

Today...



How did we get here?



Stress



No Sports

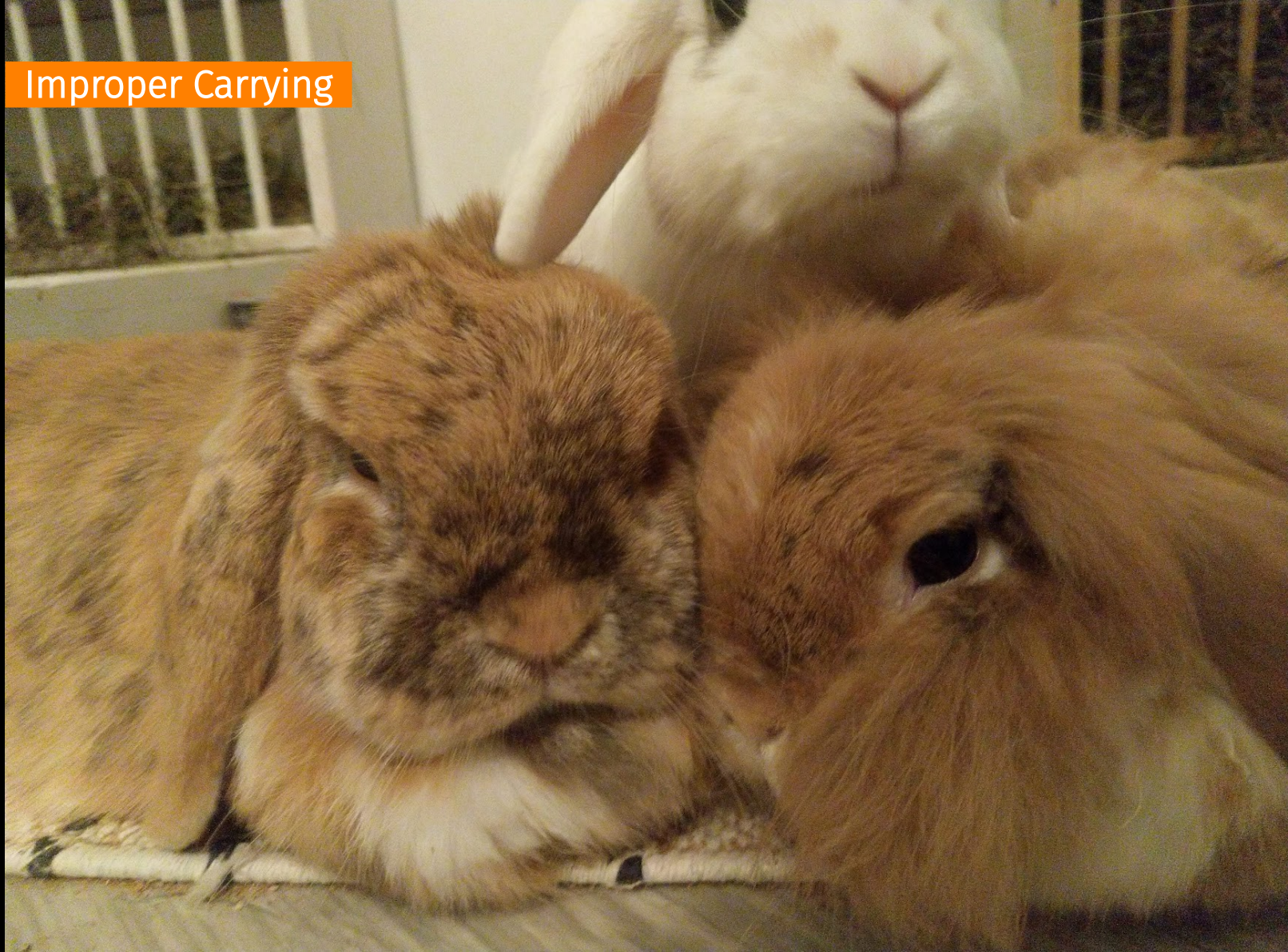


There is no Escape



I guess there's only one thing left to do. Isn't that so, Father?

Improper Carrying



Move it, Tobi!







No Games



No Games

No Programming



No Games

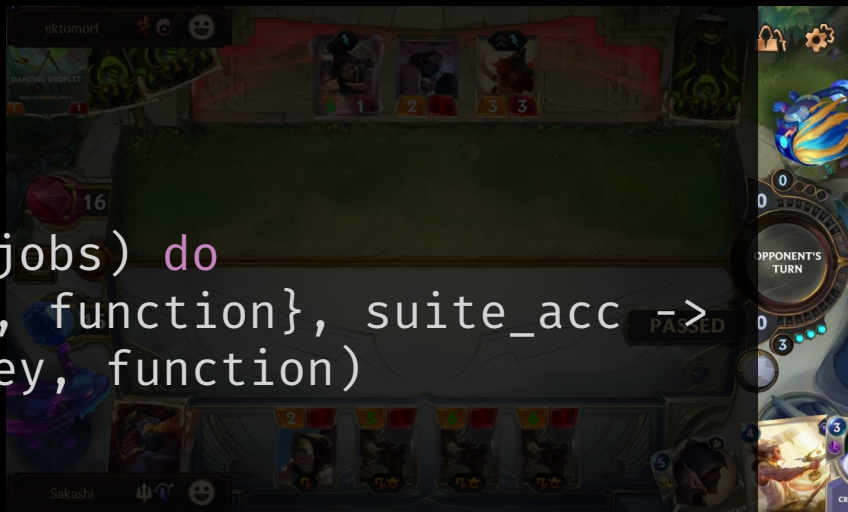
No Programming





```
@spec run(map, keyword) :: any
def run(jobs, config \\ []) when is_list(config) do
  config
  |> Benchee.init()
  |> Benchee.system()
  |> add_benchmarking_jobs(jobs)
  |> Benchee.collect()
  |> Benchee.statistics()
  |> Benchee.load()
  |> Benchee.relative_statistics()
  |> Formatter.output()
  |> Benchee.profile()
end

defp add_benchmarking_jobs(suite, jobs) do
  Enum.reduce(jobs, suite, fn {key, function}, suite_acc ->
    Benchee.benchmark(suite_acc, key, function)
  end)
end
```



# METAPHORS ARE EVERYWHERE

Ideas to Improve Software Development

Tobi(as) Pfeiffer

[@PragTob](#)

Senior Staff Engineer @ Remote









Learn



... als Inhaber des Geschäftsanteils.  
... erwirbt gegen Zahlung des rückständigen  
... ausgeschlossen Gesellschafters.

**Geschäftsanteils.** <sup>1</sup> Ist die Zahlung des rückständigen Geschäftsanteils nicht zu erlangen, so kann die Gesellschaft den Anteil im Wege öffentlicher Versteigerung verkaufen. <sup>2</sup> Der Verkauf ist nur mit Zustimmung des ausgeschlossenen Gesellschafters zulässig.

**Fehlbeträgen.** <sup>1</sup> Soweit eine Stammeinlage weder durch die Stammeinlage noch durch Verkauf des Geschäftsanteils zu erlangen ist, haben die übrigen Gesellschafter den Fehlbetrag zu tragen. <sup>2</sup> Beiträge, welche die Stammeinlage zu erlangen sind, werden nach dem Betrag verteilt.

**en.** Von den in den §§ 21 bis 24 bezeichneten Fehlbeträgen sind die Stammeinlagen der Stammeingeschafter nicht befreit werden.

... Gesellschaftsvertrag kann bestimmt werden, dass die Stammeingeschafter die Stammeinlagen (Nachschüsse) zu zahlen haben.

... der Gesellschaft  
... für eigene Rechnung zu veräußern.  
(4) Im Gesellschaftsvertrag kann die Anwendung der §§ 21 bis 23 auf den Fall beschränkt werden, daß die Stammeingeschafter die Stammeinlagen (Nachschüsse) zu zahlen haben.

**§ 28 Beschränkte Nachschusspflicht.** (1) Ist im Gesellschaftsvertrag ein bestimmter Betrag beschränkt, so findet die Anwendung der §§ 21 bis 23 entsprechende Anwendung. <sup>2</sup> Abs. 4 auch bei unbeschränkter Nachschusspflicht.

(2) Im Gesellschaftsvertrag kann bestimmt werden, daß die Stammeingeschafter die Stammeinlagen (Nachschüsse) zu zahlen haben, schon vor vollständiger Einforderung der Stammeinlagen.

**§ 29 Ergebnisverwendung.** (1) <sup>1</sup> Die Stammeingeschafter sind berechtigt, den Jahresüberschuß zuzüglich eines Anteils an den Gewinnen des Verlustvortrags, soweit der sich ergibt, zu verwenden. <sup>2</sup> Die Verwendung erfolgt auf Grund des Beschlusses der Stammeingeschafter und auf Grund des Beschlusses der Stammeingeschafter unter Berücksichtigung der teilweisen Aufhebung der Stammeinlagen.

Learn

Helped in the past



... innerhalb des Ges...  
er erwirbt gegen Zahlung des rückst...  
es ausgeschlossenen Gesellschafters.

**Geschäftsanteils.** <sup>1</sup> Ist die Zahlung des rückst...  
vorgängen nicht zu erlangen, so kann die Ges...  
im Wege öffentlicher Versteigerung verkaufen...  
Verkaufs ist nur mit Zustimmung des ausgeschlo...

**Fehlbeträgen.** <sup>1</sup> Soweit eine Stammeinlage w...  
en eingezogen, noch durch Verkauf des Gesch...  
n, haben die übrigen Gesellschafter den Fehlb...  
äftsanteile aufzubringen. <sup>2</sup> Beiträge, welch...  
chtsanteile zu erlangen sind, werden nach dem be...  
en verteilt.

**en.** Von den in den §§ 21 bis 24 bezei...  
schafter nicht befreit werden.

... Gesellschaftsvertrag kann besti...  
Nennbeträge der Geschäfts...  
zahlungen (Nachschüssen)

... gung der Ges...  
... der Geschäfts...  
... für eigene Rechnun...  
(4) Im Gesellschaftsvertrag k...  
mungen auf den Fall beschr...  
eingeforderten Nachschüsse einen bestimmten E...

**§ 28 Beschränkte Nachschusspflicht.** (1) <sup>1</sup> Die...  
einen bestimmten Betrag beschränkt, so finde...  
nicht ein anderes festgesetzt ist, im Fall verz...  
schüssen die auf die Einzahlung der Stammei...  
der §§ 21 bis 23 entsprechende Anwendung...  
§ 27 Abs. 4 auch bei unbeschränkter Nach...  
schüsse den im Gesellschaftsvertrag festgeset...

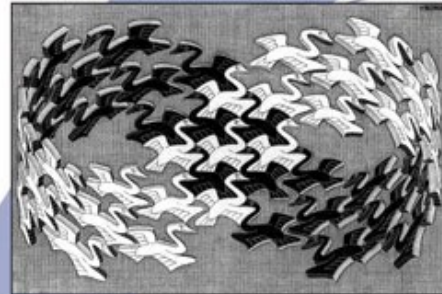
(2) Im Gesellschaftsvertrag kann bestimm...  
Nachschüssen, auf deren Zahlung die Vorse...  
finden, schon vor vollständiger Einforderu...

**§ 29 Ergebnisverwendung.** (1) <sup>1</sup> Die...  
den Jahresüberschuß zuzüglich eines...  
Verlustvortrags, soweit der sich erge...  
Gesellschaftsvertrag, durch Beschluß...  
und auf Grund des Beschlusses übe...  
teilung unter die Gesellschafter...  
sichtigung der teilweisen...  
aufgelöst, so b...

# Design Patterns

Elements of Reusable  
Object-Oriented Software

Erich Gamma  
Richard Helm  
Ralph Johnson  
John Vlissides



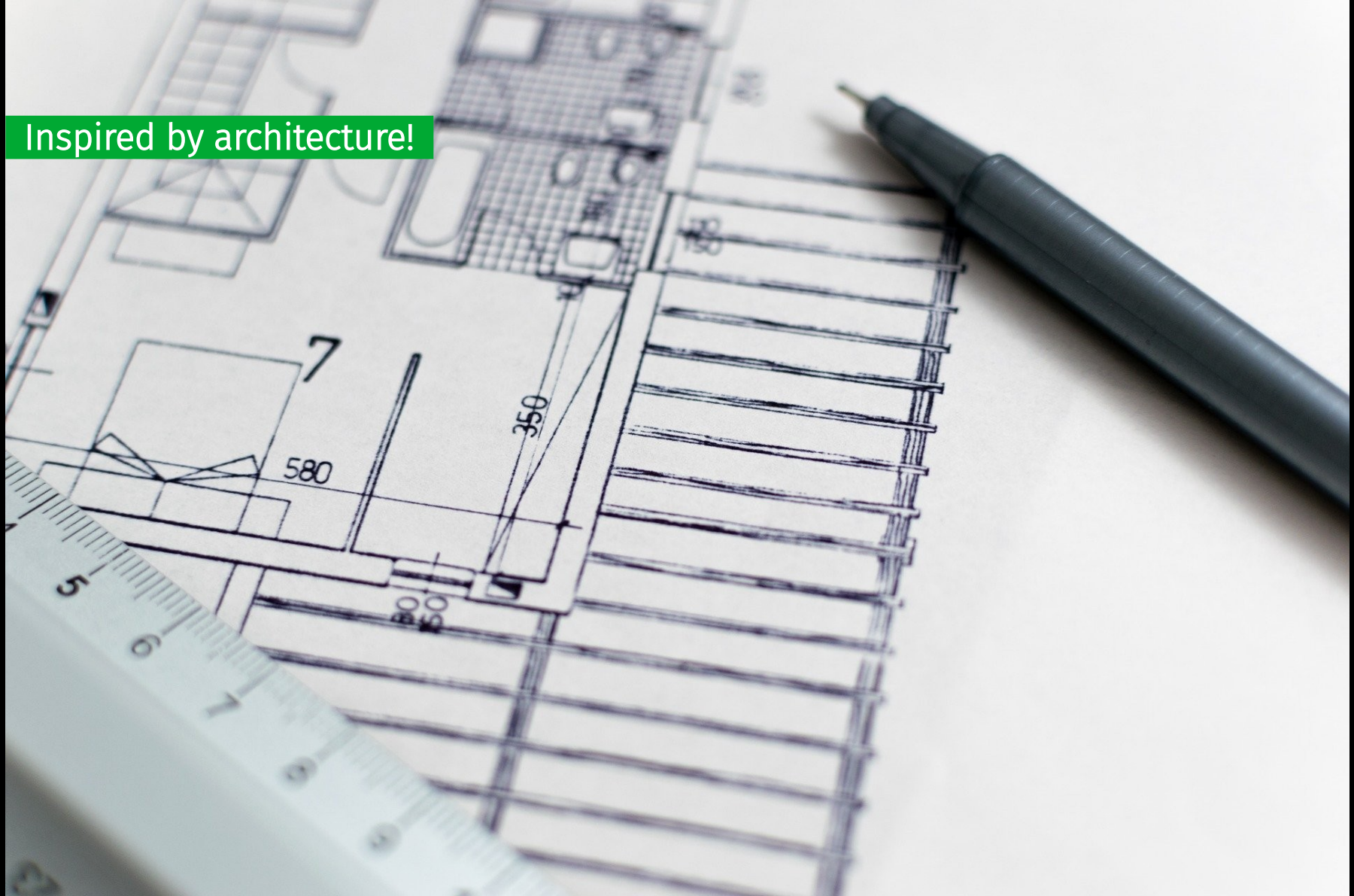
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Foreword by Grady Booch

ADDISON-WESLEY PROFESSIONAL COMPUTING SERIES



Inspired by architecture!



Learn

Helped in the past

Open Questions

... innerhalb des Ges...  
... erwirbt gegen Zahlung des rückst...  
... ausgeschlossen Gesellschafters.

**Geschäftsanteils.** <sup>1</sup> Ist die Zahlung des rückst...  
... Vorgängen nicht zu erlangen, so kann die Ges...  
... im Wege öffentlicher Versteigerung verkaufen...  
... Verkaufs ist nur mit Zustimmung des ausgeschlo...

**Fehlbeträgen.** <sup>1</sup> Soweit eine Stammeinlage w...  
... eingezogen, noch durch Verkauf des Gesch...  
... haben die übrigen Gesellschafter den Fehlb...  
... Geschäftsanteile aufzubringen. <sup>2</sup> Beiträge, welch...  
... zu erlangen sind, werden nach dem be...  
... verteilt.

**en.** Von den in den §§ 21 bis 24 bezei...  
... schafter nicht befreit werden.

... Gesellschaftsvertrag kann besti...  
... Nennbeträge der Geschäfts...  
... zahlungen (Nachschüssen)

... gung der Ges...  
... für eigene Rechnun...  
(4) Im Gesellschaftsvertrag k...  
... mungen auf den Fall beschr...  
... eingeforderten Nachschüsse einen bestimmten E...

**§ 28 Beschränkte Nachschusspflicht.** (1)  
... einen bestimmten Betrag beschränkt, so finde...  
... nicht ein anderes festgesetzt ist, im Fall verz...  
... schüssen die auf die Einzahlung der Stammei...  
... der §§ 21 bis 23 entsprechende Anwendung...  
... § 27 Abs. 4 auch bei unbeschränkter Nach...  
... schüsse den im Gesellschaftsvertrag festgeset...

(2) Im Gesellschaftsvertrag kann bestimm...  
... Nachschüssen, auf deren Zahlung die Vorse...  
... finden, schon vor vollständiger Einforderu...

**§ 29 Ergebnisverwendung.** (1) ID...  
... den Jahresüberschuß zuzügli...  
... Verlustvortrags, soweit der s...  
... Gesellschaftsvertrag, durch B...  
... und auf Grund des Beschlusses ü...  
... eilung unter die Gesellschafter...  
... Berücksichtigung der teilweisen...  
... aufgelöst, so b...

## Different Angle





BASKETBALL



THE NEW TEAM MATE



Came down from first squad

THE NEW TEAM MATE



Came down from first squad

~1.95m

THE NEW TEAM MATE



Came down from first squad

~1.95m

Arms like my legs!

THE NEW TEAM MATE





Came down from first squad

~1.95m

Arms like my legs!

Can dunk!

THE NEW TEAM MATE



# THE NEW TEAM MATE

Came down from first squad

~1.95m

Arms like my legs!

Can dunk!

Can shoot the 3!



# THE NEW TEAM MATE

Came down from first squad

~1.95m

Arms like my legs!

Can dunk!

Can shoot the 3!

Clearly our best player

# Are we a better team?

THE NEW TEAM MATE

Came down from first squad

~1.95m

Arms like my legs!

Can dunk!

Can shoot the 3!

Clearly our best player



CHEMISTRY



Focus



CHEMISTRY

Focus

Goodbye



CHEMISTRY



BASKETBALL ↔ DEV

Winning vs Losing



BASKETBALL ↔ DEV

Winning vs Losing

Statistics



BASKETBALL ↔ DEV

Winning vs Losing

Statistics

One Ball

BASKETBALL ↔ DEV





HUSTLE PLAYER

Defense

HUSTLE PLAYER





A basketball player in a blue jersey is shown in a dynamic, low-to-the-ground position, reaching out with both hands to grab a loose basketball. He has a focused and intense expression. In the background, another player in a white jersey is also on the floor, and the legs of other players are visible, suggesting a fast-paced game. The scene is set on a polished wooden basketball court.

Defense

All the small plays

HUSTLE PLAYER



Defense

All the small plays

Set up others

HUSTLE PLAYER

Glue guy!



## SLIDES:

Being



Tanya Reilly  
@whereistanya

You know that thing where everyone on a software engineering team turns up and just writes code for eight hours a day and then later the project is successful? No you don't. Projects don't work like that!

Of course coding is an important skill in a software engineering team. But there are a ton of **other skills** that we need to bring to work every day. Skills that can mean the difference between a project that succeeds and one that fails.



What skills do you need on your team?

Like noticing when other people in the team are blocked and helping them out. Or reviewing design documents and noticing what's being handwaved or what's inconsistent. Or onboarding the new people and making them productive faster. Or improving processes to make customers happy.



TEAM FIT




BASKETBALL

Team Composition



BASKETBALL

A photograph of Luka Dončić from behind, wearing a white Dallas Mavericks jersey with blue accents. The jersey has the NBA logo at the top, the name "DONČIĆ" in blue, and the number "77" in large blue digits. He is wearing a white compression sleeve on his right arm. The background is a basketball court with blue and yellow advertising banners, including one for "GOODYEAR".

Team Composition

Player Types

BASKETBALL



A photograph of Luka Dončić from behind, wearing a white Dallas Mavericks jersey with the number 77 and his name 'DONČIĆ' on the back. He is standing on a basketball court with a 'GOODYEAR' logo visible in the background. Three green text boxes are overlaid on the right side of the image, and a red text box is at the bottom left.

Team Composition

Player Types

Being Glue

BASKETBALL



FICTION WRITING

Meet Brandon Sanderson!





“Duh, it’s writing Tobi”

A close-up, high-resolution photograph of a brown tabby cat's face. The cat has striking green eyes and a pink nose. The fur is a mix of brown, tan, and white, with distinct tabby markings. The background is dark and out of focus.

“Duh, it’s writing Tobi”

Single Author



“Duh, it’s writing Tobi”

Single Author

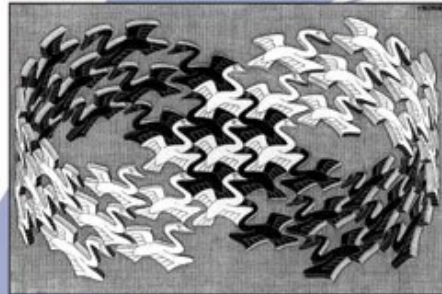
Entertainment

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There are patterns!



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Foreword by Grady Booch

ADDISON-WESTLEY PROFESSIONAL COMPUTING SERIES

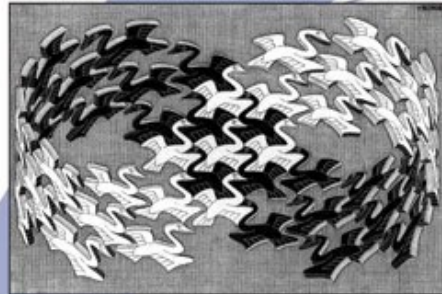


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Foreword by Grady Booch

Tropes

ADDISON-WESLEY PROFESSIONAL COMPUTING SERIES





**SPOILERS**



The Outsider

TROPES



The Outsider

The mentor and why they.. disappear

TROPES

# Design Patterns

Elements of Reusable  
Object-Oriented Software

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Ralph Johnson  
John Vlissides



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Foreword by Grady Booch

ADDISON-WESLEY PROFESSIONAL COMPUTING SERIES

There are patterns!

Tropes

Know why + when to use



A blue-toned landscape featuring a massive, seated stone figure, a large moon, and a line of tiny figures in the foreground. The scene is set in a desolate, sandy environment under a dark sky. The stone figure is the central focus, appearing to be a giant or a deity, with a long, flowing beard and a crown of thorns. The moon is a large, bright sphere in the upper left. In the foreground, a long line of tiny, dark figures is walking across the sand, providing a sense of scale to the massive figure. The overall mood is one of awe and grandeur.

# WORLD BUILDING

Logical Consistency

WORLD BUILDING



Logical Consistency

Bugs!

WORLD BUILDING



A young woman with dark hair pulled back, wearing black-rimmed glasses and a grey top, is looking down at an open book she is holding. The background is a plain, light grey wall. The text 'WORLD BUILDING' is overlaid on the bottom left of the image in a red box.

WORLD BUILDING



A young woman with dark hair pulled back, wearing black-rimmed glasses and a grey top, is looking directly at the camera while holding an open book. The background is a plain, light grey wall. The book's pages are visible, and the cover is dark. The overall mood is professional and focused.

Editors

WORLD BUILDING

A woman with dark hair pulled back, wearing black-rimmed glasses and a grey top, is looking down at an open book she is holding. The background is a plain, light grey wall. The image is framed by a black border on the left and right sides.

Editors

Revisions!

WORLD BUILDING

A young woman with dark hair pulled back, wearing black-rimmed glasses and a grey top, is looking directly at the camera while holding an open book. The background is a plain, light grey wall. On the right side of the image, there are three green rectangular boxes containing text. At the bottom left, there is a red rectangular box containing the text 'WORLD BUILDING'.

Editors

Revisions!

Writing Groups!

WORLD BUILDING

A woman with dark hair pulled back, wearing black-rimmed glasses and a grey top, is looking down at an open book she is holding. The background is a plain, light grey wall. On the right side of the image, there are four green rectangular boxes containing text. At the bottom left, there is a red rectangular box containing the text 'WORLD BUILDING'.

Editors

Revisions!

Writing Groups!

Spikes!

WORLD BUILDING



LIMITATIONS > POWER



HANDING OVER

We do this... all the time?



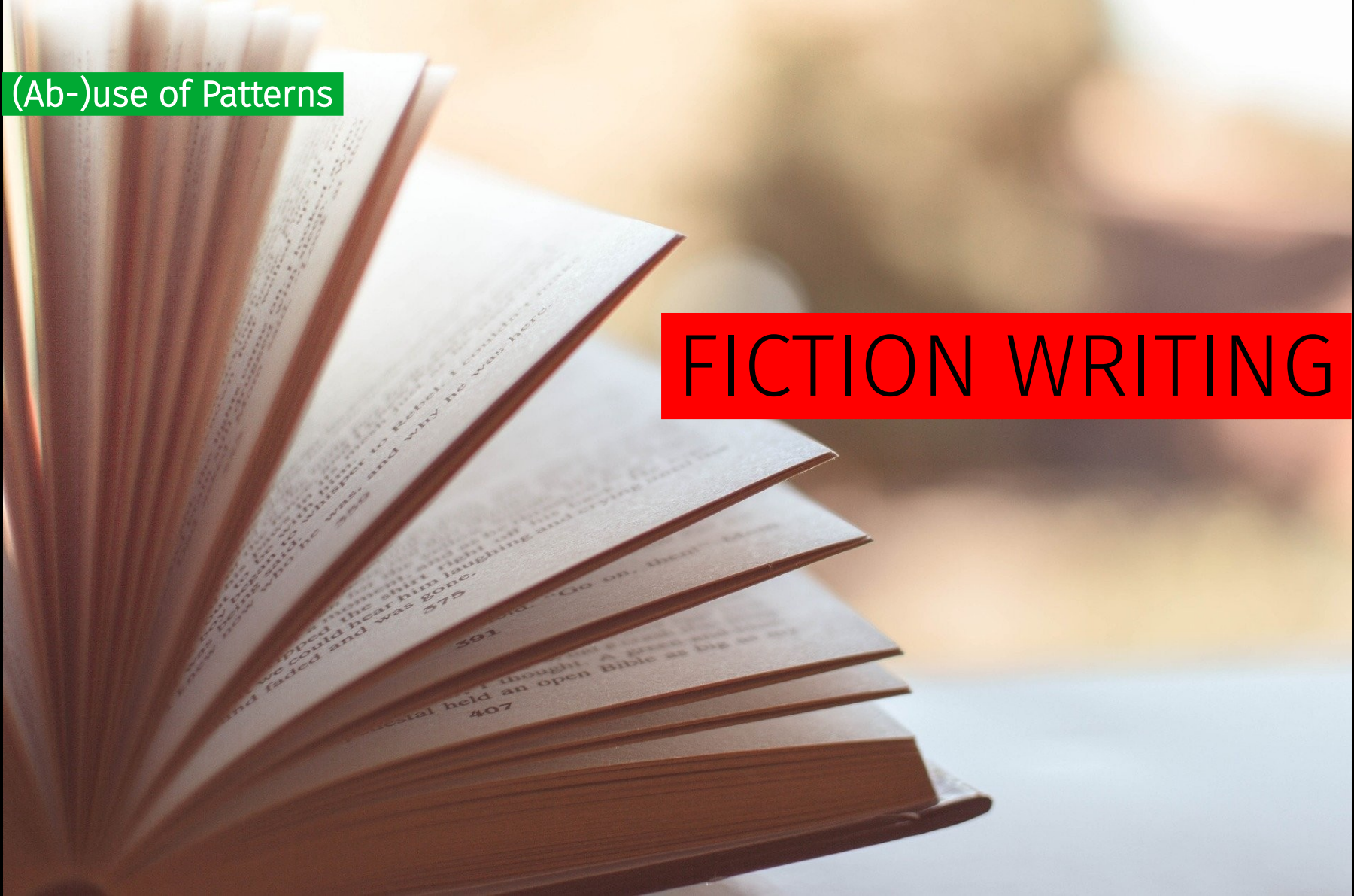
HANDING OVER





(Ab-)use of Patterns

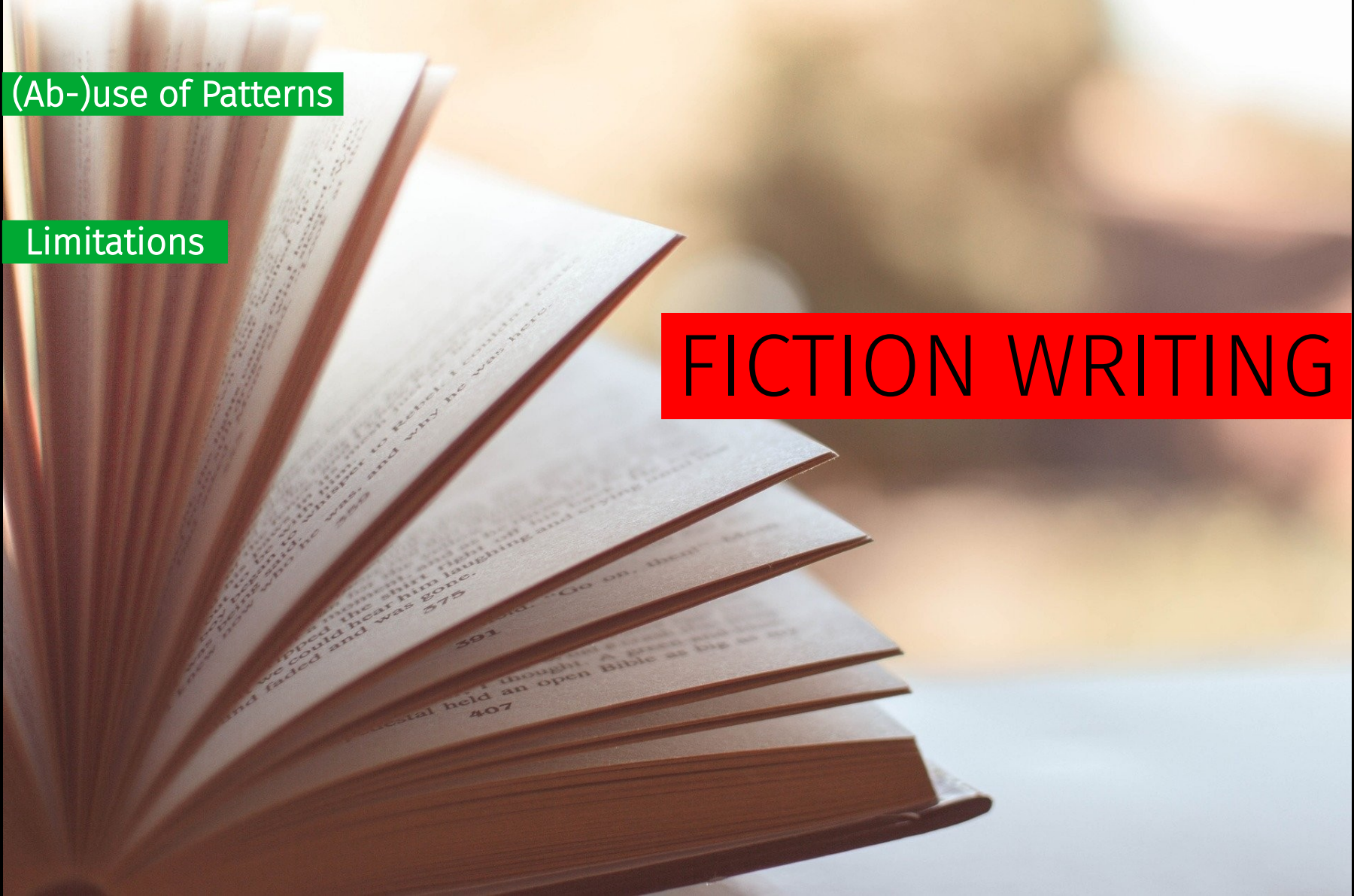
# FICTION WRITING



(Ab-)use of Patterns

Limitations

FICTION WRITING





(Ab-)use of Patterns

Limitations

Consistency

FICTION WRITING



(Ab-)use of Patterns

Limitations

Consistency

Vision

FICTION WRITING

# HEADIES

DEVELOPING HELL

GAME DEVELOPMENT





VISION

HADES



COLLABORATION

A group of people are gathered around a wooden table in a collaborative setting. In the foreground, a woman with dark hair tied back, wearing a white shirt and a red scarf, is focused on drawing on a large sheet of paper with a yellow marker. To her left, a man with headphones around his neck is looking towards her. In the background, other individuals are seated on the table, some holding smartphones. The table is cluttered with various items including a green mug, a container of markers, a pair of scissors, and several sheets of paper. The overall atmosphere is one of active teamwork and creative problem-solving.

Inspiring each other

COLLABORATION



A group of people are gathered around a wooden table in a collaborative workspace. In the foreground, a woman with dark hair tied back, wearing a white shirt and a red scarf, is focused on drawing on a large sheet of paper with a yellow marker. To her left, a man with headphones around his neck is looking towards her. In the background, other people are seated at the table, some looking at their phones. The table is cluttered with various items: a green mug, a container of markers, a pair of scissors, and some colorful ribbons. The overall atmosphere is one of active collaboration and creative work.

Inspiring each other

Everybody Playtests

COLLABORATION

Every game as a reaction to the last game

AMIR RAO

Studio Director, Supergiant Games

# SUPERGIANT

GAMES

Every game as a reaction to the last game



Bastion - 2011



Transistor - 2014



Pyre -2017



Hades- 2018-2020

# HEADIES

DEVELOPING HELL

GAME DEVELOPMENT



Reaction to Last Job

# HEADIES

DEVELOPING HELL

GAME DEVELOPMENT



Reaction to Last Job

# HEADIES

Vision & Collaboration

DEVELOPING HELL

GAME DEVELOPMENT



ektomorf



DANCING DROPLET

When I'm Recalled, draw 1.

1 1



16

# CARD GAMES

0

0

OPPONENT'S TURN

0

3

PASSED

15



Sakashi



CRE

ektomorf



Deck: Tech Stack / Company



0

0

OPPONENT'S TURN

0

3

0

PASSED



Sakashi



CRE



ektomorf



Deck: Tech Stack / Company



Hand/Mana: Resources Available

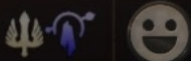
16

15

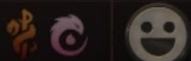
OPPONENT'S  
TURN

PASSED

Sakashi



ektomorf



Deck: Tech Stack / Company



Hand/Mana: Resources Available

16

Board: Resources Deployed/Problems

15



Sakashi



A close-up photograph of a child's hands stacking colorful blocks. The child is wearing a purple and white plaid shirt. The blocks are stacked in a vertical column, with a green block on top, followed by two blue blocks, a green block, a yellow block, a red block, and a light green block at the bottom. The background is blurred, showing various tools and materials, including a pair of yellow and blue work gloves, a red container, and other colorful objects. A red banner with the text "DECK BUILDING" is overlaid at the bottom of the image.

DECK BUILDING

Win Condition?

DECK BUILDING





Win Condition?

Matchups?

DECK BUILDING



Win Condition?

Matchups?

Weaknesses vs. Win More?

DECK BUILDING



Win Condition?

Matchups?

Weaknesses vs. Win More?

Synergies?

DECK BUILDING

LET'S PLAY






Tempo vs. value

LET'S PLAY





THE META



What is currently played?

THE META



What is currently played?

Balance Patches & new Releases

THE META



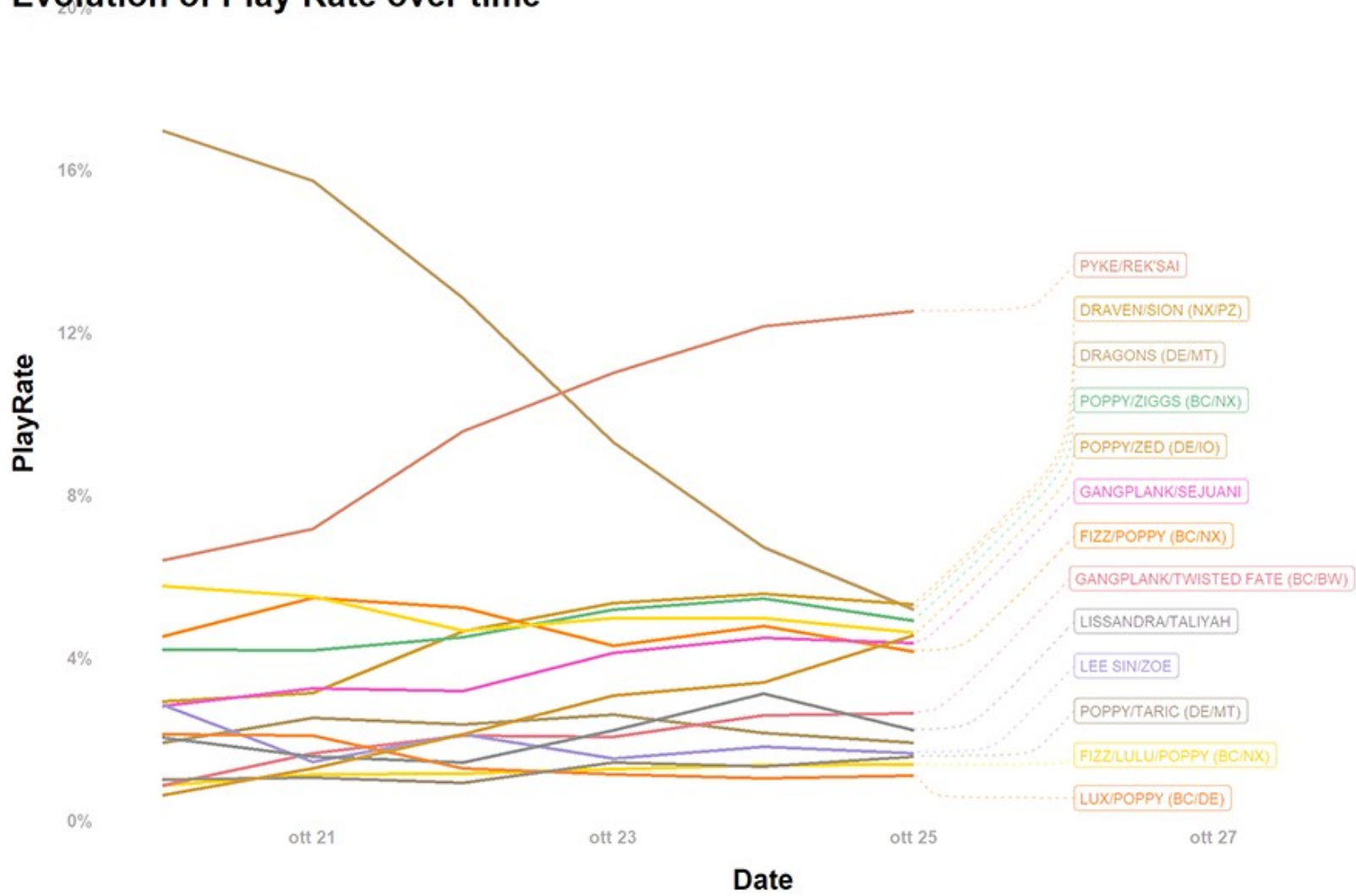
What is currently played?

Balance Patches & new Releases

Anti-Meta

THE META

# Evolution of Play Rate over time



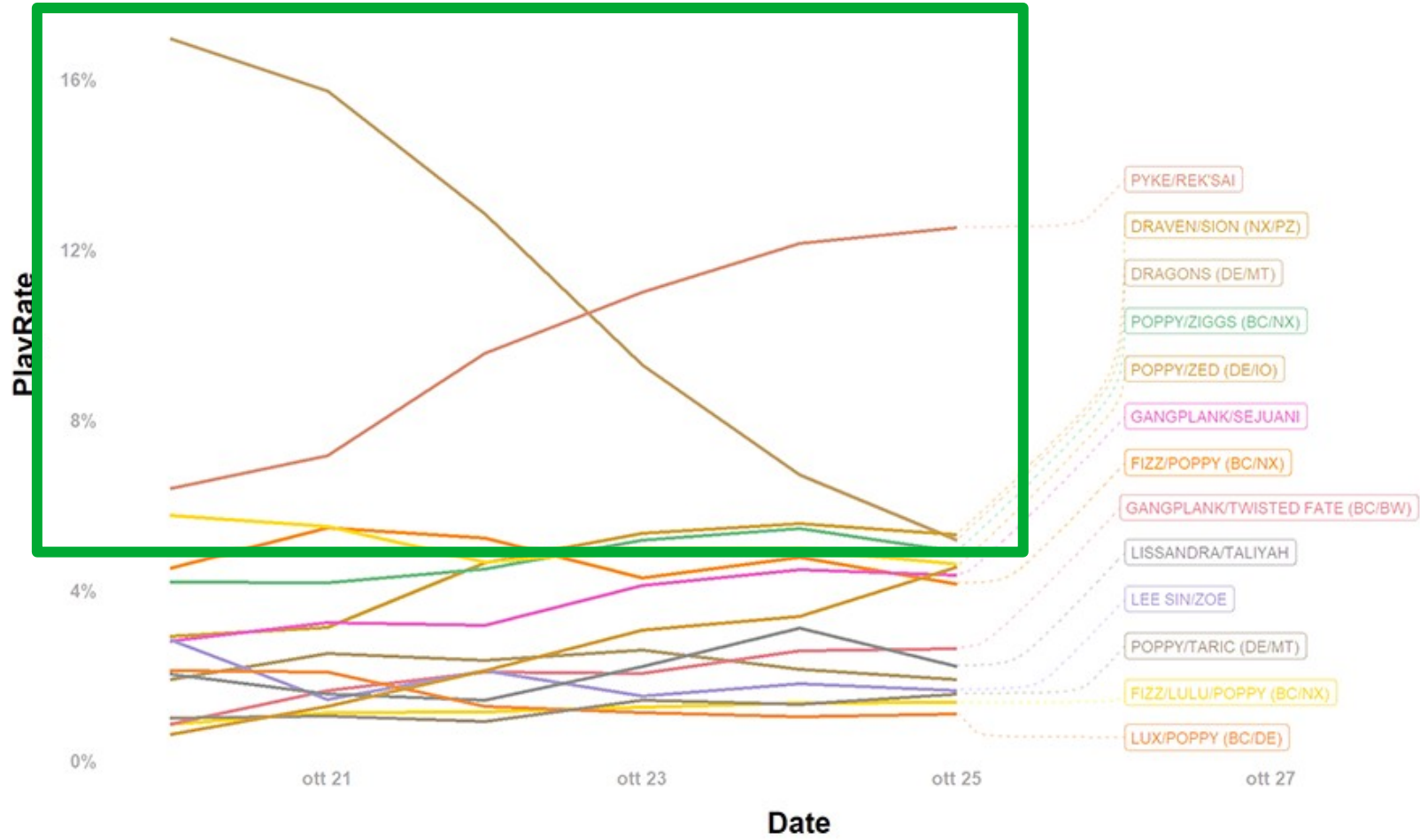
played?

releases

-Meta

THE

# Evolution of Play Rate over time



played?

releases

-Meta

THE



What is currently played?

Balance Patches & new Releases

Anti-Meta

!= best decks

THE META





WHY CARD GAMES?

Changes often

WHY CARD GAMES?



A photograph of three people sitting on a red leather sofa in a lounge, playing a card game. A man on the left is looking at his cards, a woman in the middle is also looking at her cards, and a man on the right is smiling. The table in front of them has several cards laid out. The background shows a modern interior with a red sofa, a potted plant, and a poster on the wall.

Changes often

Testing takes days, not years

WHY CARD GAMES?

ektomorf



DANCING DROPLET

When I'm Recalled, draw 1.

1 1



16

# CARD GAMES

0 0

OPPONENT'S TURN

PASSED

0 3

15



Sakashi



CRE

ektomorf



DANCING DROPLET

When I'm Recalled, draw 1.

1 1

Deck Building



# CARD GAMES

16

0 0

OPONENT'S TURN

PASSED

0 3

15



Sakashi



ektomorf



DANCING DROPLET

When I'm Recalled, draw 1.

1 1



Deck Building

Meta

# CARD GAMES

16

OPONENT'S TURN

PASSED

15

2 2

5 5

6 3

6 4

Sakashi



CRE





THE META





Basketball Play Style

THE META



Basketball Play Style

Writing Style

THE META



Basketball Play Style

Writing Style

Game Design

THE META



Basketball Play Style

Writing Style

Game Design

Decks Played

THE META



FIT



FIT

Player Fit



FIT

Player Fit

Characters, Setting & Plot



FIT

Player Fit

Characters, Setting & Plot

Game Play, Narrative, Visuals & Sound





FIT

Player Fit

Characters, Setting & Plot

Game Play, Narrative, Visuals & Sound

Deck Building



IT'S ALL CONNECTED

# METAPHORS ARE EVERYWHERE

Ideas to Improve Software Development

Tobi(as) Pfeiffer

[@PragTob](#)

Senior Staff Engineer @ Remote



THANKS FOR LISTENING



@PragTob



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