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A Gentle Introduction

TDD IN GO

*Practice, libraries and tools for
Test-Driven Development in the Go language*

Luciano Ramalho | @standupdev | @ramalhoorg

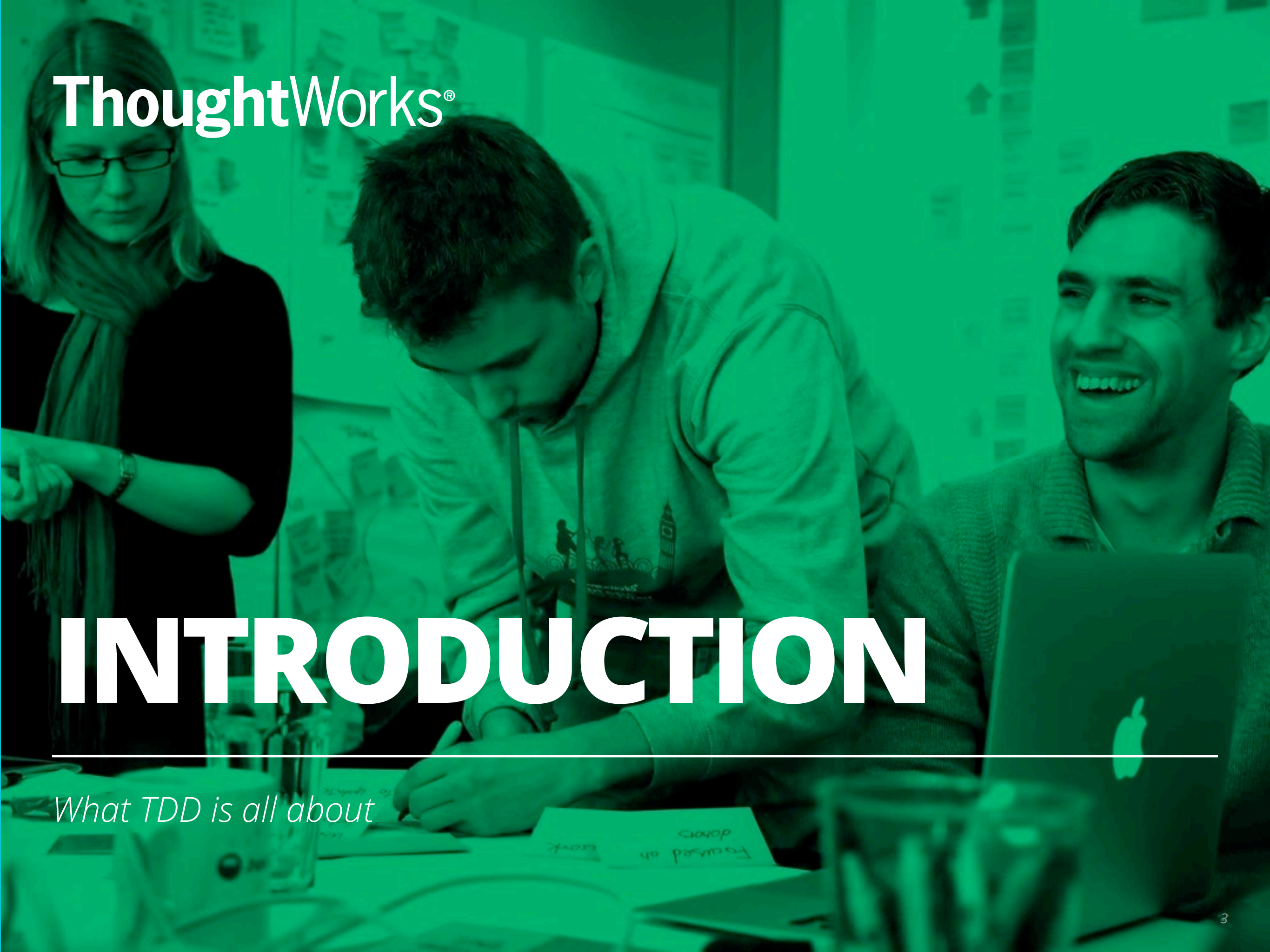# AGENDA

Brief introduction

Coding Dojo: Romans (prepared kata)

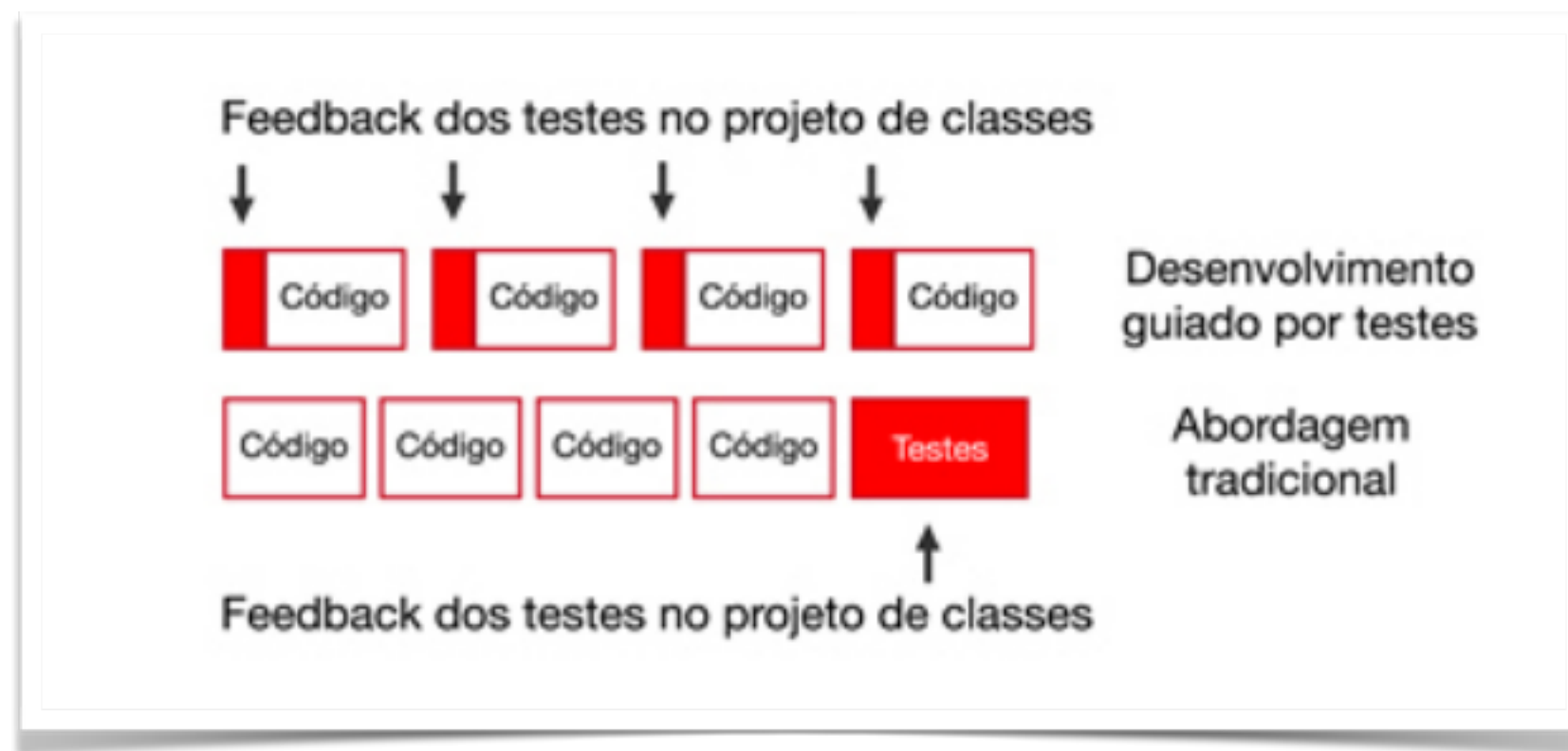Coding Dojo: Runes (randori style)

Overview of tools and libraries

INTRODUCTION
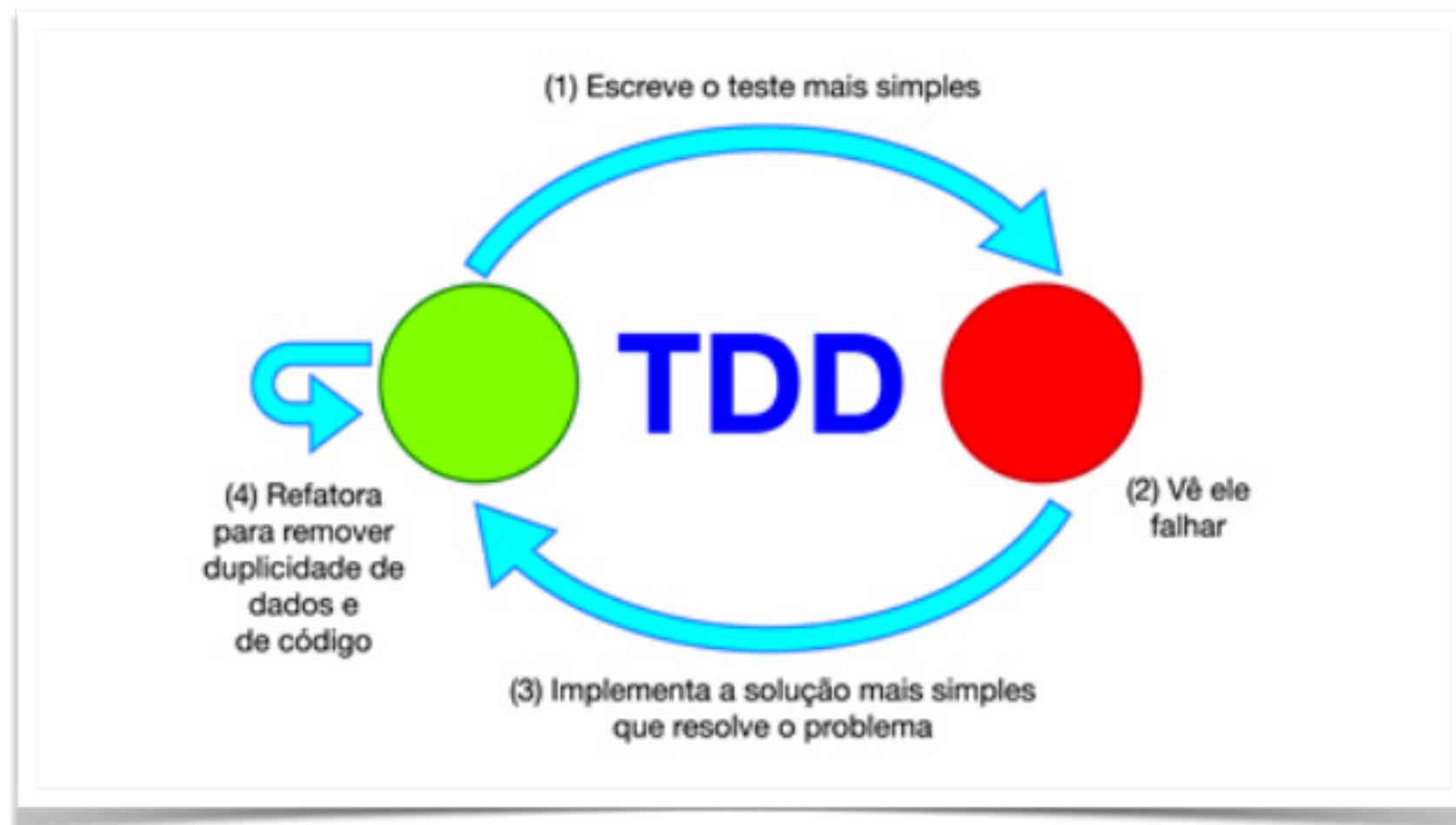
What TDD is all about

Test-Driven Development|Design
Test-first approach

Source: **Test-Driven Development**, by Hugo Corbucci and Mauricio Aniche

TDD CYCLE

Source: **Test-Driven Development**, by Hugo Corbucci and Mauricio Aniche

TDD BEST-PRACTICE FOR PAIRING: CALL SHOT

HUGO FALA

Uma técnica divertida e muito útil quando se está usando TDD é a de, antes de rodar o teste, narrar o resultado esperado. Algo como:

- Espero que este teste falhe com uma exceção que diz que o método `maior_valor` não existe.

- Agora espero que o teste falhe dizendo que esperava 250 mas devolveu `nil`.

- Agora o teste vai passar.

Apesar de o exercício parecer fútil, falar em voz alta o resultado que esperamos nos ajuda a tomar consciência do nosso erro quando o resultado não bater. Também torna a prática de programação em pares mais divertida e garante que ambas as pessoas no par estejam acompanhando uma a outra. Nesse caso, a pessoa que não escreveu o teste é a que precisa prever o que vai acontecer.

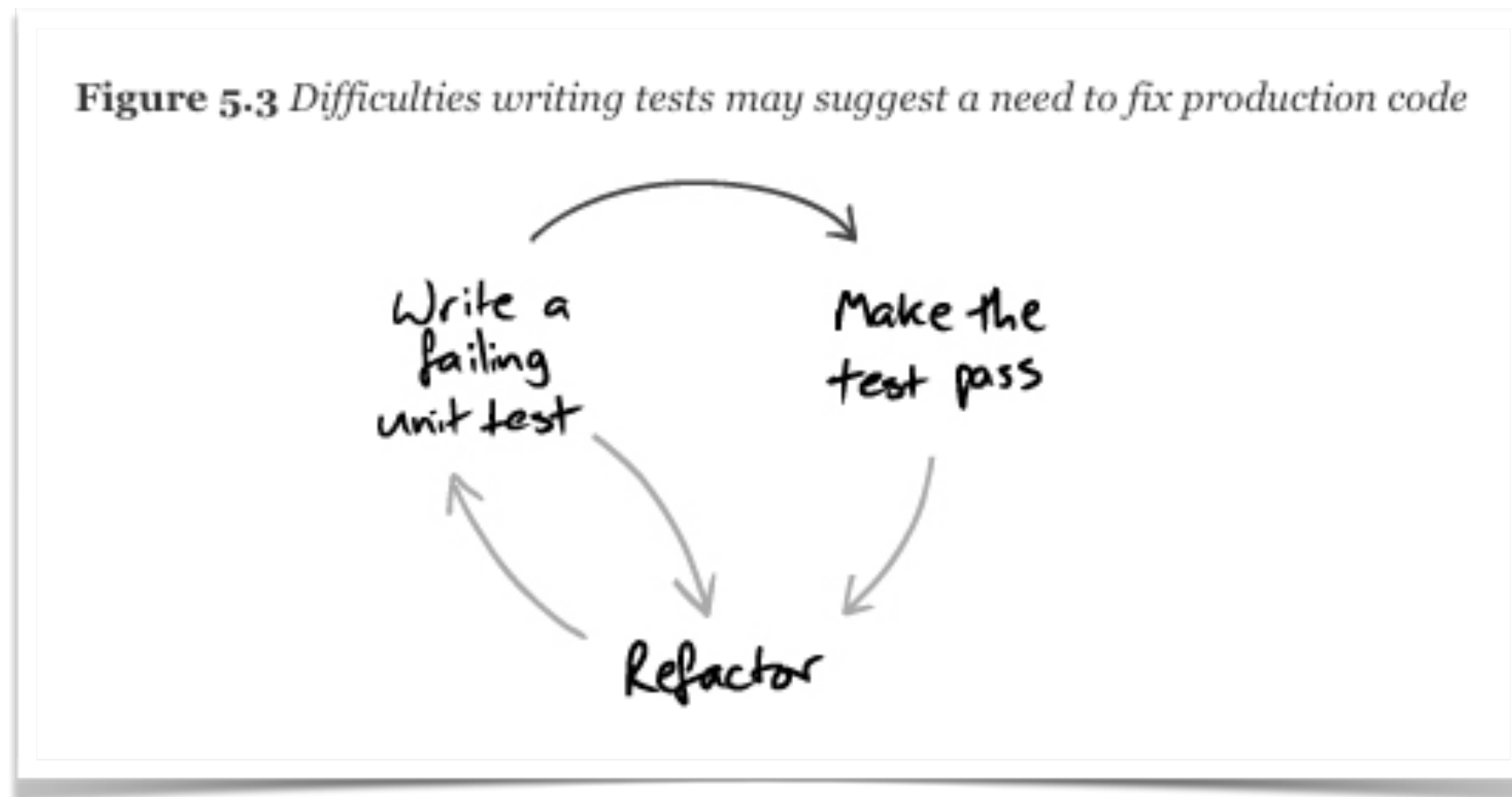Source: **Test-Driven Development**, by Hugo Corbucci and Mauricio Aniche

TDD CYCLE: IMPROVE FAILING REPORTS

Figure 5.2 *Improving the diagnostics as part of the TDD cycle*

Source: **Growing Object-Oriented Software, Guided by Tests**
by Steve Freeman, Nat Pryce

TDD CYCLE: REFACTOR AFTER TEST

Figure 5.3 *Difficulties writing tests may suggest a need to fix production code*

Write a failing unit test → Make the test pass → Refactor → (repeat)

Source: **Growing Object-Oriented Software, Guided by Tests**
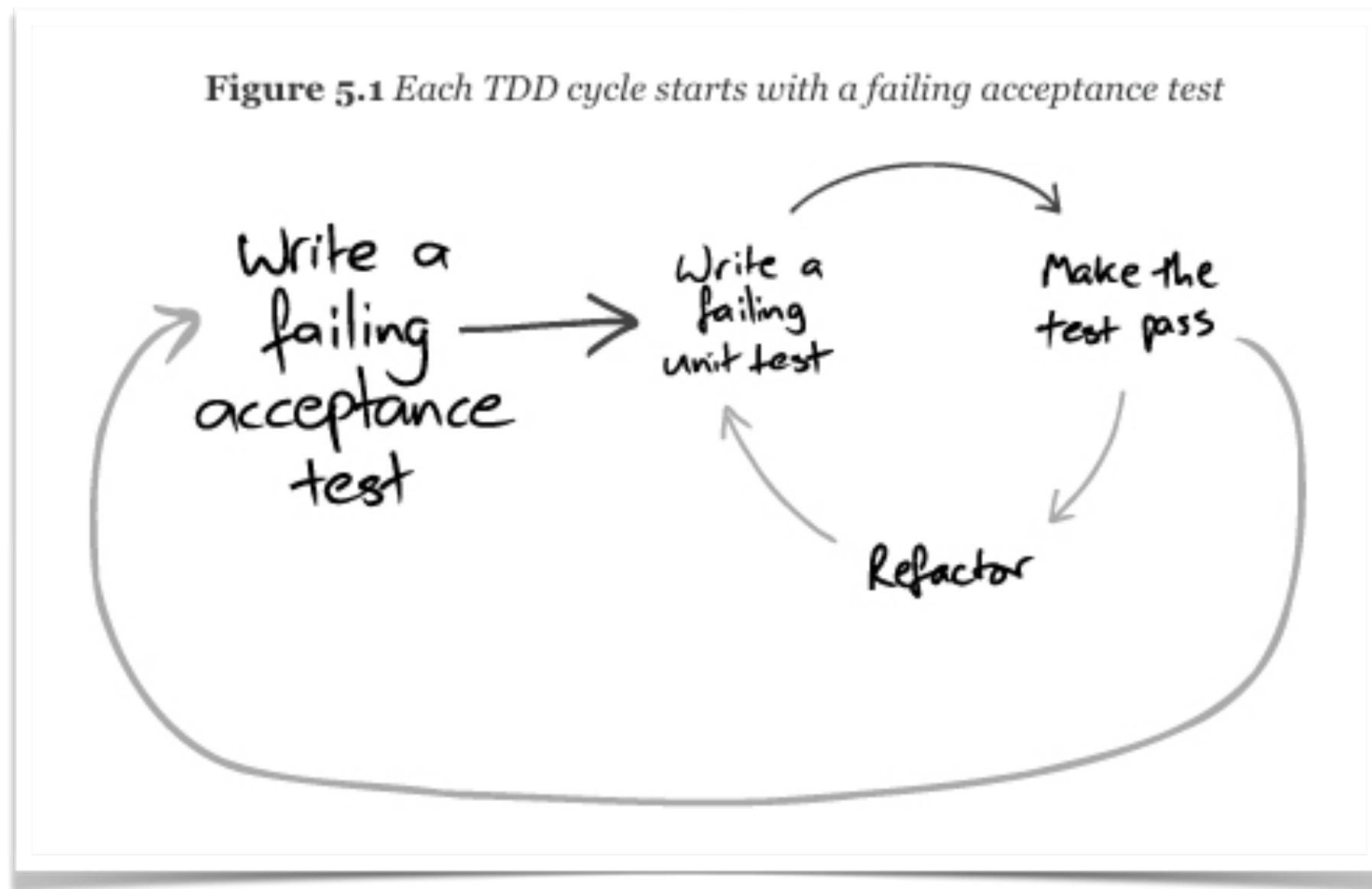by Steve Freeman, Nat Pryce

TDD STYLES

Chicago style, a.k.a. "classic"

Mostly inside-out: from unit tests to acceptance tests

London style, a.k.a. "mockist"

Mostly outside-in: from acceptance tests to unit tests

TDD CYCLES: MOCKIST STYLE

Figure 5.1 Each TDD cycle starts with a failing acceptance test

Write a failing acceptance test → Write a failing unit test → Make the test pass → Refactor

Source: **Growing Object-Oriented Software, Guided by Tests**
by Steve Freeman, Nat Pryce

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CODING DOJO

Let's practice

CODING DOJO STYLES

Randori

Pairs of pilot and co-pilot alternate in 7-minute intervals

Prepared kata

Experienced coder demonstrates via live coding

BABY STEPS

Work on small increments

Like 4L on 4WD: no need to engage at all times, but good when the going is tough

At first: practice with the smallest increments you can think

TOOLS

Libraries and utilities for TDD in Go

GO LIBRARIES FOR TESTING

Go testing libraries with most Github stars

5251 stretchr/testify

3685 smartystreets/goconvey

2166 onsi/ginkgo

1452 golang/mock

902 DATA-DOG/go-sqlmock

884 gavv/httpexpect

709 onsi/gomega

575 google/go-cmp

512 franela/goblin

502 h2non/baloo

496 h2non/gock

404 DATA-DOG/godog

387 go-check/check

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REFERENCES

Where to learn more

REFERENCES

MORE REFERENCES

Books

Kent Beck: **Test Driven Development: By Example** https://tgo.li/2NvBfcX

Steve Freeman, Nat Pryce:
Growing Object-Oriented Software, Guided by Tests https://tgo.li/2tV8QoK

Posts|Videos

Martin Fowler: **Mocks Aren't Stubs** https://tgo.li/2lUqTXv

Martin Fowler: **Is TDD Dead?** https://tgo.li/2IWOAYn

Michael Feathers , Steve Freeman:
Test Driven Development: Ten Years Later https://tgo.li/2KD2Gnm

Stanislav Pankevich:
Notes on "TDD by Example" by Kent Beck https://tgo.li/2ufKWDN

THANK YOU

Let's connect!

Luciano Ramalho
@standupdev | @ramalhoorg
luciano.ramalho@thoughtworks.com

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ANOTHER WAY TO DO A BIG TITLE OR SECTION DIVIDER

Add a subhead if you want.

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FULL BLEED PHOTO WITH TEXT OVERLAY

Place the text wherever the photo subjects dictates. You can delete this subhead and the keyline above.

ThoughtWorks®

FULL BLEED PHOTO WITH TEXT OVERLAY

Place the text wherever the photo subjects dictates. You can delete this subhead and the keyline above.

UNTINTED PHOTO

Use with caution

YOUR BASIC, HARD-WORKING CONTENT SLIDE

A content headline

Did you know hitting tab at the beginning of a line demotes it from a headline (default) to body copy (what you see here)?

Shift-tab makes a headline again.

And back down to body by hitting tab again.

- Tab one more time to start bullets

- Enter begins the next bullet
  - Tab again for sub-bullets
    - And again for tiny bullets

50/50 SPLIT

A content headline

Did you know hitting tab at the beginning of a line demotes it from a headline (default) to body copy (what you see here)?

Shift-tab makes a headline again.

And back down to body by hitting tab again.

- Tab one more time to start bullets
- Enter begins the next bullet
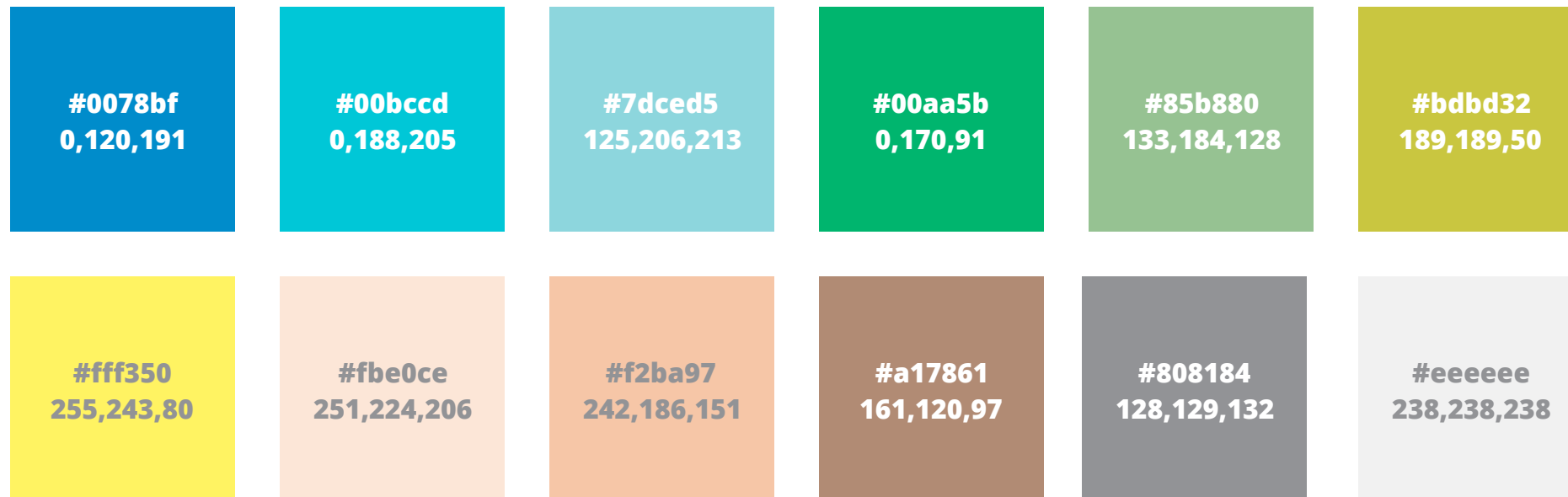 - Tab again for sub-bullets

Sometimes you need a blank template.

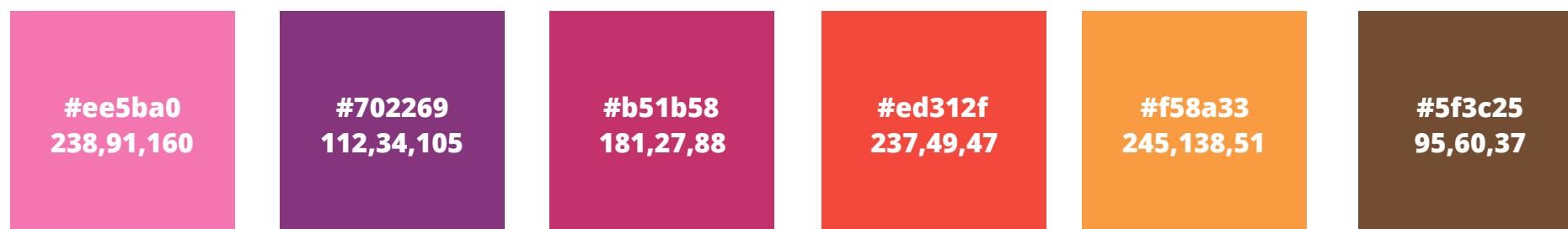*Sometimes you want to say something simply and boldly on a dedicated slide. This template is called the "quote".*

BLANK PAGE WITH A TITLE

COLOR-PALETTE

Safe on Projectors

#0078bf 0,120,191	**#00bccd** 0,188,205	**#7dced5** 125,206,213	**#00aa5b** 0,170,91	**#85b880** 133,184,128	**#bdbd32** 189,189,50
#fff350 255,243,80	**#fbe0ce** 251,224,206	**#f2ba97** 242,186,151	**#a17861** 161,120,97	**#808184** 128,129,132	**#eeeeee** 238,238,238

Risky on Projectors

#ee5ba0 238,91,160	**#702269** 112,34,105	**#b51b58** 181,27,88	**#ed312f** 237,49,47	**#f58a33** 245,138,51	**#5f3c25** 95,60,37

BOXES, SHAPES AND TABLES

By default, a floating
text box looks like this

Shapes are tinted gray,
with lots of padding.

Works for
any shape

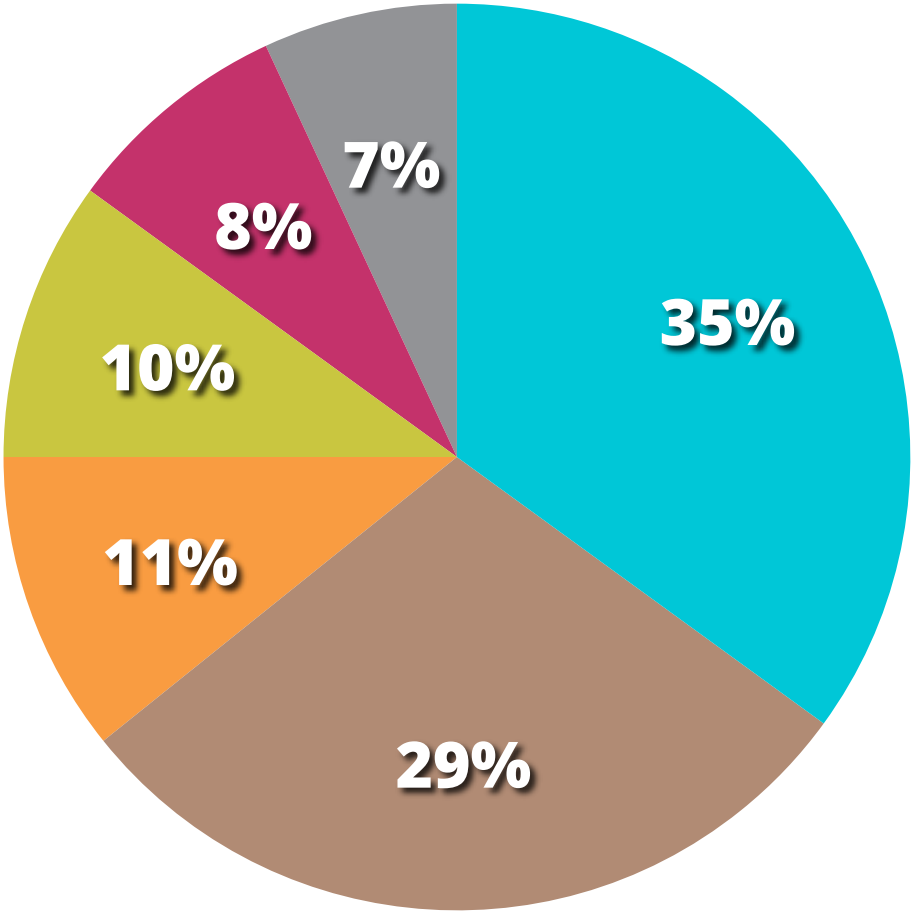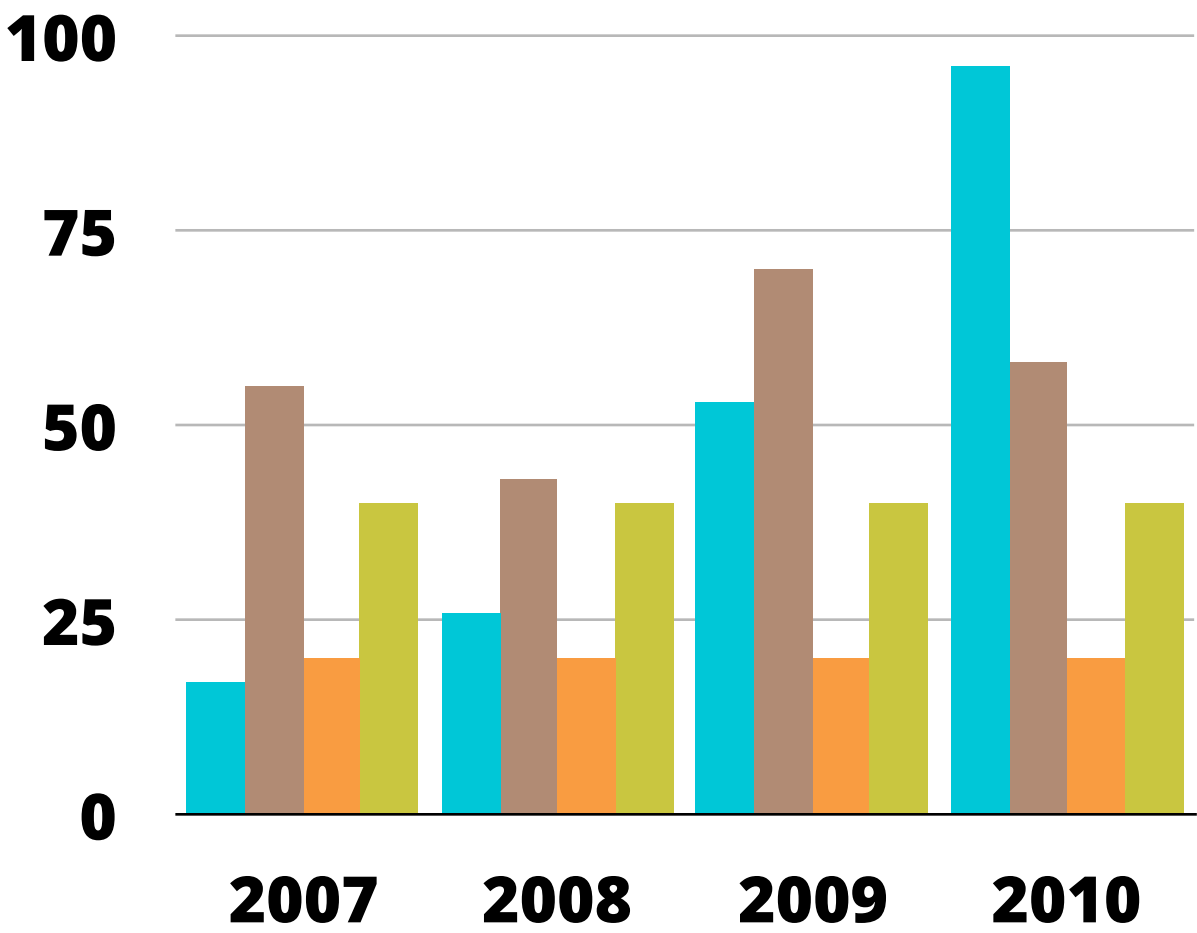|	Header rows ...	are black.
Header columns ...	If you insert a table ...	it should automatically ...
are gray.	pick up this style.	Enjoy.

CHARTS

PARTING THOUGHTS (USING THE CHECKLIST TEMPLATE)

- ☐ First, get the proper font: http://opensans.com/

- ☐ Start with a clean template.

- ☐ When in doubt, copy and paste from something that already works.

- ☐ Be brave:

  - ☐ Learn to use master pages properly.

  - ☐ Edit! Brevity, not design, makes presentations great.

DON'T MISS MASTER SLIDES IN OTHER COLORS

- ☐ Black

- ☐ Blue

- ☐ Khaki

- ☐ Magenta

- ☐ Orange

- ☐ Green

- ☐ Pink

THANK YOU

For questions or suggestions:

Chad Currie
Smith & Robot
chad@smithandrobot.com

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