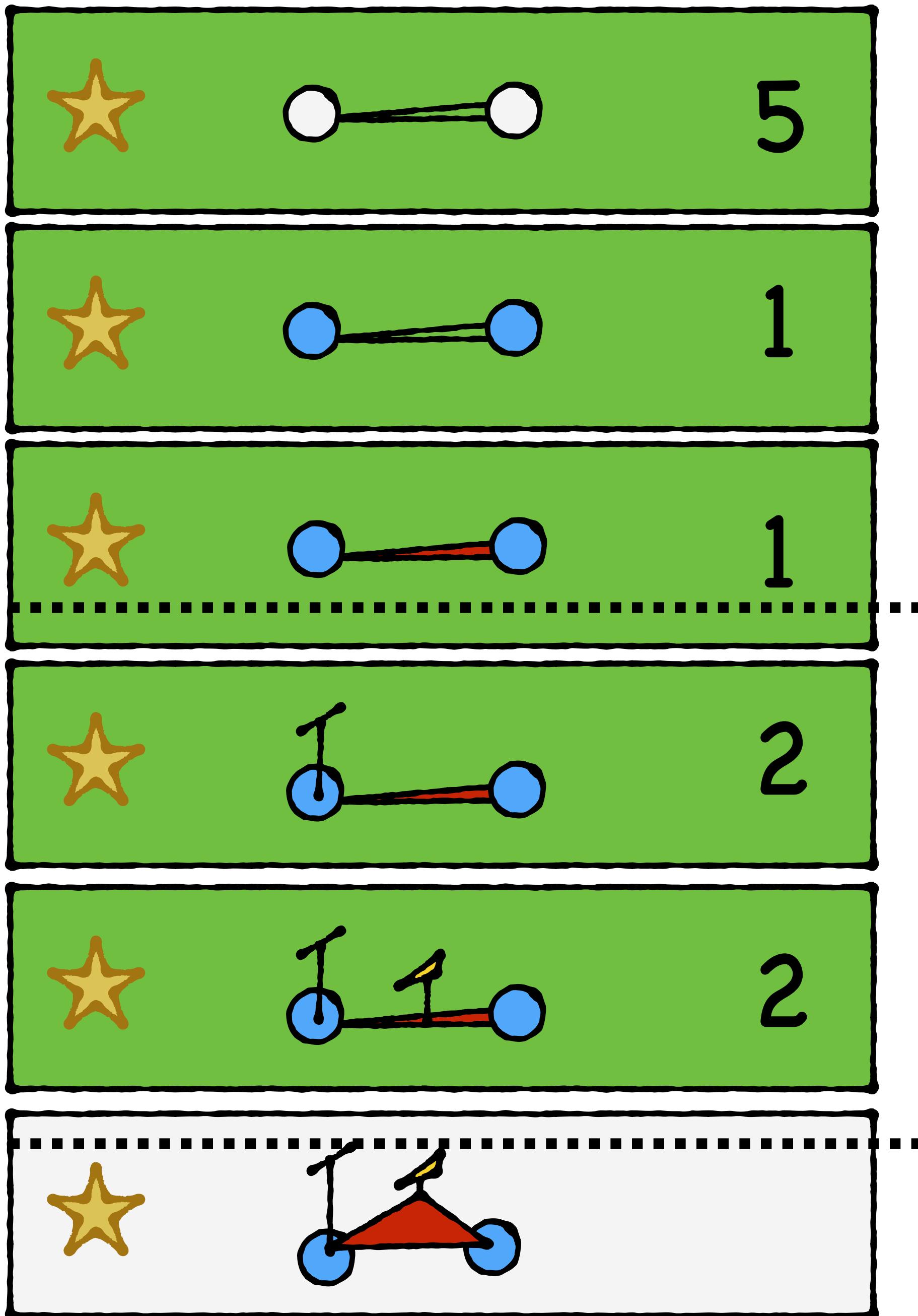
To hit a deadline:
Reprioritize





Oct.

Nov.



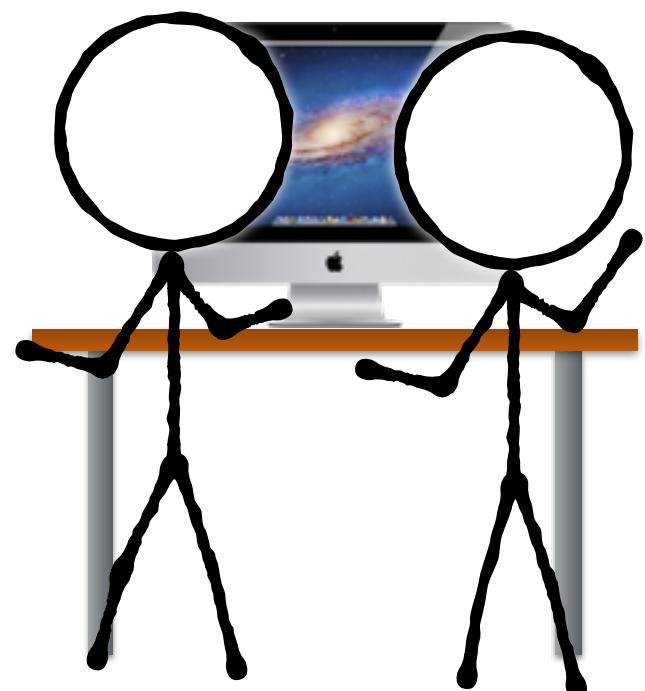
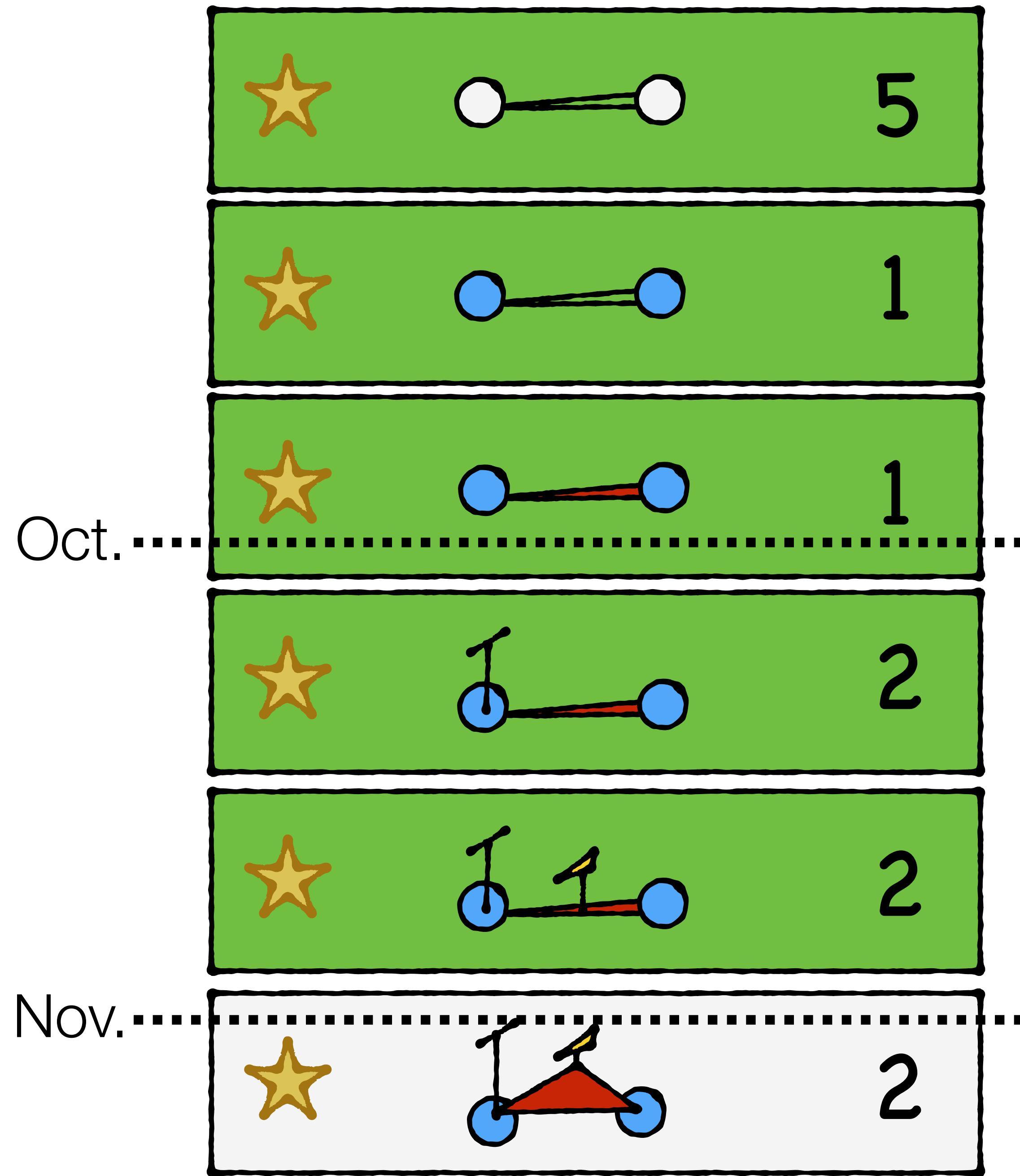
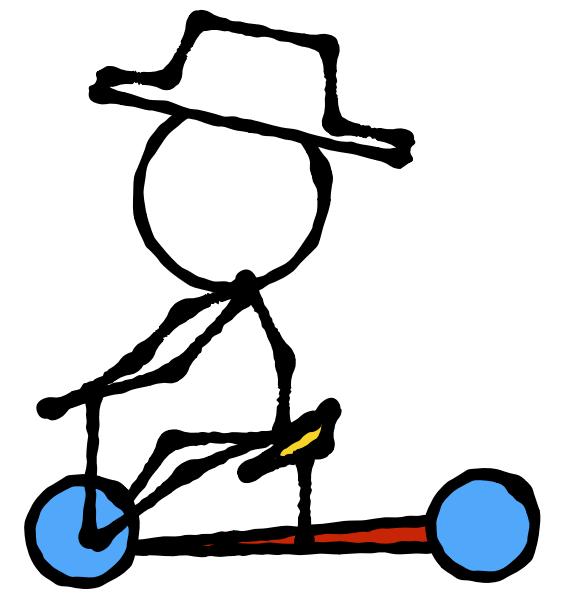
Short feedback cycles
Changing design in
response to feedback

← **DATA**

velocity = points/week

Enables data-driven
delivery predictions

To hit a deadline:
Reprioritize
Reduce Scope



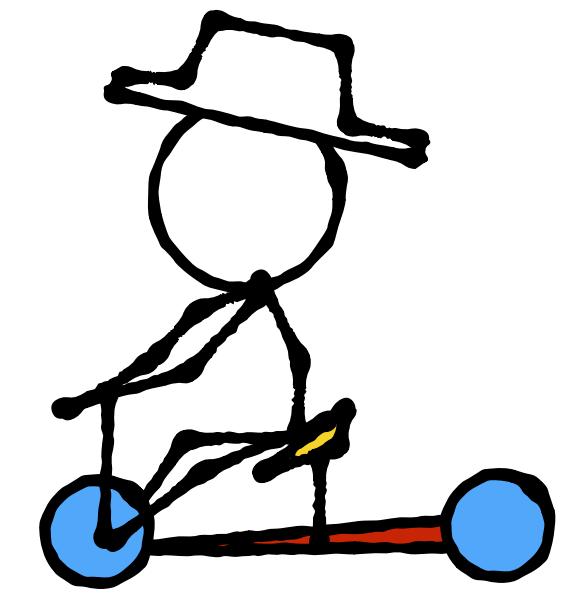
Short feedback cycles
Changing design in
response to feedback

← **DATA**

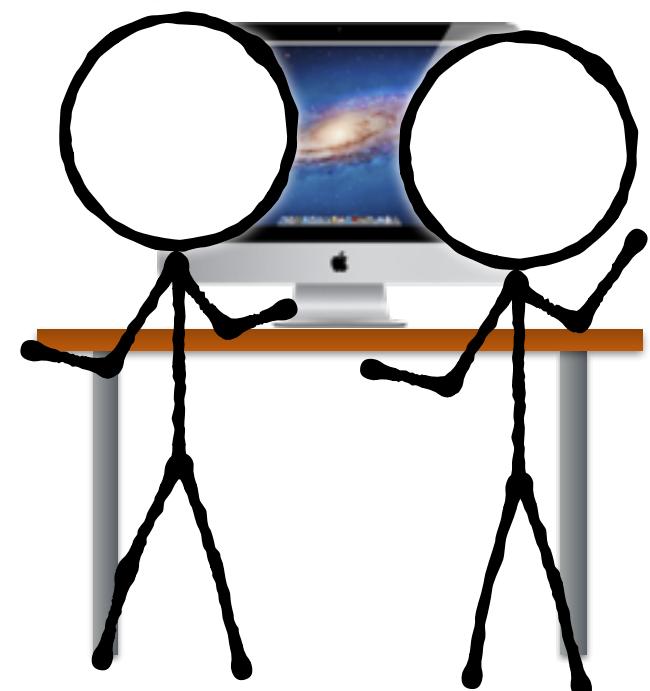
velocity = points/week

Enables data-driven
delivery predictions

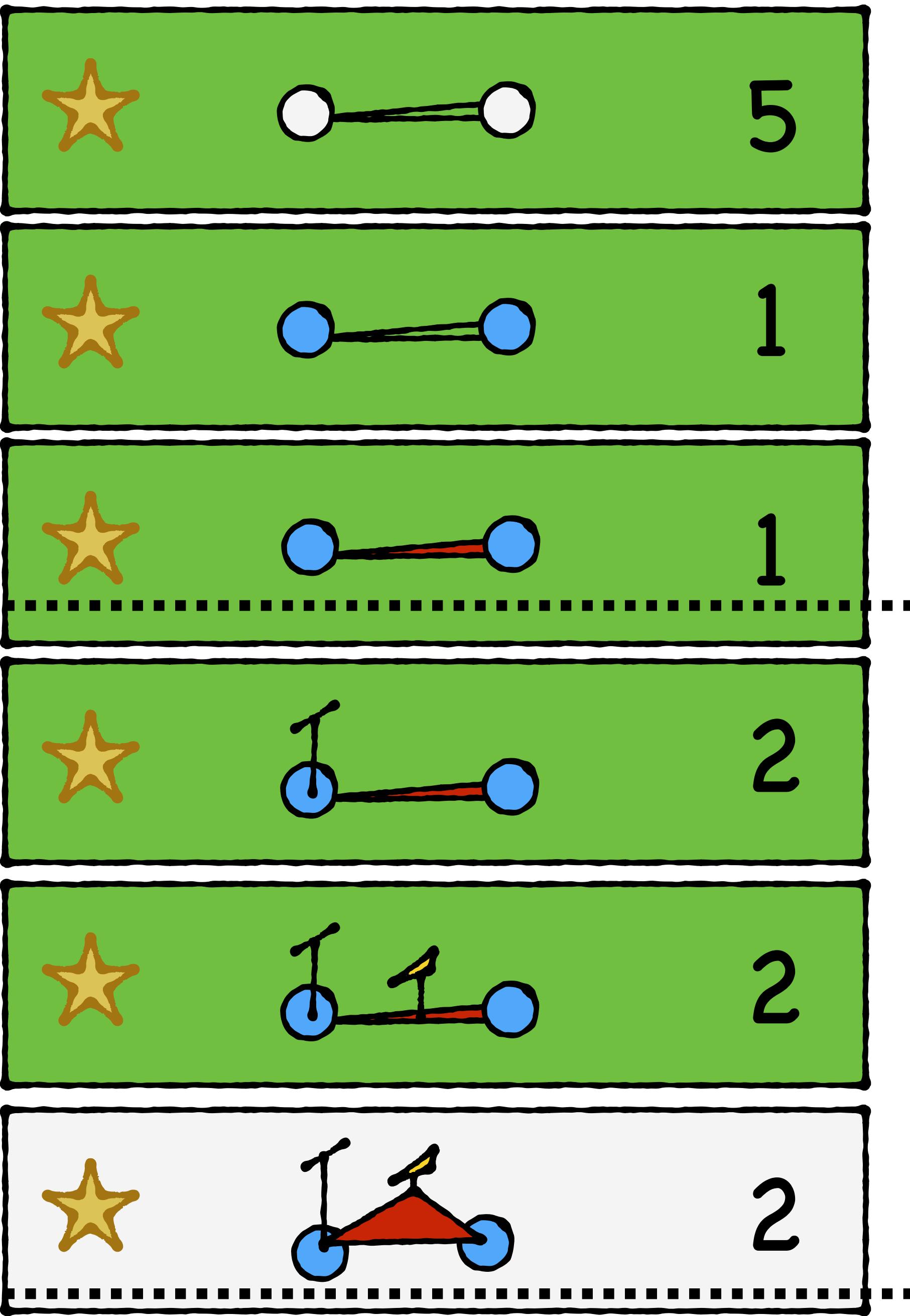
To hit a deadline:
Reprioritize
Reduce Scope



Oct.



Nov.



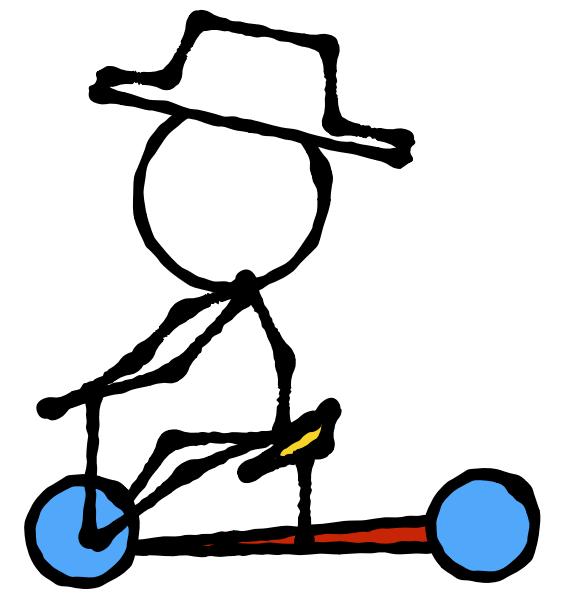
Short feedback cycles
Changing design in
response to feedback

← **DATA**

velocity = points/week

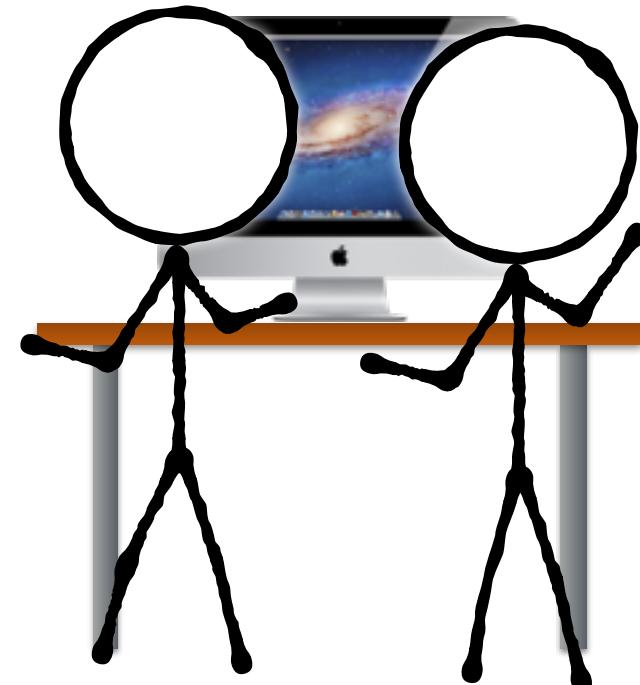
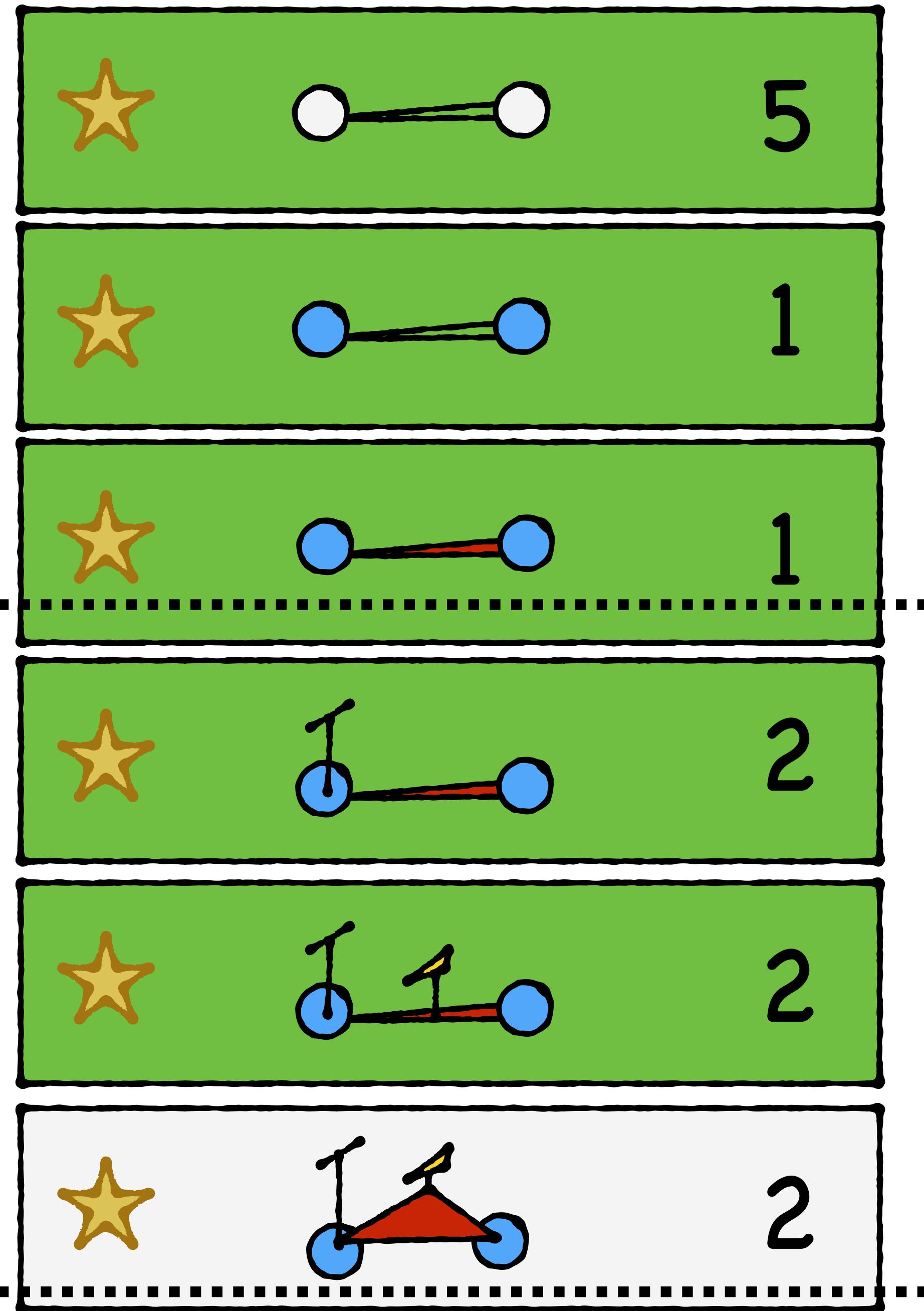
Enables data-driven
delivery predictions

To hit a deadline:
Reprioritize
Reduce Scope

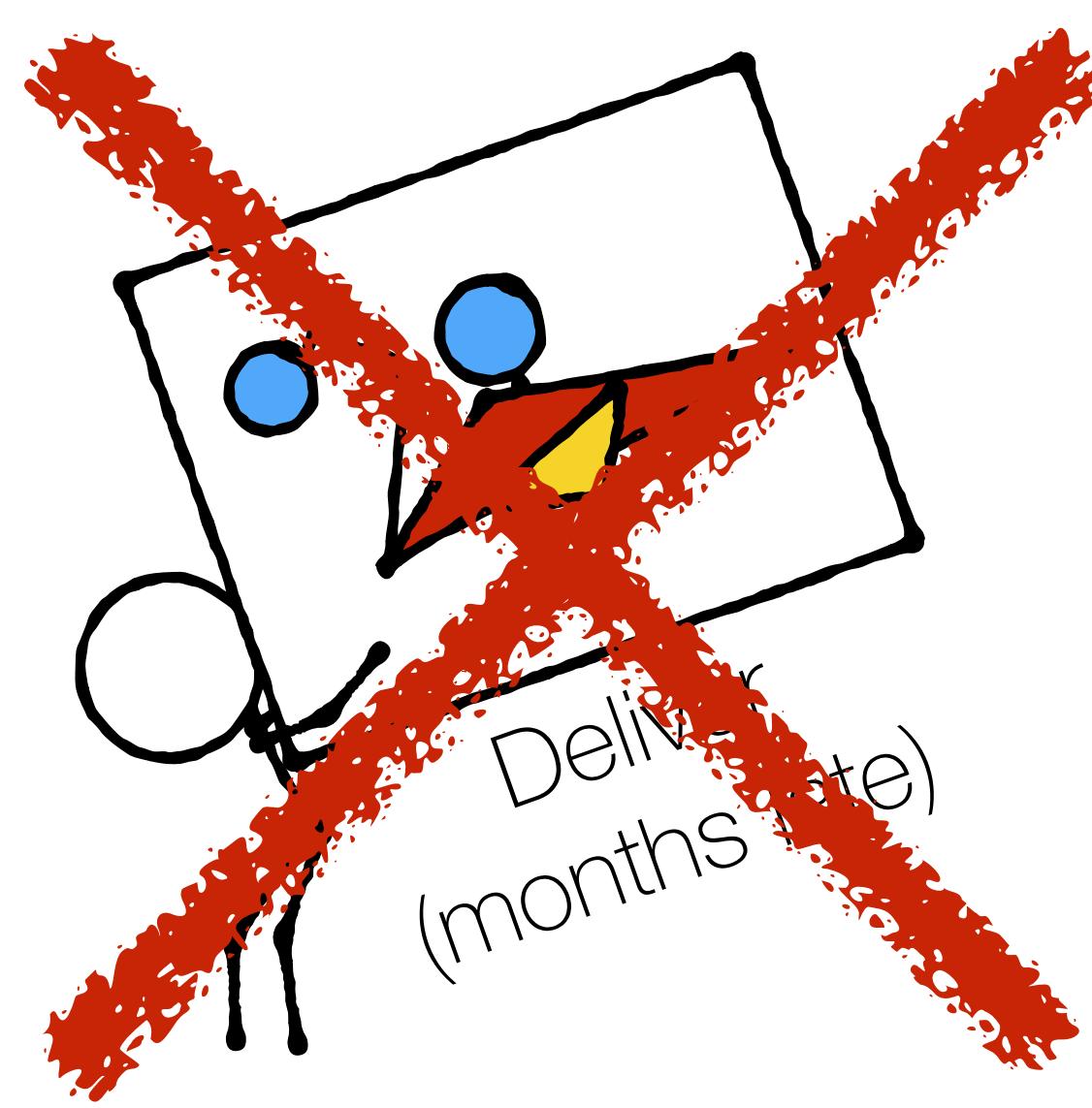


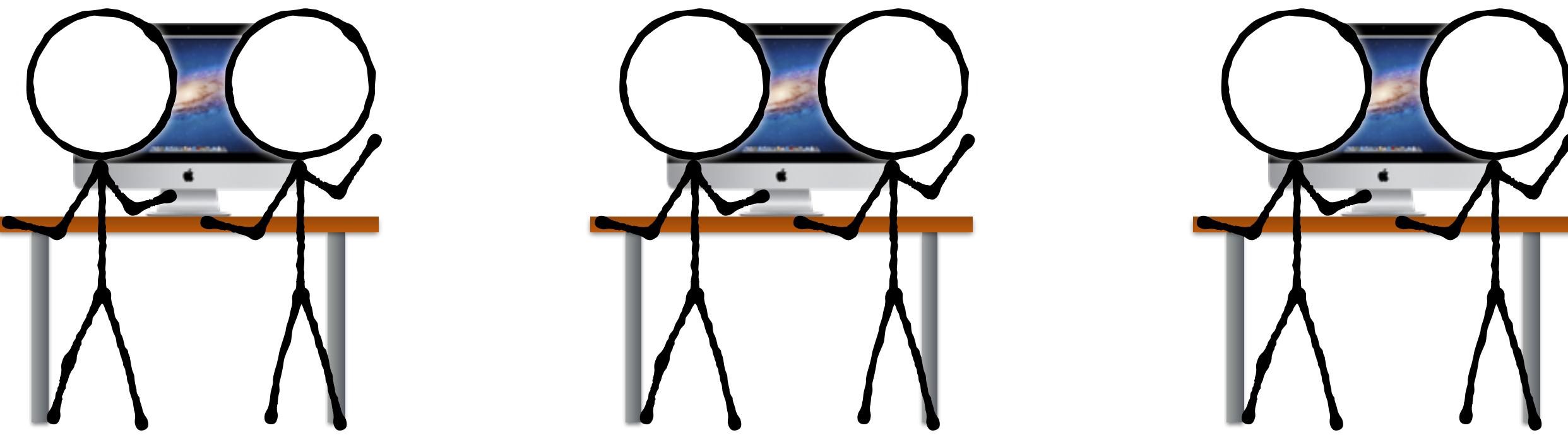
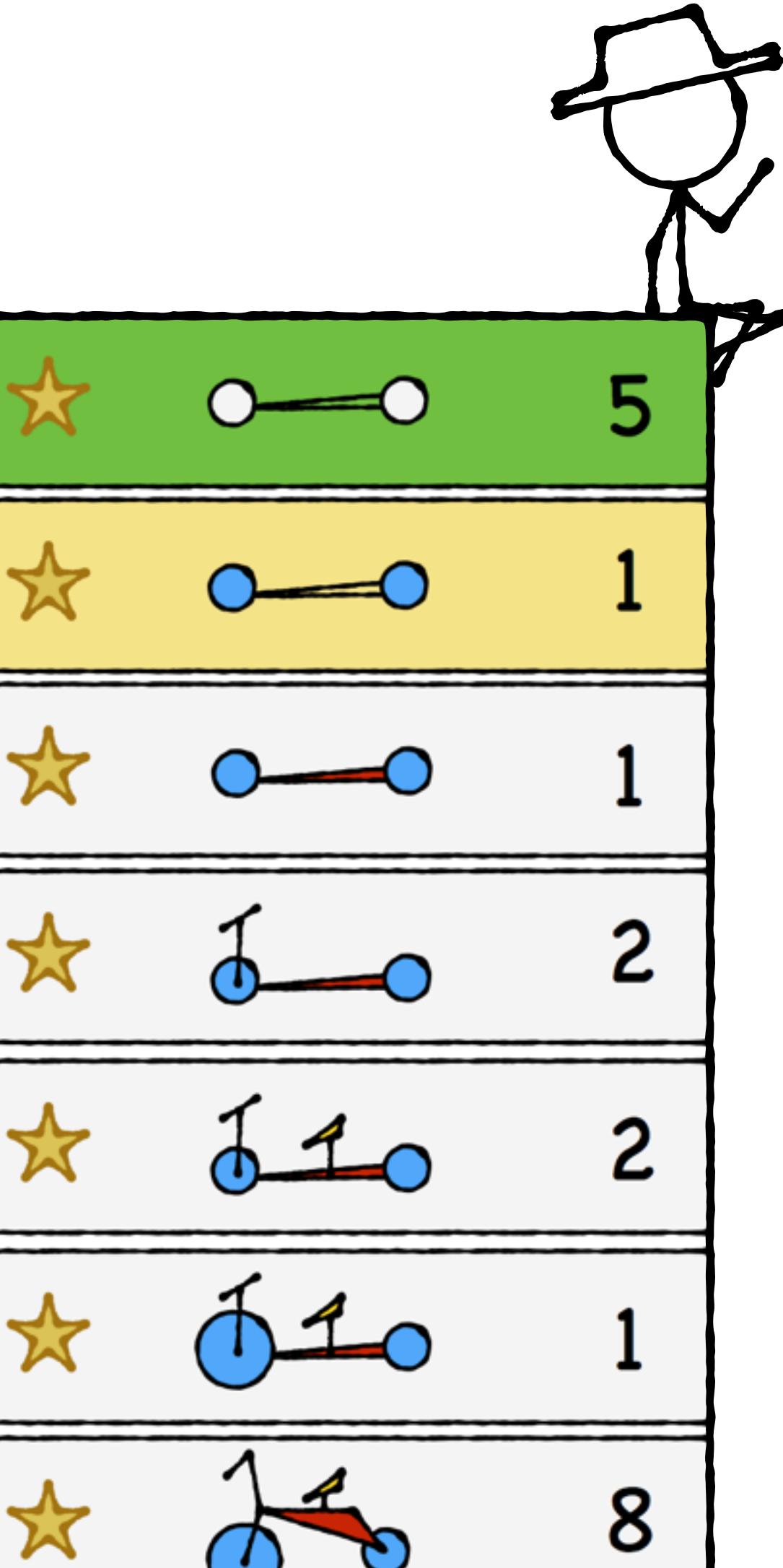
Oct.

Nov.



Short feedback cycles
Changing design in
response to feedback
Data driven planning



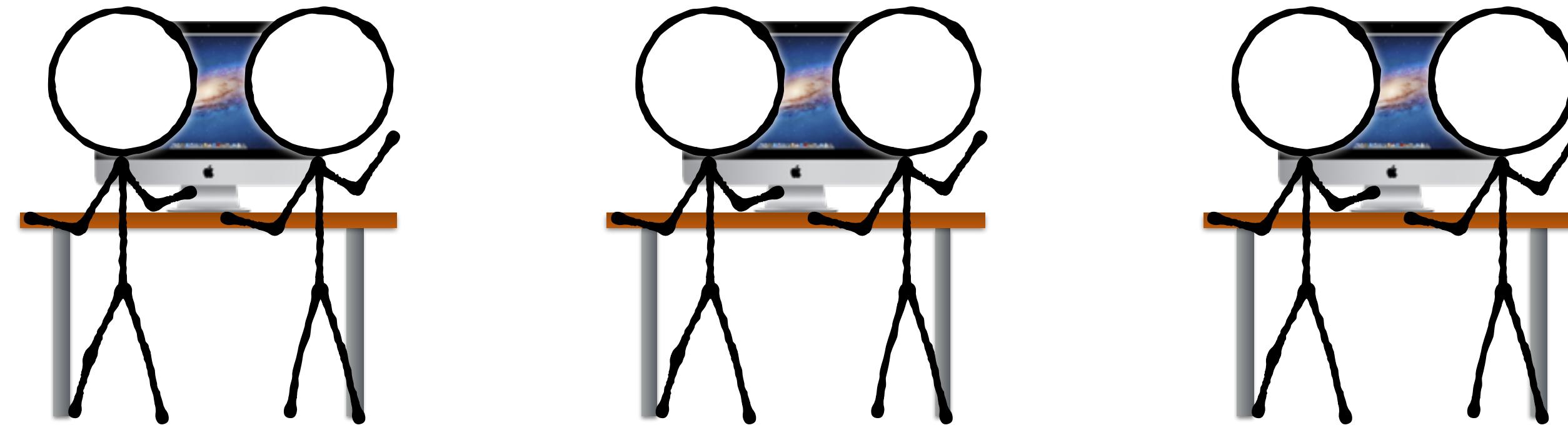
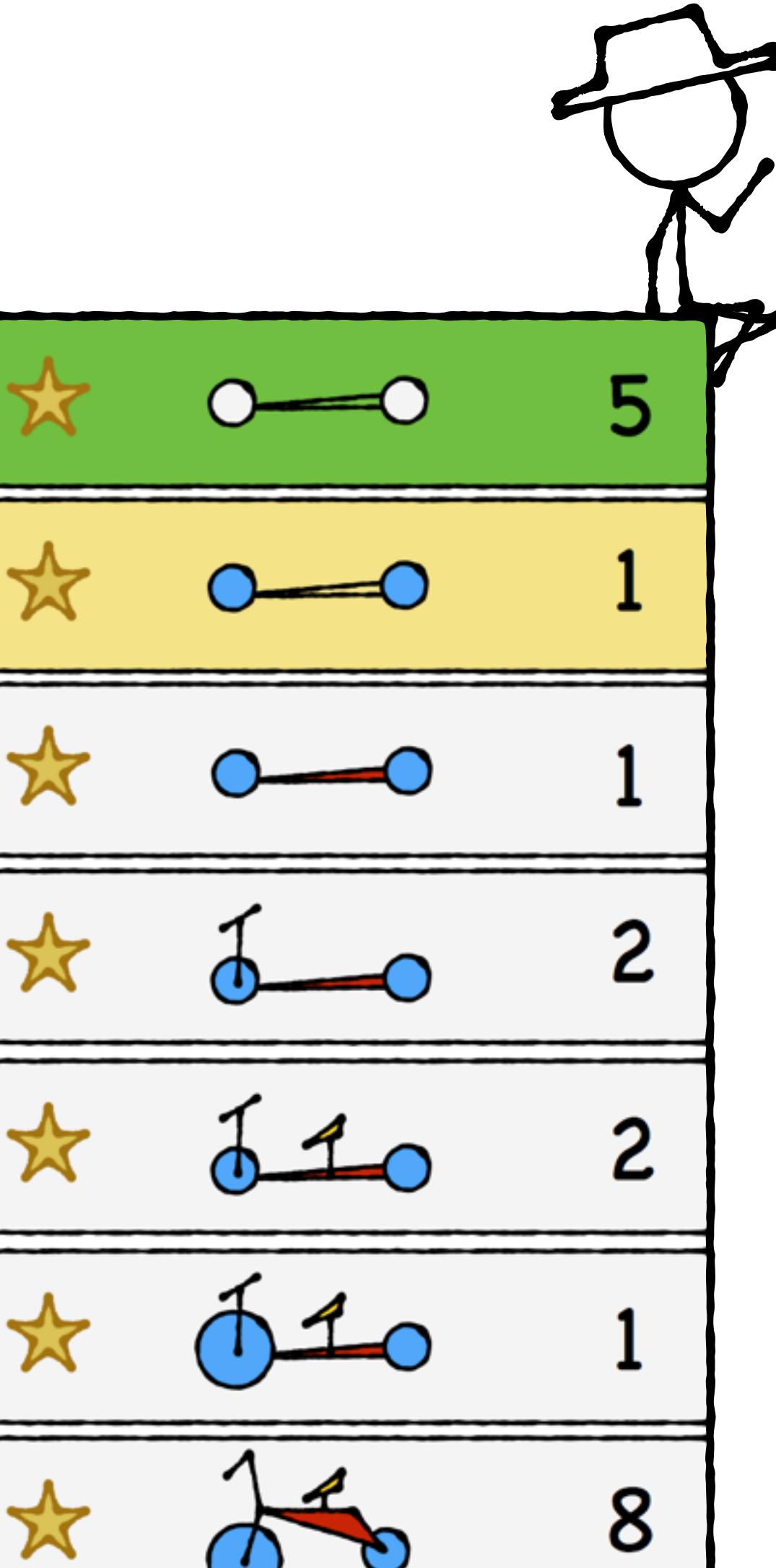


PivotalTM

culture

Why?





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culture

Humanizing



Building Clouds

<http://pivotal.io>

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