

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

Pivotal

PaaS BIG DATA AGILE OSS

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SOFTWARE.

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

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COMMUNITY

spring

hadoop

GRAILS

redis

RabbitMQ

Open Chorus Project

MADlib

Apache Tomcat

The Apache Software Foundation

CF Diego Public

121

Search project

Current/Backlog

29 Sep - Current

6 of 19

staging Improve rep and executor logging (MJS, et, st)

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

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PROD: Beta staging (opt-in)

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data race in monitor_step_test

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Allocations for Pivotal Labs

ALLOCATIONS ADMIN

Allocations by project

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

previous 4 weeks next 4 weeks Allows Interviews

Show Everyone with skills Choose skills

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

0/66.6 (0%) 0/67.6 (0%) 0/66.2 (0%) 0/70 (0%)

73 people

Cloud Foundry (Benchmarking)

David C L David C L David C L David C L

Cloud Foundry (BOSH)

Adam S Adam S Andrea L Andrea L

Andrea L Andrea L Andrei D Andrei D

Andrei D Andrei D Dmitriy K Dmitriy K

Dmitriy K Dmitriy K Karl I Karl I

Karl I Karl I Kris H Kris H

Kris H Kris H Maria S Maria S

Maria S Maria S Phan L Phan L

Phan L Phan L Zachary A Zachary A

Zachary A Zachary A

Cloud Foundry (Build Packs)

Jacques C Jacques C Dave G Dave G

Mark K Mark K Jacques C Jacques C

Rasheed A Rasheed A Rasheed A Rasheed A

Rick R Rick R Rick R Rick R

Cloud Foundry (CLI)

Daniel Daniel Daniel Daniel

David V Derek R Derek R Derek R

Derek R Greg O Greg O Greg O

Greg O Simon L Simon L Simon L

Simon L Tyler S Tyler S Tyler S

Cloud Foundry (Cloud Ops)

Chris A Chris A Adam S Adam S

Gary L Gary L Chris A Chris A

Kai X Kai X Gary L Gary L

Tony H Tony H Kai X Kai X

Tony H Tony H

Cloud Foundry (Developer Console)

Colin O Colin O Colin O Colin O

Monty S Monty S Monty S Monty S

Ryan T Ryan T Ryan T Ryan T

Scott T Scott T Scott T Scott T

Utako U Utako U Utako U Utako U

Whitney S Whitney S Whitney S Whitney S

Cloud Foundry Documentation

Jennifer B Jennifer B Jennifer B Jennifer B

Kim H Kim H Kim H Kim H

Max H Max H Max H Max H

Cloud Foundry (LAMB)

Alex J Alex J Alex J Alex J

Andrew P Alex Stupakov Alex Stupakov Alex Stupakov

George A Andrew P Andrew P Andrew P

John T George A George A George A

CEDR

4d

CIBG

1y

GITS

2mo

LF

LAST BUILD: 13h

0

VELOCITY

0% VOLATILITY

PCK

13d

PM

LAST BUILD: 7h

1

VELOCITY

316% VOLATILITY

ROBO

1d

WHT

1mo

icor

3h

igem

6d

ipy

6d

manage projects

Pivotal™

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Hundreds of **complex** web applications

Pivotal.

PaaS

BIG DATA

AGILE

OSS

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Open Chorus
Project

MA DLib

Apache Tomcat

The Apache
Software Foundation

CF Diego Public

Current/Backlog

29 Sep - Current

36

29 Sep - Current

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Hide accepted stories

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misc

some legacy test files are in inappropriate folders - make them consistent so they're easier to find

Allocations for Pivotal Labs

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GO

Show Everyone with skills Choose skills

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Jennifer B

Cloud Foundry (LAMB)

Alex J

Alex J

Alex J

Alex J

Aakash Shah

Abhijit Hiremagalur

Alex Jackson

Alex Suraci

Amit Gupta

Anand Gaitonde

Andrew Bruce

Andrew Poydence

Aram Price

Brenda Chan

Brian Cunnie

Caleb Miles

Charles Wu

Chris Haueter

Christian Williams

Christopher Piraino

Daniel Levine

Dave Liebreich

David C Lee

David Sabati

Dieu Cao

Dmitriy Kallinin

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 Bhawe

Maria Shaldybina

Mark DeLillo

Mark Kropf

Mark Rushakoff

Matt Reider

CEDR

4d

GITS

2mo

PCK

13d

ROBO

1d

icor

3h

ipy

6d

CIBG

1y

LF

LAST BUILD: 13h

0

VELOCITY

0% VOLATILITY

PM

LAST BUILD: 7h

1

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igem

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manage projects



Built by many teams of developers

Massive Organization

Hundreds of web applications

The banner features the Pivotal logo at the top left. Navigation links include PaaS, BIG DATA, AGILE, and OSS. A prominent orange button says "GET STARTED". The main headline reads "COMMITTED TO OPEN SOURCE SOFTWARE." Below this, it states "Pivotal is Committed to Driving the Future of Open Source Software." and includes a "JOIN OUR COMMUNITY" button. At the bottom, there are logos for Cloud Foundry, Spring, Hadoop, and Redis, with two stick figures standing in front of them.

This screenshot shows the "Current/Backlog" view of the "CF Diego Public" project. It lists various tasks such as "improve rep and executor logging", "dependencies-as-submodules", and "Wait until NATS is up rather than panic on startup". Each task is accompanied by a status icon (star, checkmark, etc.) and a "Start" button. The interface includes a search bar and a "Hide accepted stories" toggle.

This screenshot displays the "Allocations for Pivotal Labs" dashboard. It shows a grid of allocations for different projects (Cloud Foundry, BOSH, etc.) across various weeks (09/29/14, 10/06/14, 10/13/14, 10/20/14). The dashboard includes filters for "Show" (Everyone, with skills) and "GO". A list of names is visible on the right side of the dashboard.

This screenshot shows a dashboard with a grid of project tiles. The tiles are labeled with project names: CEDR, CIBG, GITS, LF, PCK, PM, ROBO, WHT, icor, igem, and ipy. Each tile displays a progress bar and a "LAST BUILD" timestamp. A single stick figure is standing in front of the bottom right corner of the dashboard.

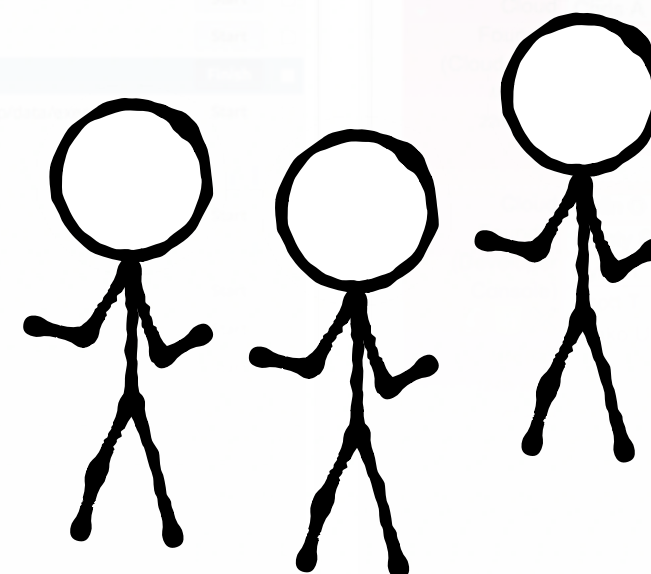
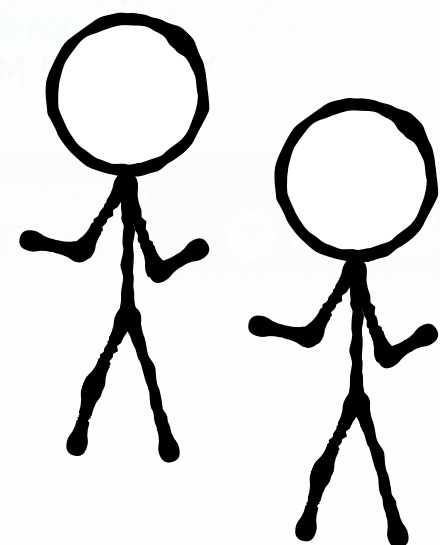
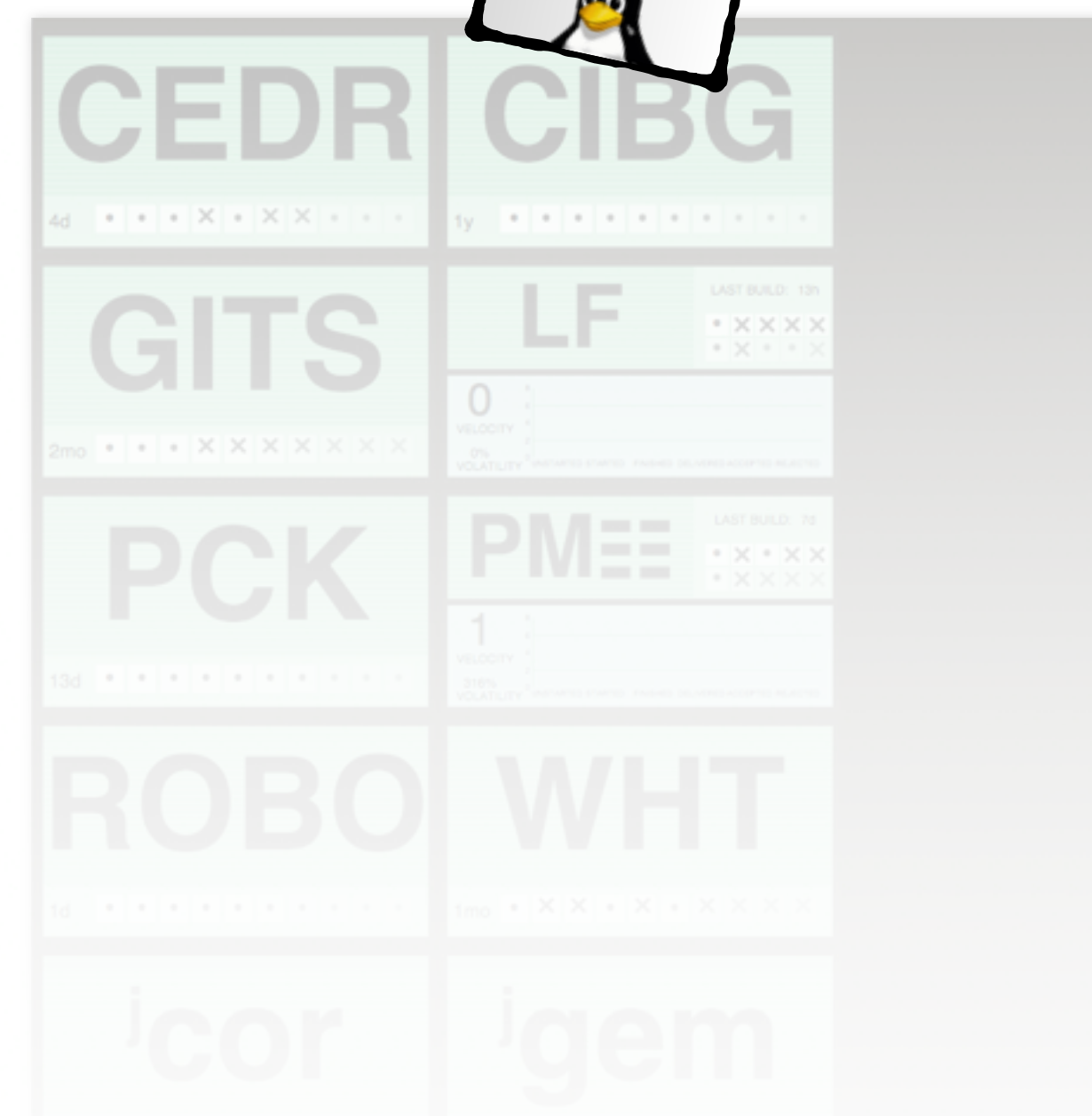
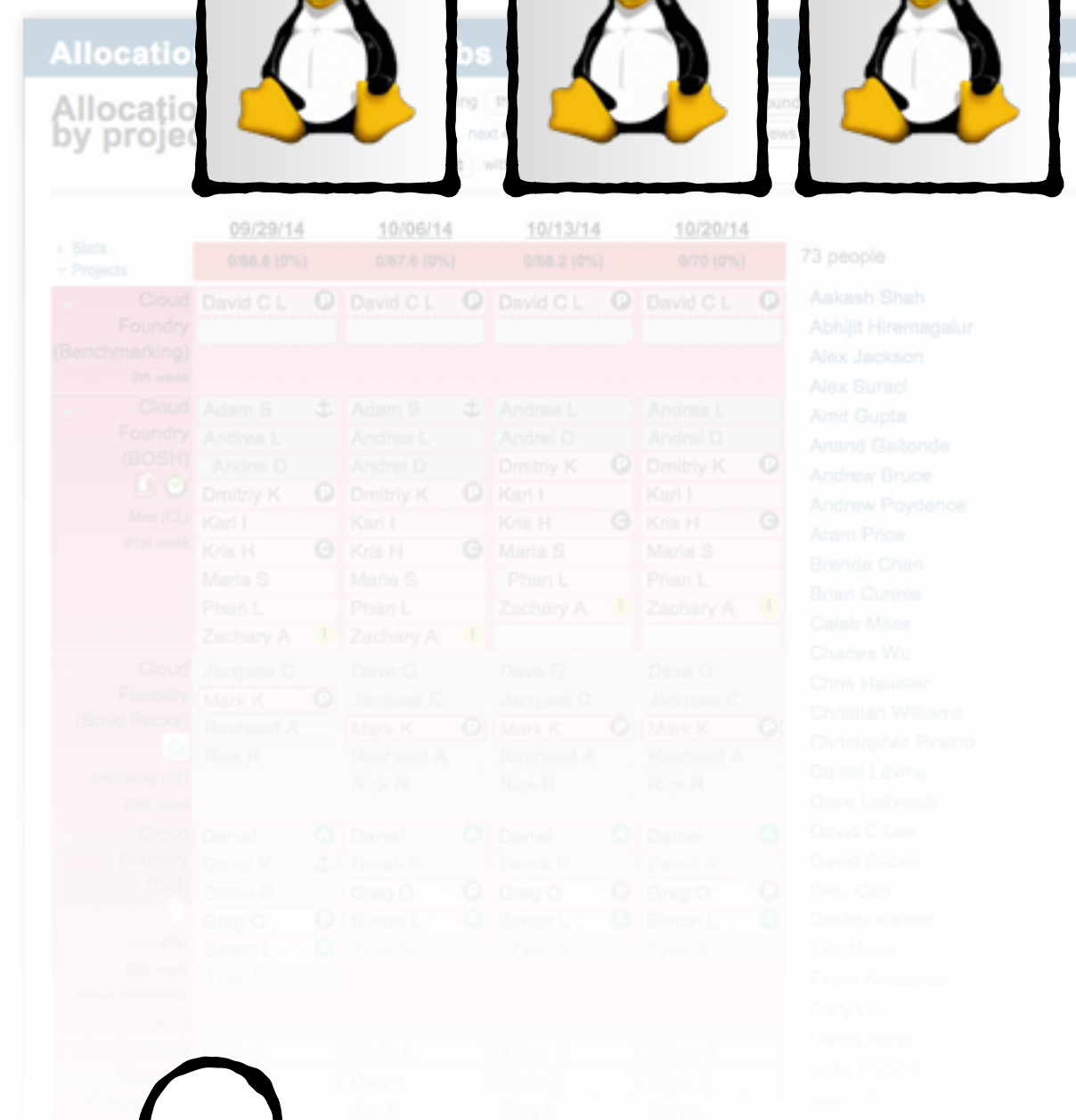
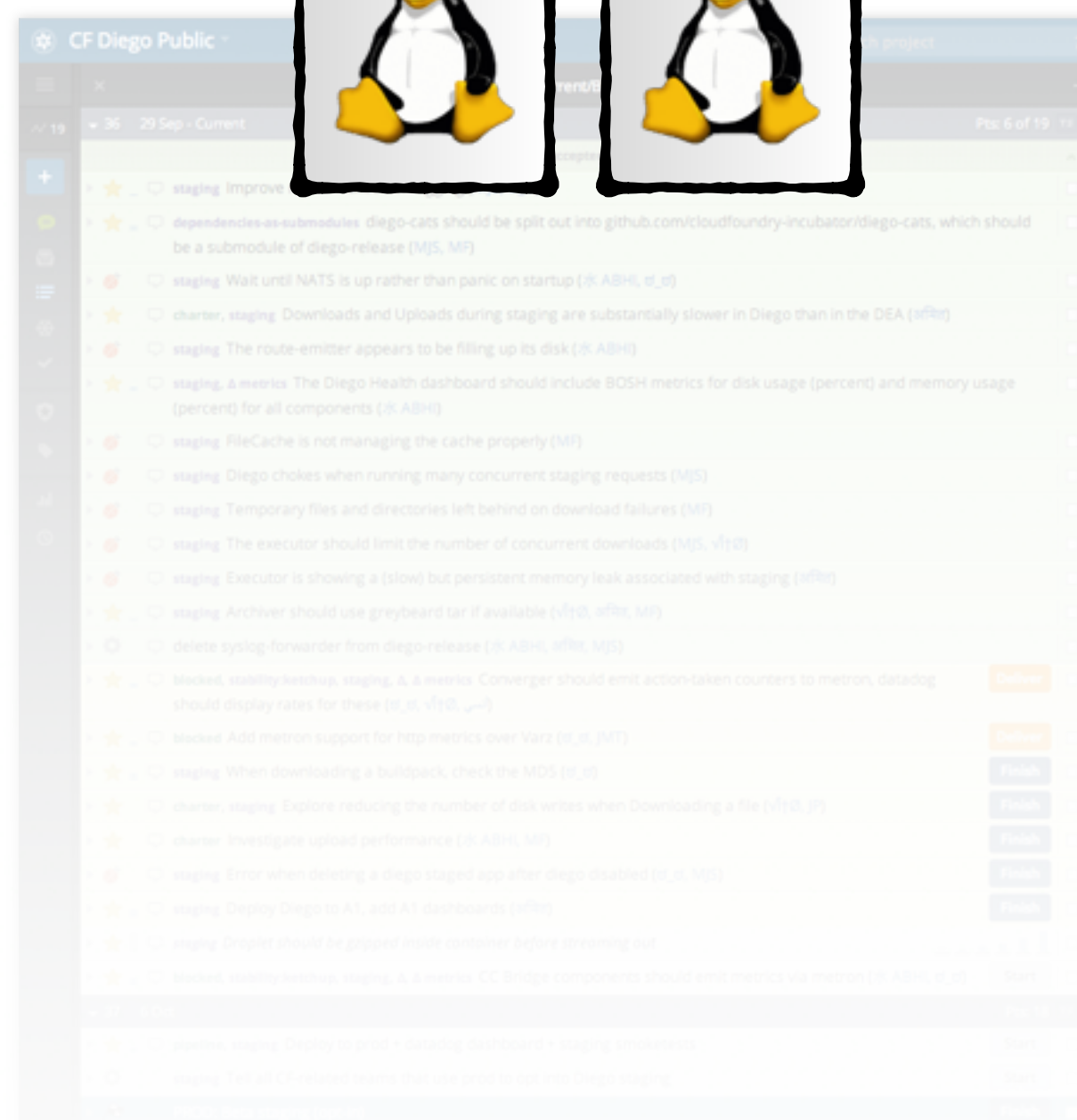
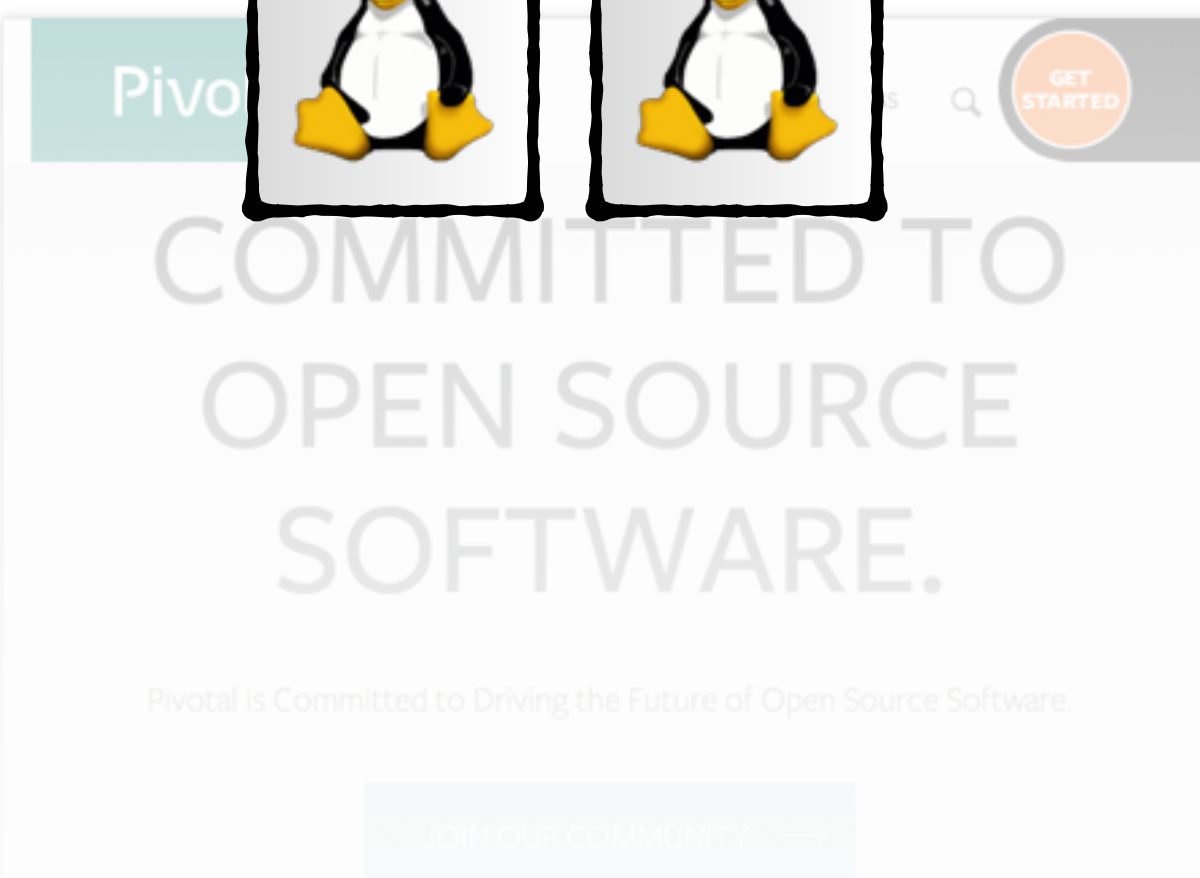
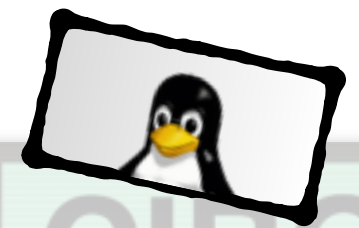
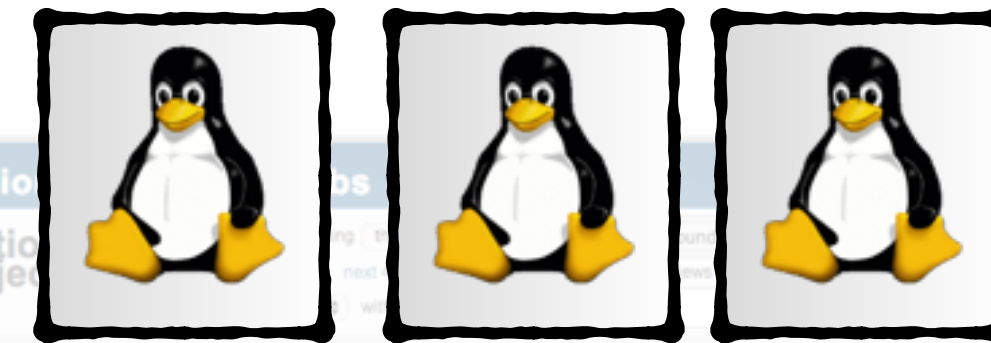
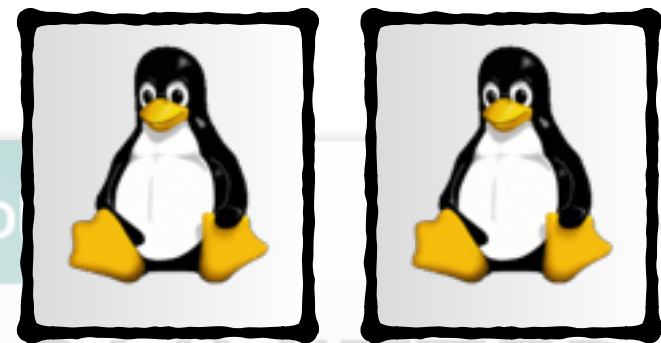


Built by many teams of developers

Running on many different servers

Massive Organization

Hundreds of web applications





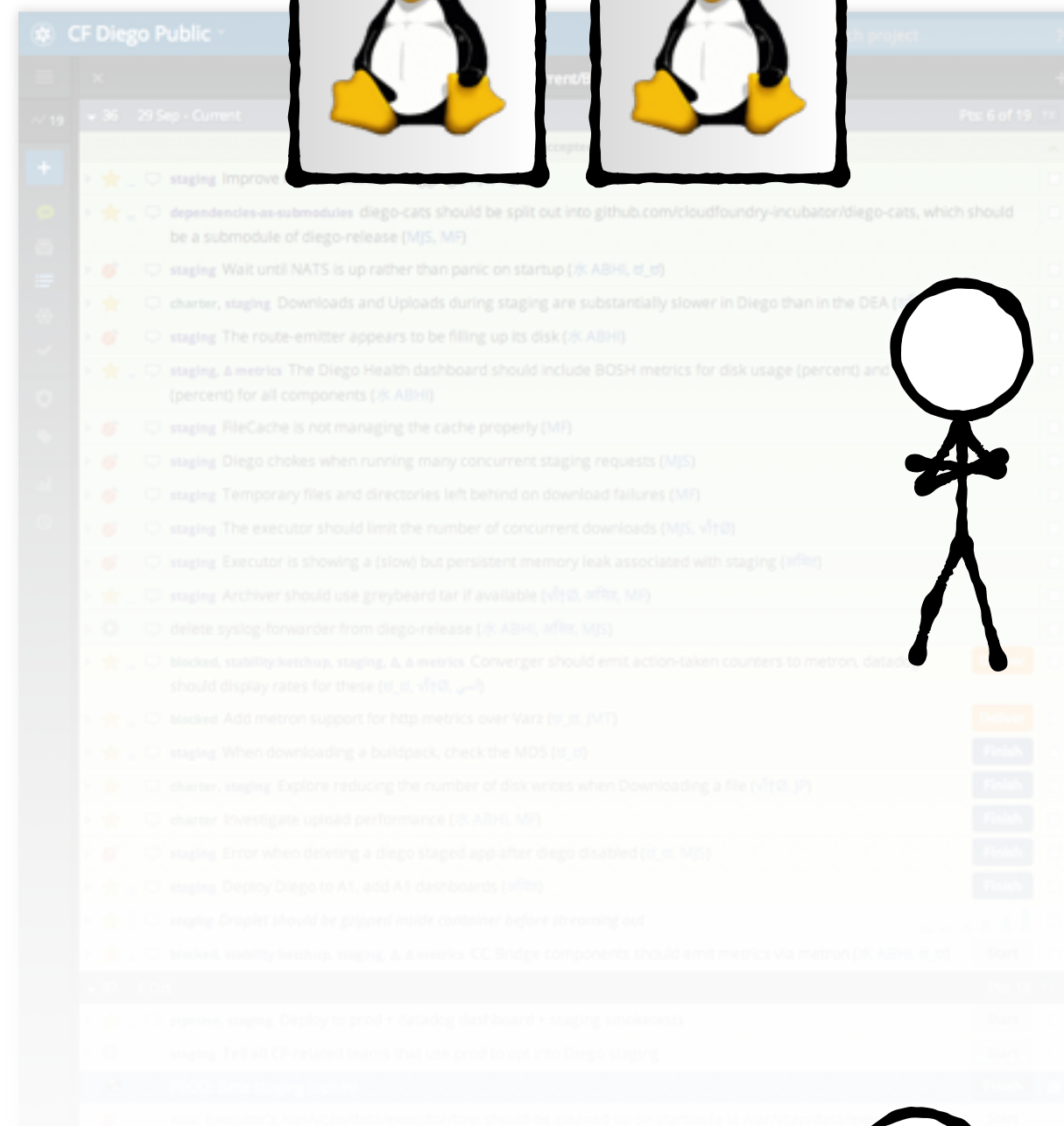
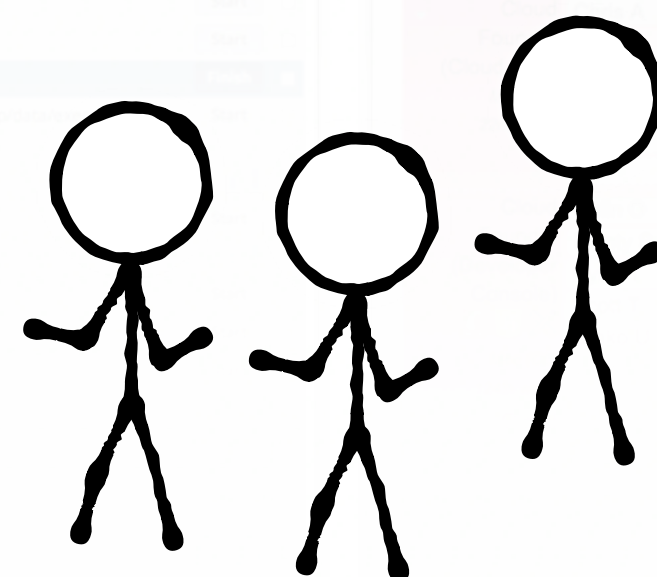
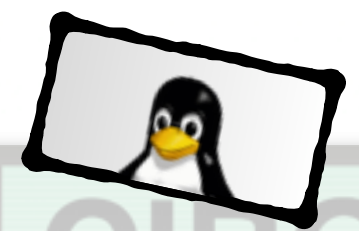
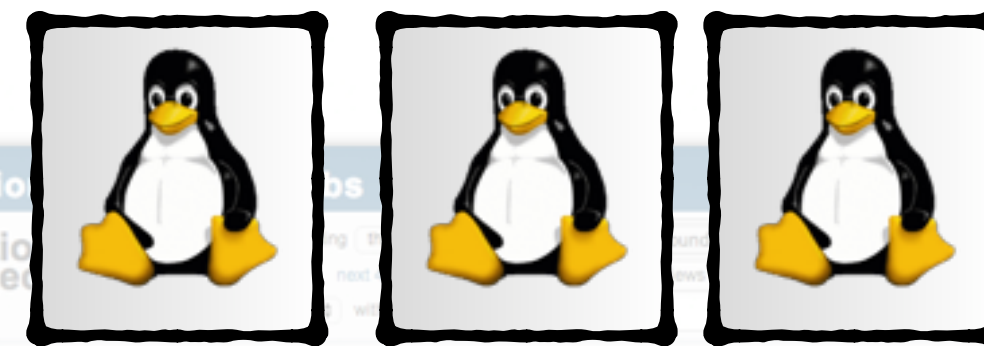
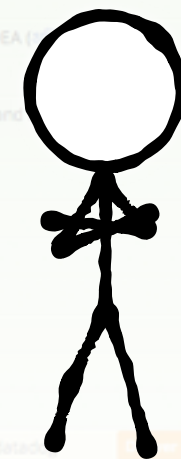
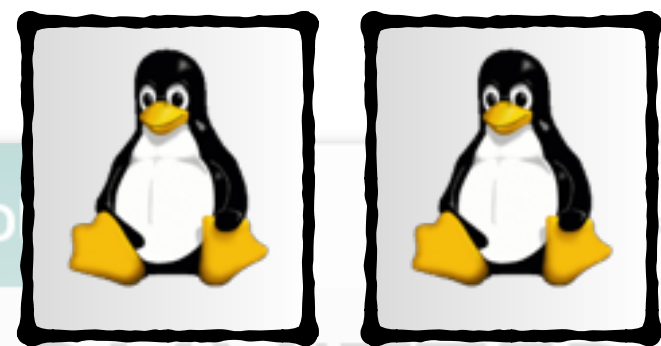
Built by many teams of developers

Running on many different servers

Massive Organization

Managed by many different sysadmins

Hundreds of web applications





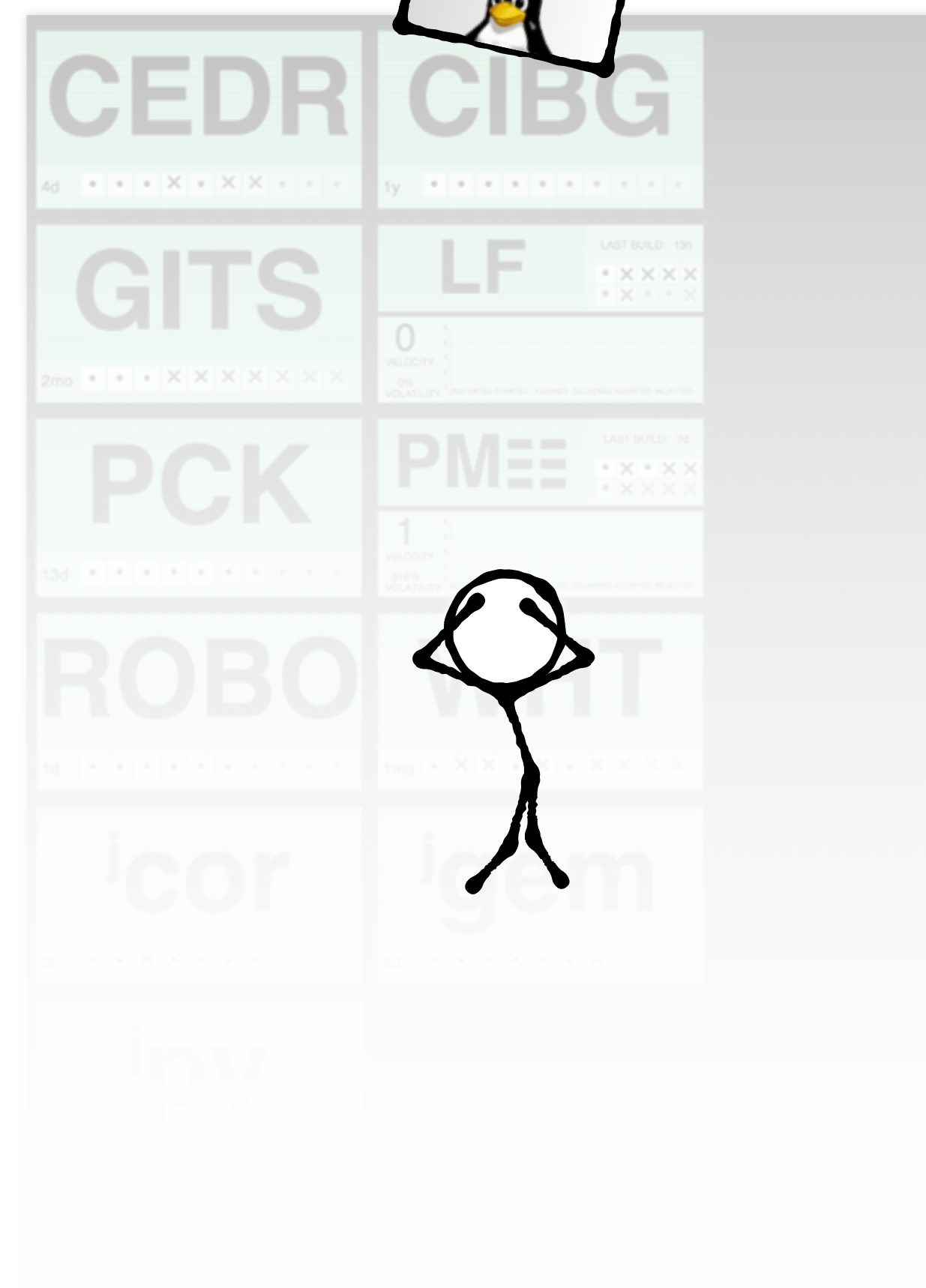
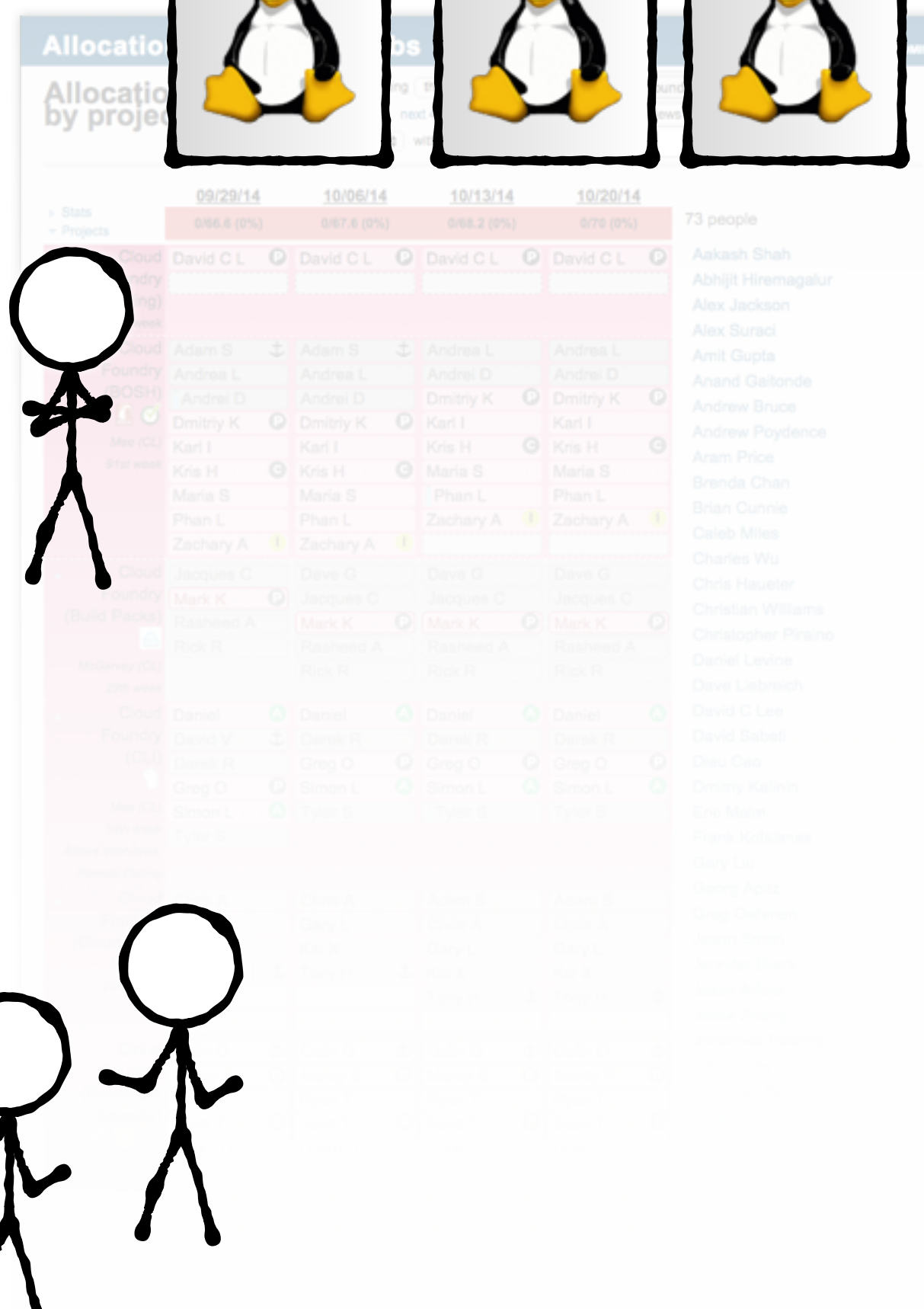
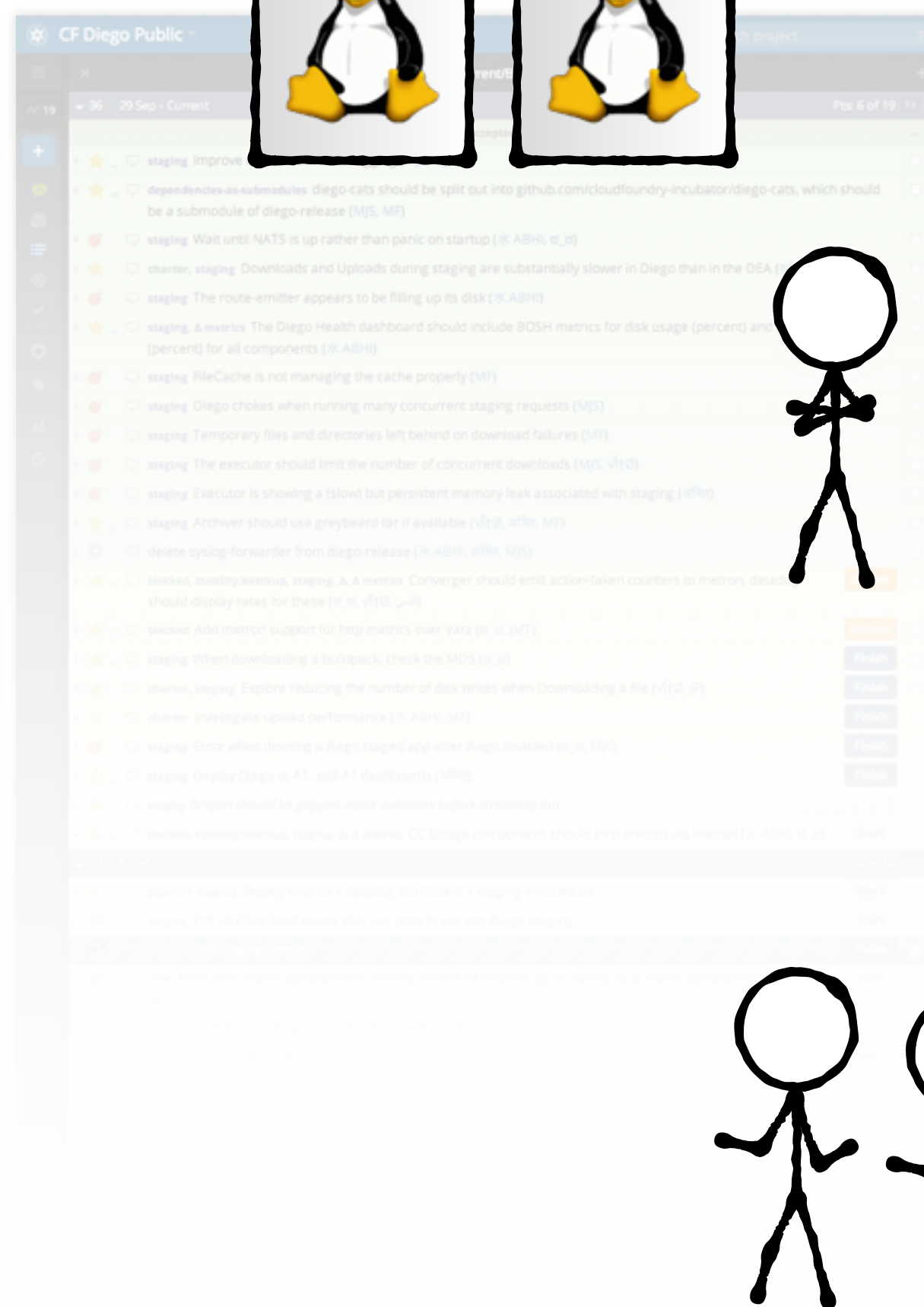
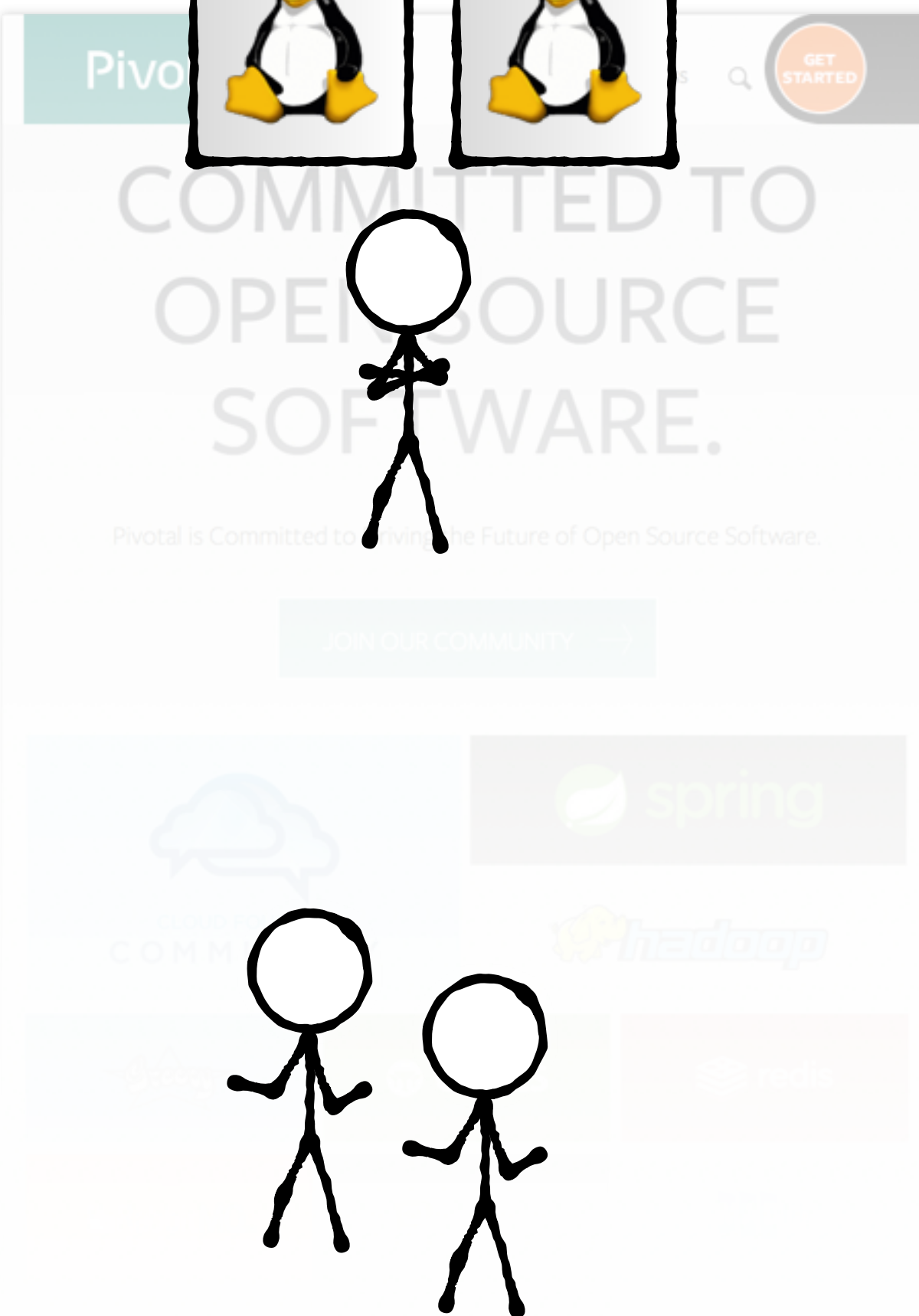
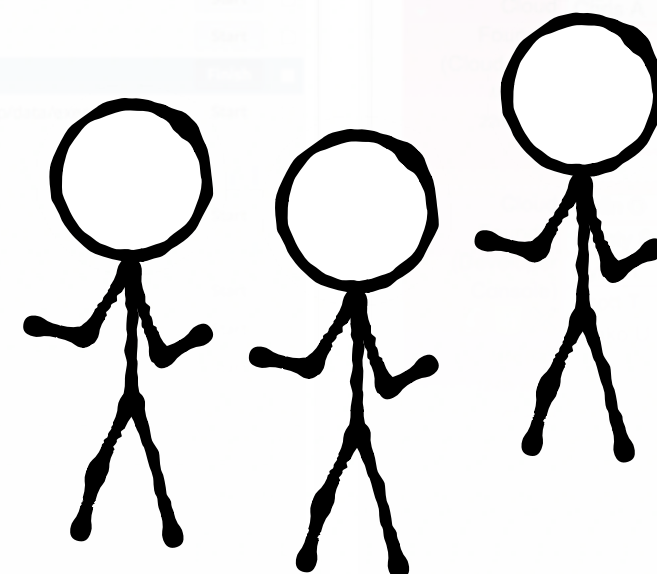
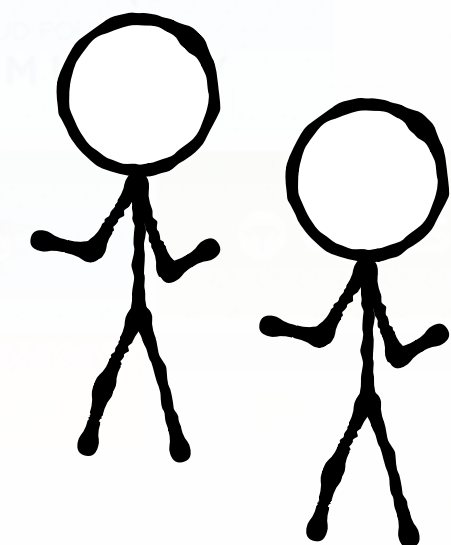
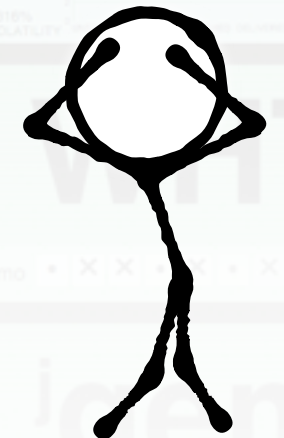
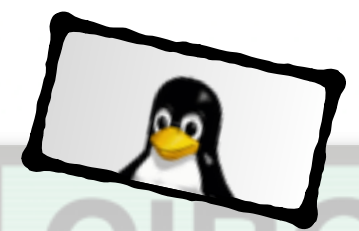
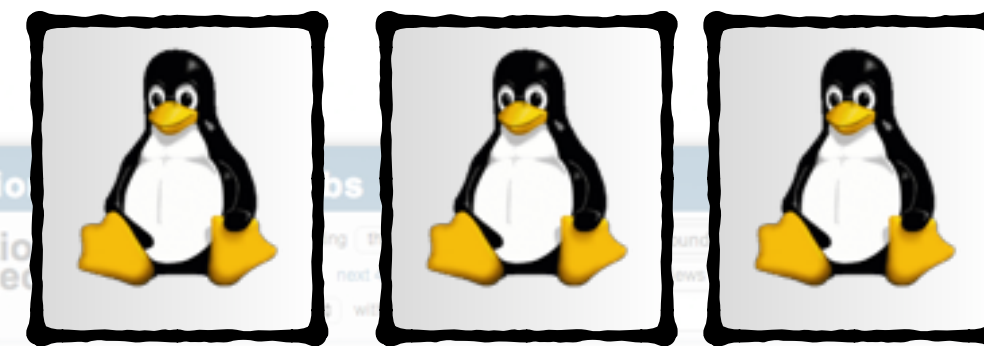
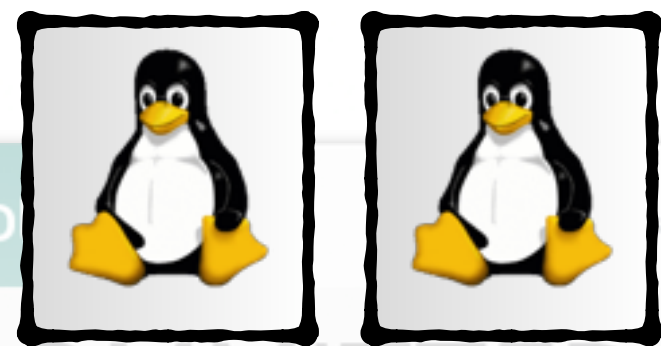
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Running on many different servers

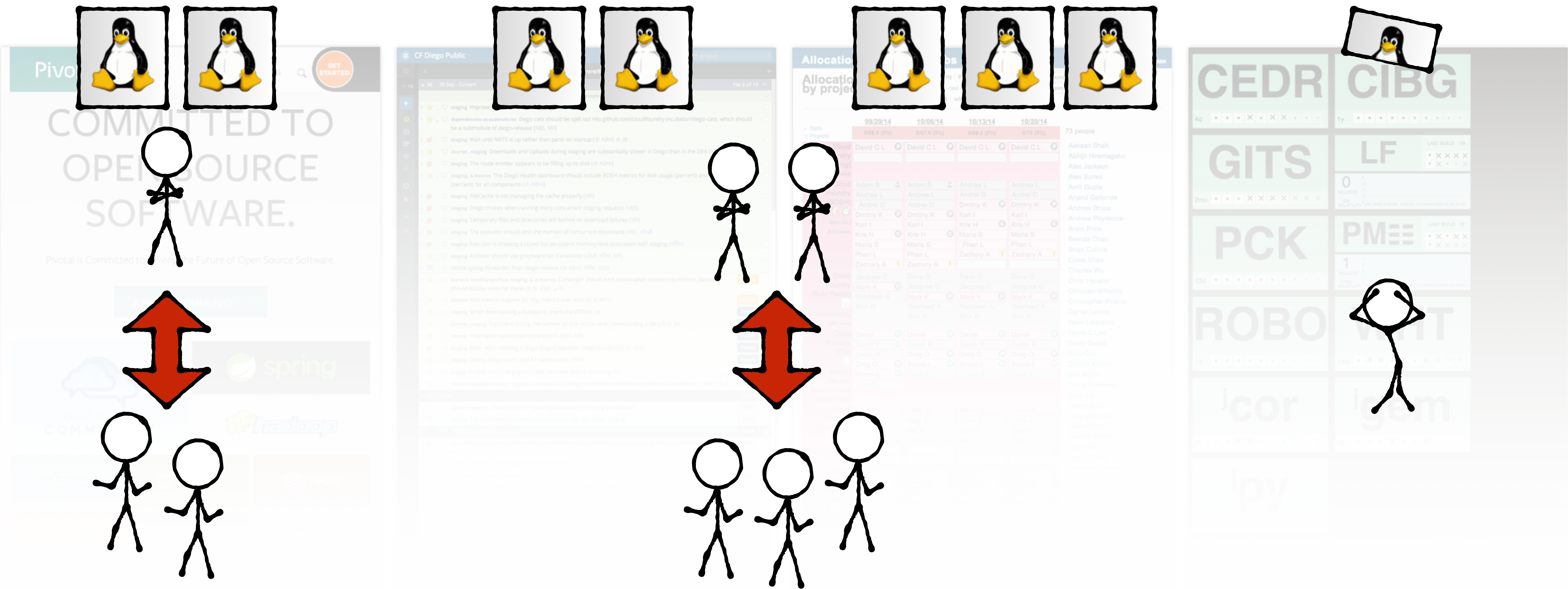
Massive Organization

Managed by many different sysadmins

Hundreds of web applications

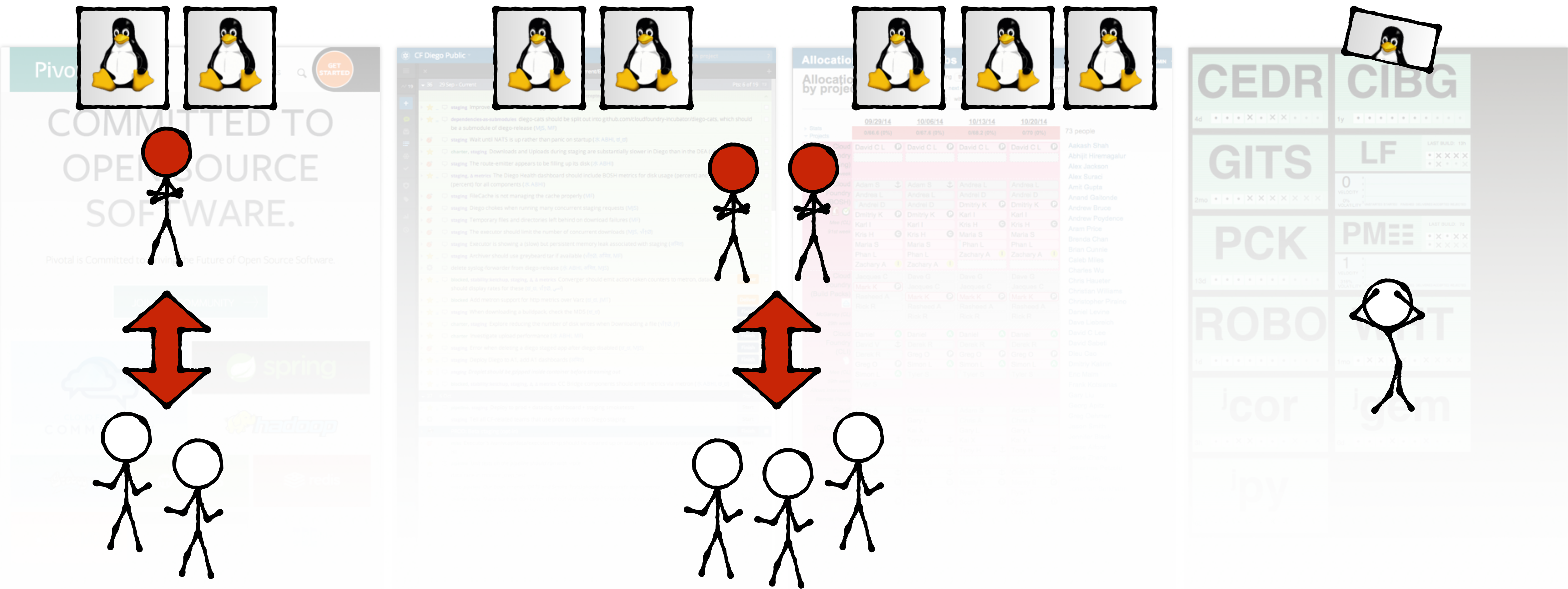


Source of conflict and miscommunication



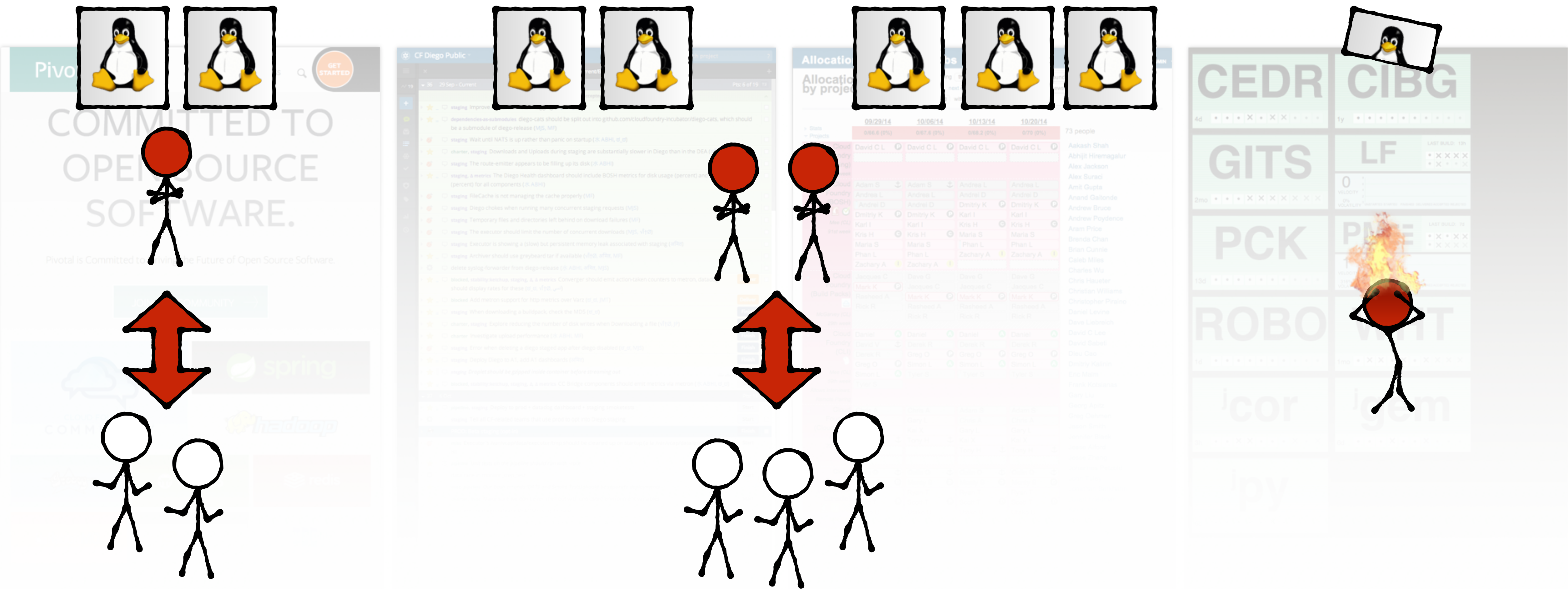
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Overworked sysadmins



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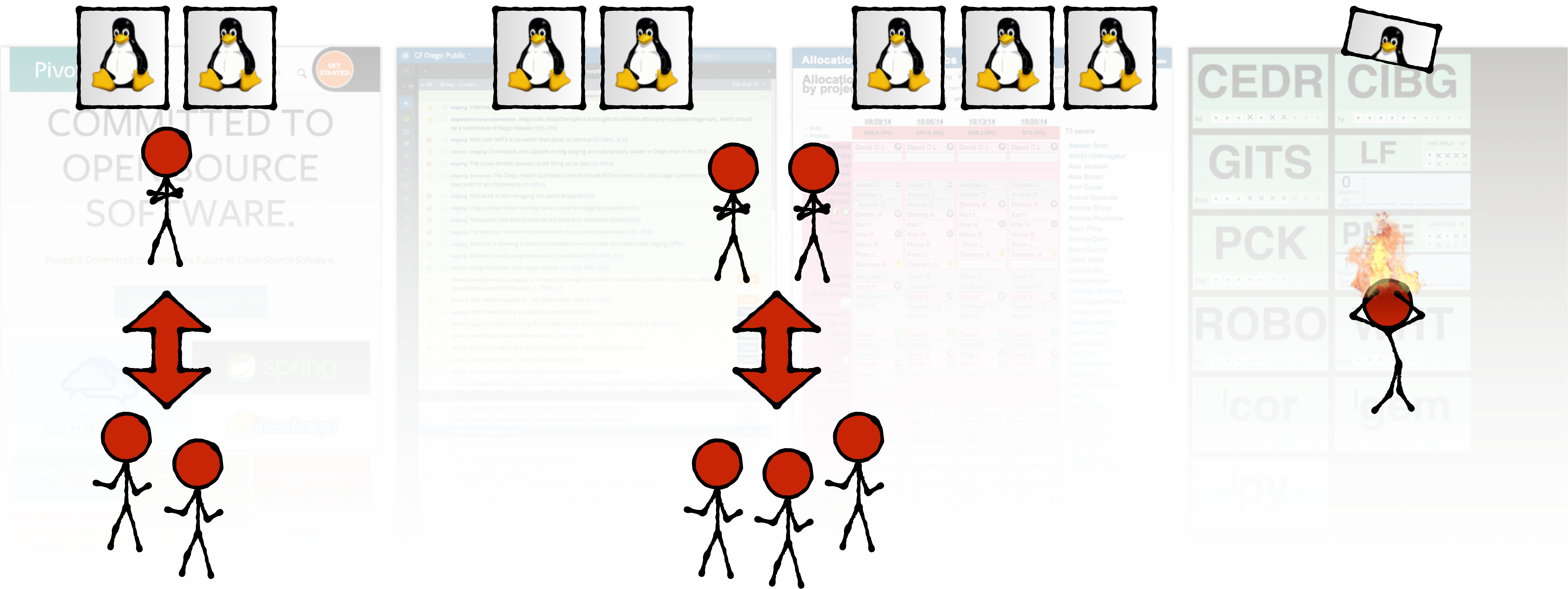
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Source of conflict and miscommunication

Overworked sysadmins

Inefficient, blocked, developers trying to update their apps

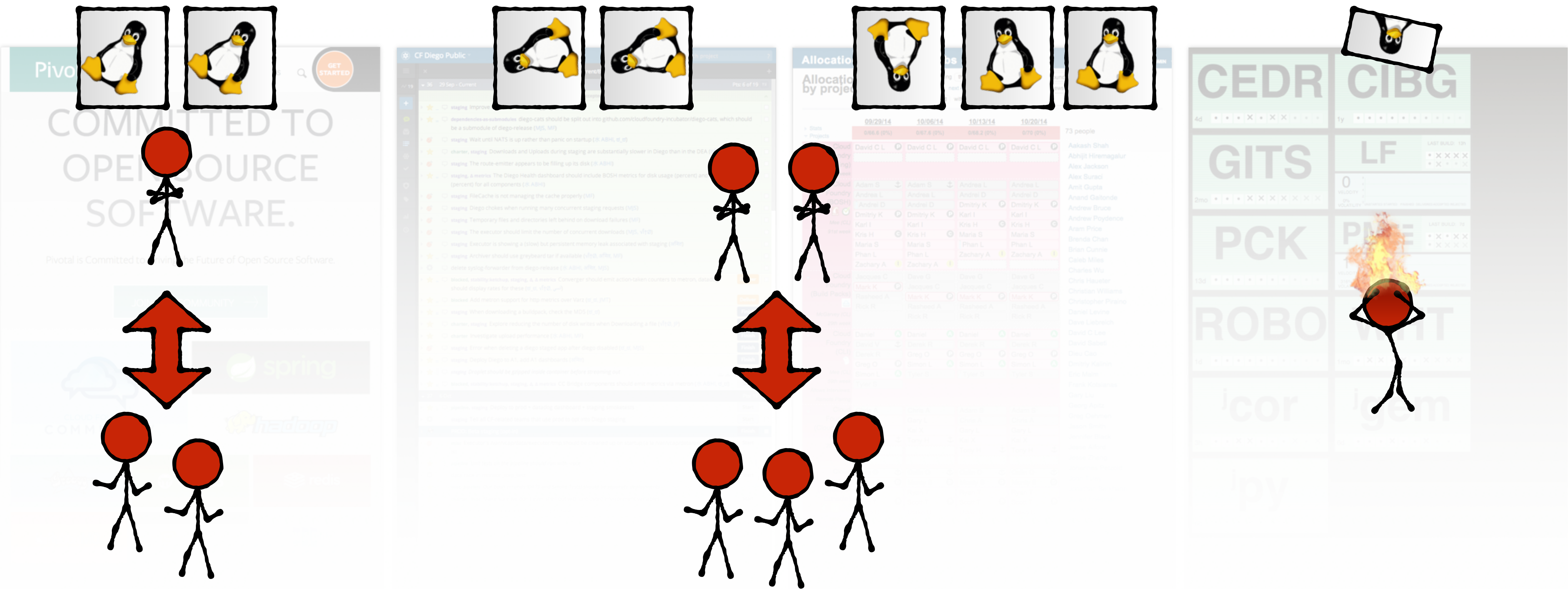


Source of conflict and miscommunication

Overworked sysadmins

Inefficient, blocked, developers trying to update their apps

Inconsistent configurations





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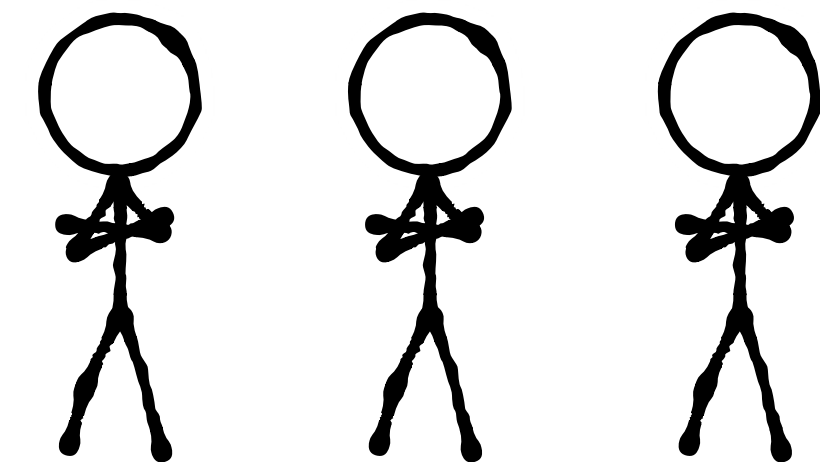
Platform as a Service



CLOUD
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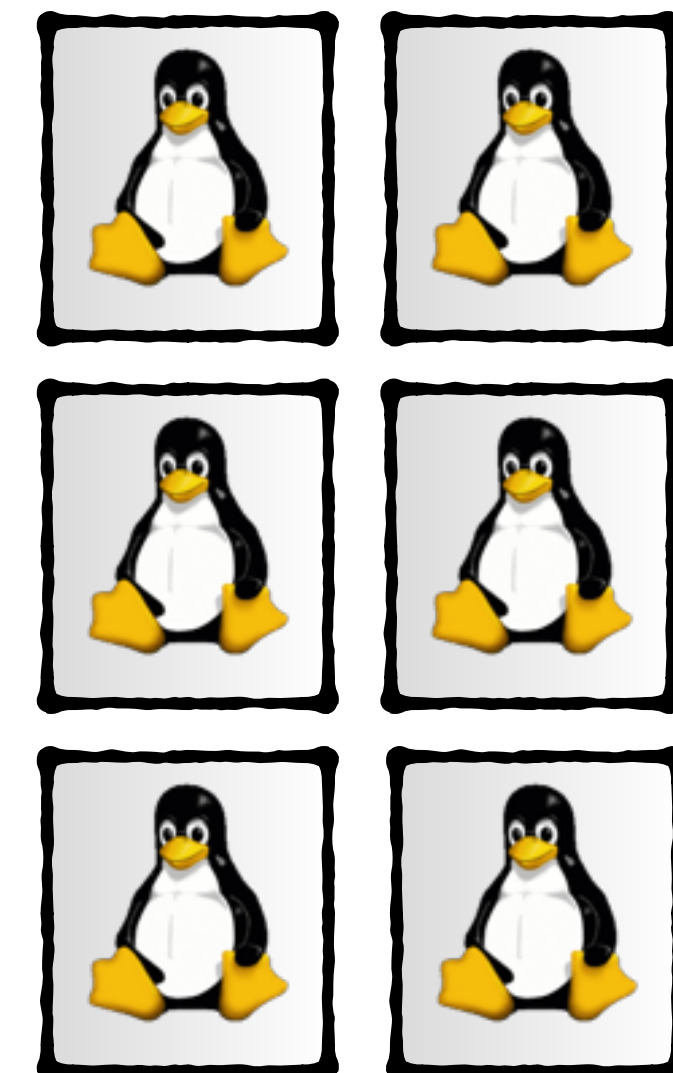
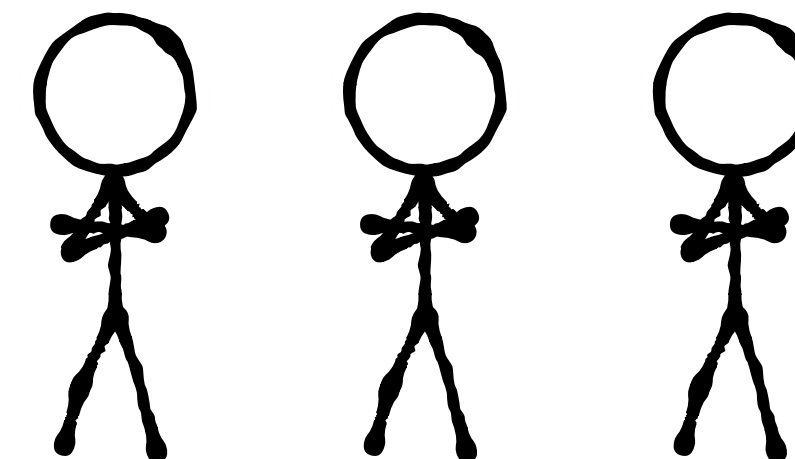


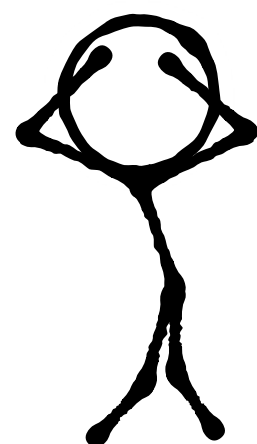
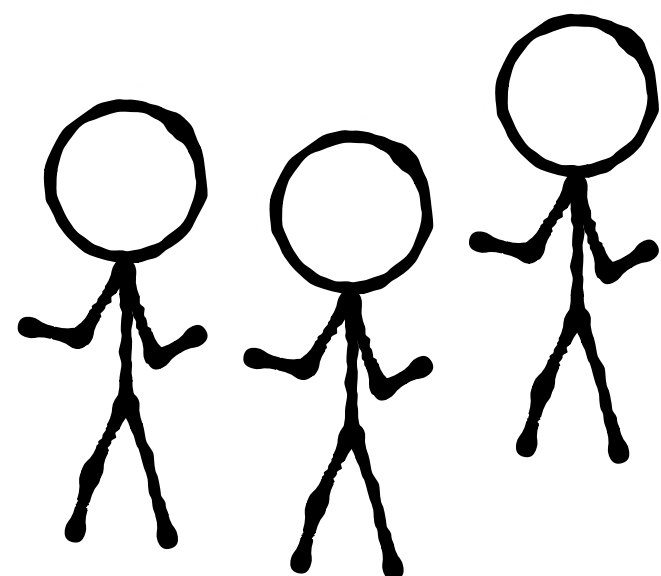
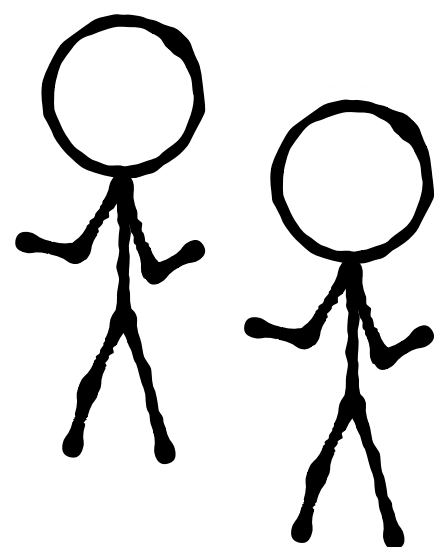
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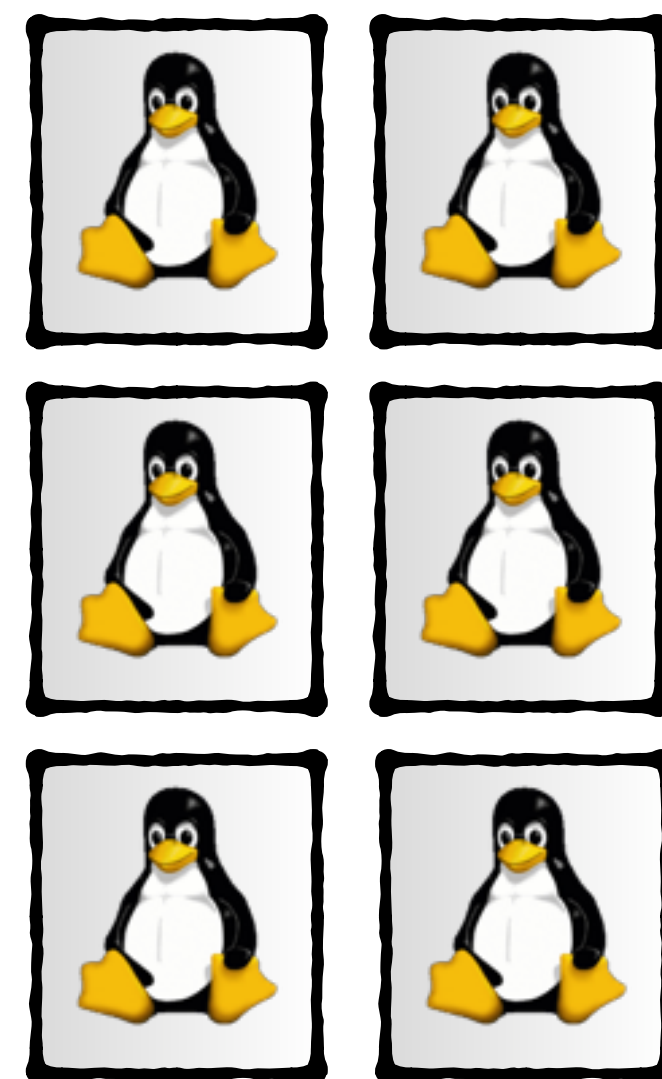
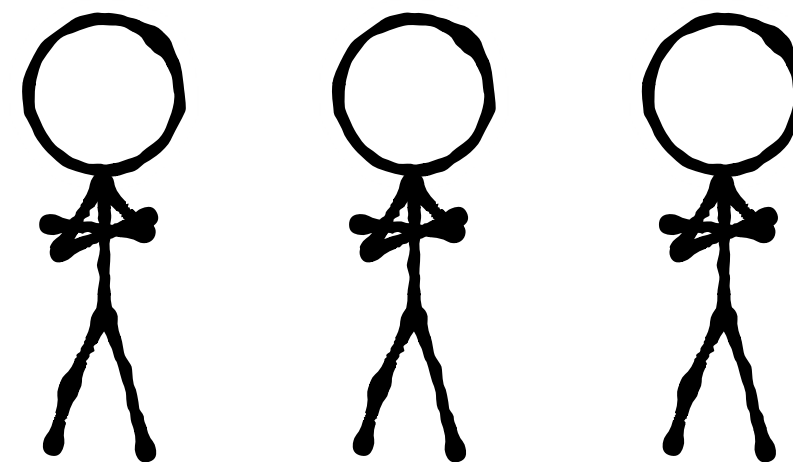


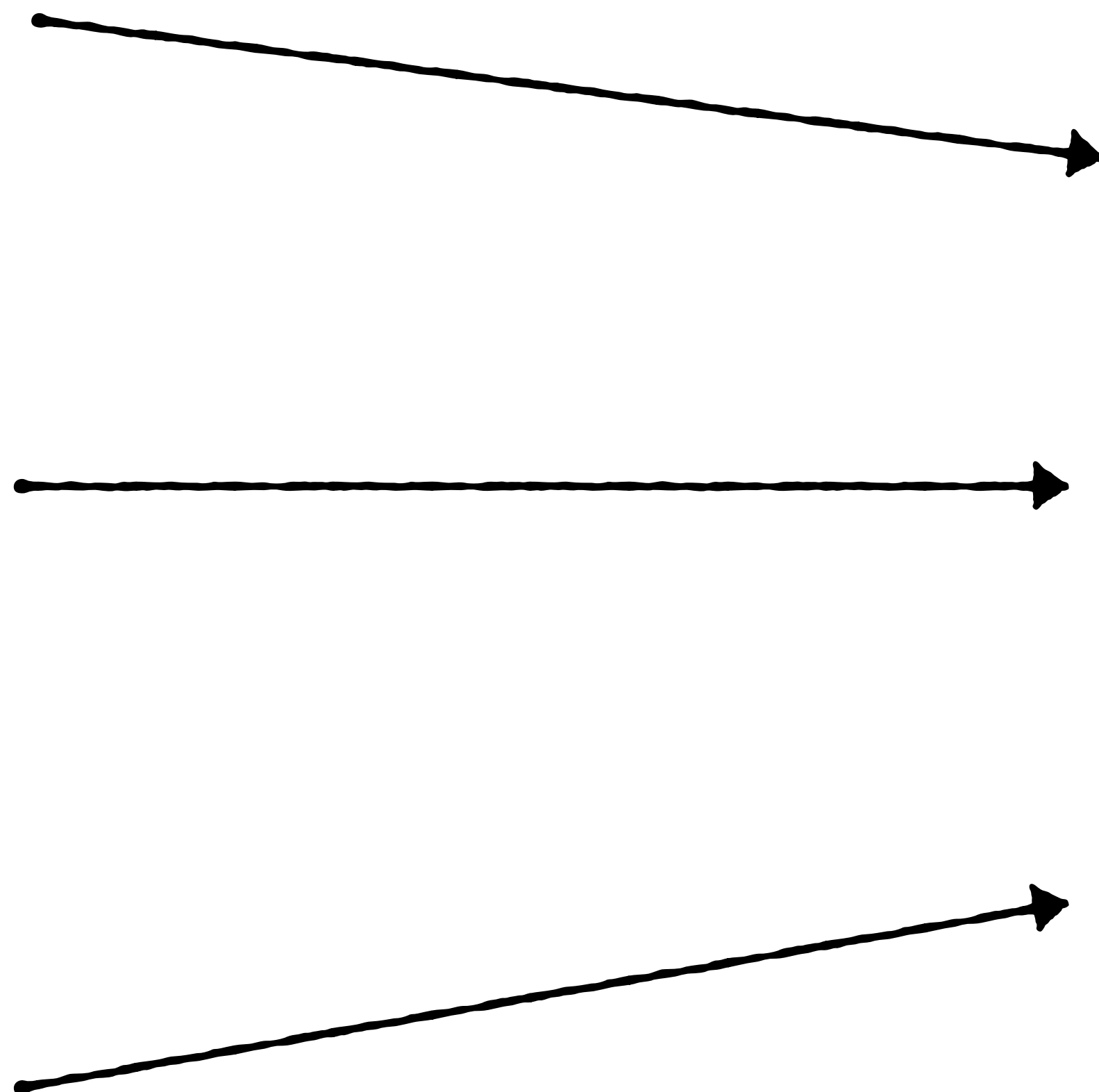
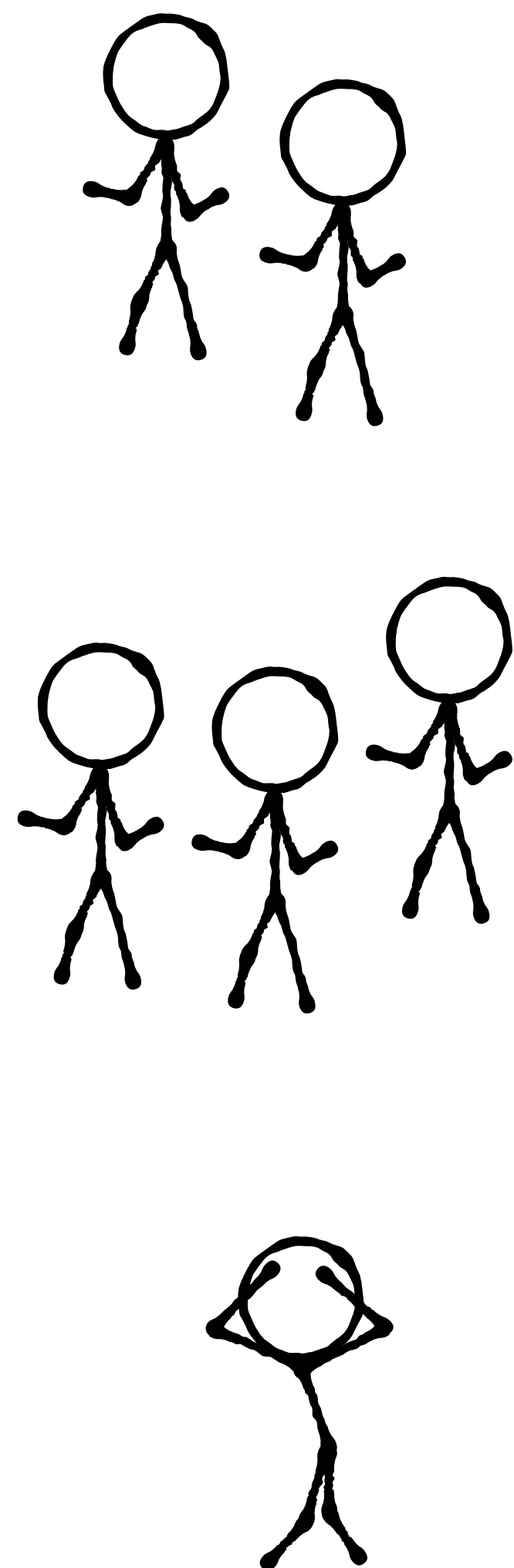
CLOUD
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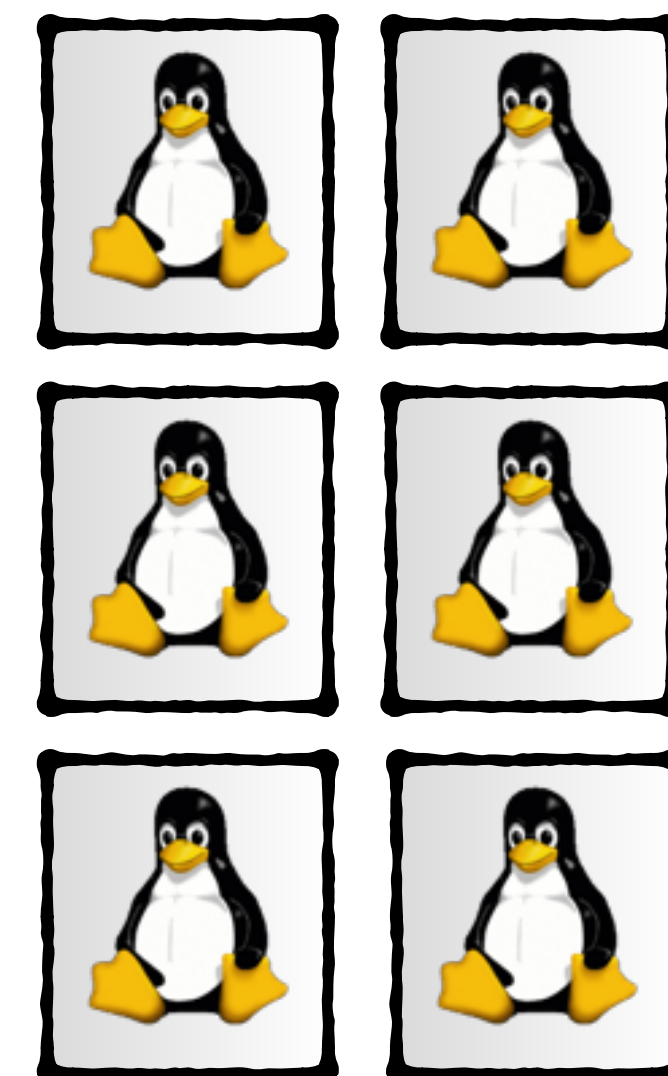
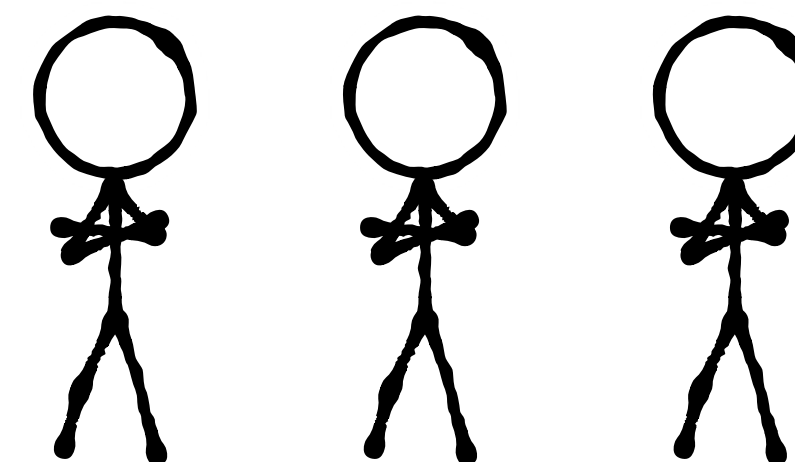


CLOUD
FOUNDRY™





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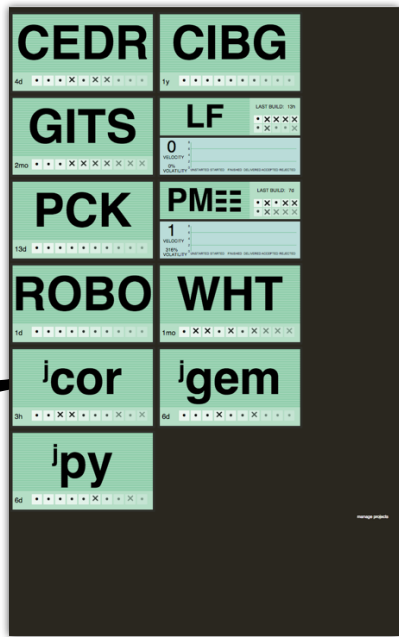
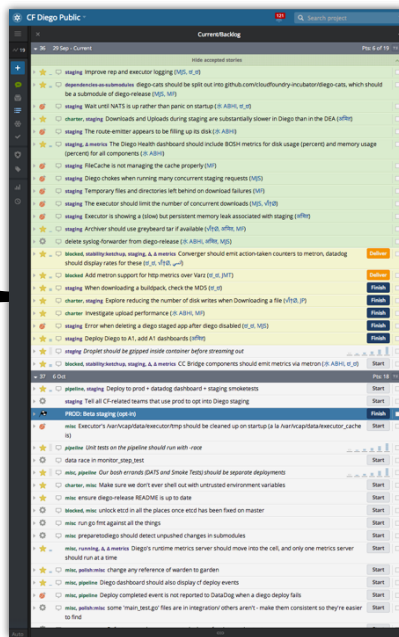
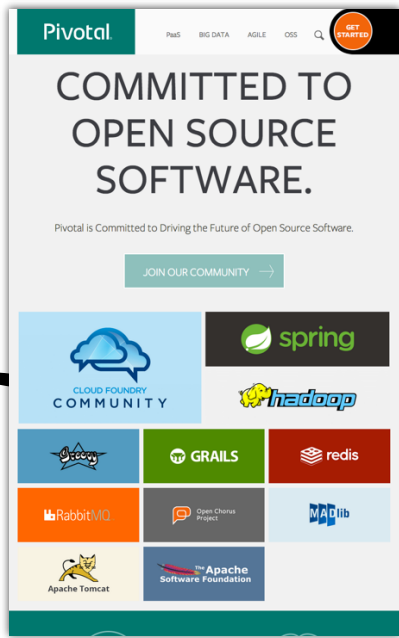
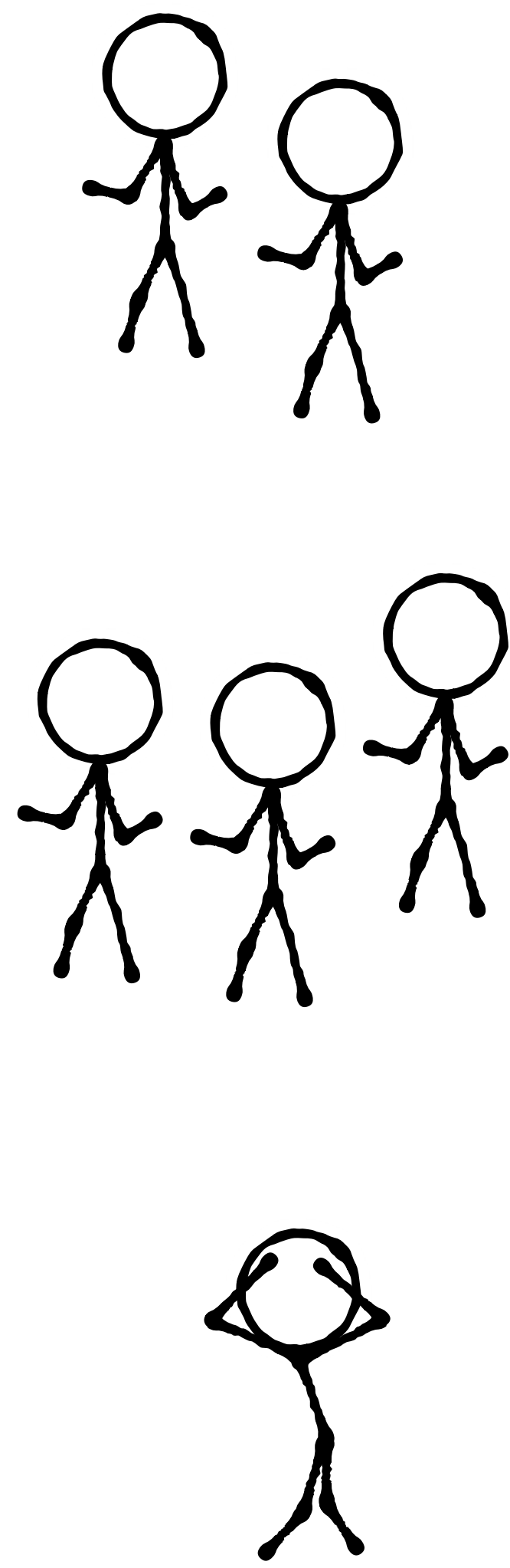


```
> cf push
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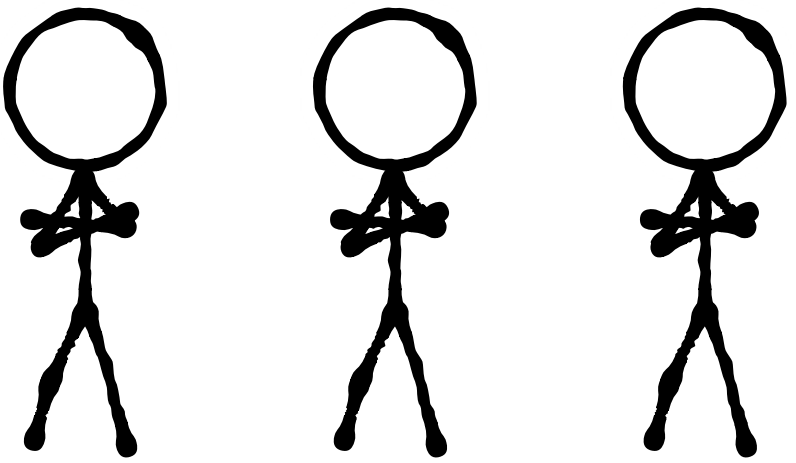
Code



Running Applications

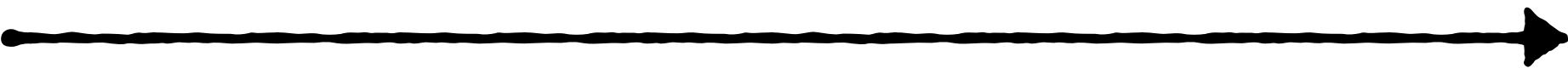


CLOUD
FOUNDRY™

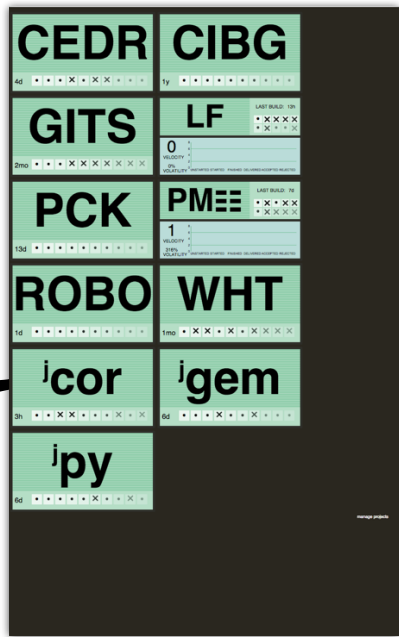
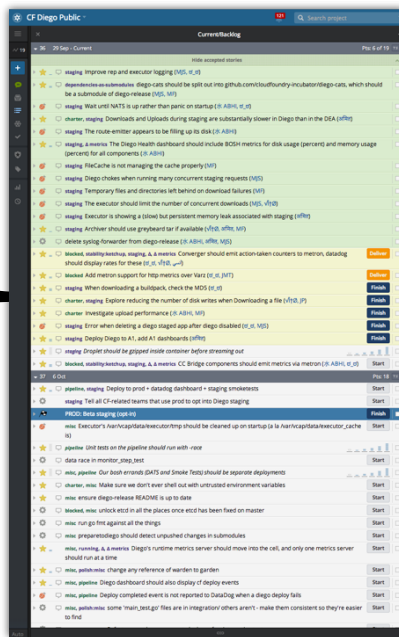
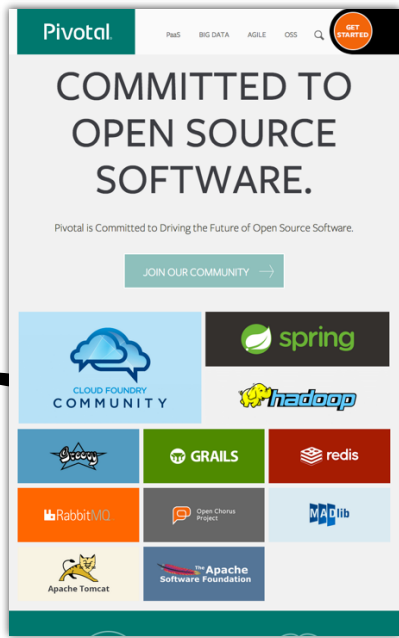
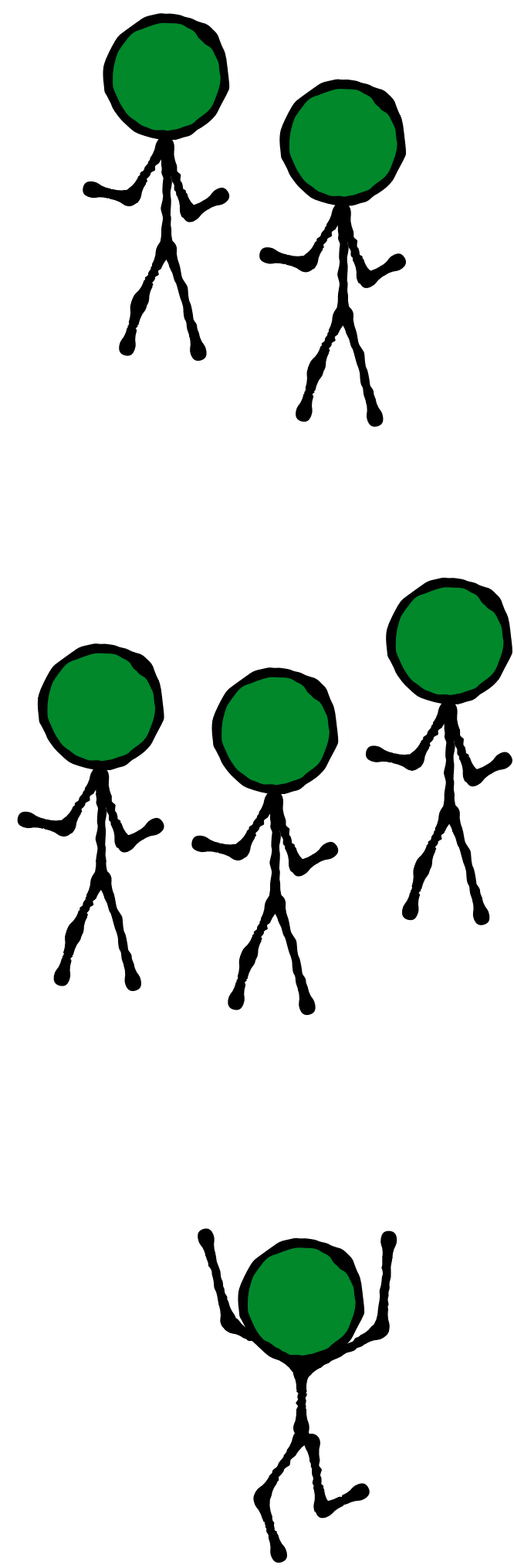


> cf push

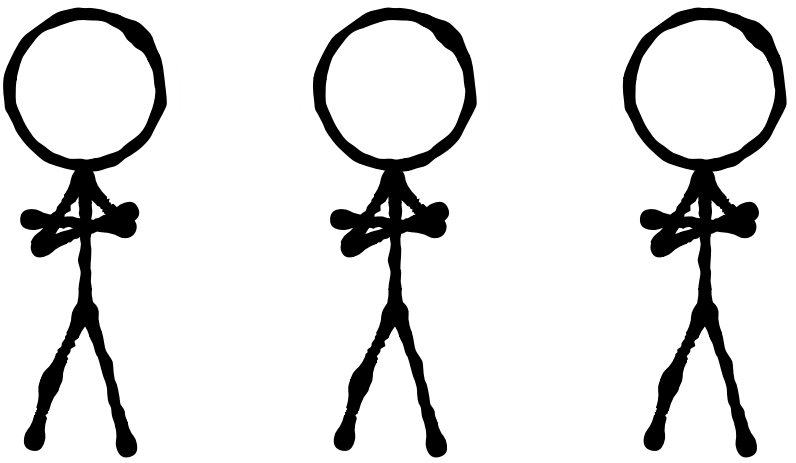
Code



Running Applications



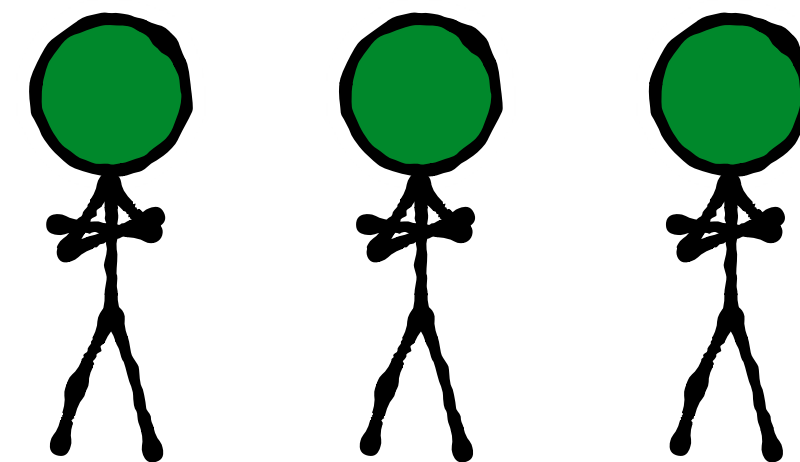
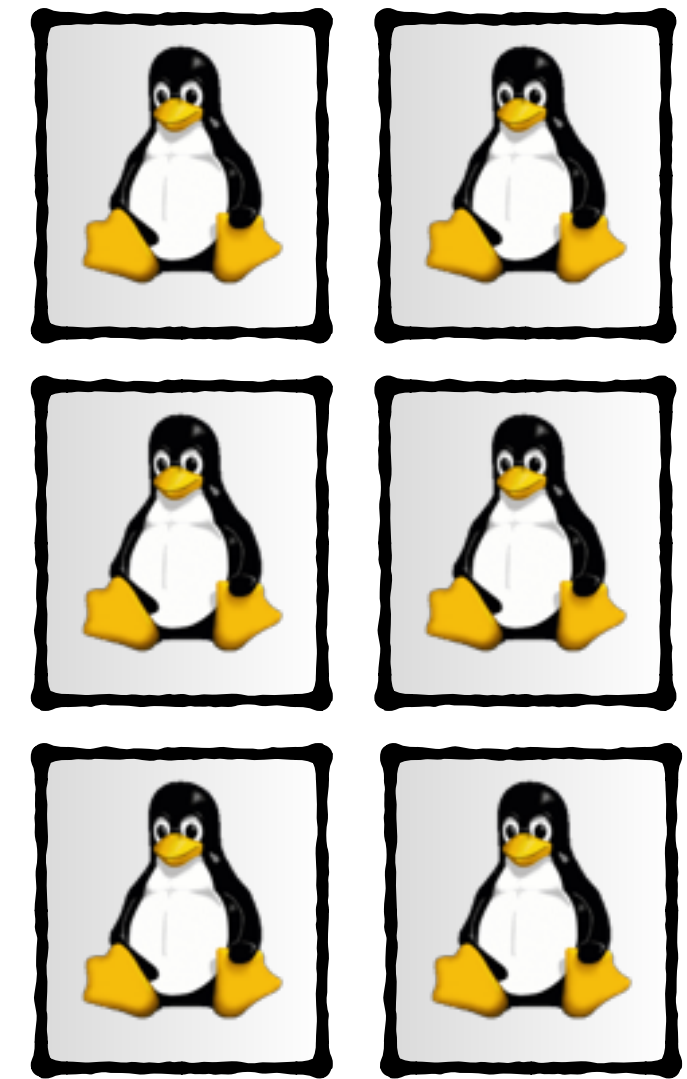
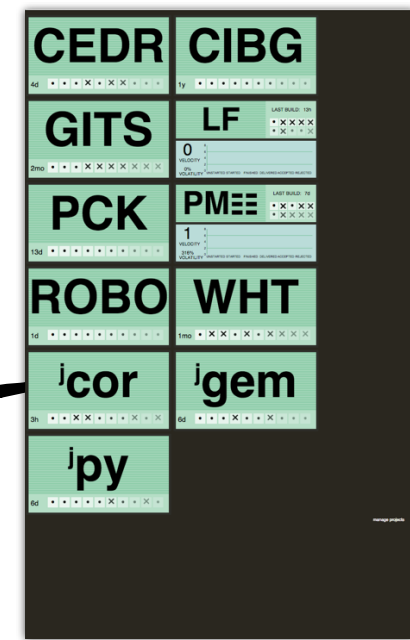
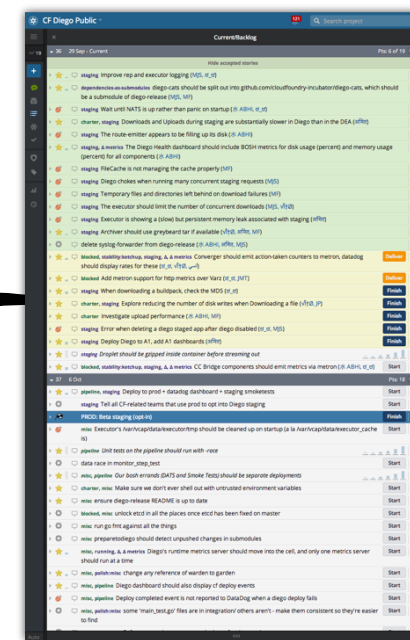
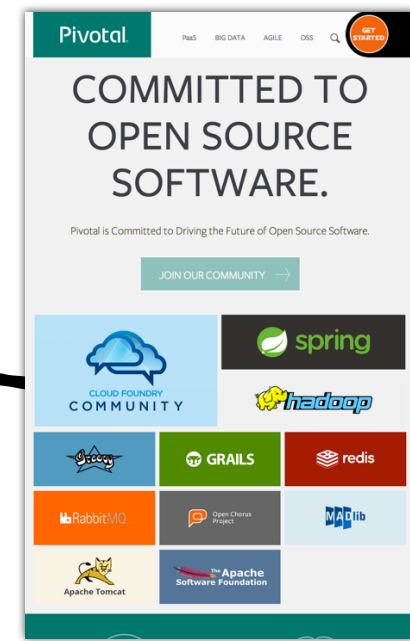
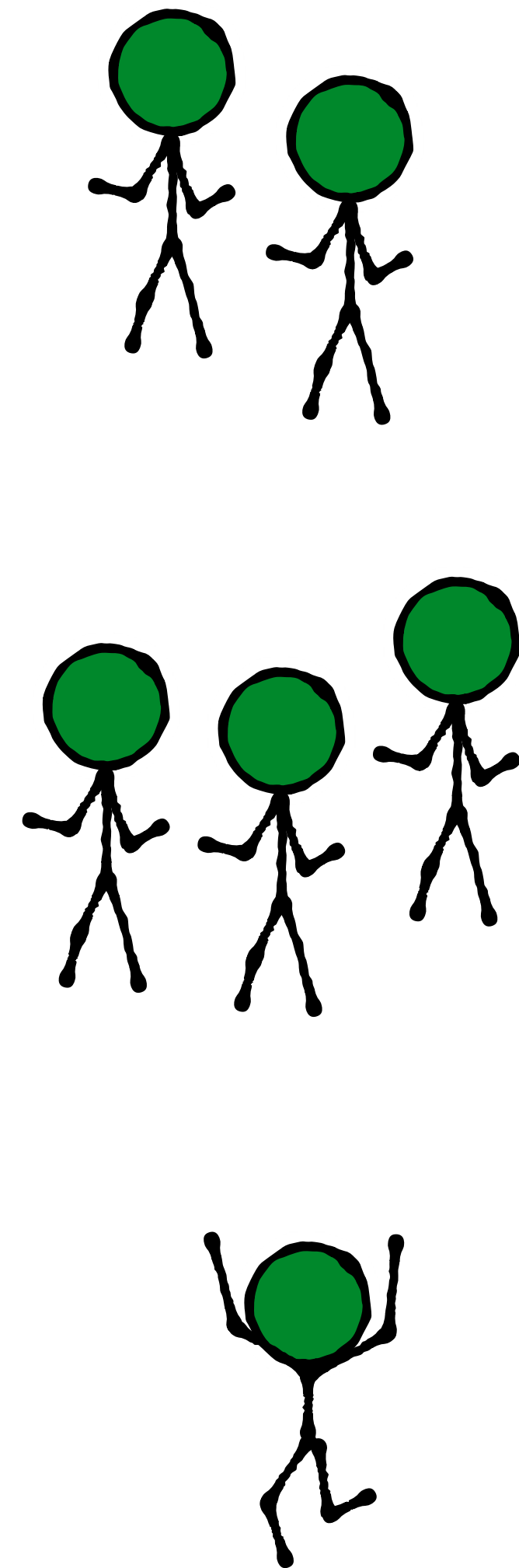
CLOUD
FOUNDRY™



> cf push

Code

Running Applications



> cf push



CLOUD
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

Pivotal™

culture

(why you should work here!)

Pairing

Testing

Agile Planning

Pivotal™

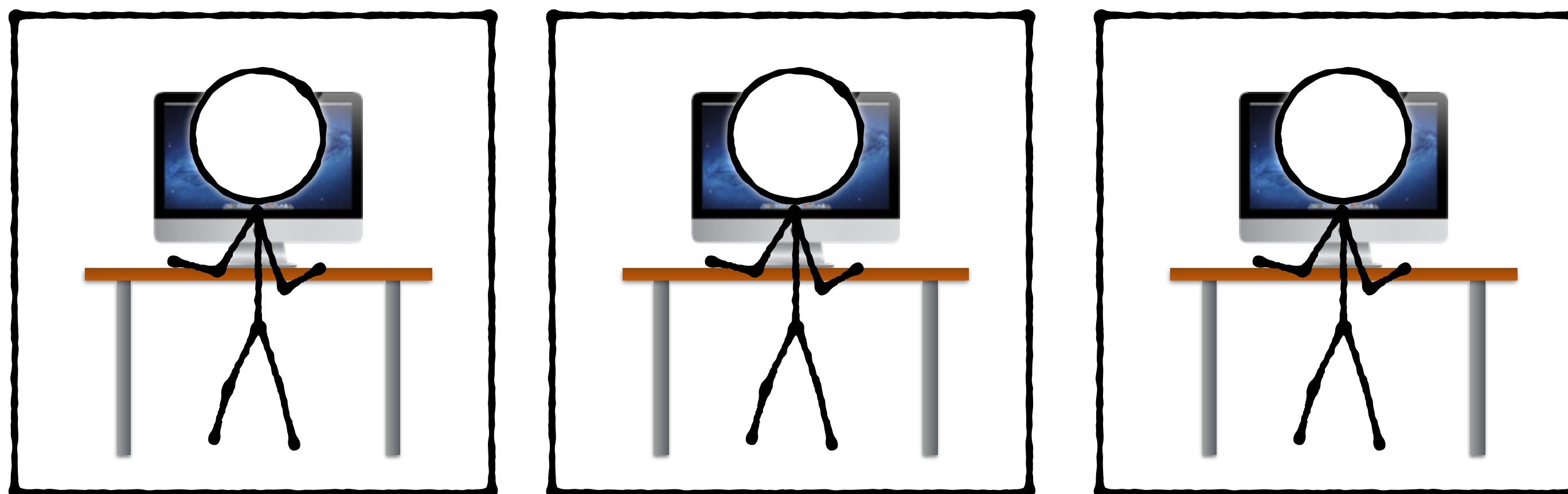
culture

(why you should work here!)

Pairing

Testing

Agile Planning



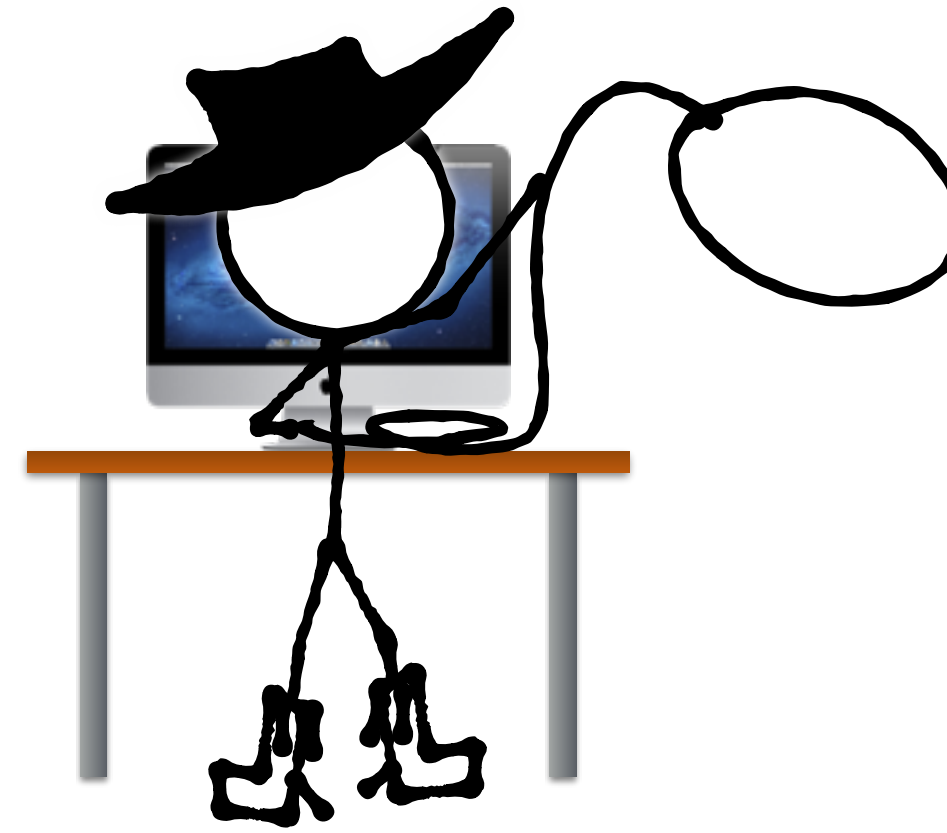
Distraction



Distraction



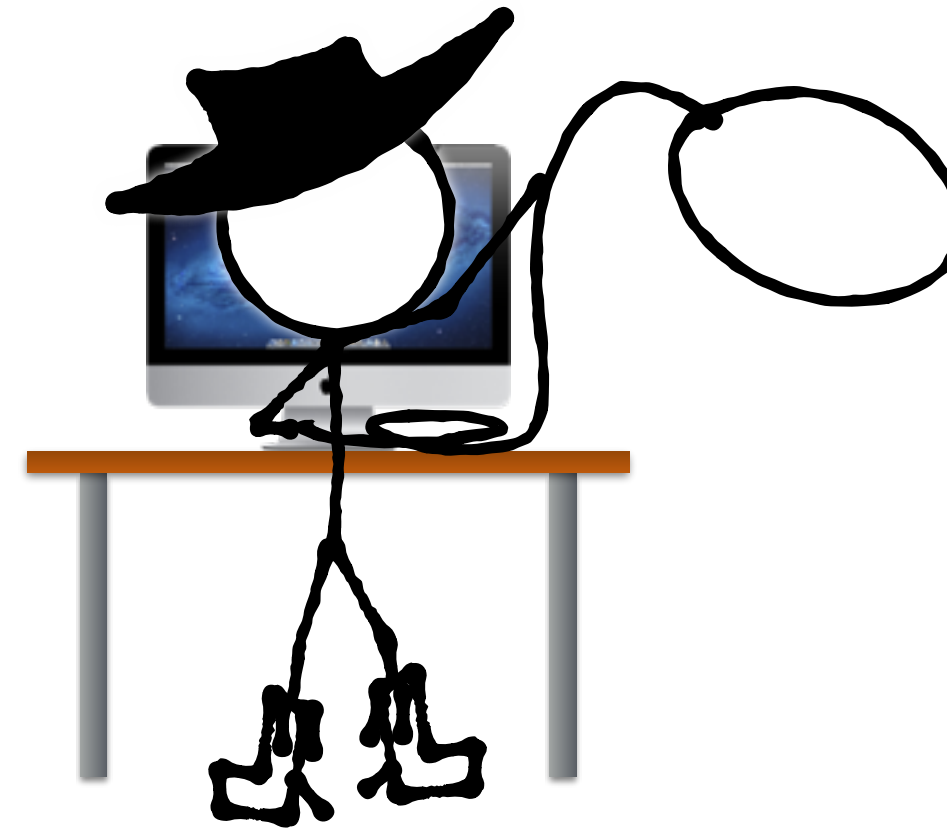
Cowboyism



Distraction



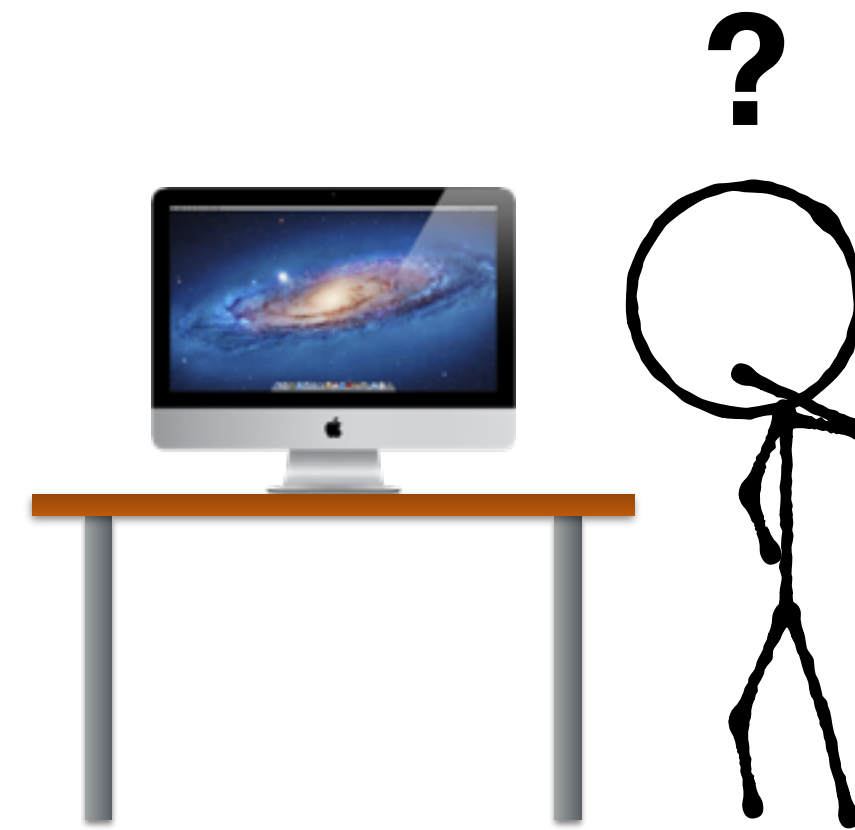
Cowboyism



Distraction



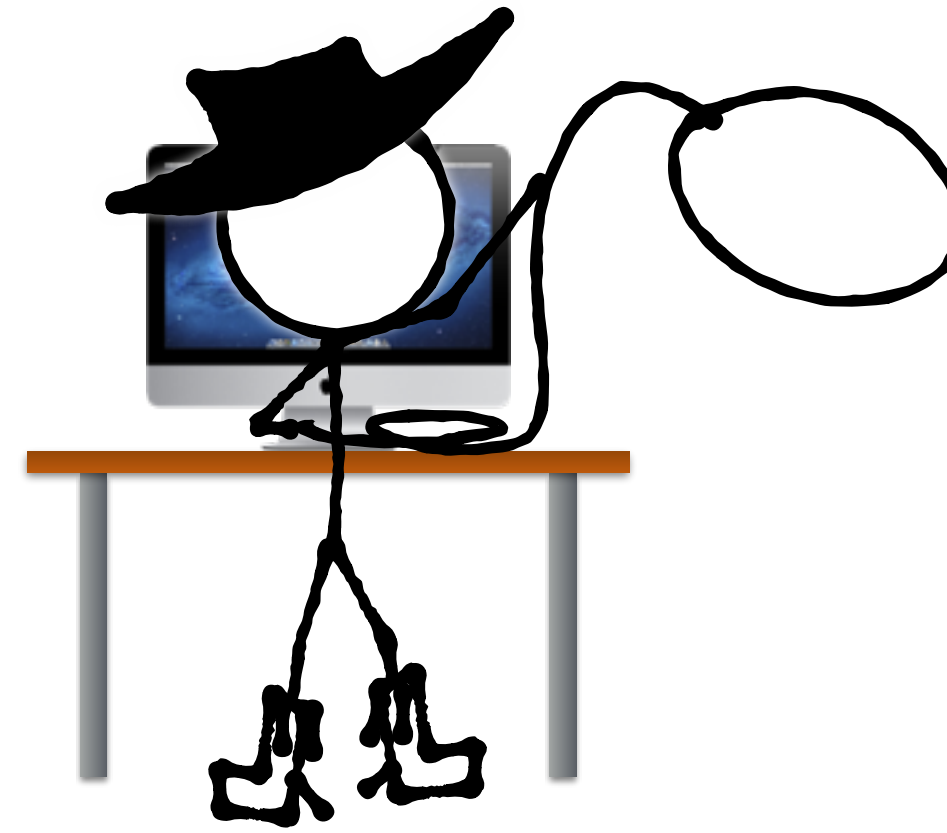
Cowboyism



Distraction



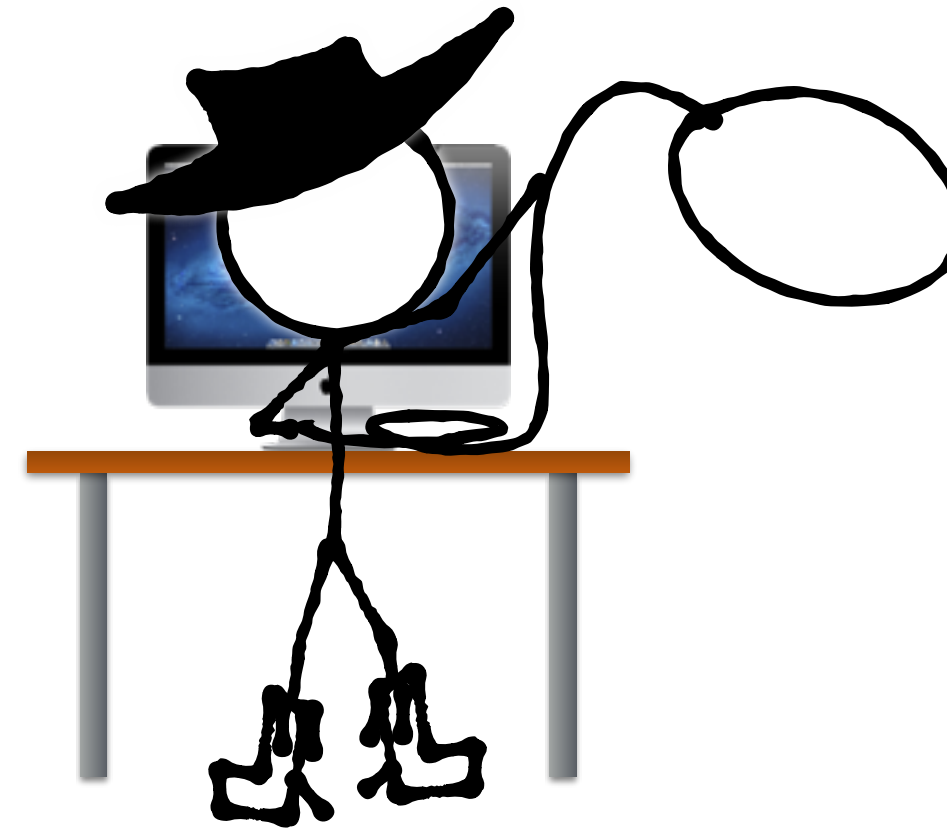
Cowboyism



Distraction



Cowboyism



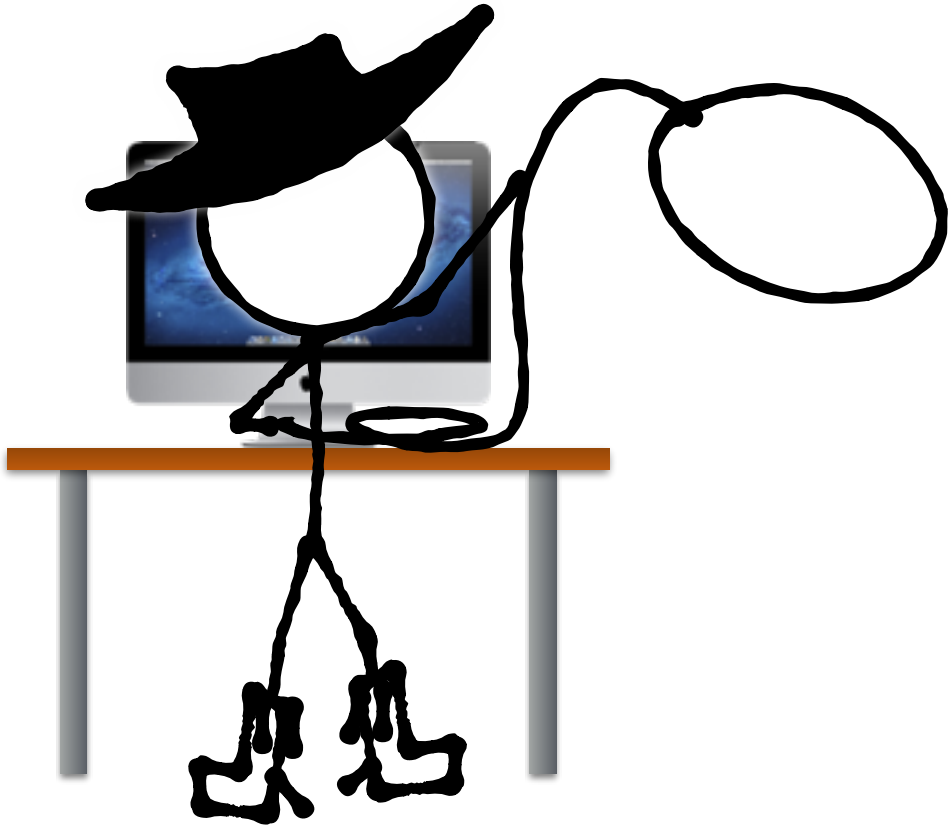
Unsustainable



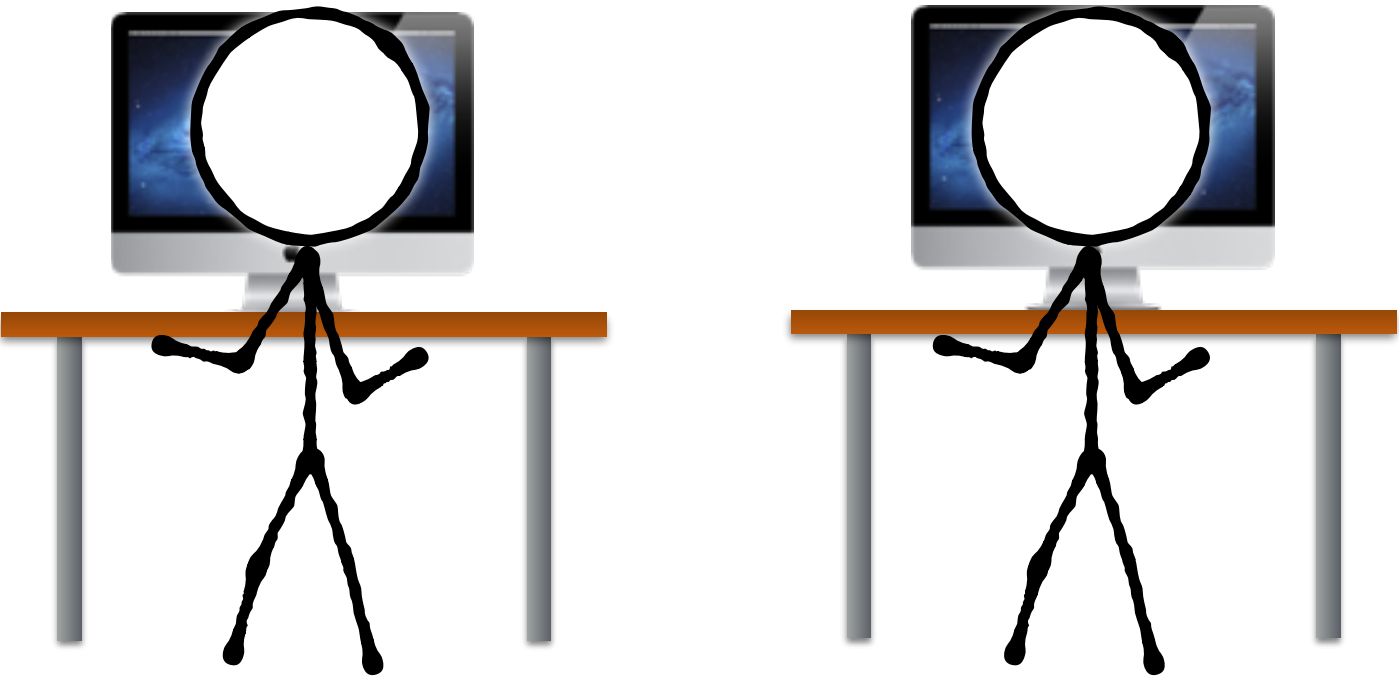
Distraction



Cowboyism



Unsustainable

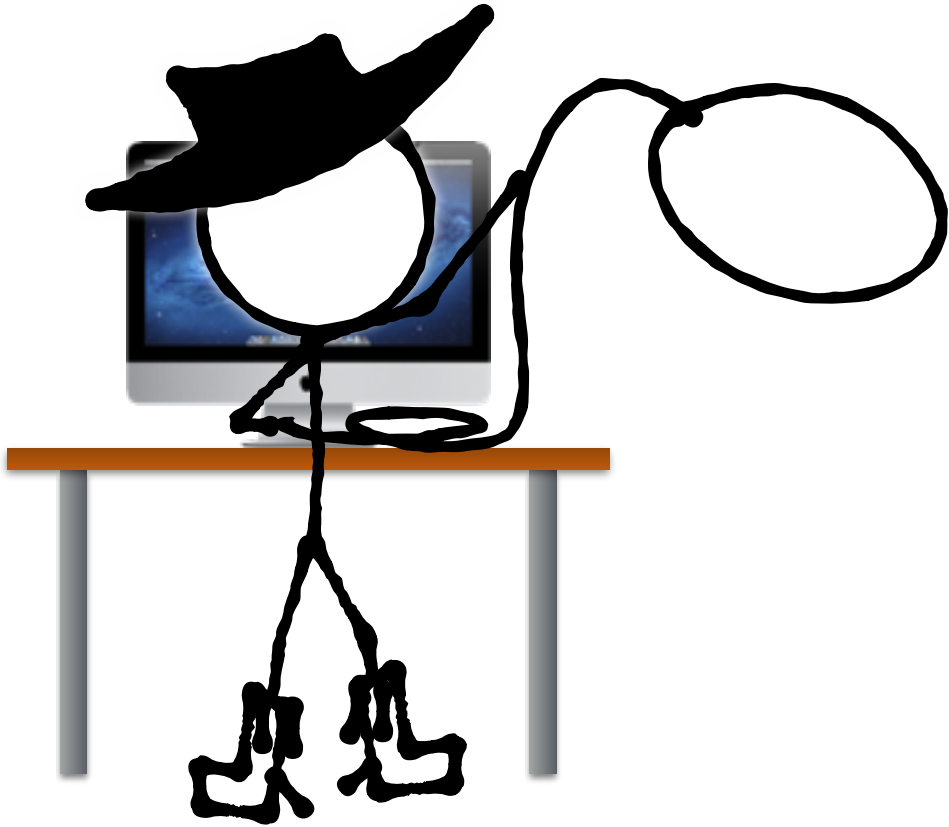


Miscommunication

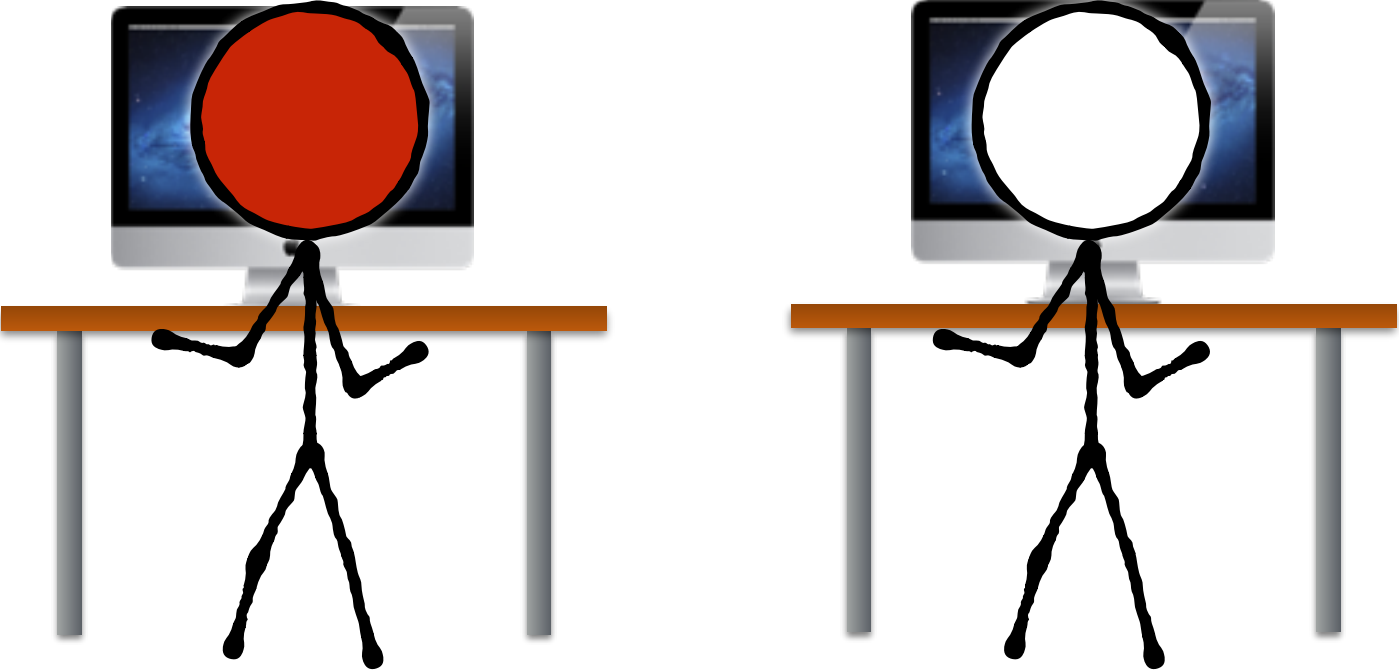
Distraction



Cowboyism



Unsustainable

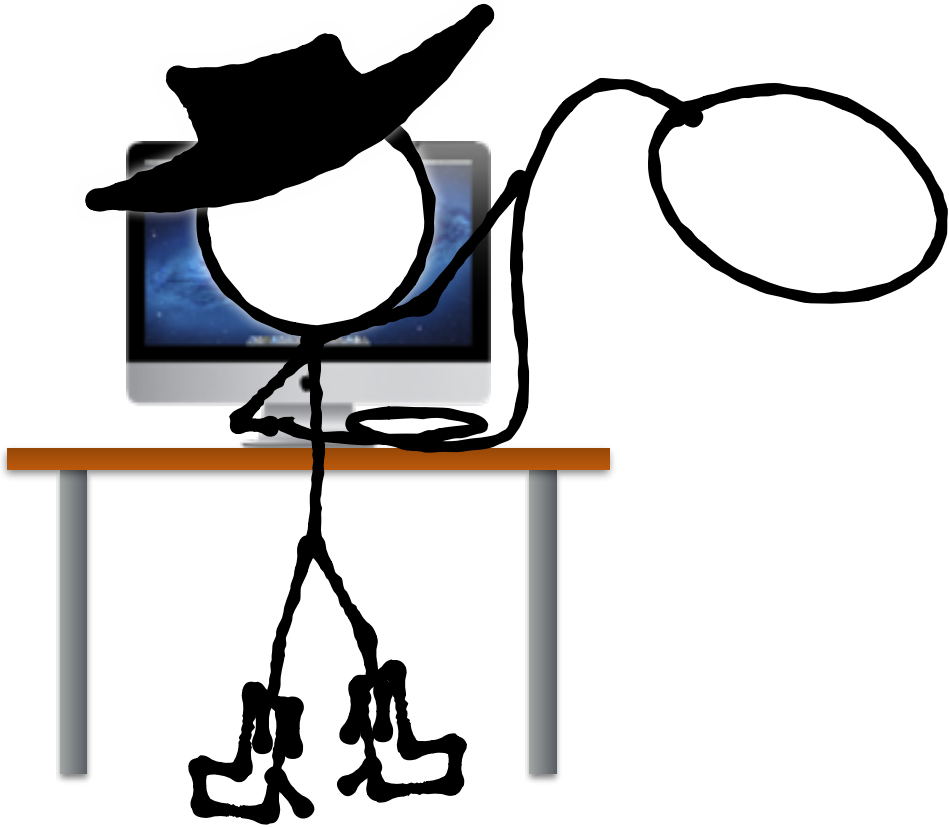


Miscommunication

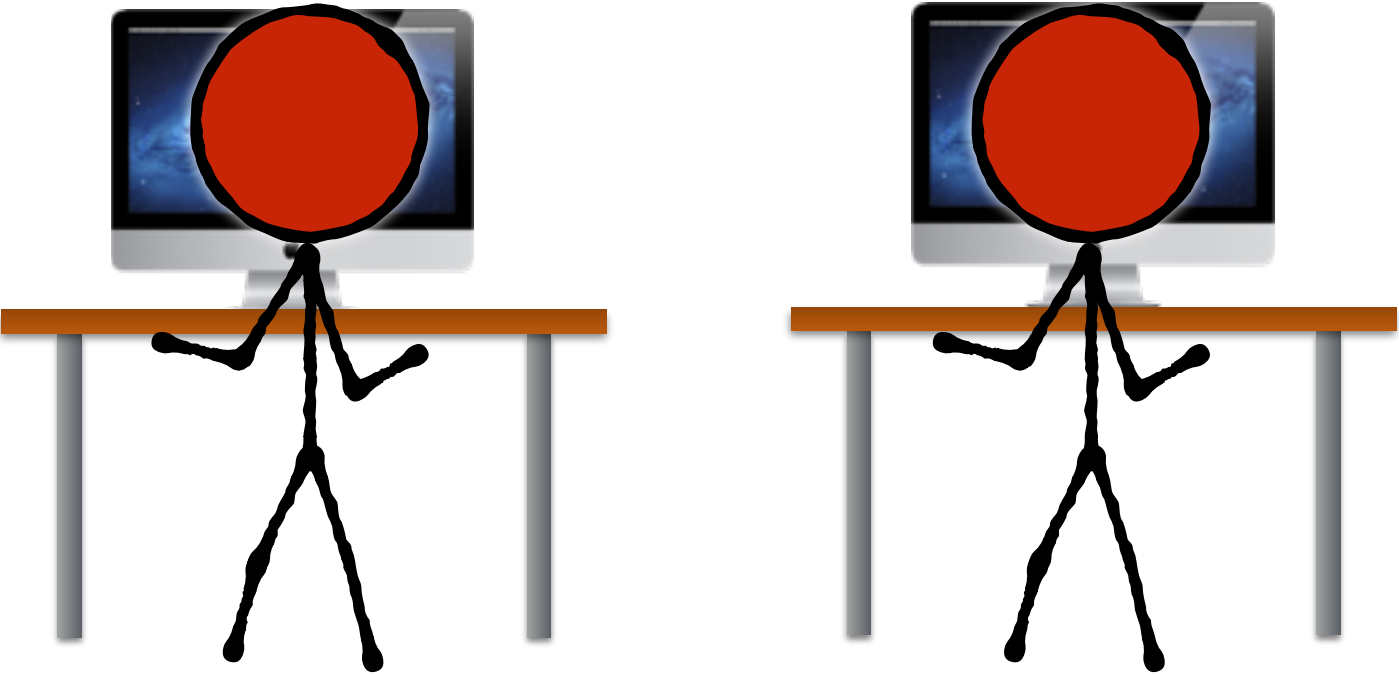
Distraction



Cowboyism



Unsustainable

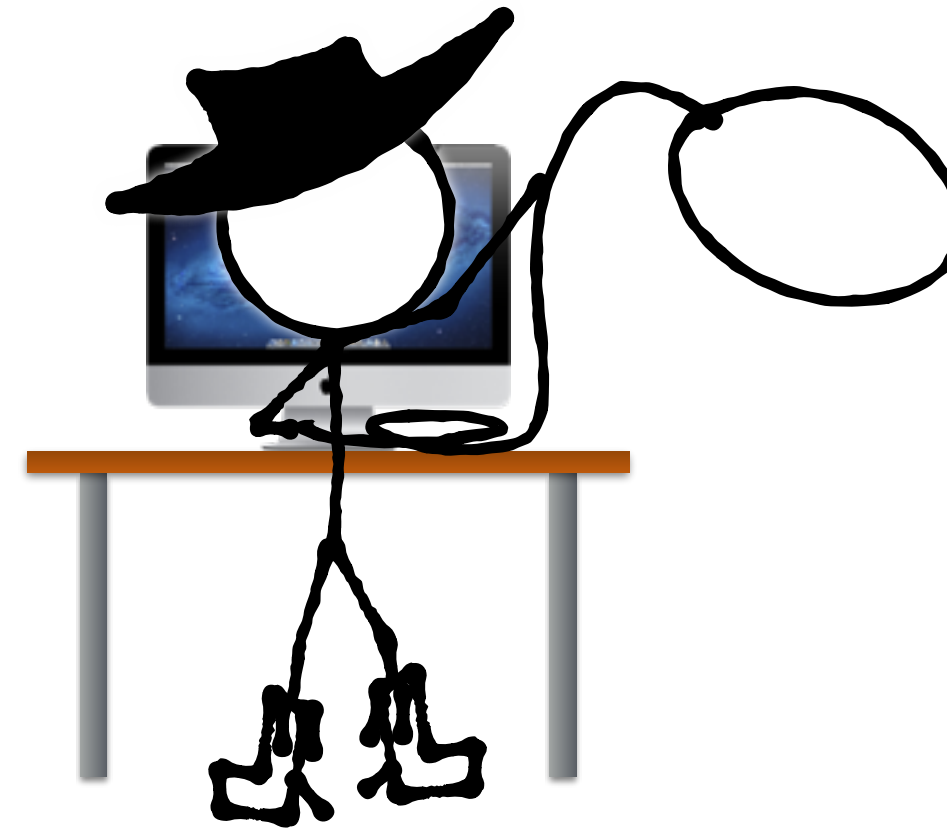


Miscommunication

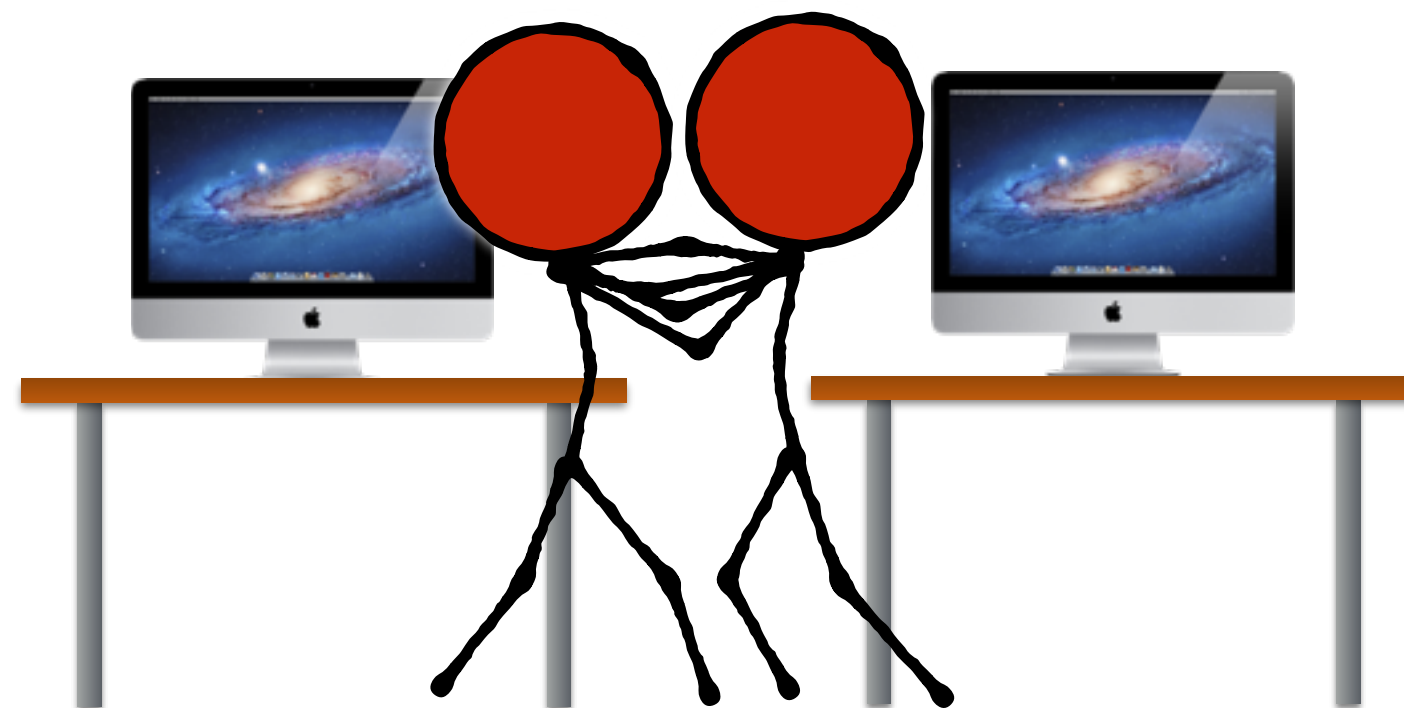
Distraction



Cowboyism

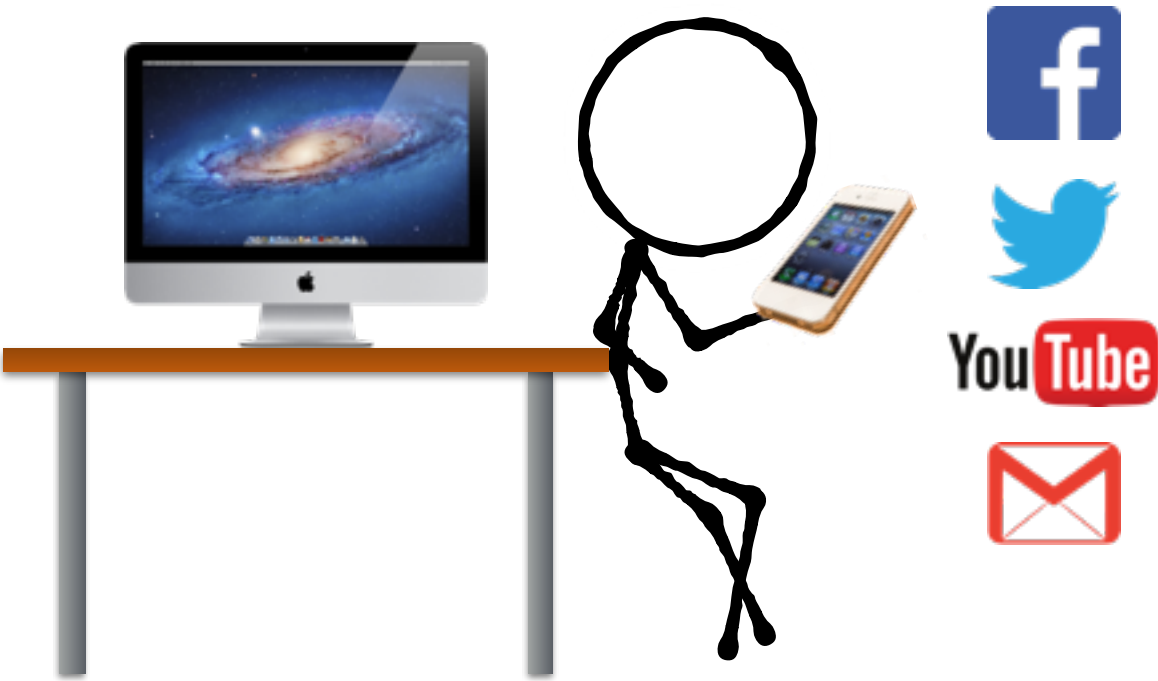


Unsustainable

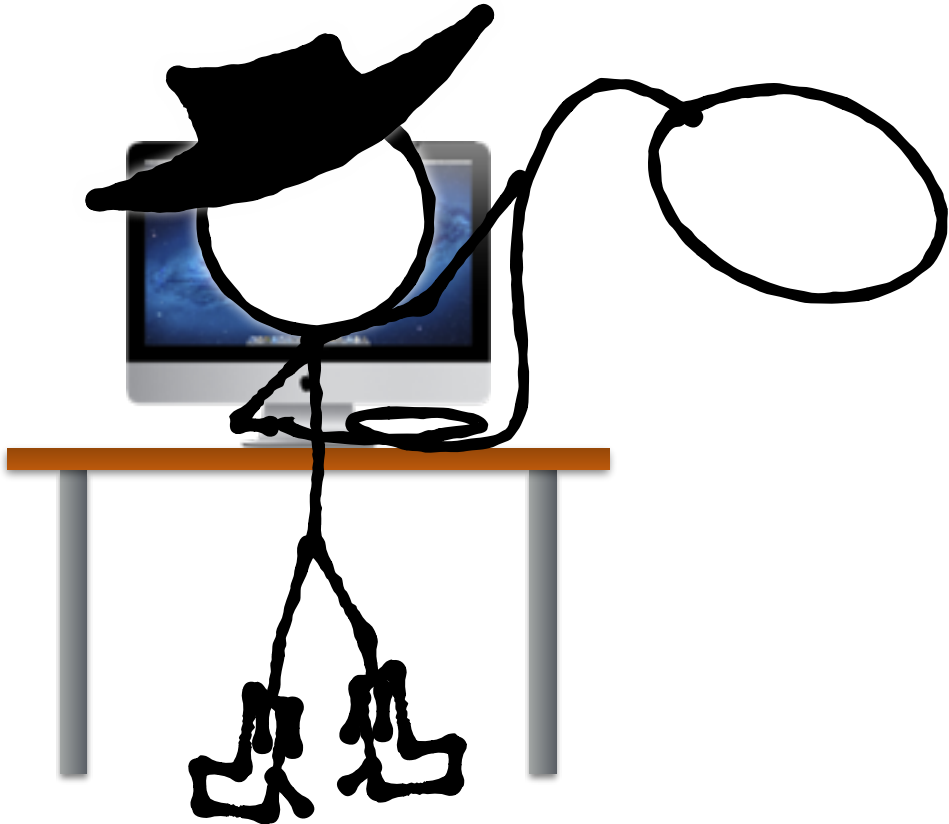


Miscommunication

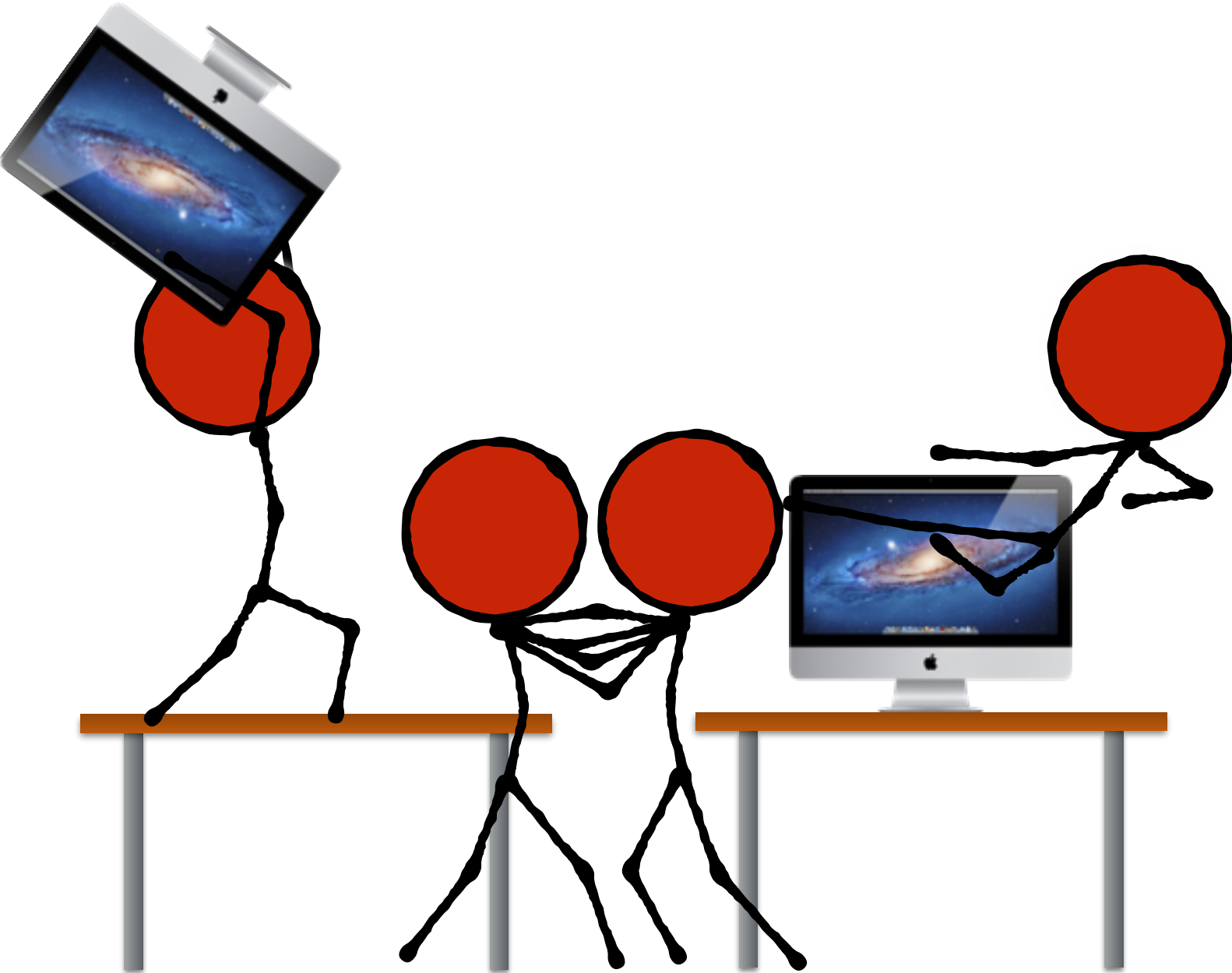
Distraction



Cowboyism



Unsustainable

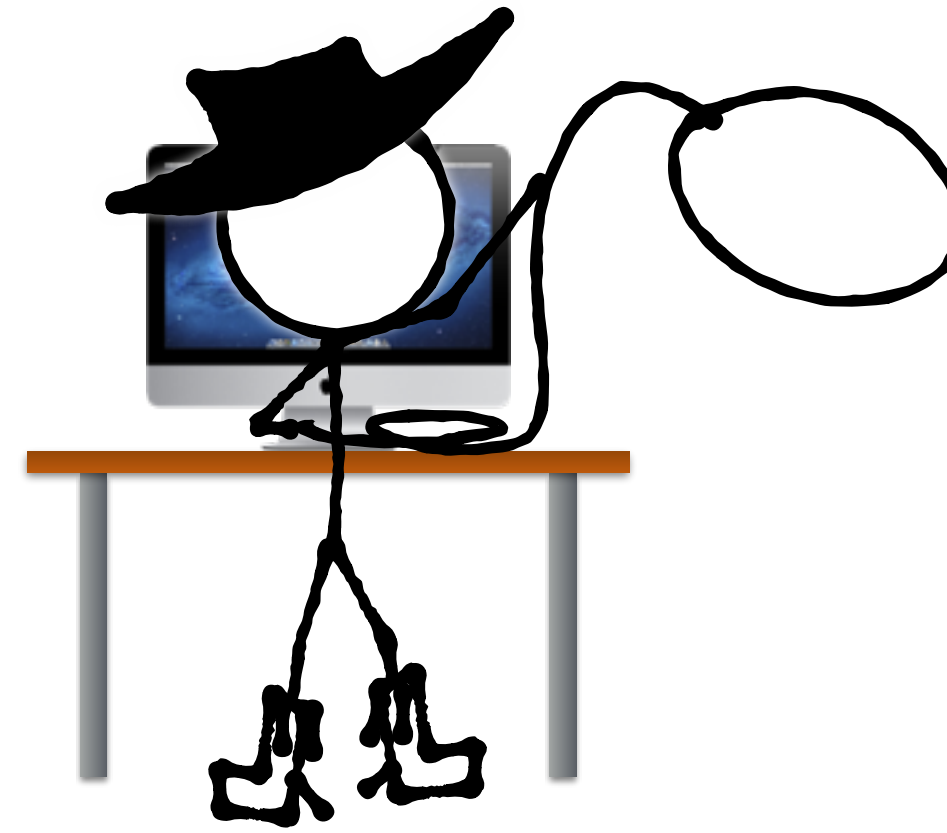


Miscommunication

Distraction



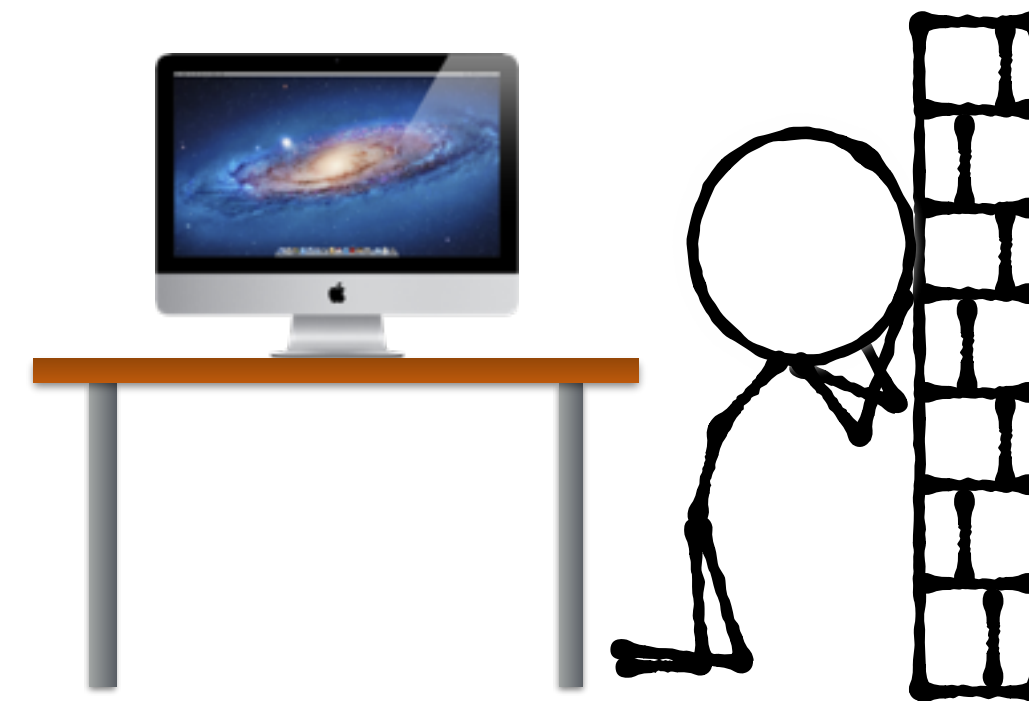
Cowboyism



Unsustainable

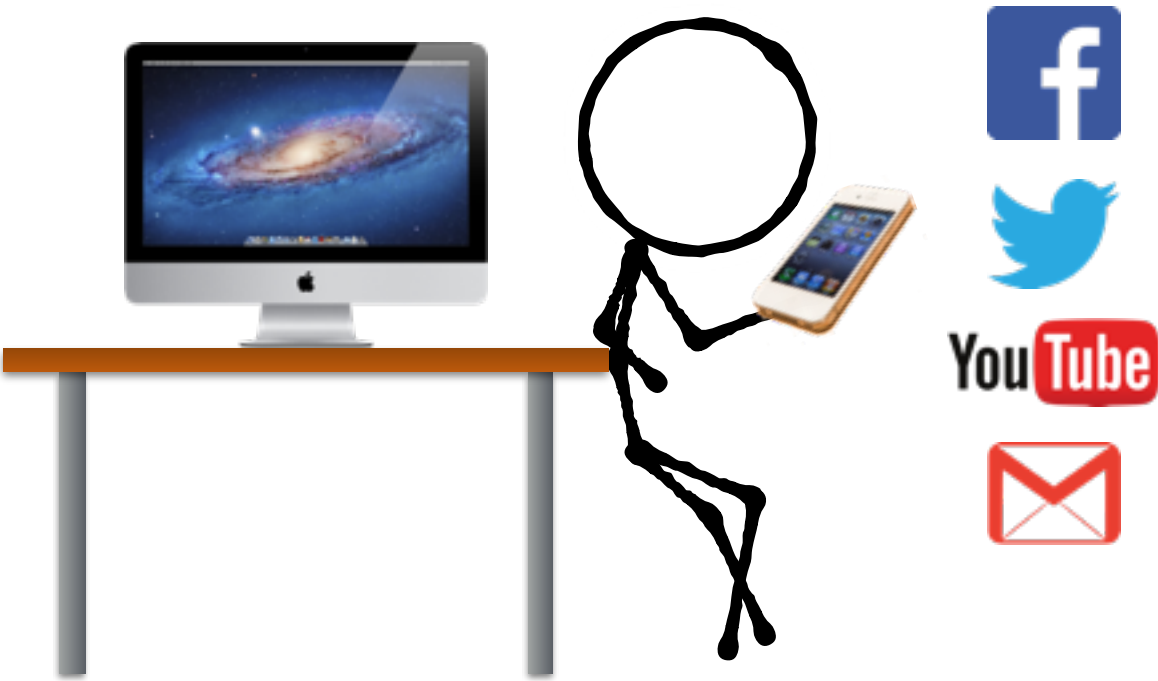


Miscommunication

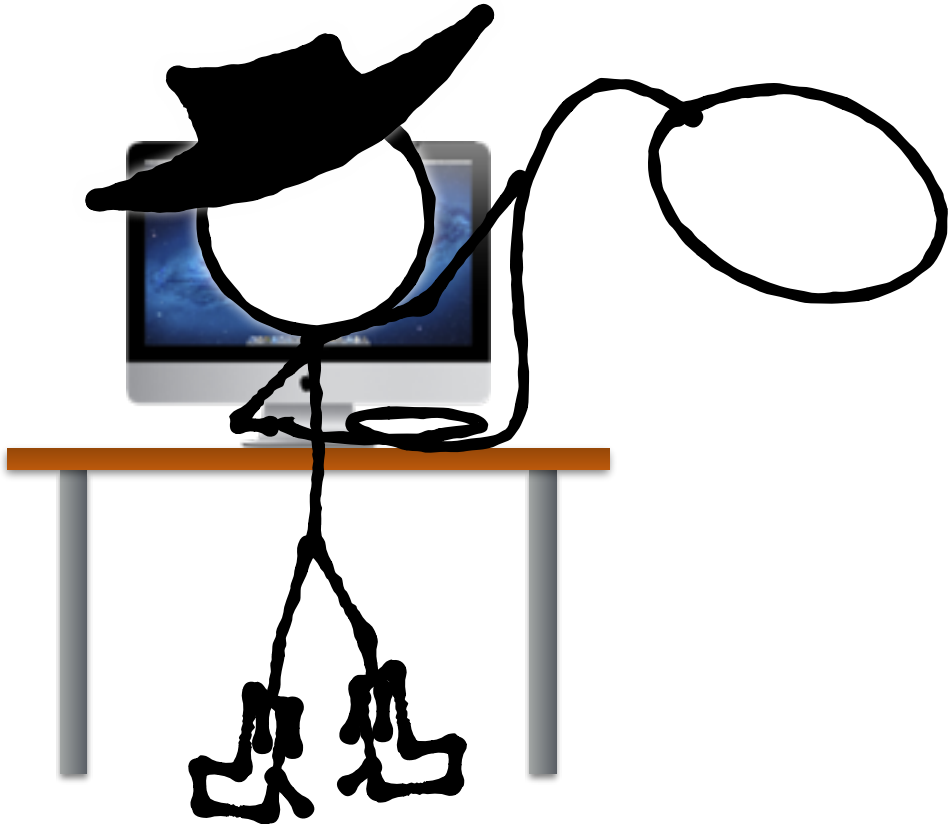


Stuck

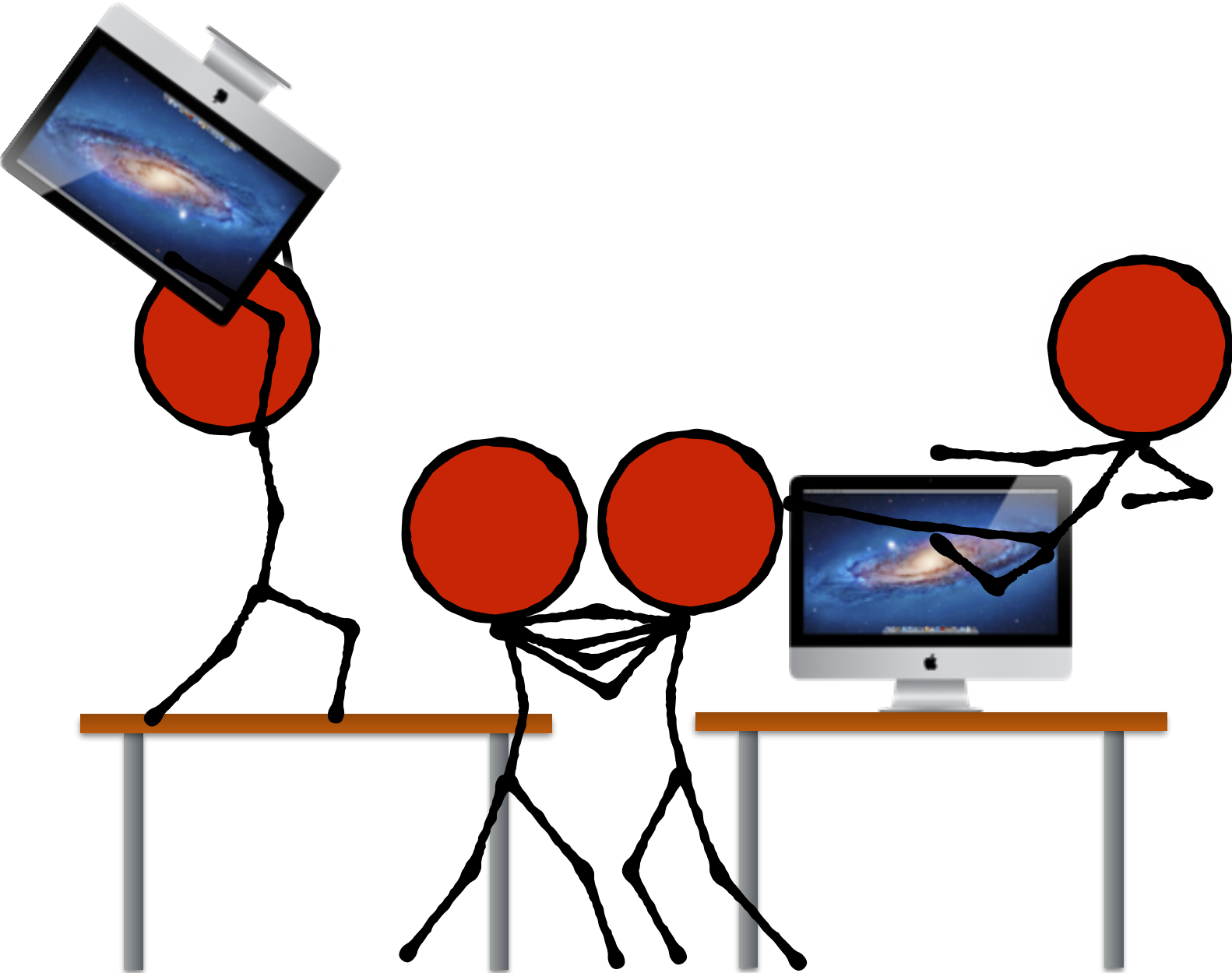
Distraction



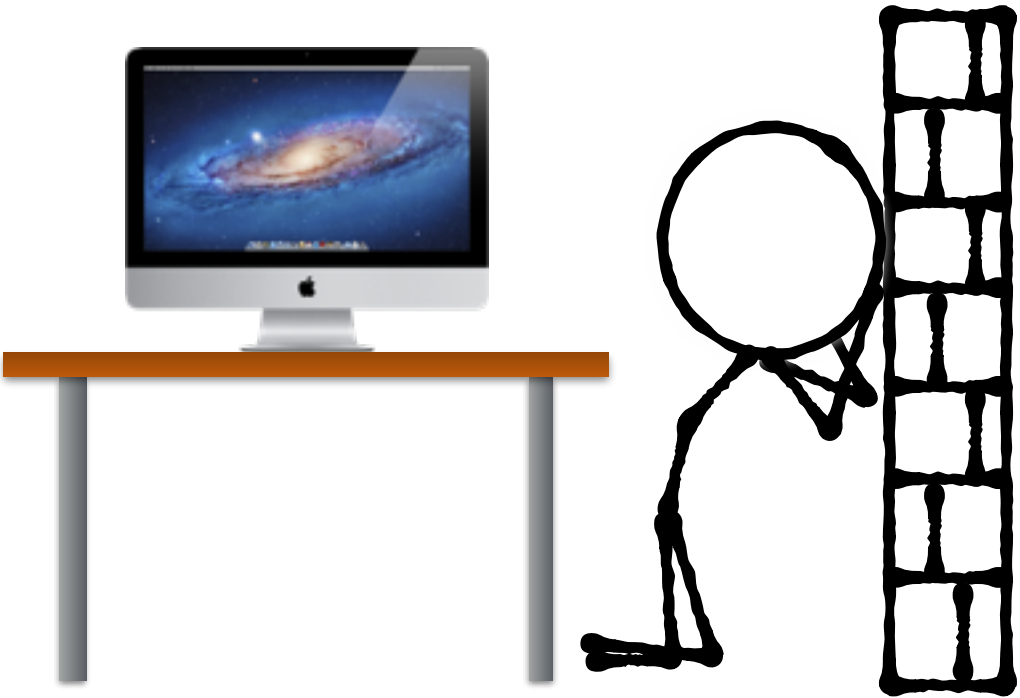
Cowboyism



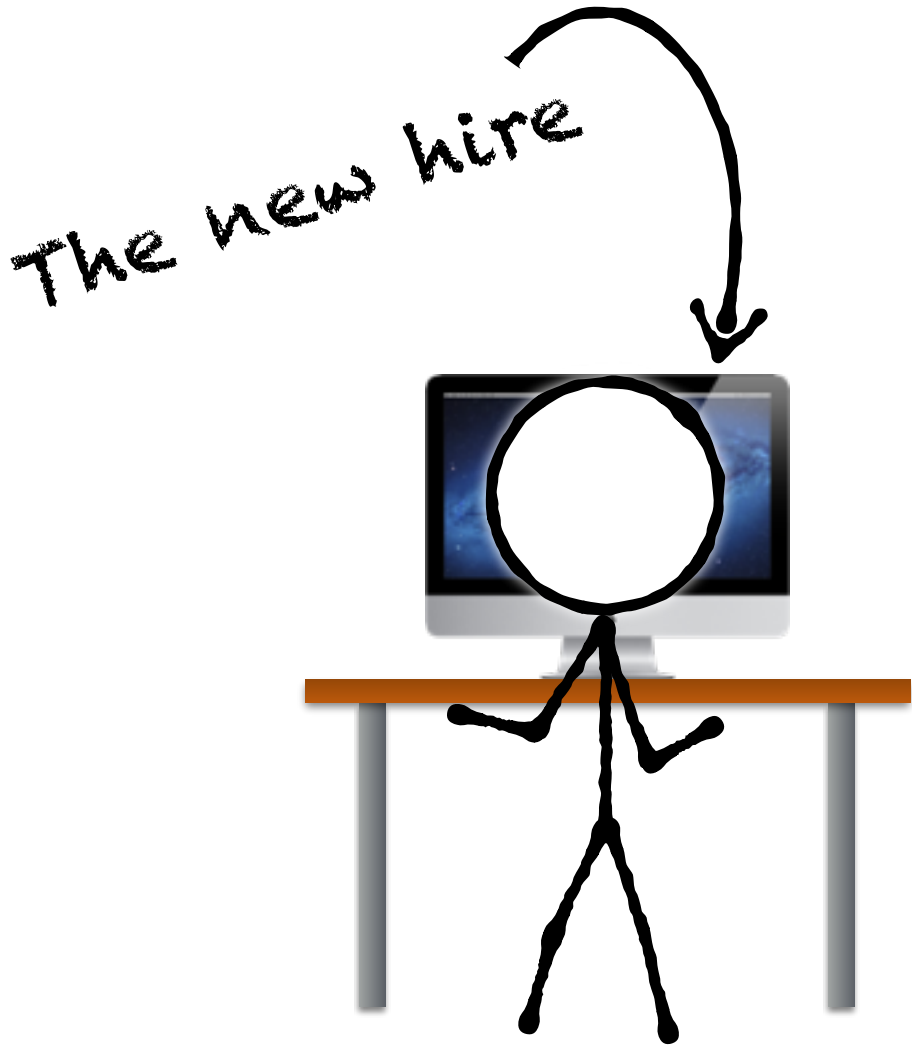
Unsustainable



Miscommunication

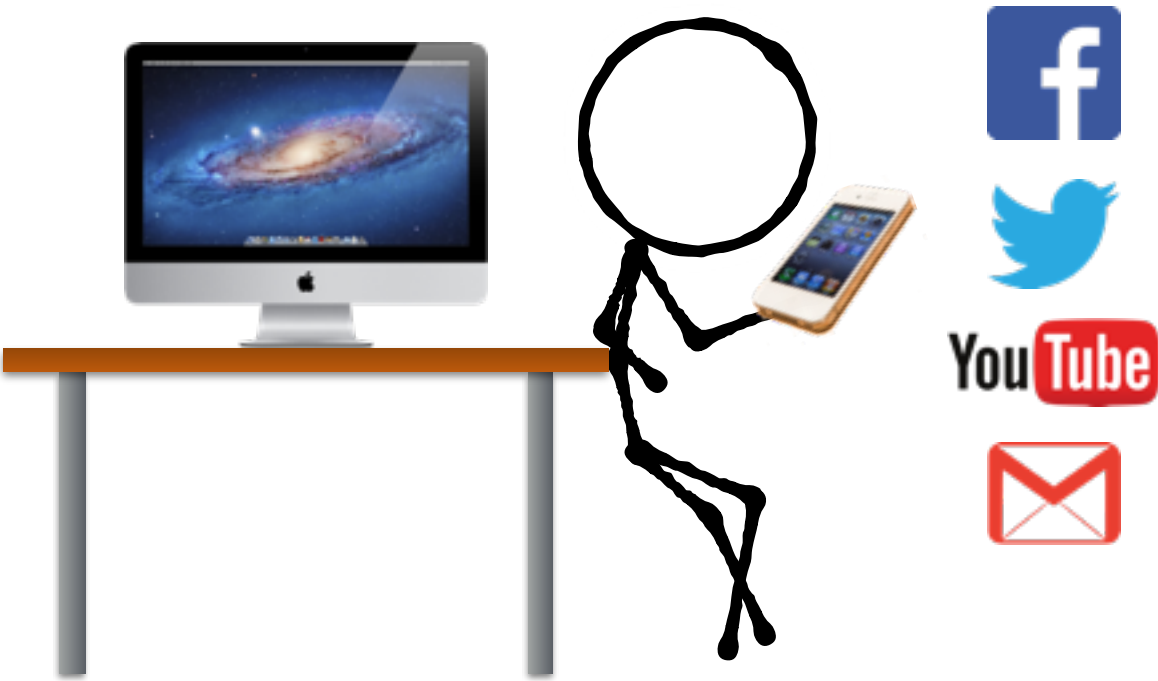


Stuck

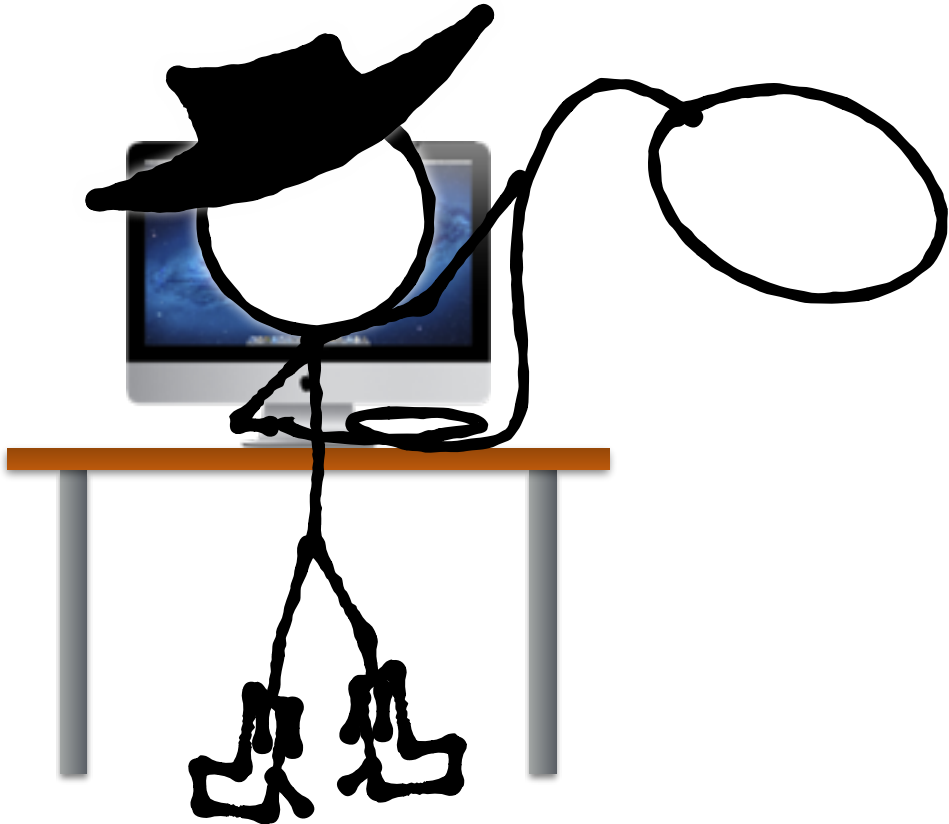


Noobs

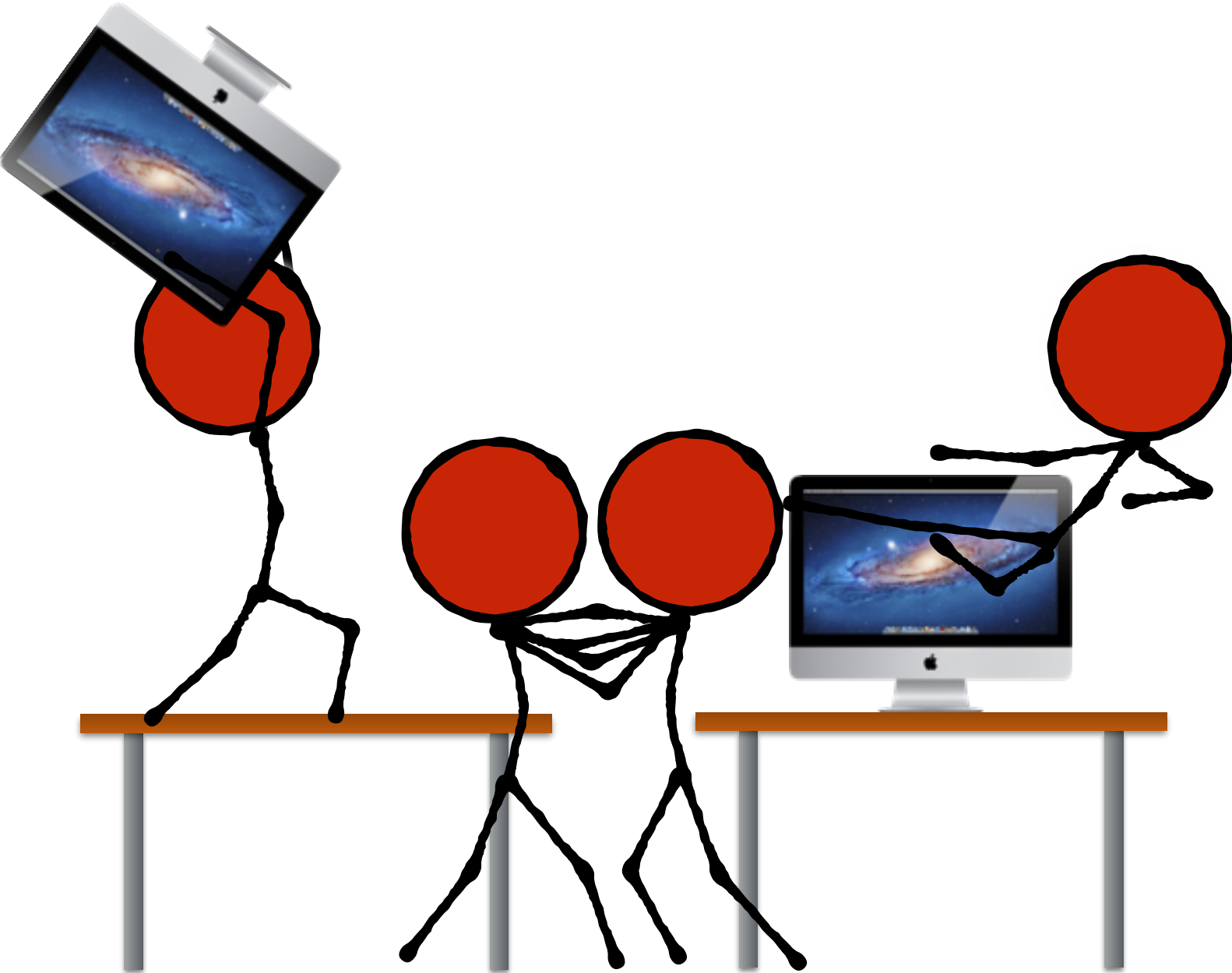
Distraction



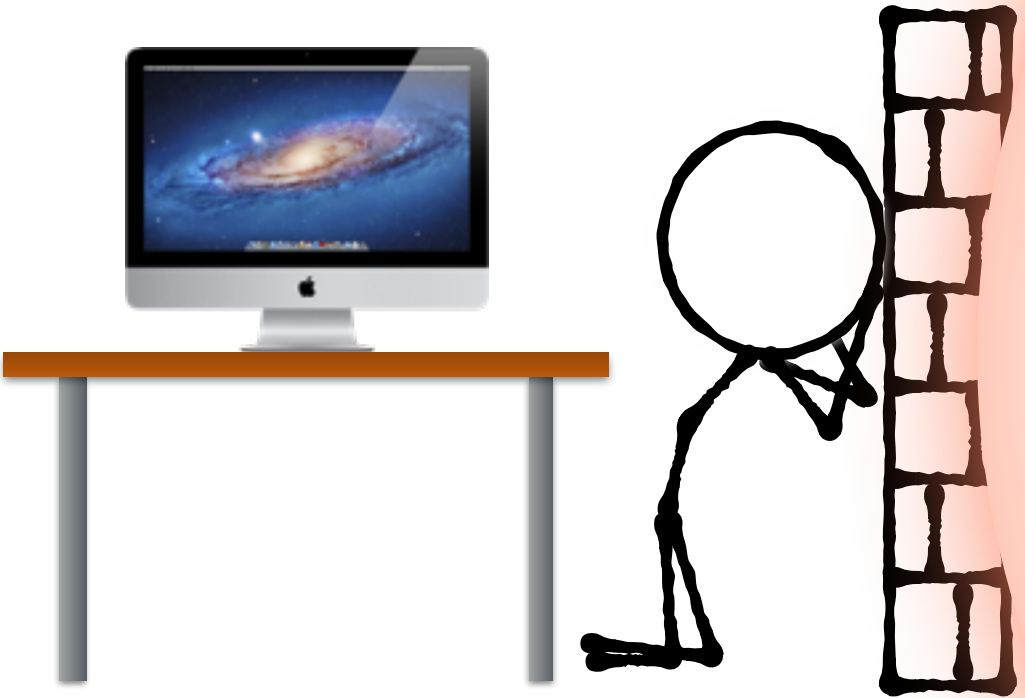
Cowboyism



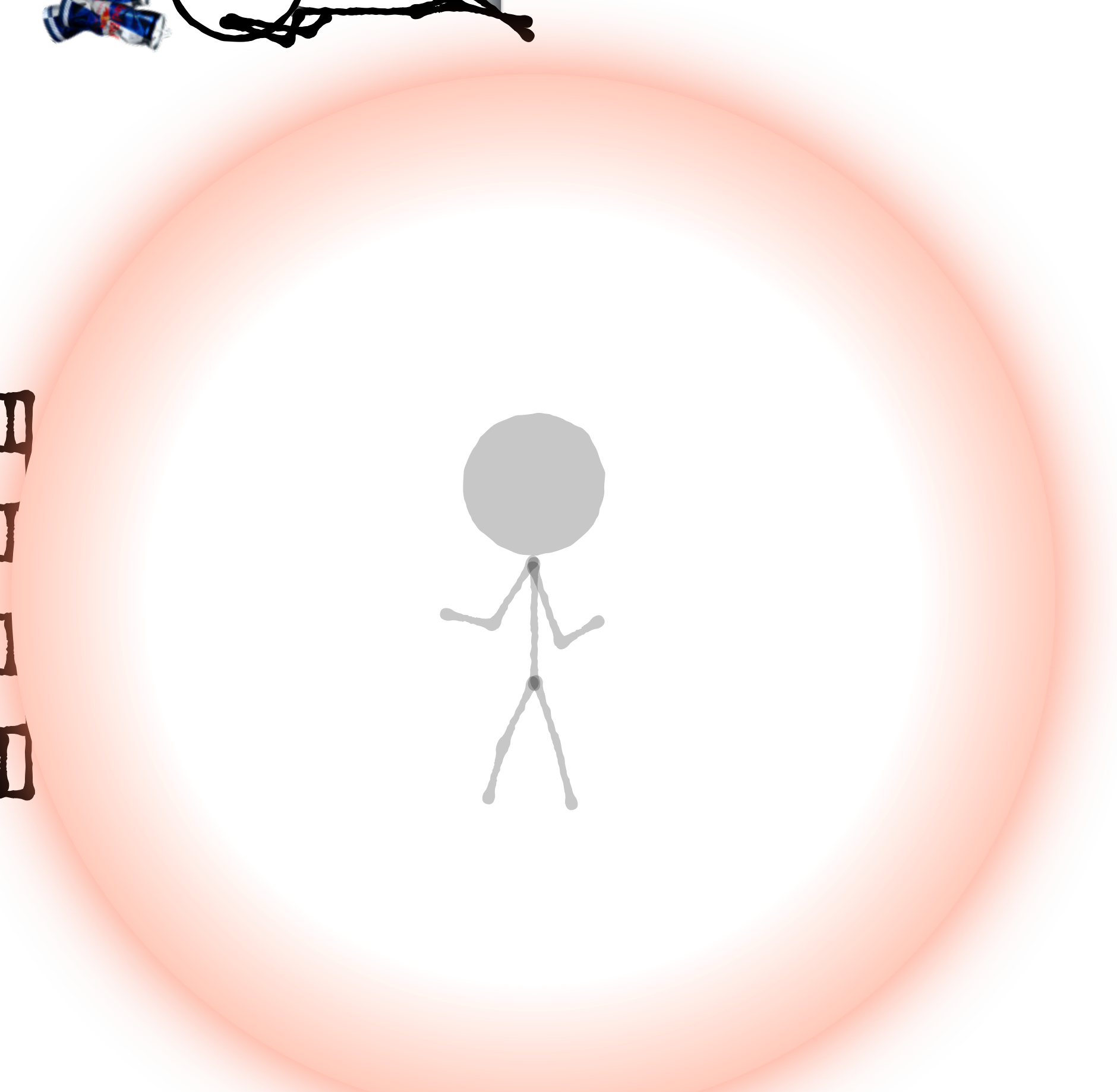
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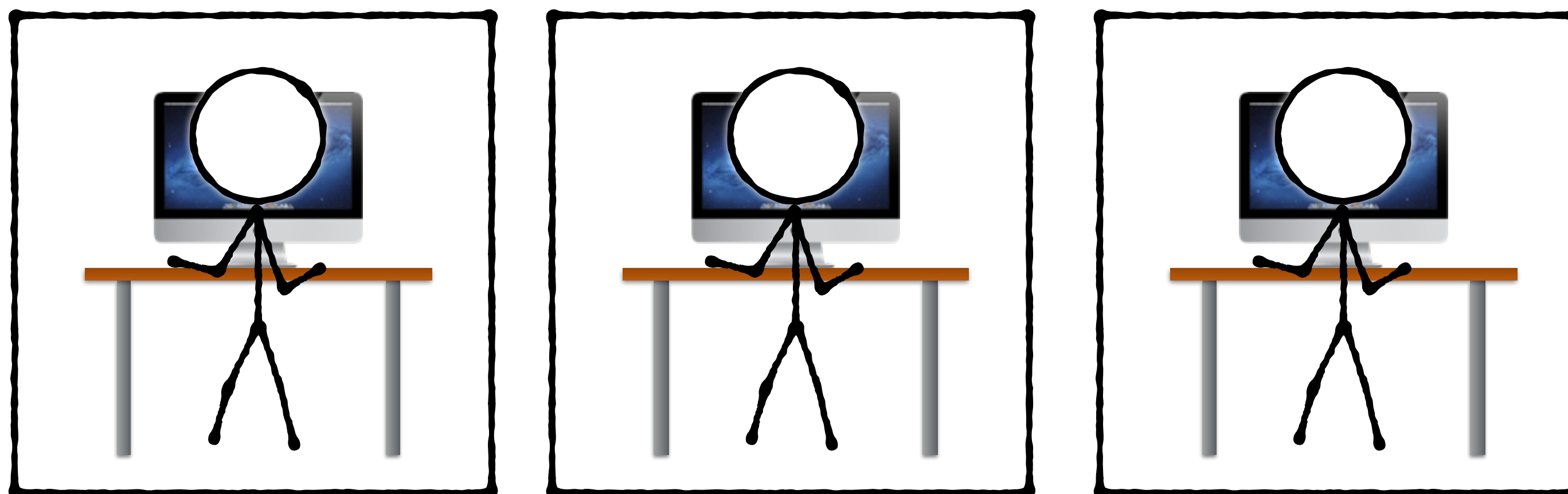


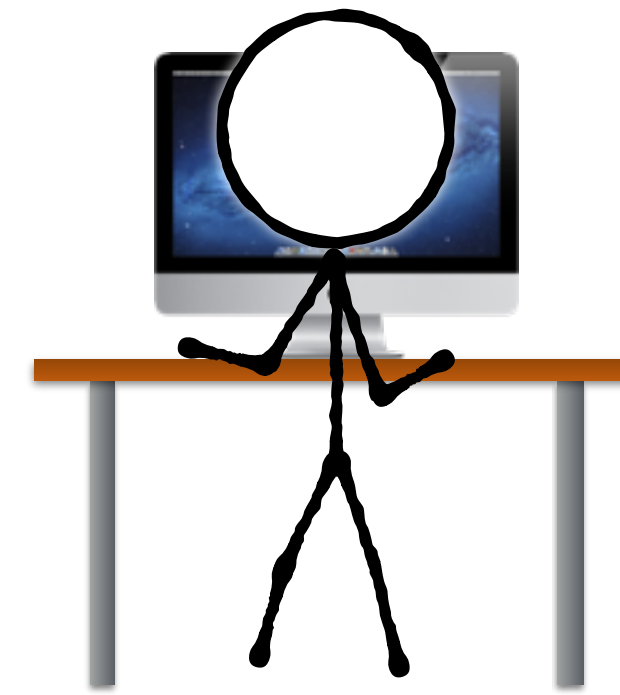
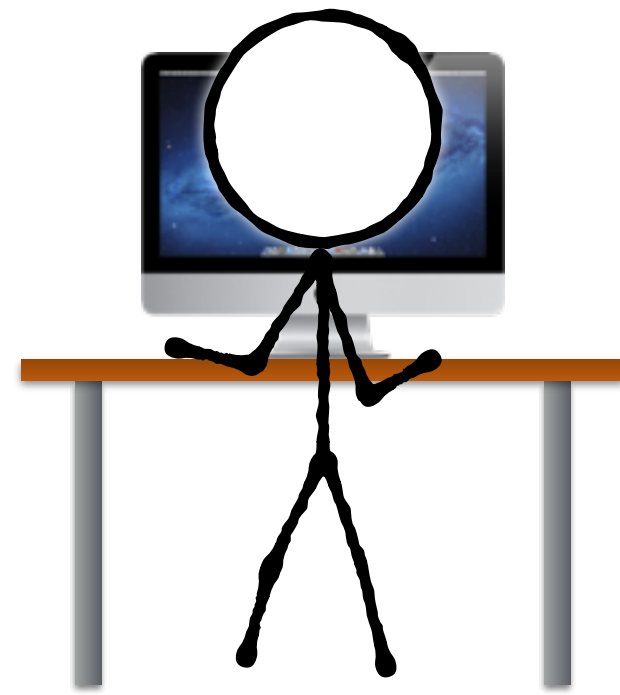
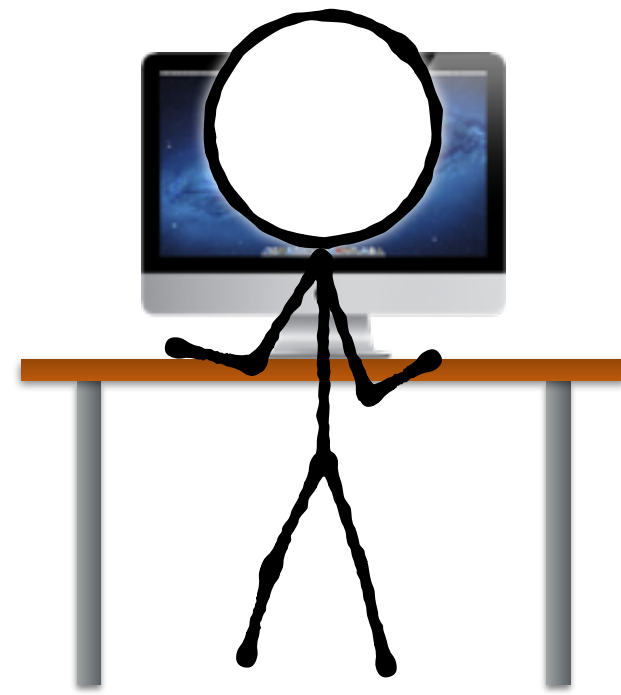
Miscommunication

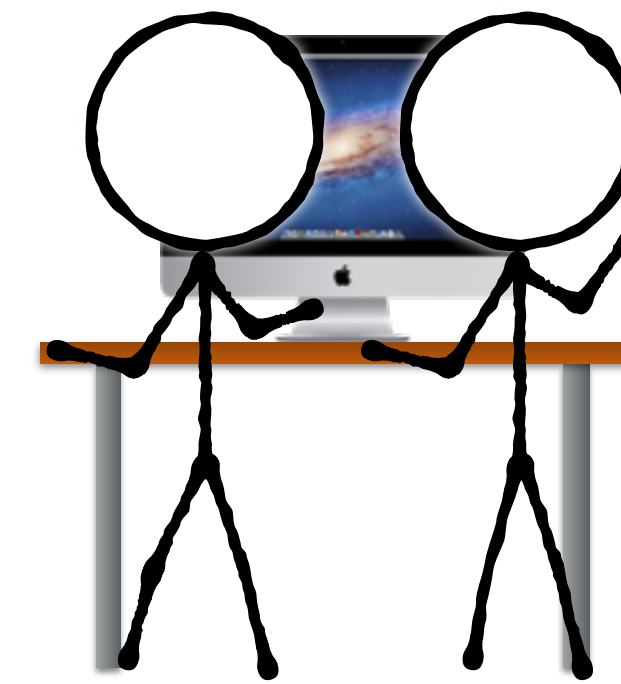
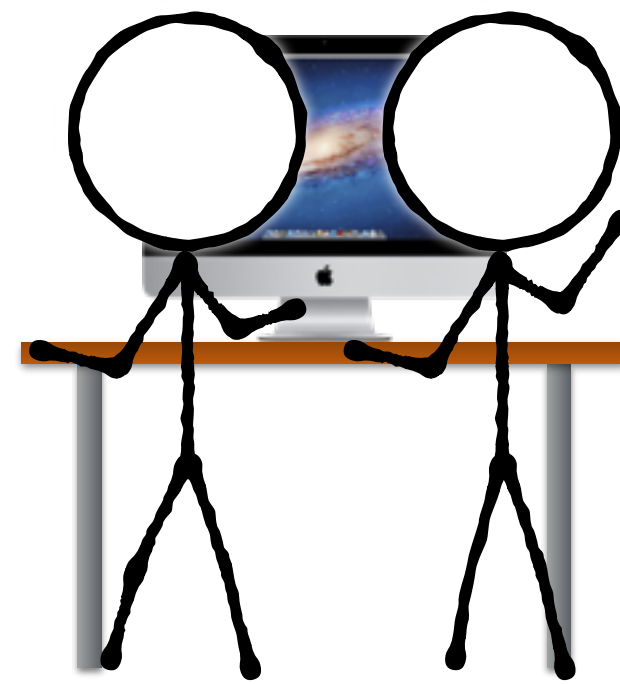
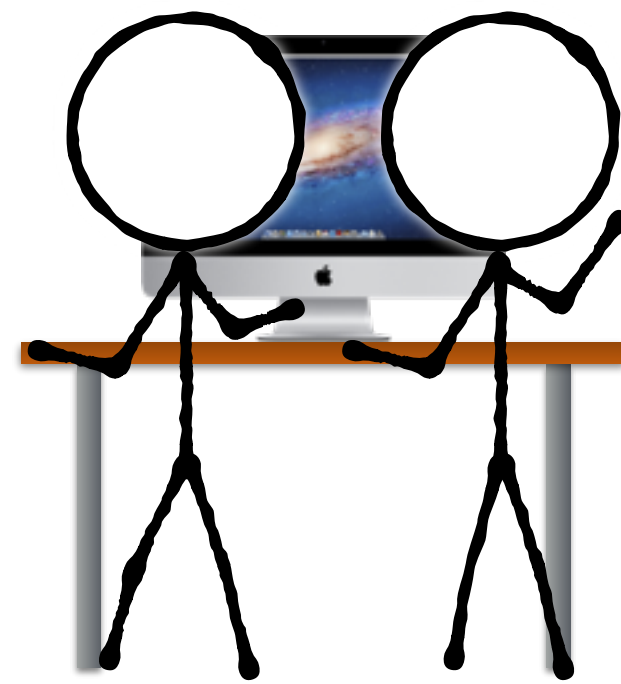


Stuck



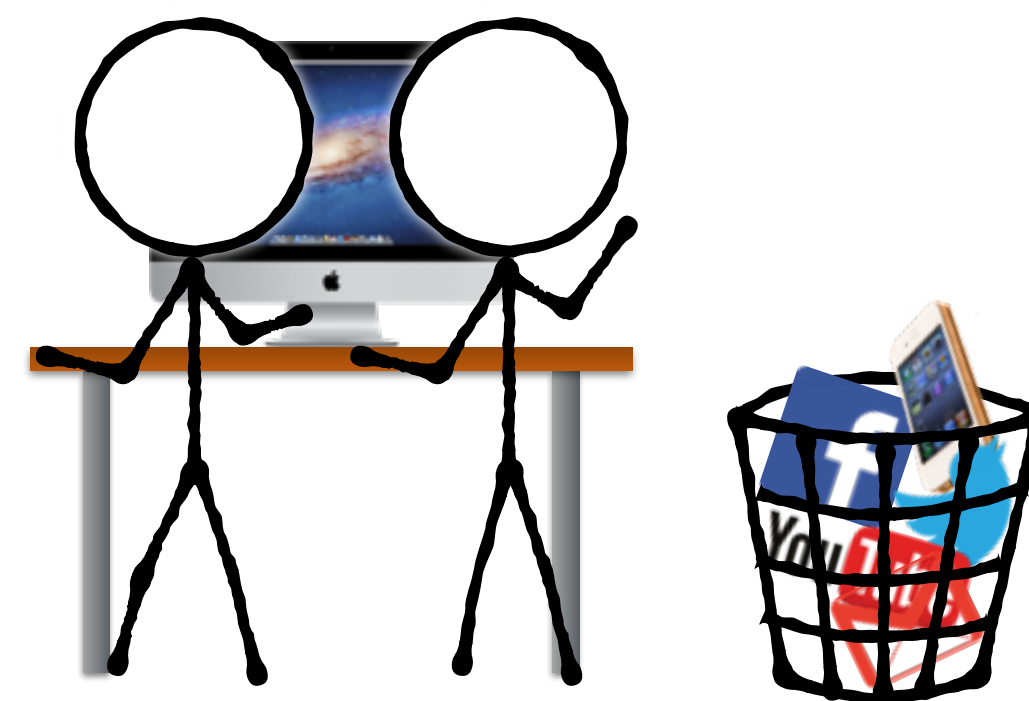




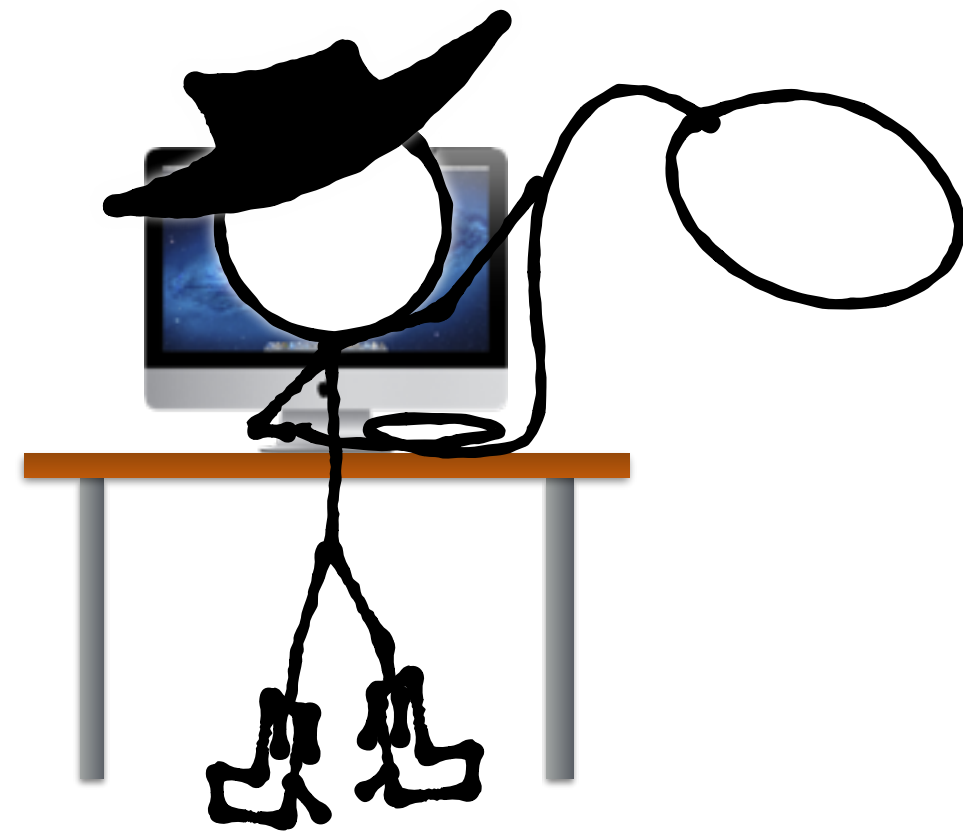




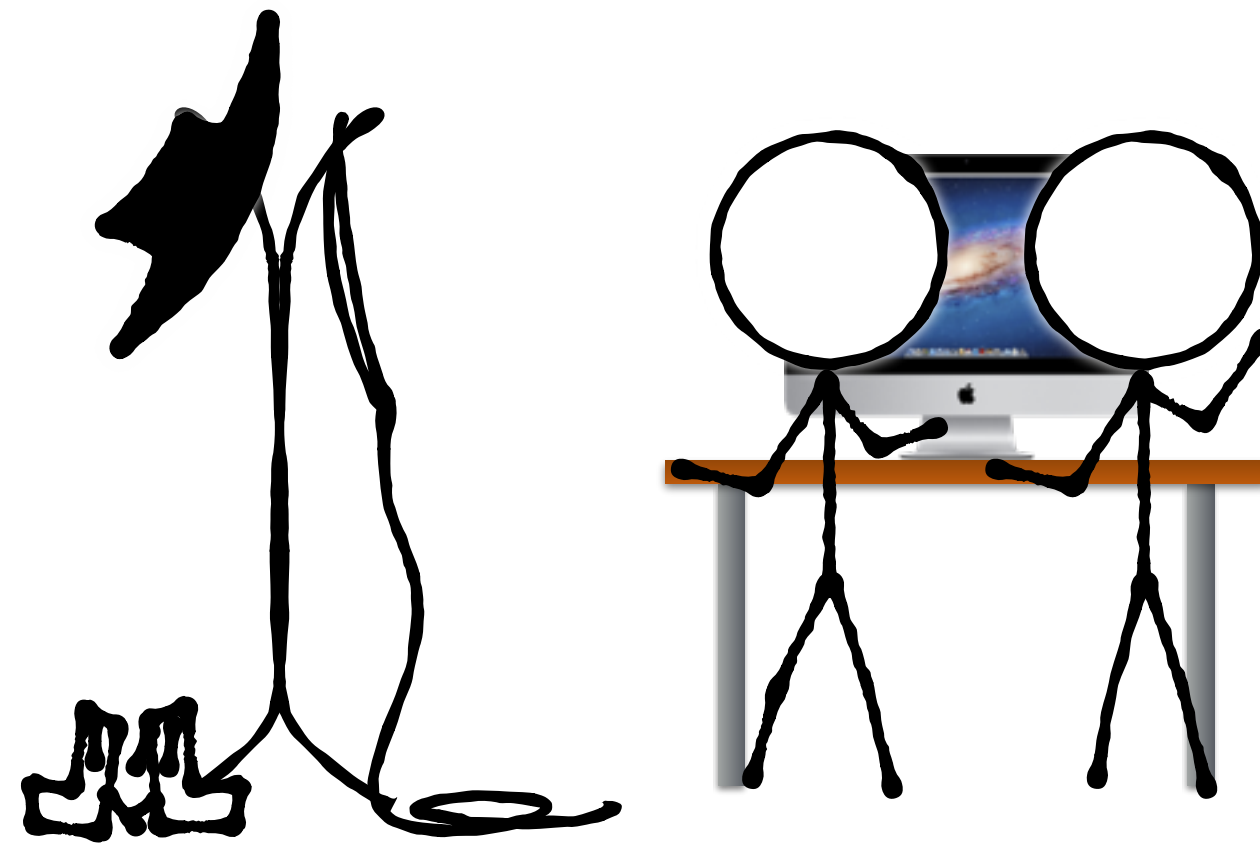
Distraction



Distraction-free



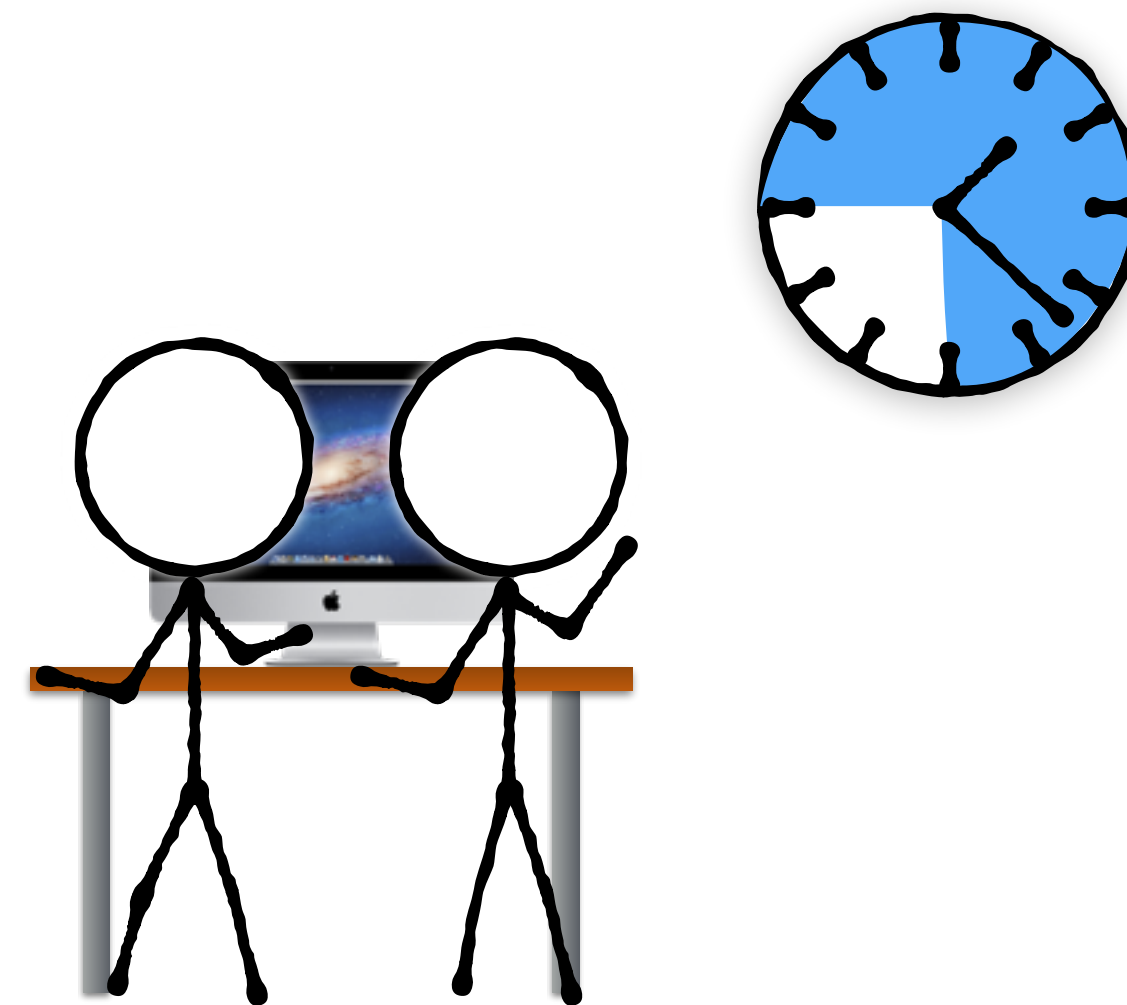
Cowboyism



Collaboration



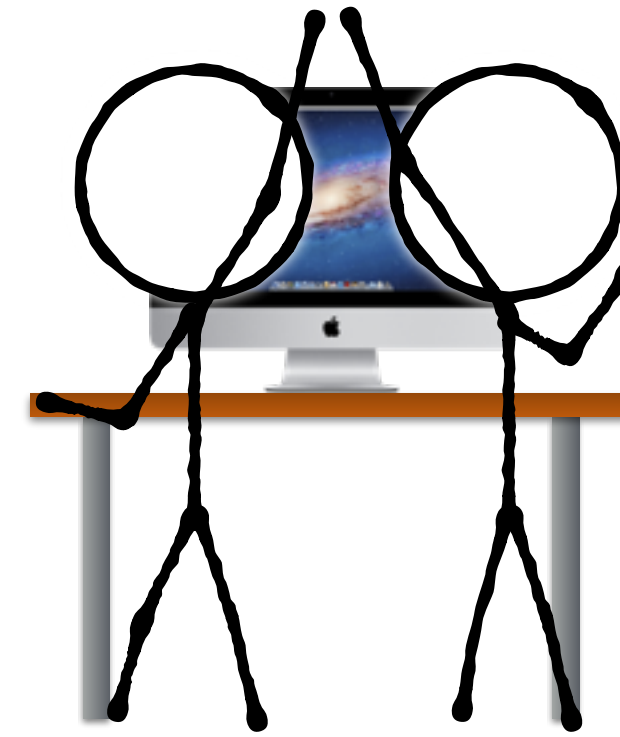
Unsustainable



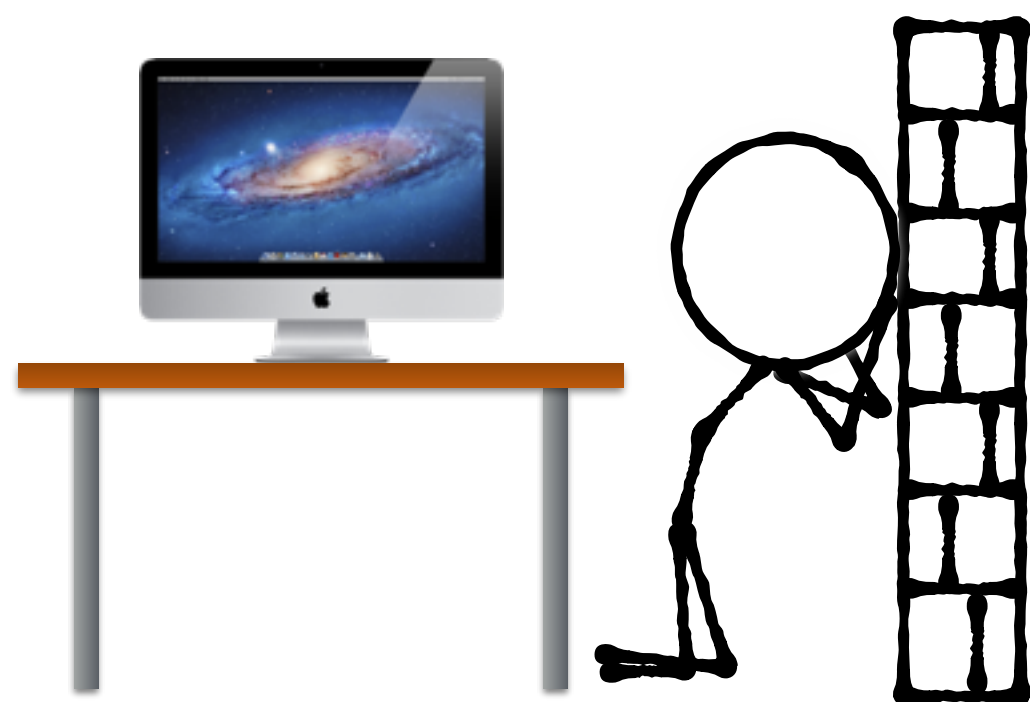
Sustainable



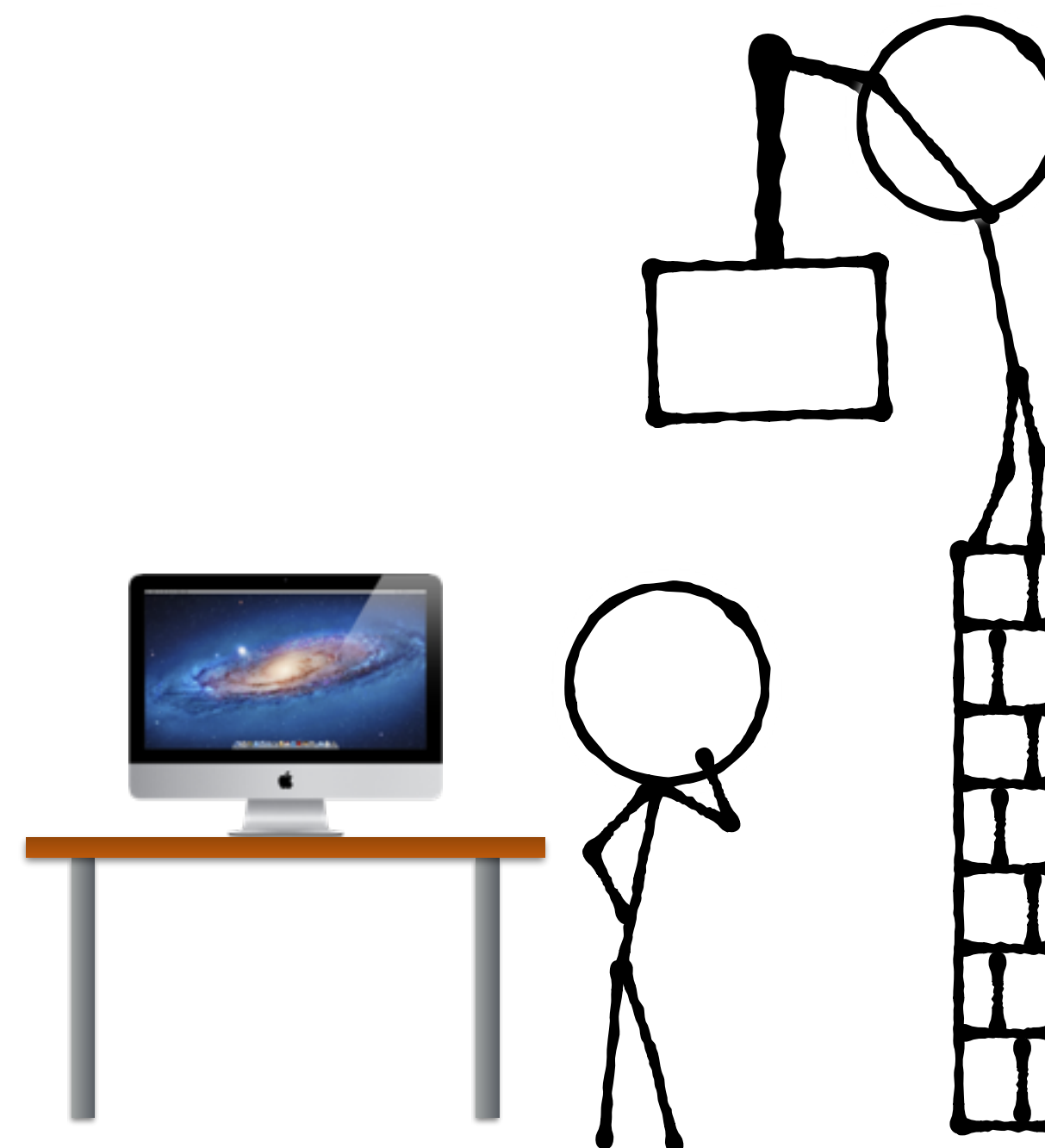
Miscommunication



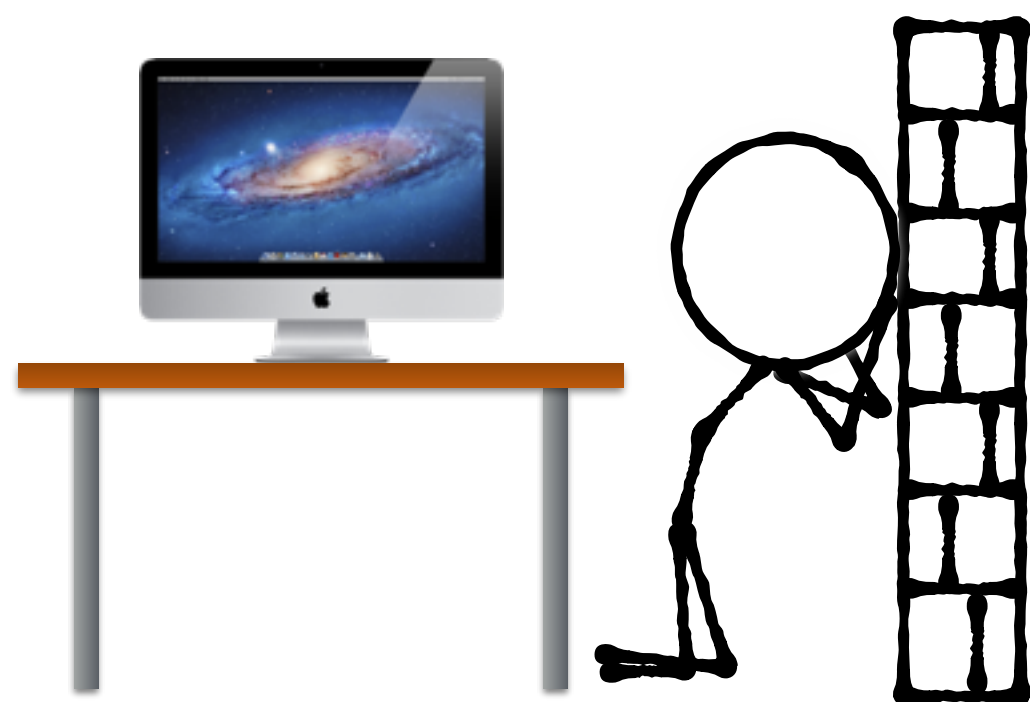
Constant Communication



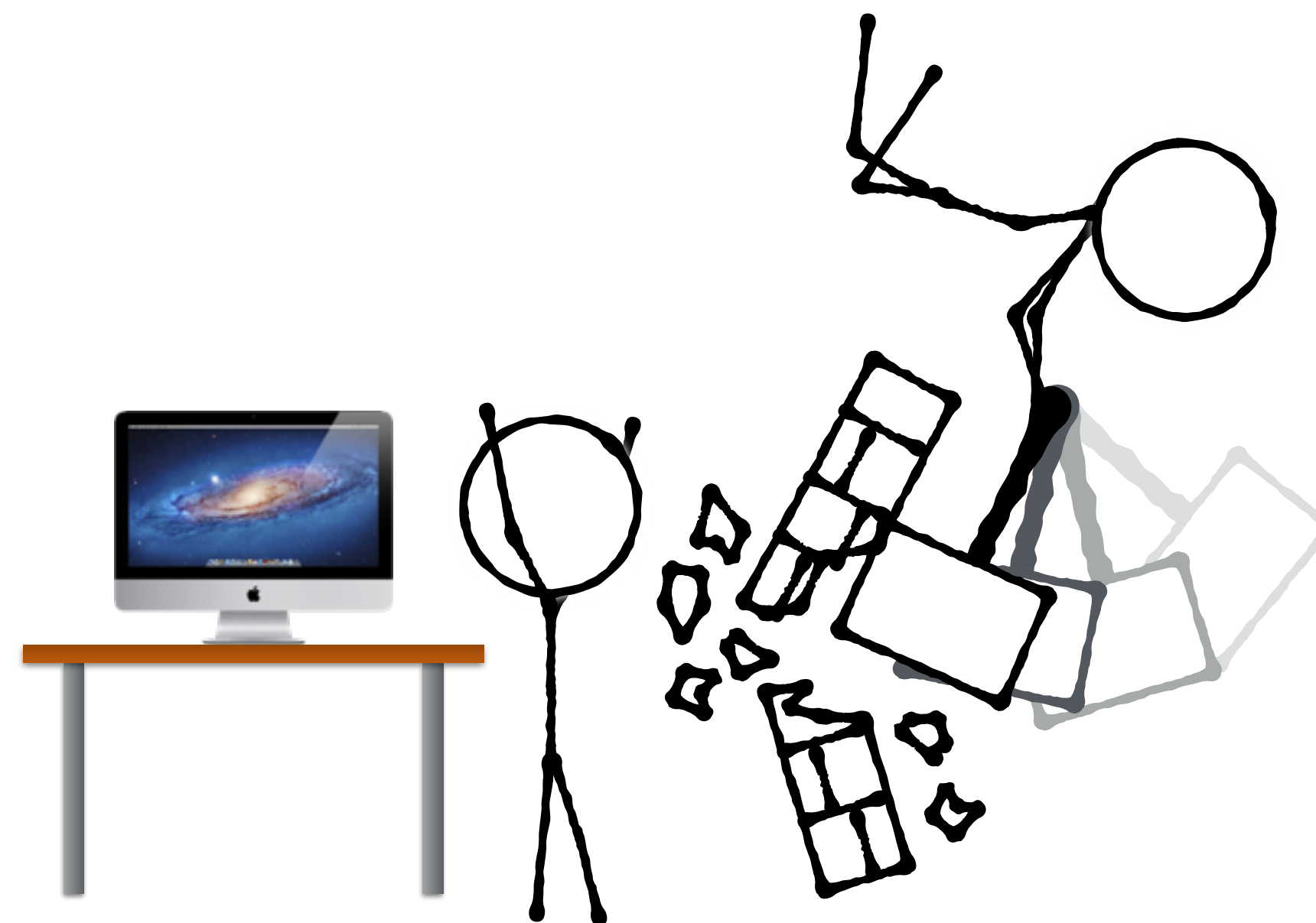
Stuck



Unstuck



Stuck

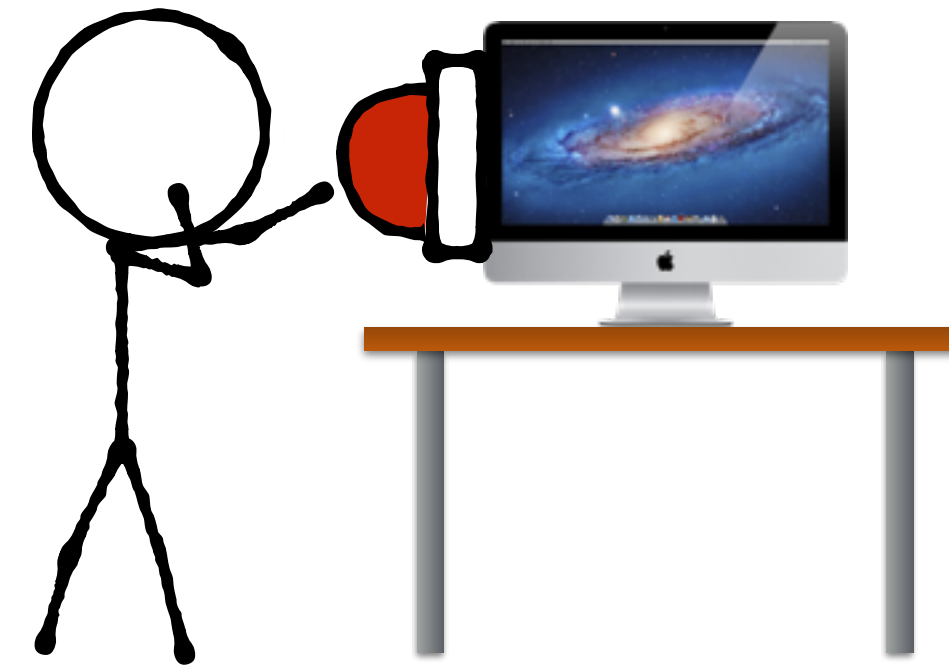


Unstuck



The new hire

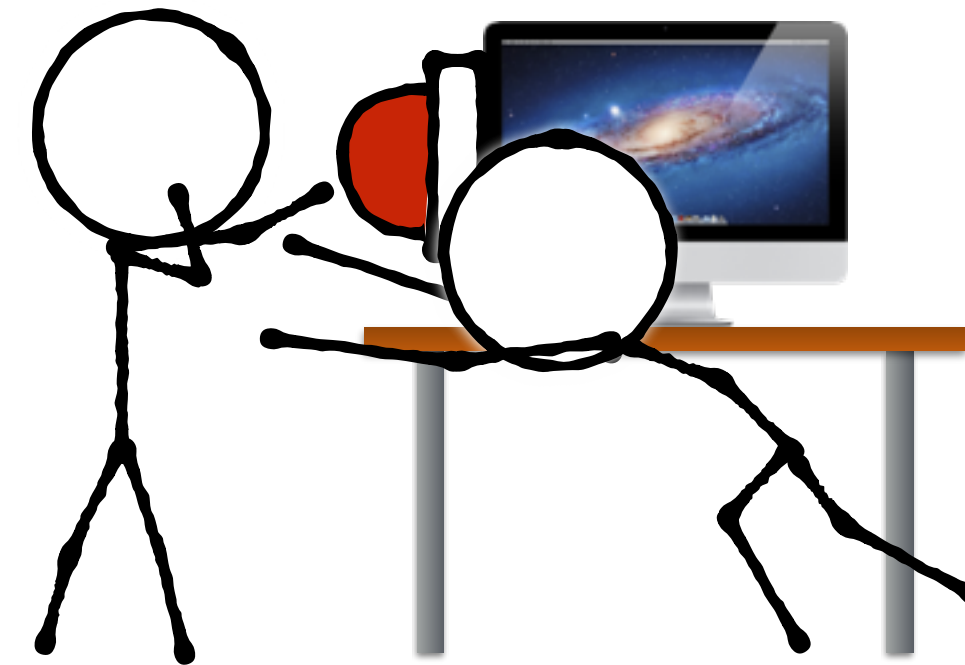
Noobs



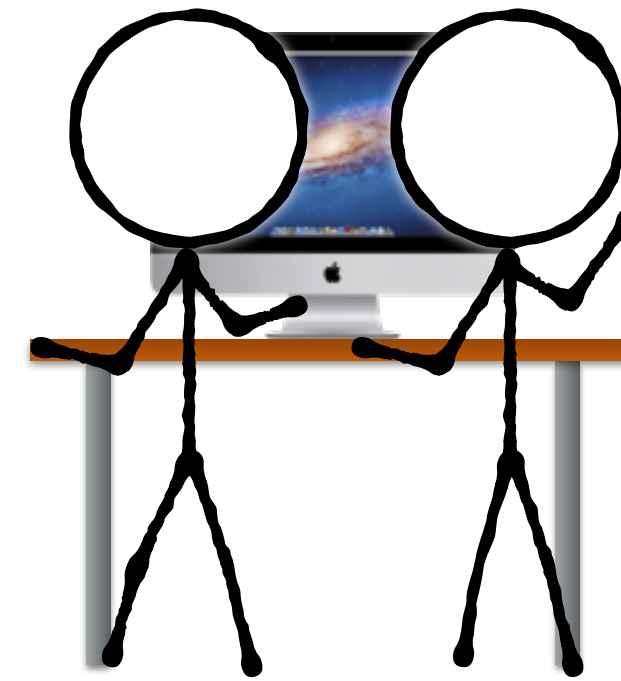
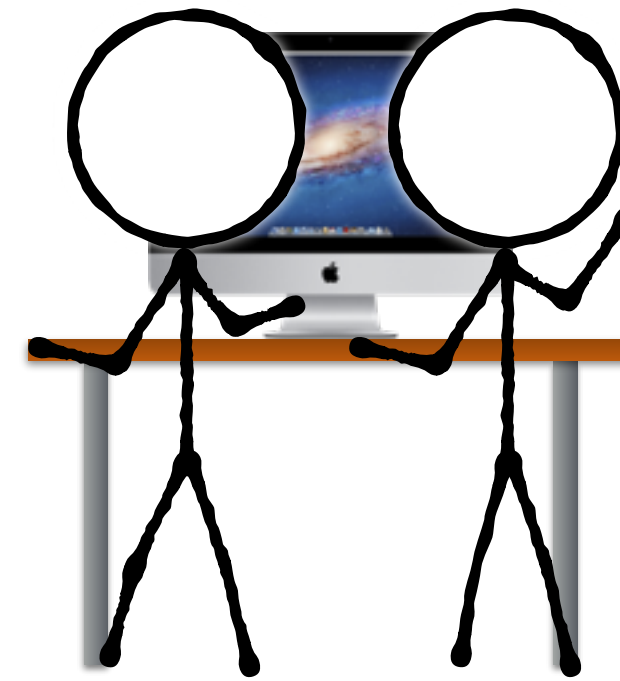
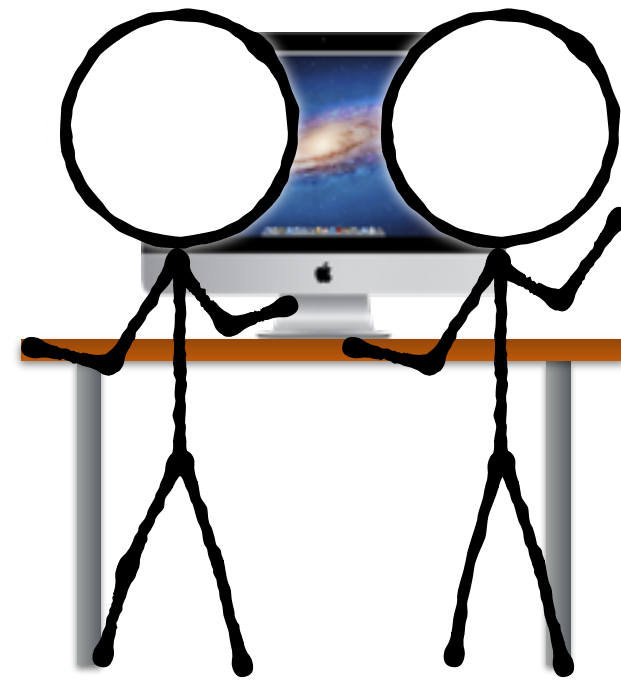


The new hire

Noobs



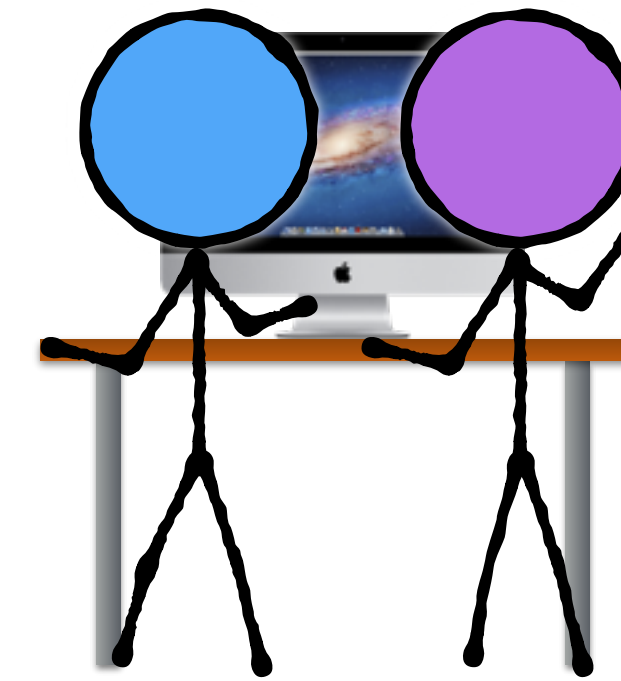
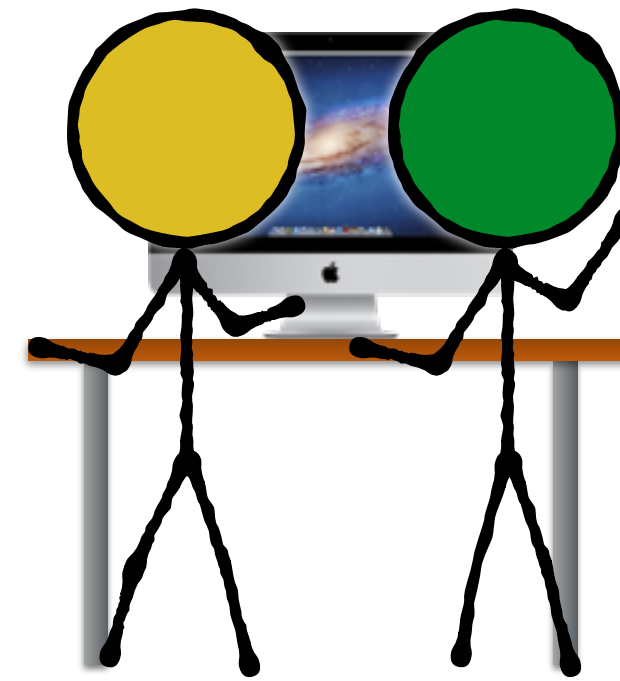
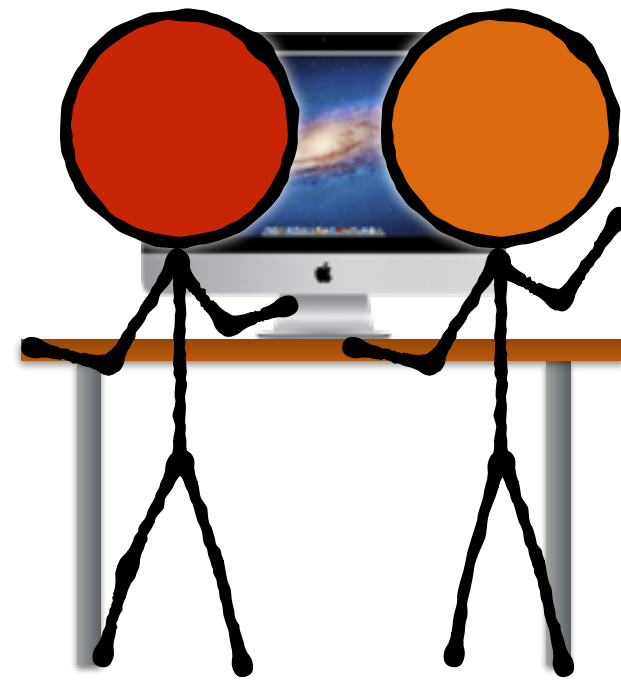
Teachers



We rotate pairs

Every day

More pairs means more possible pairings

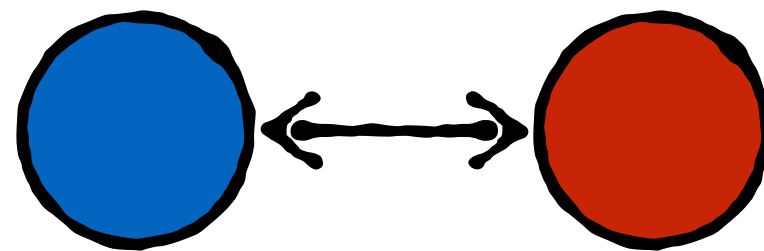


We rotate pairs

Every day

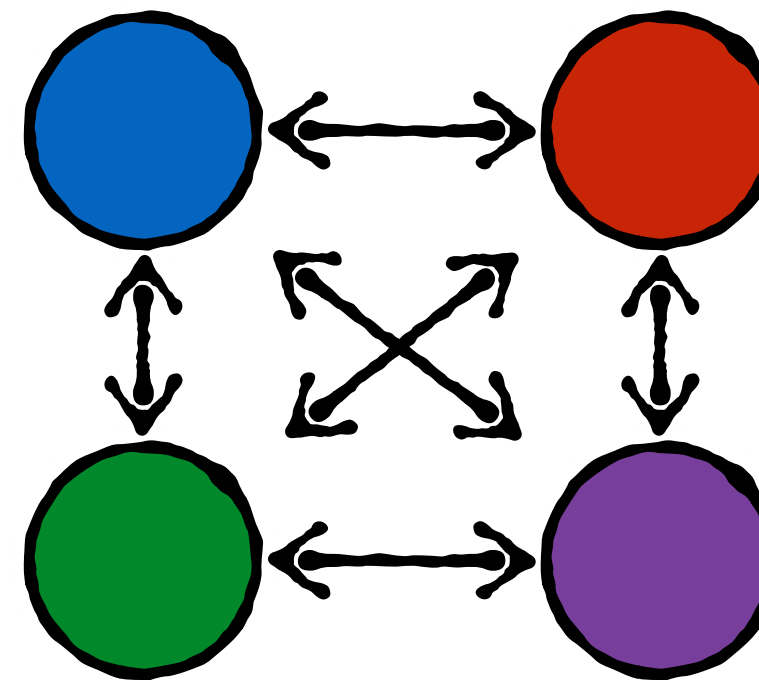
More pairs means more possible pairings

1 Pair



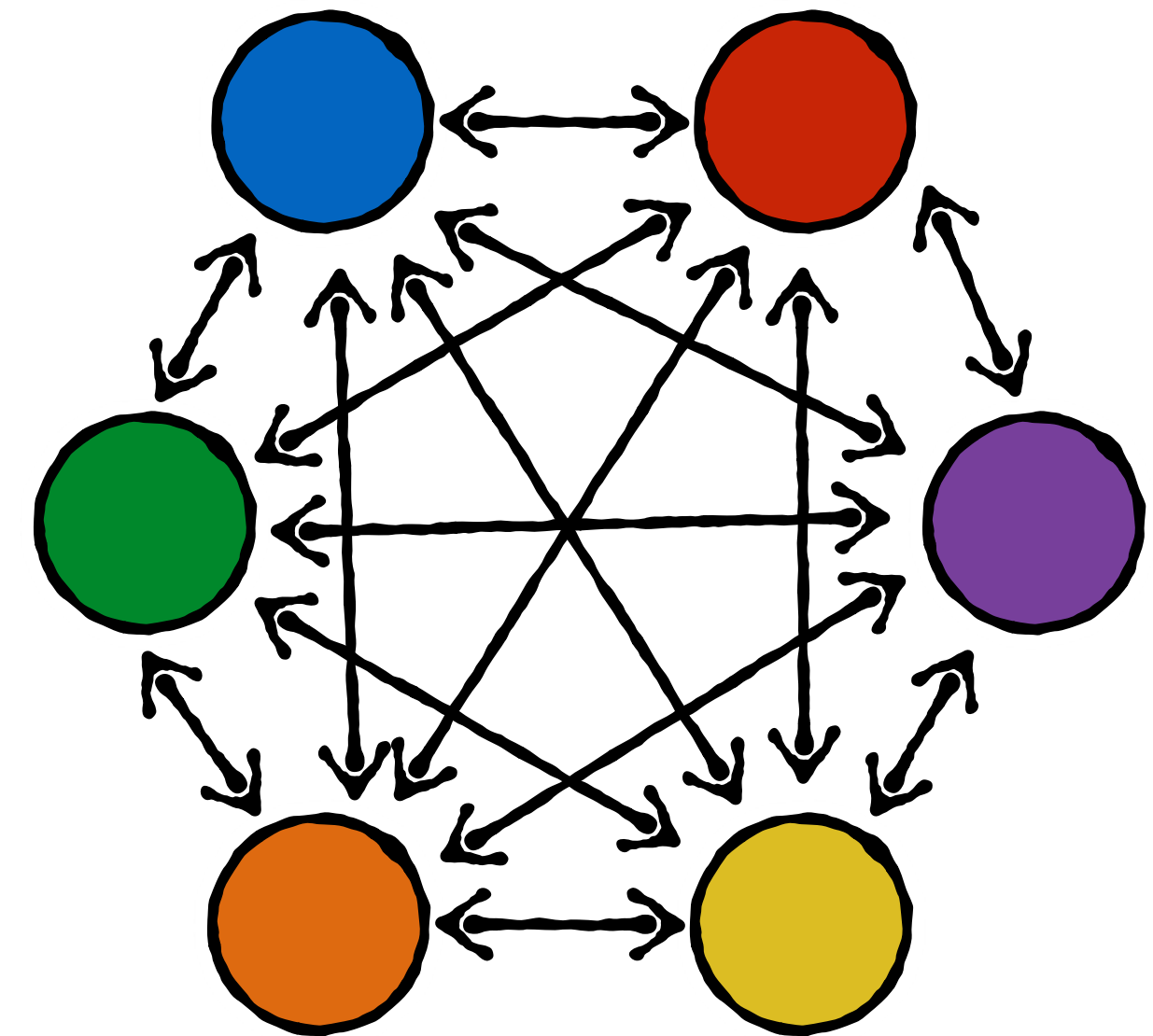
1 Pairing

2 Pairs



3 Pairings

3 Pairs



15 Pairings









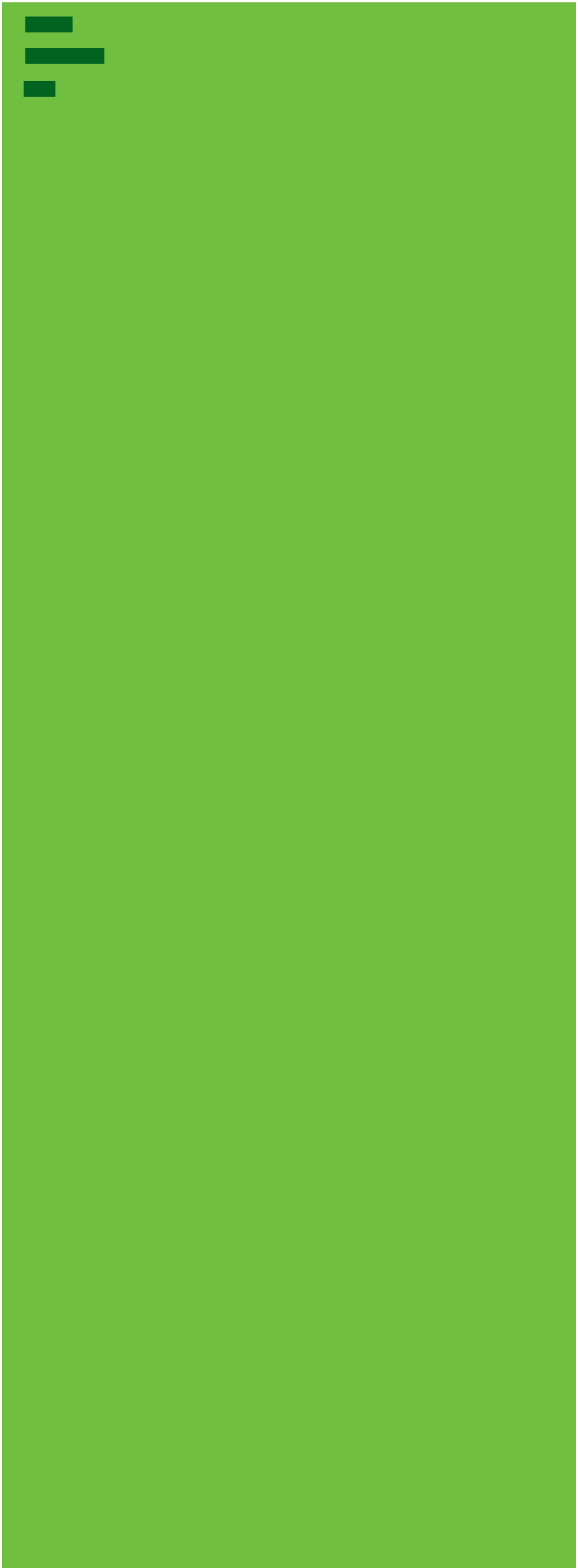
Pivotal™

culture

Pairing

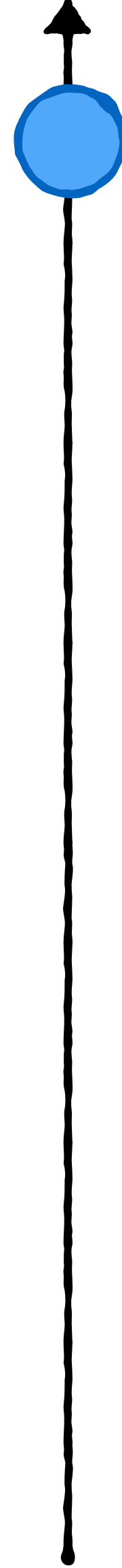
Testing

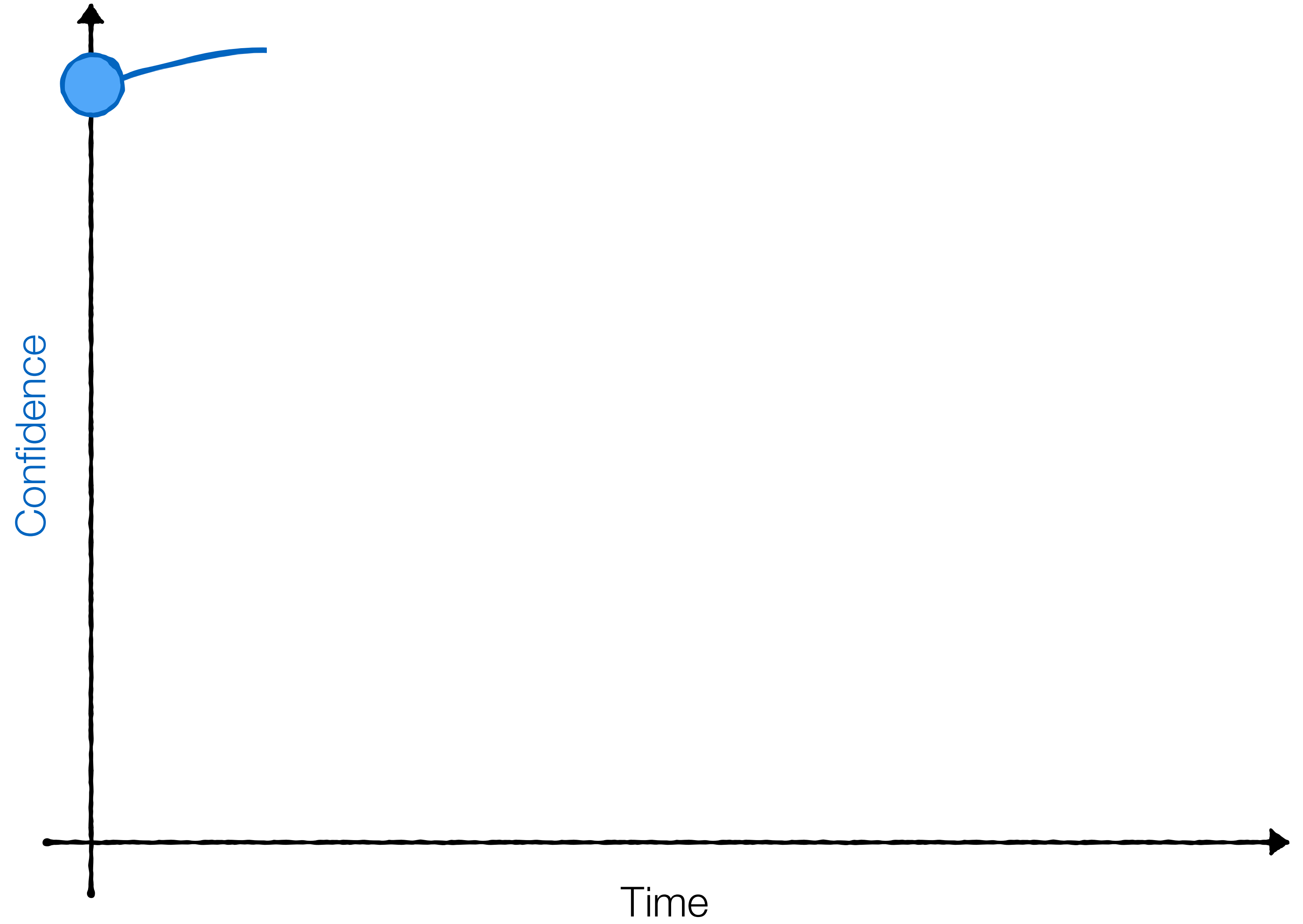
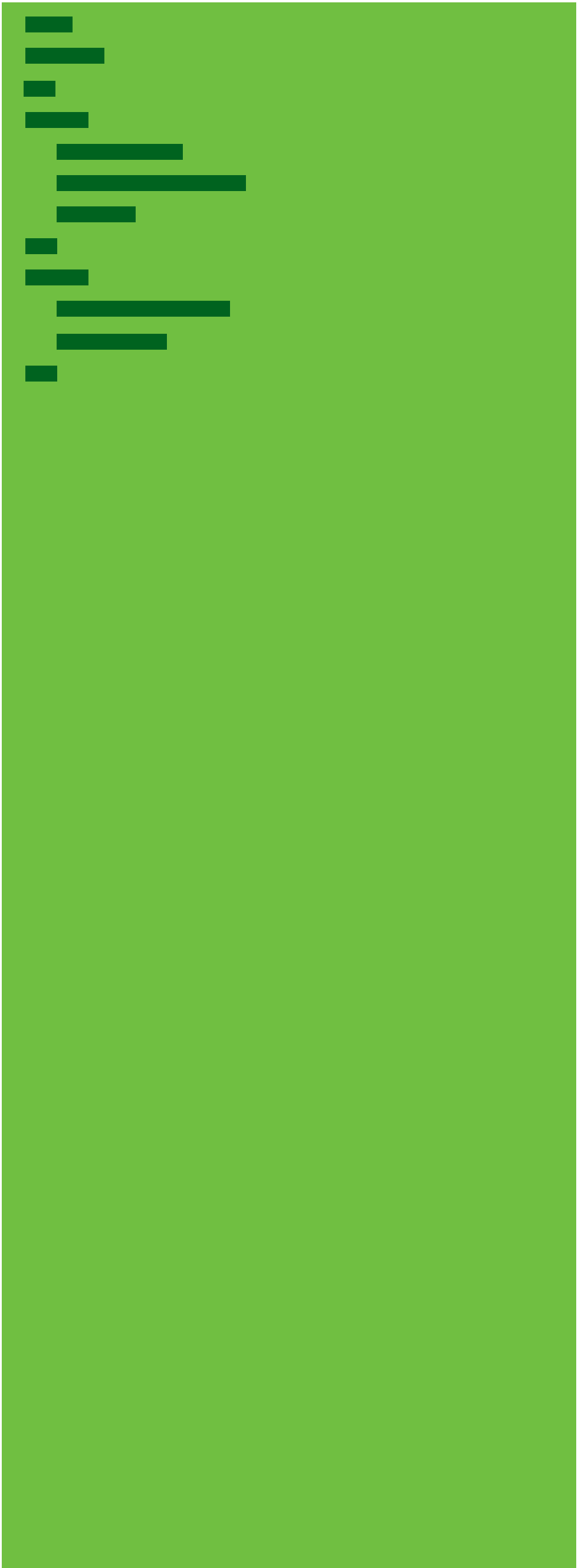
Agile Planning

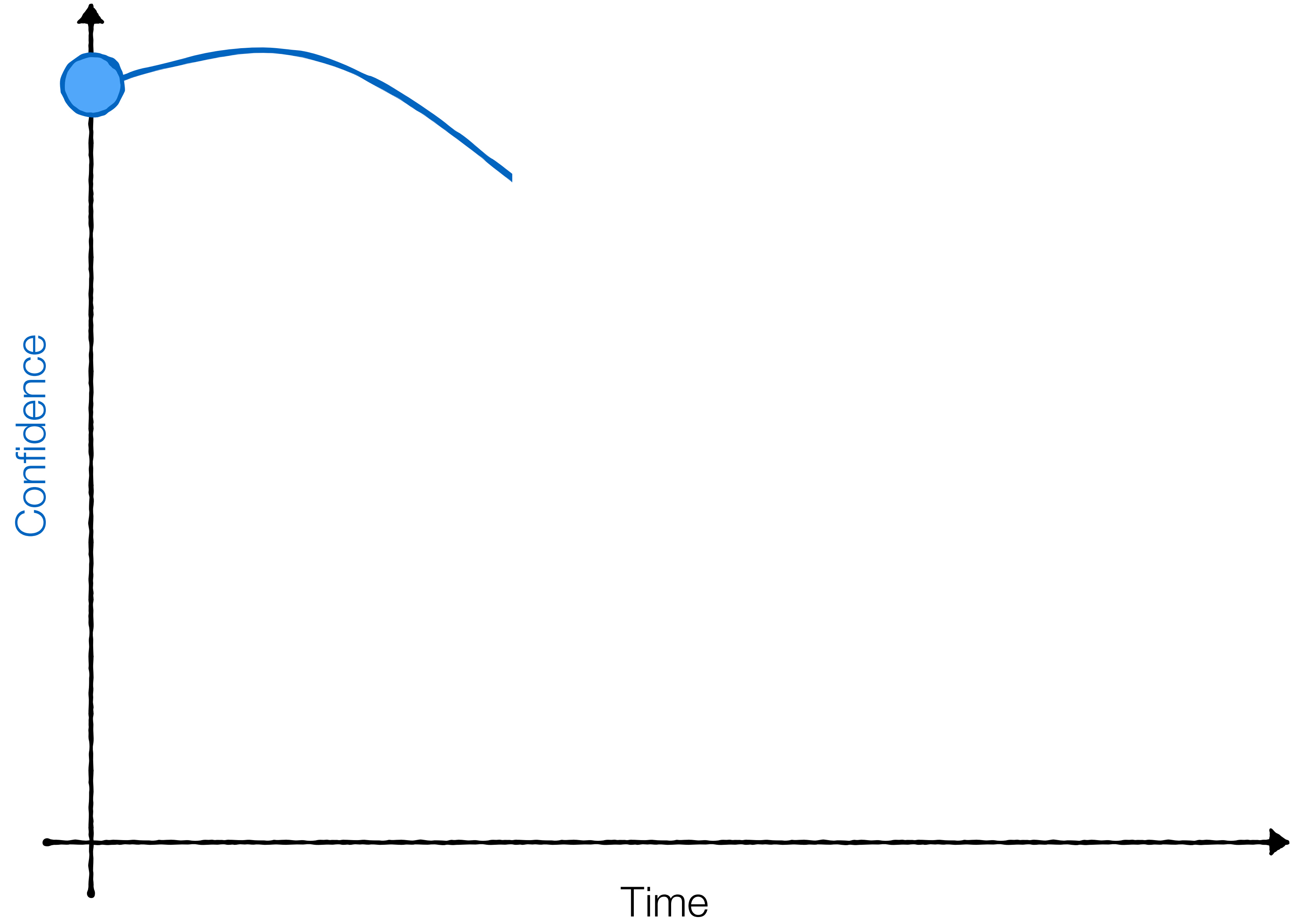


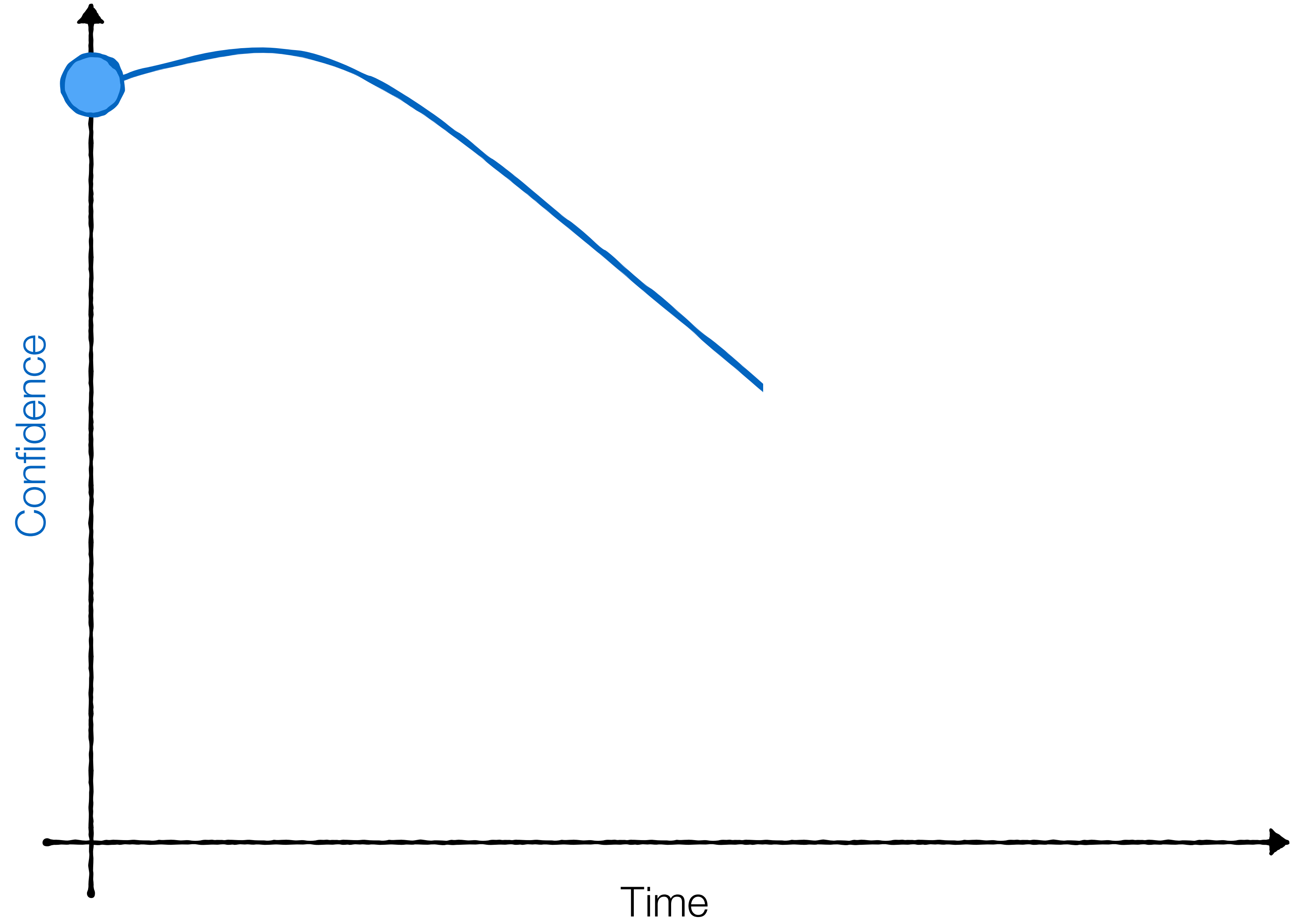


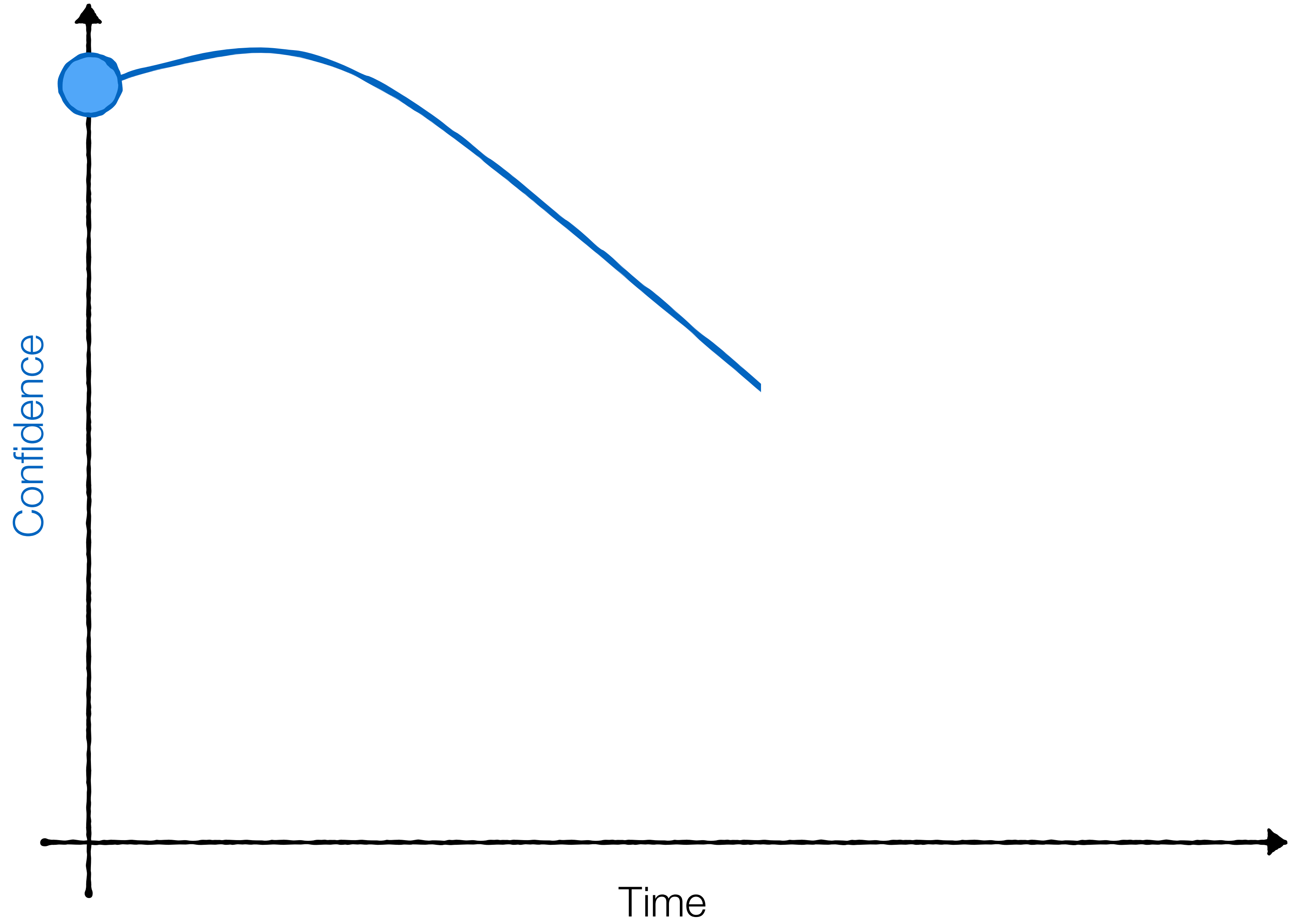
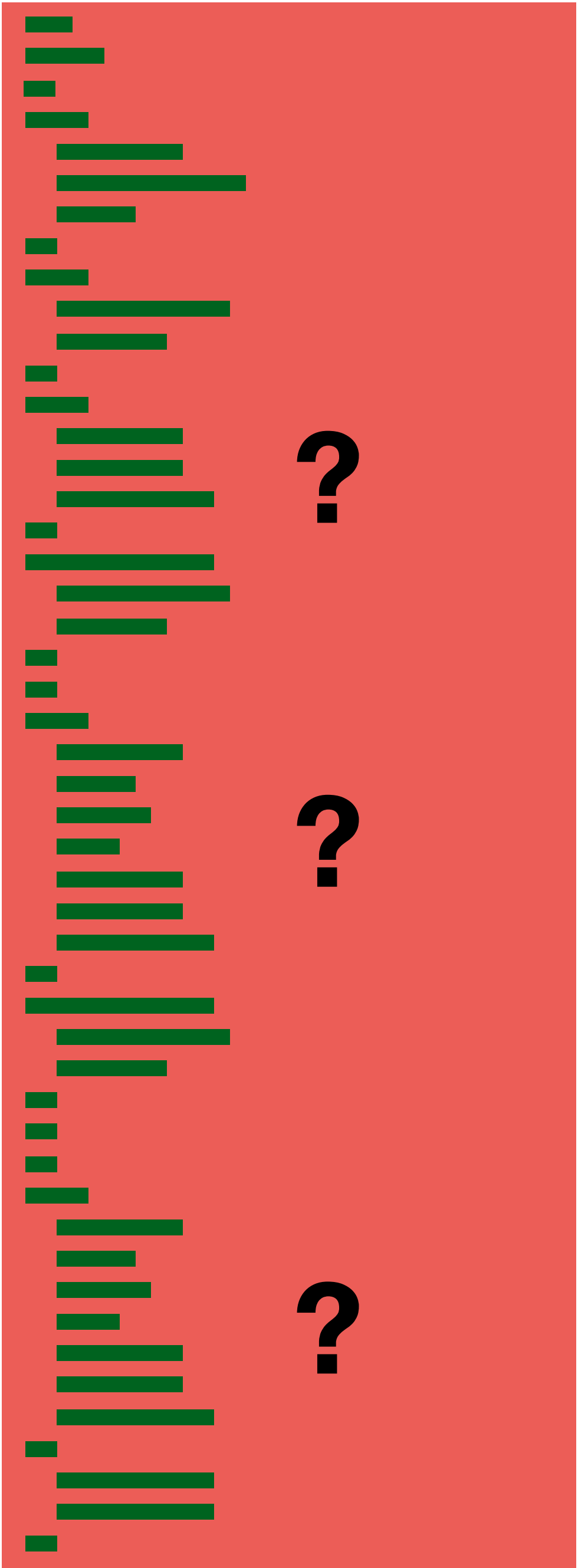
Confidence

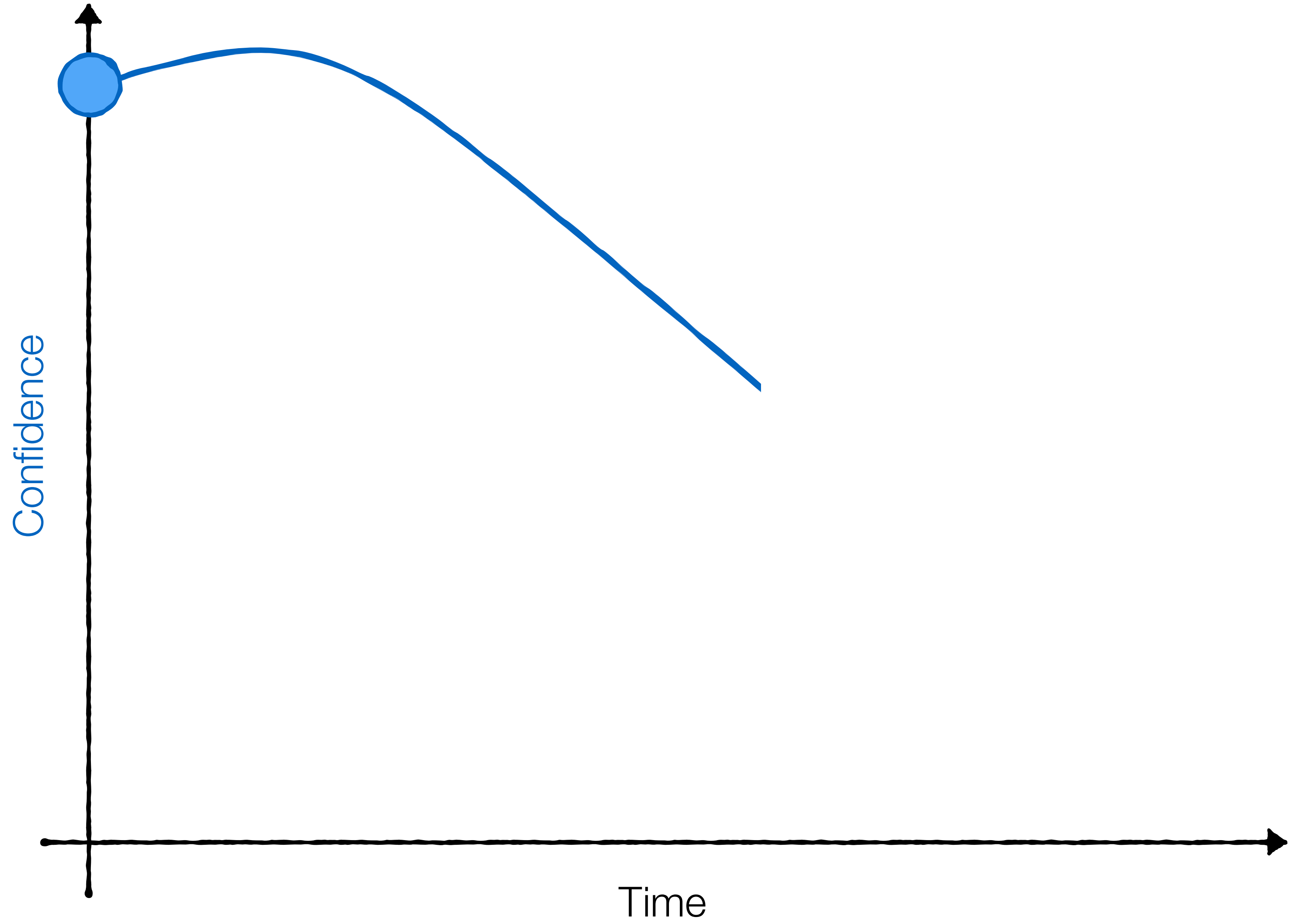
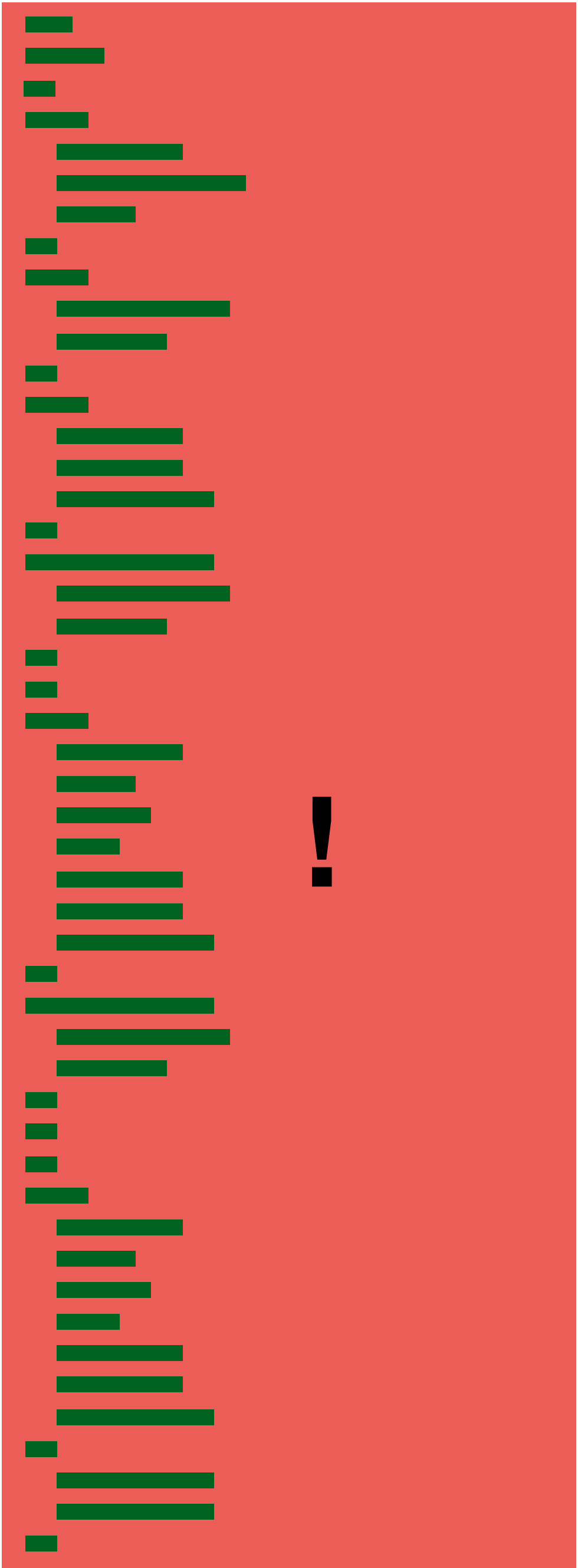


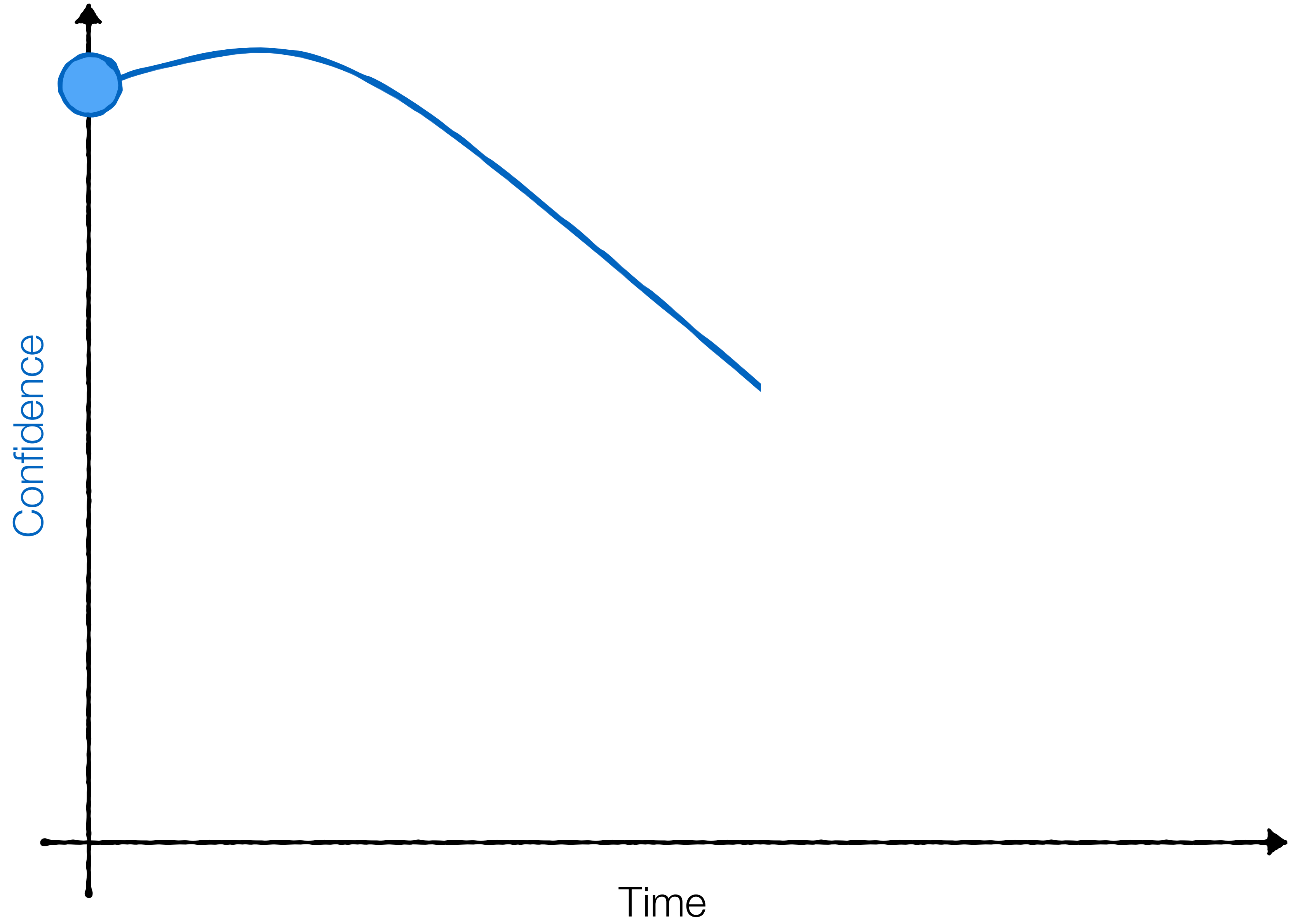
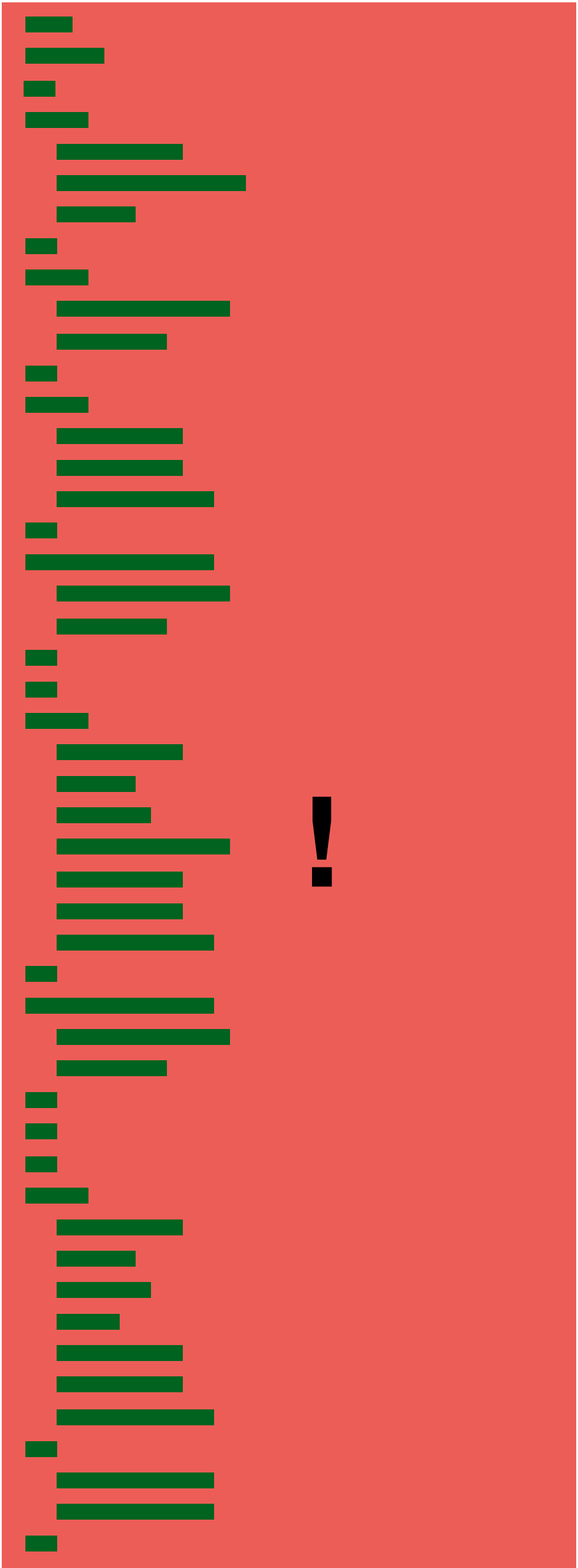


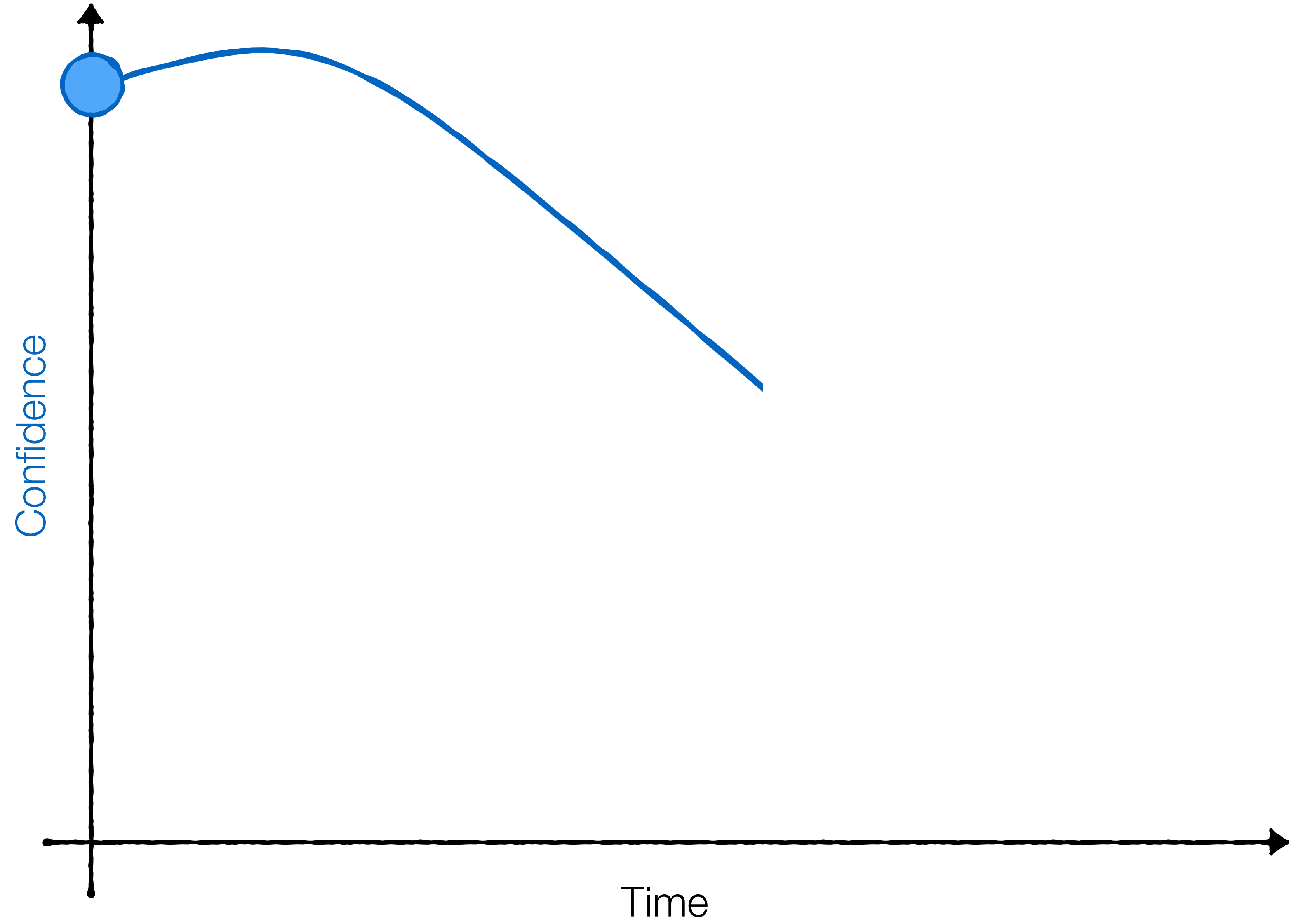


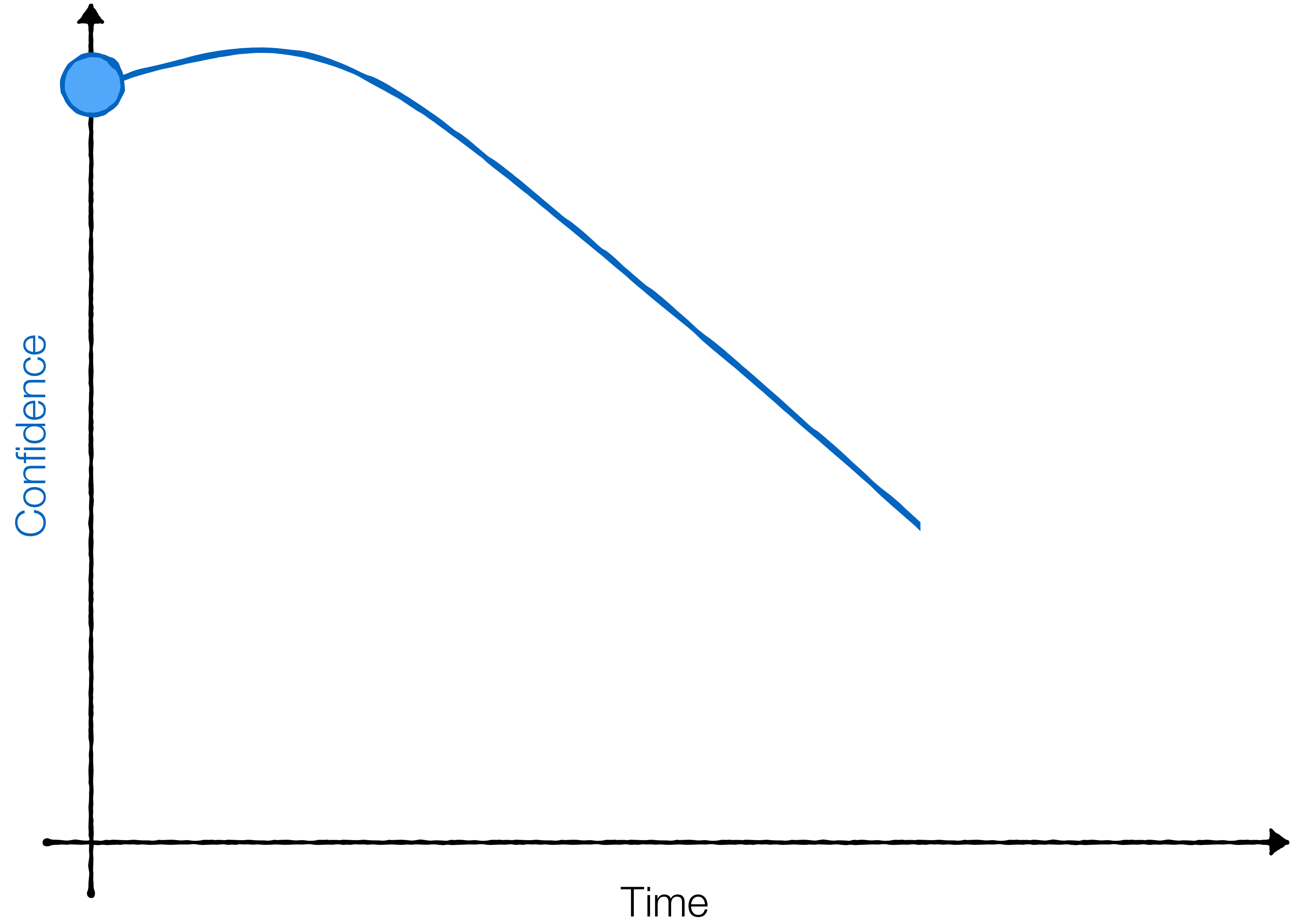


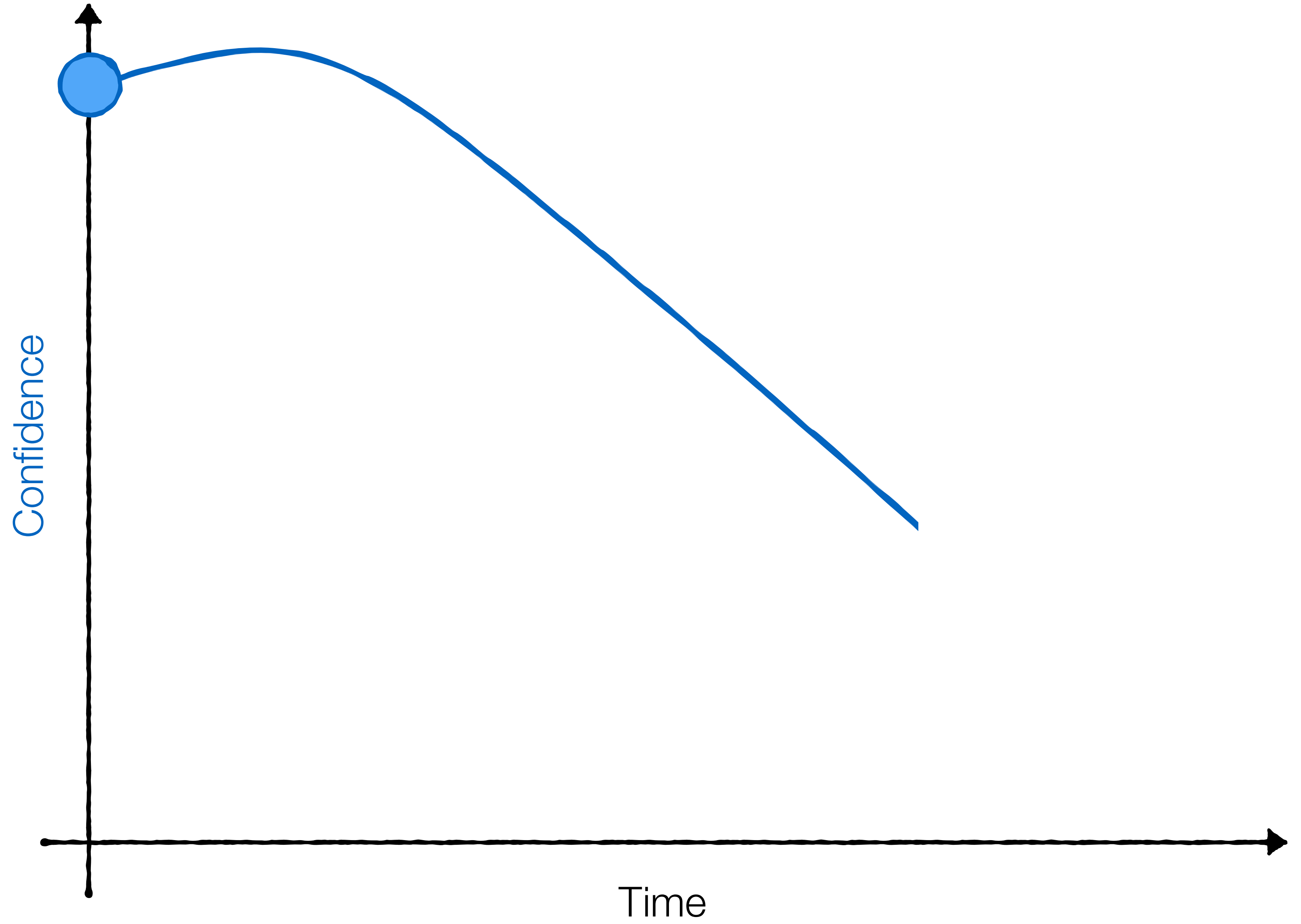
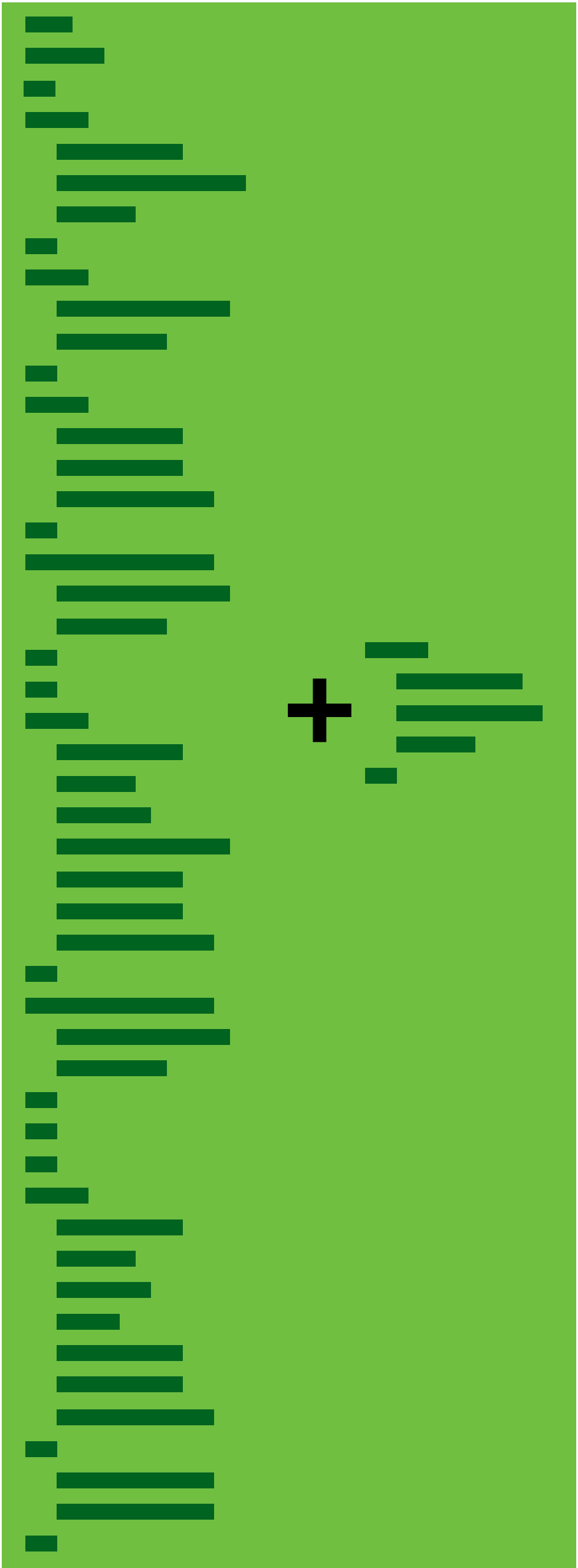


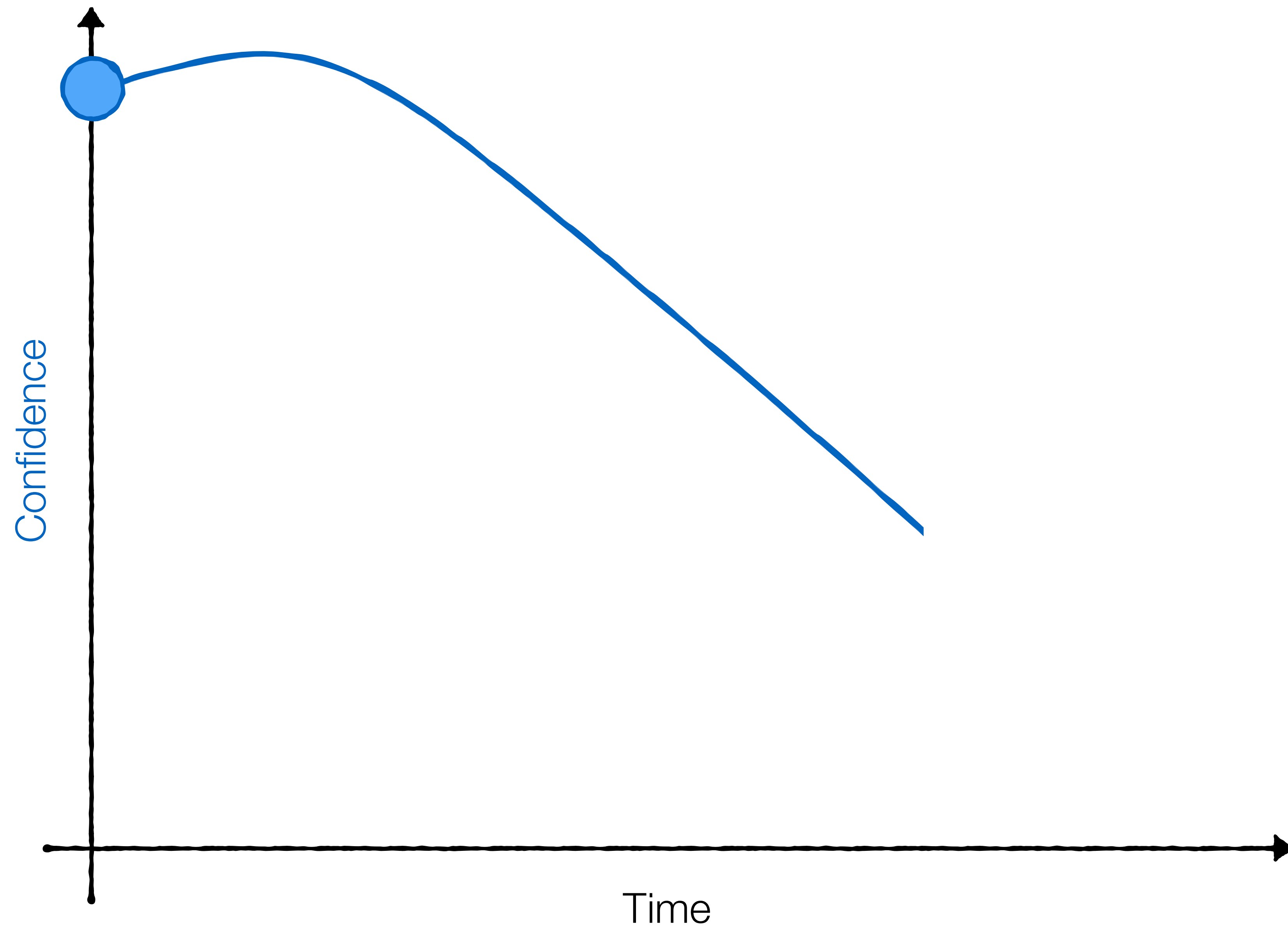
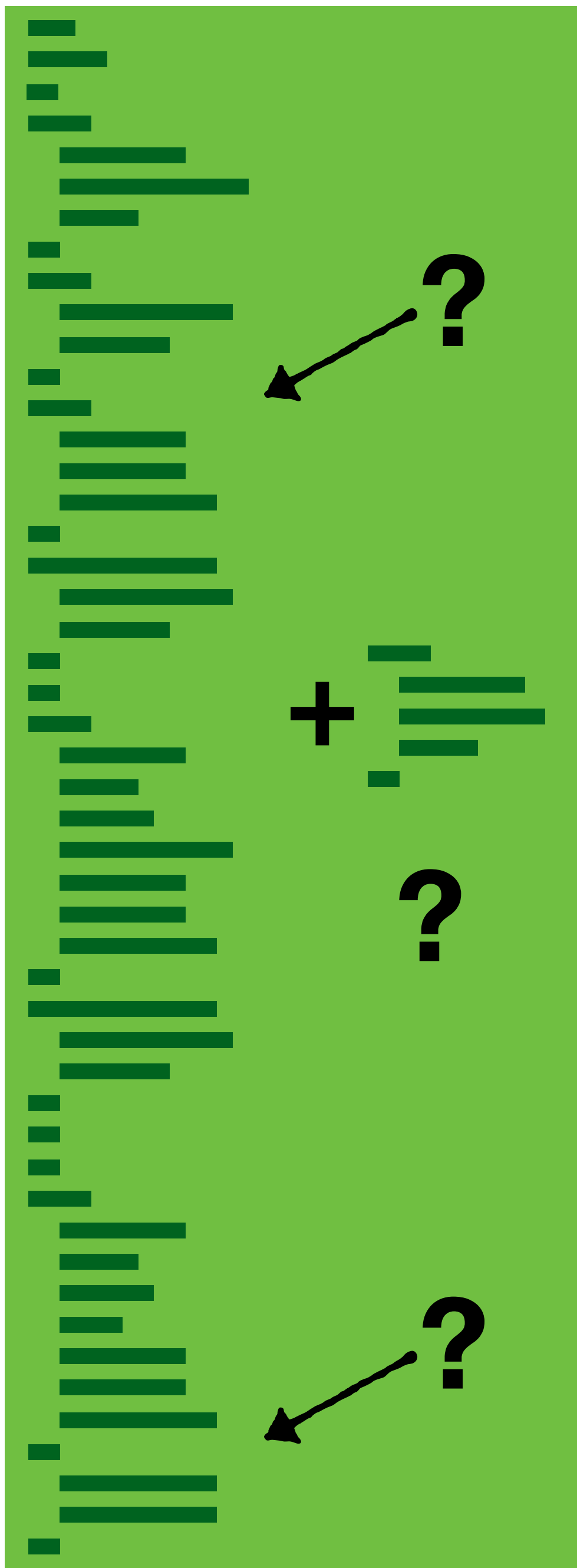


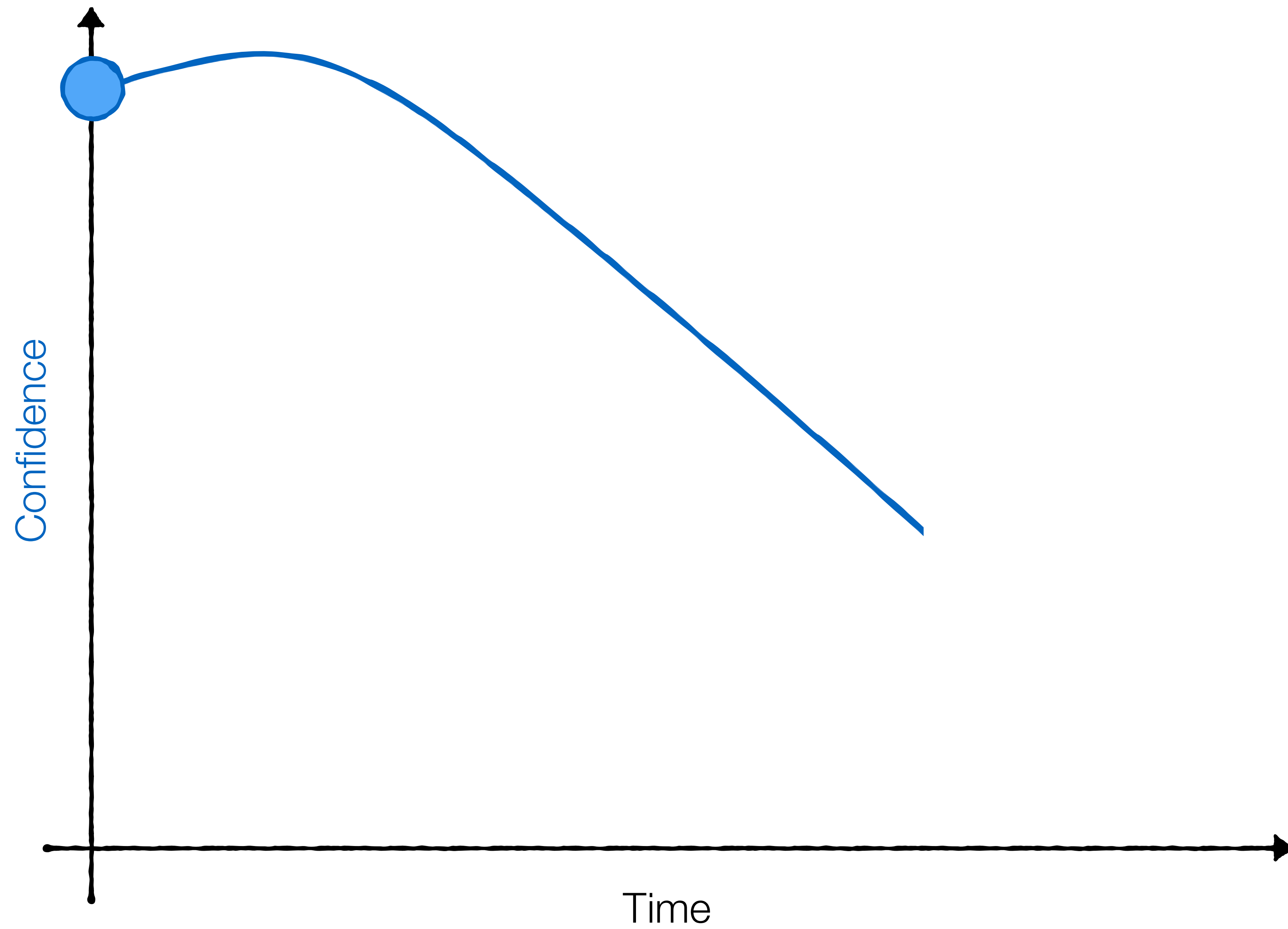
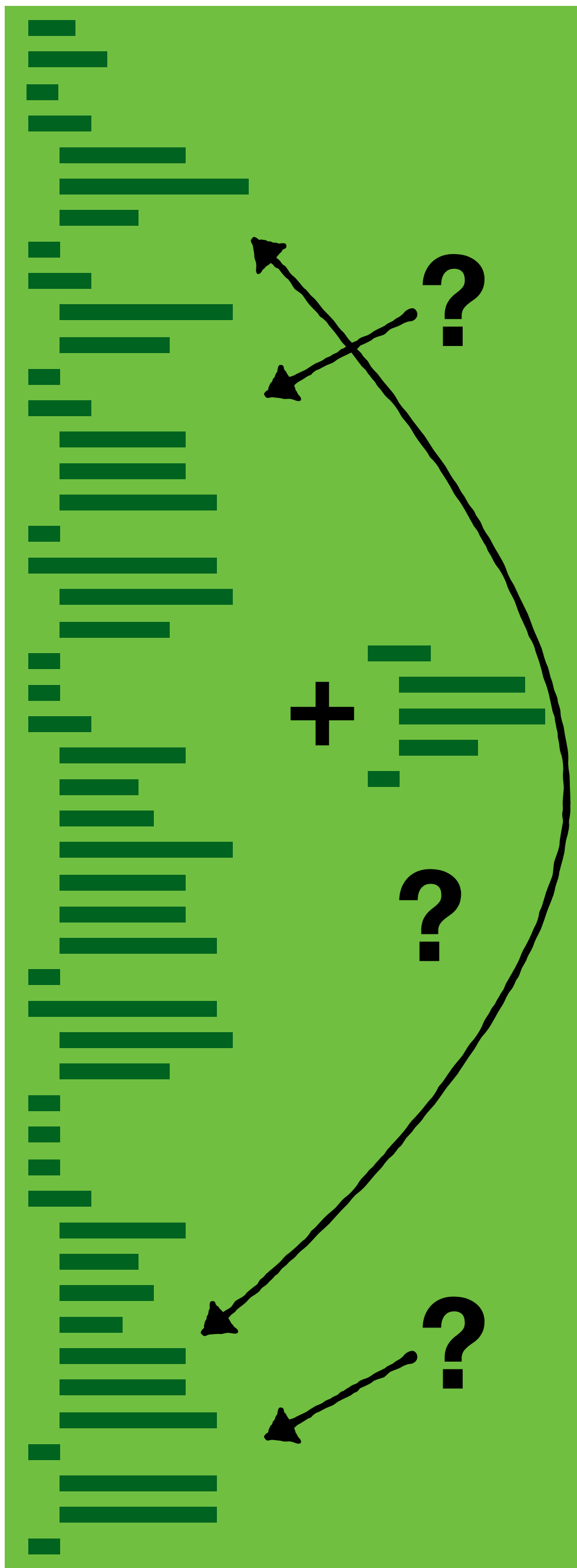


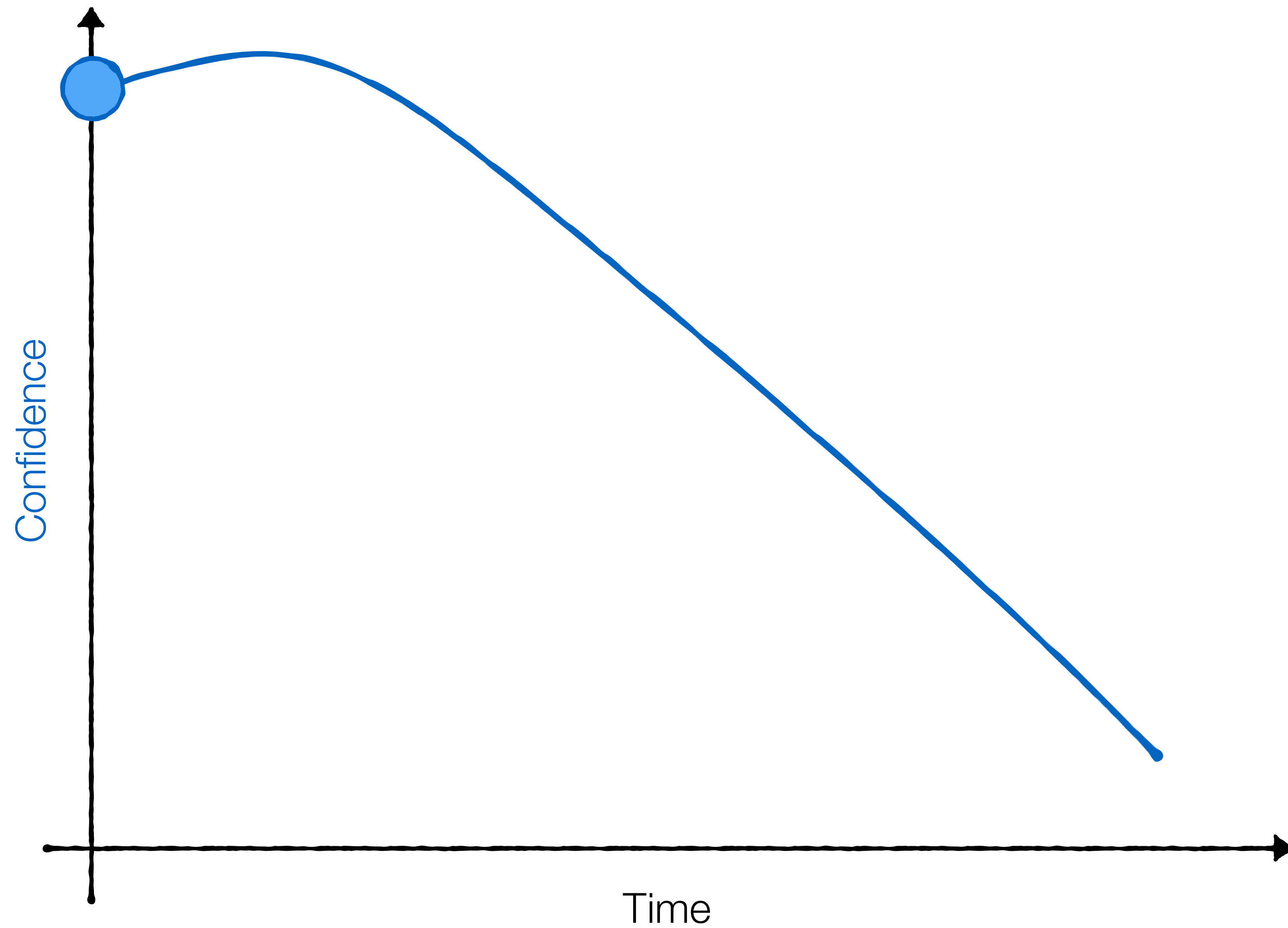
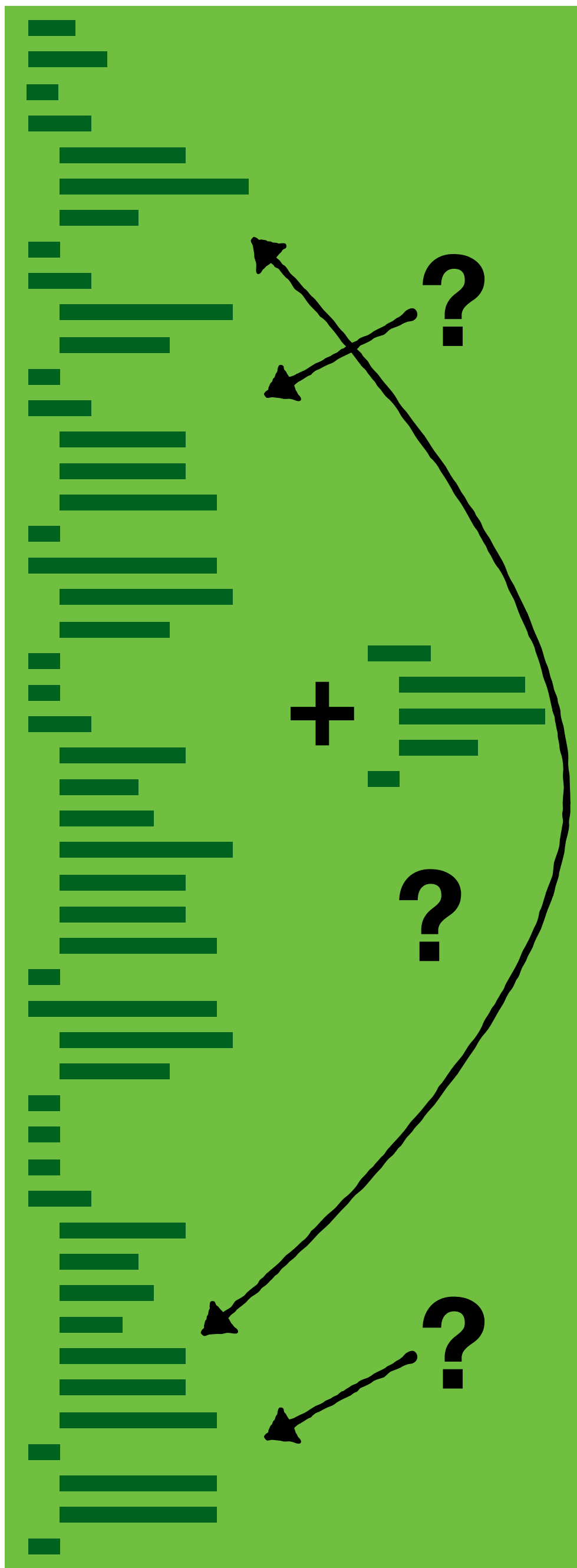


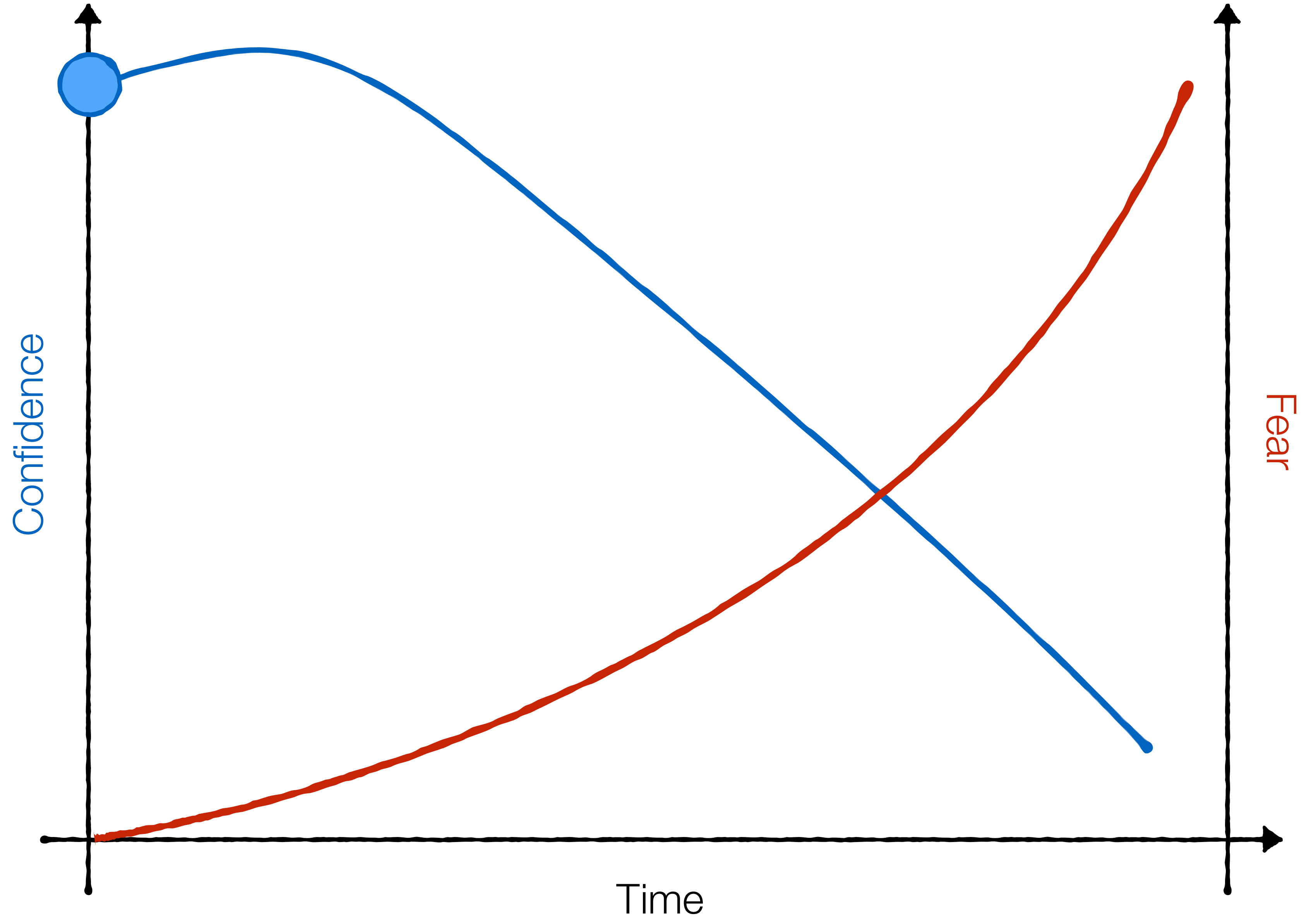




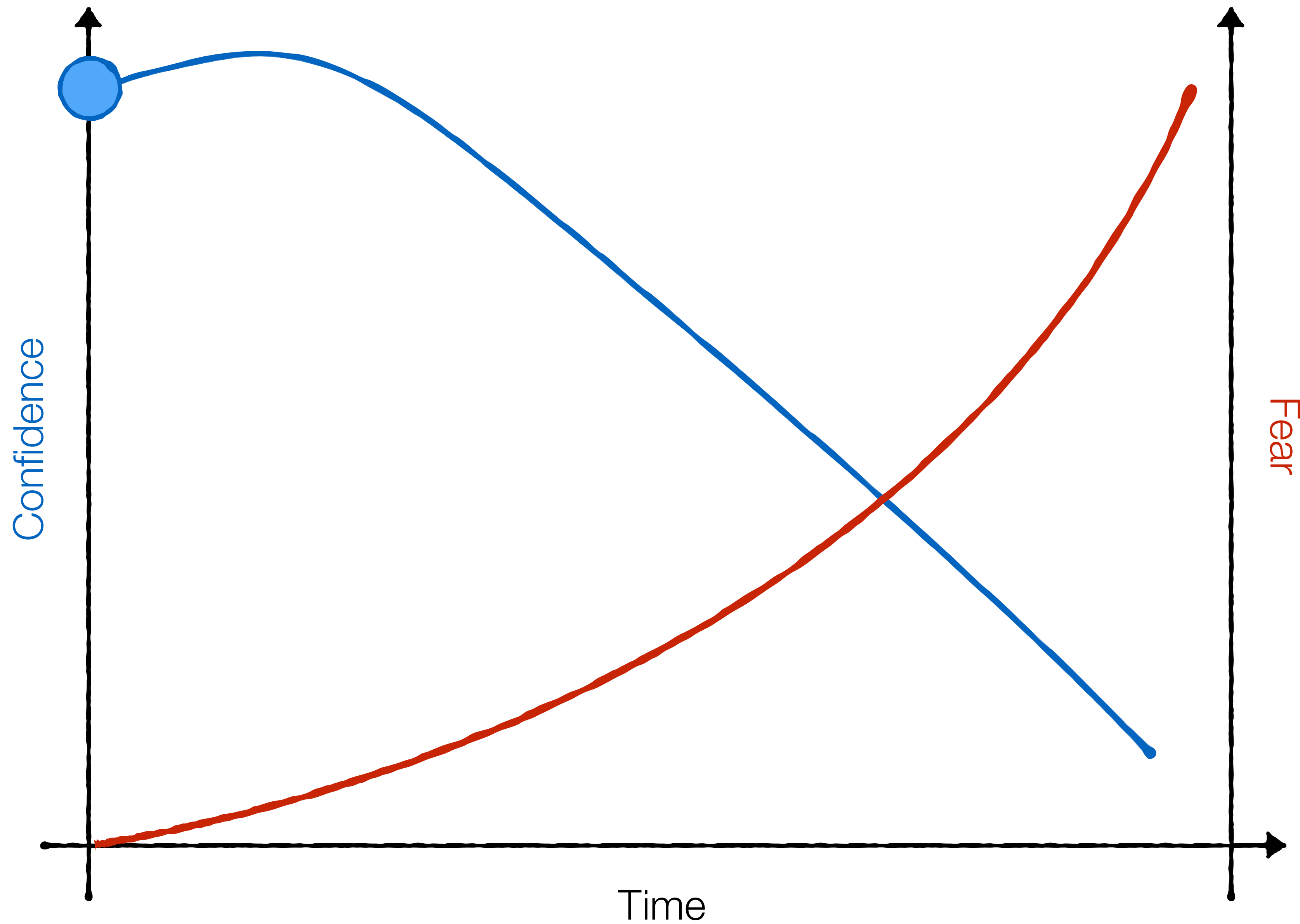






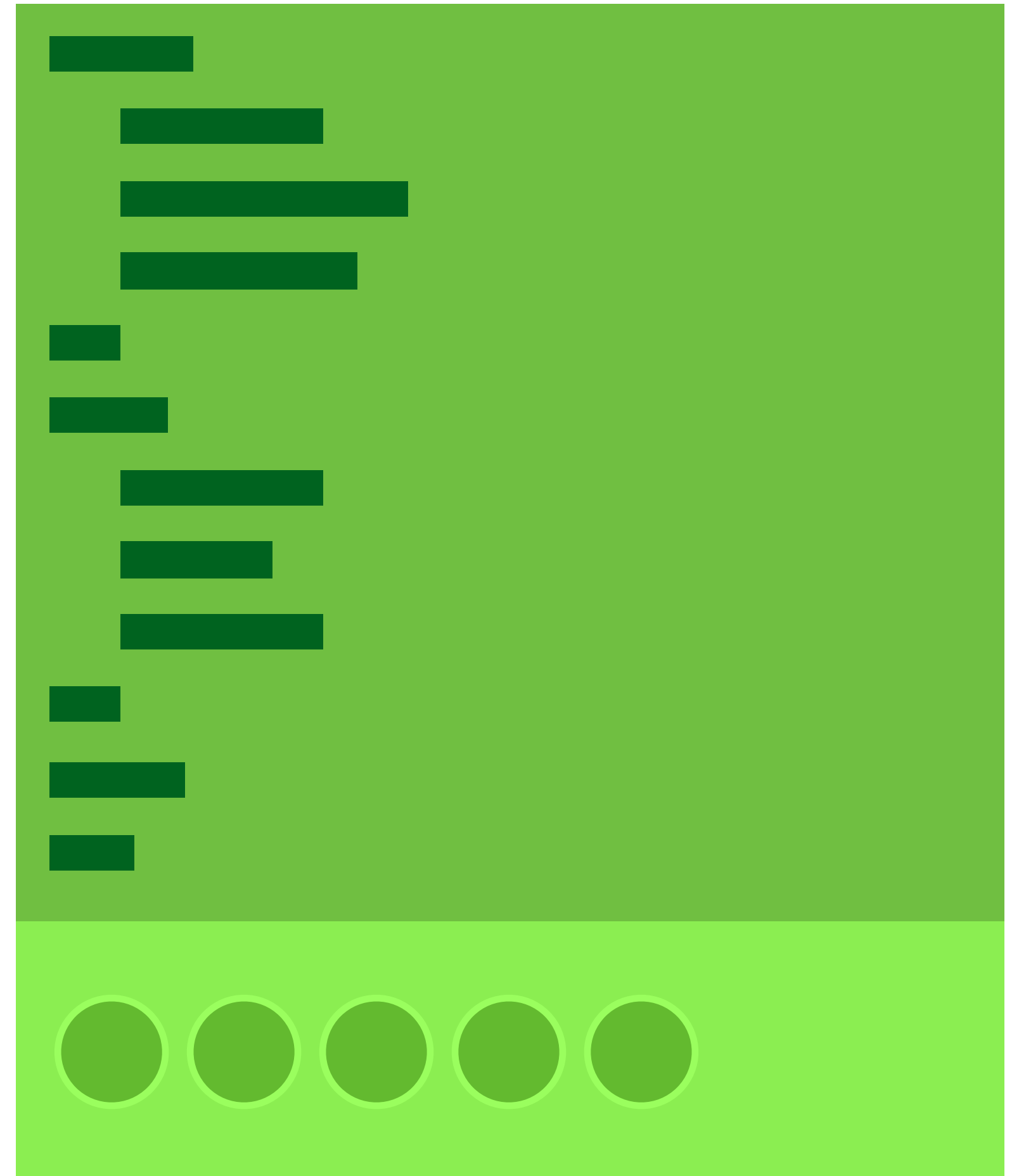


This
SUCKS

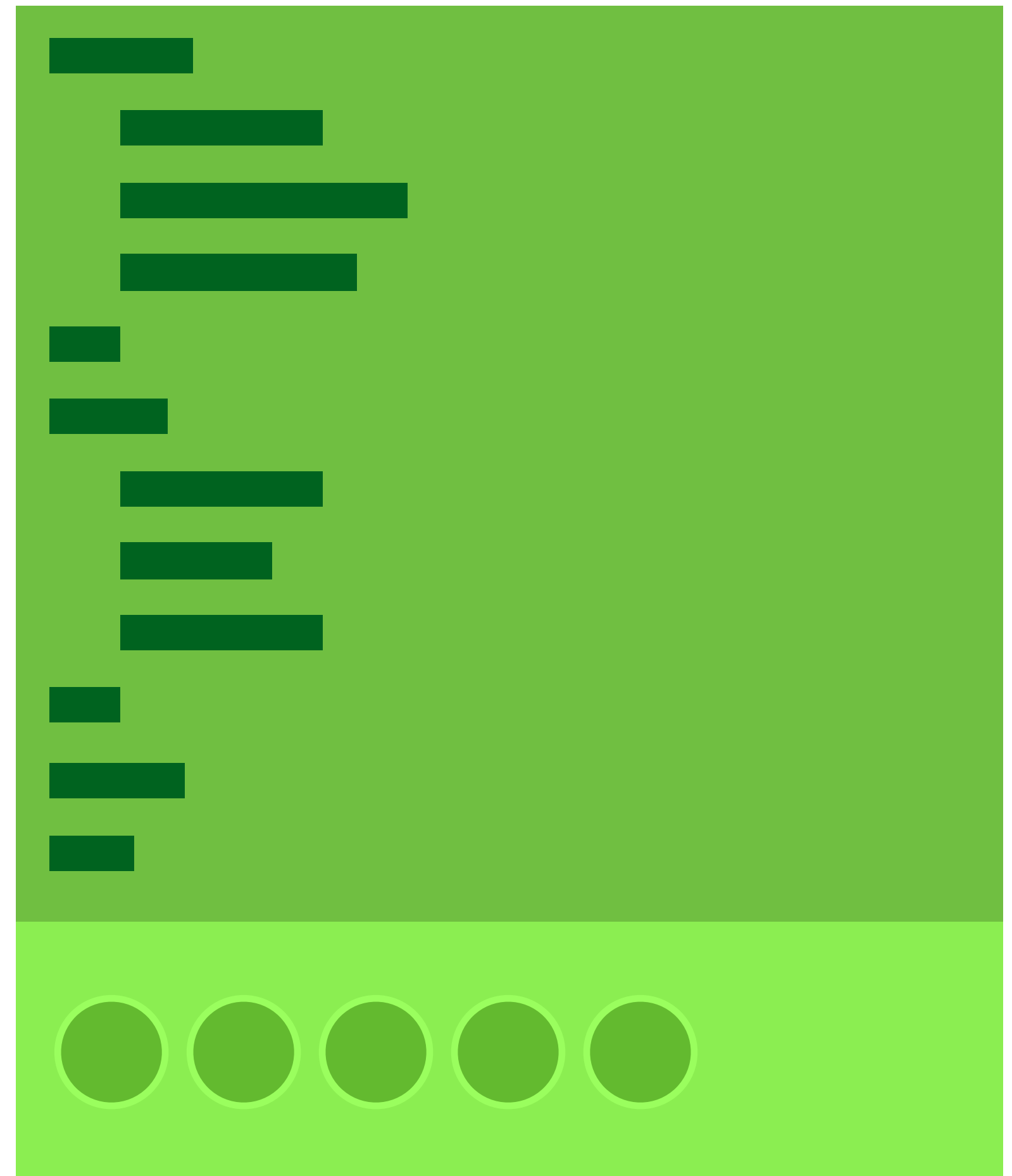


There is a better way...

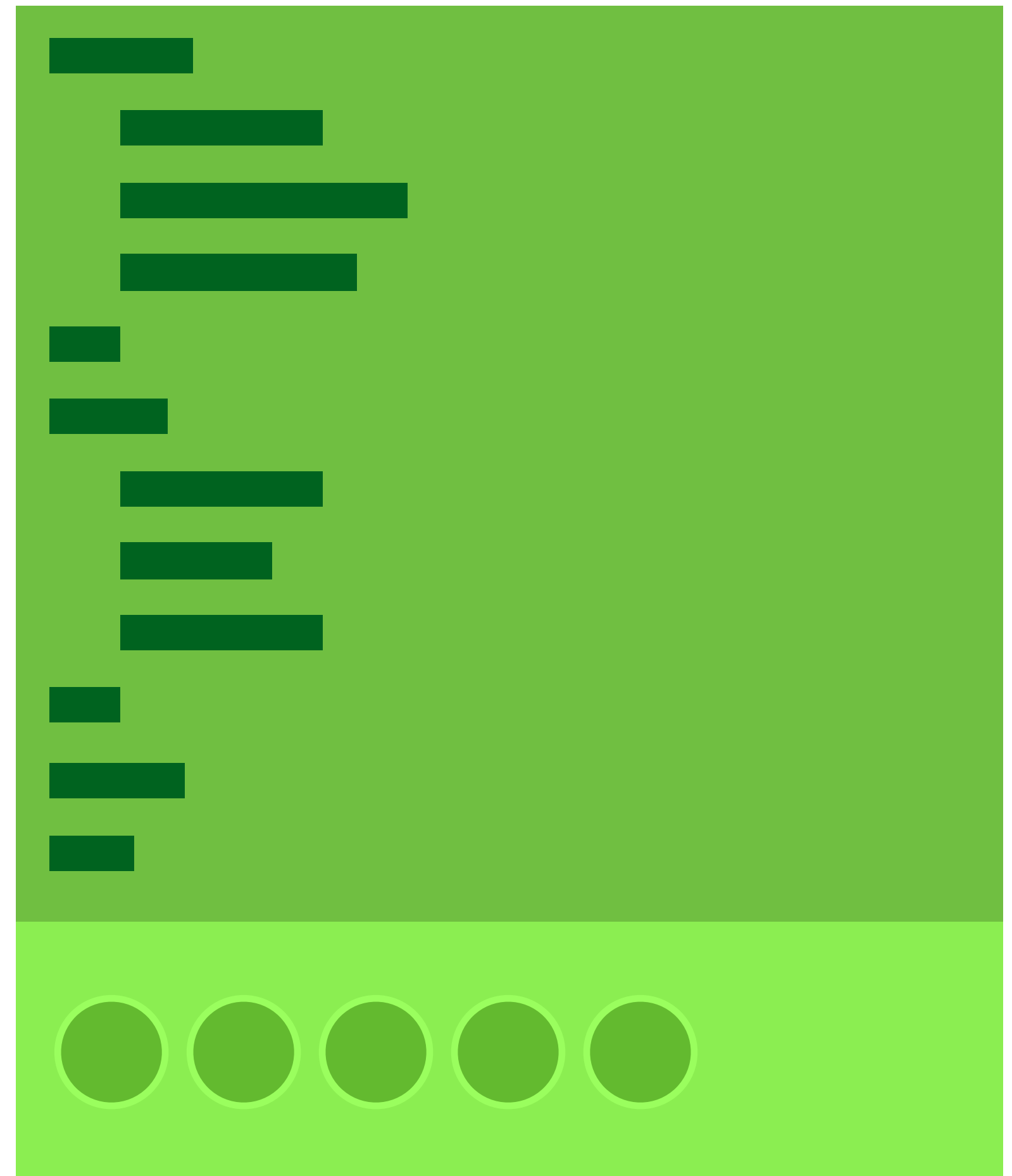
Automated tests!



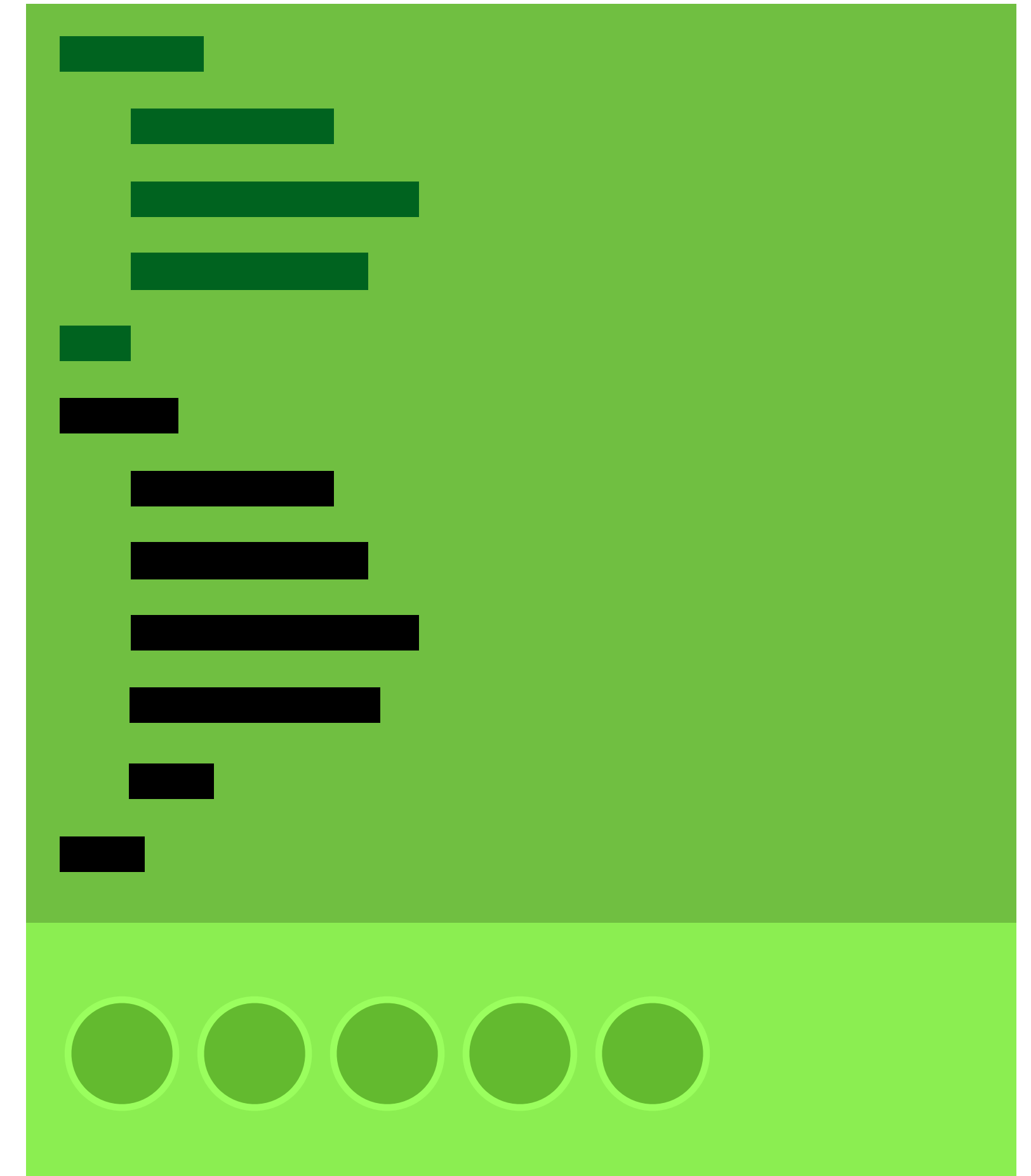
Automated tests!
Guarantee your code works



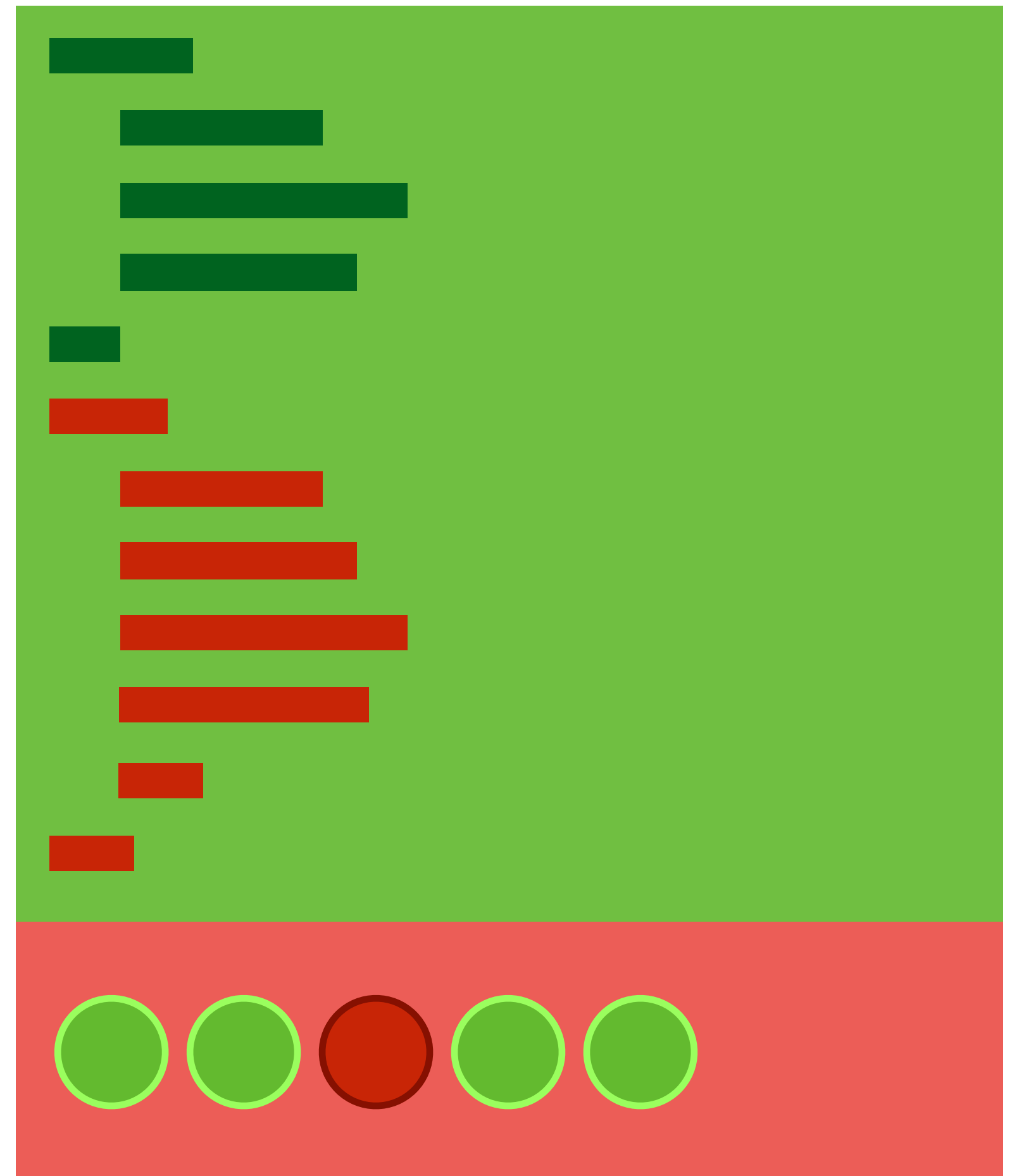
Automated tests!
Guarantee your code works
...as you refactor



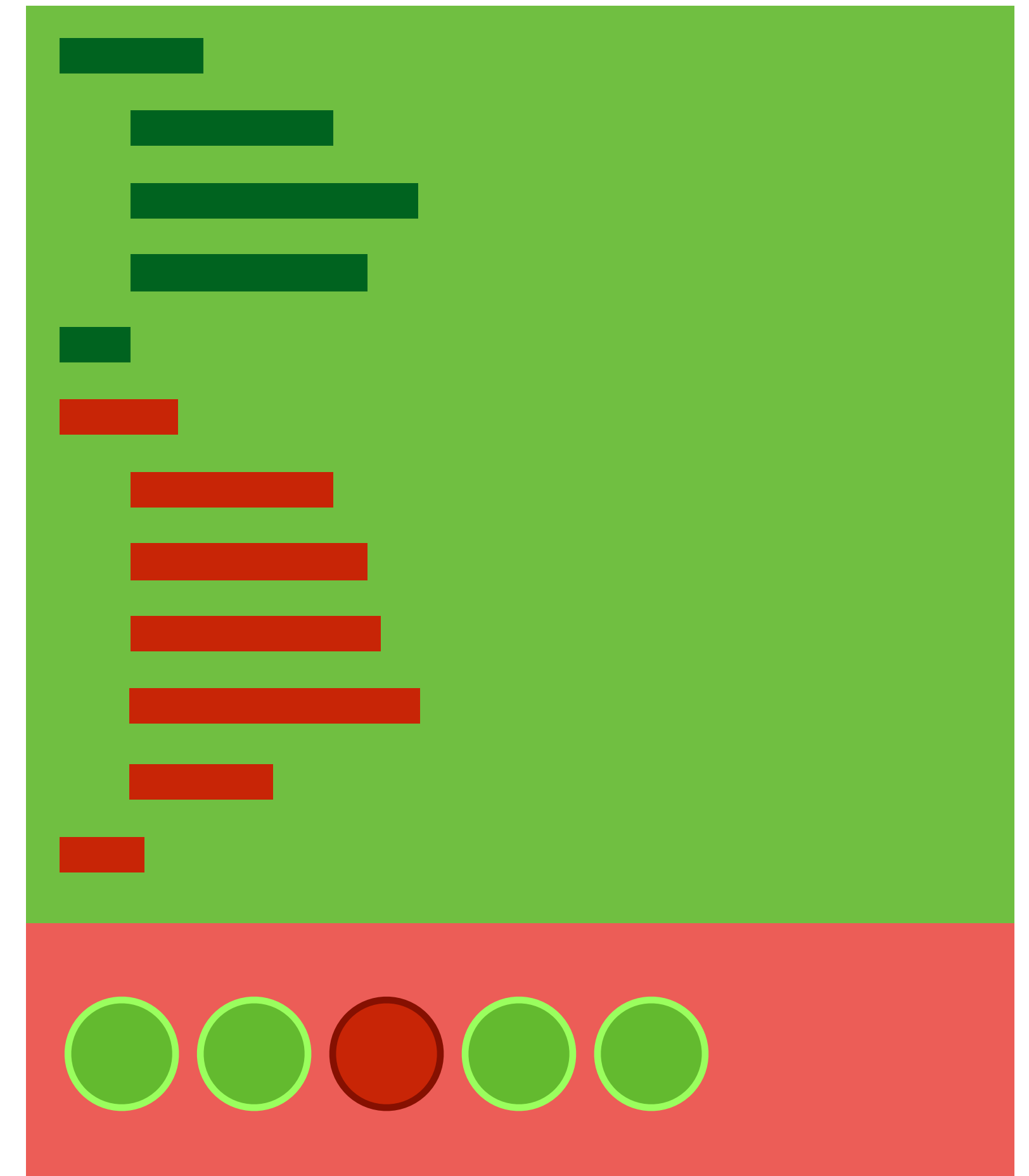
Automated tests!
Guarantee your code works
...as you refactor



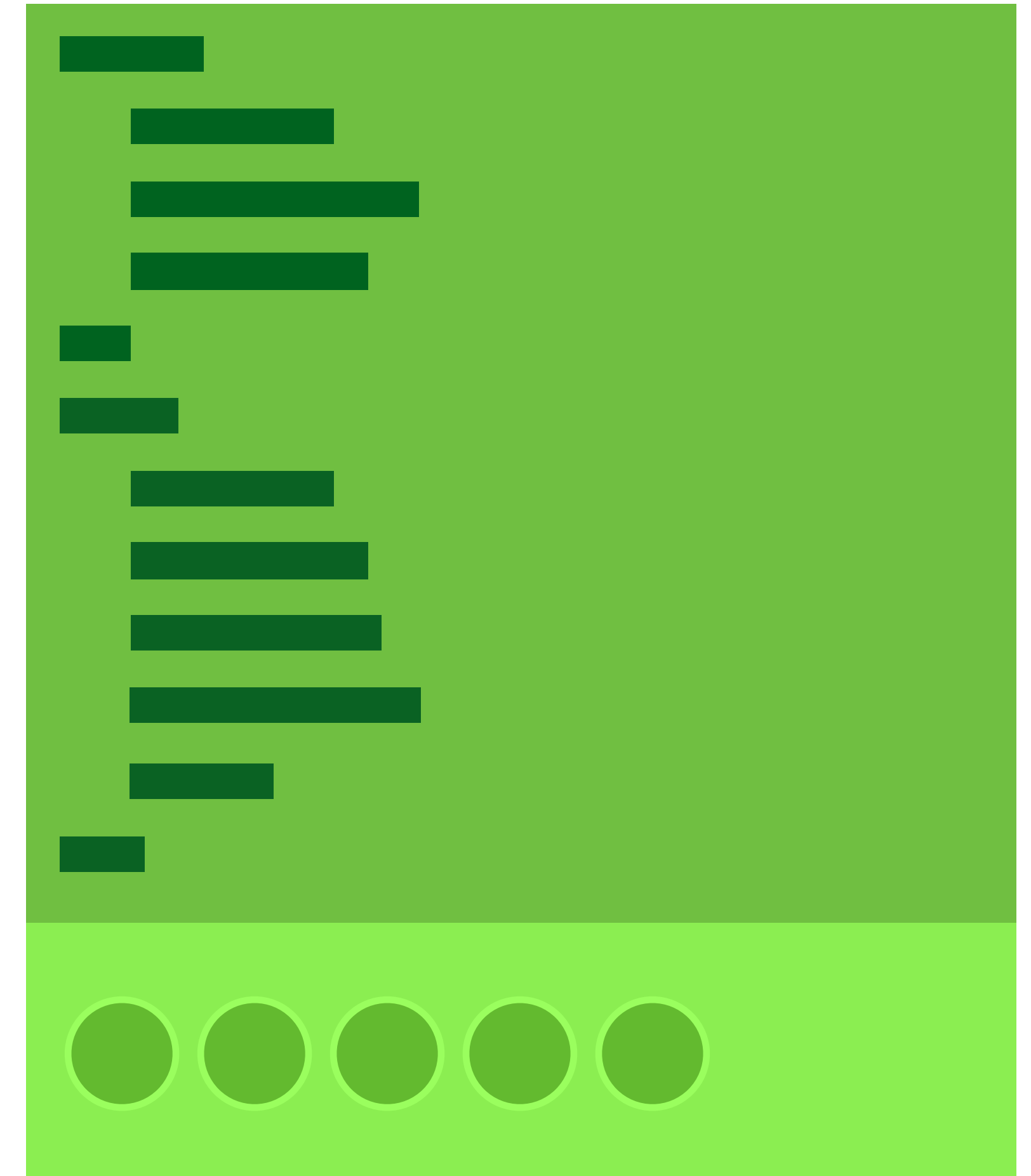
Automated tests!
Guarantee your code works
...as you refactor



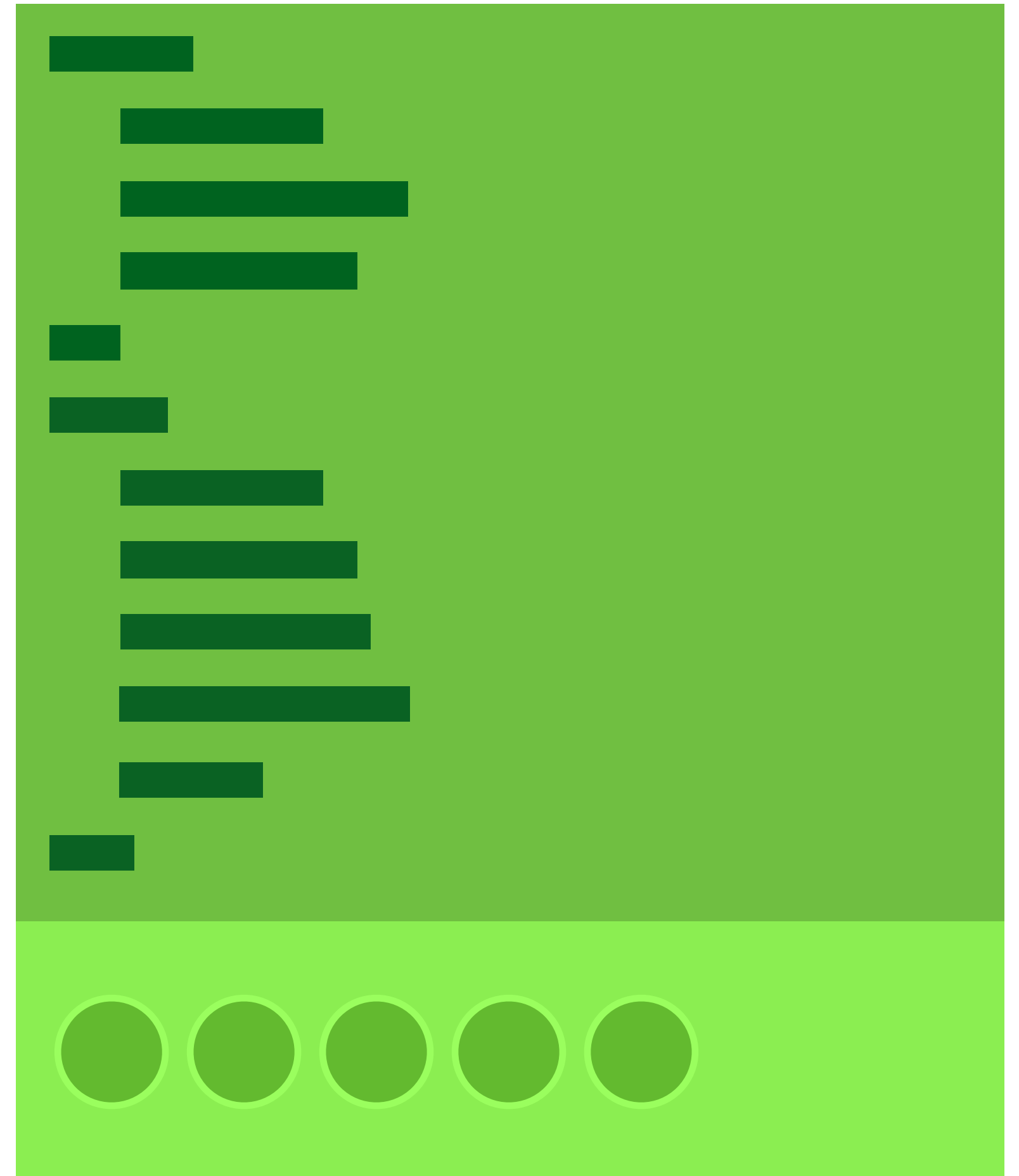
Automated tests!
Guarantee your code works
...as you refactor



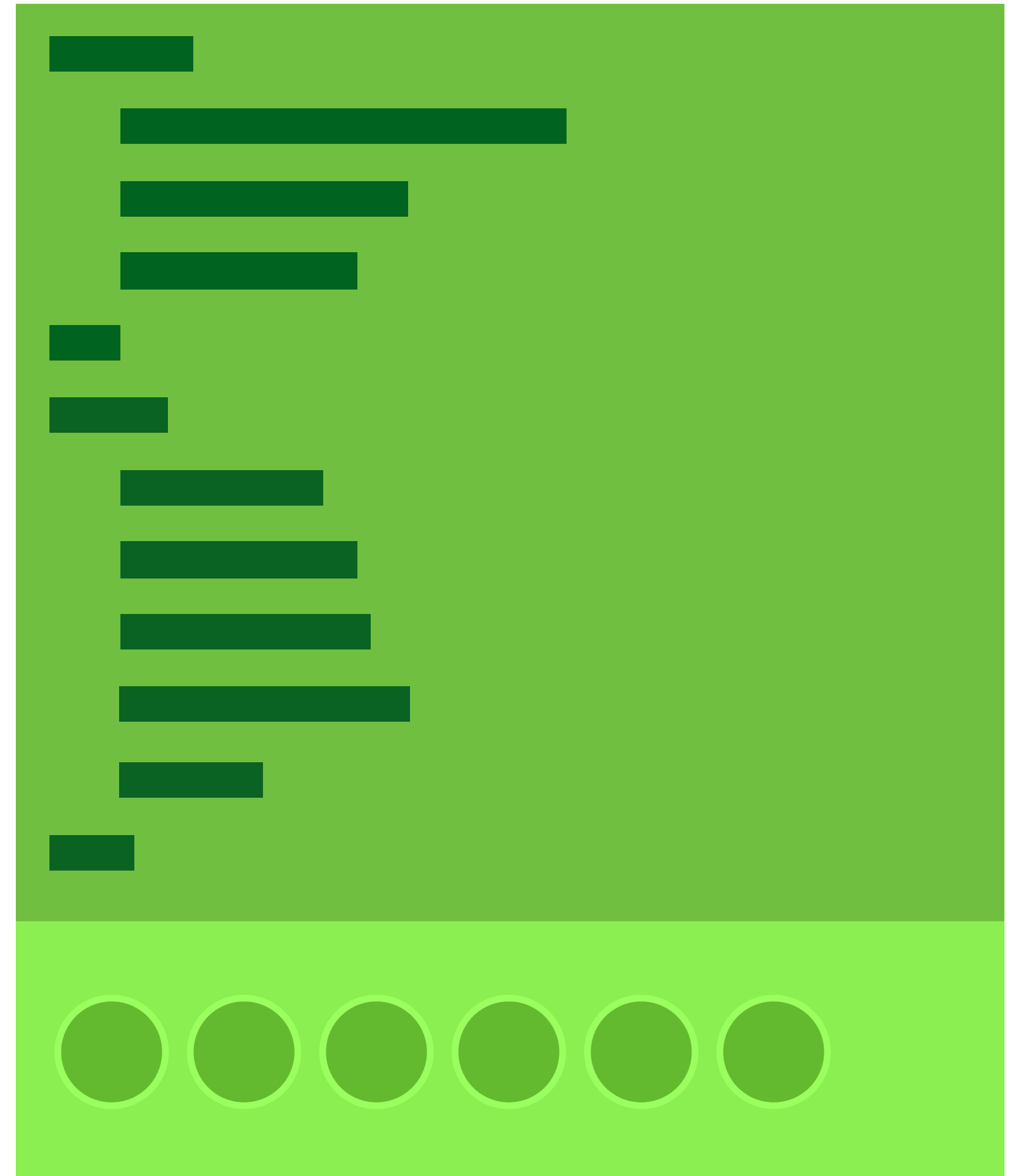
Automated tests!
Guarantee your code works
...as you refactor



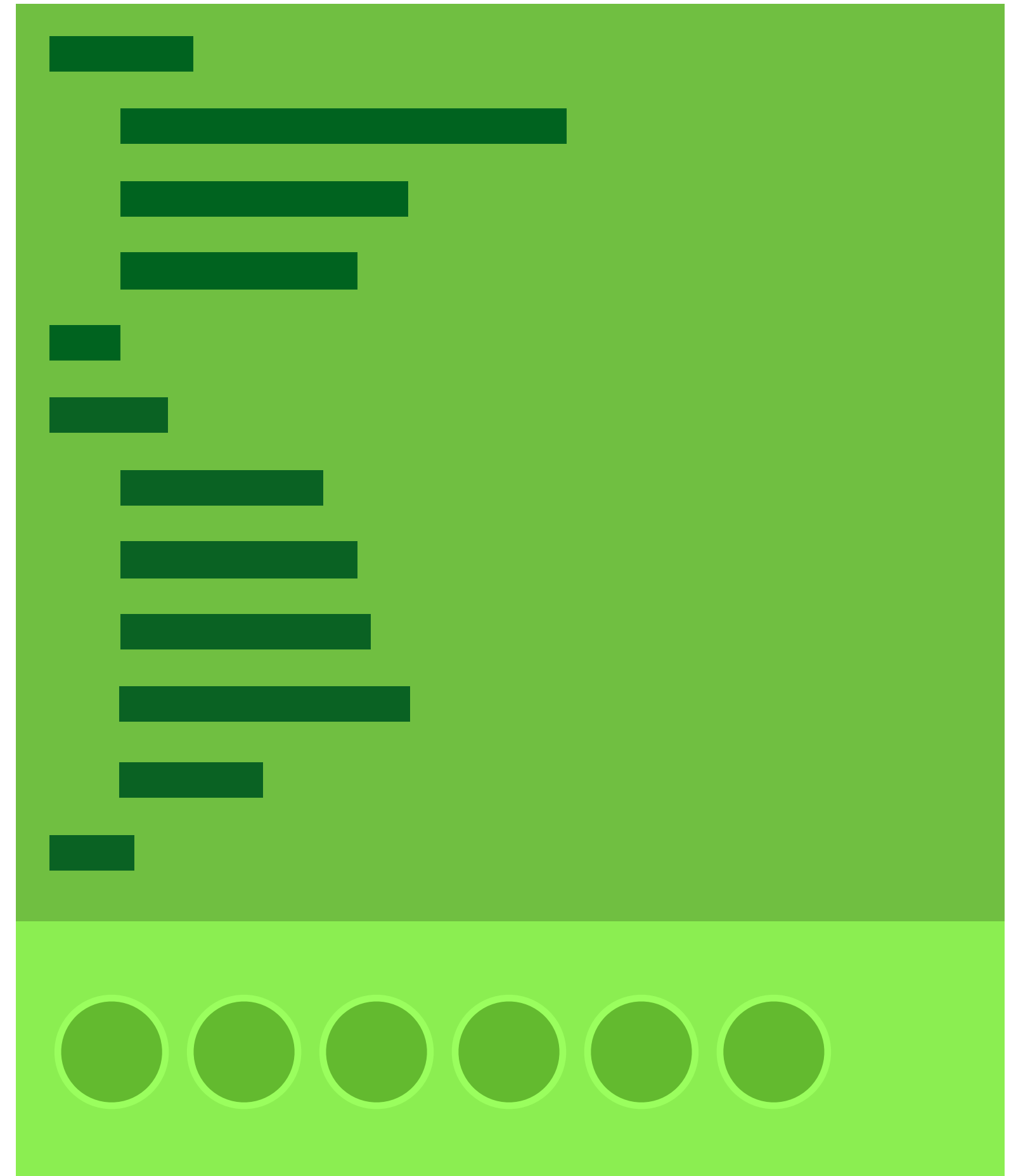
Automated tests!
Guarantee your code works
...as you refactor
...as you add new features



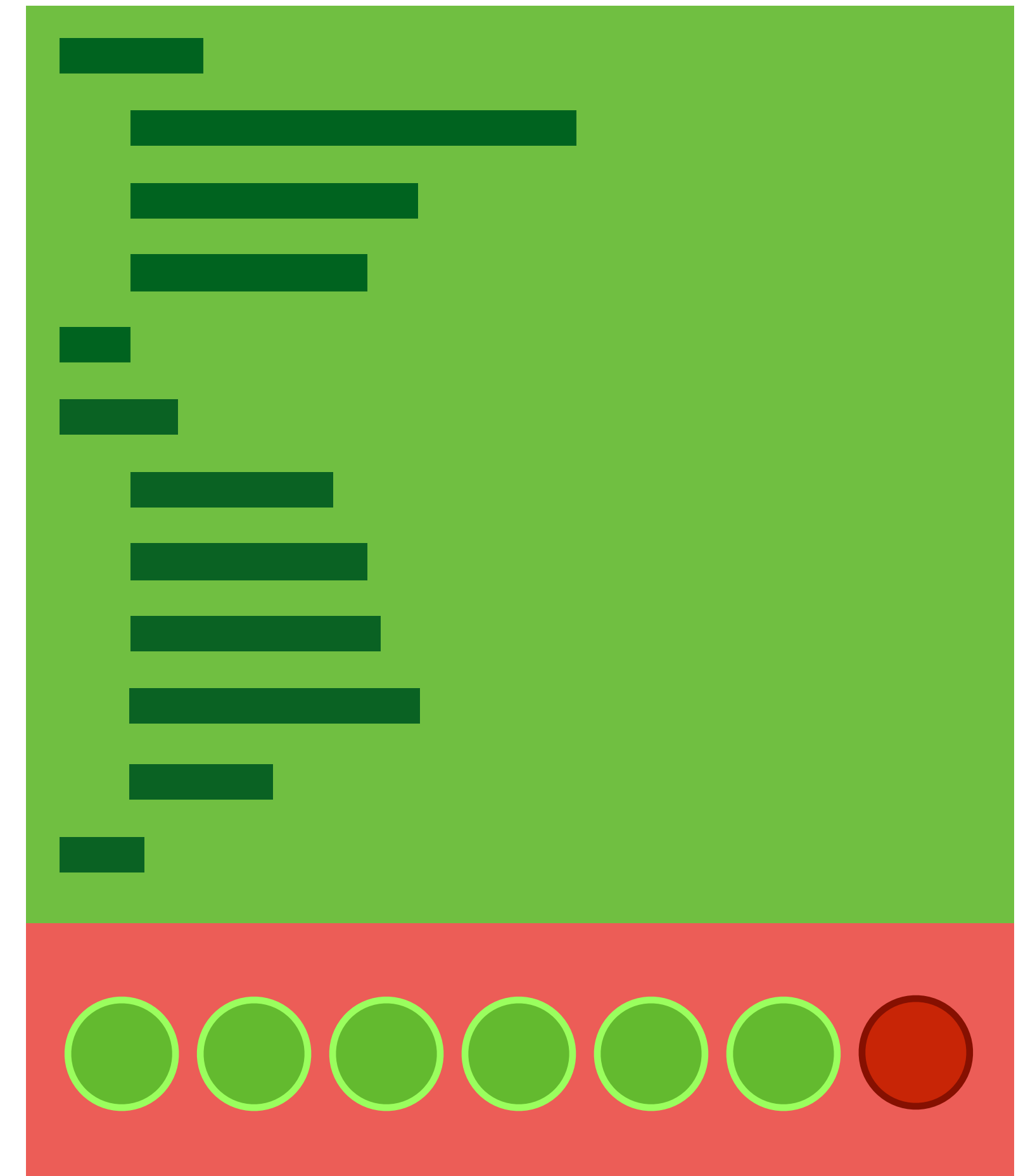
Automated tests!
Guarantee your code works
...as you refactor
...as you add new features



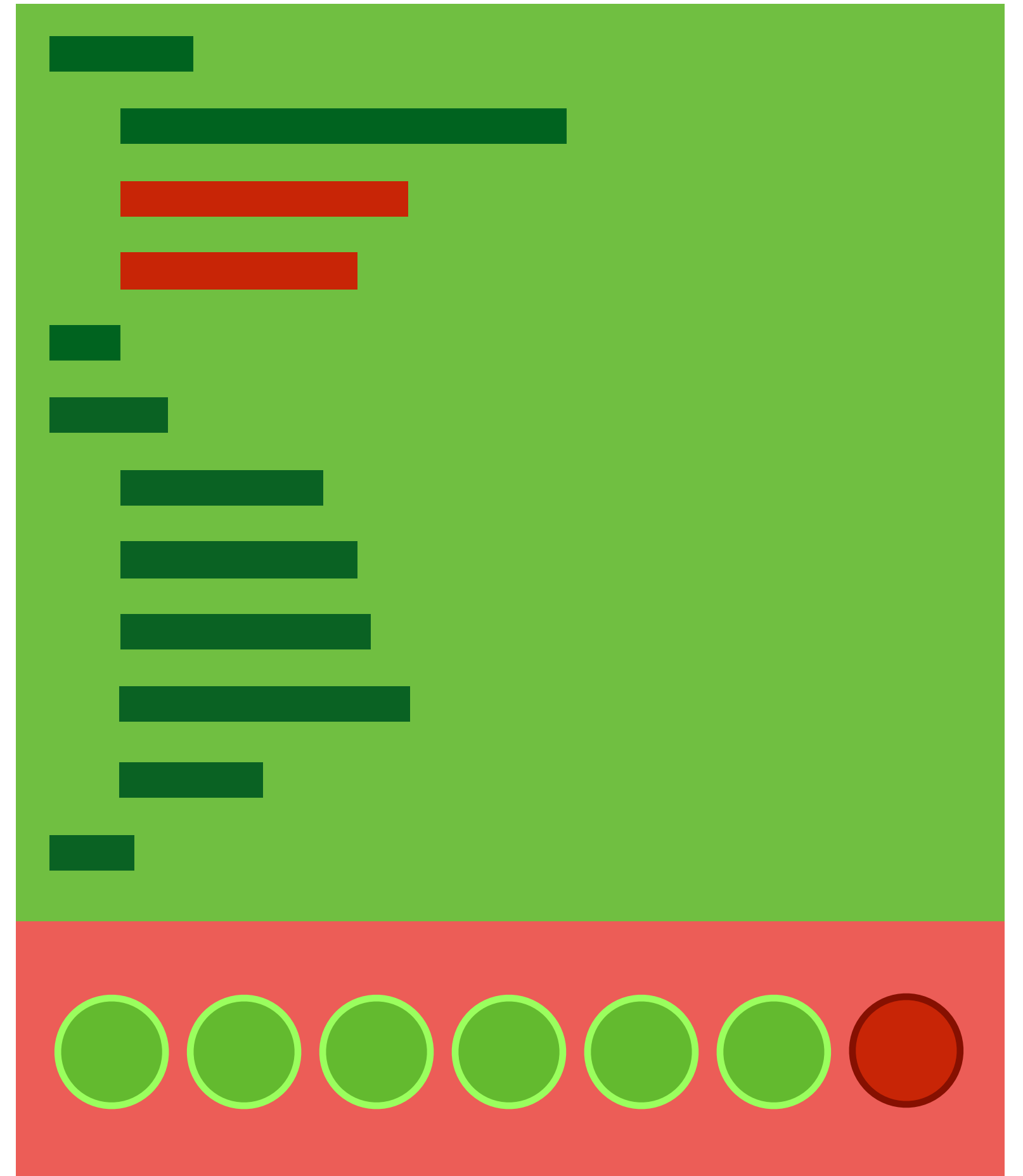
Automated tests!
Guarantee your code works
...as you refactor
...as you add new features
...as you fix bugs



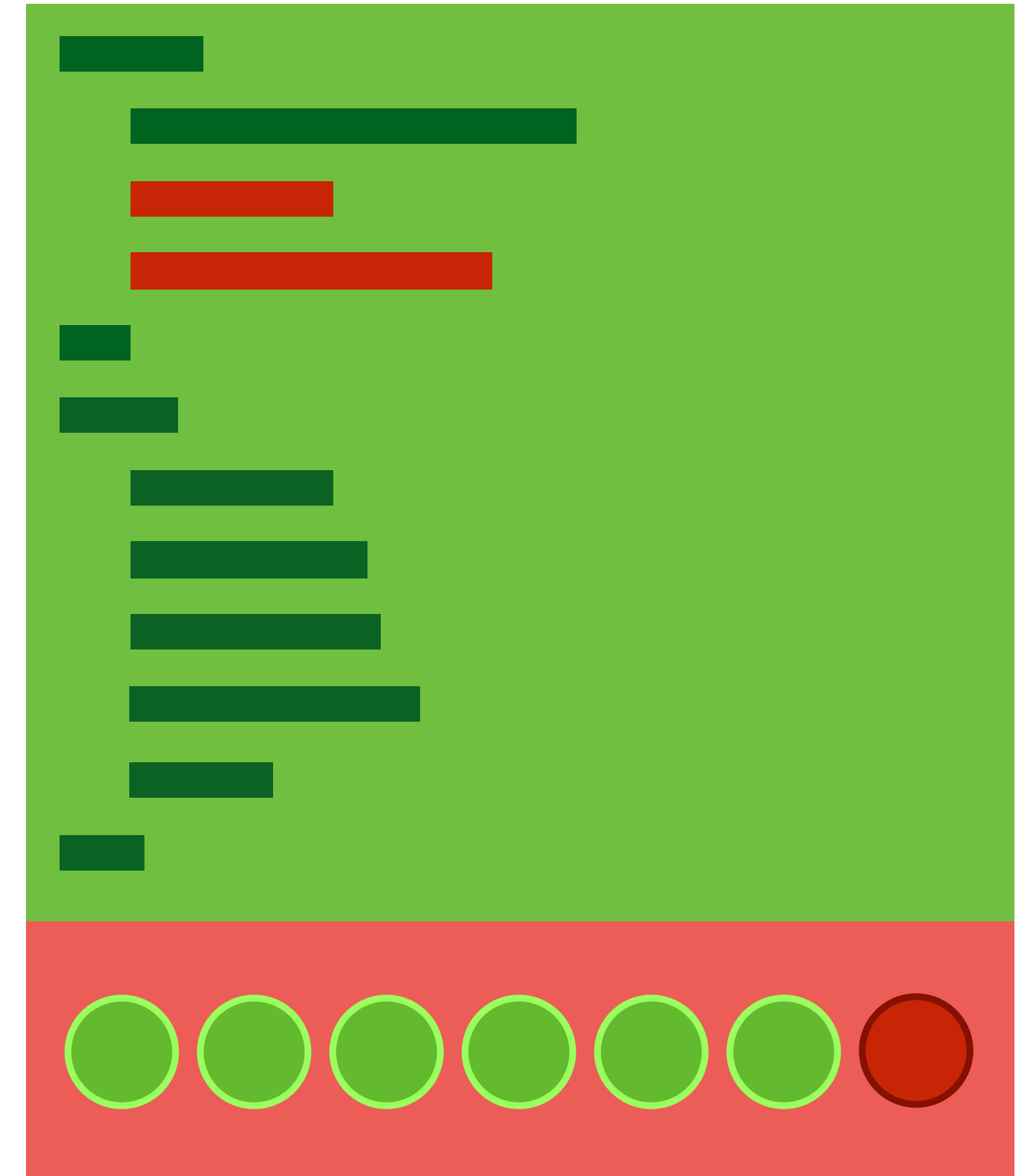
Automated tests!
Guarantee your code works
...as you refactor
...as you add new features
...as you fix bugs



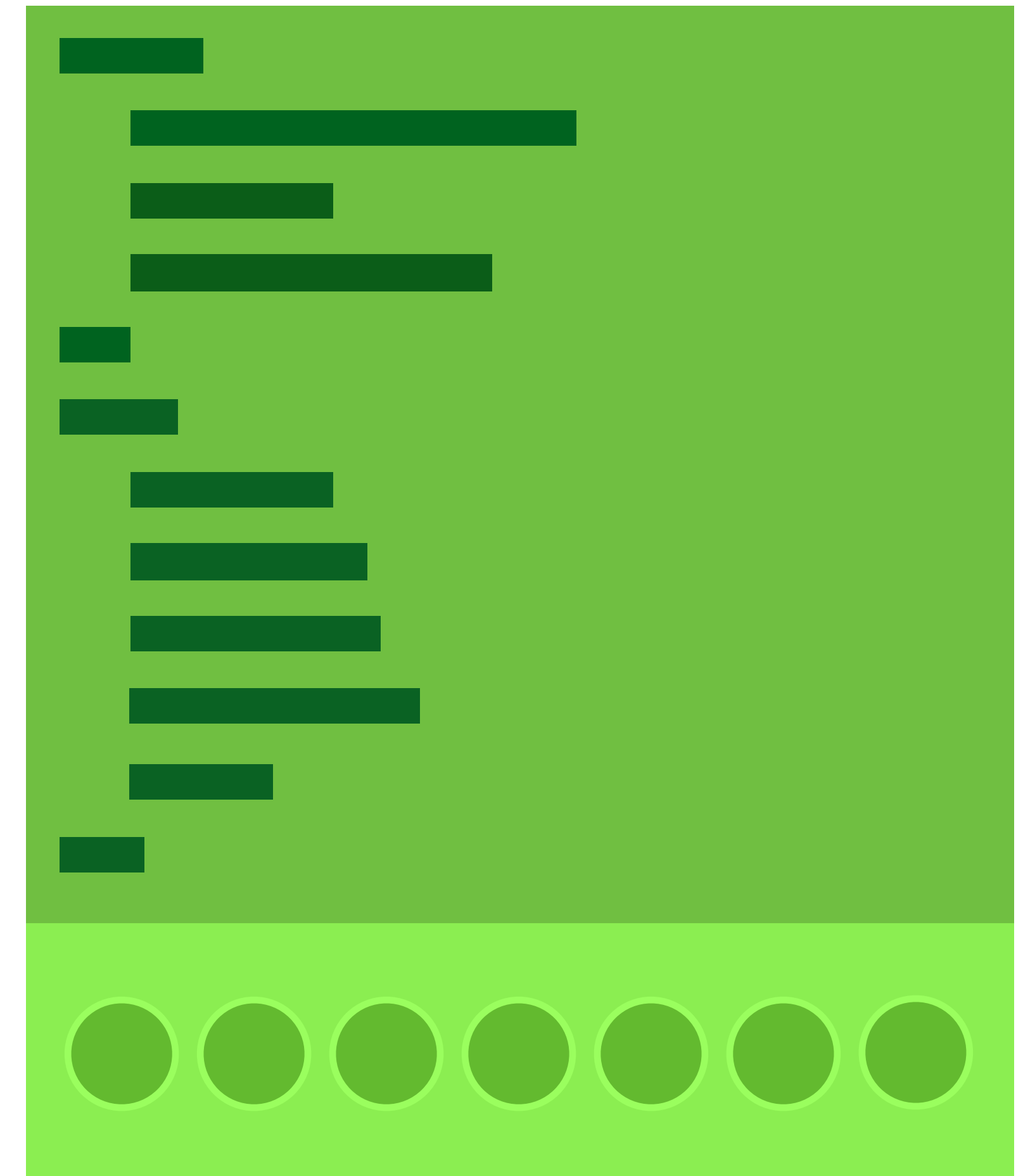
Automated tests!
Guarantee your code works
...as you refactor
...as you add new features
...as you fix bugs

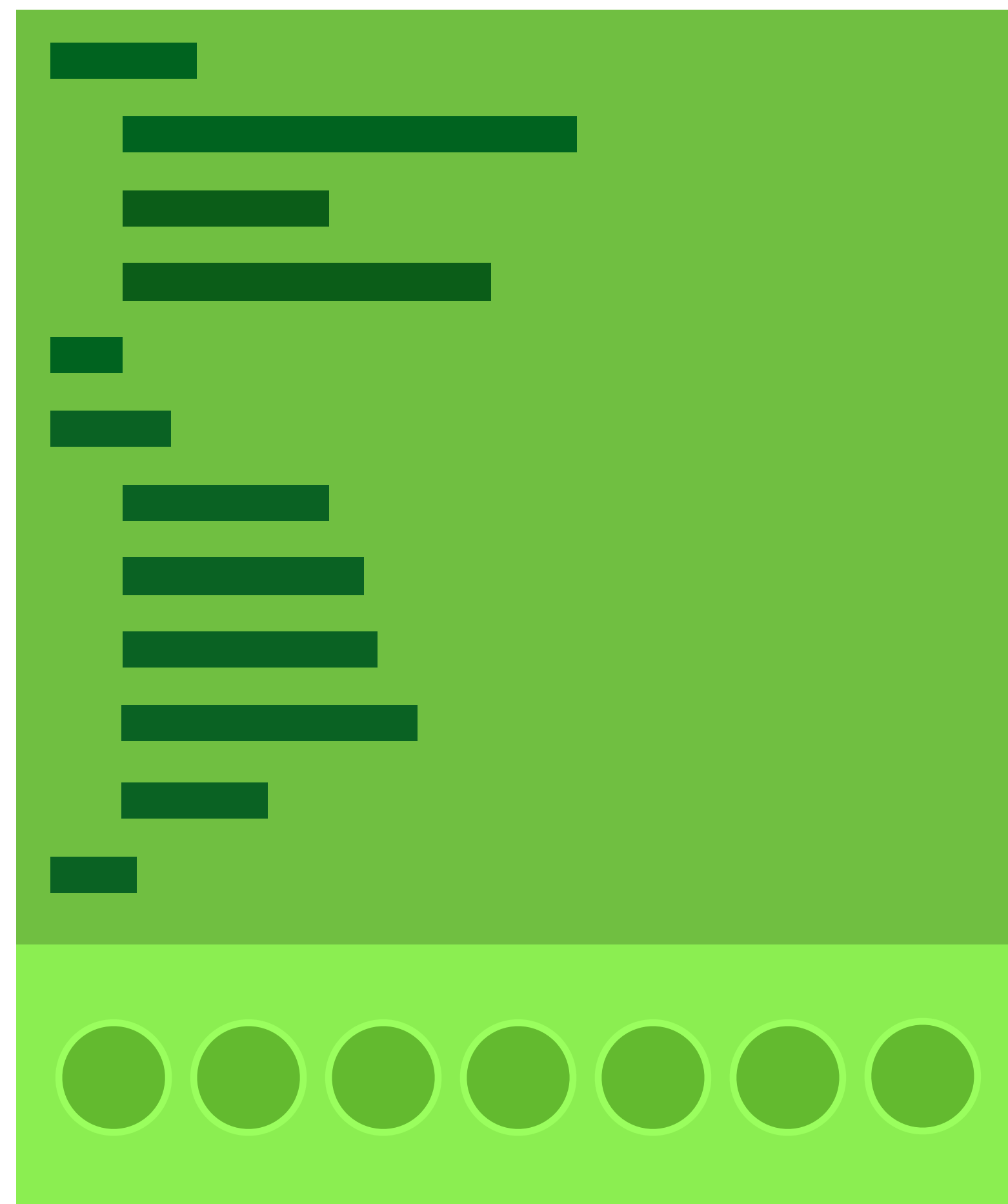
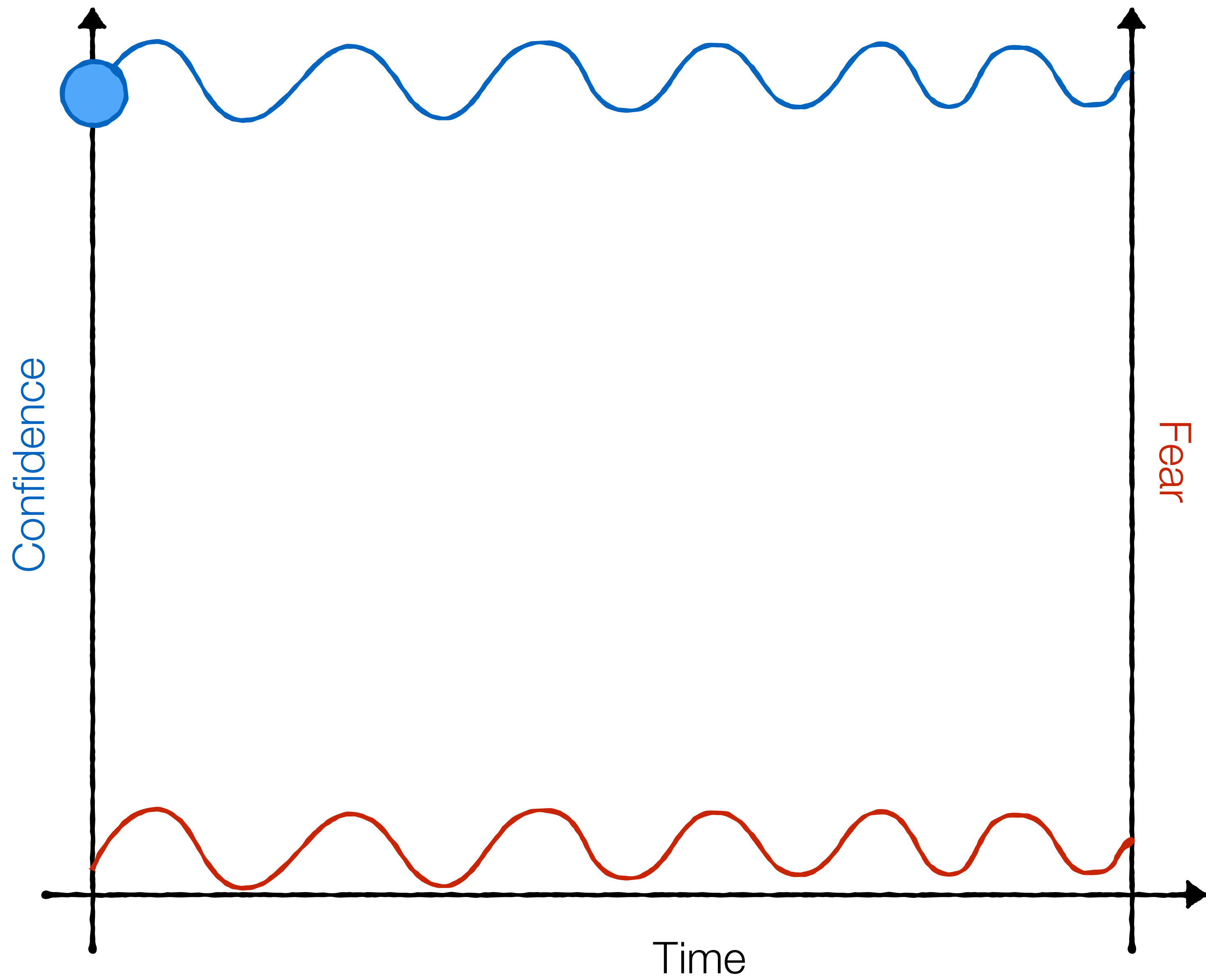


Automated tests!
Guarantee your code works
...as you refactor
...as you add new features
...as you fix bugs



Automated tests!
Guarantee your code works
...as you refactor
...as you add new features
...as you fix bugs





Testing

Pivotal™

TDD: Test-Driven-Development

TDD: Test-Driven-Development

=

Testing

TDD: Test-Driven-Development

=

Testing

+

Discipline

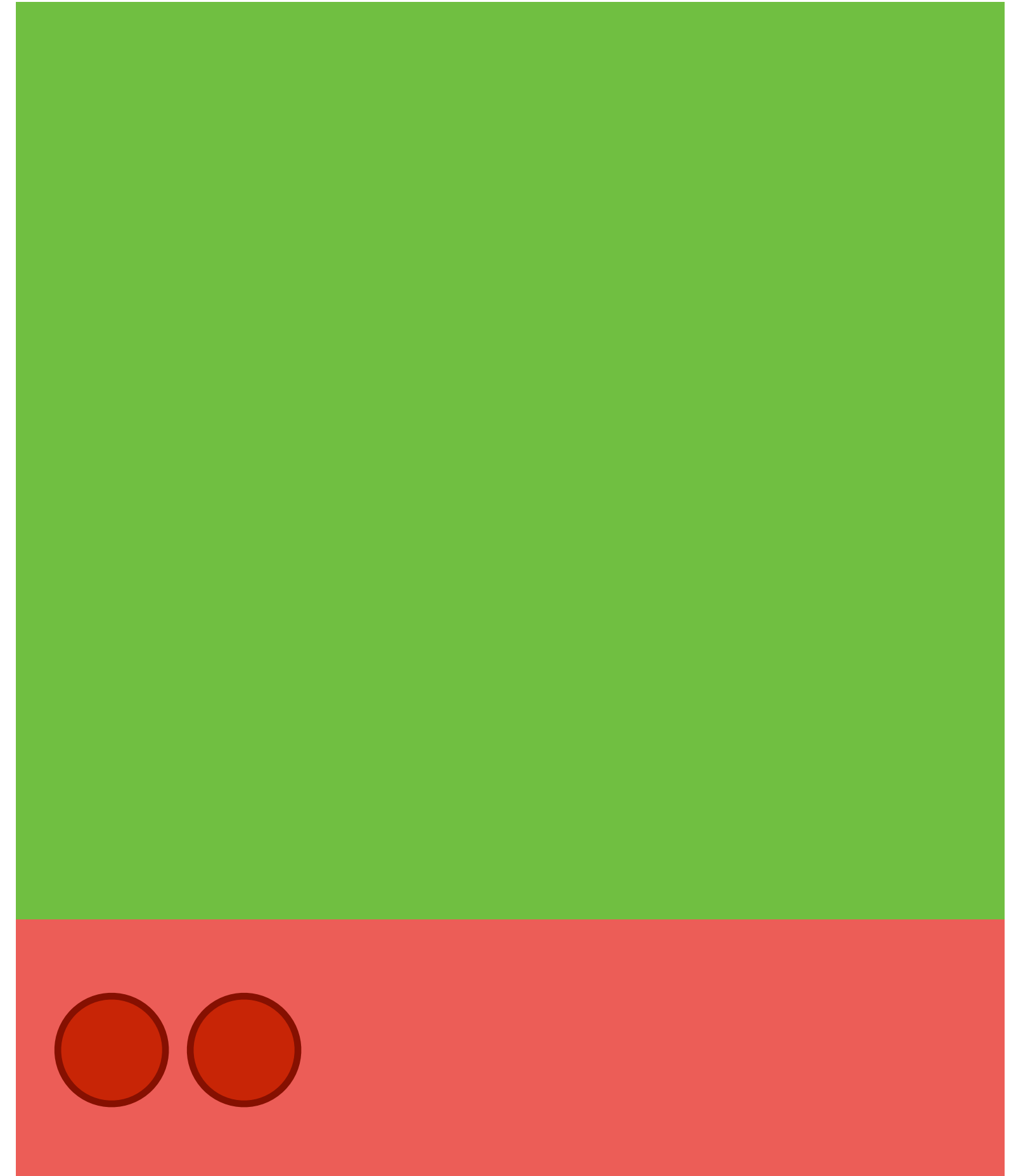
TDD Cycle

Tests



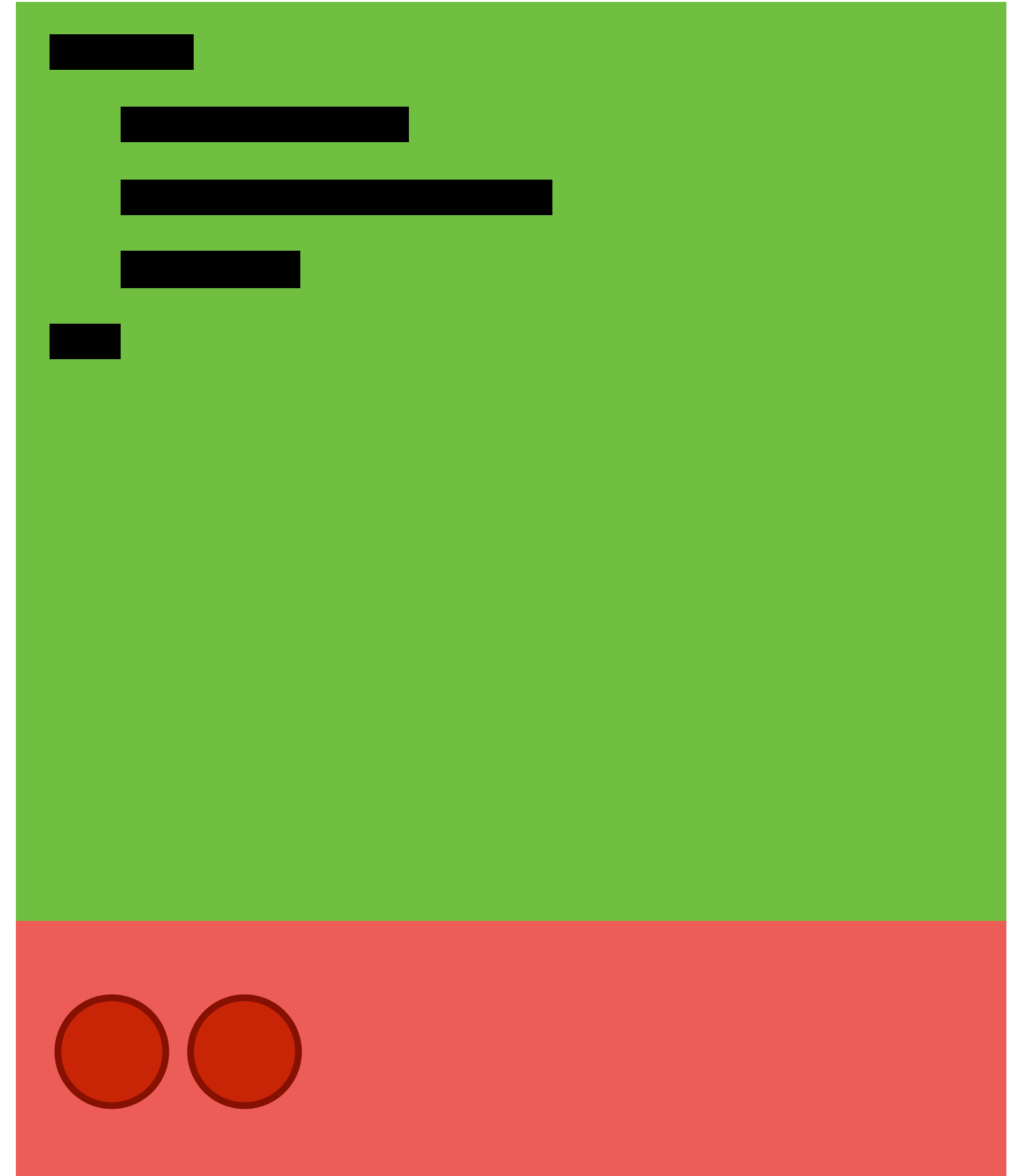
TDD Cycle

Tests, red



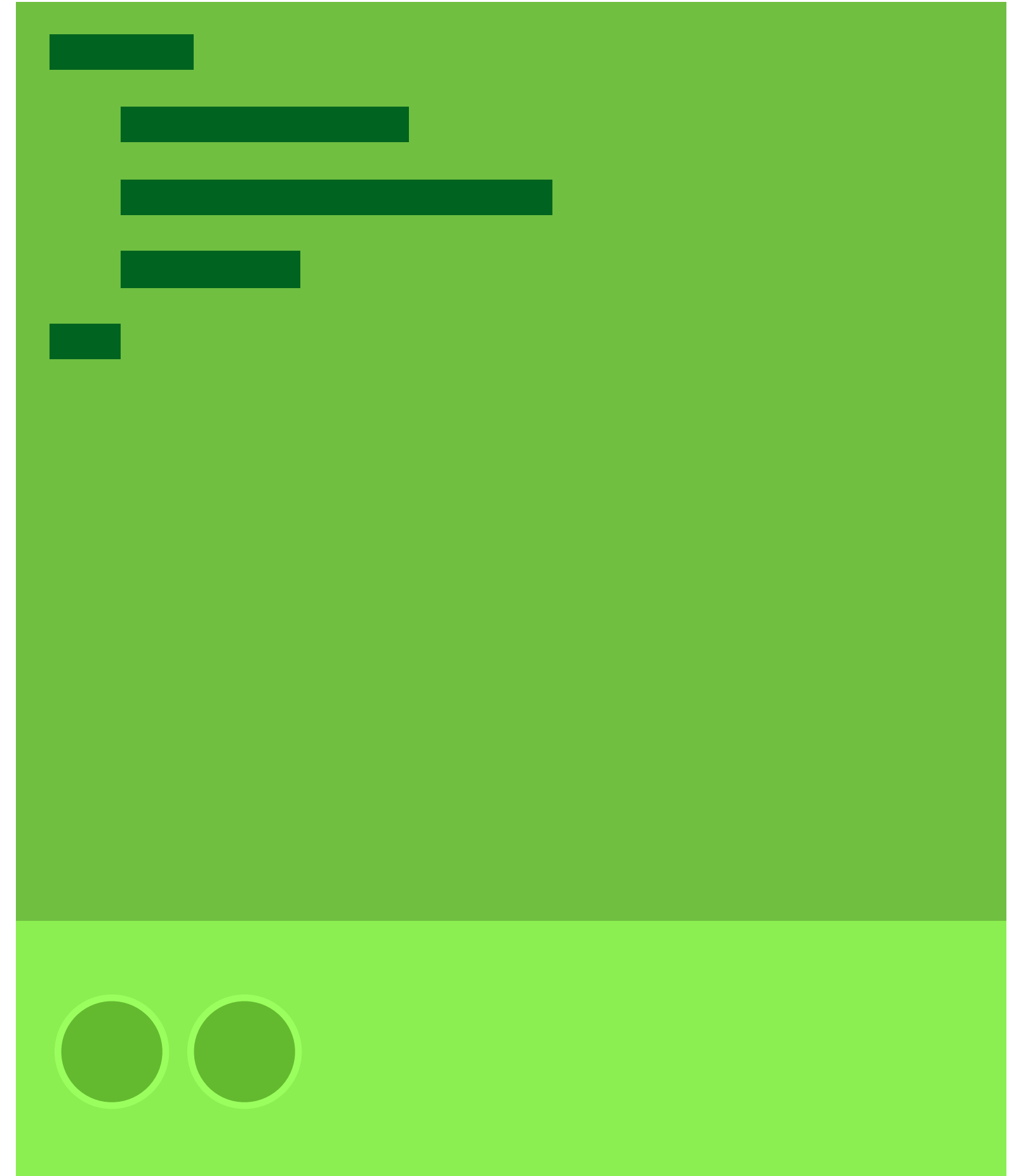
TDD Cycle

Tests, red, code



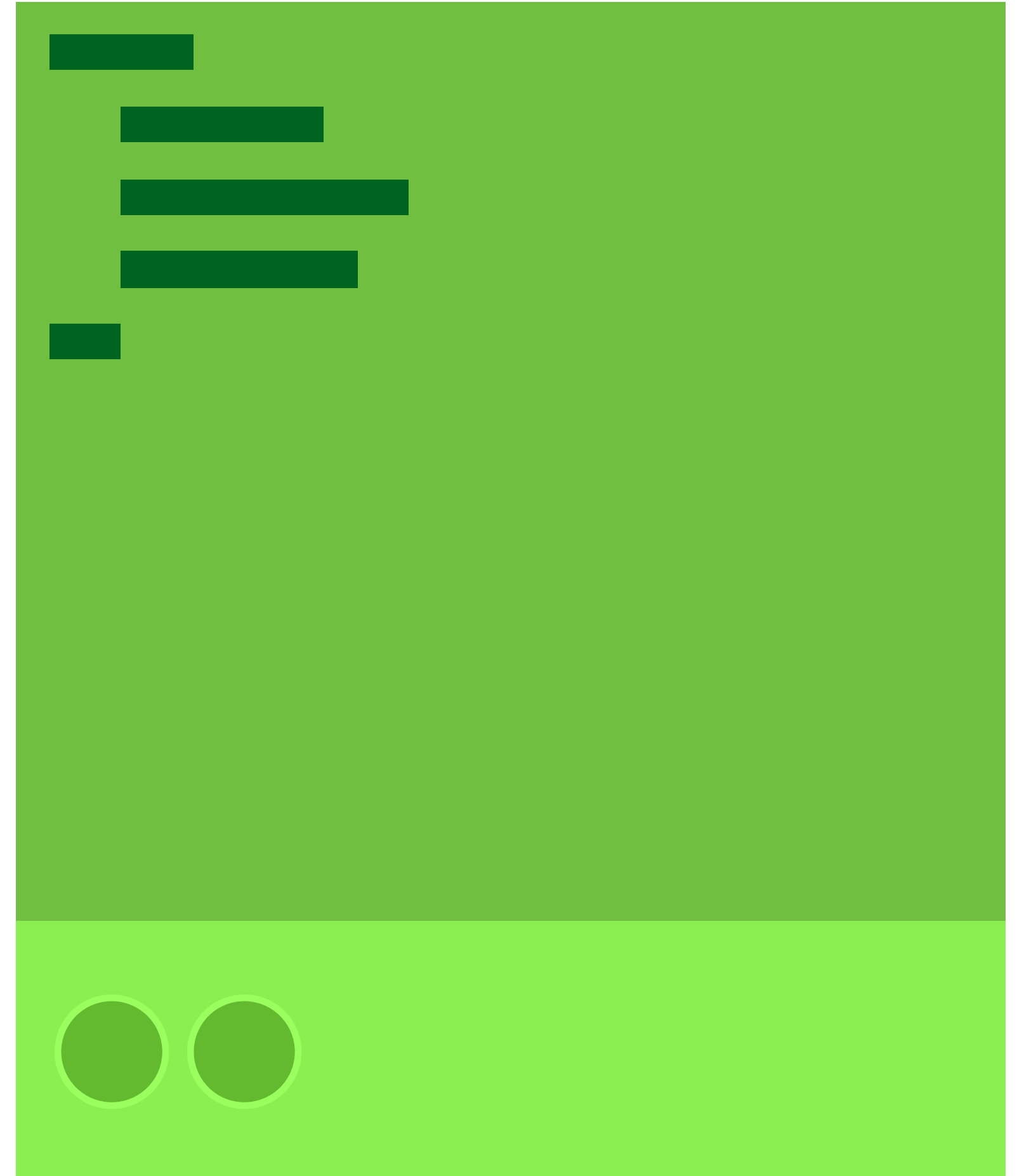
TDD Cycle

Tests, red, code, green



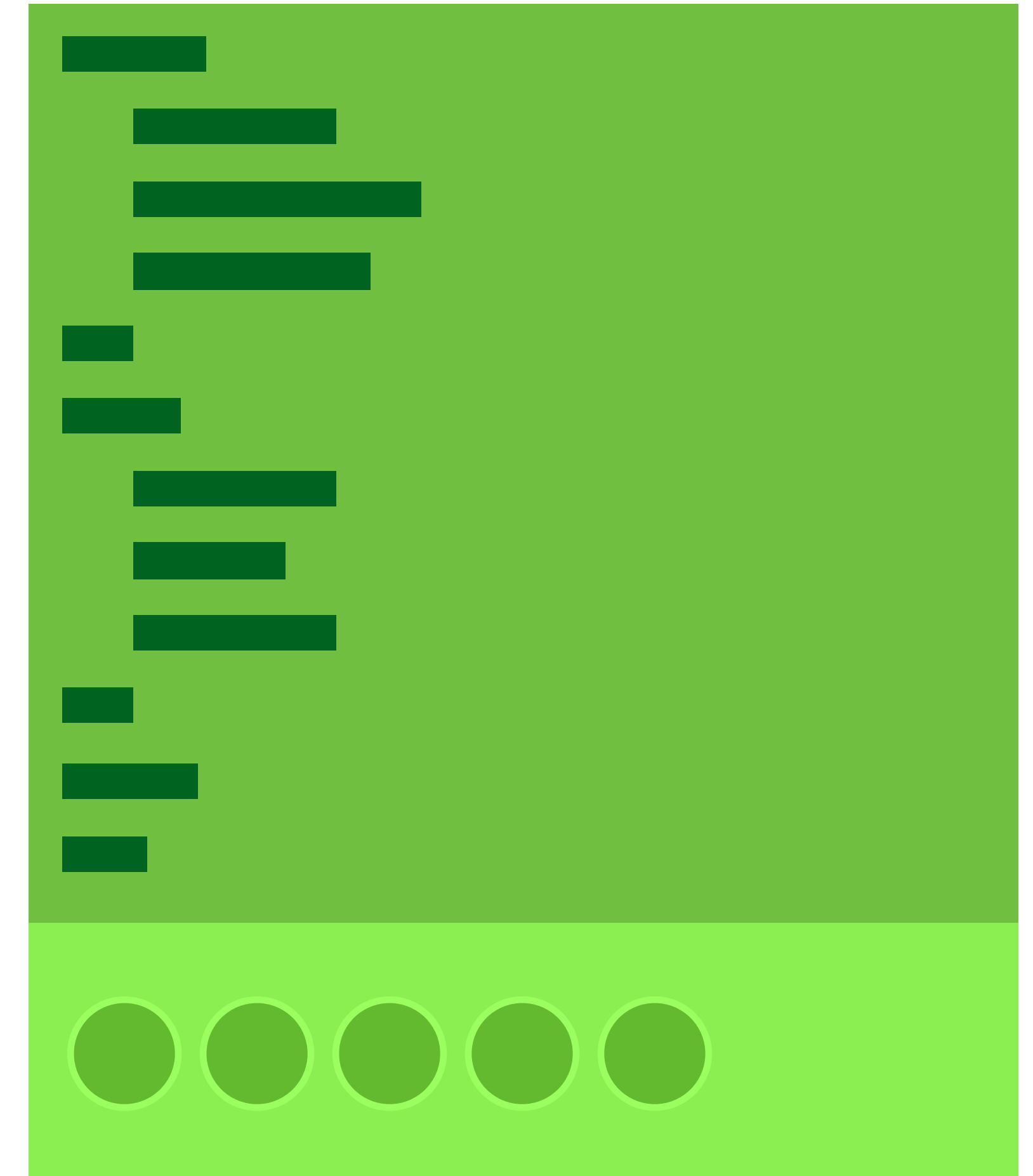
TDD Cycle

Tests, red, code, green, refactor



TDD Cycle

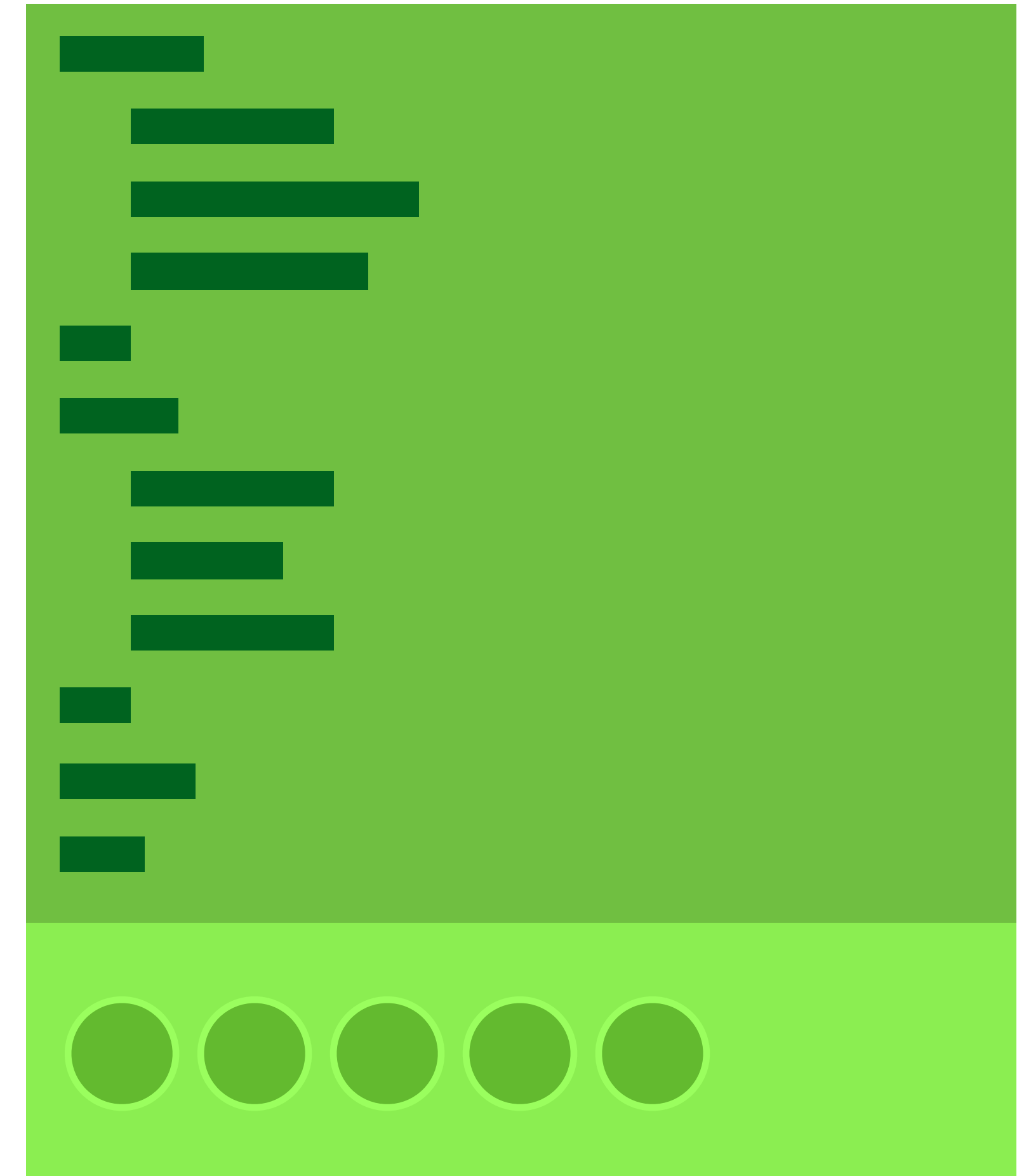
Tests, red, code, green, refactor, repeat



TDD Cycle

Tests, red, code, green, refactor, repeat

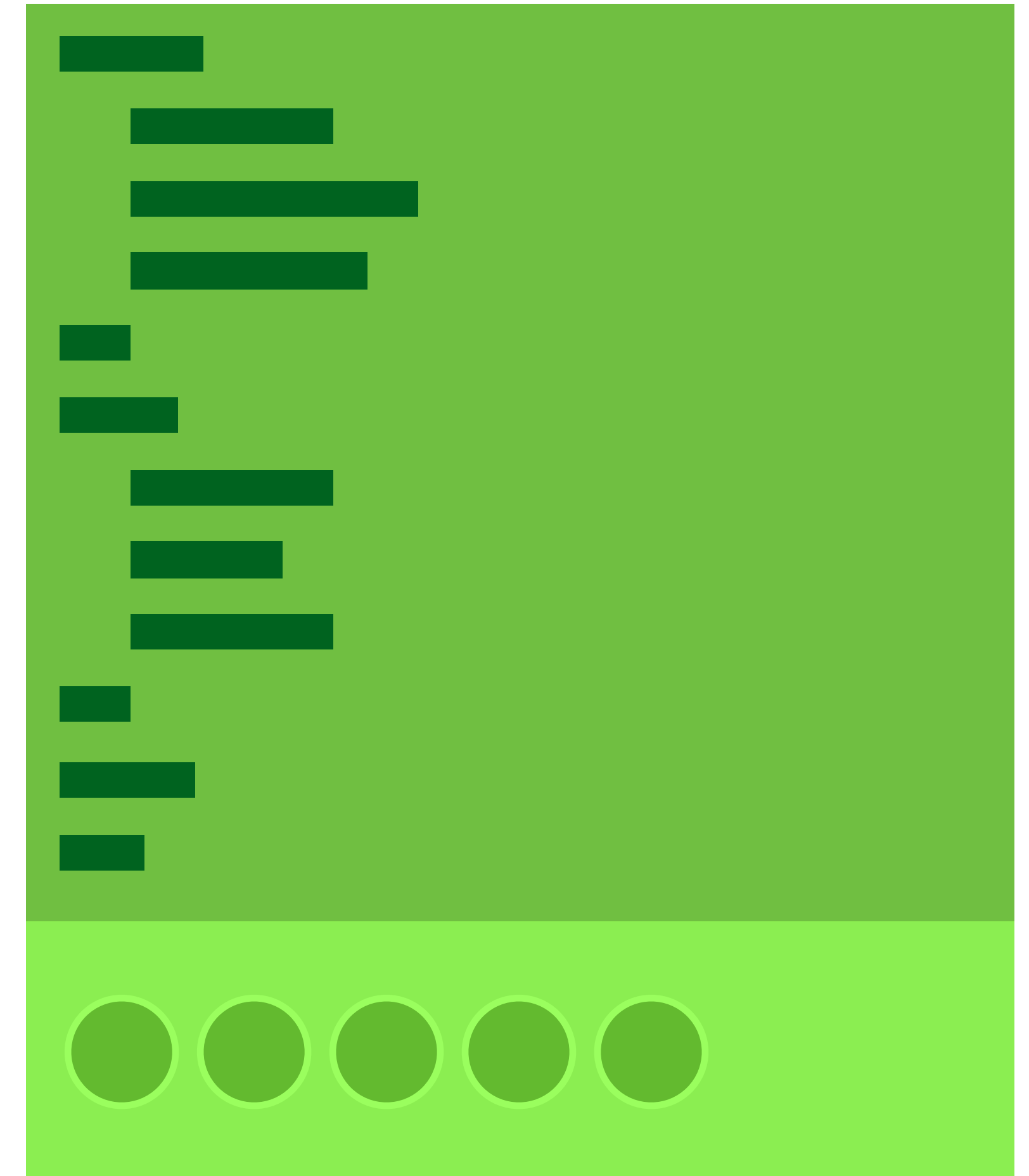
Why?



TDD Cycle

Tests, red, code, green, refactor, repeat

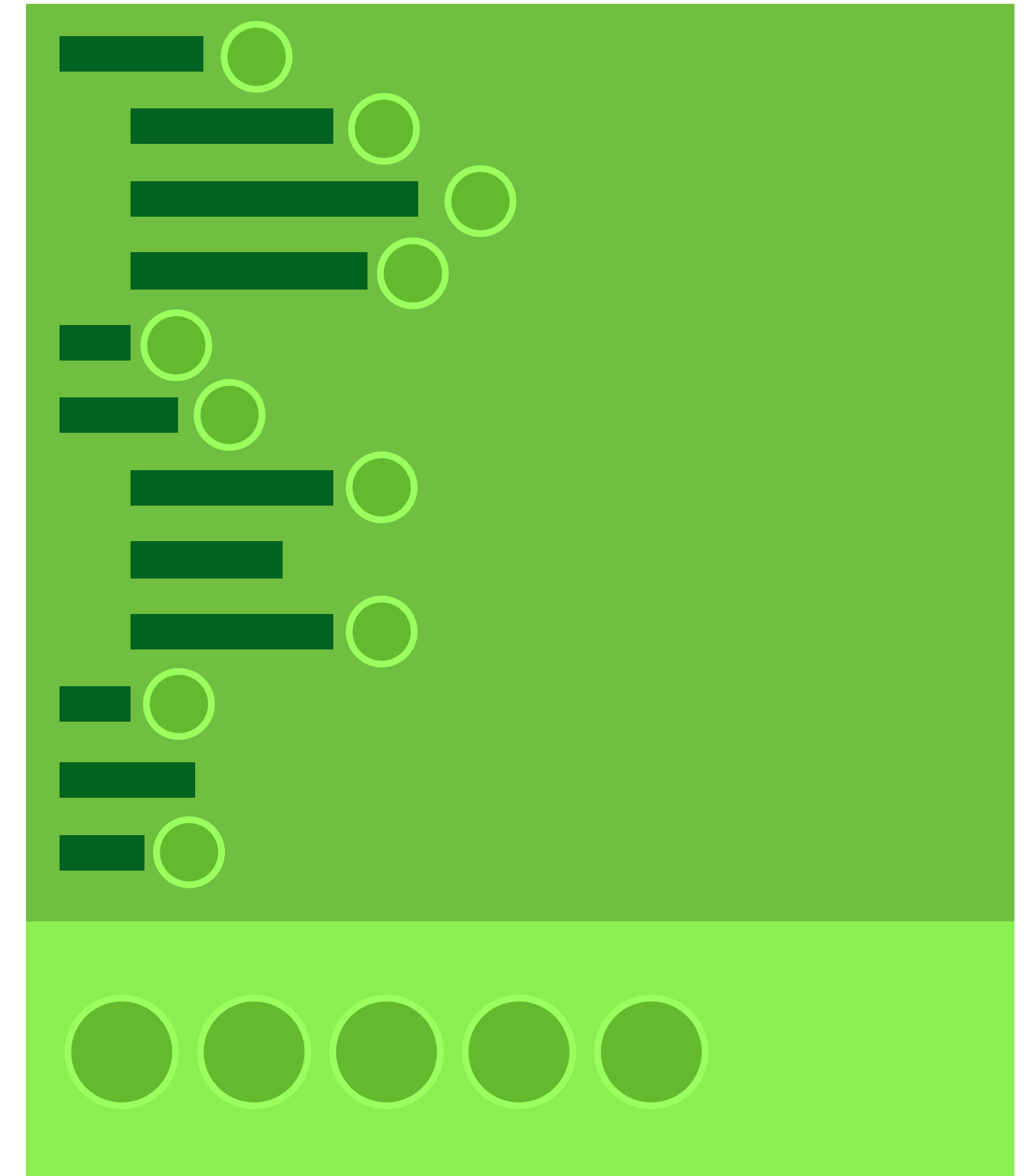
Why?
Test Quality



TDD Cycle

Tests, red, code, green, refactor, repeat

Why?
**Test Quality
Coverage**



TDD Cycle

Tests, red, code, green, refactor, repeat

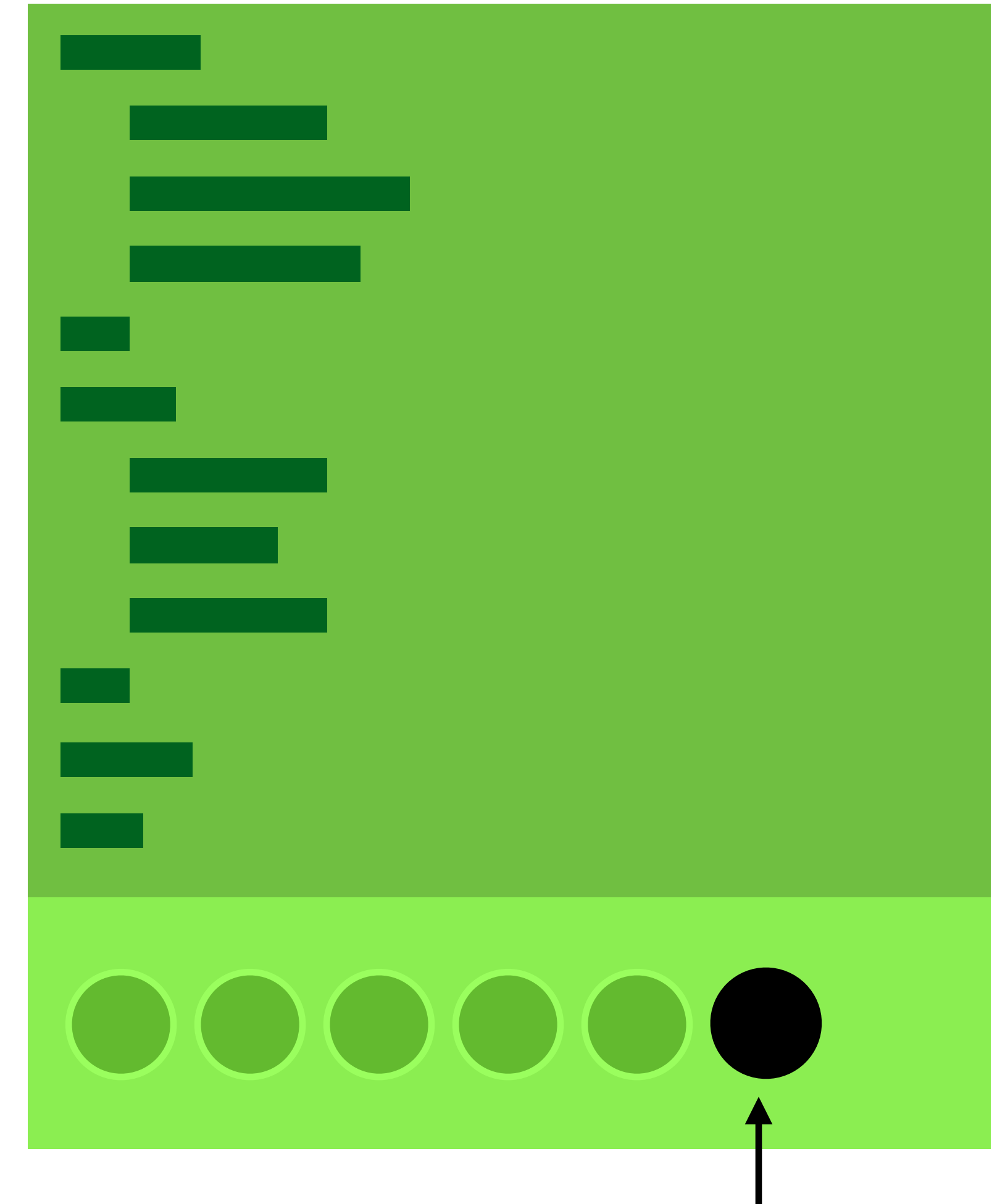
Why?

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

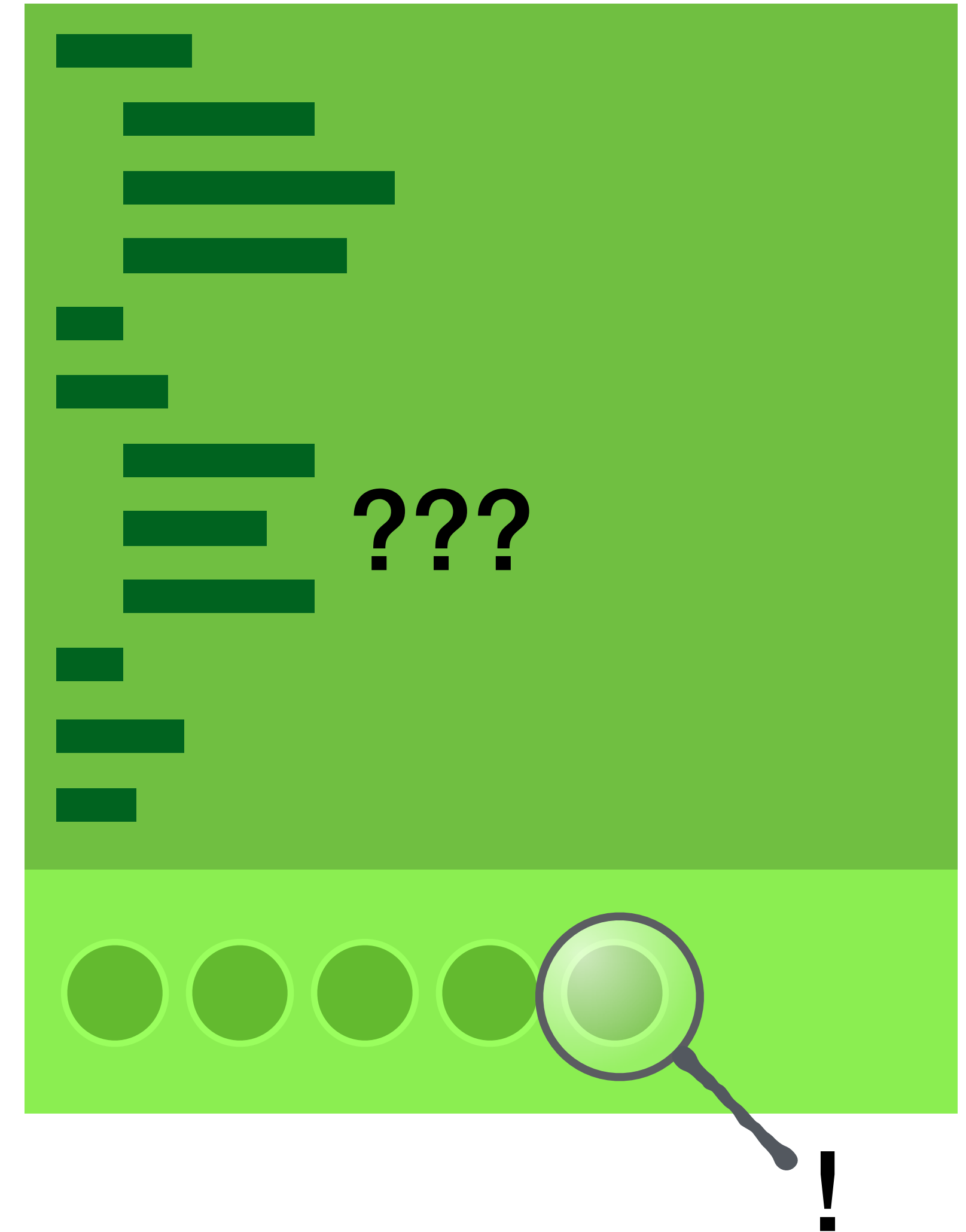
Why?

Test Quality

Coverage

Tests = Communication

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



TDD Cycle

Tests, red, code, green, refactor, repeat

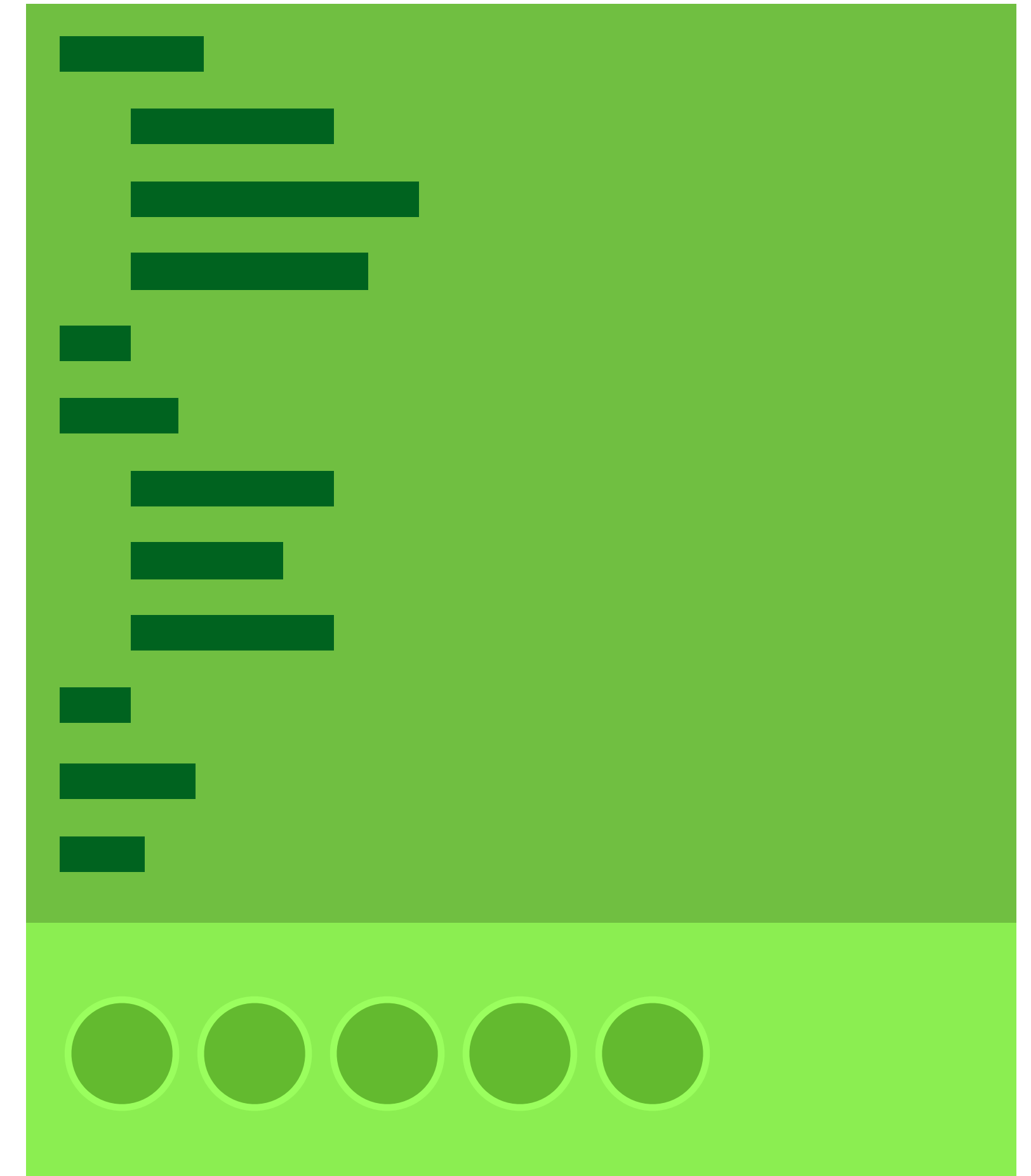
Why?

Test Quality

Coverage

Tests = Communication

Better Code



TDD Cycle

Tests, red, code, green, refactor, repeat

Why?

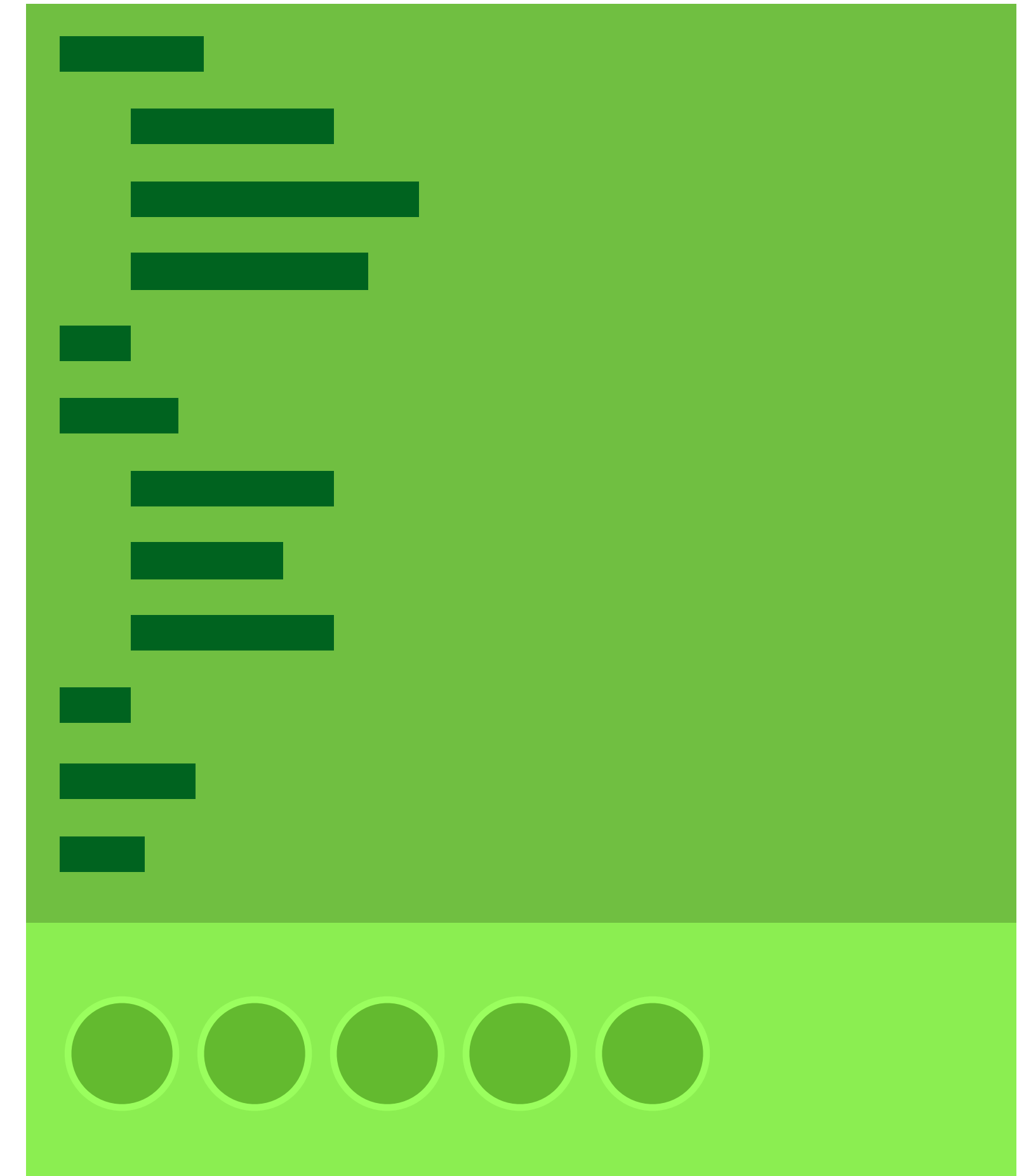
Test Quality

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?

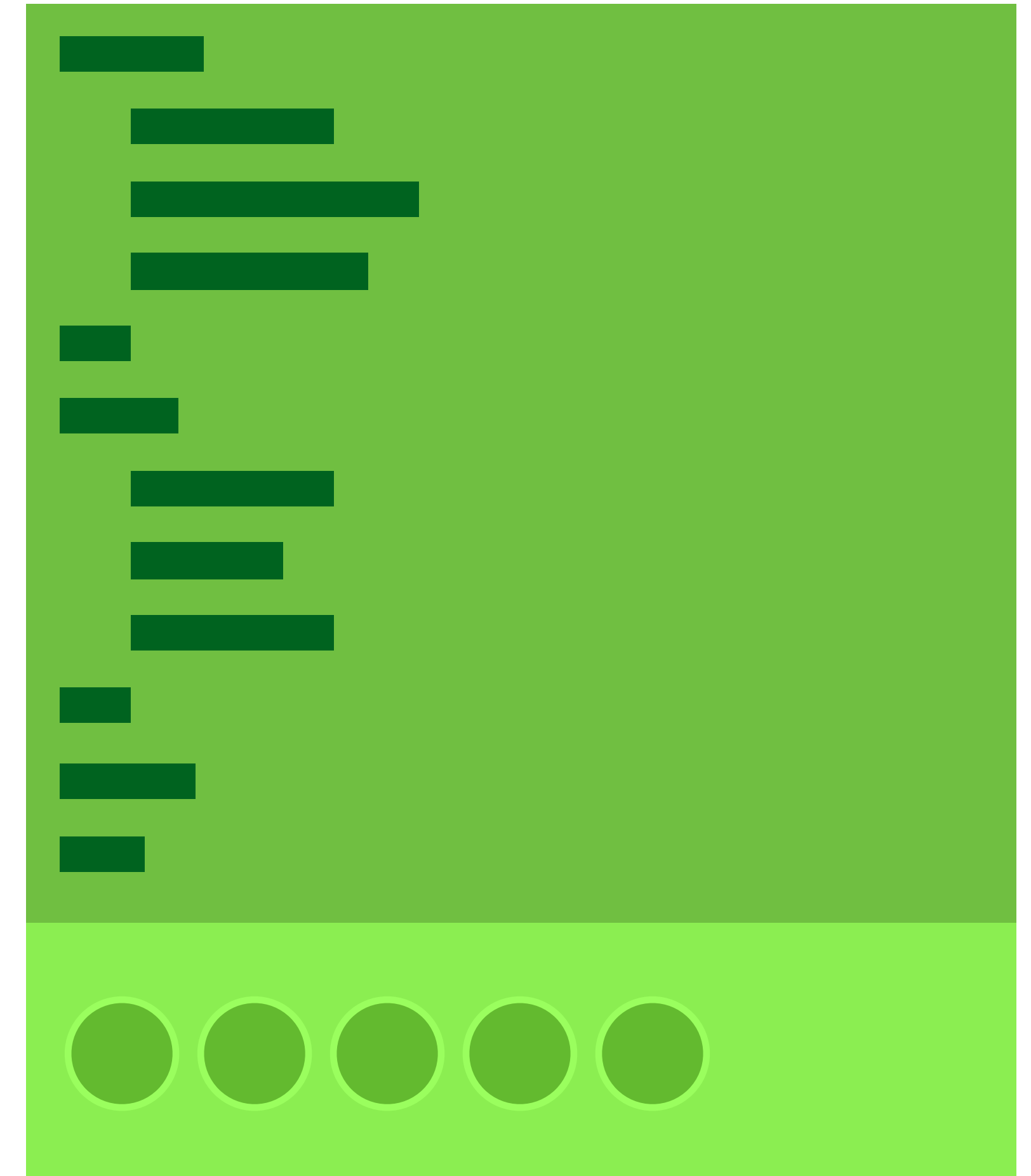
Test Quality

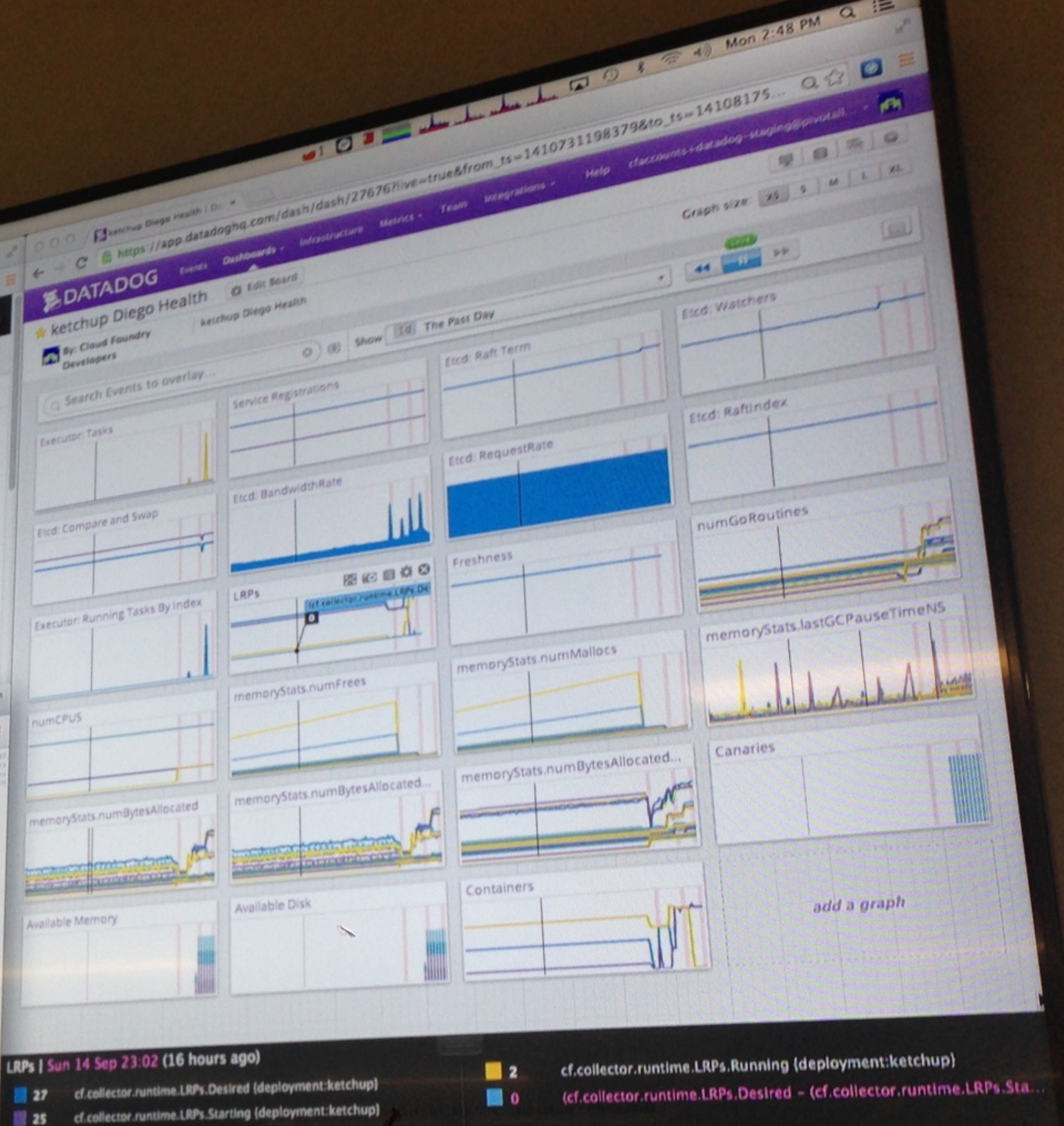
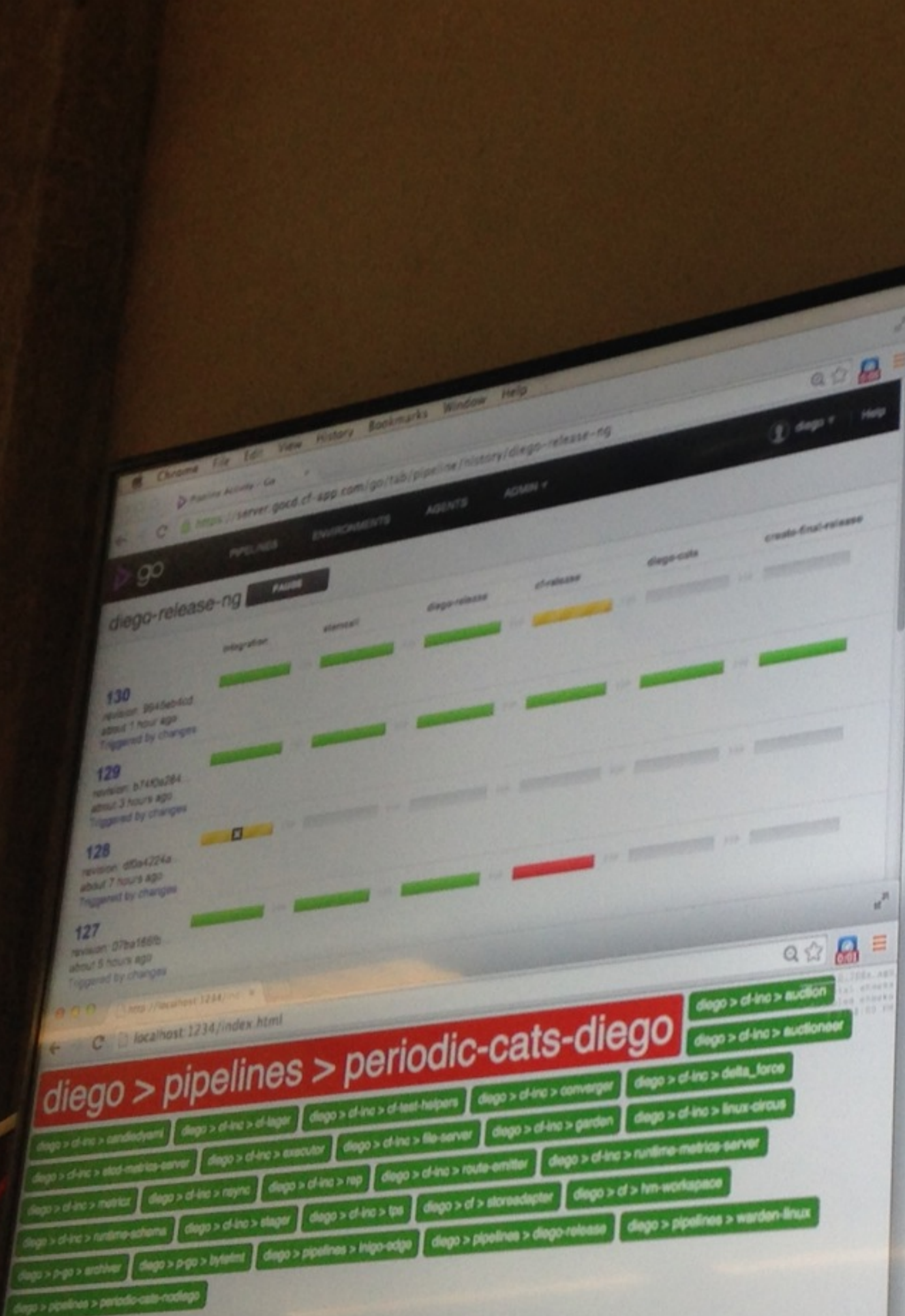
Coverage

Tests = Communication

Better Code

Code has to be testable







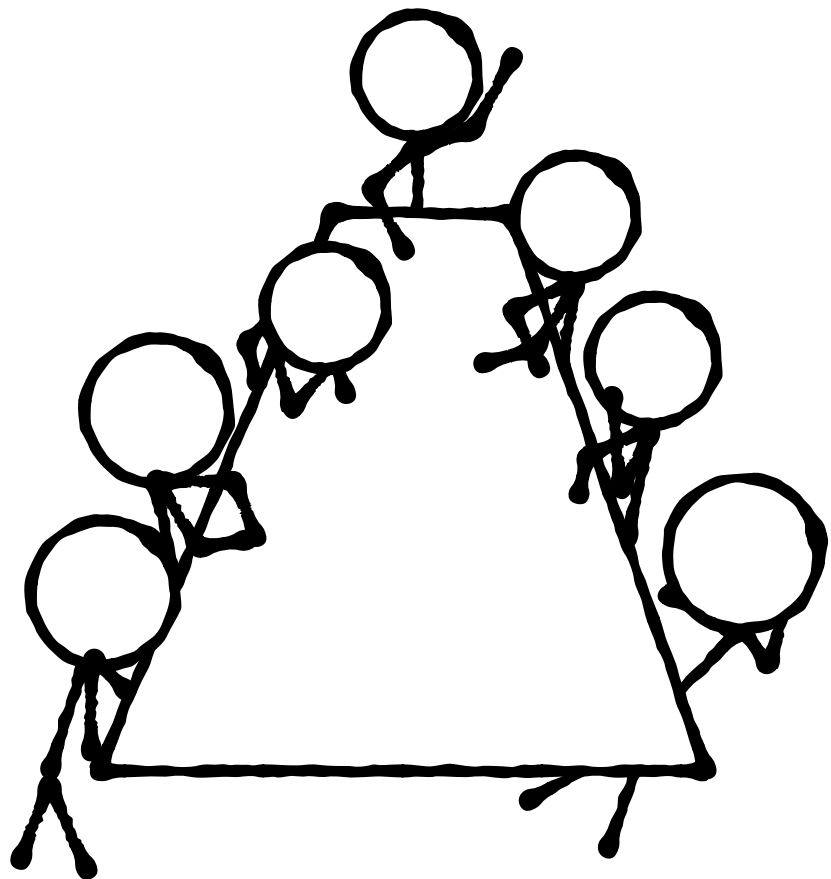
Pivotal™

culture

Pairing

Testing

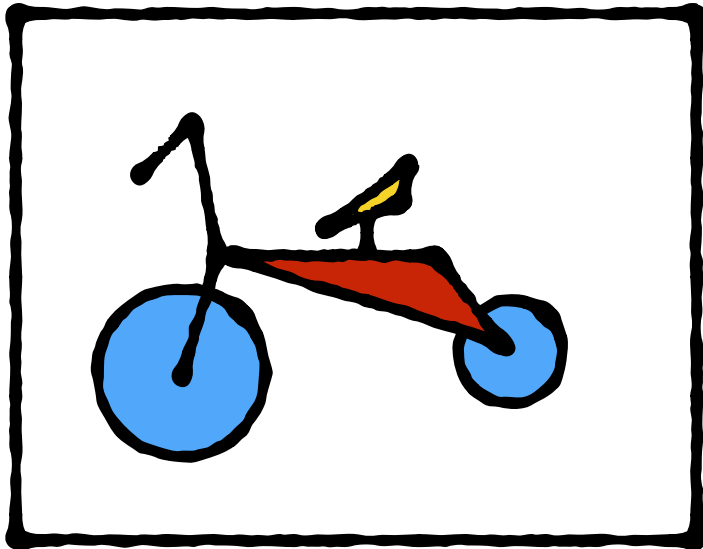
Agile Planning



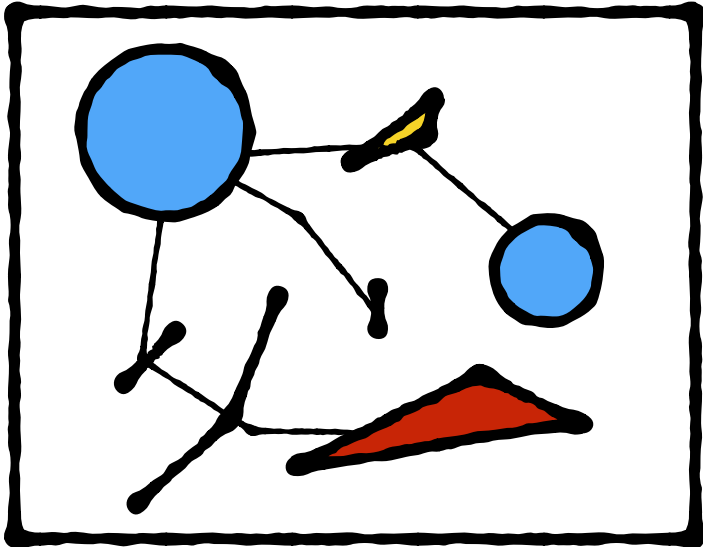
Stakeholders

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

Define
Requirements



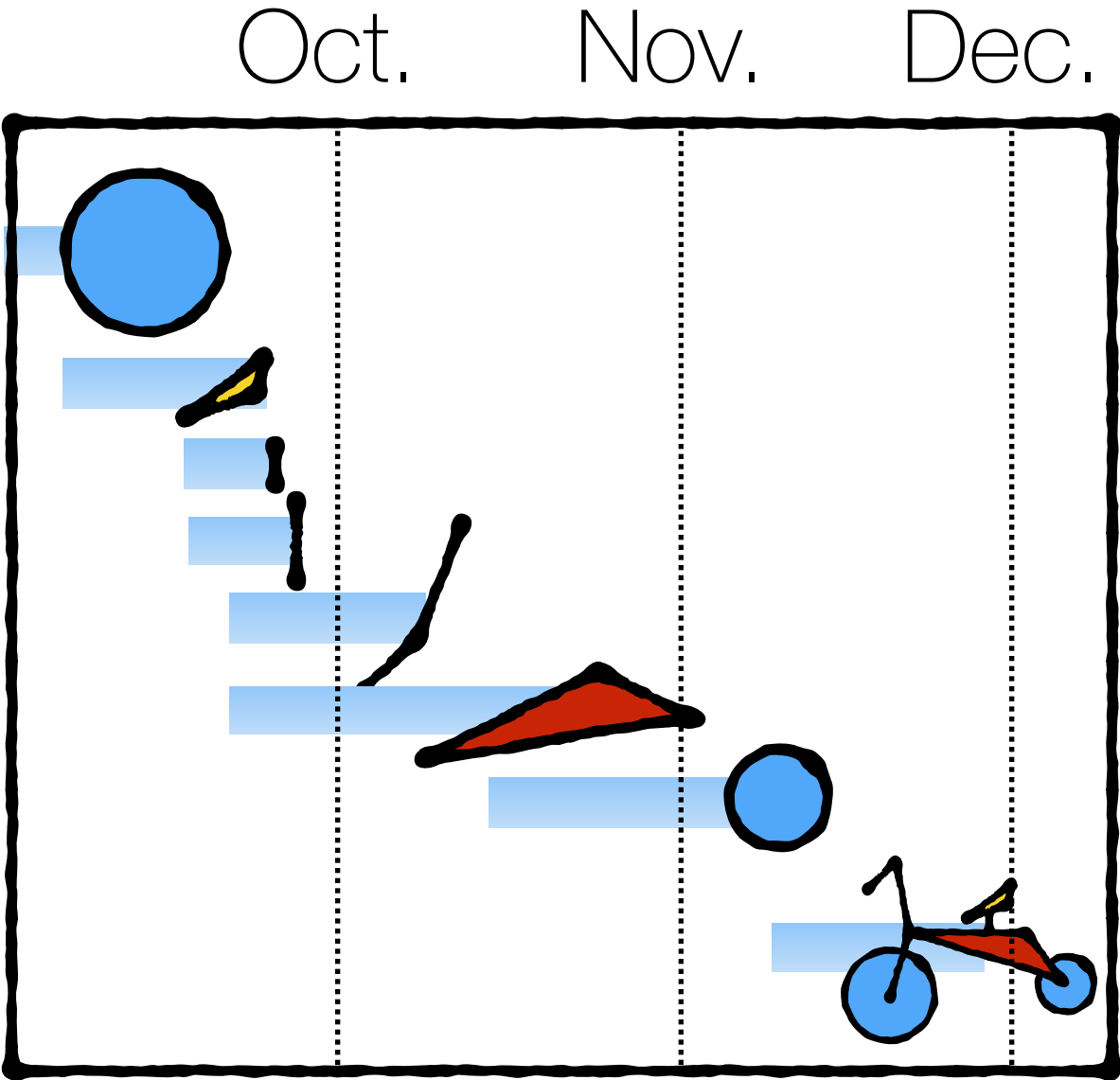
Architect/
Design



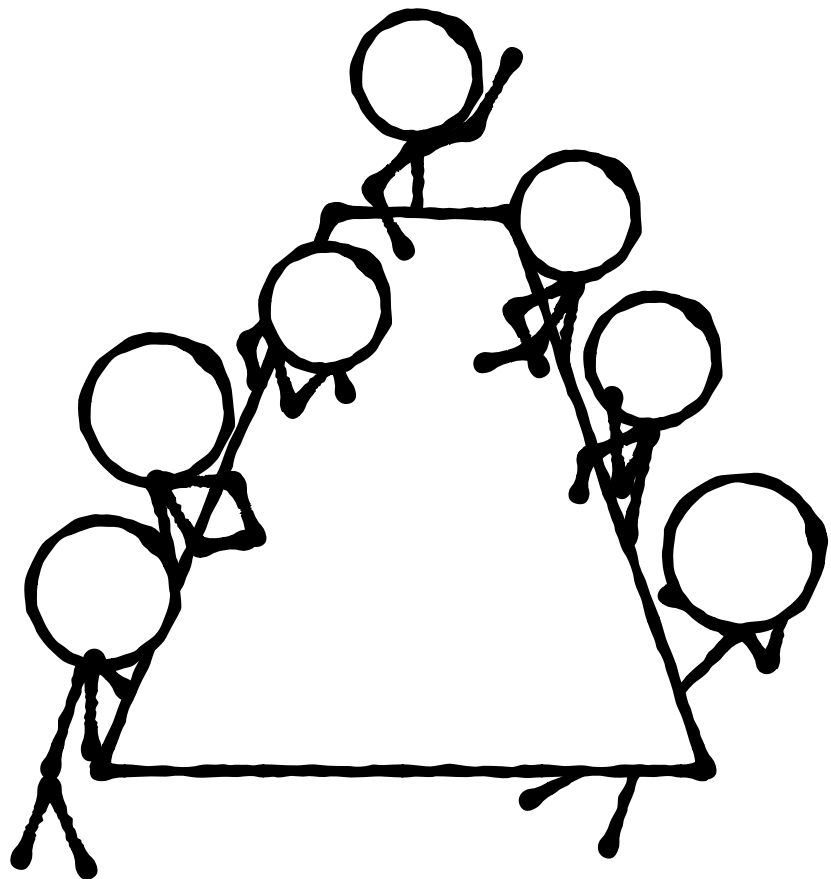
Determine
Dependencies



Develop, develop, develop...



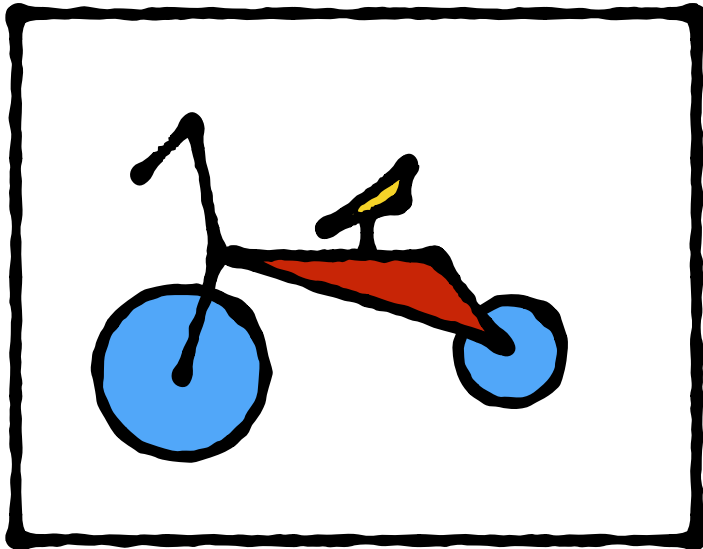
Estimate Effort
Budget Time



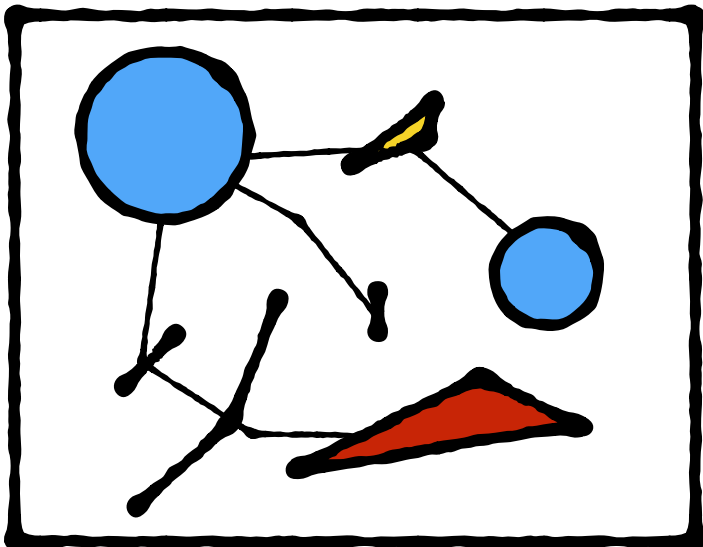
Stakeholders

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

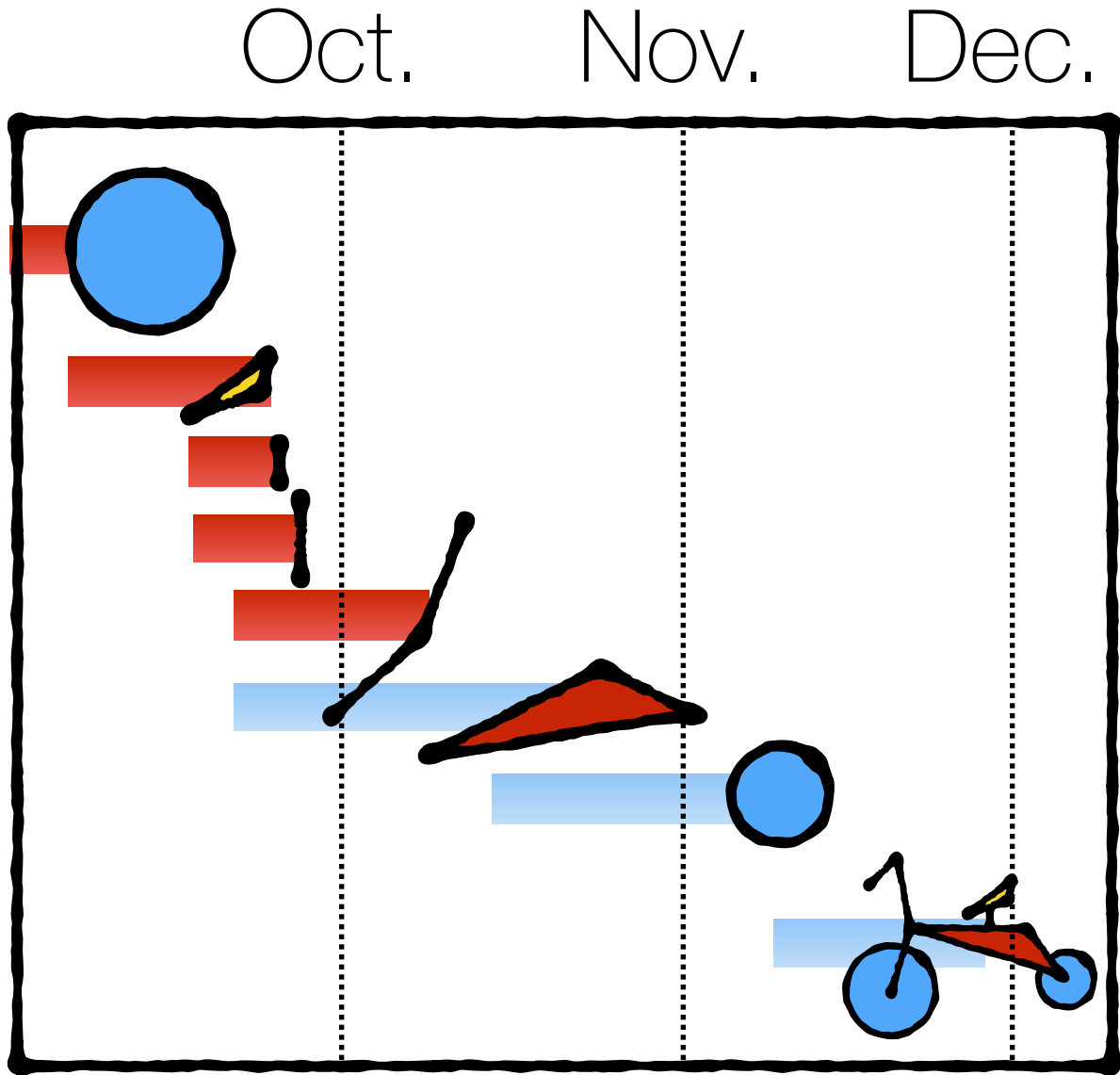
Define
Requirements



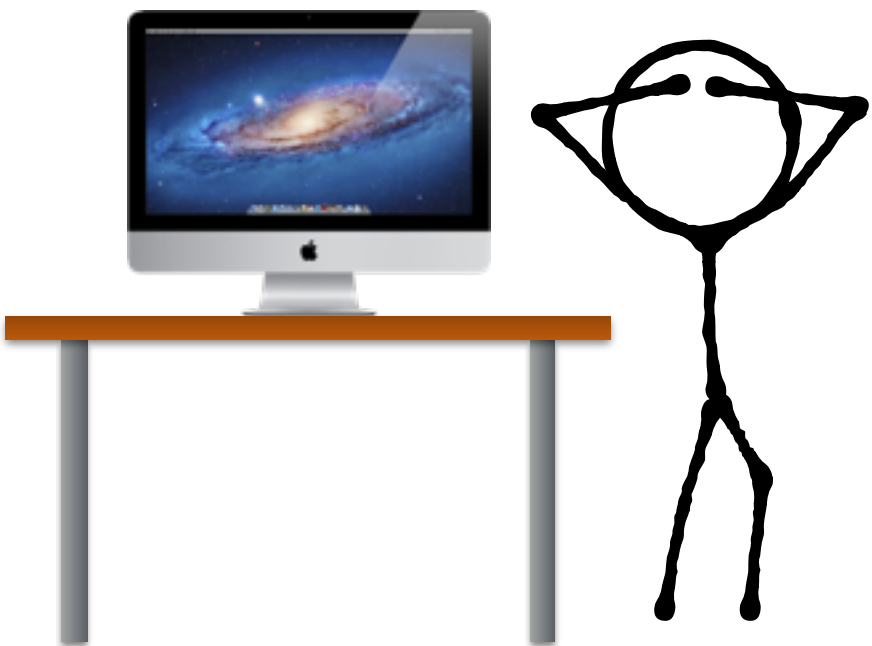
Architect/
Design



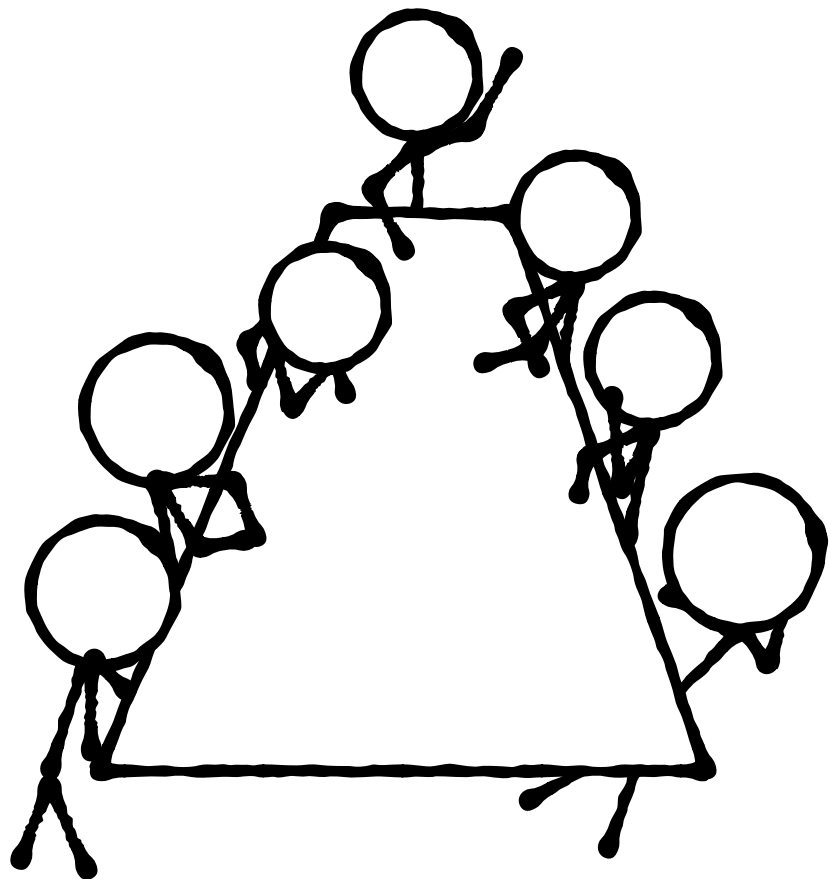
Determine
Dependencies



Estimate Effort
Budget Time



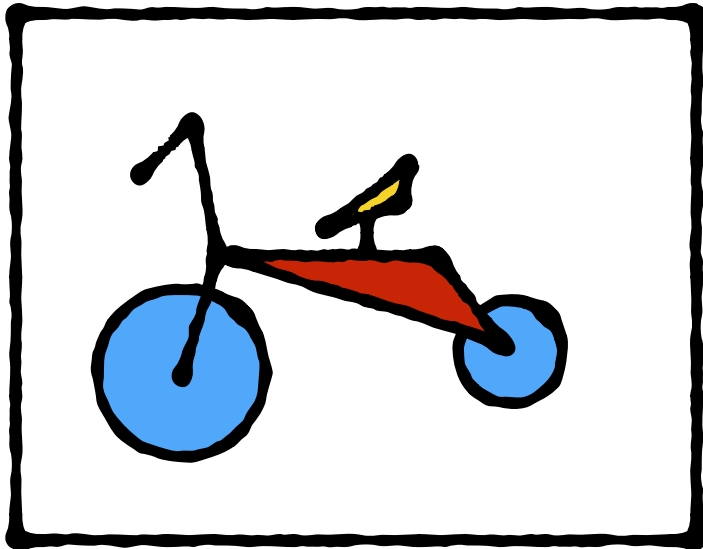
Develop, develop, develop...



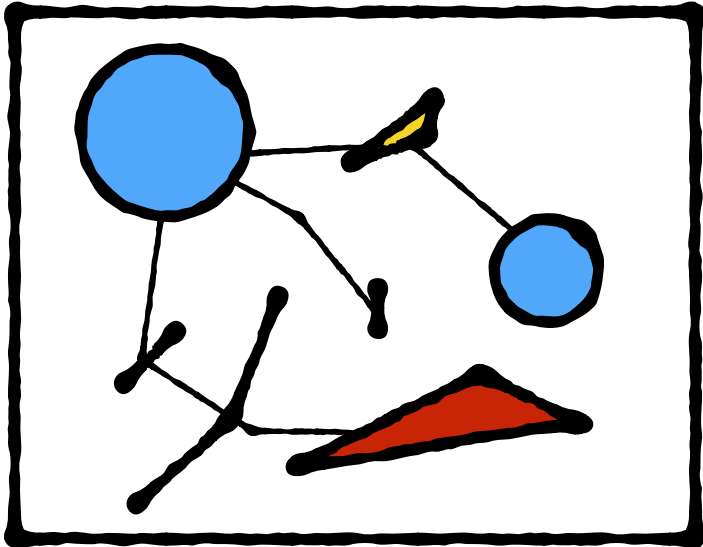
Stakeholders

A → B
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Define
Requirements



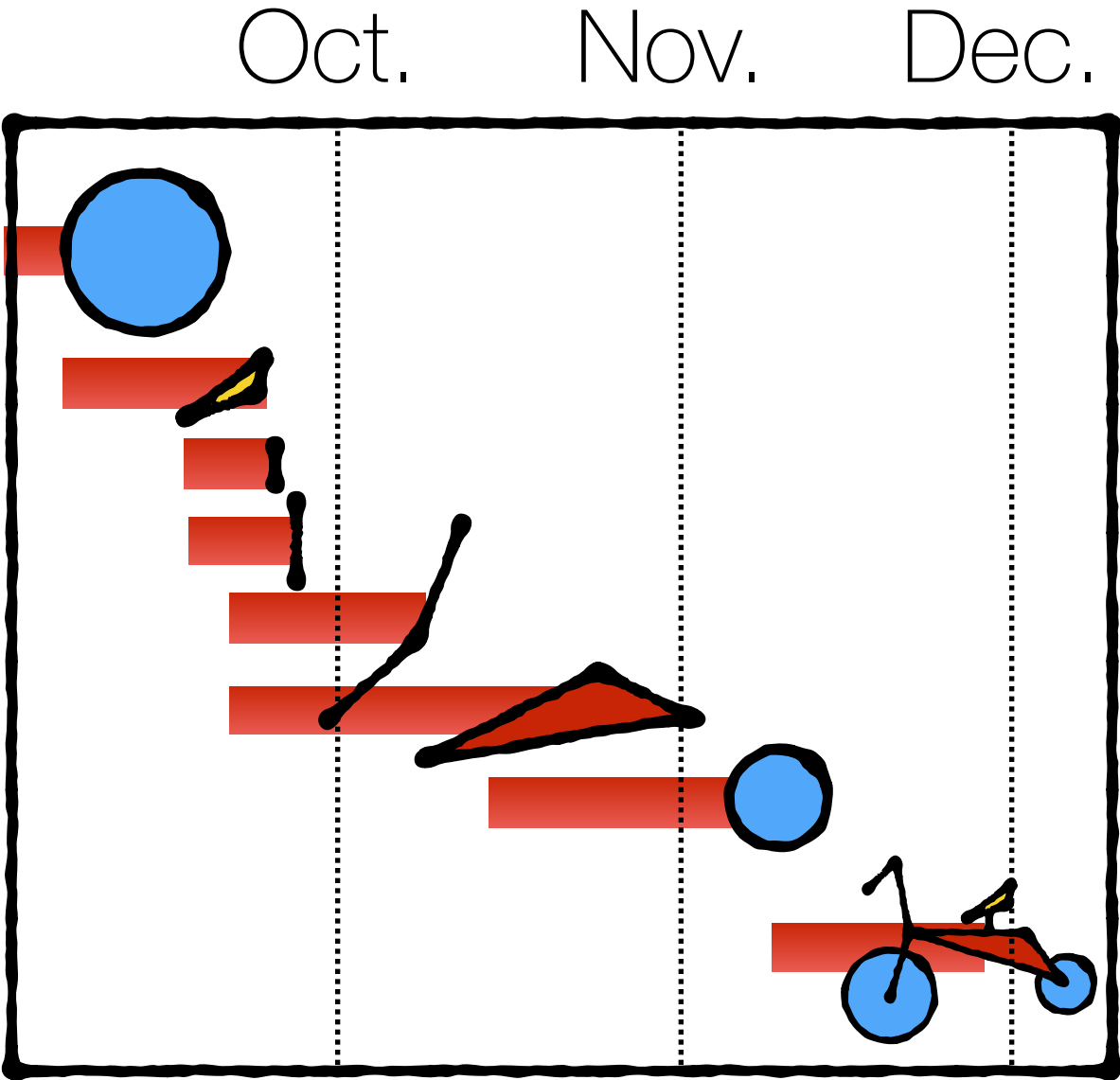
Architect/
Design



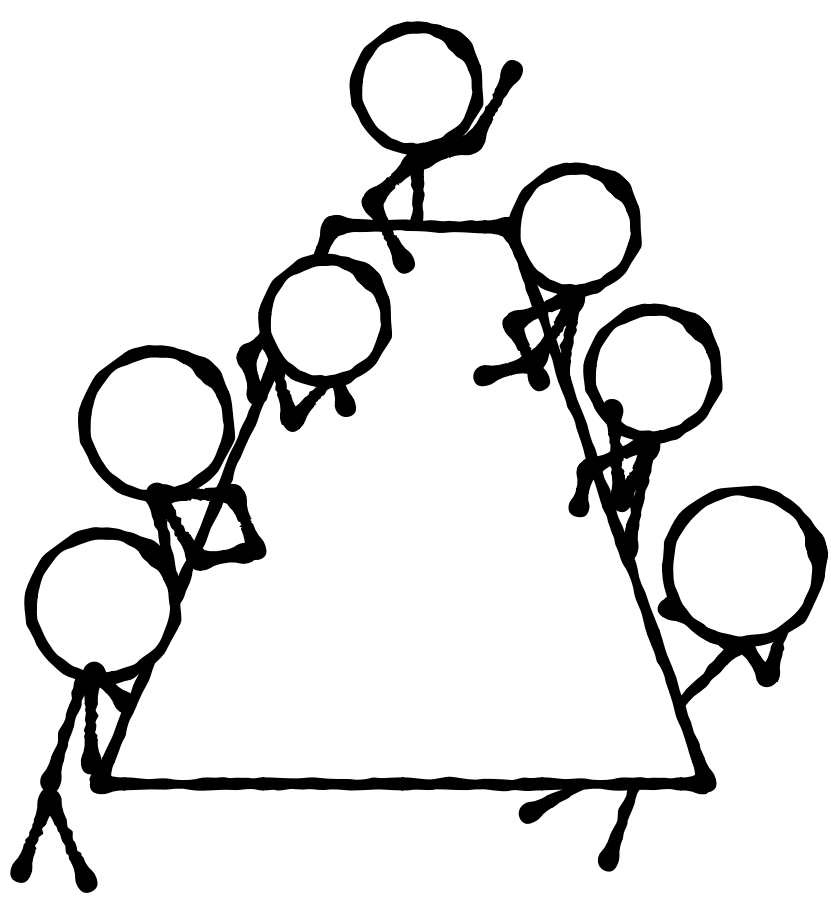
Determine
Dependencies



Develop, develop, develop...



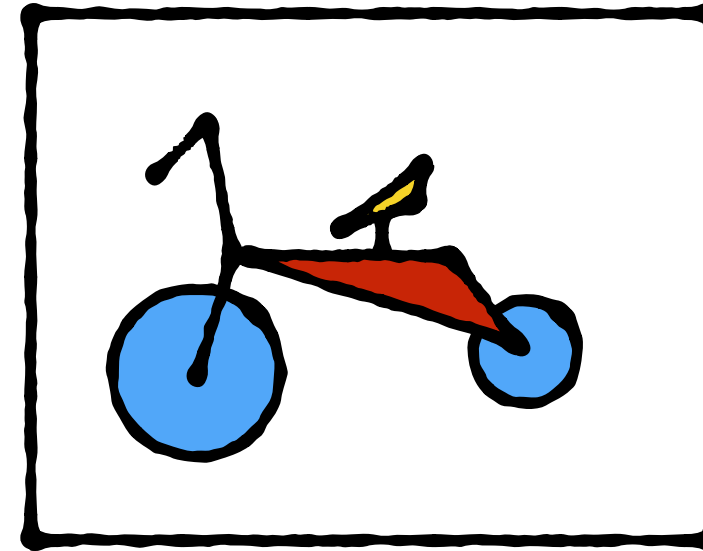
Estimate Effort
Budget Time



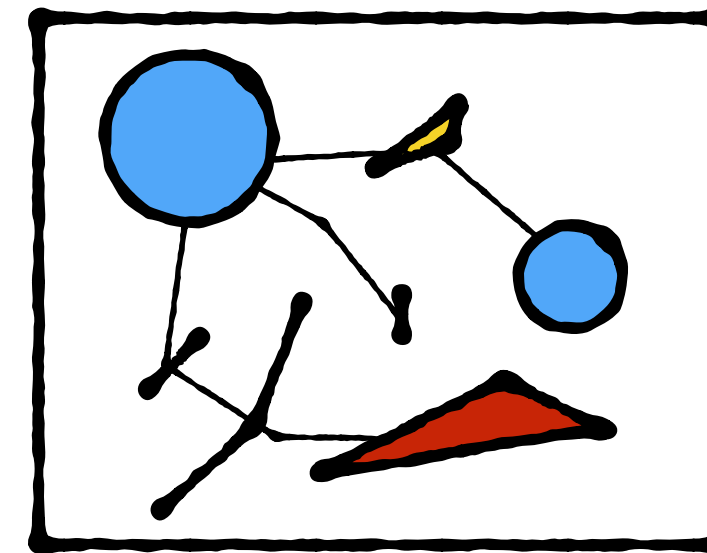
Stakeholders

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

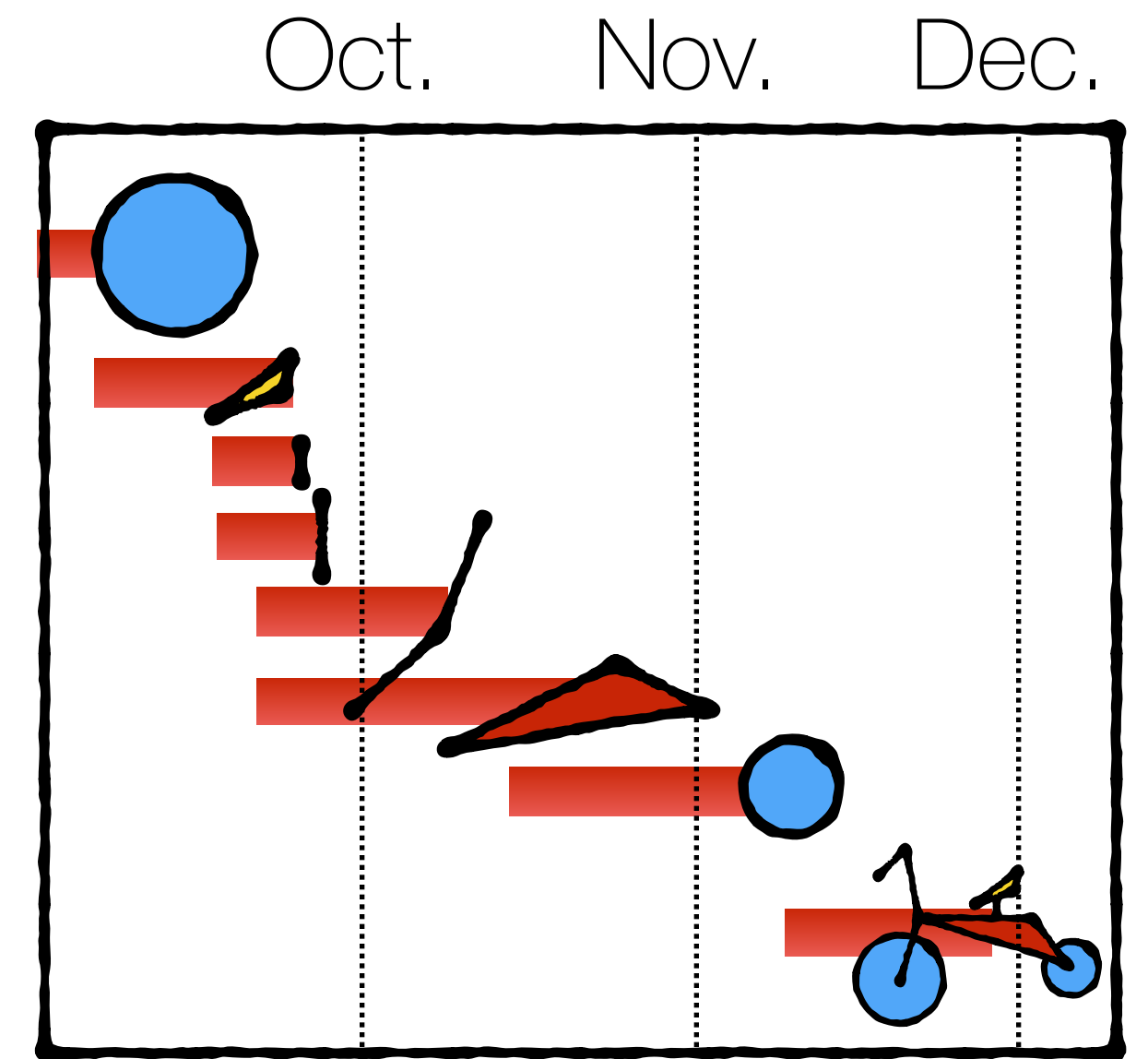
Define
Requirements



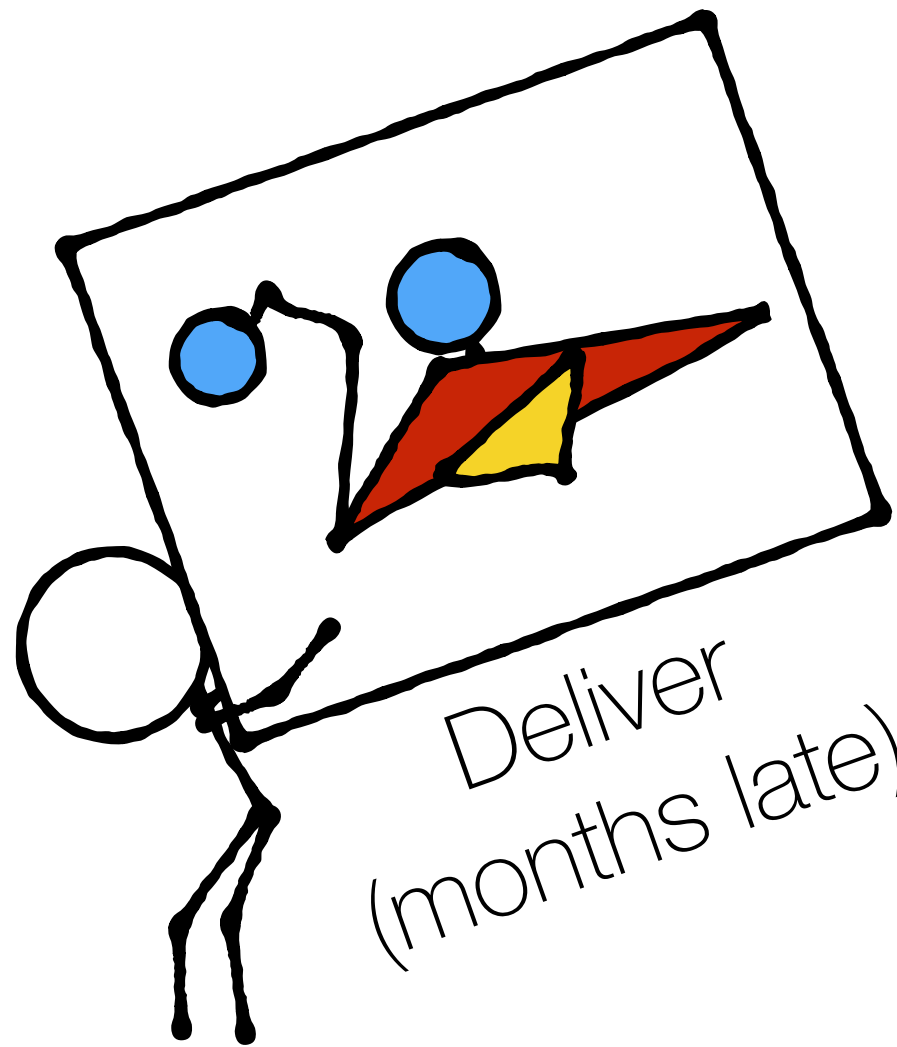
Architect/
Design



Determine
Dependencies



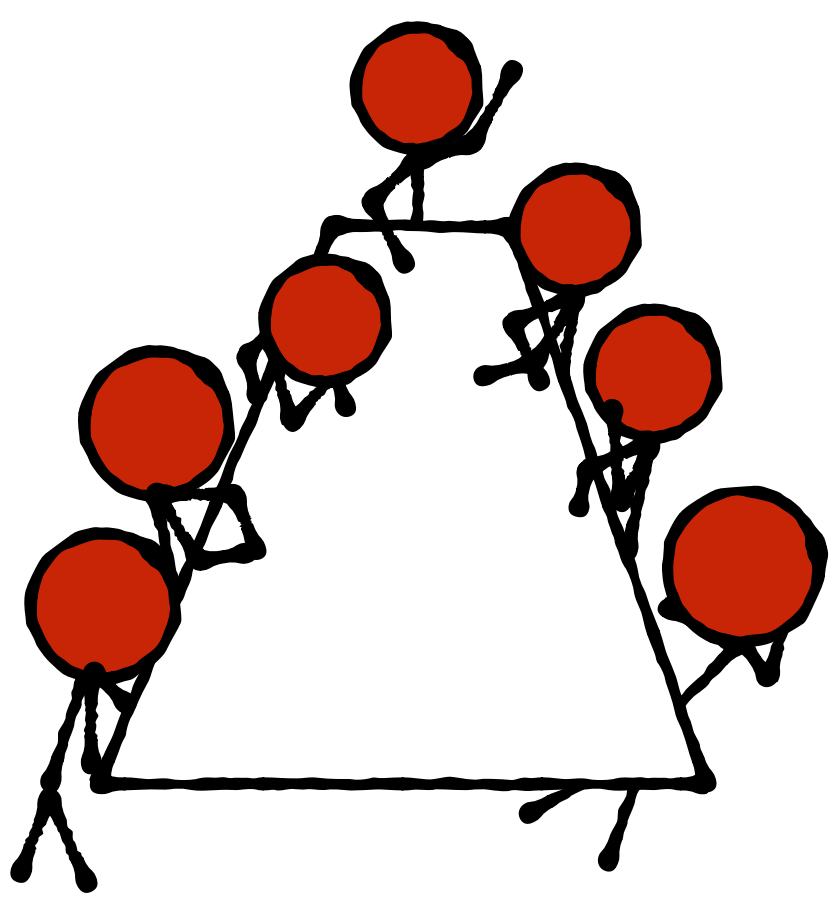
Estimate Effort
Budget Time



Deliver
(months late)



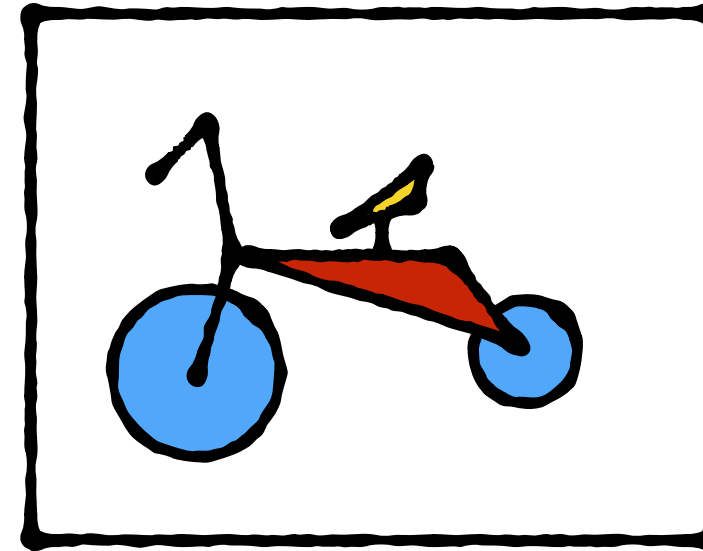
Develop, develop, develop...



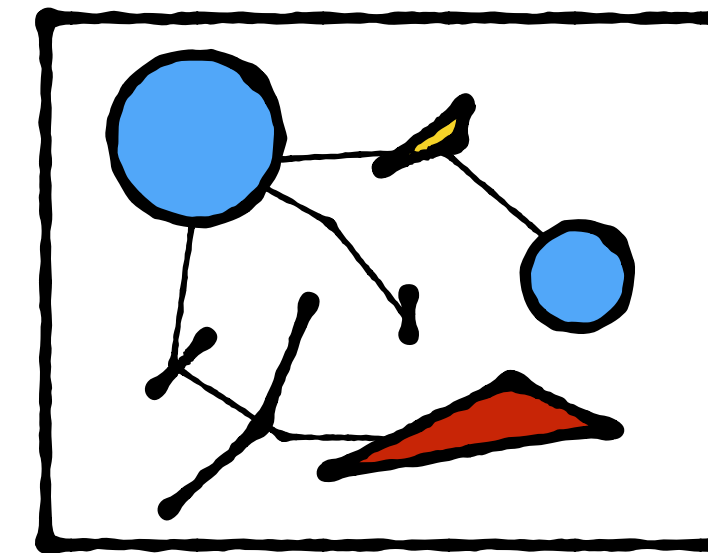
Stakeholders

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

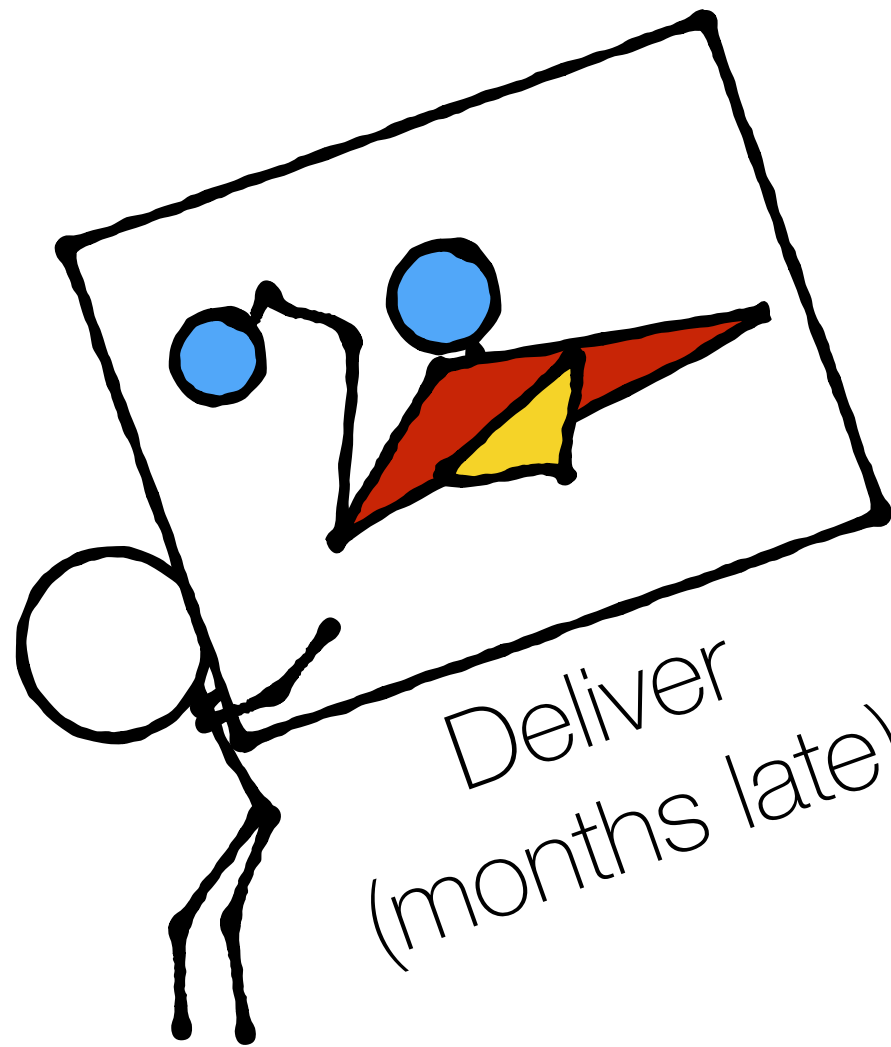
Define Requirements



Architect/
Design



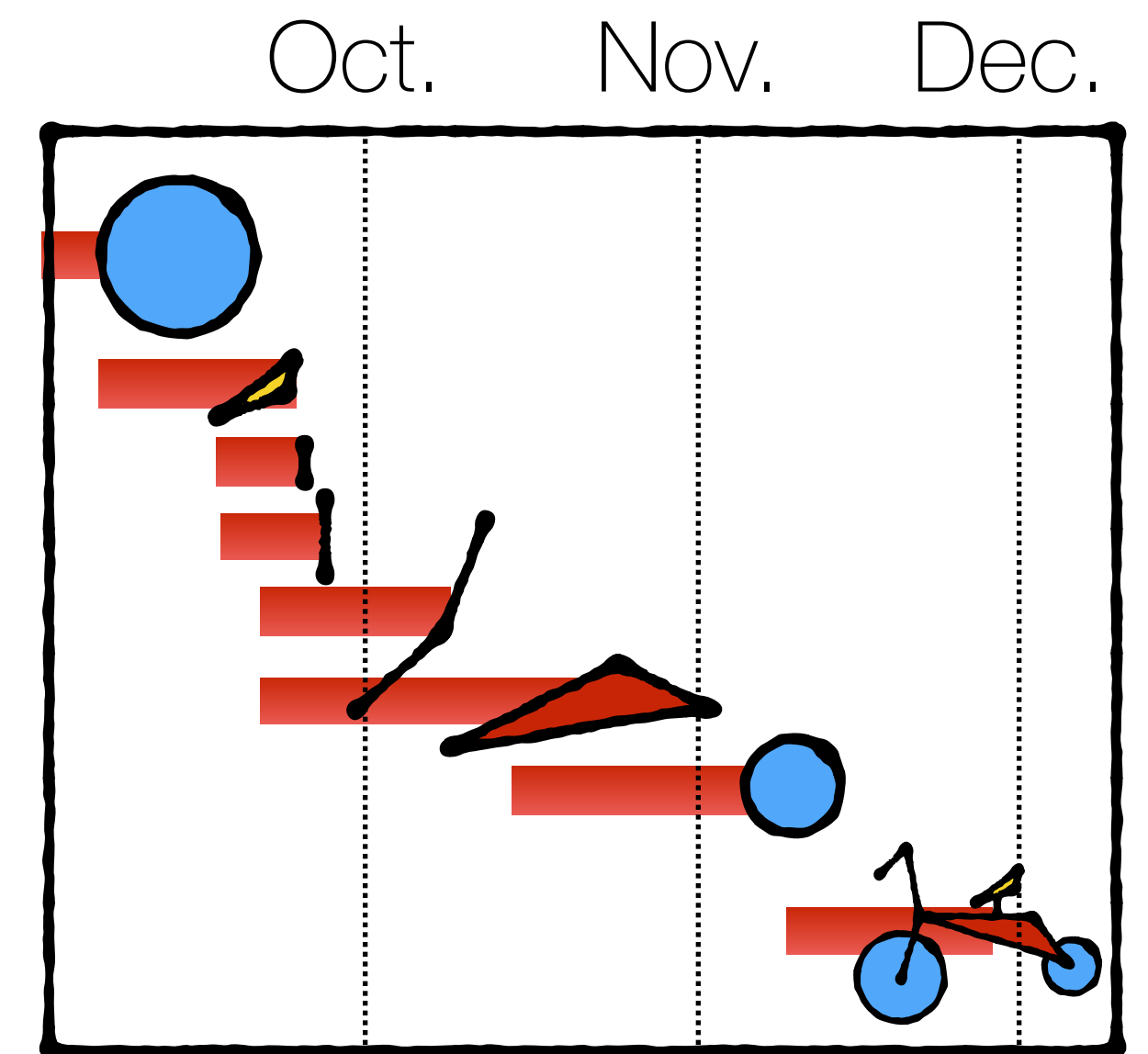
Determine Dependencies



~~Deliver~~
(months late)

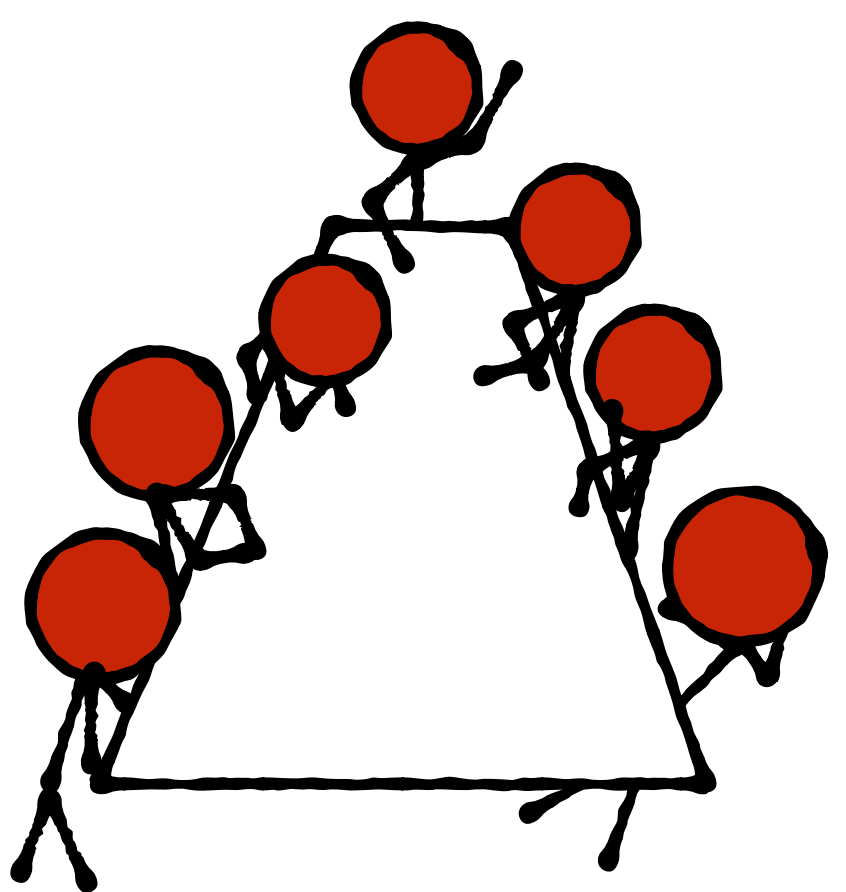


Develop, develop, develop...



Estimate Effort Budget Time

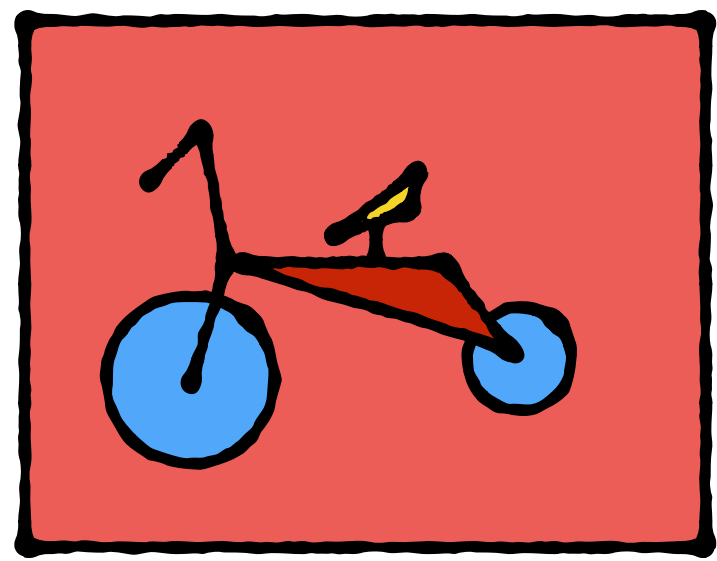
Upfront planning divorced from reality



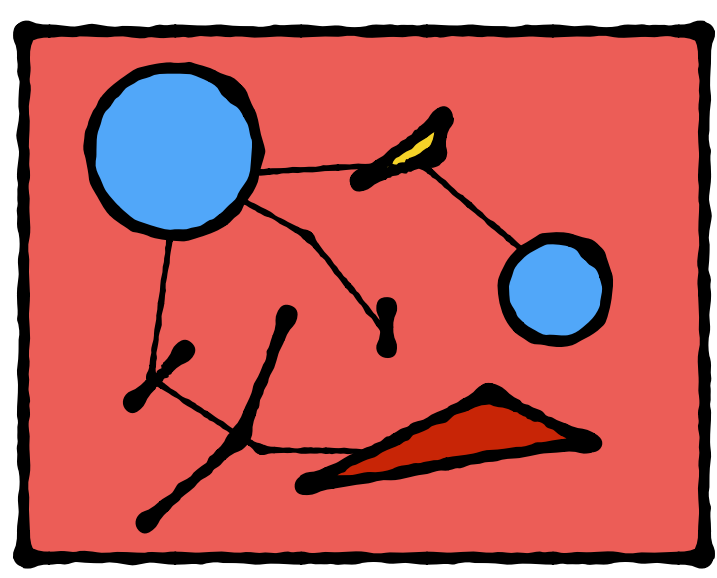
Stakeholders

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

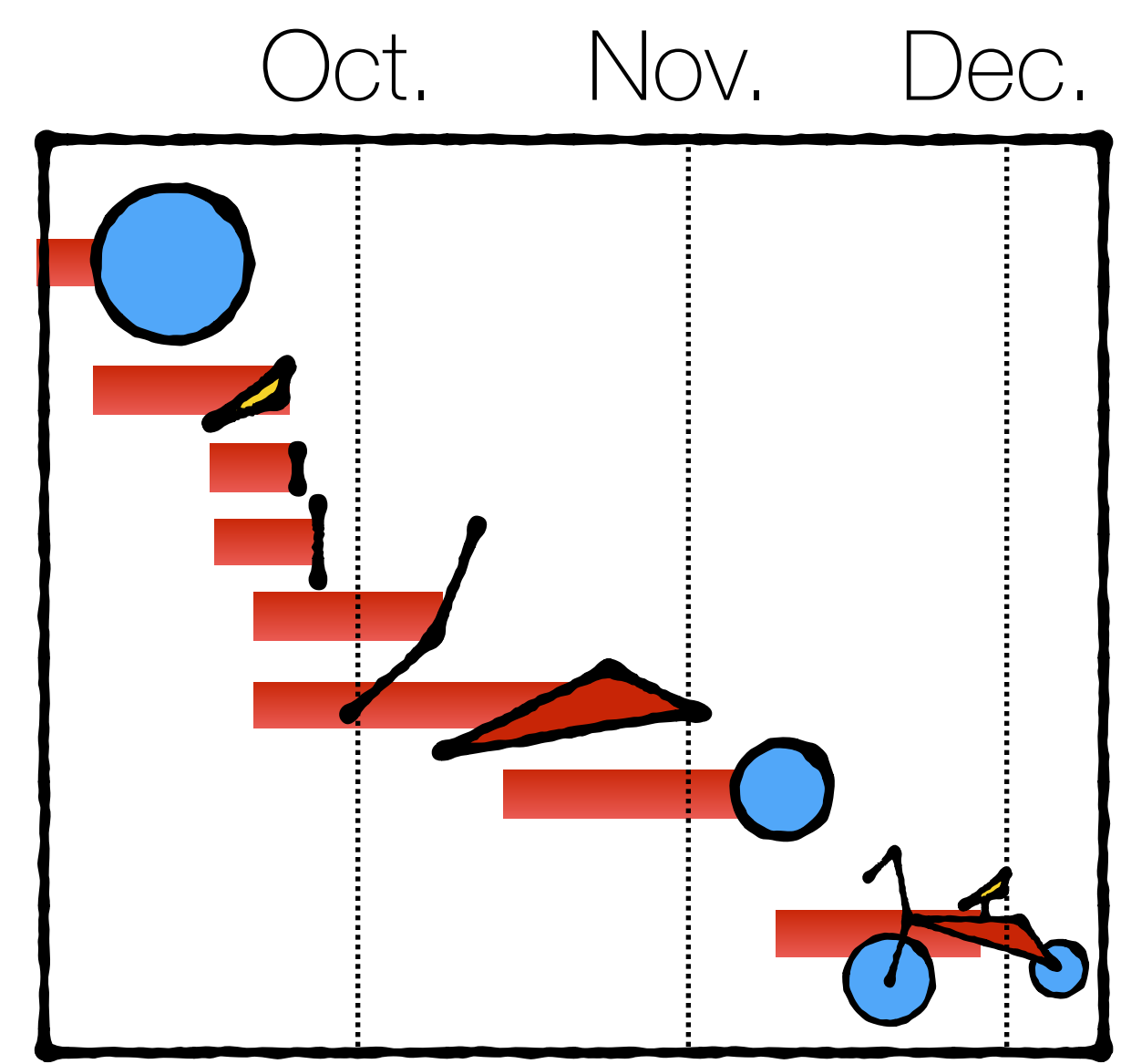
Define
Requirements



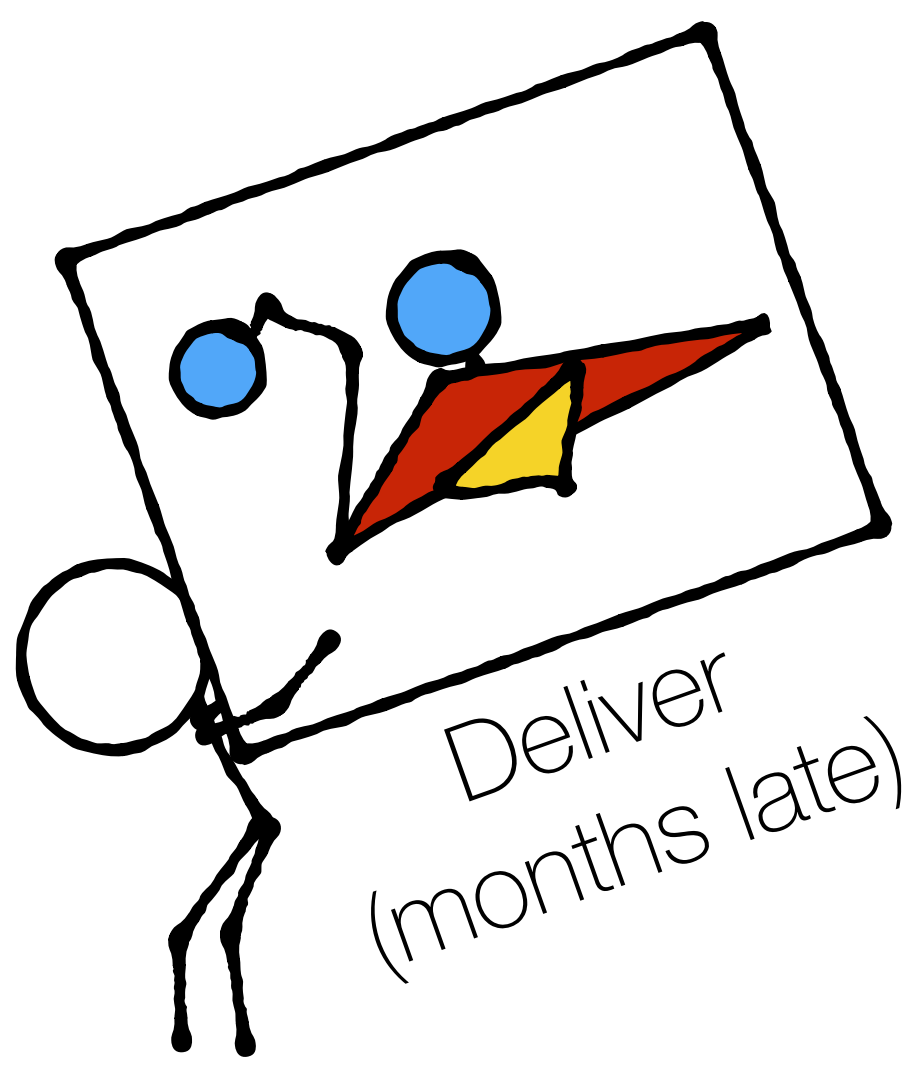
Architect/
Design



Determine
Dependencies



Estimate Effort
Budget Time

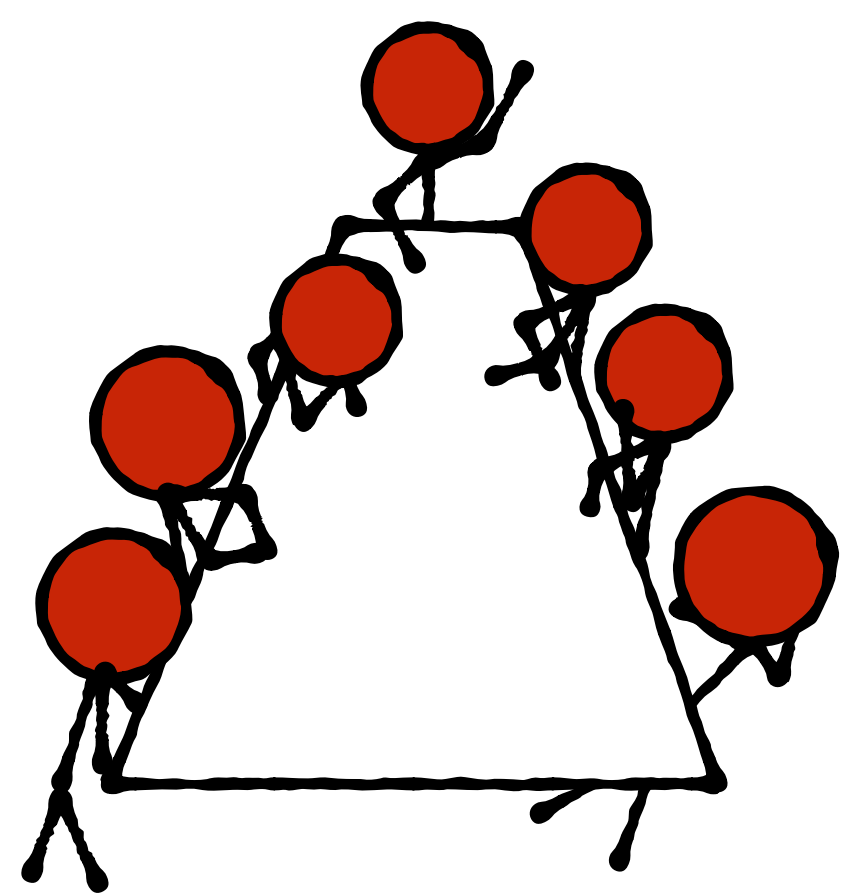


Deliver
(months late)



Develop, develop, develop...

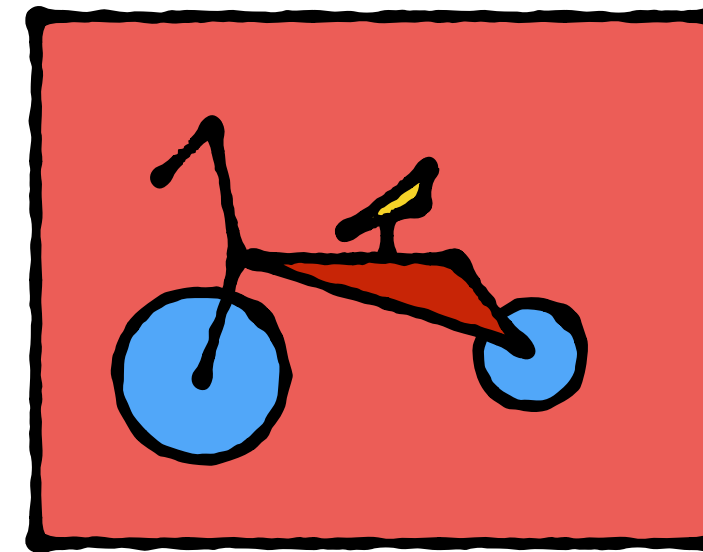
Upfront planning divorced from reality
Artificial deadlines divorced from reality



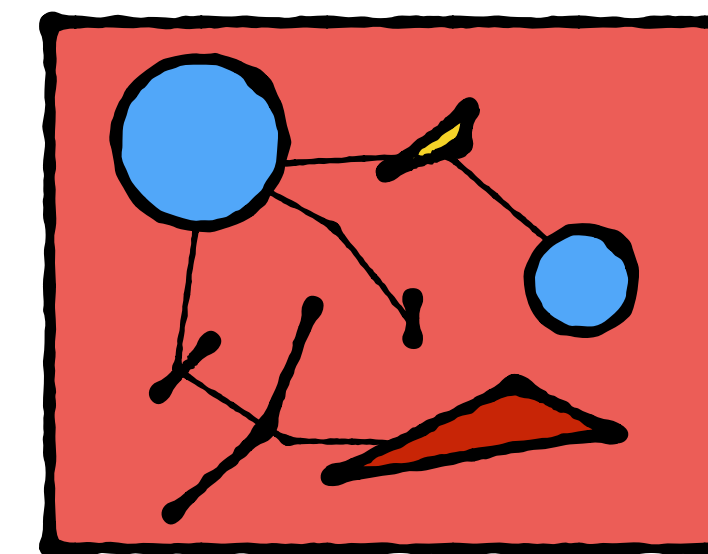
Stakeholders

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

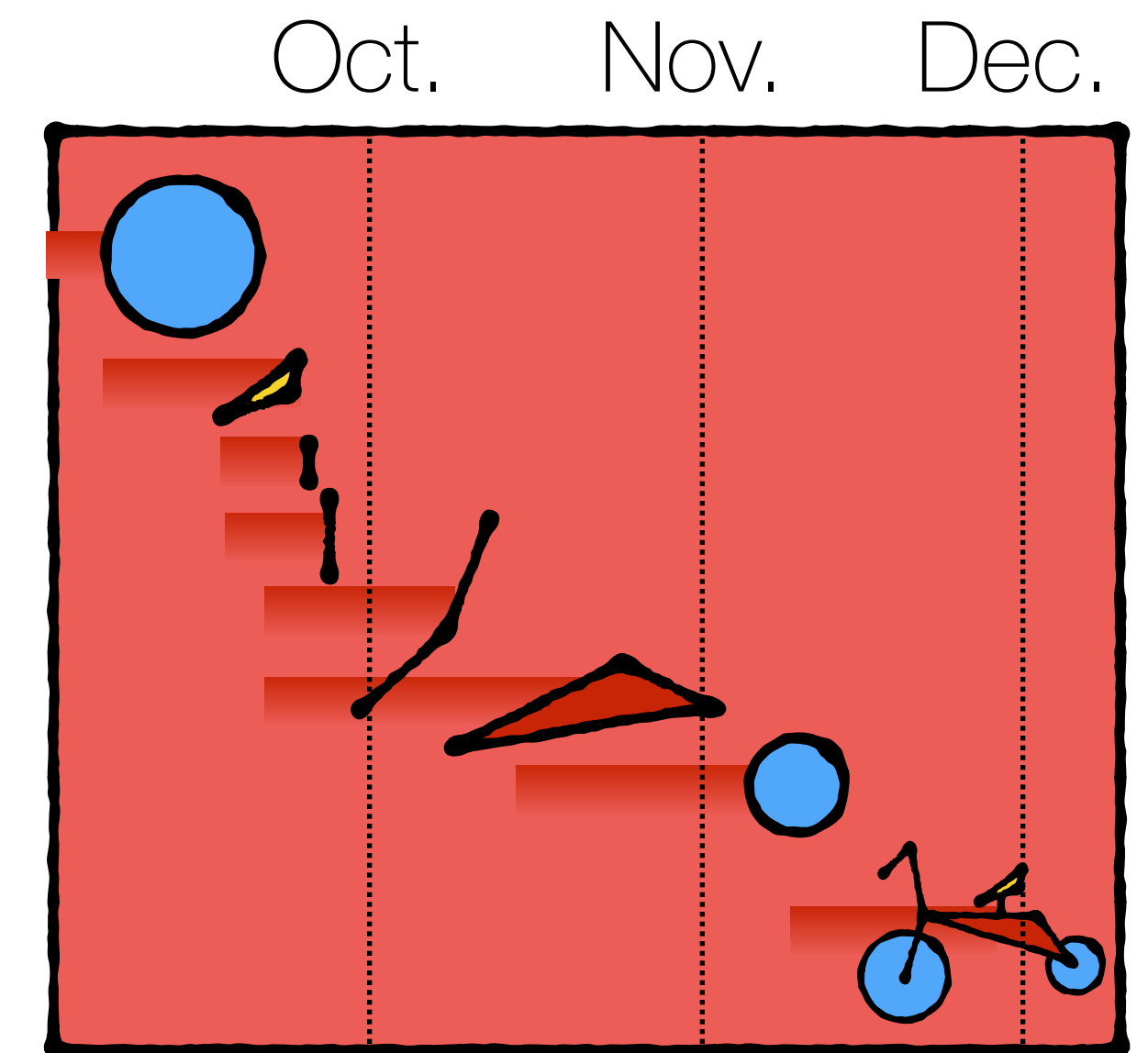
Define
Requirements



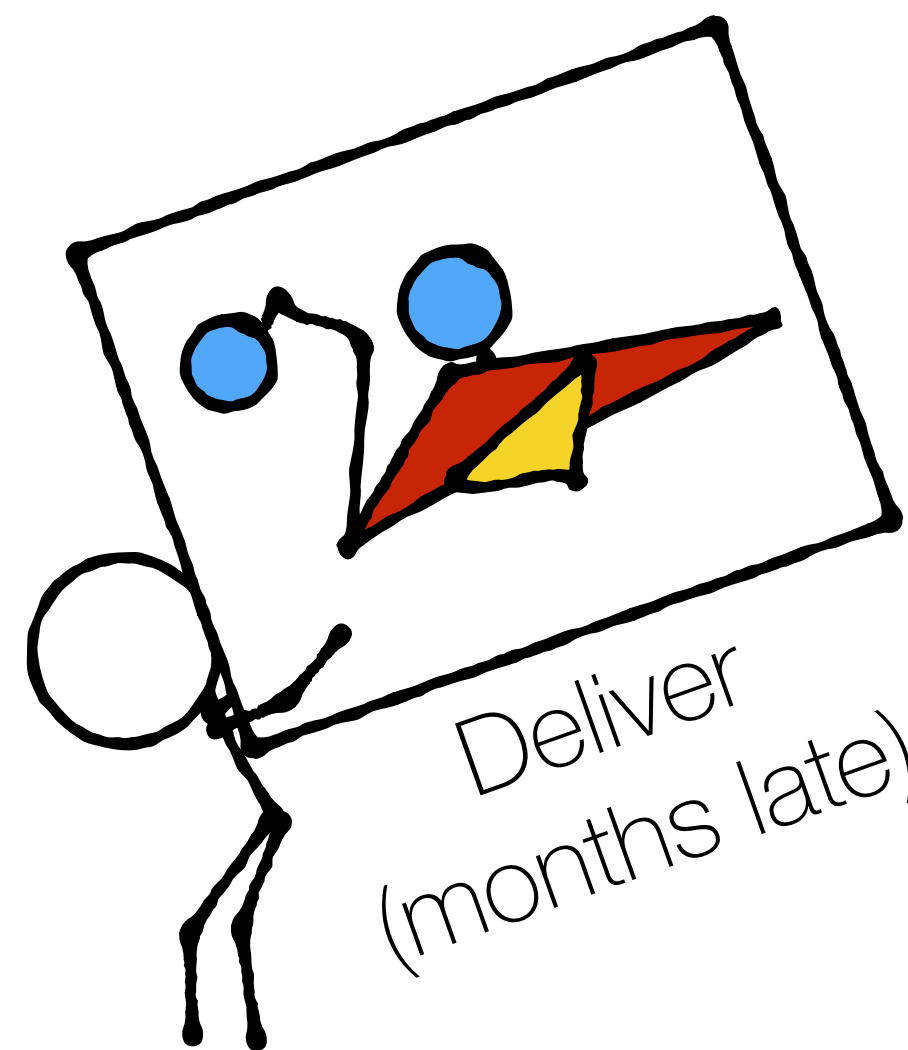
Architect/
Design



Determine
Dependencies



Estimate Effort
Budget Time

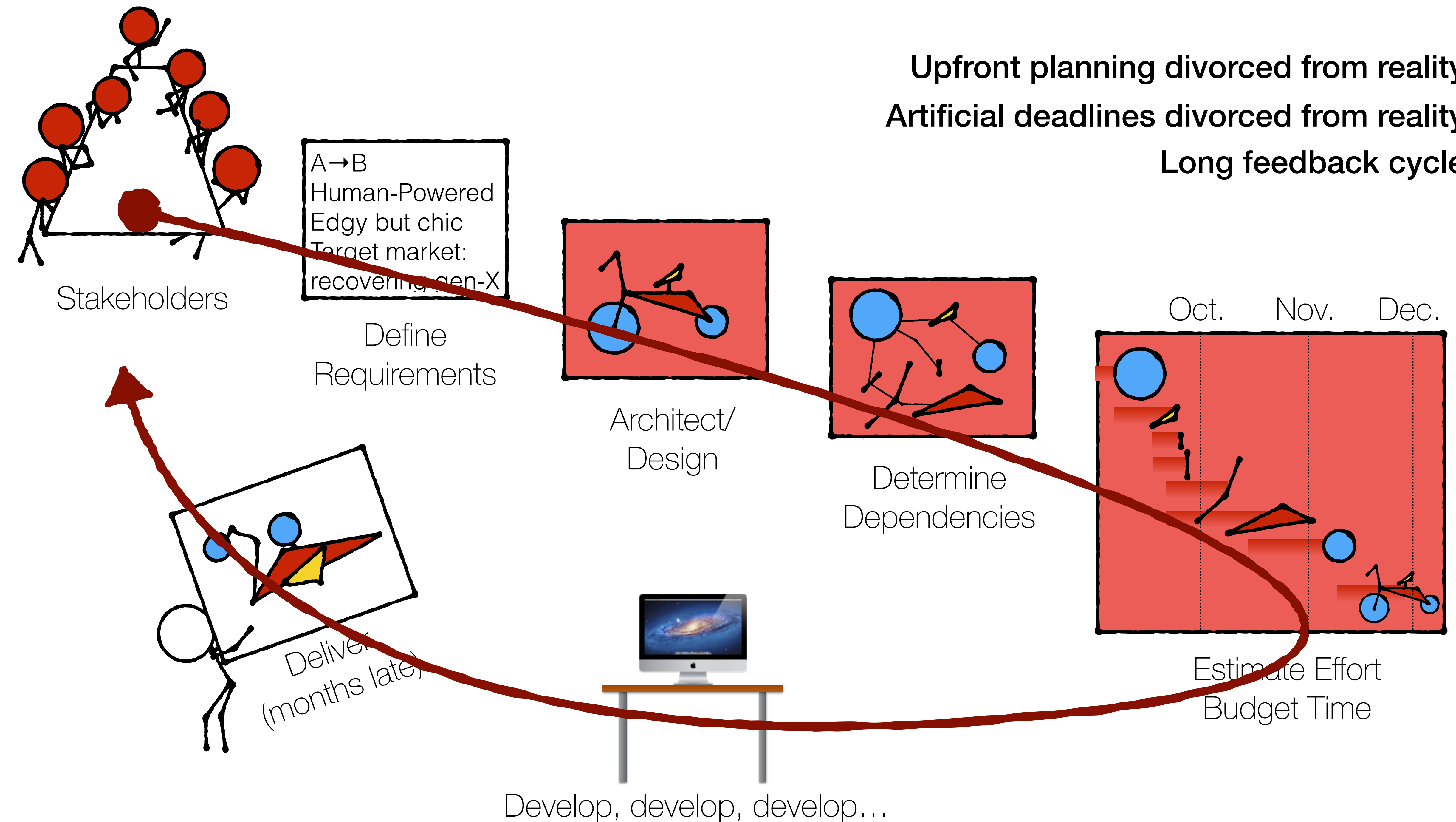


Deliver
(months late)



Develop, develop, develop...

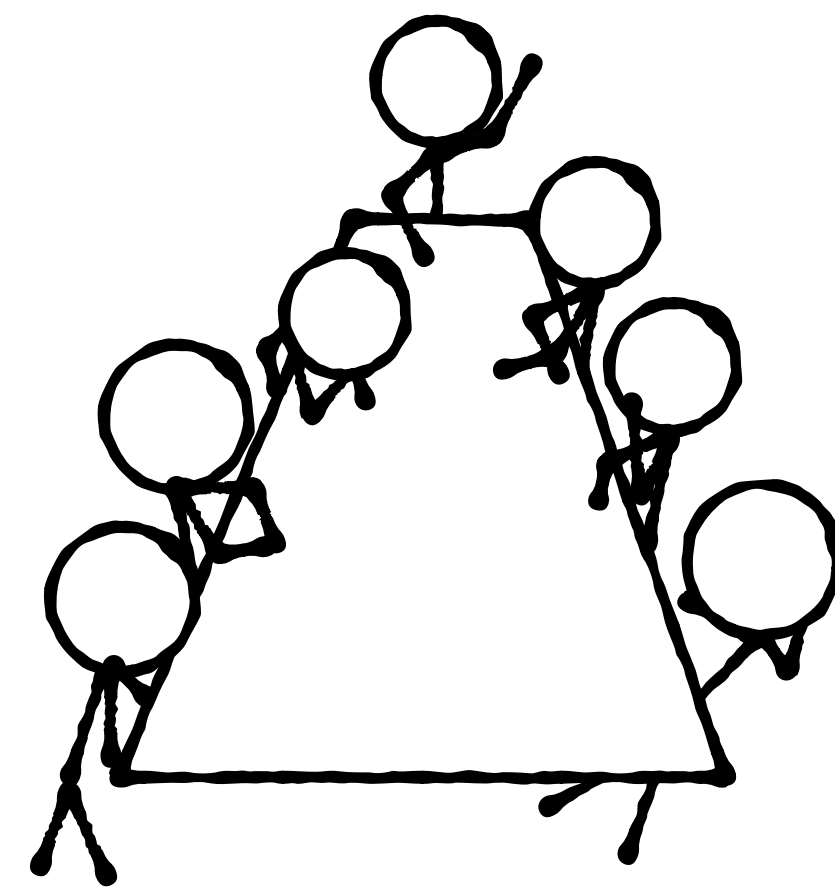
Upfront planning divorced from reality
Artificial deadlines divorced from reality
Long feedback cycle



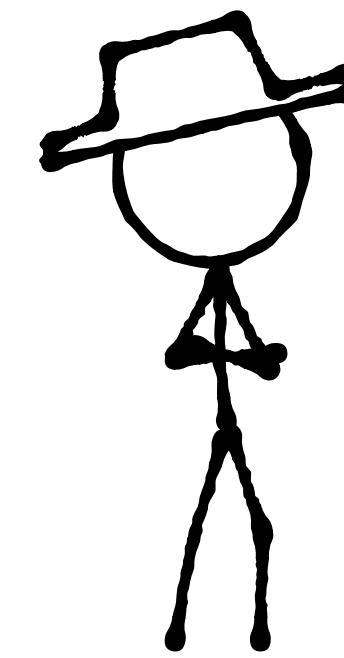
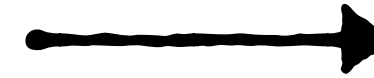


PivotalTracker

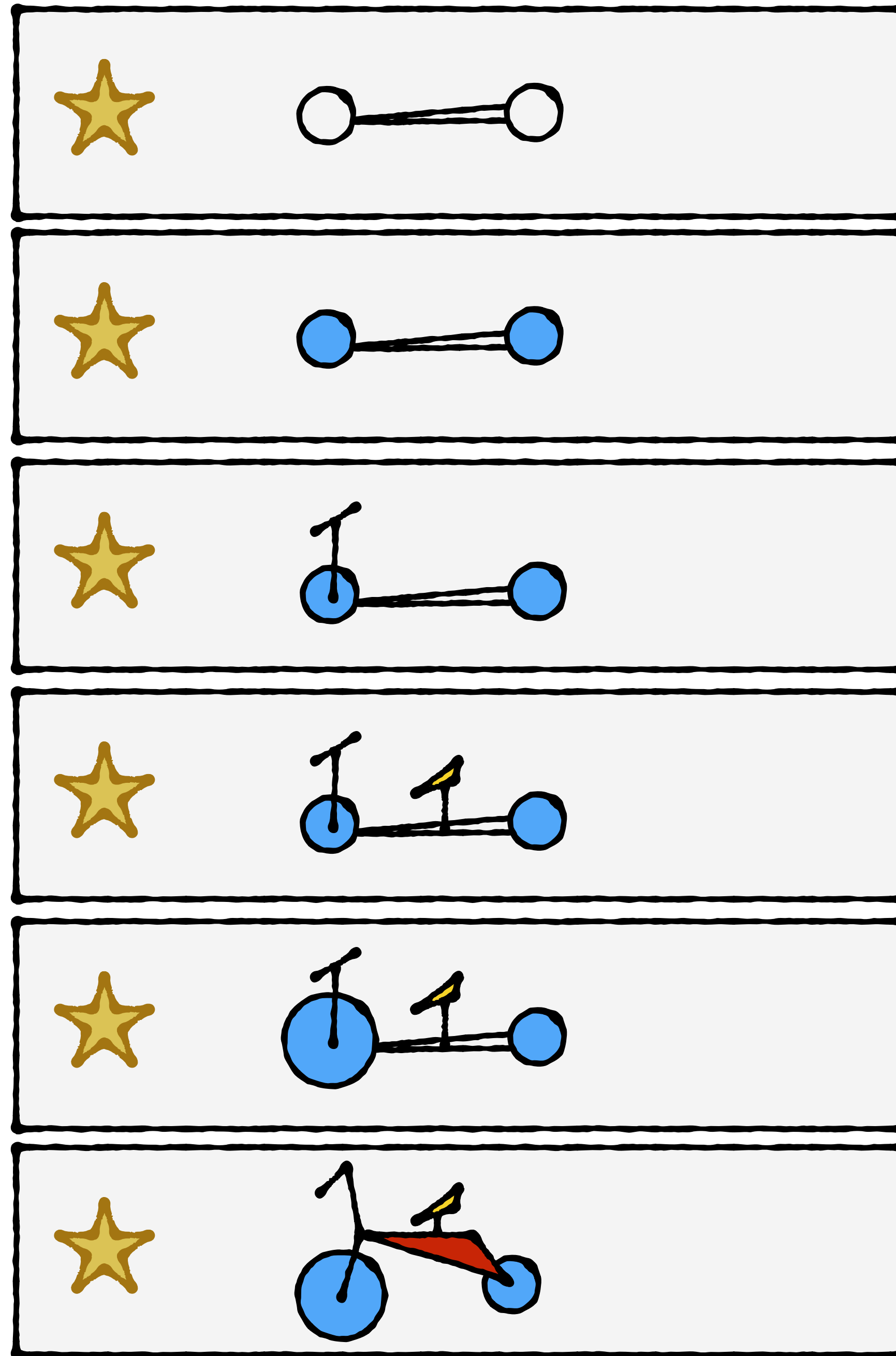
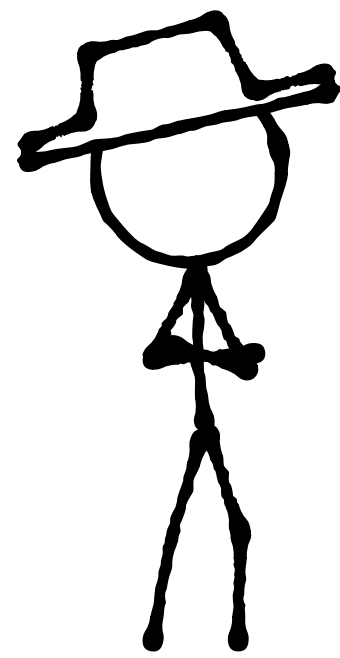
Agile, Data-Driven, Product Management

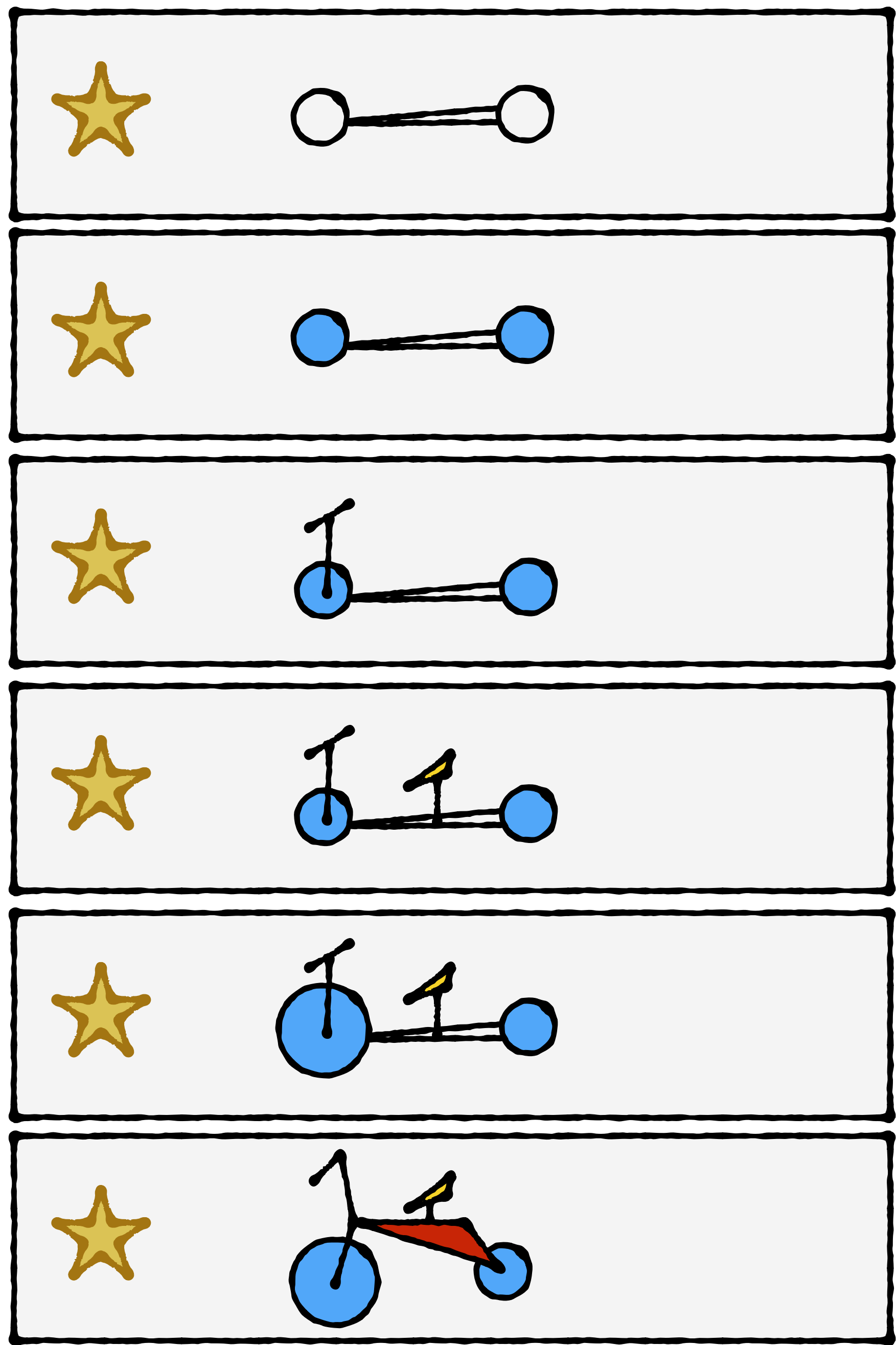
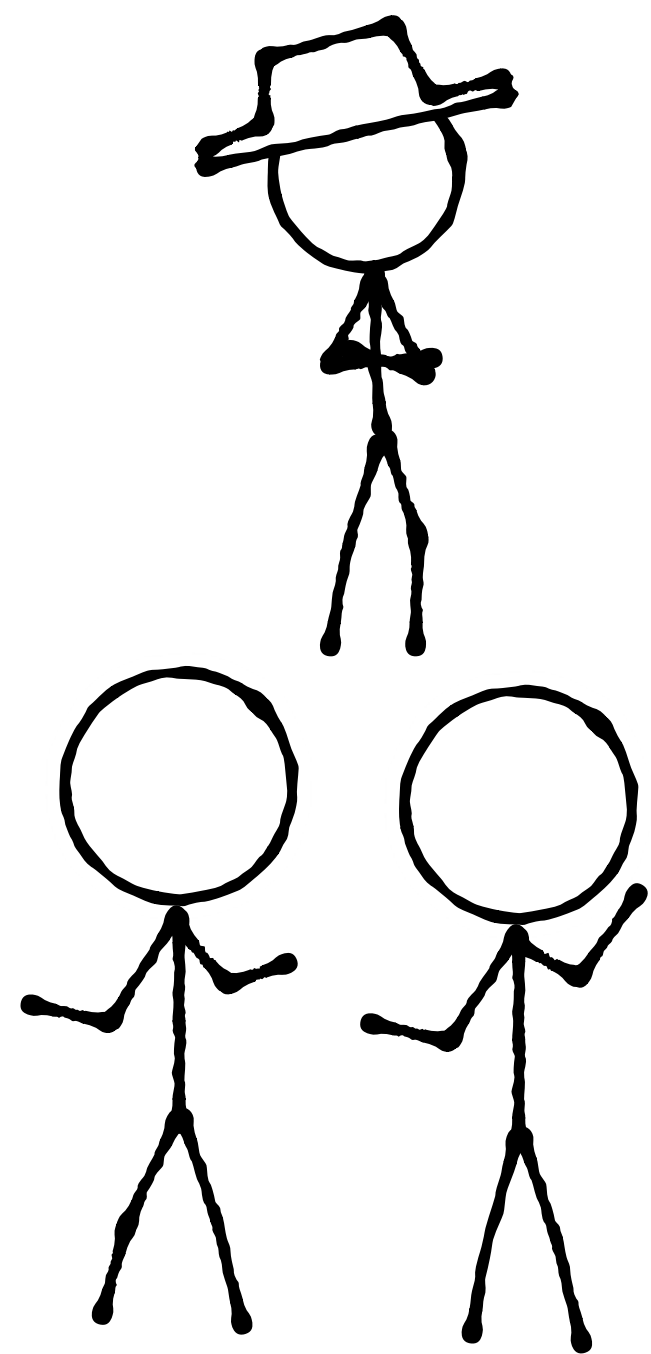


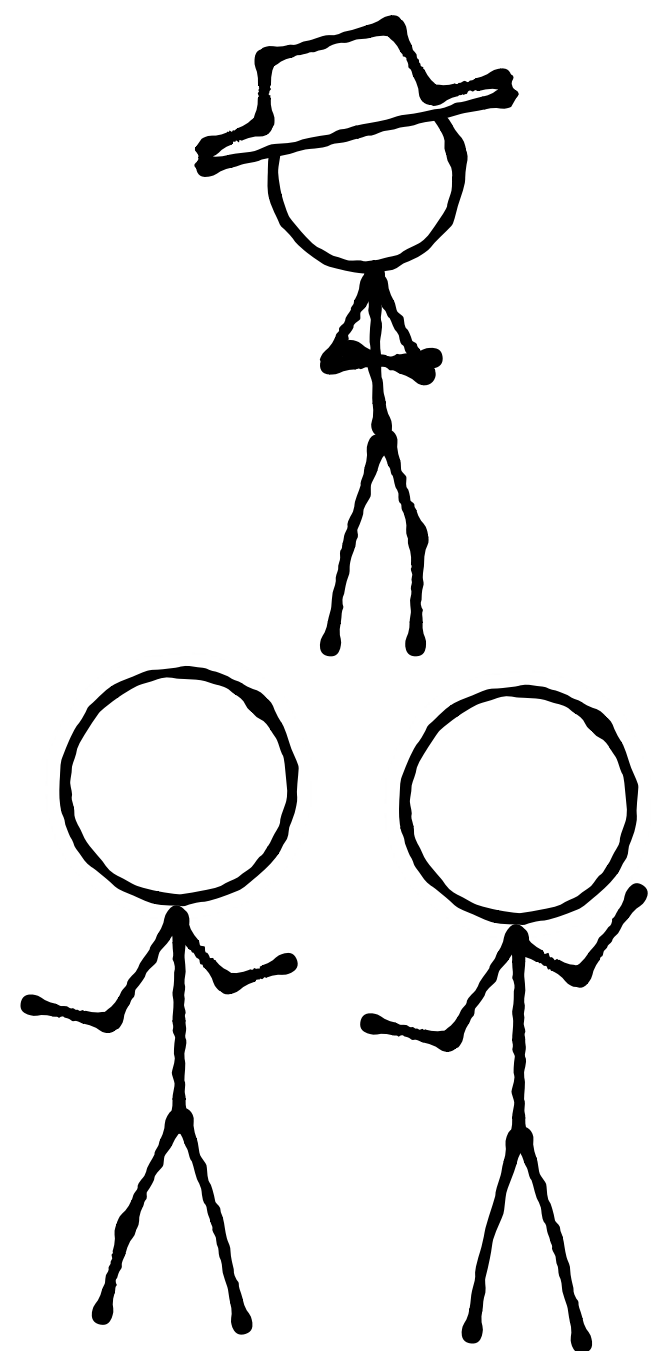
Stakeholders

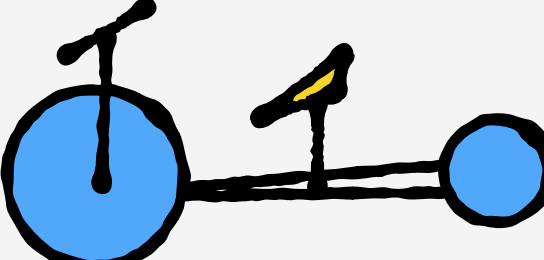
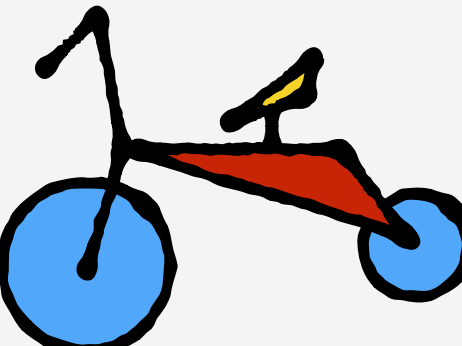


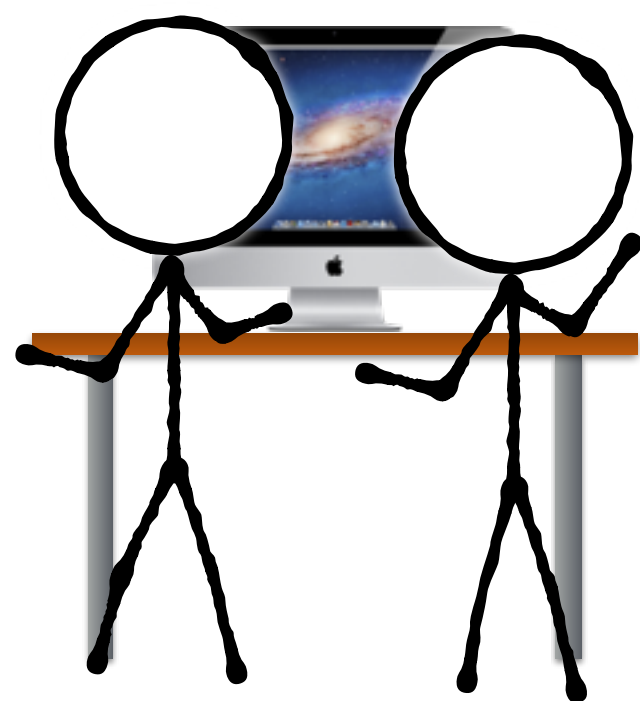
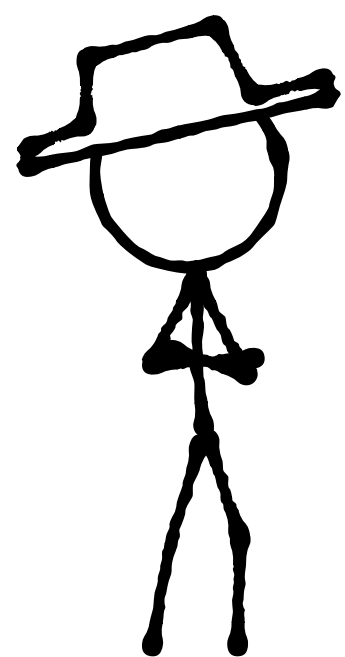
Product
Manager



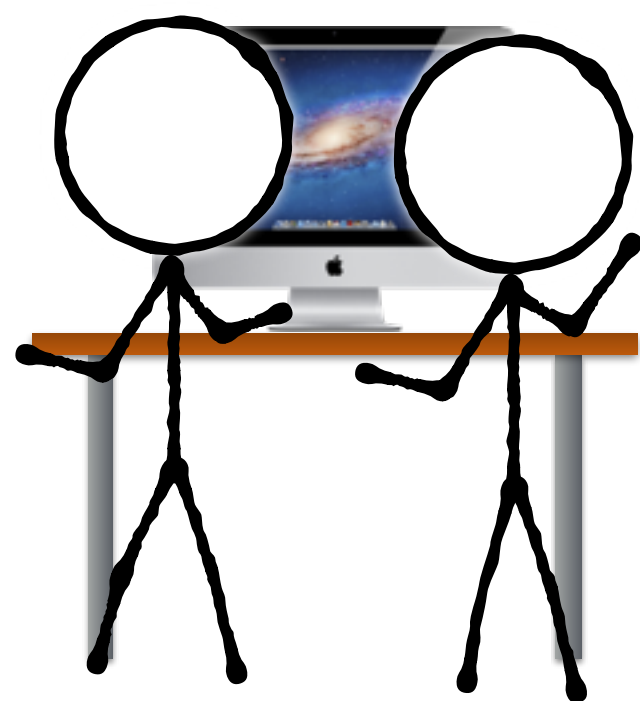
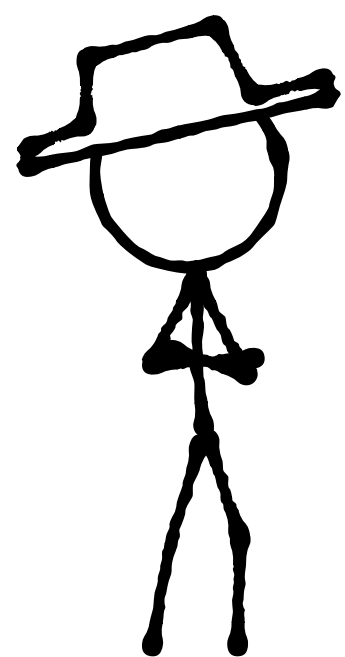


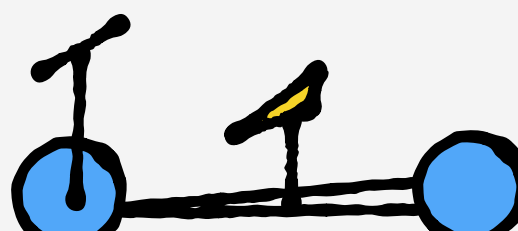
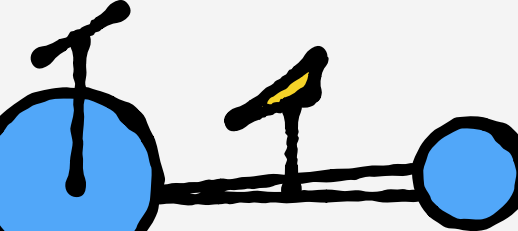
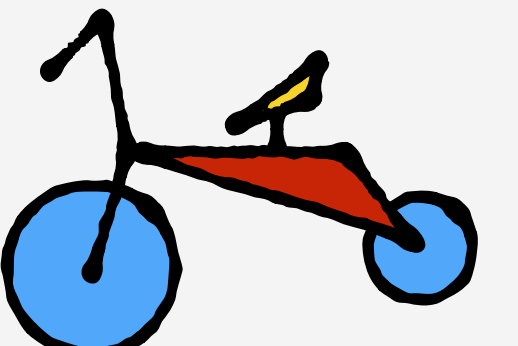


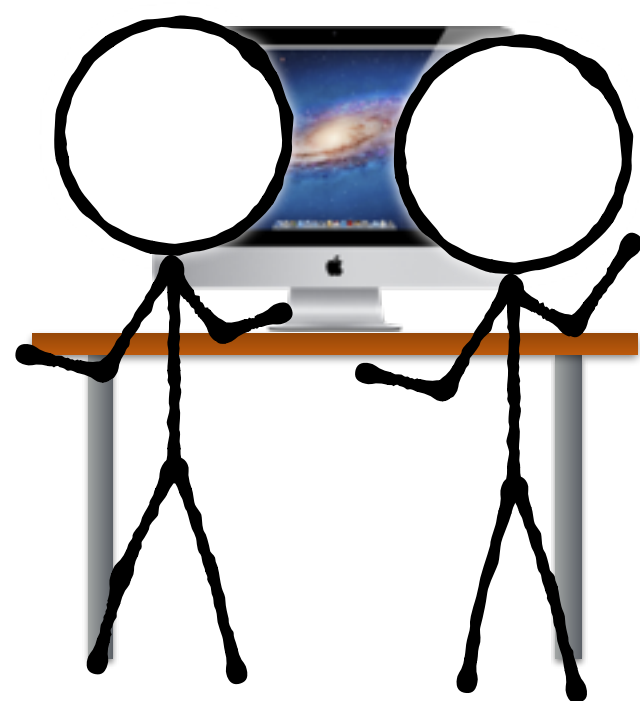
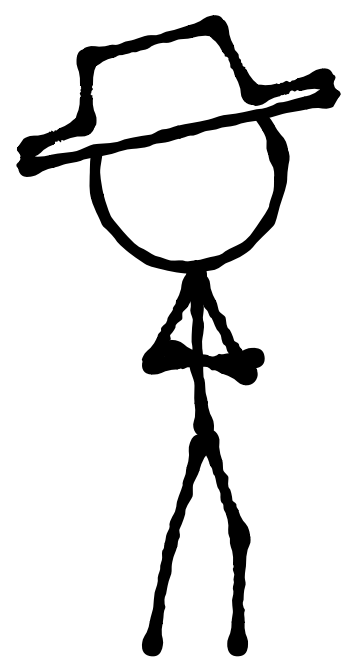
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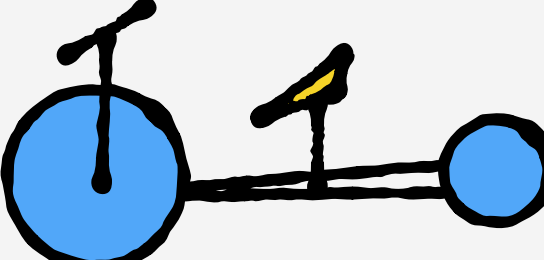
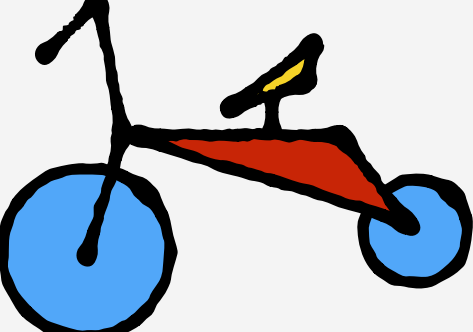


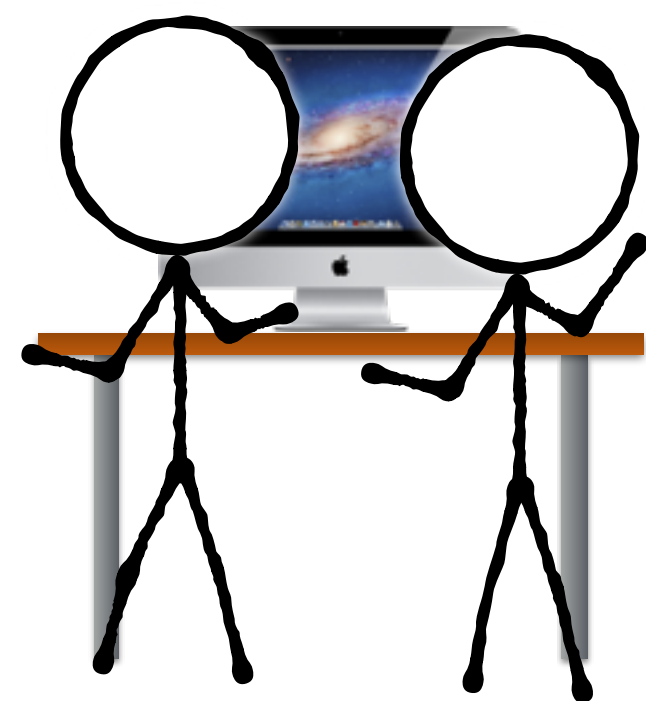
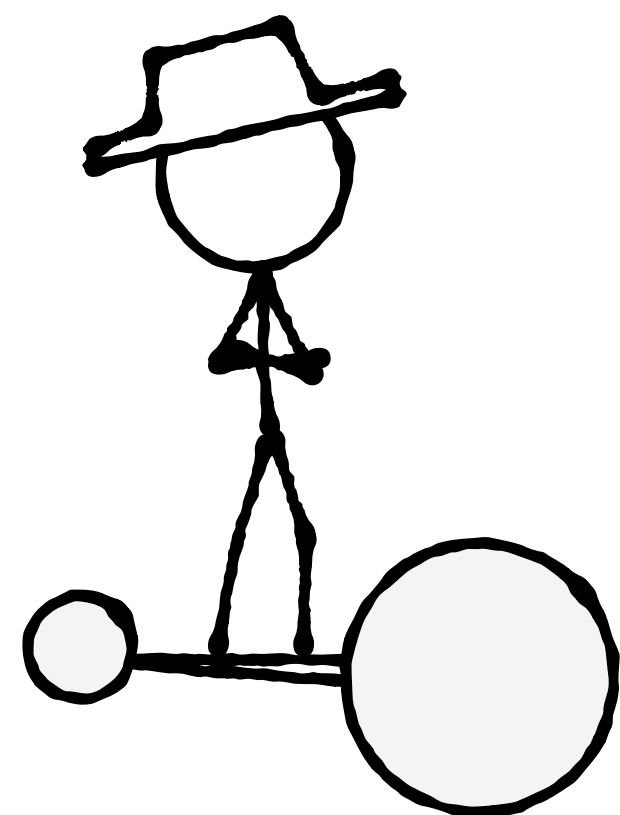
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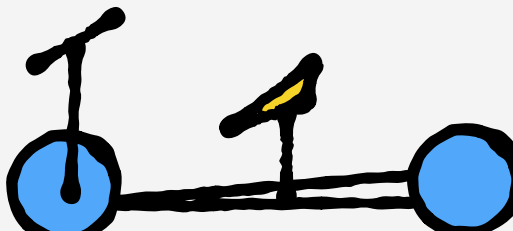
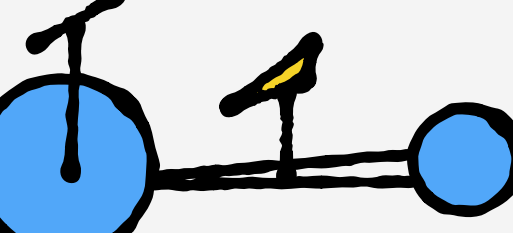
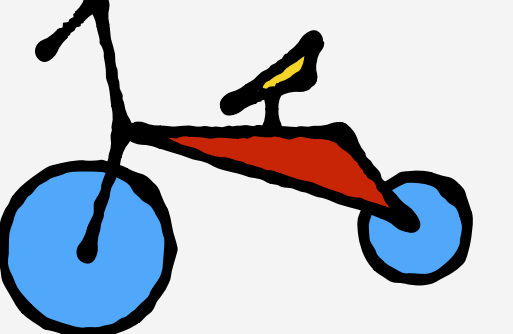


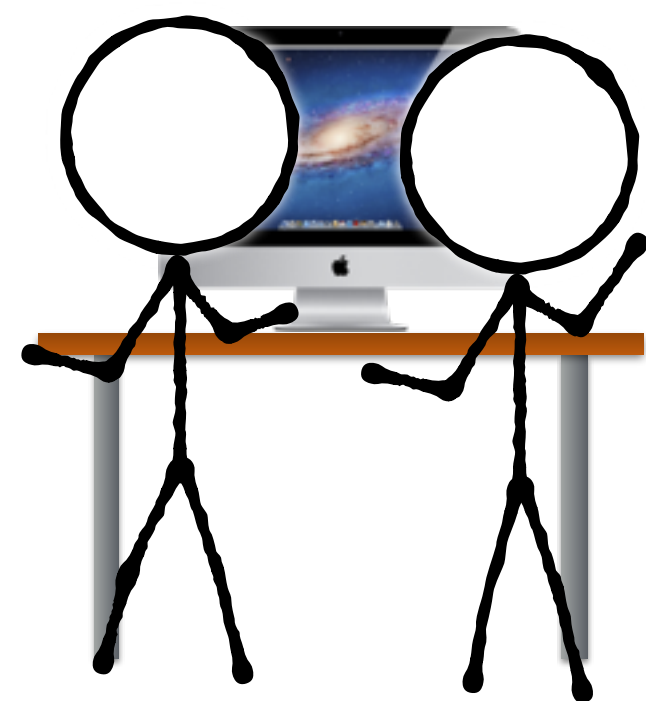
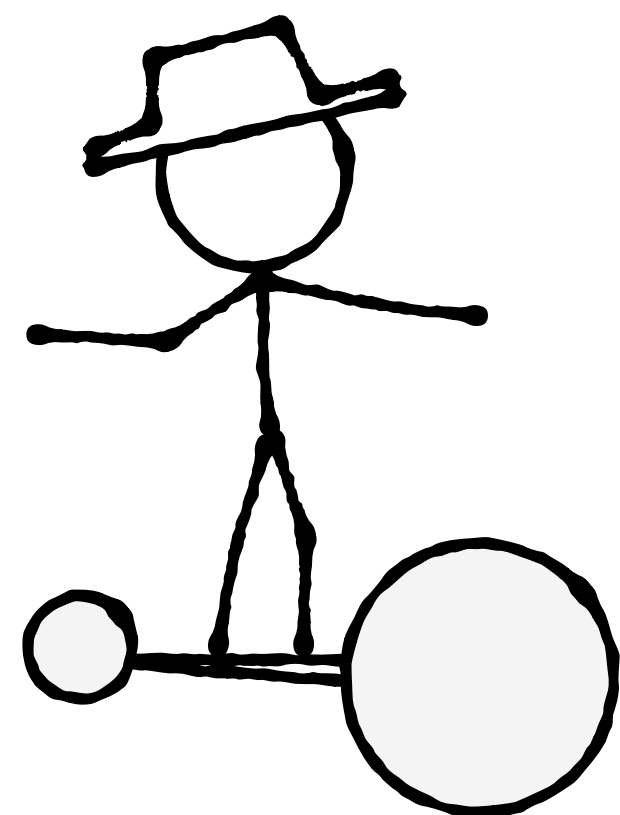
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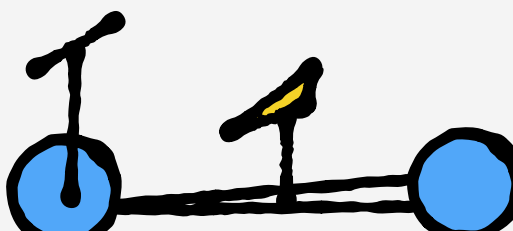
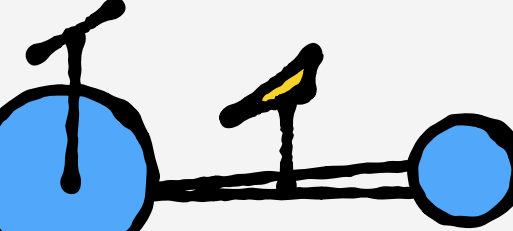
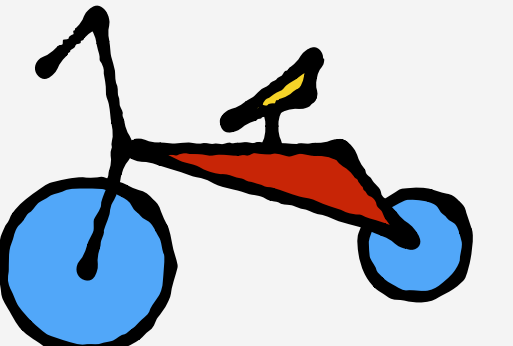


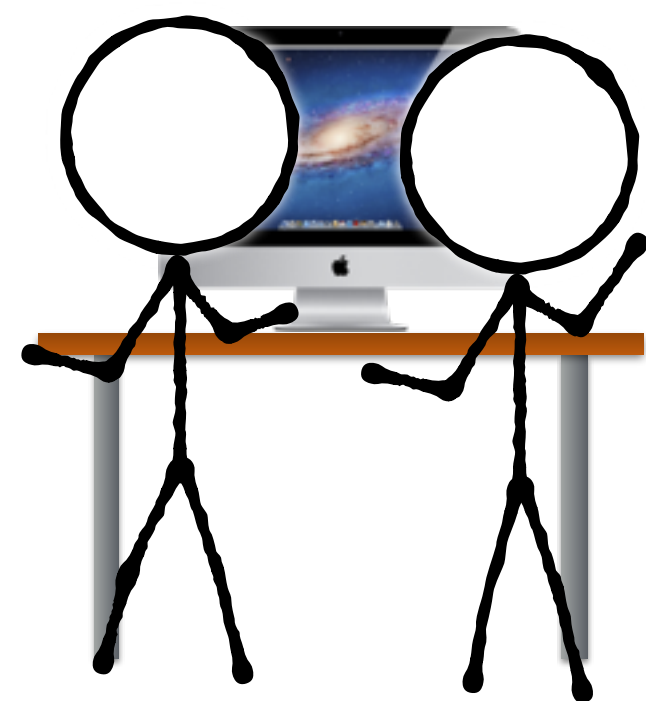
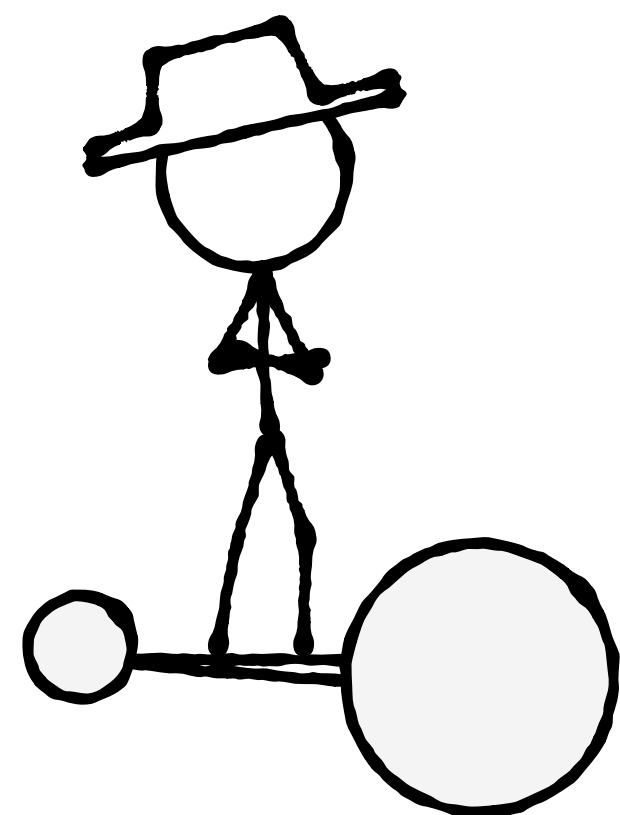
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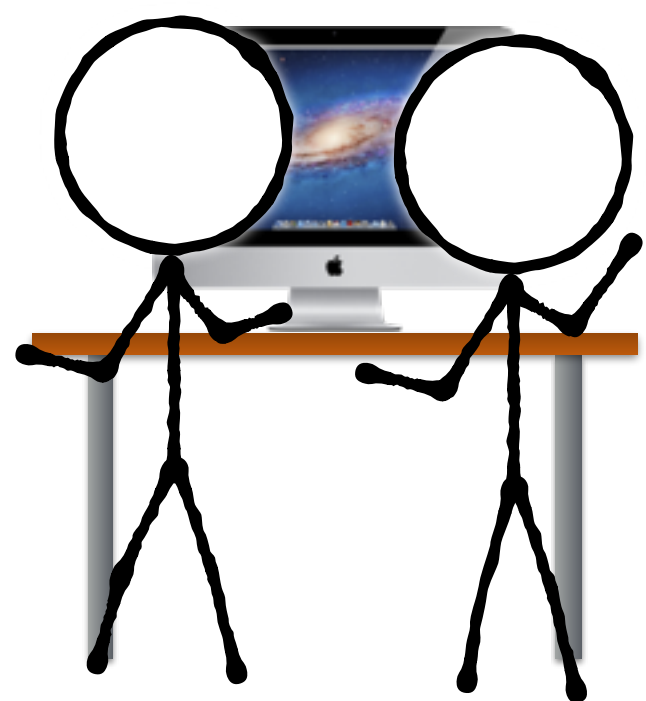
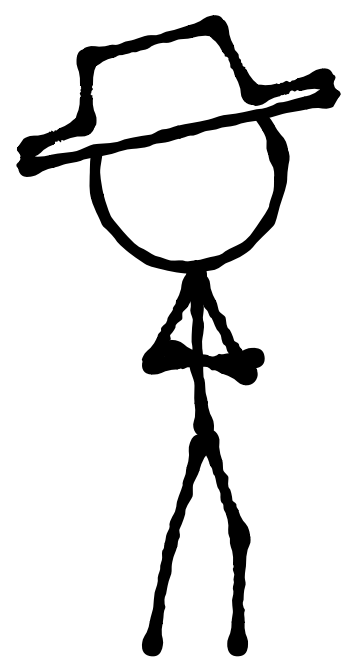
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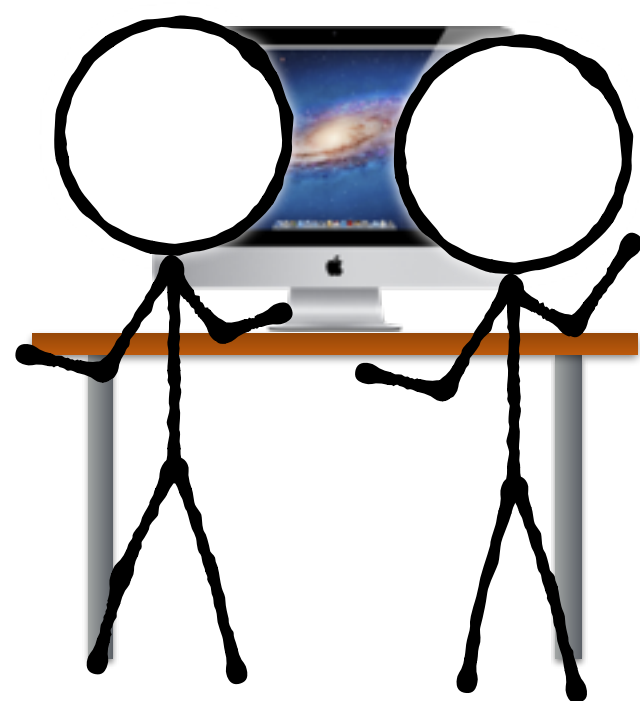
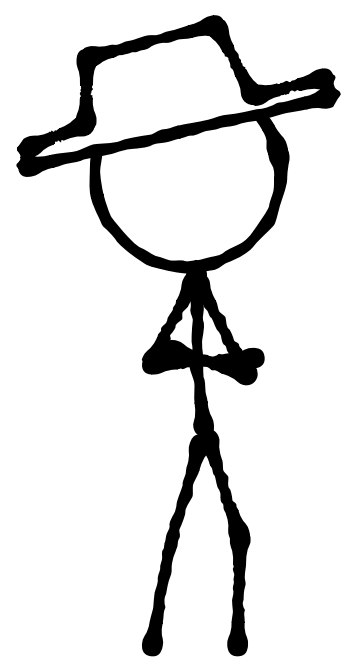
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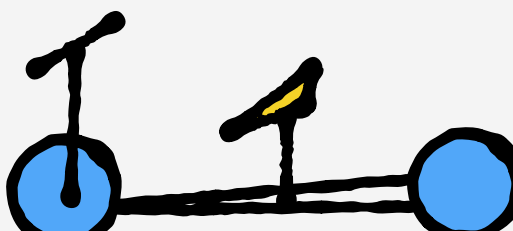
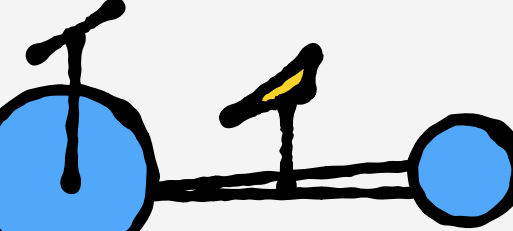
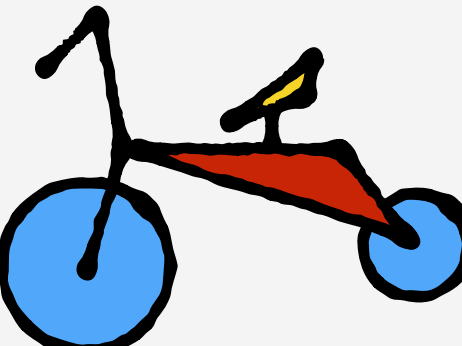


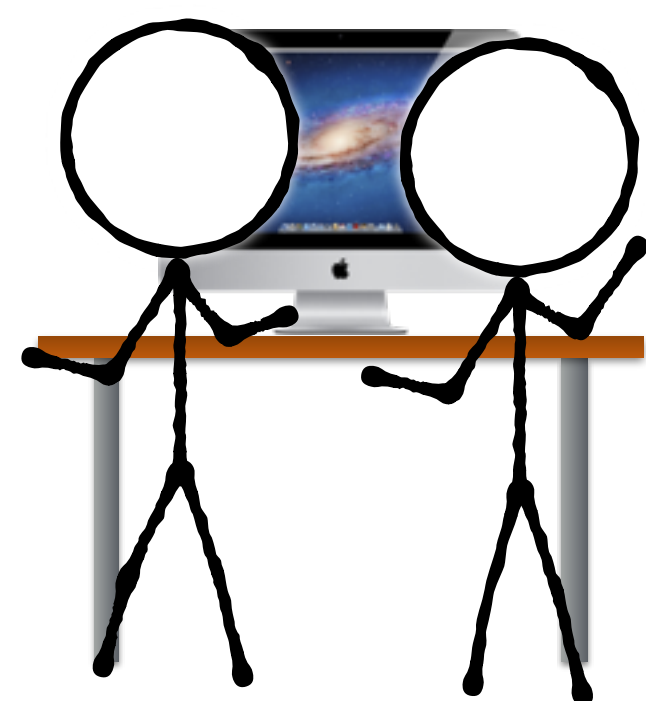
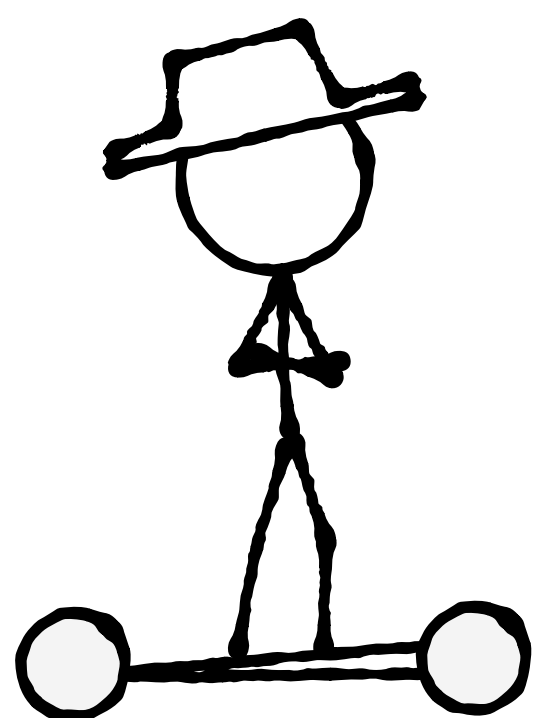
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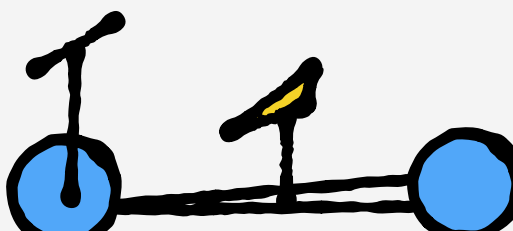
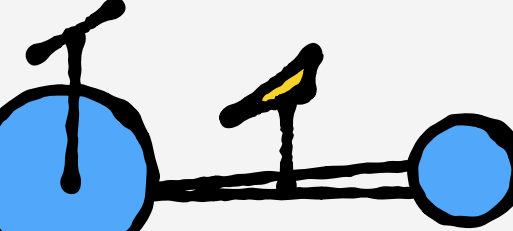
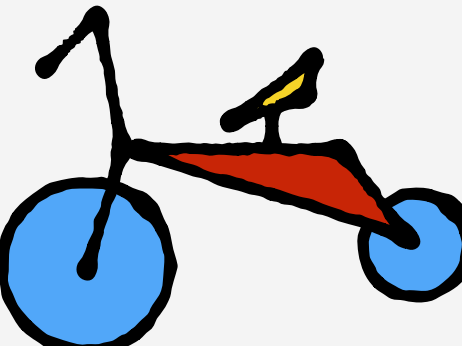


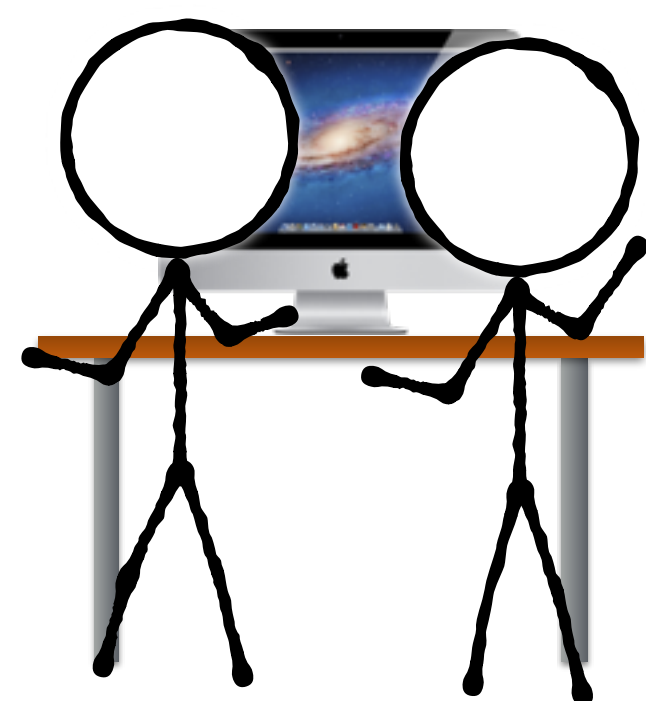
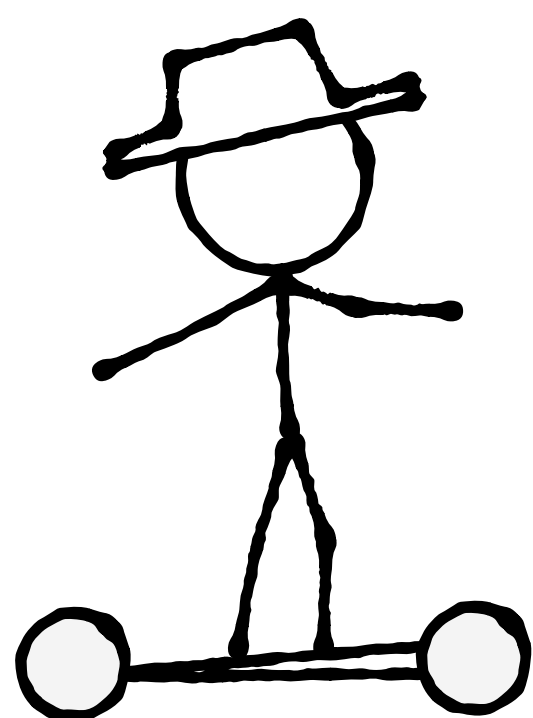
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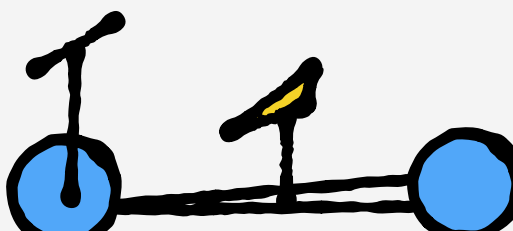
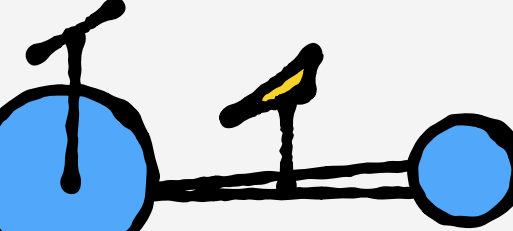
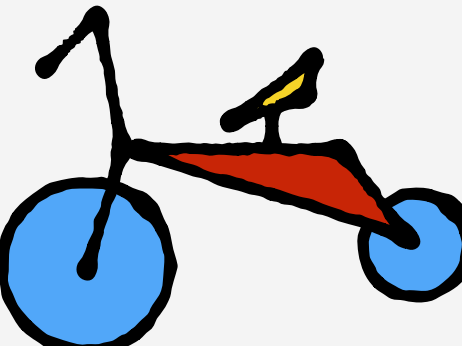


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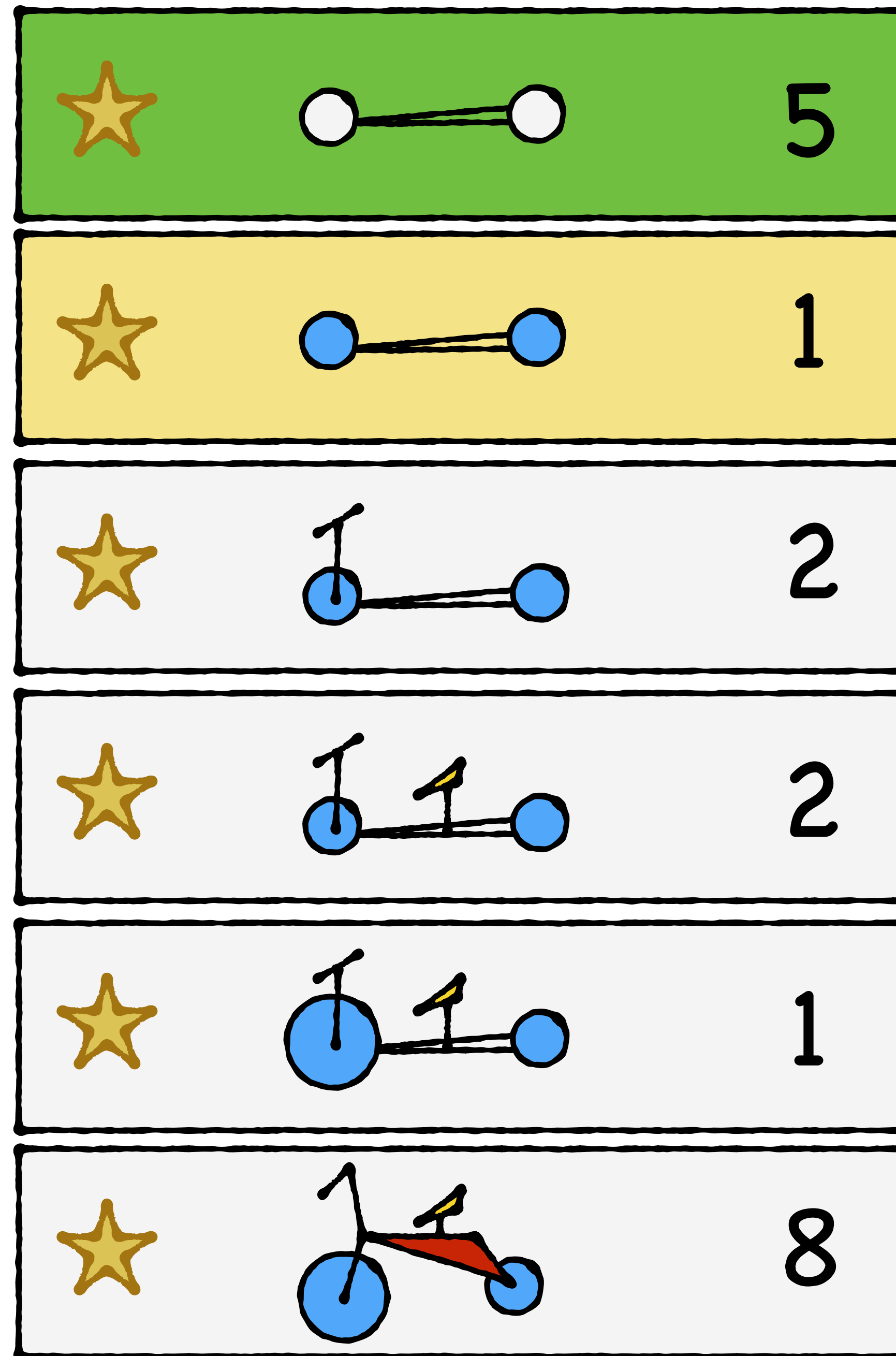
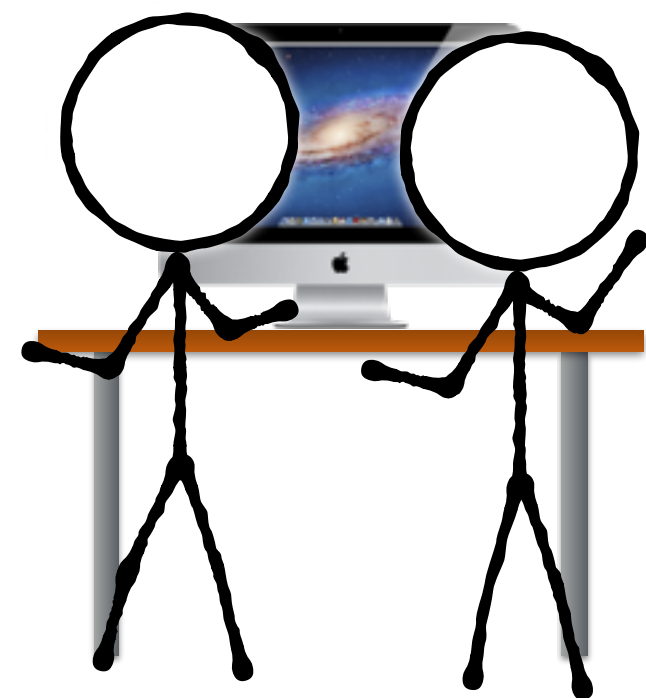
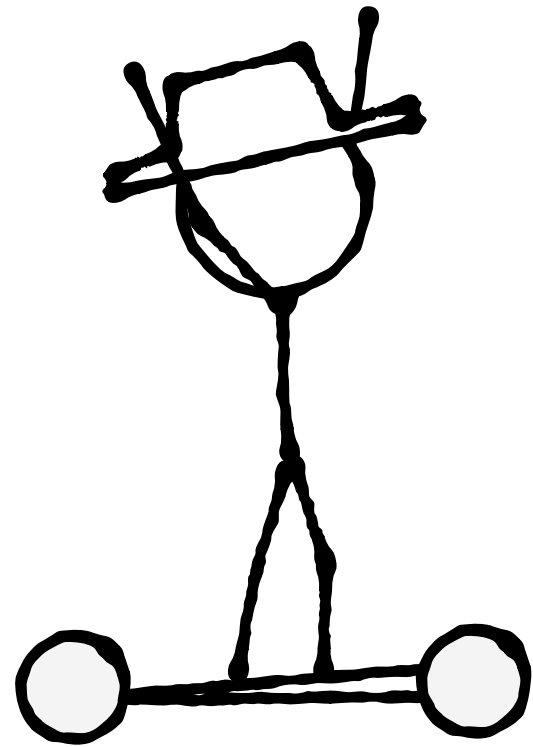


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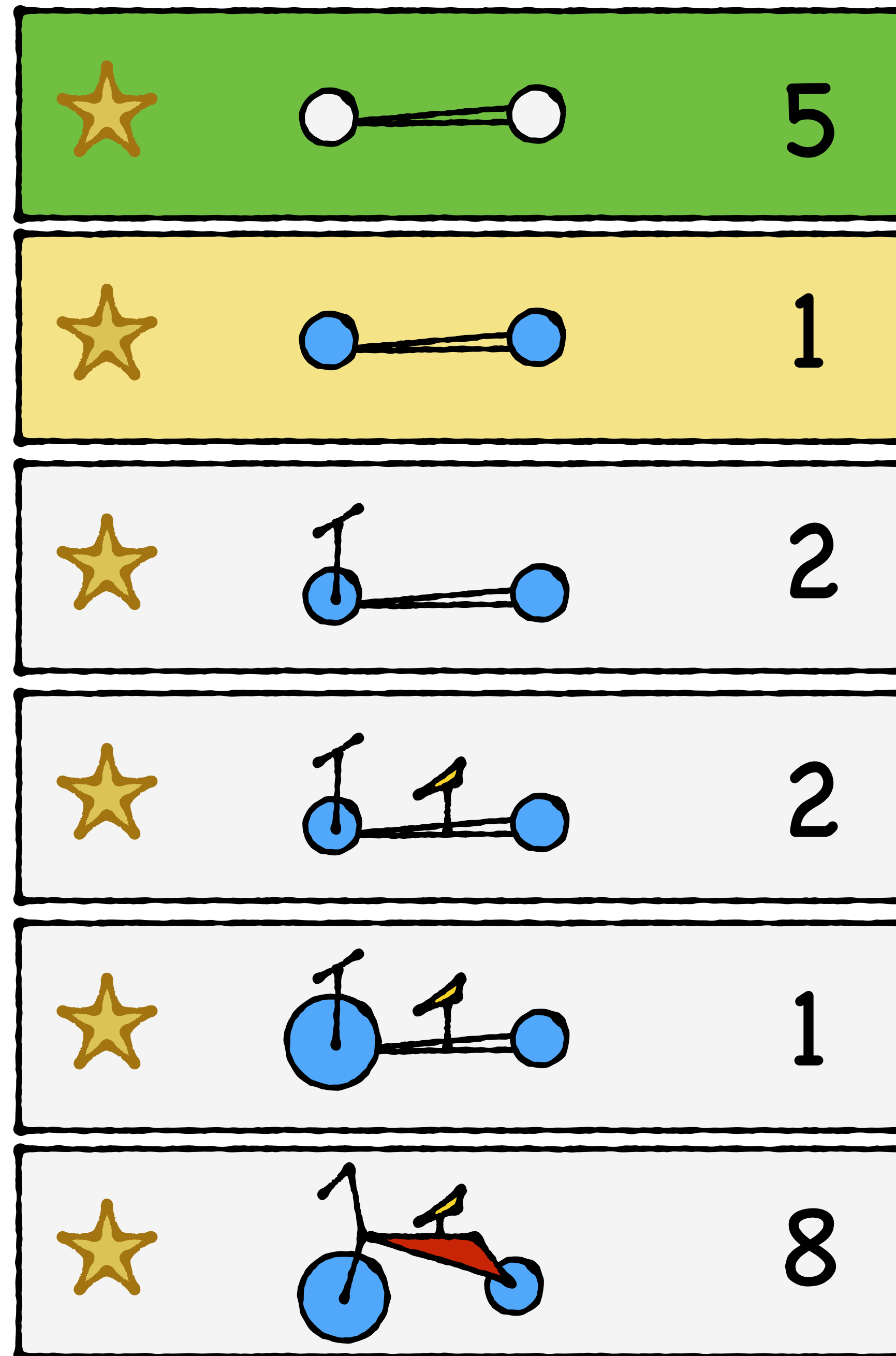
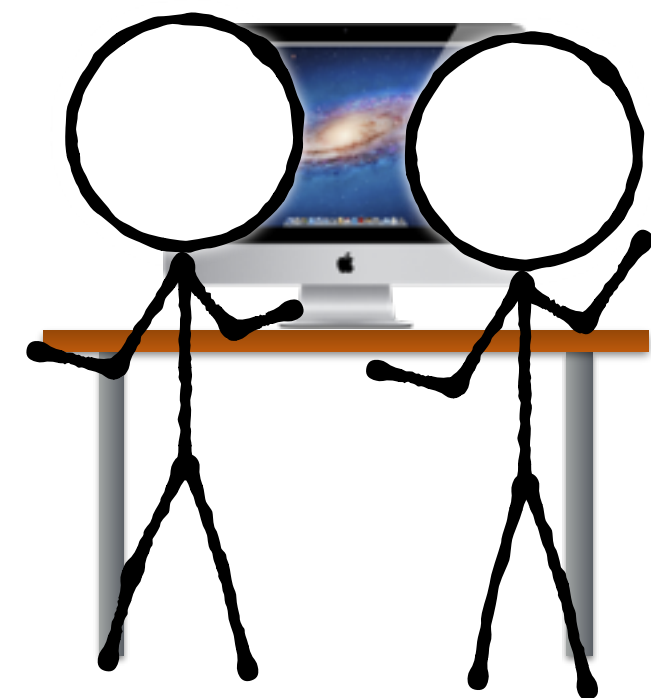
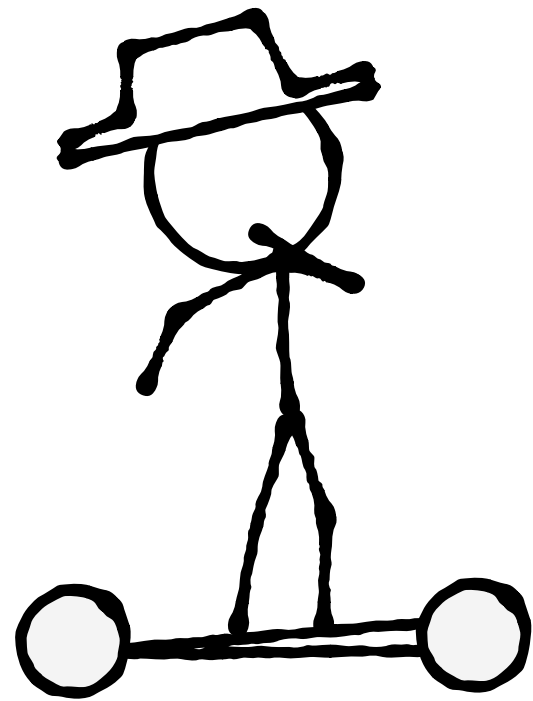


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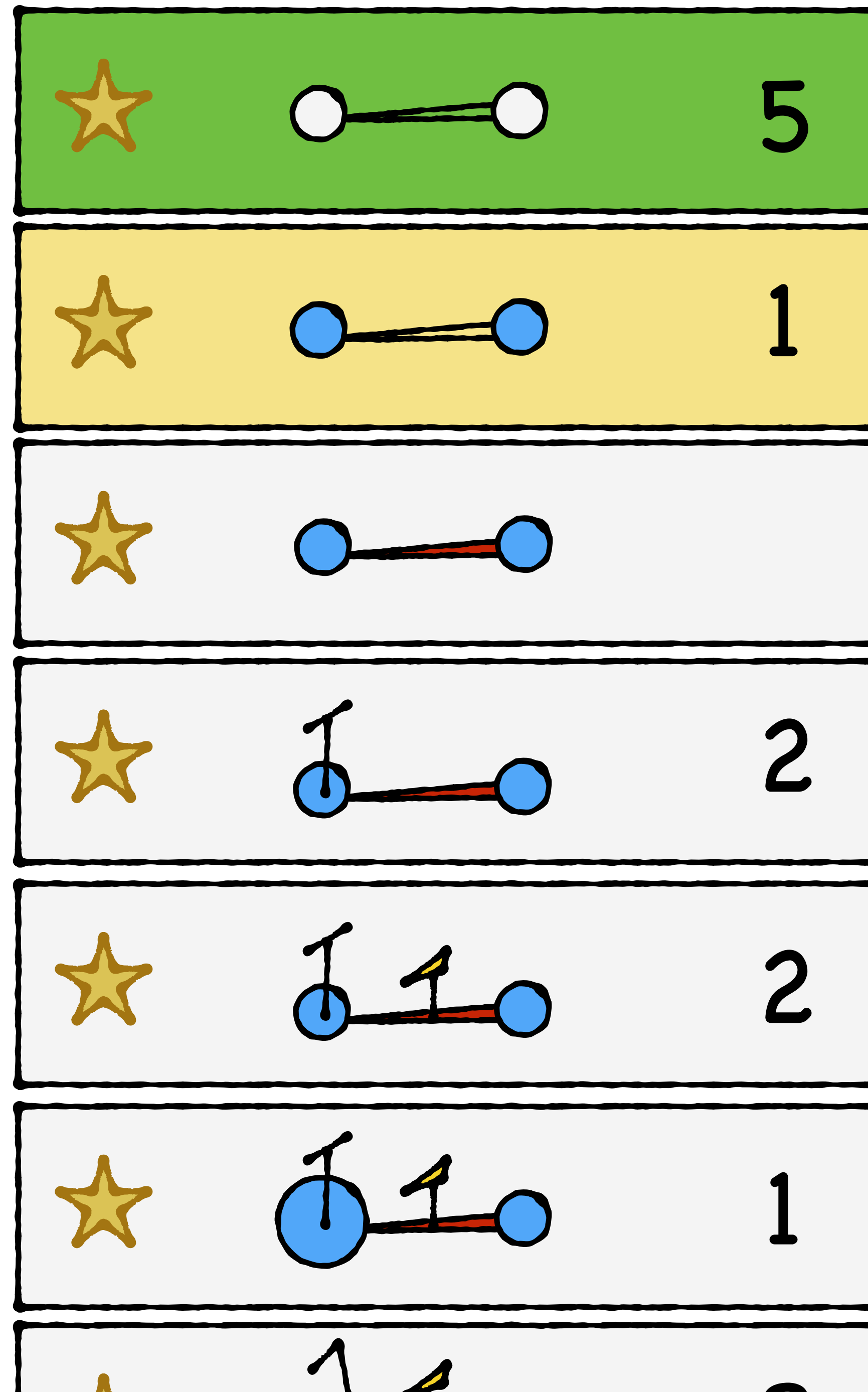
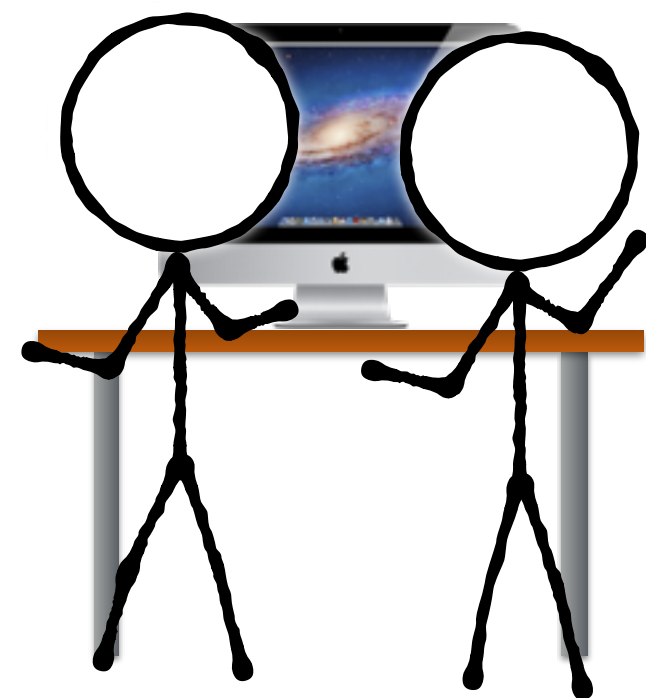
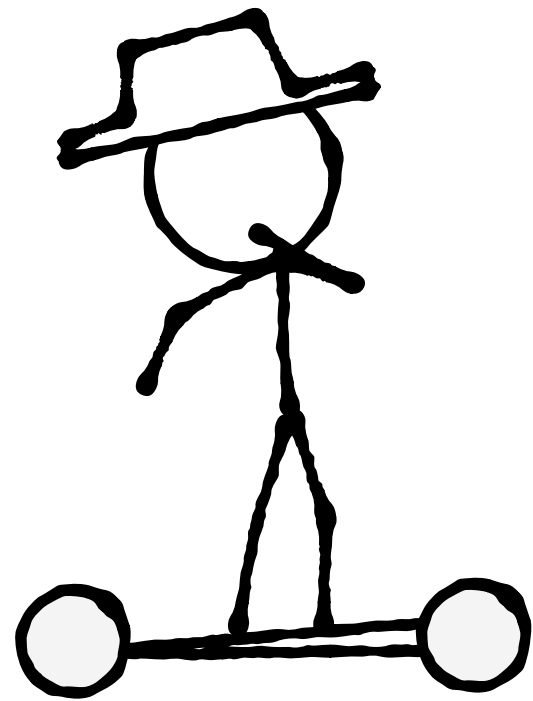
Short feedback cycles



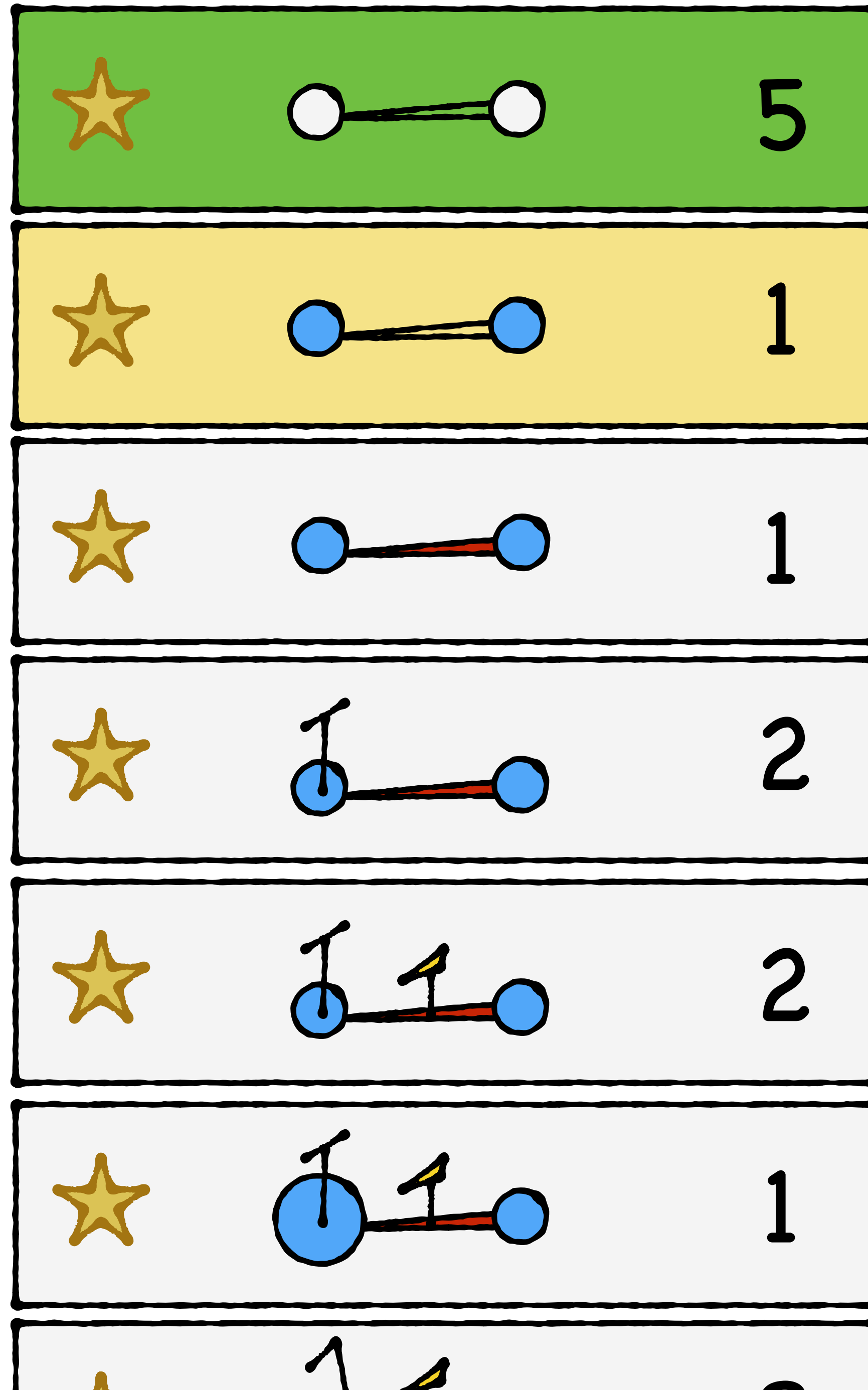
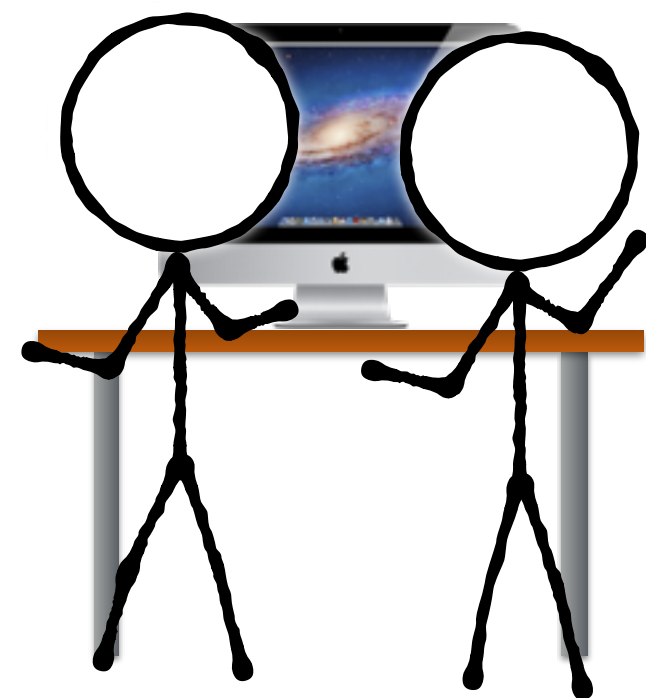
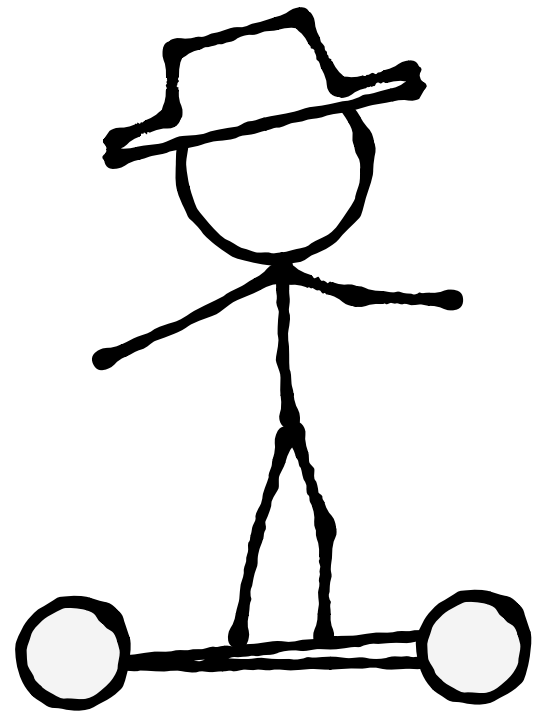
Short feedback cycles

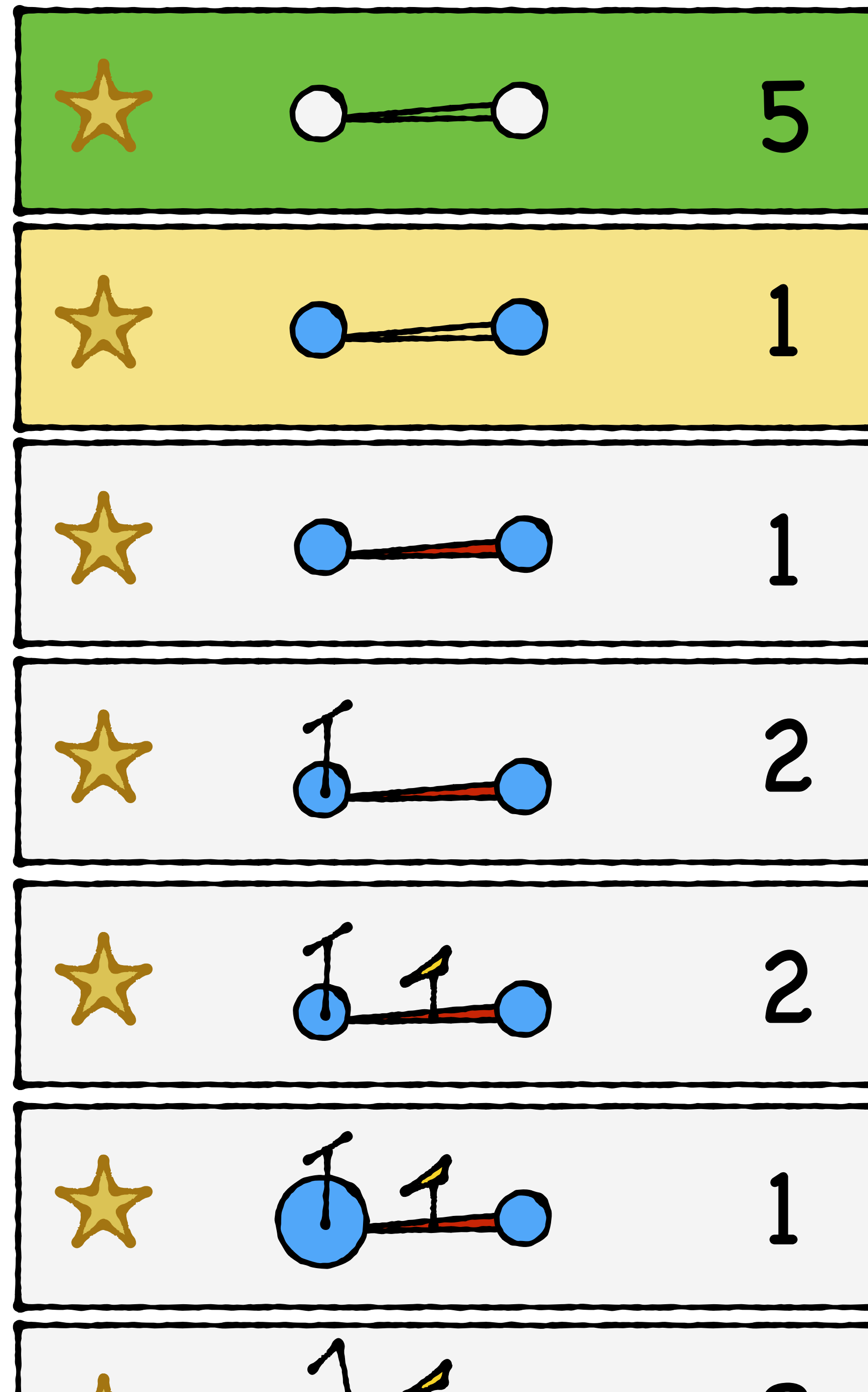
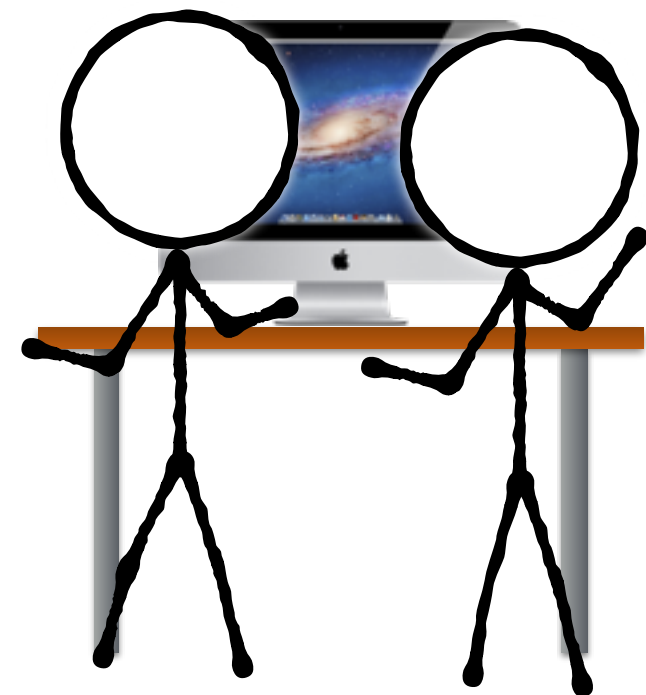
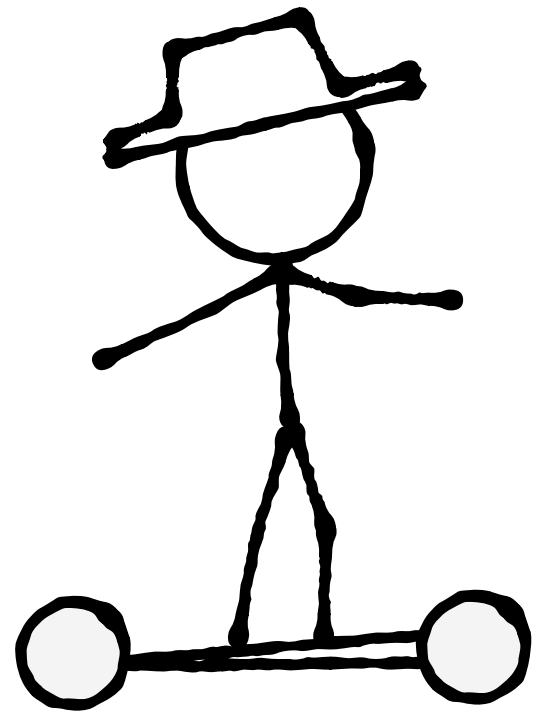


Short feedback cycles

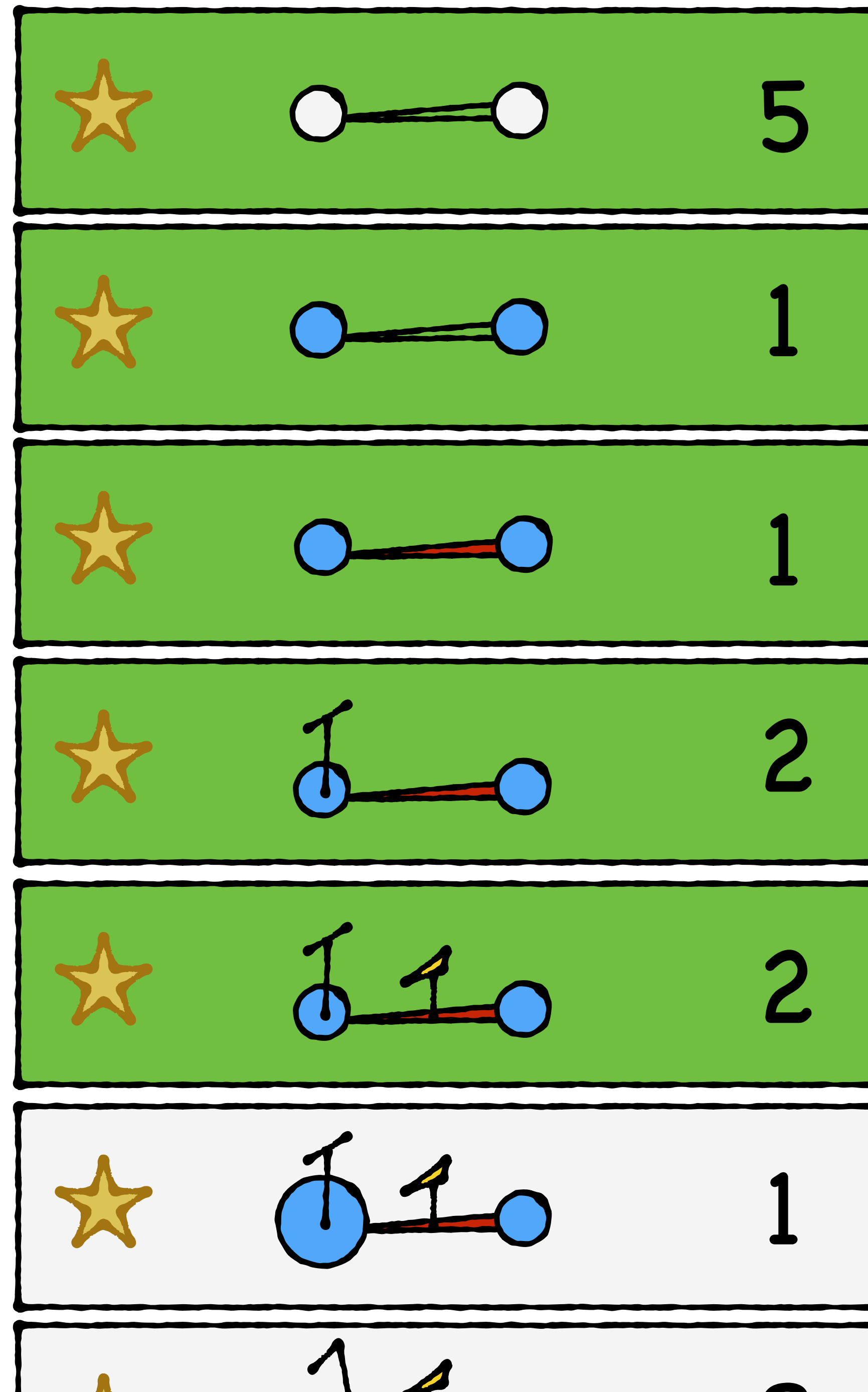
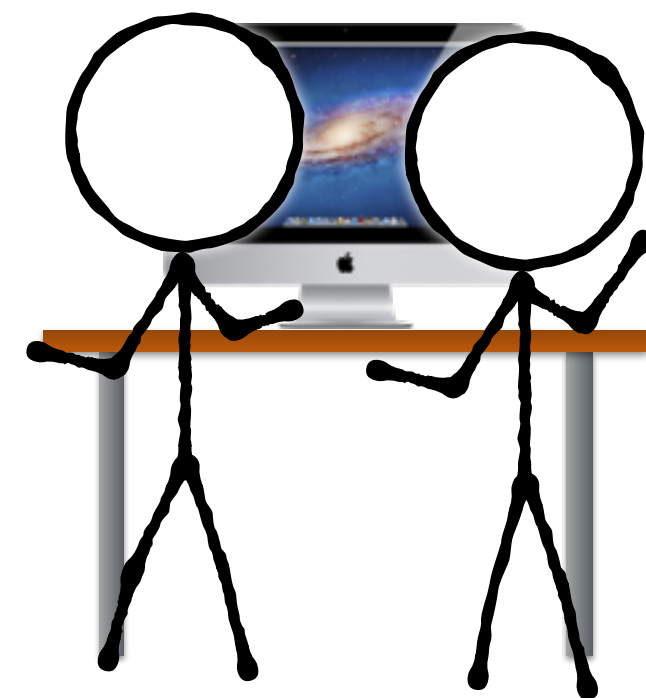
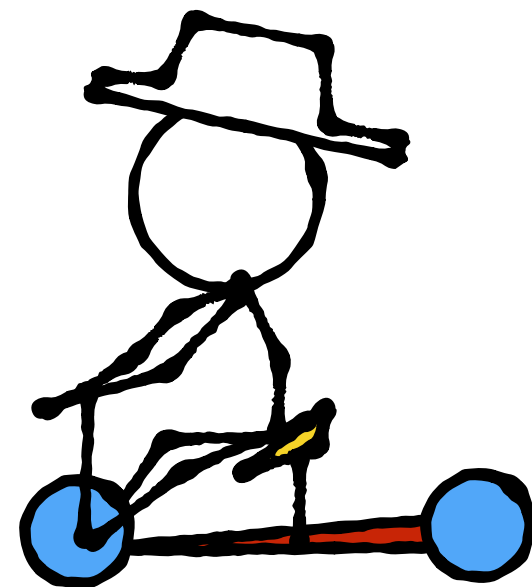


Short feedback cycles

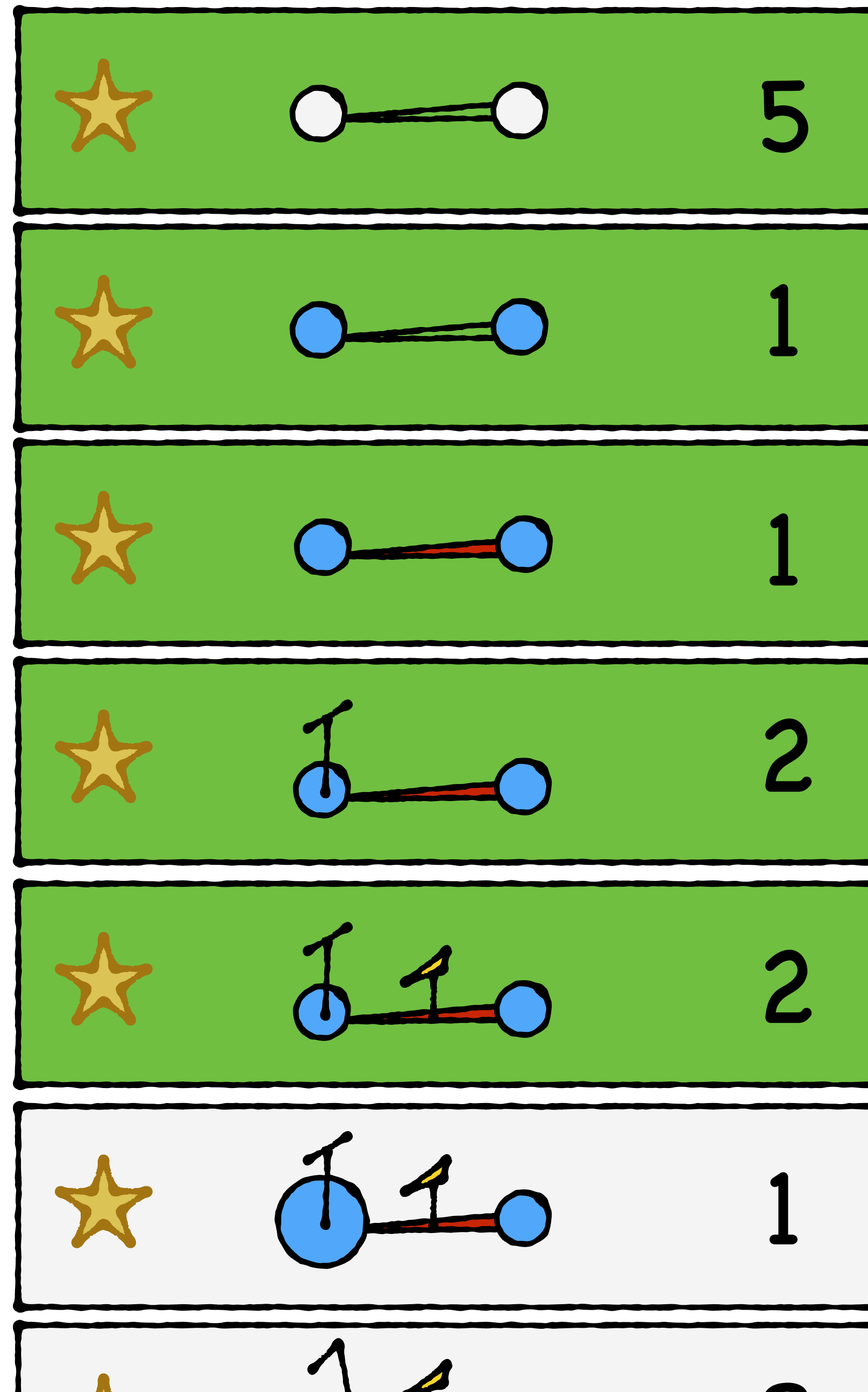
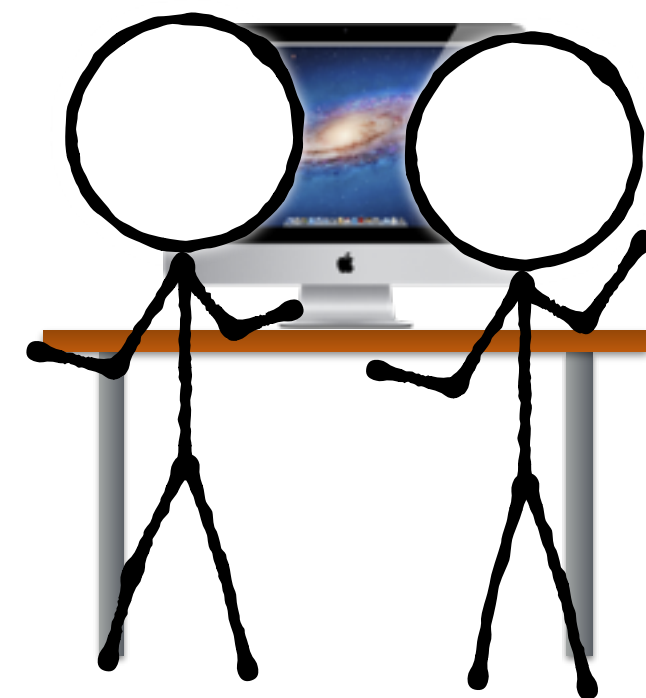
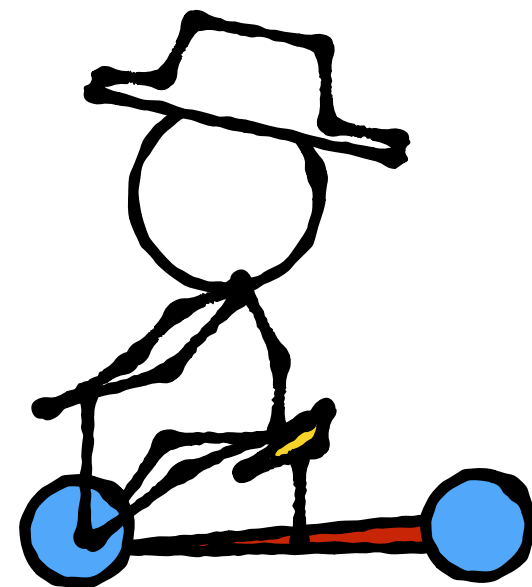




Short feedback cycles
Changing design in
response to feedback

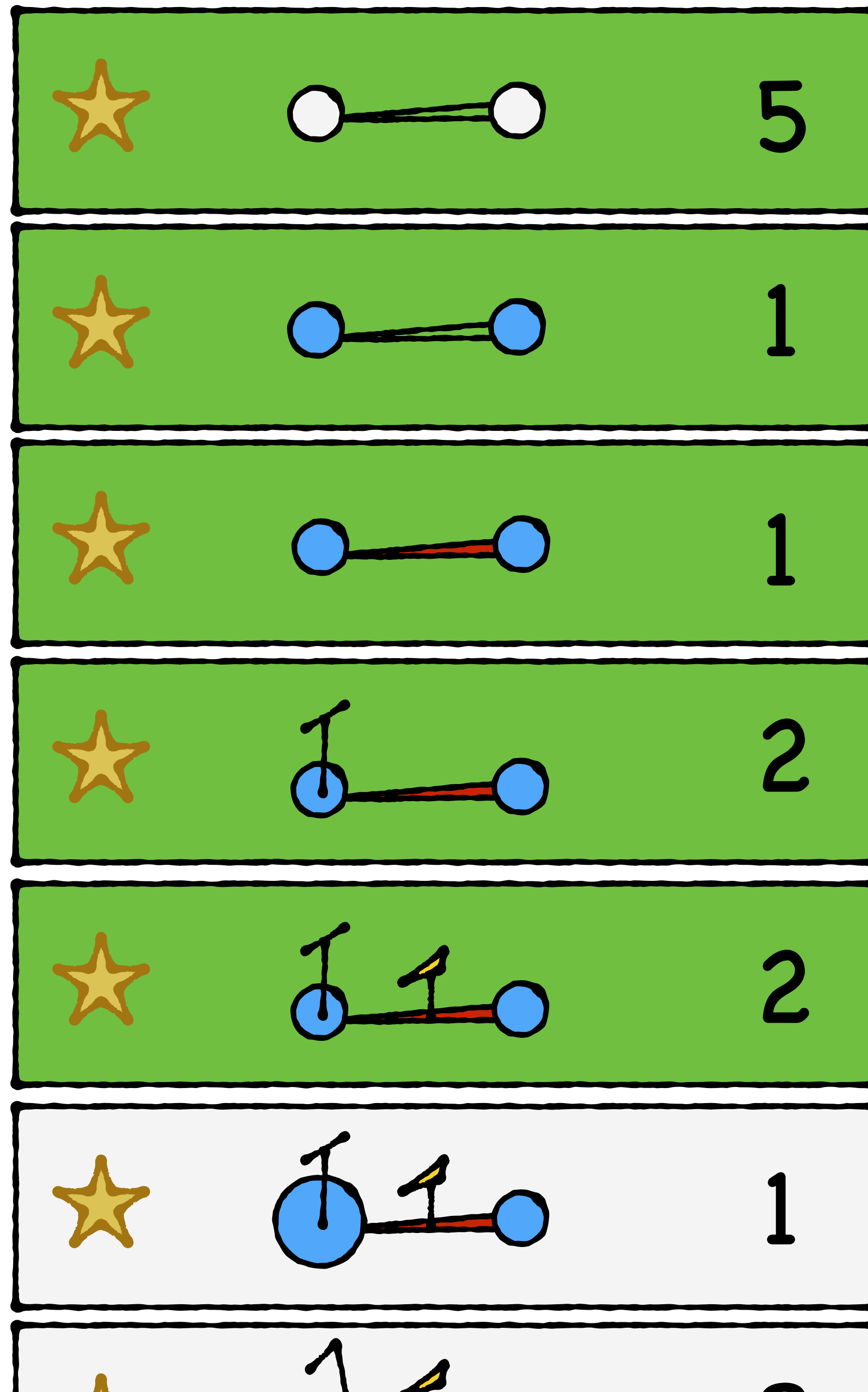
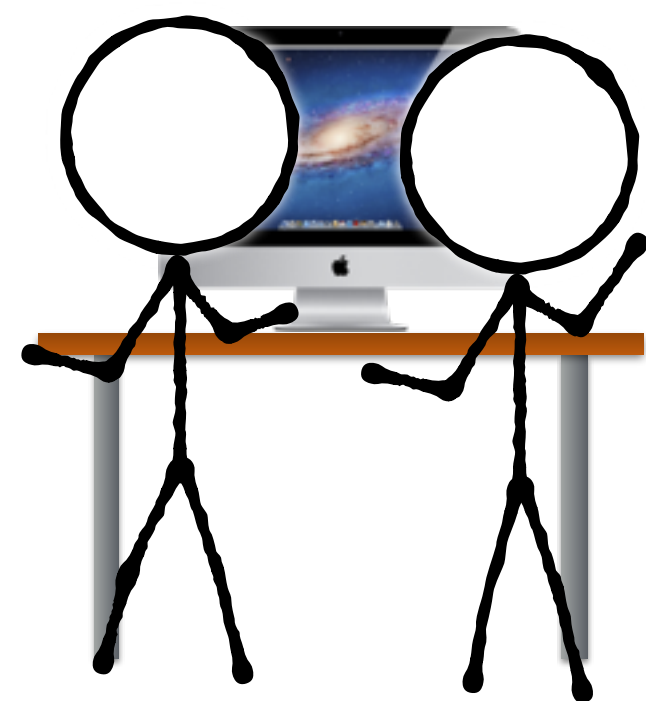
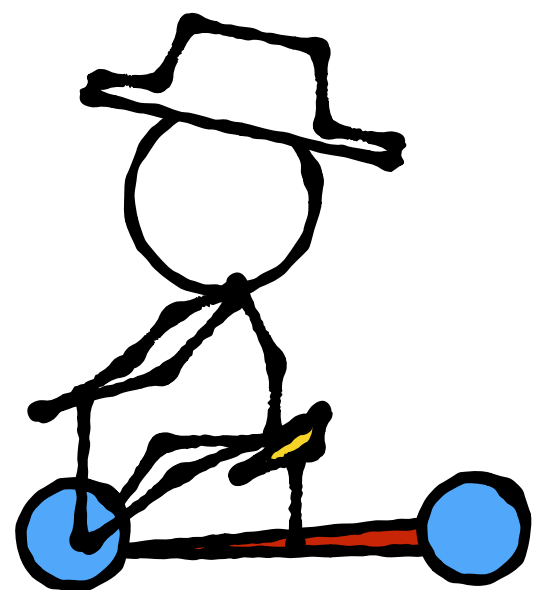


Short feedback cycles
Changing design in
response to feedback



Short feedback cycles
Changing design in
response to feedback

← **DATA**

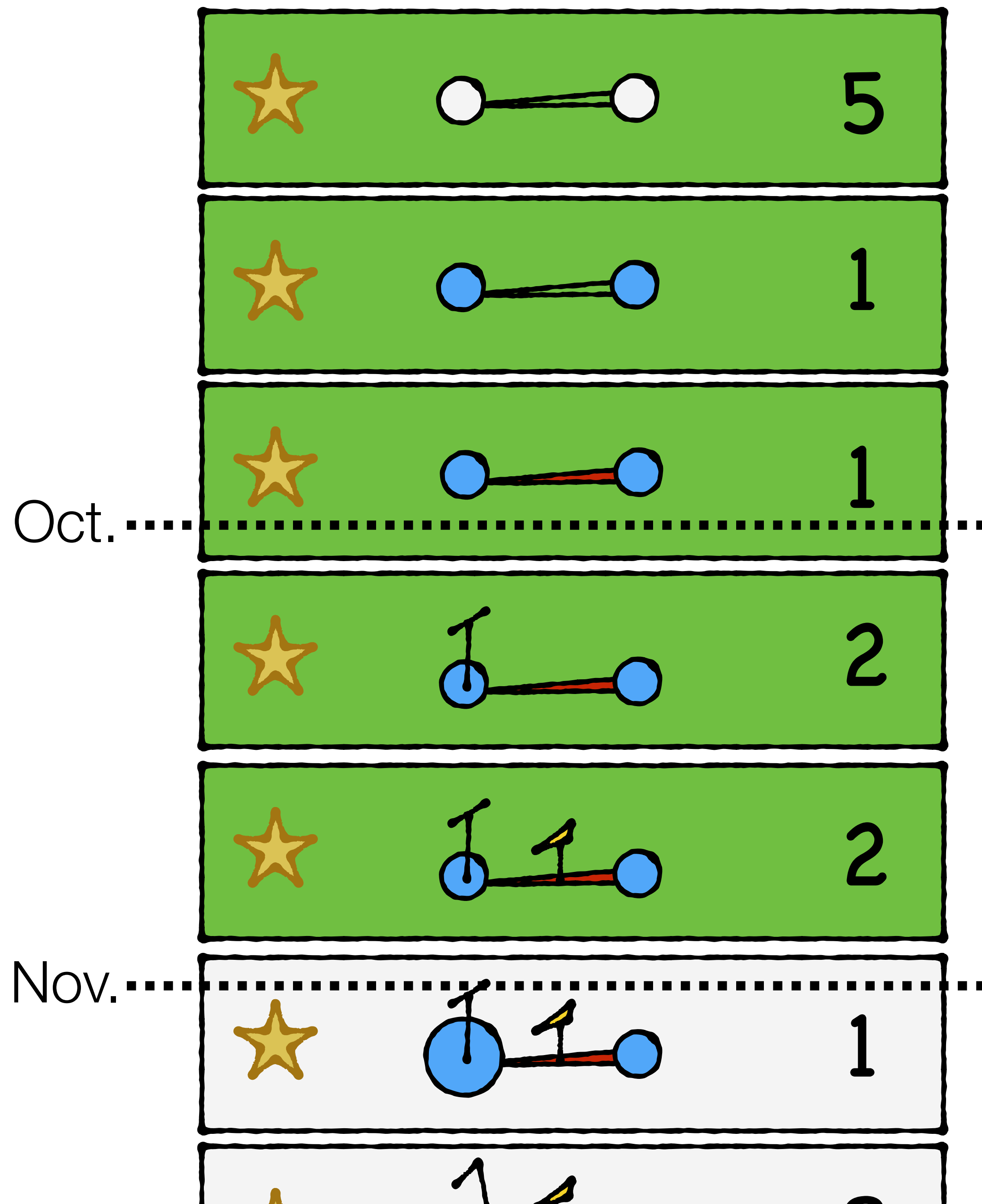
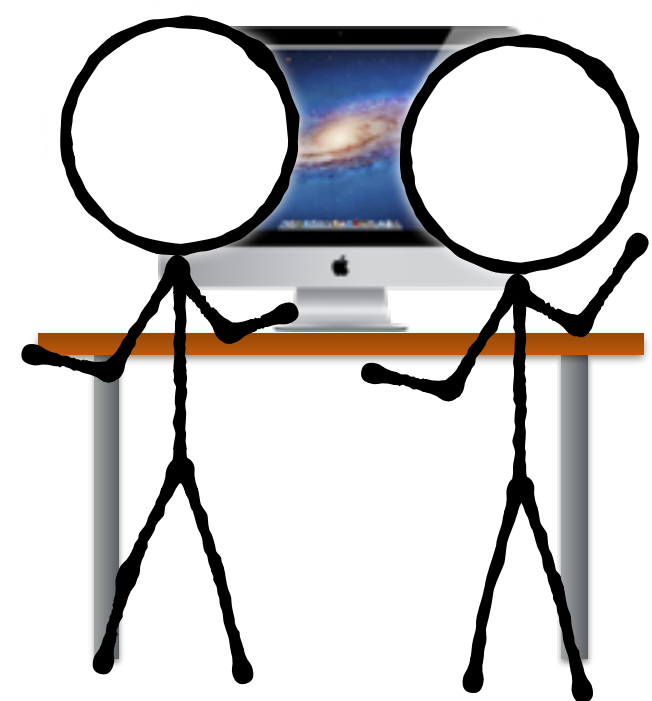
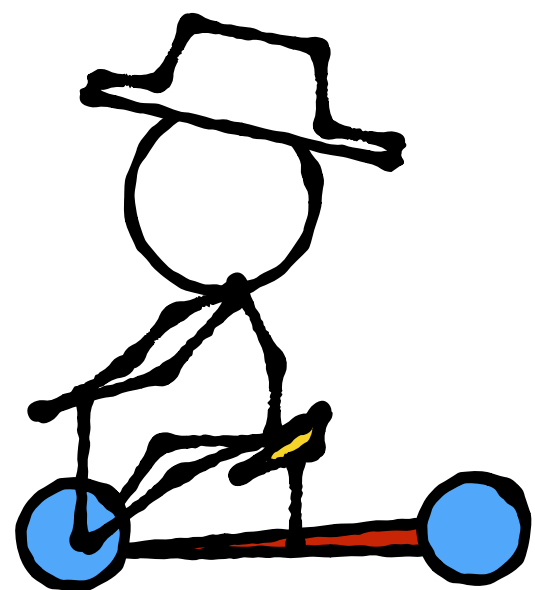


Short feedback cycles

Changing design in
response to feedback

← **DATA**

velocity = points/week



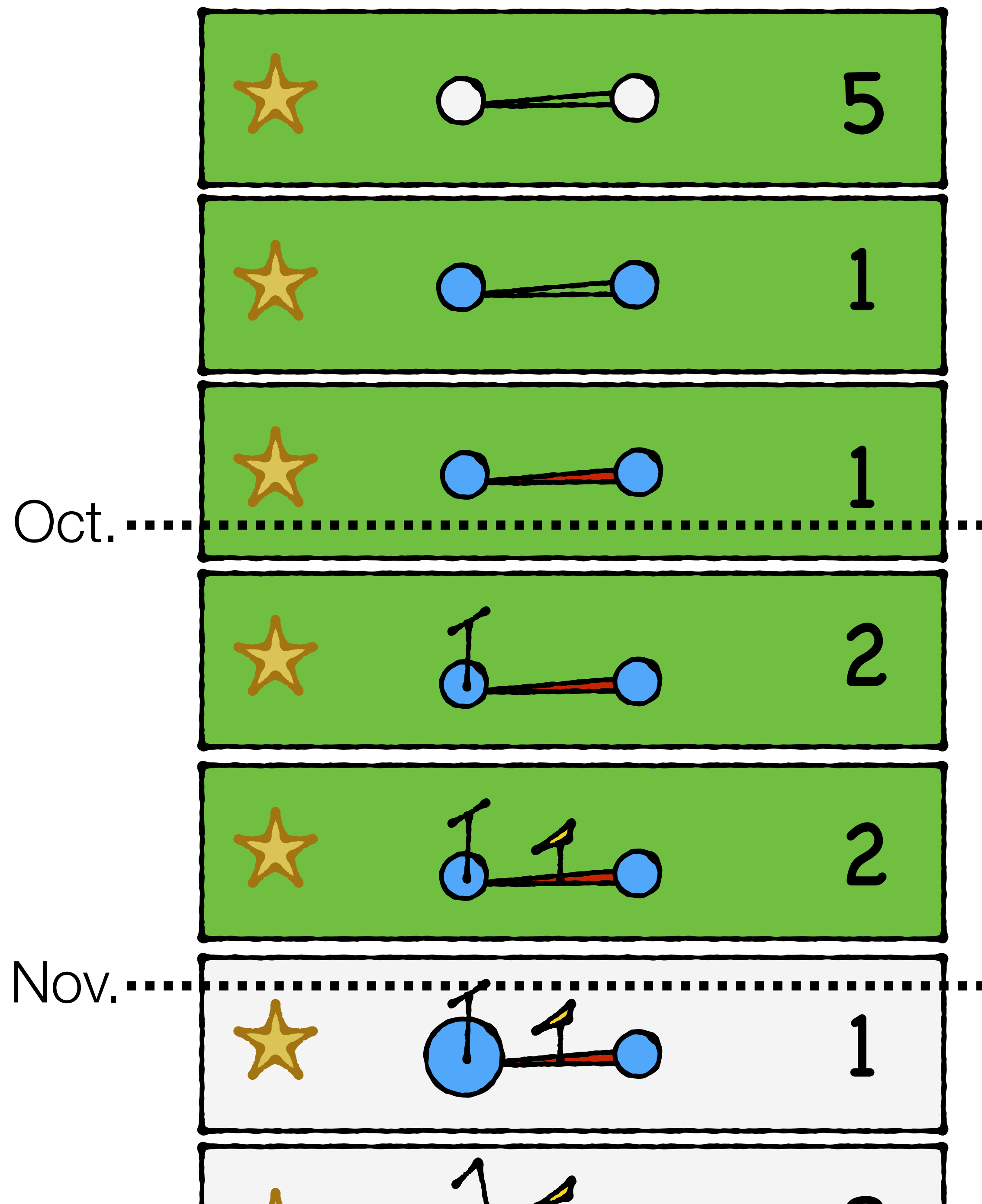
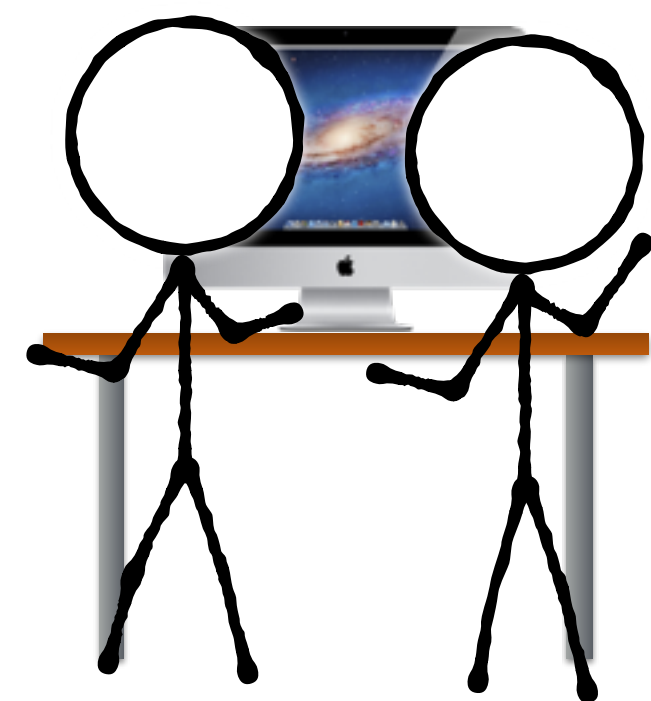
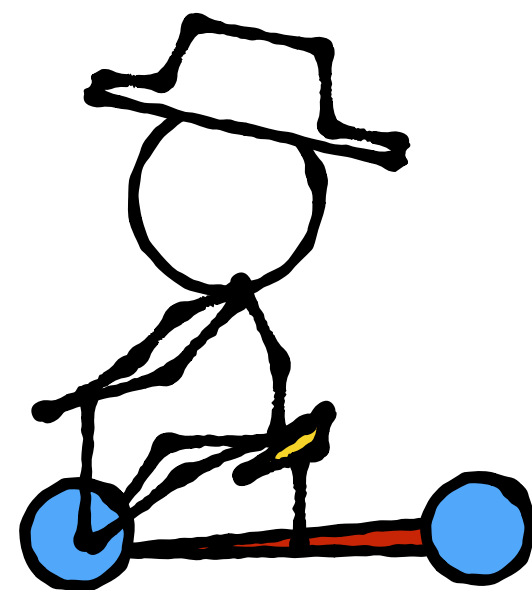
Short feedback cycles

Changing design in
response to feedback

← **DATA**

velocity = points/week

Enables data-driven
delivery predictions



Short feedback cycles

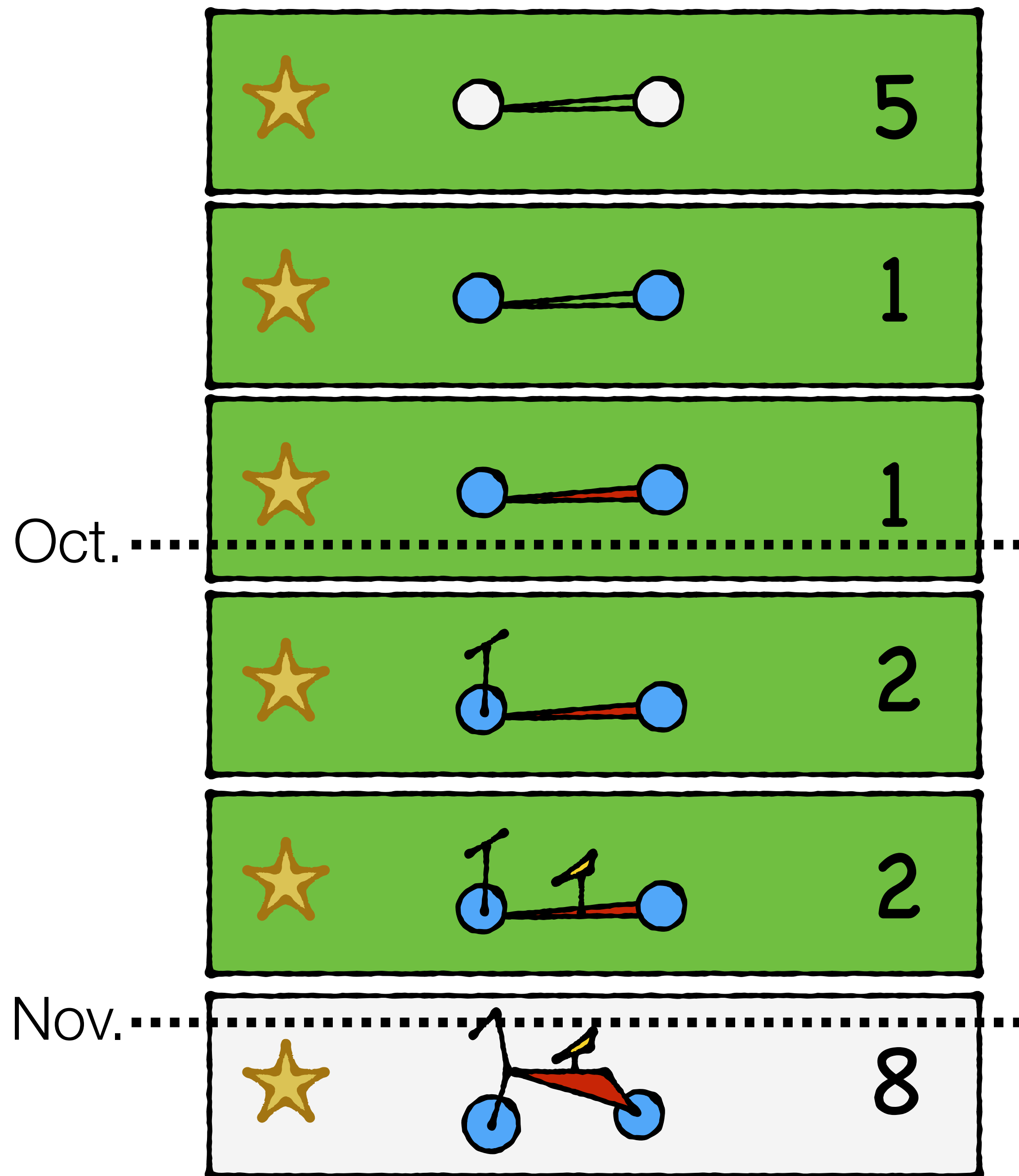
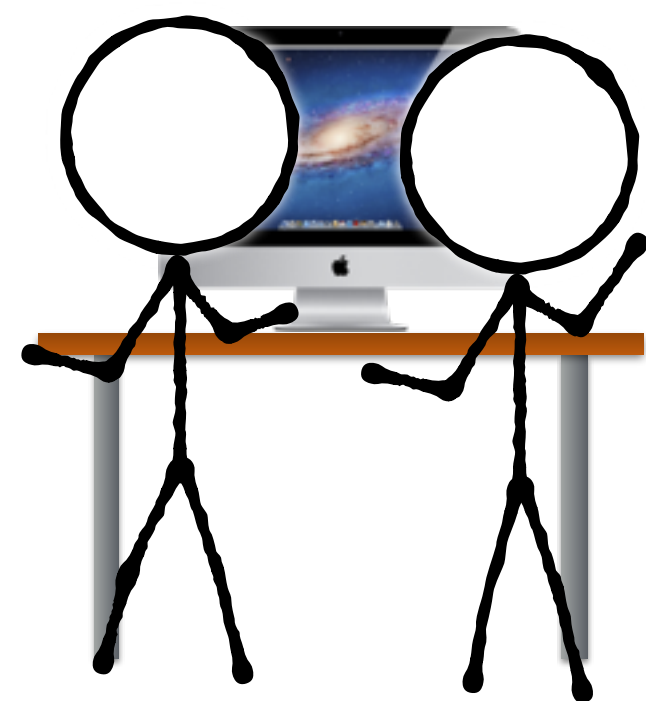
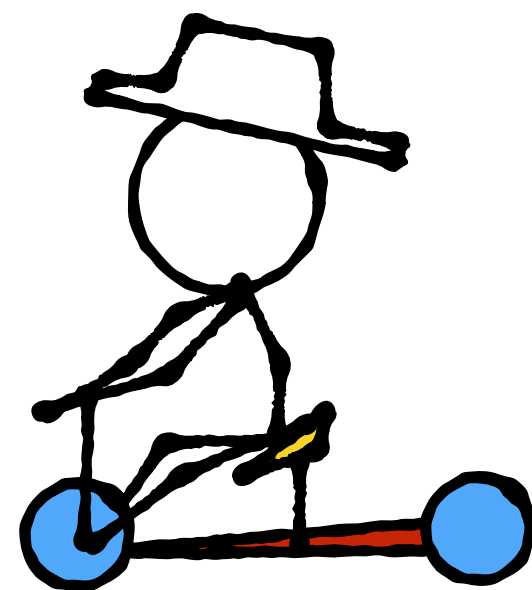
Changing design in
response to feedback

← **DATA**

velocity = points/week

Enables data-driven
delivery predictions

To hit a deadline:



Short feedback cycles

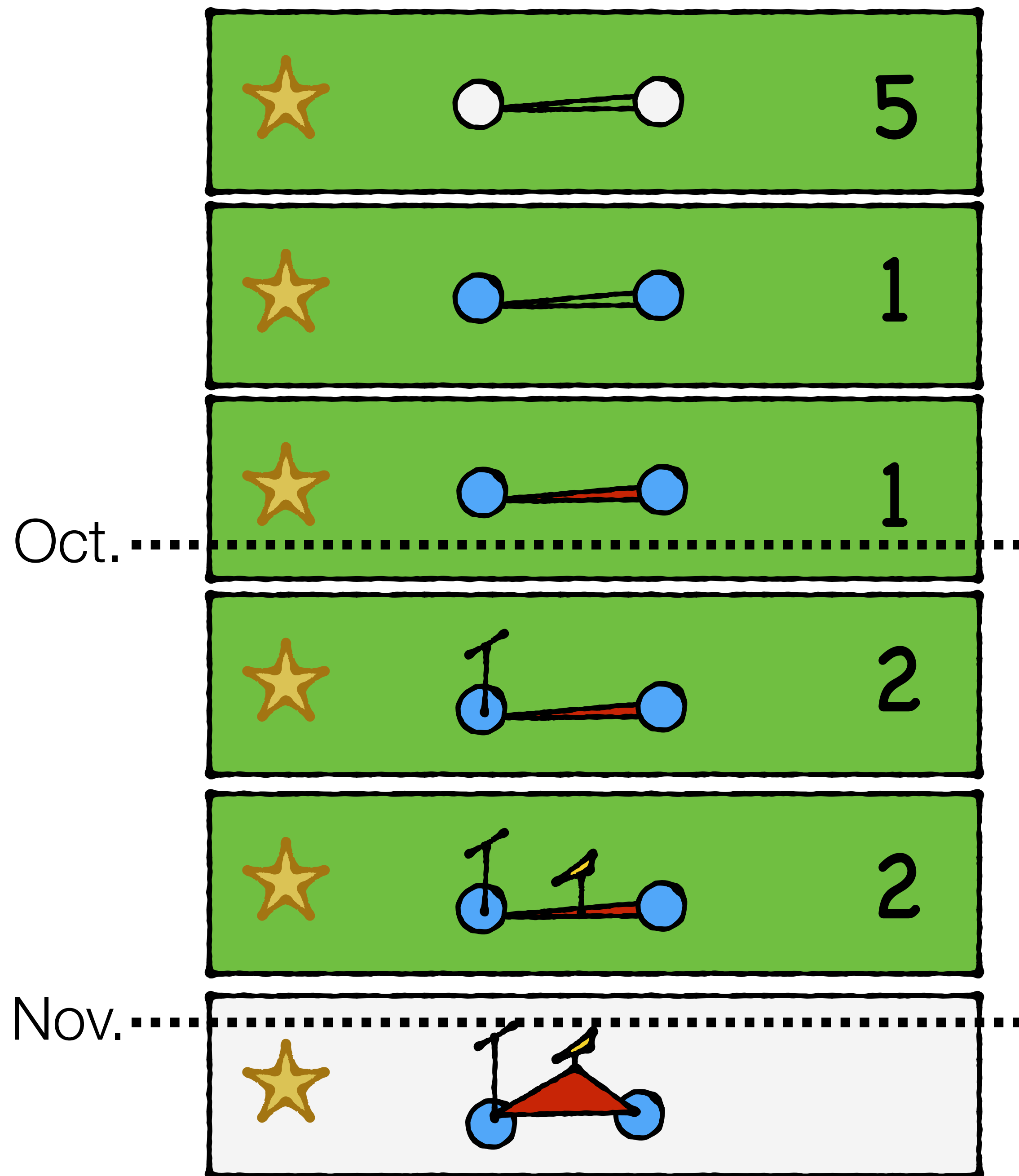
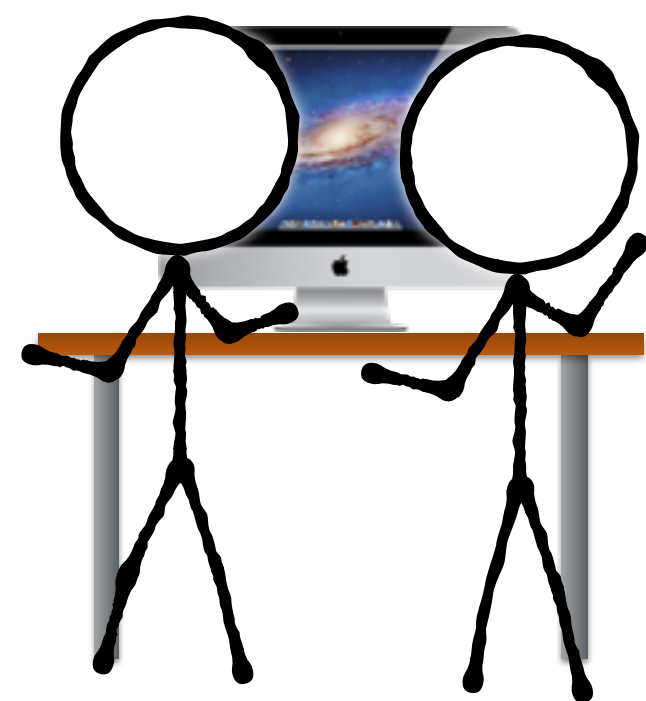
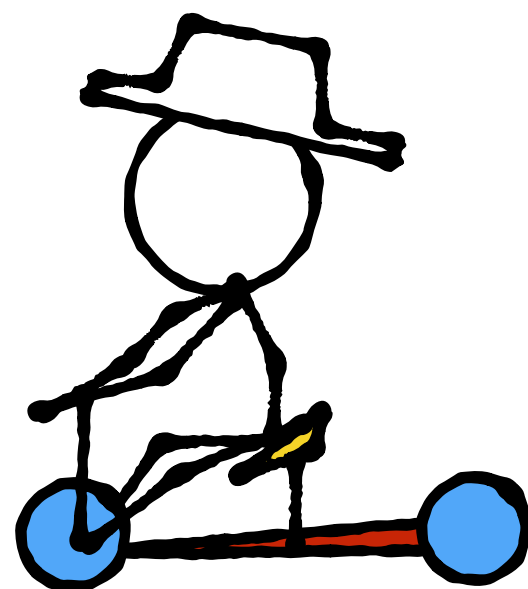
Changing design in
response to feedback

← **DATA**

velocity = points/week

Enables data-driven
delivery predictions

To hit a deadline:
Reprioritize



Short feedback cycles

Changing design in
response to feedback

← **DATA**

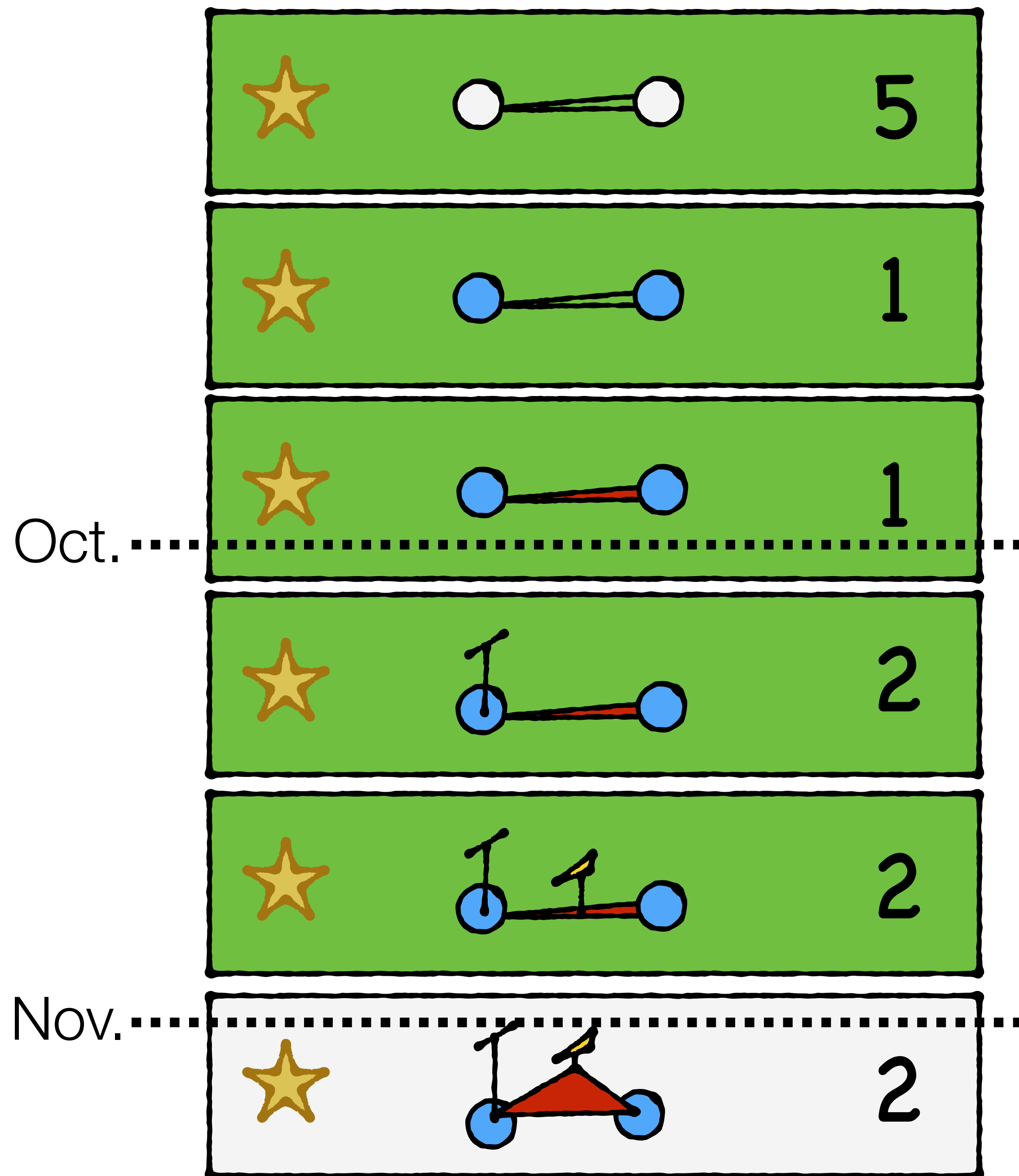
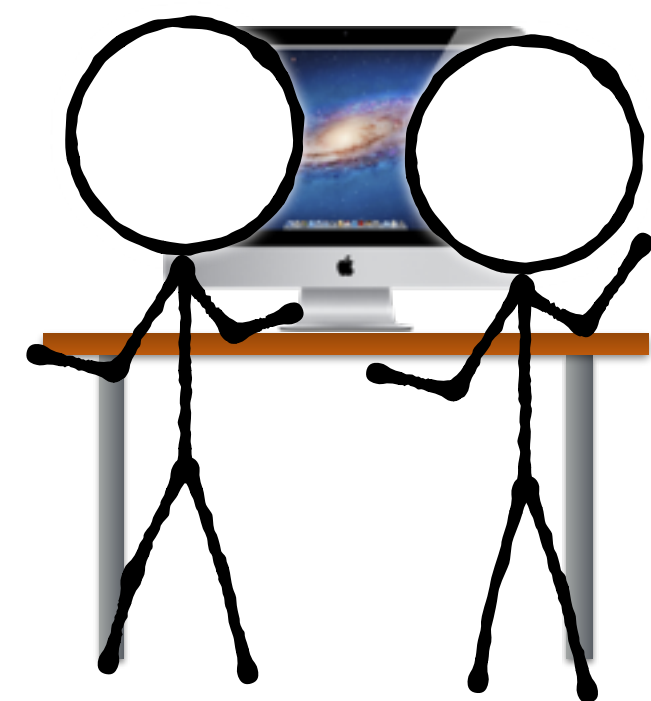
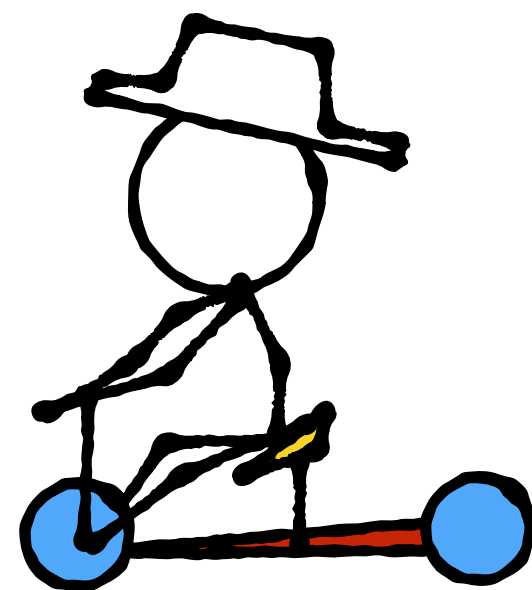
velocity = points/week

Enables data-driven
delivery predictions

To hit a deadline:

Reprioritize

Reduce Scope



Short feedback cycles

Changing design in
response to feedback

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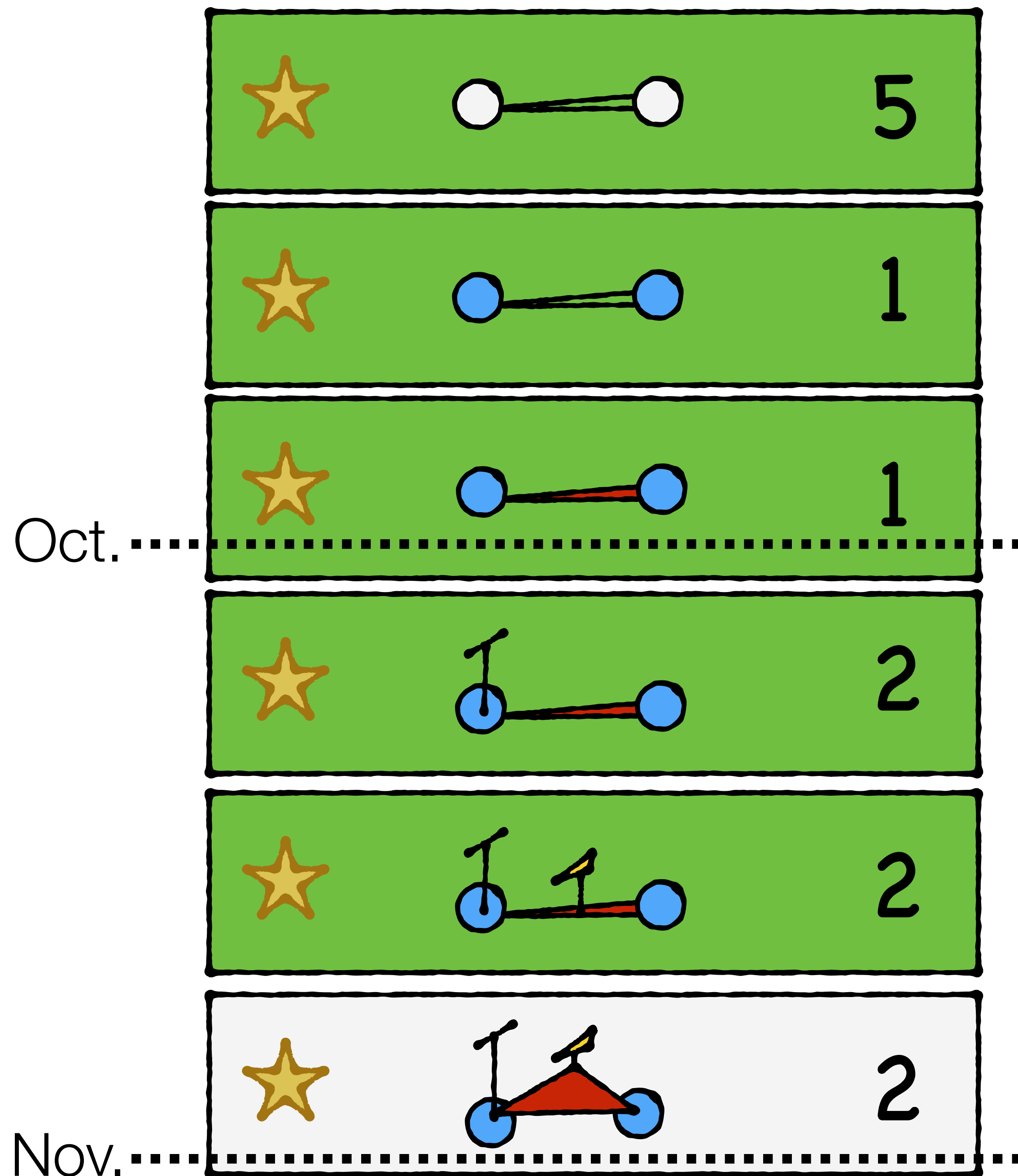
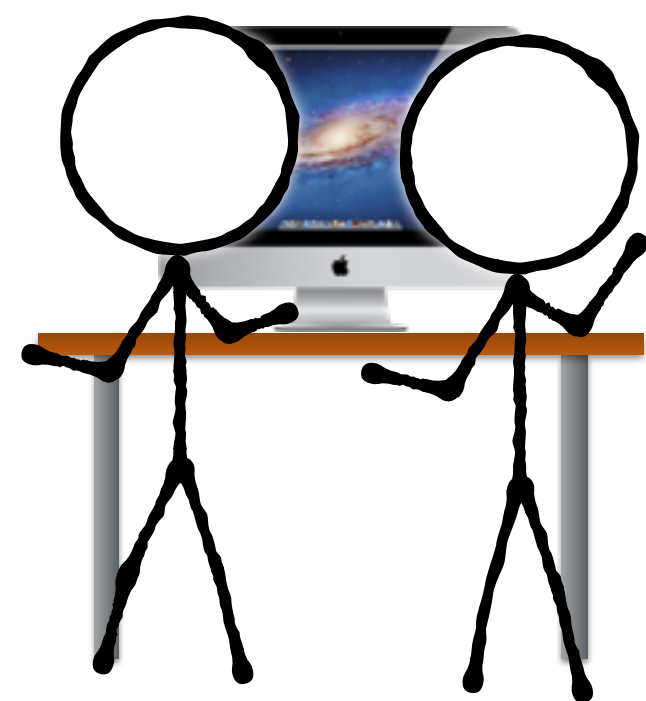
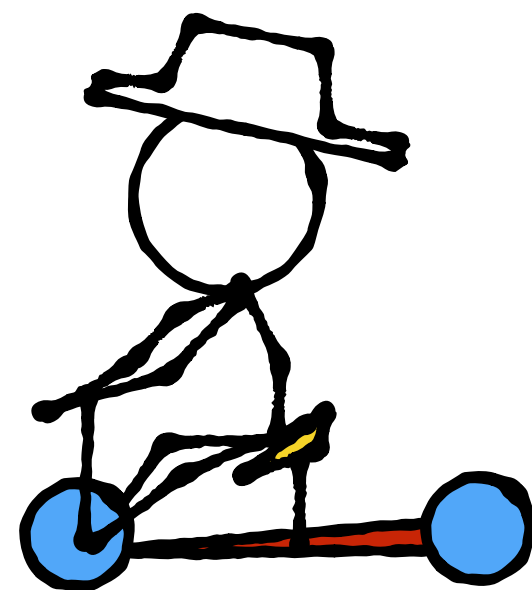
velocity = points/week

Enables data-driven
delivery predictions

To hit a deadline:

Reprioritize

Reduce Scope



Short feedback cycles

Changing design in
response to feedback

← **DATA**

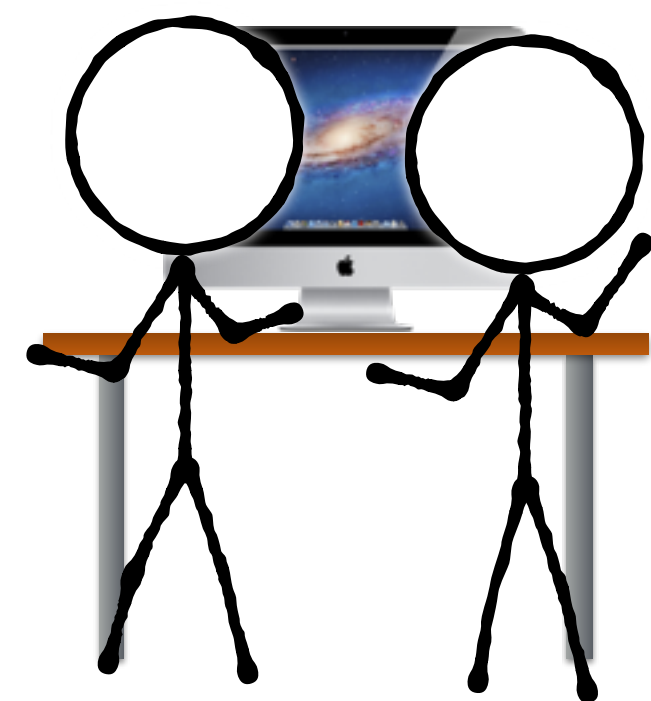
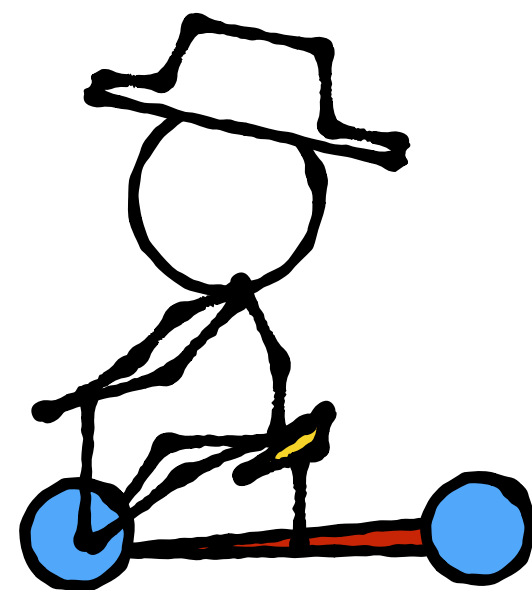
velocity = points/week

Enables data-driven
delivery predictions

To hit a deadline:

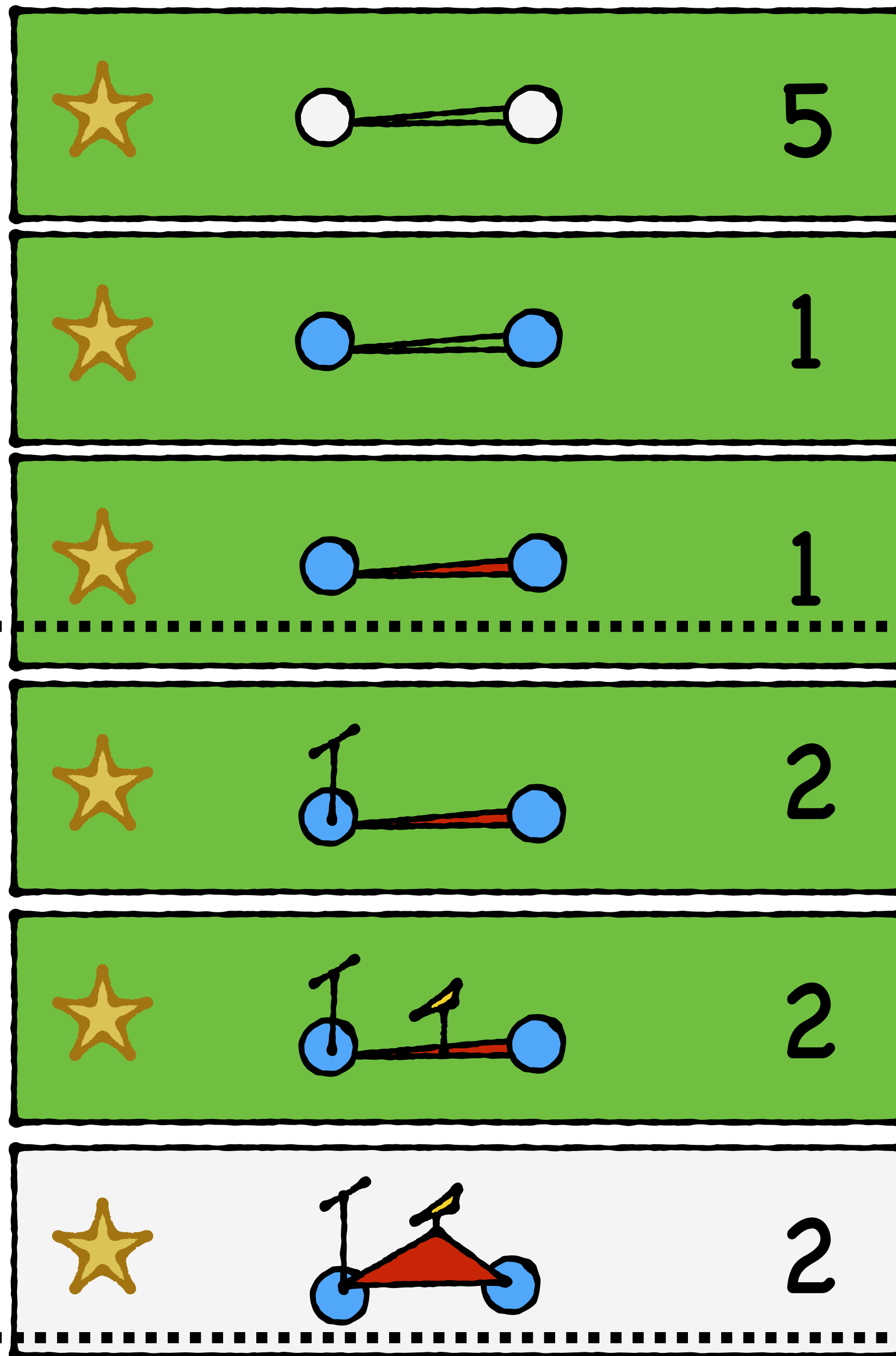
Reprioritize

Reduce Scope



Oct.

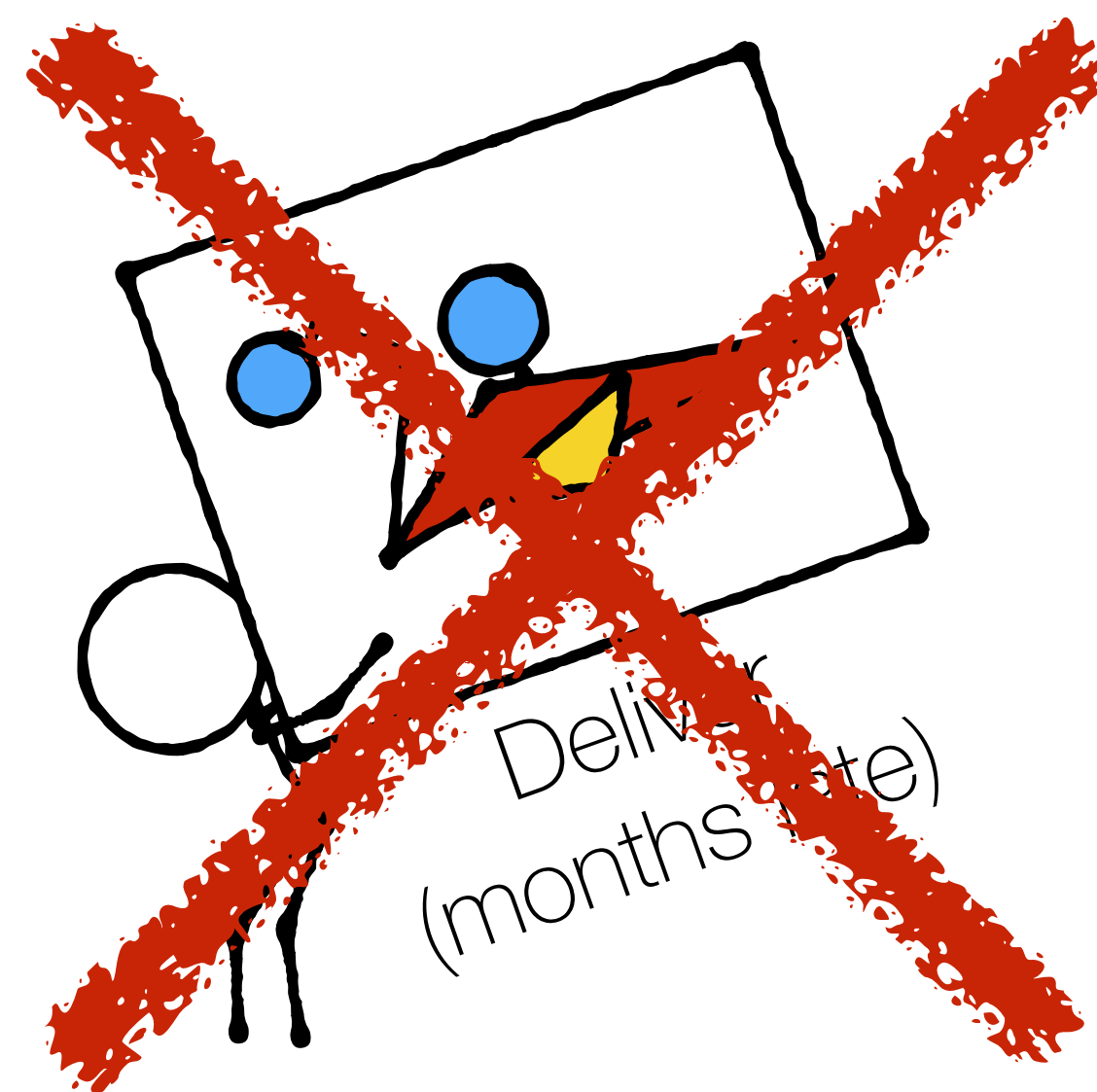
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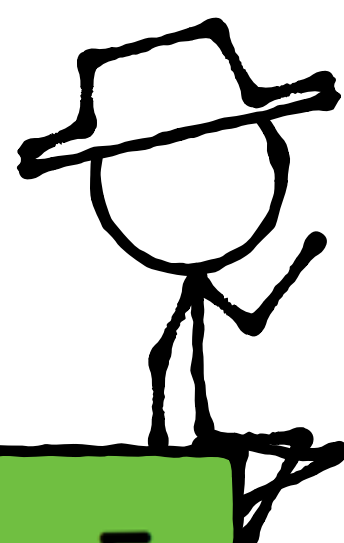
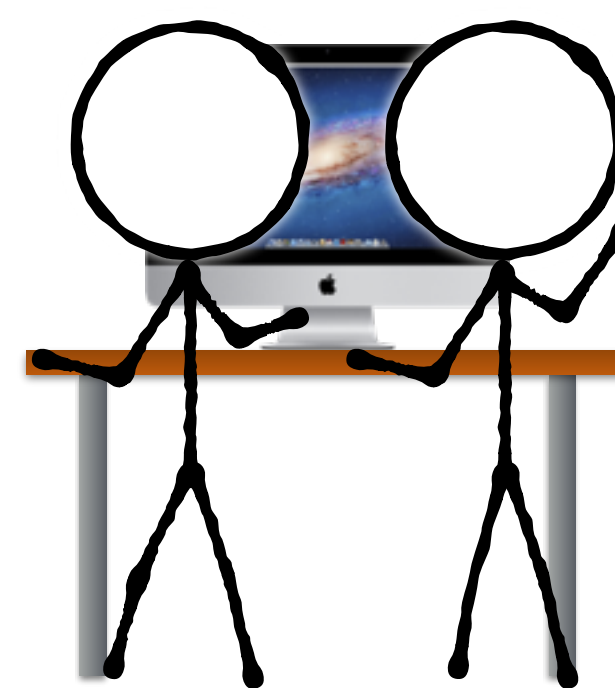


Short feedback cycles

Changing design in
response to feedback

Data driven planning



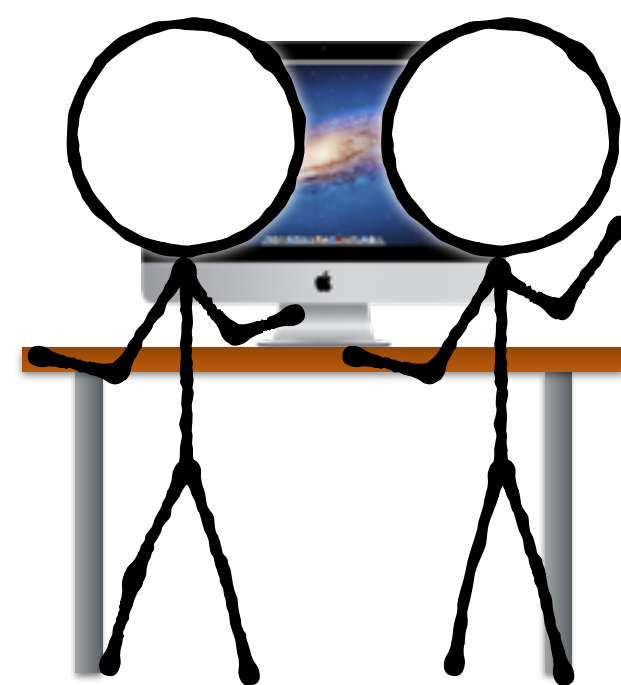
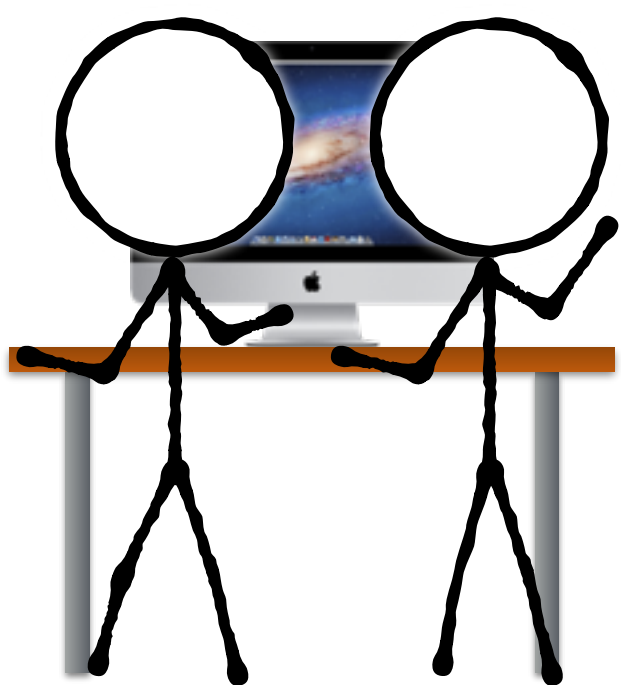
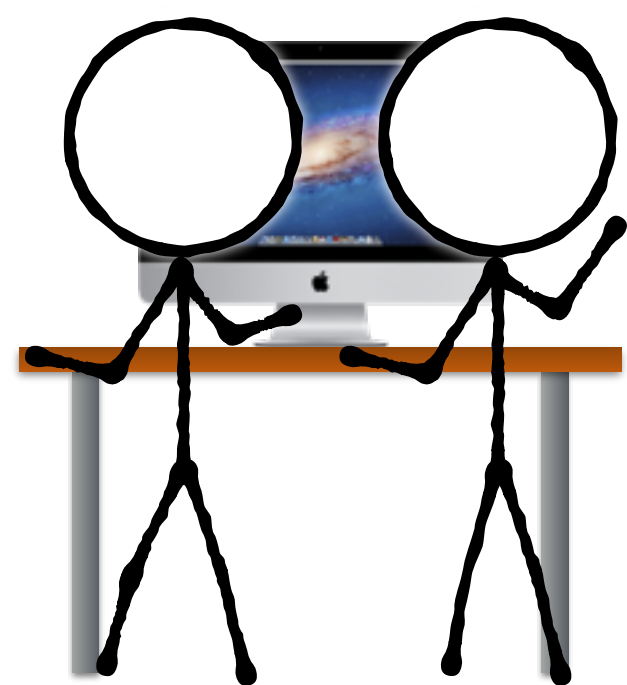
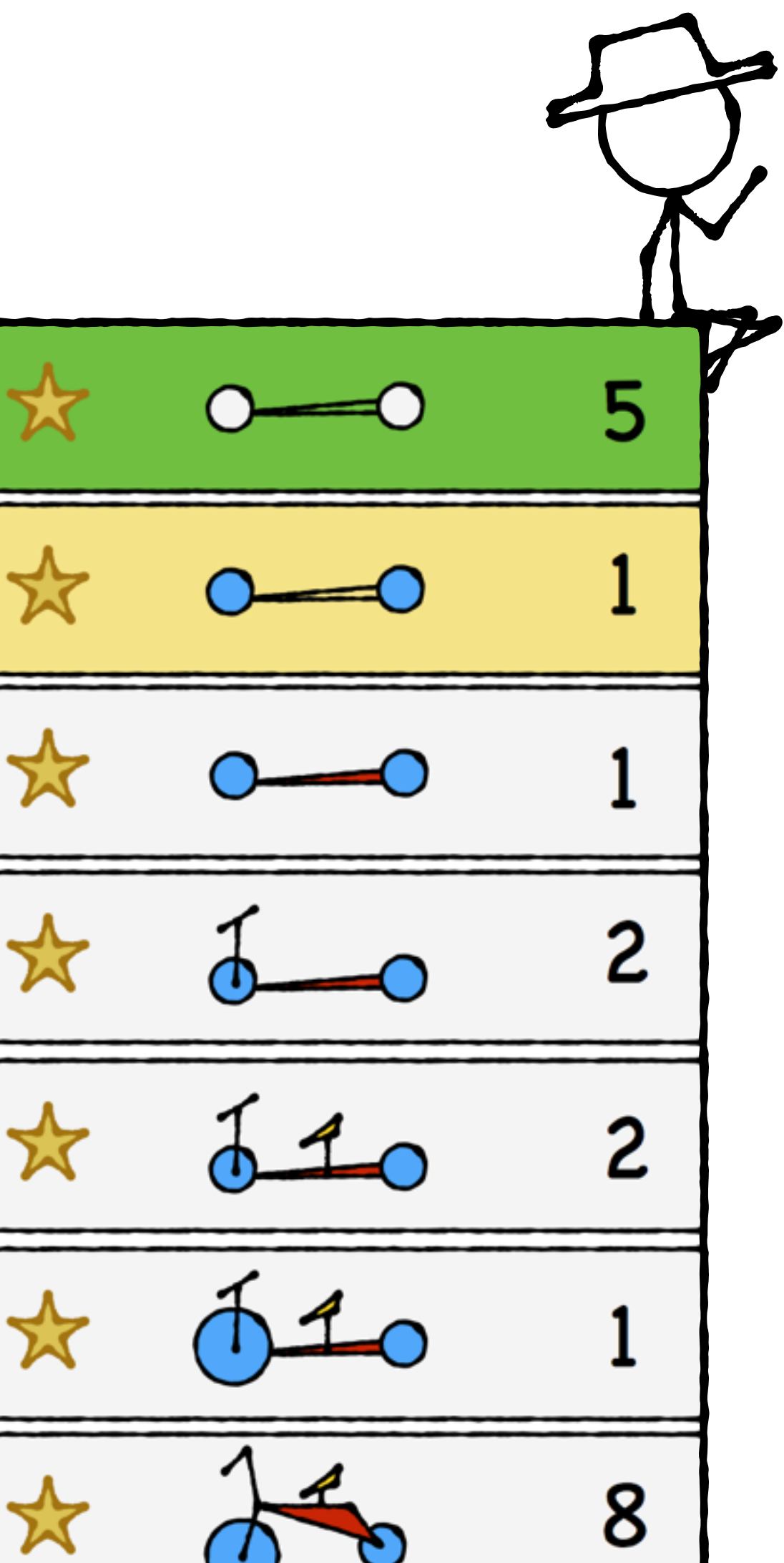


★		5
★		1
★		1
★		2
★		2
★		1
★		8

Pivotal™
culture

Why?





PivotalTM
culture



Humanizing



Building Clouds

<http://pivotal.io>

PivotalTM