Safe approach

to building design systems

Jan Toman, Kiwi.com

Webcamp Zagreb, October 2019

Jan Toman

Design System Lead at Kiwi.com

Twitter: @HonzaTmn

Making travel better at

KIWI · COM

A design system is...

A design system is a collection of reusable UI components,

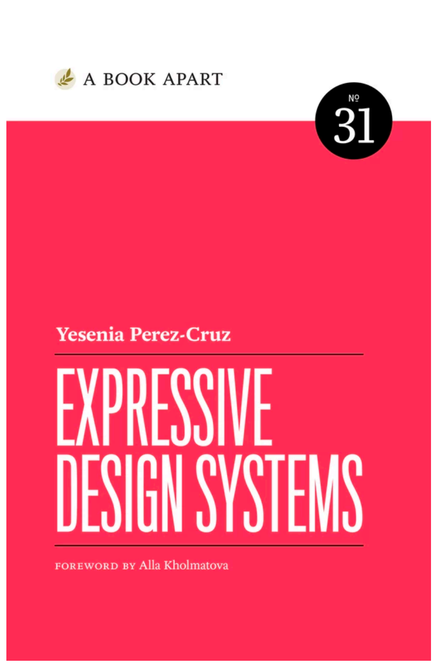
A design system is a collection of reusable UI components, guided by clear standards,

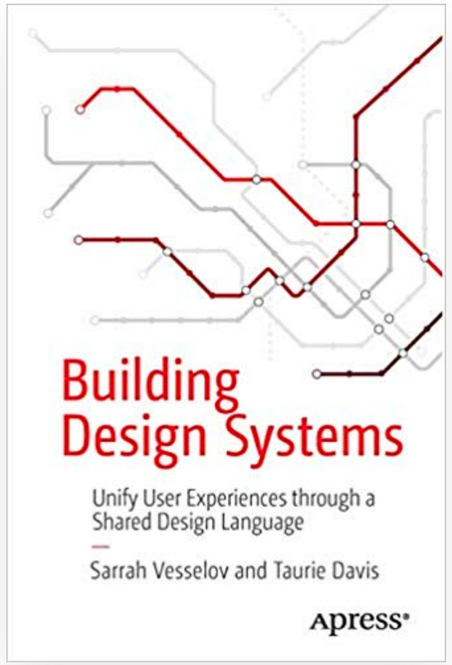
A design system is a collection of reusable UI components, guided by clear standards, that can be assembled together to build any number of applications.

Source: Invision Blog

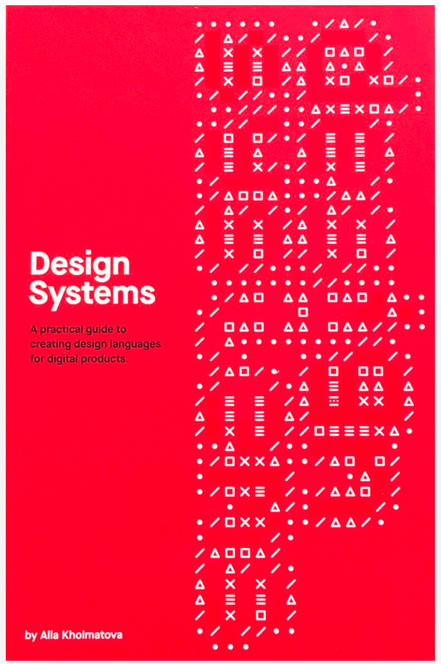
Design systems are

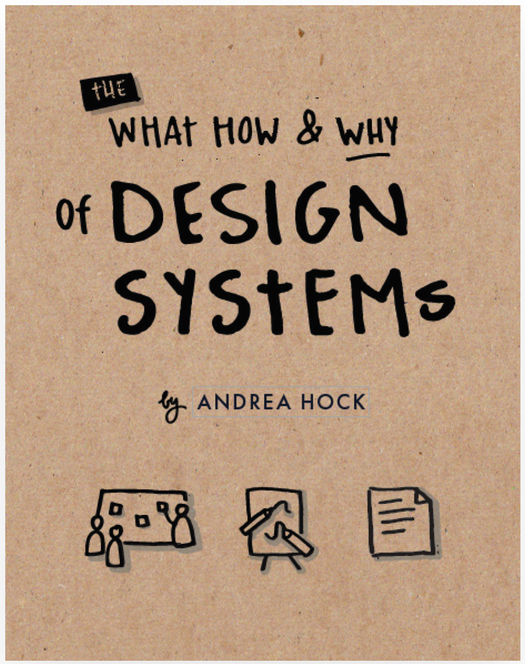
popular

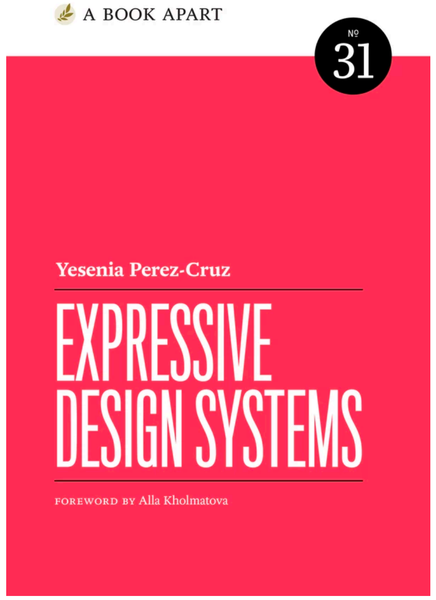

A BOOK APART
№ 31
Yesenia Perez-Cruz
EXPRESSIVE DESIGN SYSTEMS
FOREWORD BY Alla Kholmatova

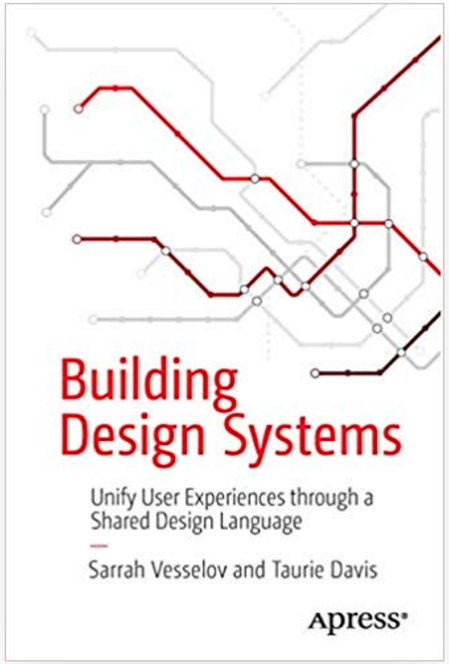

Building Design Systems
Unify User Experiences through a Shared Design Language
Sarrah Vesselov and Taurie Davis
Apress

Capgemini invent
Hack the design system.
Revolutionize the way your organization scales design
Sponsored by
Adobe
idean
Part of Capgemini invent


Design Systems
A practical guide to creating design languages for digital products.
by Alla Kholmatova

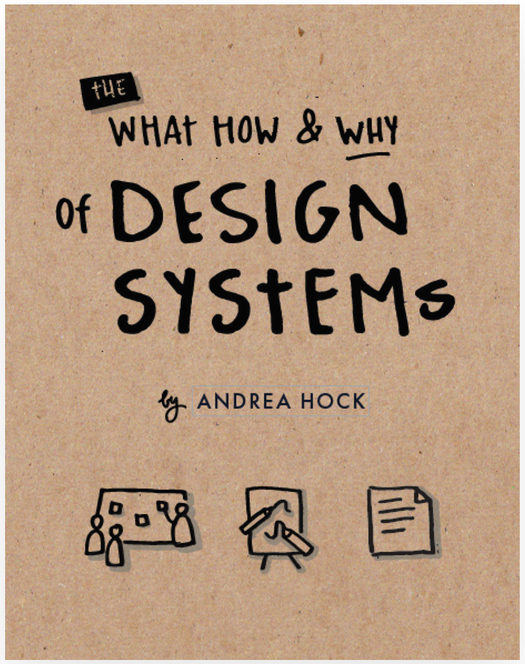

THE WHAT HOW & WHY of DESIGN SYSTEMS
by ANDREA HOCK

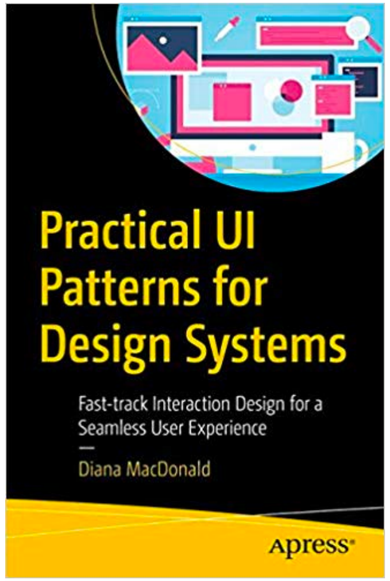

A BOOK APART
№ 31
Yesenia Perez-Cruz
EXPRESSIVE DESIGN SYSTEMS
FOREWORD BY Alla Kholmatova

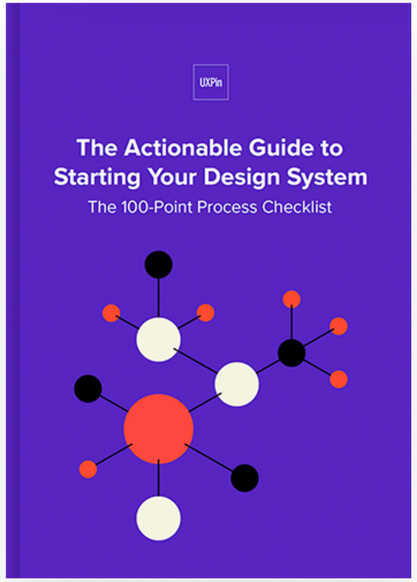

Building Design Systems
Unify User Experiences through a Shared Design Language
Sarrah Vesselov and Taurie Davis
Apress

Capgemini invent
Hack the design system.
Revolutionize the way your organization scales design
Sponsored by
Adobe
idean
Part of Capgemini Invent

Design Systems
A practical guide to creating design languages for digital products.
by Alla Kholmatova

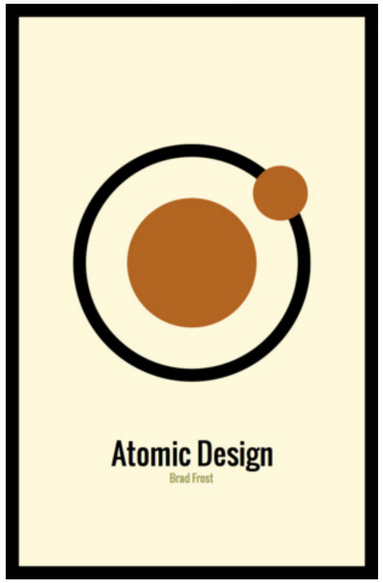

THE WHAT HOW & WHY of DESIGN SYSTEMS
by ANDREA HOCK


Practical UI Patterns for Design Systems
Fast-track Interaction Design for a Seamless User Experience
Diana MacDonald
Apress


UXPin
The Actionable Guide to Starting Your Design System
The 100-Point Process Checklist

UXPin
Why Build a Design System?
The Pocket Guide for Product Teams

Design Systems Handbook


Atomic Design
Brad Frost

NATHAN CURTIS

https://adele.uxpin.com

UXPin The Design Systems Platform

Adele

The repository of publicly available design systems and pattern libraries

Start Exploring Systems Why Adele?

Filter categories: Type to filter... Se

Company A/Z	System A/Z	Repository A/Z	Code Depth A/Z	Components A/Z	JS Library/Framework A/Z	
Type to filter...	Type to filter...	Type to filter...	Type to filter...	All	Type to filter...	
Dropbox	Scooter (Depracted)	GitHub	HTML/CSS	yes	no	no

SCAN ME

https://github.com/alexpate/awesome-design-systems

README.md

Awesome Design Systems

A curated list of design systems, pattern libraries, and everything inbetween.

Know a resource that isn't listed below? Feel free to create a new pull request, or open an issue.

> A design system is a collection of documentation on principles and best practices, that helps guide a team to build digital products. They are often embodied in UI libraries and pattern libraries, but can extend to include guides on other areas such as 'Voice and Tone'.

SCAN ME

shopify

GUIDES CONTENT DESIGN COMPONENTS PATTER

Polaris

Our design system helps us work together to build a great experience for all of Shopify's merchants.

Guides

Check out these practical guides to help you

MATERIAL DESIGN

Design Develop

Make beautiful products, faster. Material is a design system – backed by open-source code – that helps teams build digital experiences

Design flexibly

Develop across platforms

Everything you need to start building – including open-source code, documentation, and tutorials for cross-platform development.

IOS | ANDROID | WEB | FLUTTER

Collaborate seamlessly

Design, develop, and delive

Use Atlassian's end-to-end design language to create straightforward and beautiful experiences.

Brand

Foundations, including personality, writing style, color, and type.

Marketing

How color, type, and illustration are used in marketing.

Product

A double rainbow!

We use color in meaningful ways in all expressions of our brand.

Atlassian logos

ATLASSIAN

Why proto

Our illustrations

Atlaskit

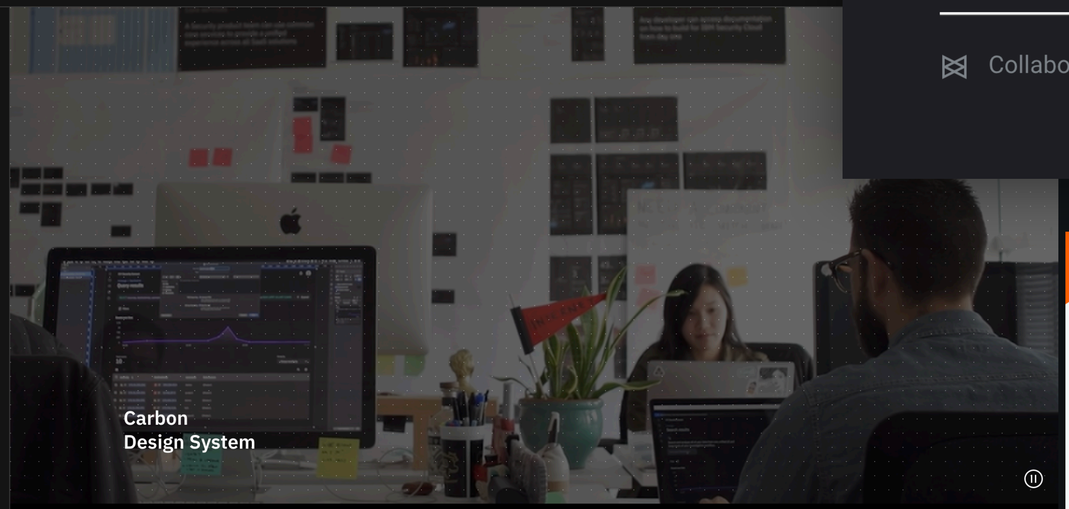
Carbon v10 is live! View the migration guide to upgrade from v9.

Carbon **Design System**

- Getting started
- Tutorial
- Guidelines
- Components
- Experimental
- Patterns
- Resources
- Contributing
- Updates
- Help

Design Kit

GitHub repos



Inclusive, flexible and consistent

The **Carbon Design System** is IBM's open-source design system for products and

Hudl Design System

Uniform

September 2018 Release

shopify

GUIDES CONTENT DESIGN COMPONENTS PATTER

Polaris

Our design system helps us wor
together to build a great experi
for all of Shopify's merchants.

Guides

Check out these practic

MATERIAL DESIGN

Design Develop

Make beautiful products, faster.
Material is a design system – backed
by open-source code – that helps

evelop, and delive

nd-to-end design language to create
vard and beautiful experiences.

Marketing

color, type, and illustration are
in marketing.

Product

Foundations, c
for building app

Atlassian logos

ATLASSIAN

Why proto

Our illustrations

Atlaskit

Carbon v10 is live! View the migration guide to upgrade fr

Carbon **Design System**

- Getting started
- Tutorial
- Guidelines
- Components
- Experimental
- Patterns
- Resources
- Contributing
- Updates
- Help

Design Kit

GitHub repos

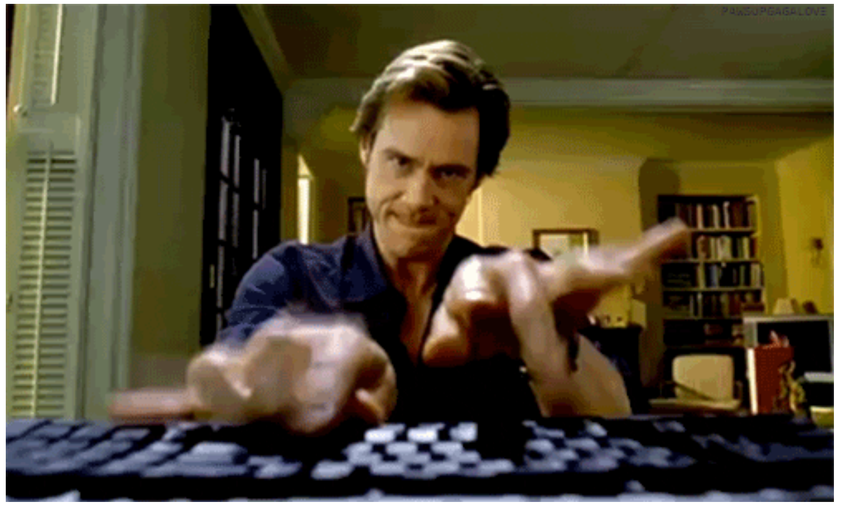
Inclusive, flexible
and consistent

The **Carbon Design System** is IBM's open-
source design system for products and

Hudl Design System

Uniform

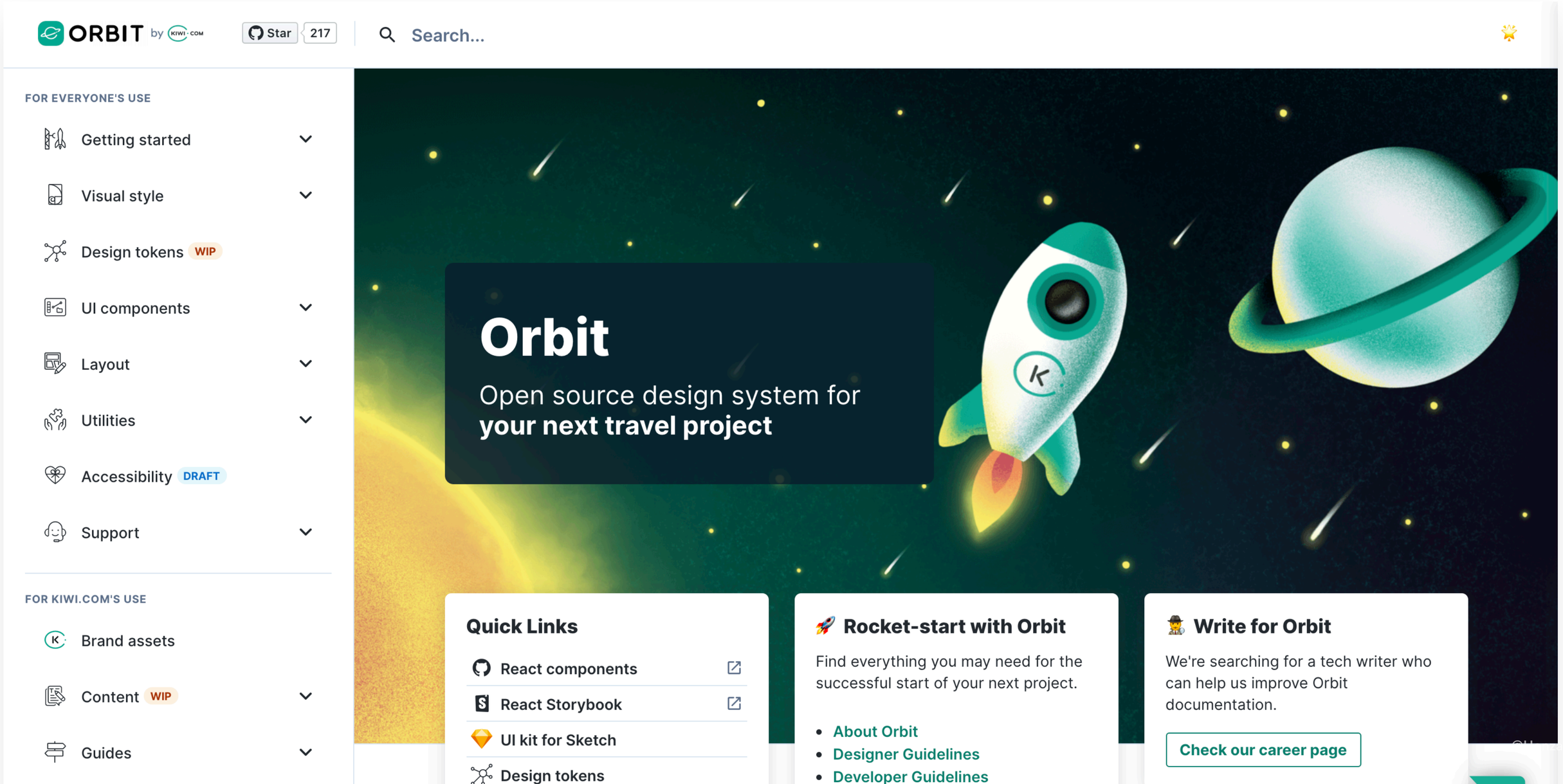
September 2018 Release



PRTG
NETWORK
MONITOR

orbit.kiwi

Launched last month



Color guidelines in Invision

2 years ago

Text colors (additional shades & combinations & guidelines)

$text-attention	#171b1e
$text-primary	#556475
$text-secondary	#7F91A8

Use

Use attention color for headers

Try to show importancy with font size but if you need it, all text colors are accessible for size of headers. Headers should always start with attention color and then it's possible to show hierarchy with help of different shades of text colors.

The quick brown dog jumps

Use different shades for showing hierarchy.

Try to show importancy with font size but if you need it, all text colors are accessible for size of headers. Headers should always start with primary color and then it's possible to show hierarchy with help of different shades of text colors.

Booking cancellation

Airline refunds are processed by PNR number. A Passenger Name Record (PNR) is a unique number which the airlines use to access your booking info.

Refund guidelines

Refundable amount is based on the carrier's Terms & Conditions.

Use attention color for highlighting important information

It'll help to focus on information we want user to focus on more and that are most relevant to user's current task.

1x Passenger	$ 73.54
1x Cabin baggage	FREE
Total	$ 73.54

Don't use

Don't use secondary text color for headers lower than 24px.

Secondary color is readable by WCAG standarts only for bigger headers.

The quick brown dog jumps

Don't use secondary color for important information.

Terciary color is not WCAG compliant so it's ok to use for additional information but it's not good to use it for something user should read easily.

This flight is carry-on baggage only.

Don't combine more text shades in one sentence.

For highlighting purposes use higher font weight instead.

This flight is carry-on baggage only.

Don't use any text color as background.

It can mess with visual priorities on the page. We don't want to mess with that.

The quick brown dog jumps over the lazy fox.

Status colors (additional shades & combinations & guidelines)

$success-primary	#127F22	$warning-primary	#E73C04	$error-primary	#D21C1C
$success-secondary	#62BA6F	$warning-secondary	#E2906D	$error-secondary	#DD6464
$success-background	#E7F3E8	$warning-background	#FCF1CD	$error-background	#FAE8E8

Do combine

Use any primary color for text and icons on it's related background. For borders use secondary color.

The quick brown dog jumps over the lazy fox.

The quick brown dog jumps over the lazy fox.

The quick brown dog jumps over the lazy fox.

Use success or error primary color for actionable buttons on white or primary background color.

Cancel

Use primary text color with any background status color.

I Agree

I Don't Agree

Don't combine

Don't use any secondary color as text on related background color.

The readability of this text is not enough.

The quick brown dog jumps over the lazy fox.

Don't use any primary or secondary color as a block background.

They can compete with visual consistency of other important elements.

The quick brown dog jumps over the lazy fox.

Don't combine different icons between message types.

Icons should help with clarity of urgency and shouldn't mix types of messages.

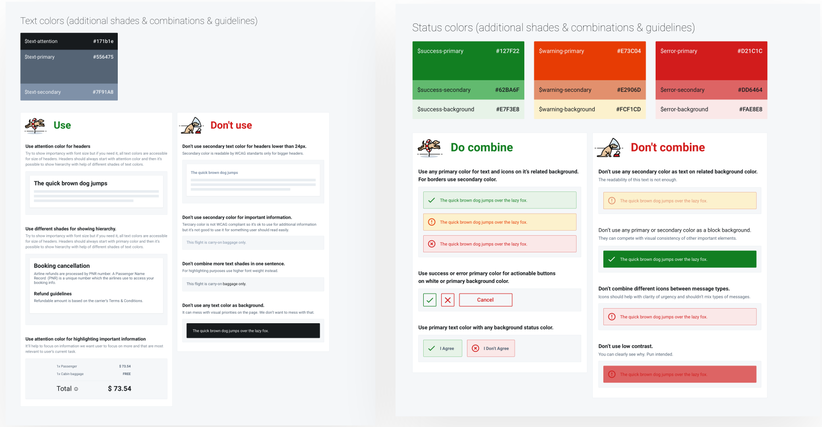
The quick brown dog jumps over the lazy fox.

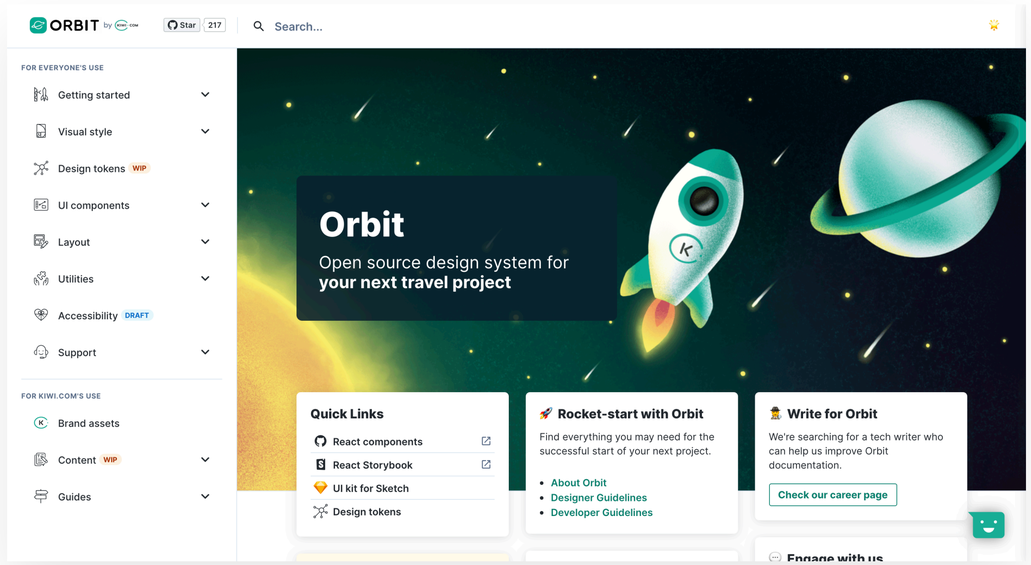
Don't use low contrast.

You can clearly see why. Pun intended.

The quick brown dog jumps over the lazy fox.

What’s the main difference?





2 years of small iterations

Change won’t happen overnight

What do we want to change?

Visual design

Technology

Communication

Tools & processes

~~Visual design~~ 🎨

How designers design.

~~Technology~~ 🚀

What tech stack devs use.

~~Communication~~ 💬

How colleagues talk.

~~Tools & processes~~ 🧰

How everyone works.

How designers design.

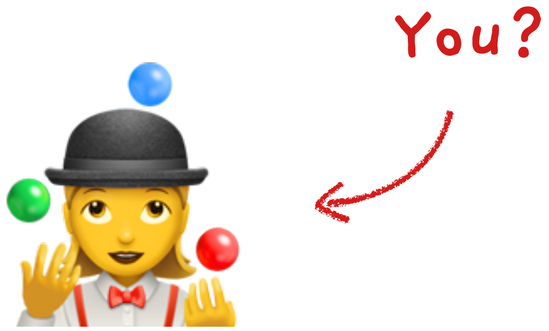
Which tech stack devs use.

How colleagues talk.

How everyone works.

Design systems are about people.

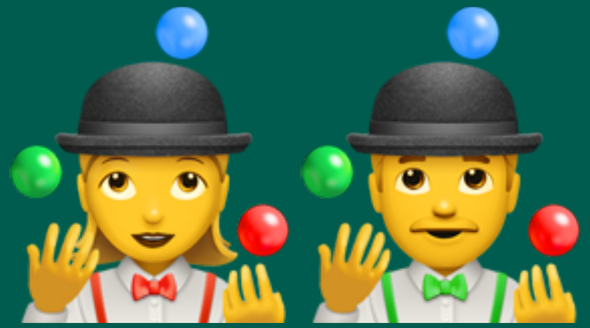
WHO WANTS CHANGE?
WHO WANTS TO CHANGE?



When you want to change so many stuff for so many people, it’s important to balance it very carefully

Balancing a change with a *lean approach*

Case study with examples from Orbit, Kiwi.com's design system



What is a *lean approach*?

It's **maximizing value** = speed of delivery, effectivity, quality

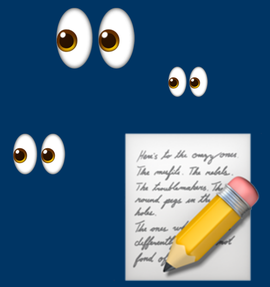
while **minimizing waste** = building the right things

minimizing waste means doing informed decisions based on data

#research

User interface audits

„Peak into other design systems“



Talking with people

#what?!

☕ ☕

Talking with people

#what?!

Talking with people

Daily routines

- What are the things that take you the most time in your daily job?
- What are the most boring stuff you have to do?

Designers & developers assets handover

- How do the current design handoffs work?
- How do you handle specifications for designers and developers?

Expectations from design system

- What should our design system have? Why these things?
- How could it go wrong?

Talking with people

Designing Kiwi.com

Our internal research for a new design system & tips on how to do it

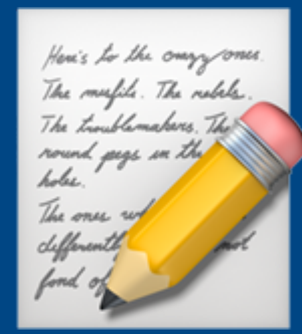
When we were defining a design system project, our goal was the usual one—to increase the speed and efficiency of our teams by improving consistency across our products.

Jan Toman
Mar 9, 2018 · 8 min read

http://bit.ly/ds-research

SCAN ME

Top insights from our research



Fear for creativity

Fear that the design system will
limit them and will lead to worse UX

A looot of tools

Our design files were
everywhere and nowhere.

Support from devs

They just hate coding
something repeatedly.

Existing styleguide

No one used it, though.

Hmmm...

Existing styleguide

No one used it, though.

Listen carefully.

Be curious.

Even small details matter.

Listen carefully.

Be curious.

Even small details matter.

That's how you'll find your problems
or get ideas about what can be improved.

Design is not implemented in the same way as delivered

It’s all changing too fast

„We should have guidelines for writing microcopy."

People don’t contribute to other parts of the product

„Our design shouldn’t look outdated.“

Mobile and desktop behavior is different

People ask the same things over and over again

„Our product should be accessible.“

Onboarding of new devs and designers takes too long

„We should match our marketing with the product.“

There is a lot of misunderstanding between designers and devs

It’s complicated to create new whitelabels

Design is not implemented in the same way as delivered

Synchronize components between design tools and code

It's all changing too fast

Prepare our products for rapid change of design

„We should have guidelines for writing microcopy."

Improve consistency of our microcopy

People don't contribute to other parts of the product

Make easy to contribute to other projects

„Our design shouldn't look outdated."

Improve visual design

Mobile and desktop behavior is different

Synchronize design and behavior across mobile and desktop

People ask the same things over and over again

Prepare documentation for designers and developers

„Our product should

Improve accessibility

Onboarding of new devs and designers takes too long

Make onboarding easier

„We should match our marketing with the product."

Match our marketing campaigns with product visual

There is a lot of misunderstanding between designers and devs

Improve communication between designers and devs

It's complicated to create new whitelabels

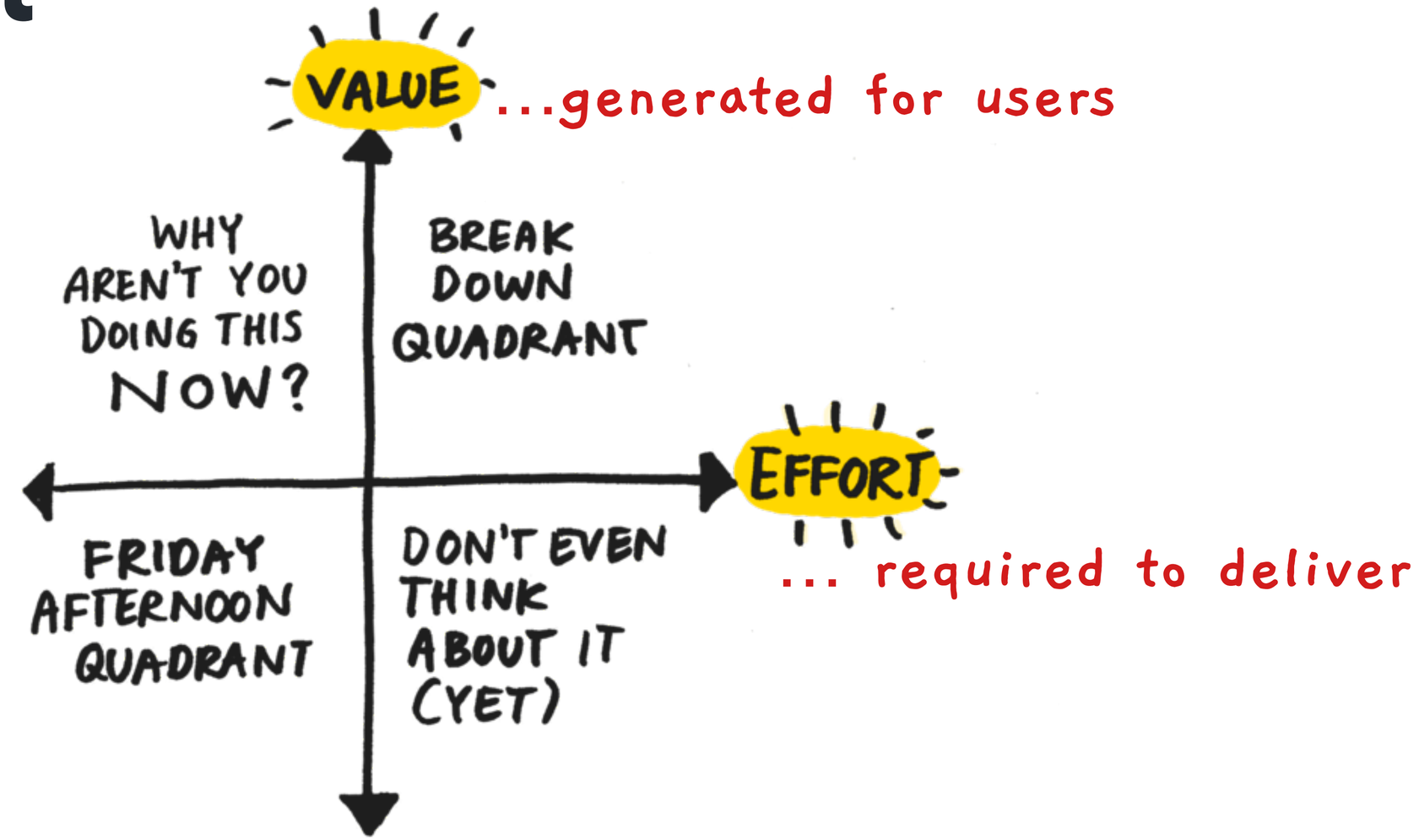
Prepare guidelines for our whitelabels & partners

This is your high-level roadmap 👉

Synchronize components between design tools and code	Prepare our products for rapid change of design	Improve consistency of our microcopy
Make easy to contribute to other projects	Improve visual design	Synchronize design and behavior across mobile and desktop
Prepare documentation for designers and developers	Improve accessibility	Make onboarding easier
Match our marketing campaigns with product visual	Improve communication between designers and devs	Prepare guidelines for our whitelabels & partners

Where to start, though?

Value/Effort Matrix



Improve visual design

Make onboarding easier

Prepare guidelines
for our whitelabels & partners

Make easy to contribute
to other projects

Improve accessibility

Improve consistency
of our microcopy

Improve communication
between designers and devs

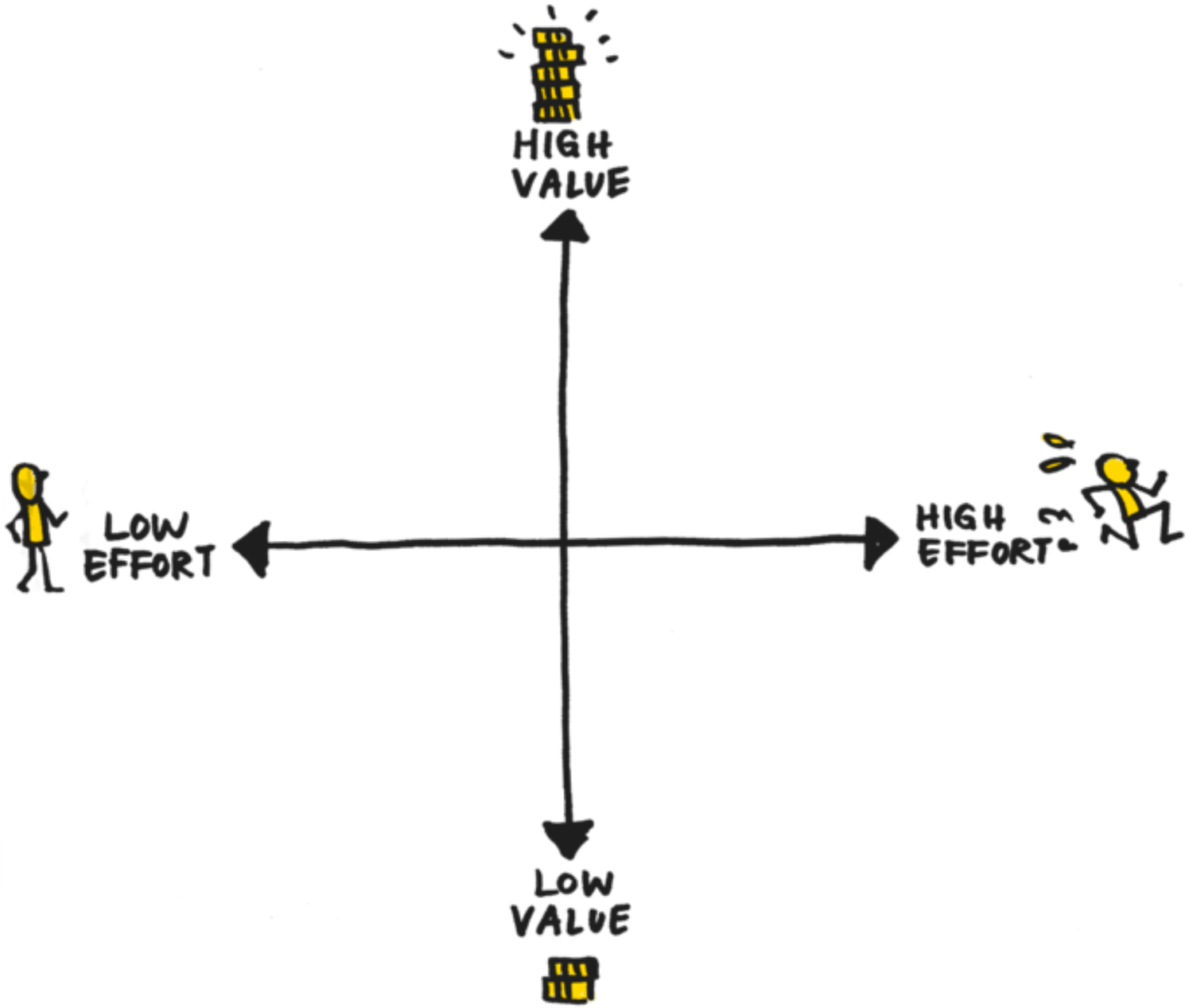
Prepare our products
for rapid change of design

Prepare documentation for
designers and developers

Synchronize components
between design tools and code

Synchronize design and
behavior across mobile and

Match our marketing
campaigns with product visual



WHY AREN'T YOU DOING THIS NOW?

BREAK DOWN QUADRANT

HIGH VALUE

Synchronize components between design tools and code

Improve communication between designers and devs

Improve visual design

Prepare our products for rapid change of design

Make onboarding easier

Prepare documentation for designers and developers

Synchronize design and behavior across mobile and desktop

LOW EFFORT

Improve accessibility

HIGH EFFORT

Make easy to contribute to other projects

Improve consistency of our microcopy

Prepare guidelines for our whitelabels & partners

LOW VALUE

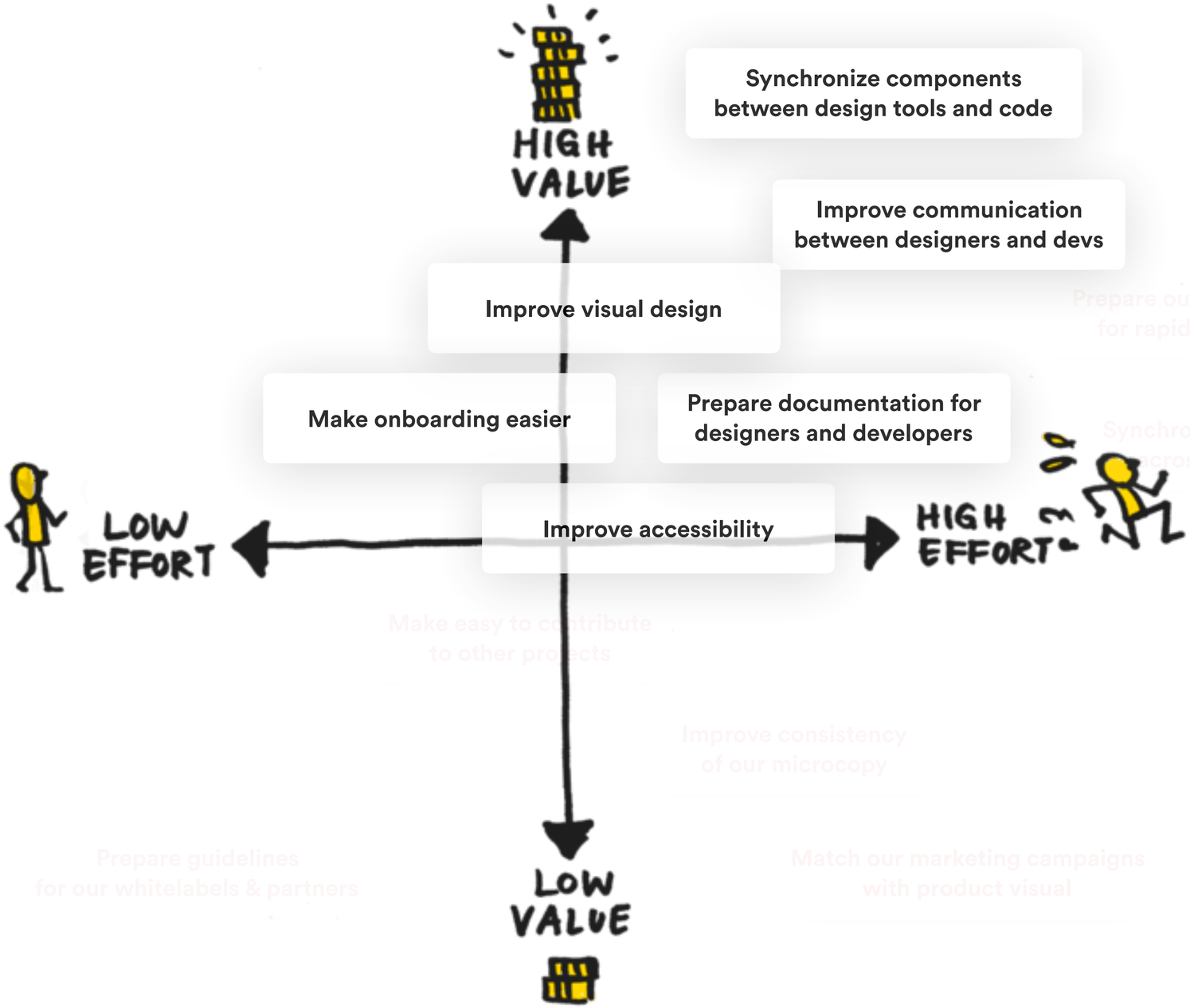
Match our marketing campaigns with product visual

FRIDAY AFTERNOON QUADRANT

DON'T EVEN THINK ABOUT IT (YET)

WHY AREN'T YOU DOING THIS NOW?

BREAK DOWN QUADRANT

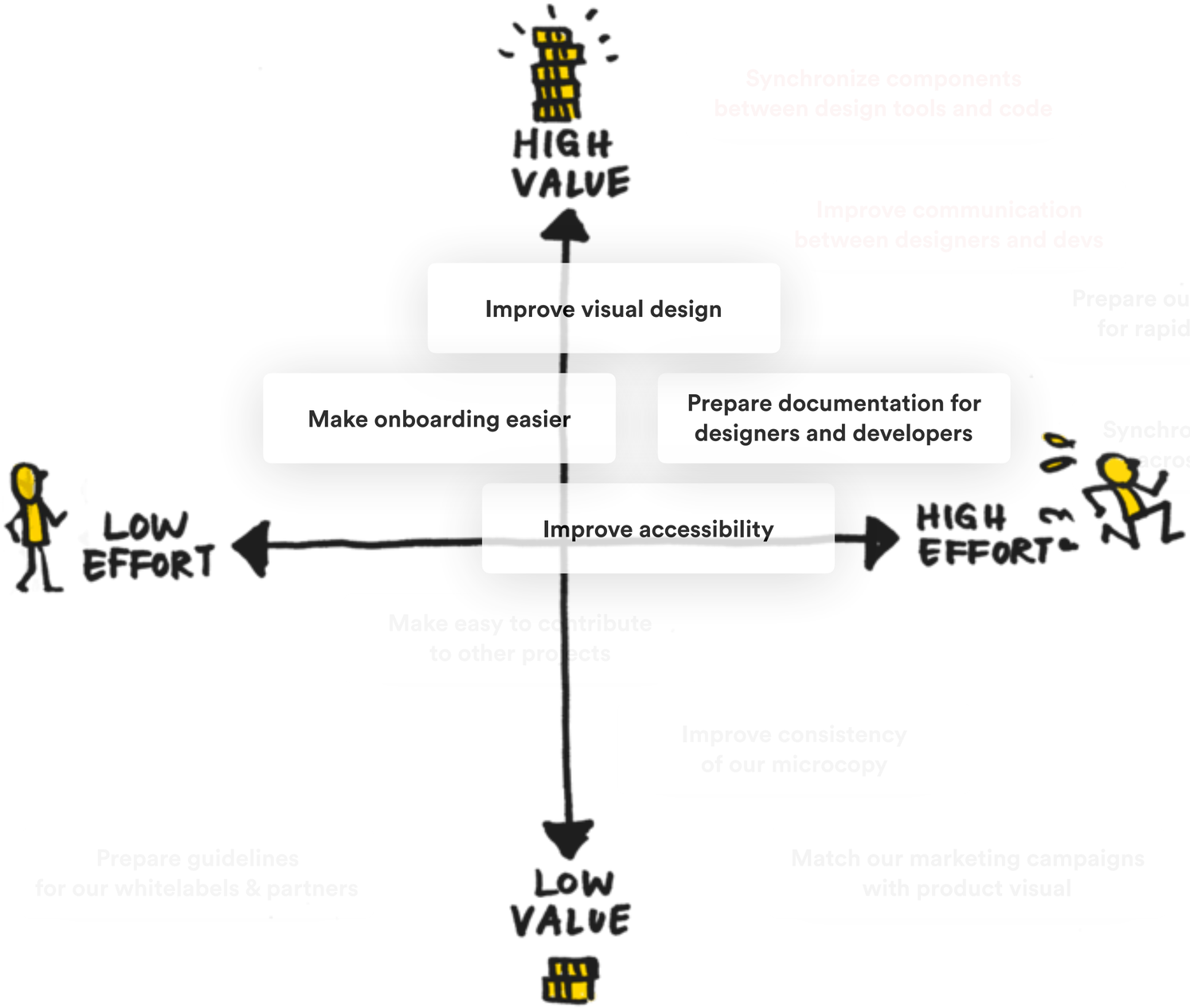


FRIDAY AFTERNOON QUADRANT

DON'T EVEN THINK ABOUT IT (YET)

WHY AREN'T YOU DOING THIS NOW?

BREAK DOWN QUADRANT

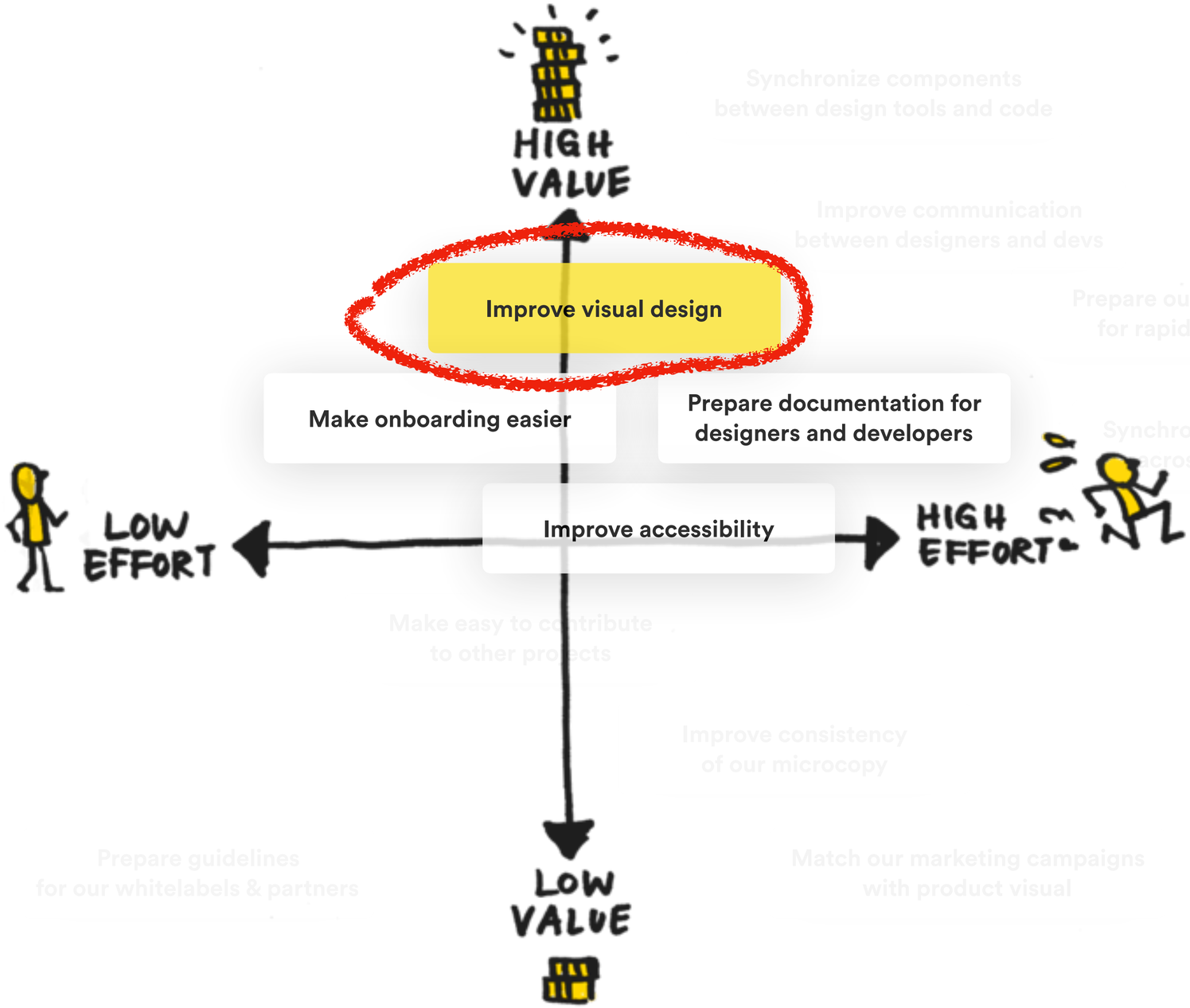


FRIDAY AFTERNOON QUADRANT

DON'T EVEN THINK ABOUT IT (YET)

WHY AREN'T YOU DOING THIS NOW?

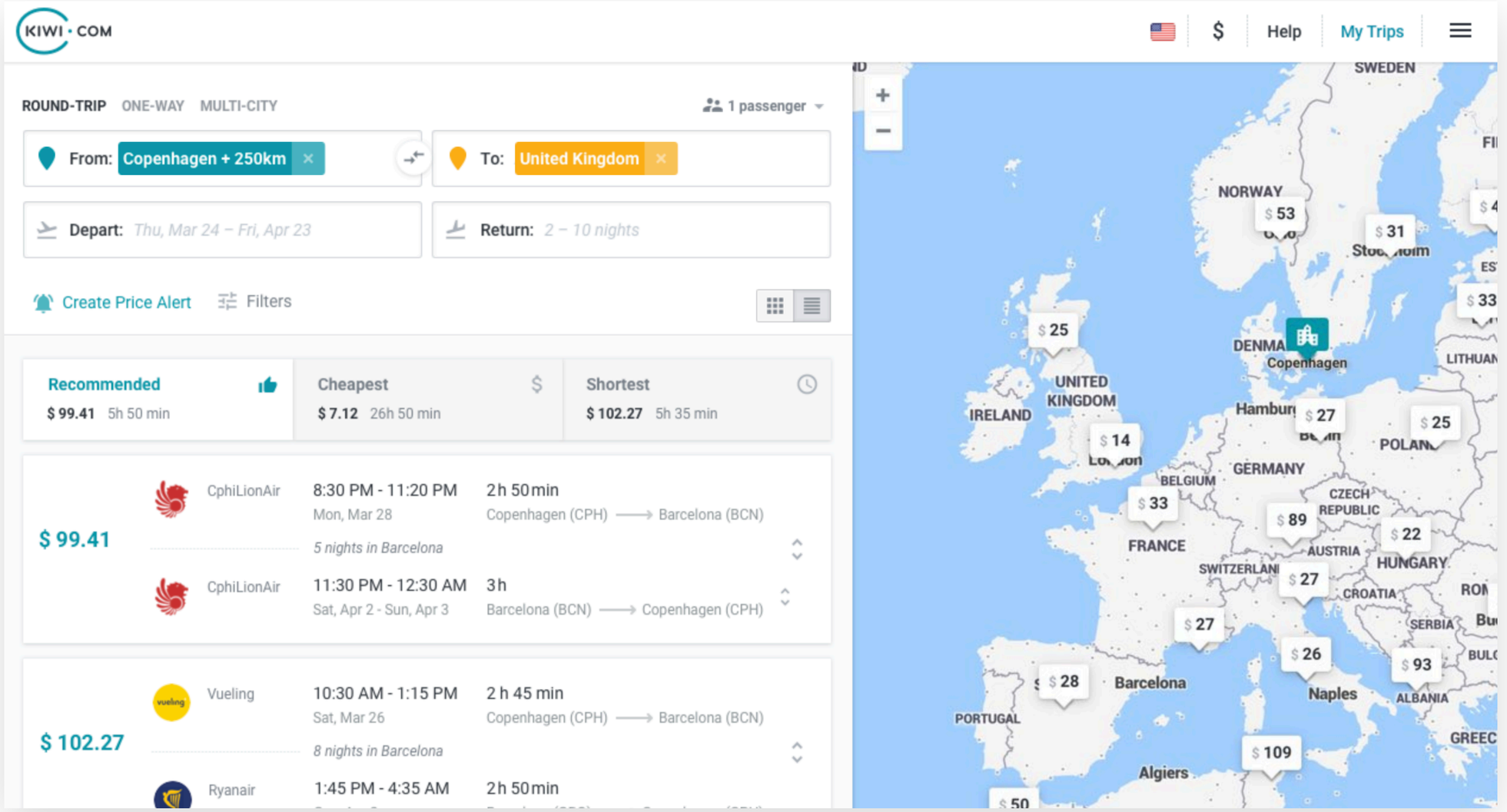
BREAK DOWN QUADRANT



FRIDAY AFTERNOON QUADRANT

DON'T EVEN THINK ABOUT IT (YET)

Improve visual design



Improve visual design

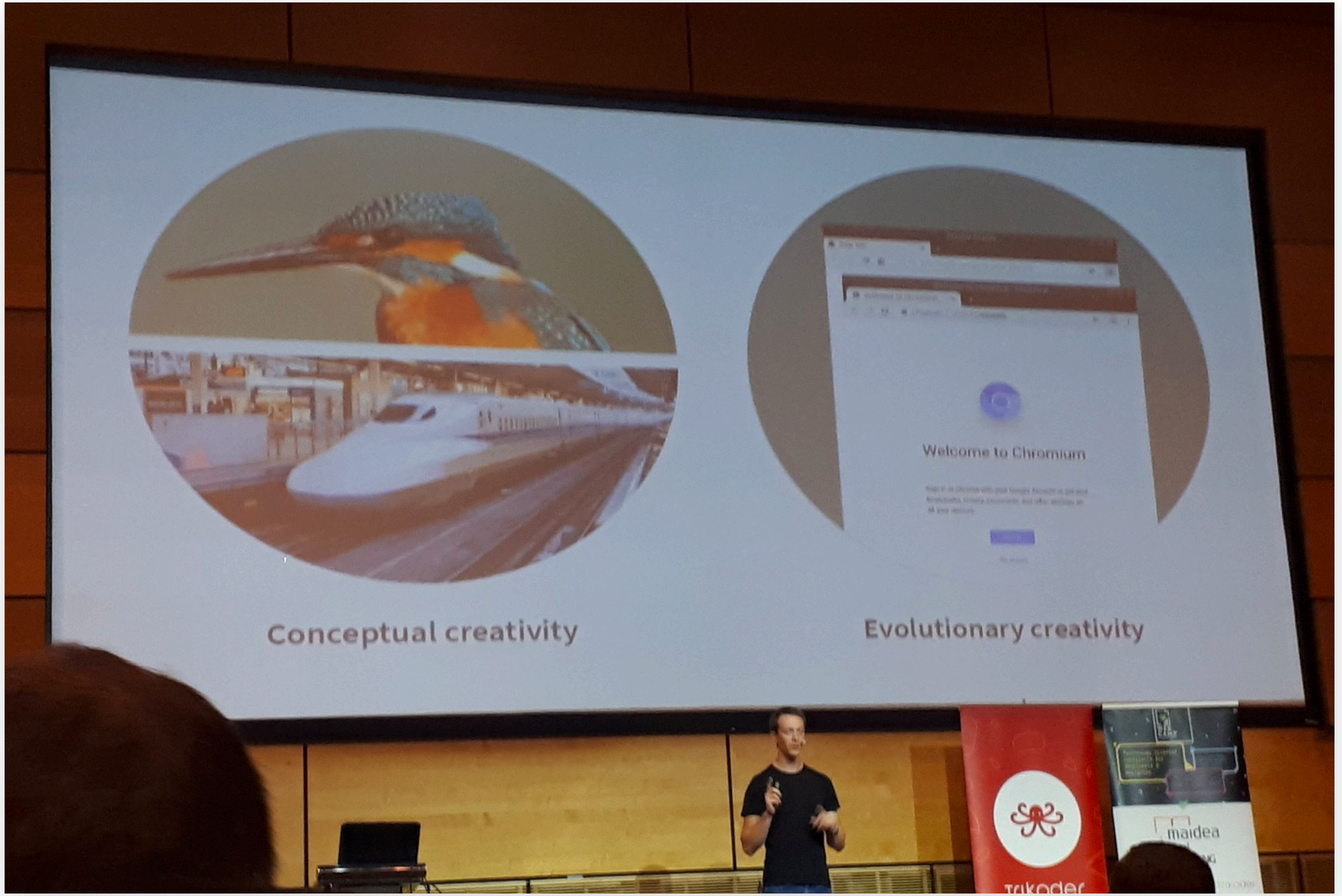
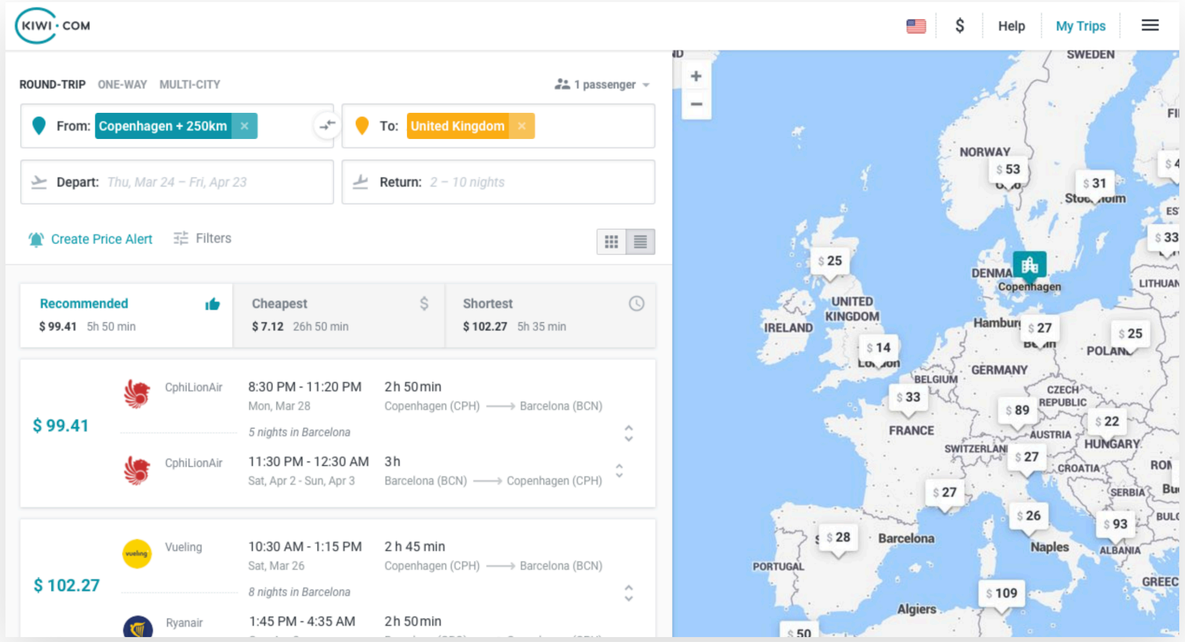
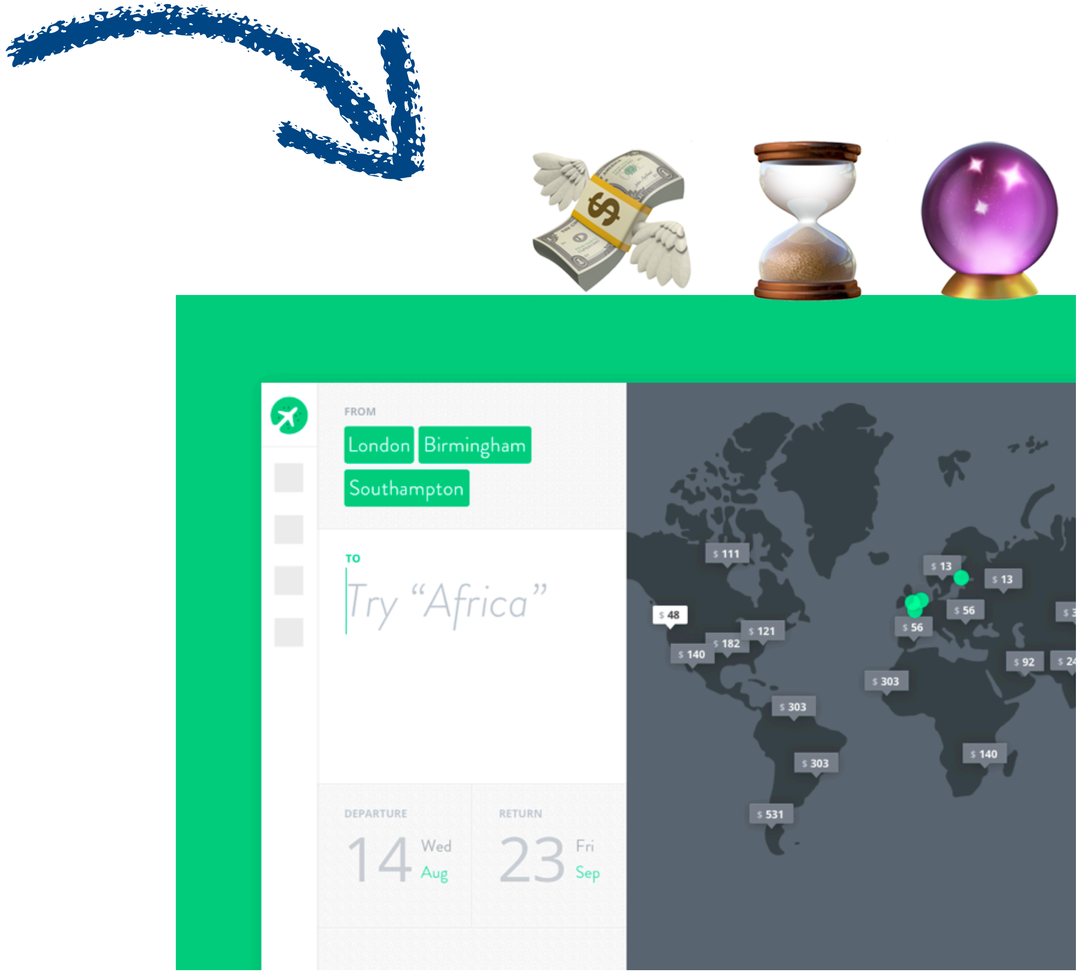


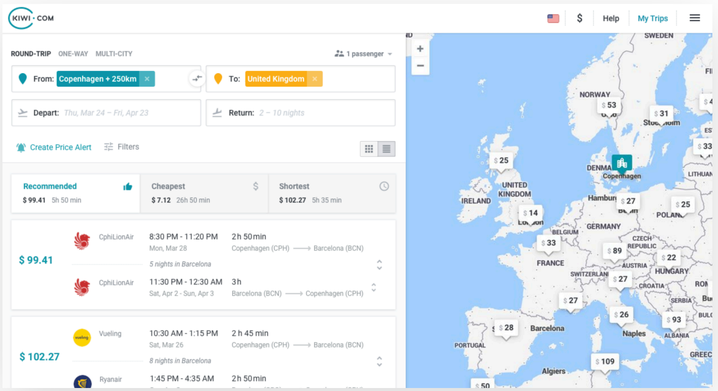
Photo credit: https://twitter.com/SlavenSmojver/status/1182582695634853888

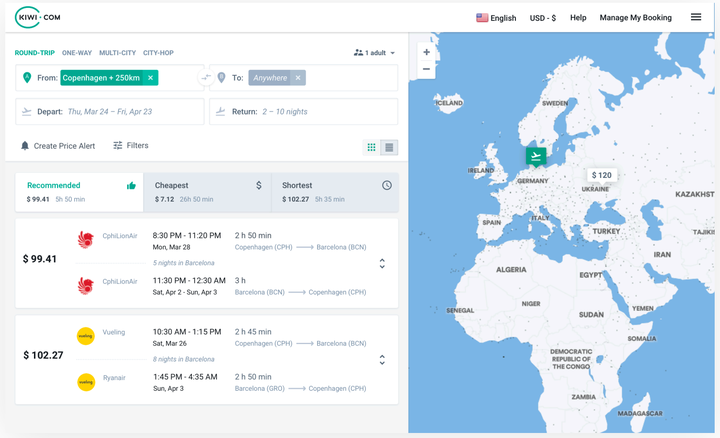
Improve visual design

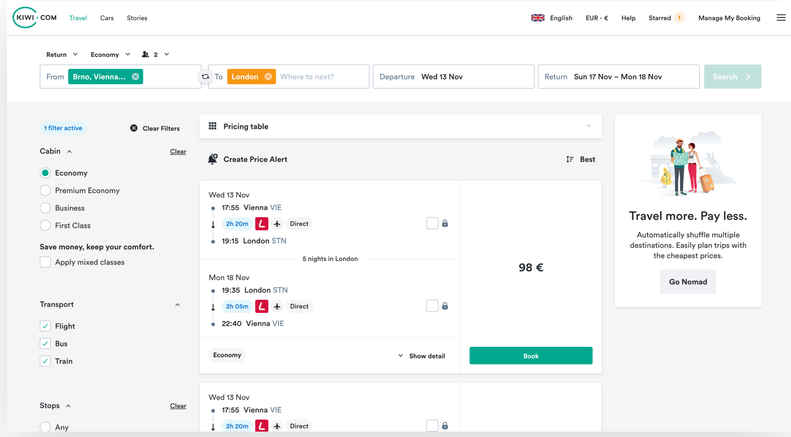




Improve visual design







Improve visual design

Important decision

„Let’s just polish what we already have.“

Improve visual design

- Define clear styleguide (colors, typography)
  - Which colors do we need?
  - How many color accents?
  - ...
- Define basic icon set
  - How many icons do we need?
  - Which icon style is used in our product?
  - ...
- Create common components
  - Which components are needed the most?
  - Do designers needs different variations?
  - ...

Tip: Never guess.

Improve visual design

Audit colors and typography

Define clear styleguide
(colors, typography)

Audit icons

Define basic icon set

Audit components
& prioritize them by their value

Create common components

Improve visual design

Phase 1: Research

Collecting useful data.

- Audit colors and typography
- Audit icons
- Audit components & prioritize them by their value

Phase 2: Design

Doing informed decisions.

- Define clear styleguide (colors, typography)
- Define basic icon set
- Create common components

Phase 1: Research

Collecting useful data.

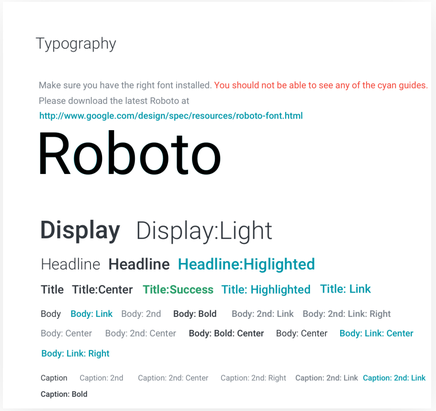
Audit colors and typography

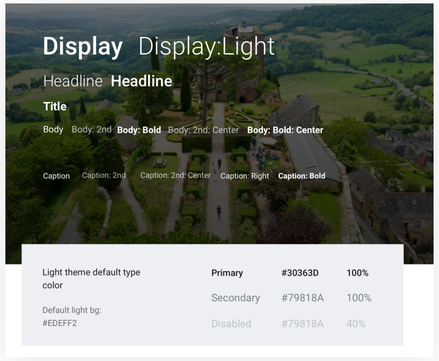
Audit icons

Audit components & prioritize them by their value

Existing color palettes

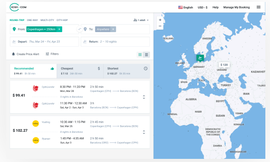
Existing typography styles

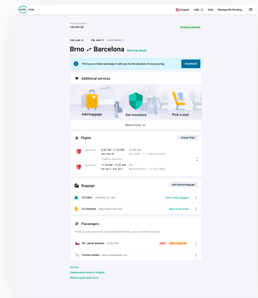


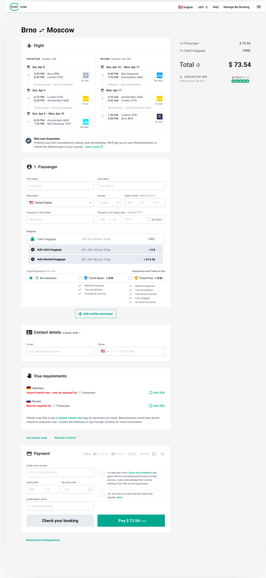


Colors defined in CSS (from production website)

Styles from main flow







Phase 1: Research

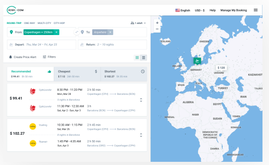
Collecting useful data.

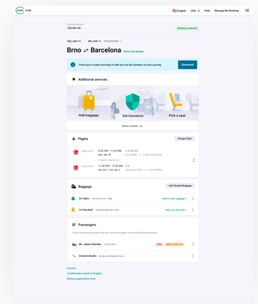
Audit colors and typography

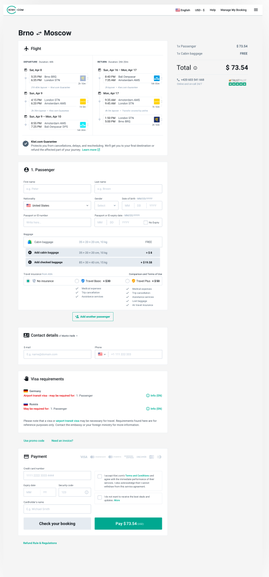
Audit icons

Audit components
& prioritize them by their value

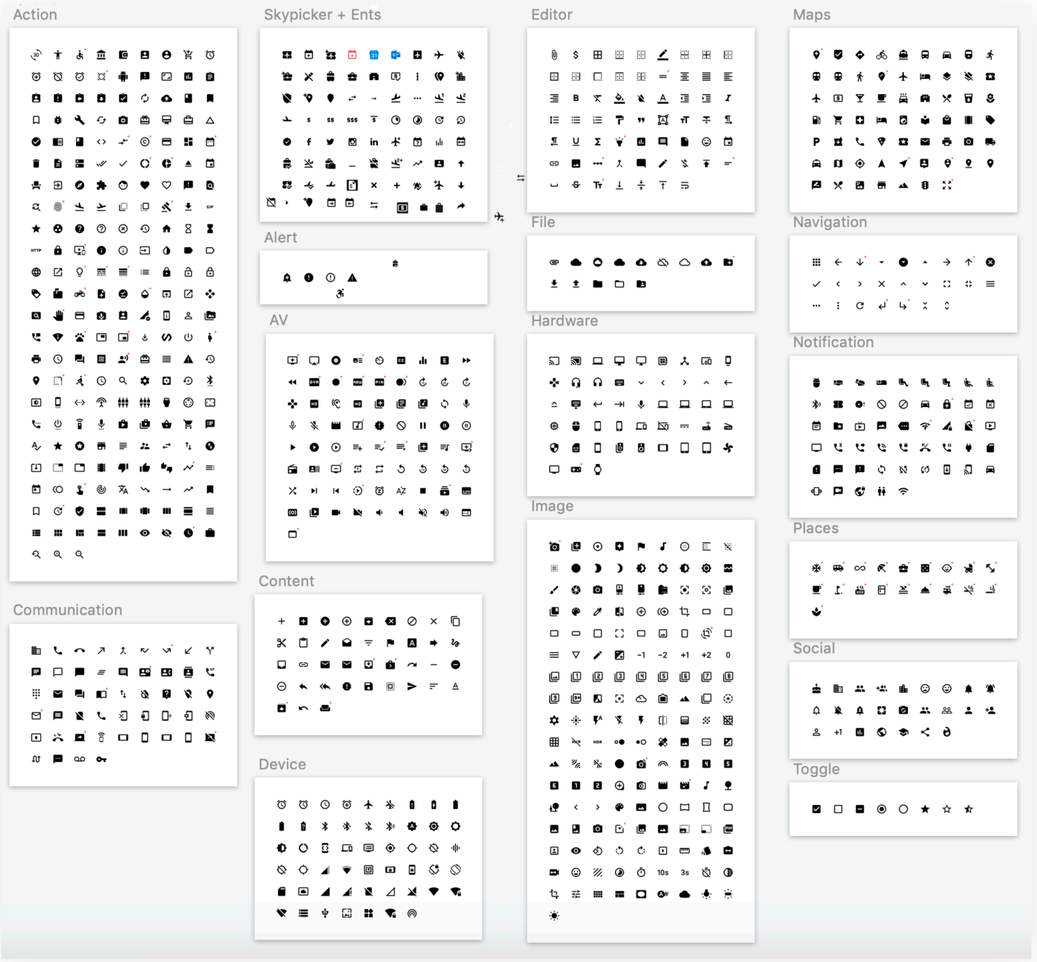
Icons from main flow







Material icons defined in some old Sketch file



Phase 1: Research

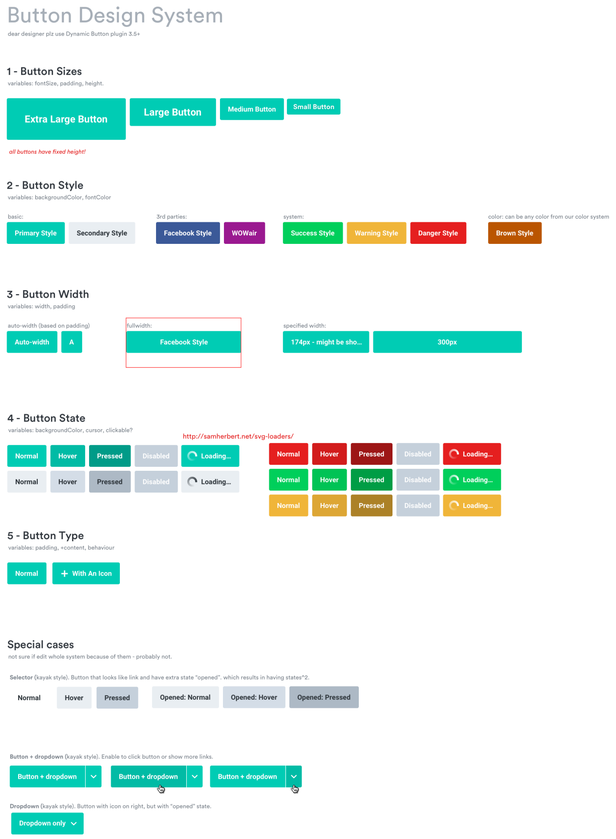
Collecting useful data.

Audit colors and typography

Audit icons

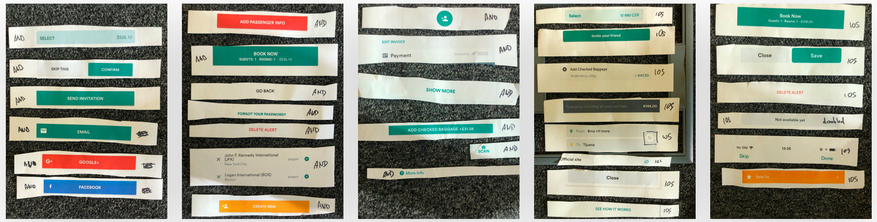
Audit components & prioritize them by their value

Existing button set in Sketch



Buttons from production website

Buttons from mobile applications



Improve visual design

Phase 1: Research

Collecting useful data.

- Audit colors and typography 🎉
- Audit icons 🎉
- Audit components & prioritize them by their value 🎉

Phase 2: Design

Doing informed decisions.

- Define clear styleguide (colors, typography)
- Define basic icon set
- Create common components

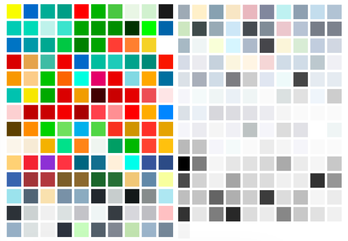
Phase 2: Design

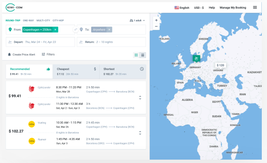
Doing informed decisions.

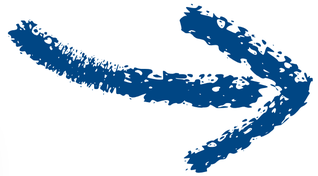
Define clear styleguide (colors, typography)

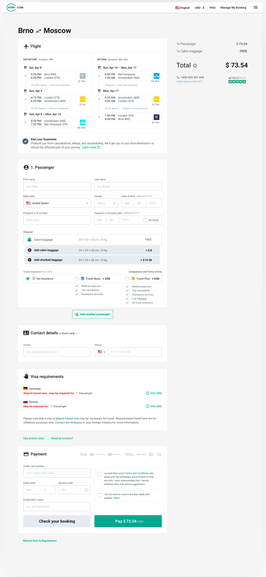
Define basic icon set

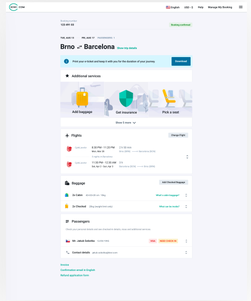
Create common components











Text 36px bold for main headers

Text 32 px for price summary in price box **in bold**

Text 28px bold for main modal headers

Text 20px bold for secondary headers

Text 18px bold for other secondary headers

Text 14px as primary style for text

in medium weight

in bold weight

Text 12px as secondary style for text

in medium weight

in bold weight

IN BOLD WITH UPPERCASE

in italic style

Text 11px as addition style for text

in medium weight

in bold weight

in italic style

Main color palette (without some shades)

Cloud

Cloud Light	#171b1e
Cloud	#e8edf1

Ink

Ink Lighter	#bac7d5
Ink Light	#7f91a8
Ink	#46515e
Ink Dark	#171b1e

Teal

Teal Light	#9CDAD3
Teal	#00a991
Teal Dark	#00826F

Green

Green Light	#e7f3e8
Green	#127F22
Green Dark	#065d12

Red

Red Light	#fae8e8
Red	#d21c1c
Red Dark	#650808

Blue

Blue Light	#E0F6FF
Blue	#10709f
Blue Dark	#07405c

Orange

Orange Light	#fcf1cd
Orange	#f9971e
Orange Dark	#a93610

Phase 2: Design

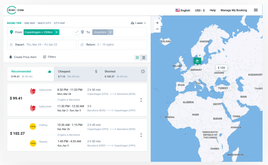
Doing informed decisions.

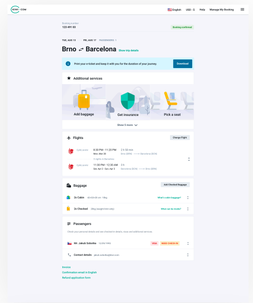
Define clear styleguide (colors, typography)

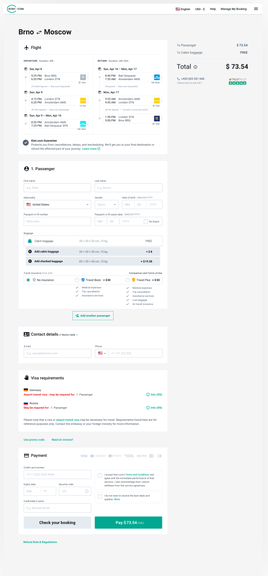
Define basic icon set

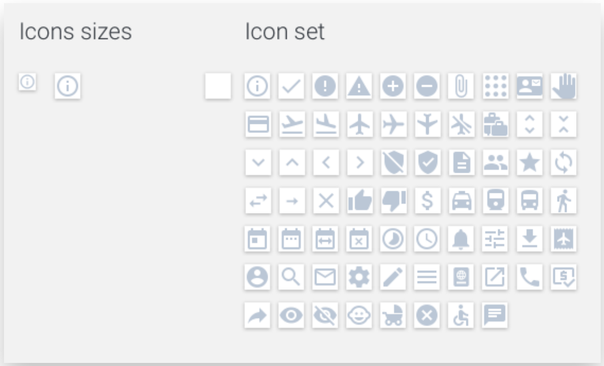
Create common components

Icons from main flow









Phase 2: Design

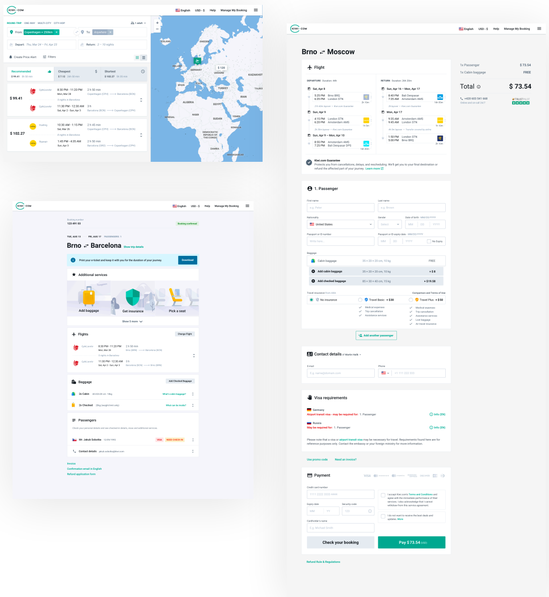
Doing informed decisions.

Define clear styleguide (colors, typography)

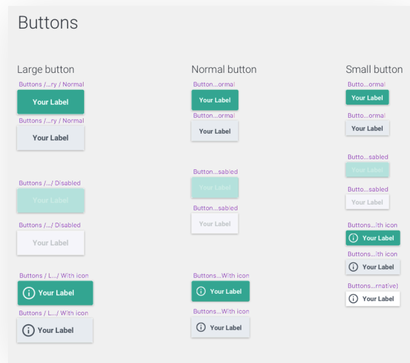
Define basic icon set

Create common components

Buttons from main flow



Buttons from mobile applications



Improve visual design

Phase 1: Research

Collecting useful data.

- Audit colors and typography
- Audit icons
- Audit components & prioritize them by their value

Phase 2: Design

Doing informed decisions.

- Define clear styleguide (colors, typography)
- Define basic icon set
- Create common components

Done?

Improve visual design

Phase 1: Research

Collecting useful data.

- Audit colors and typography
- Audit icons
- Audit components & prioritize them by their value

Phase 2: Design

Doing informed decisions.

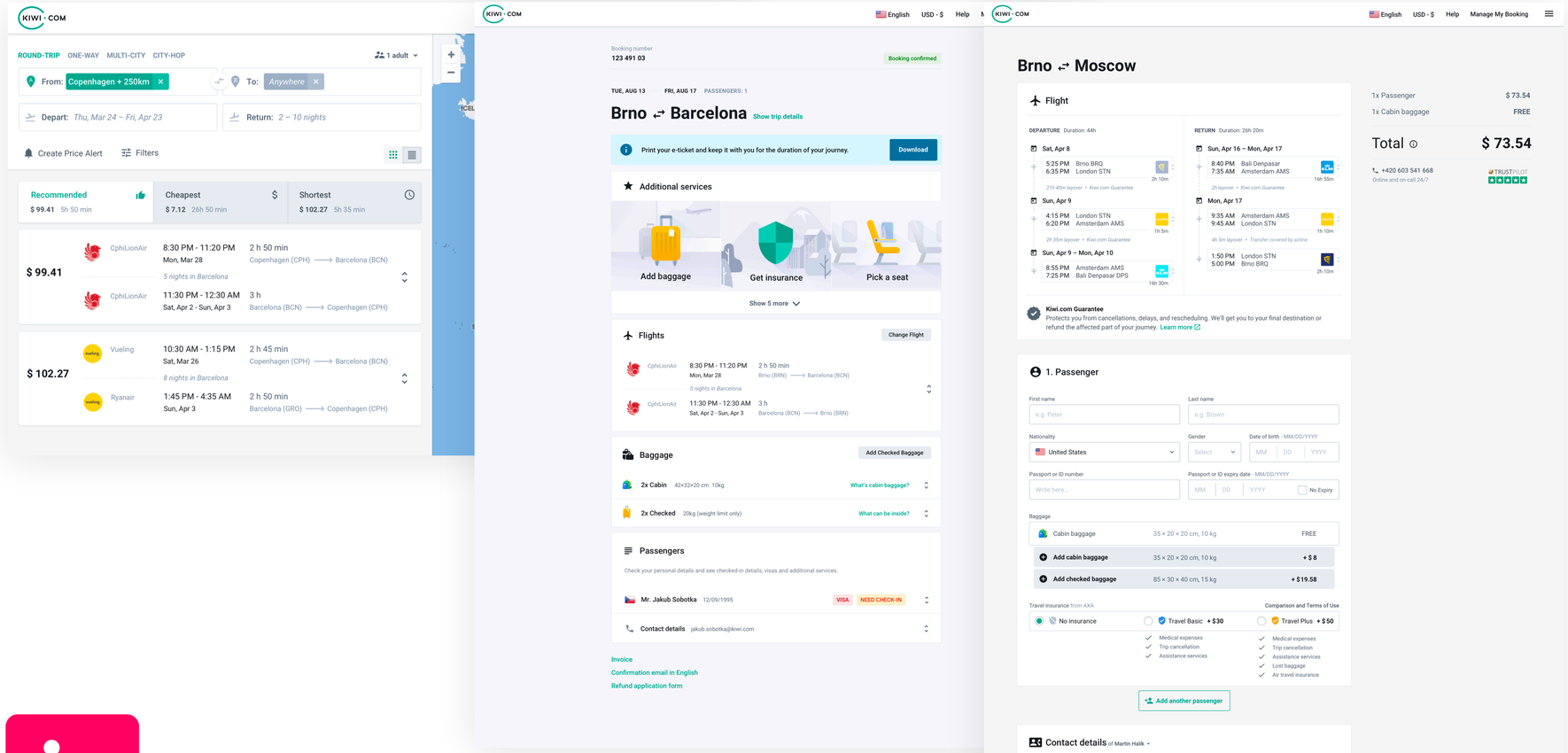
- Define clear styleguide (colors, typography)
- Define basic icon set
- Create common components

Phase 3: Validate

by expert review

Phase 3: Validate

by expert review



InVision

„You decide if it's enough."

If not? Iterate, improve, let them check again.

Improve visual design

Phase 1: Research

Collecting useful data.

- Audit colors and typography
- Audit icons
- Audit components & prioritize them by their value

Phase 2: Design

Doing informed decisions.

- Define clear styleguide (colors, typography)
- Define basic icon set
- Create common components

Phase 3: Validate

by expert review

So now it’s done!

Is it, though?

Remember this?

Hint: it's from our research!

I didn’t know we have UI kit.

Oh, we have some buttons already?

Continuous effort

To raise awareness.

Over-communication is a key to success.

Continuous effort

To raise awareness.

orbit-design-system

You created this channel on November 14th, 2017. This is the very beginning of the **# orbit-design-system** channel. Purpose: Info channel for design system updates and global announcements. (edit)

+ Add an app Add people to this channel

Continuous effort

To raise awareness.

honza 19:36

@product_designers * Kiwi Kit for Sketch - version 0.1 *

It's a first step and very small but it's a start of something awesome. **Now I need your cooperation** - try to use colors from the palette below and components from the Kiwi Kit and if anything is limiting or not usable, just report it to me. The goal of these first iterations is to re-create most used components from our UI so you can work with them easily in Sketch and focus on more complicated things.

How to install Kiwi Kit?

Just work with Abstract, as you are used to. Kiwi Kit was linked to all your projects so it should be accessible in your Sketch right now. Open "Symbol" drop-down, hover over "Kiwi Kit (Master @ ...)" and all mentioned symbols are already there.

Current components in Kit

- 4 types of system messages (error, danger, success, info), w/ and w/o icons, w/ and w/o title
- 3 types of buttons (Large, Normal, Small), w/ and w/o icons + disabled state
- Few form elements (checkboxes, radio buttons)
- Few basic icons (alert, info, ...)

Sketch palette with 16 unified colors:

- Download palette here: https://www.dropbox.com/s/19q0ere8jm6dxcr/kiwi-kit.sketchpalette?dl=0 (if you need help to install it to your Sketch just catch me and I'll help)
- Basic guidelines for colors are here: https://marvelapp.com/79c0g9e/screen/36355252 (it's work in progress, your feedback from using these colors will be priceless)
- These colors should be enough to create anything you need, maybe expect the most complicated components (eg. calendar). If you'll find out that it's not possible, just ping me, we can discuss it and possibly update the palette if needed.
- I am currently testing Design System Manager for sharing palette and text & layer styles.

Continuous effort

To raise awareness.

honza 19:36

@product_designers * Kiwi Kit for Sketch * version 0.1 *

It's a first step and very small but it's a start of something awesome. **Now I need your cooperation** - try to use colors from the palette below and components from the Kiwi Kit and if anything is limiting or not usable, just report it to me. The goal of these first iterations is to re-create most used components from our UI so you can work with them easily in Sketch and focus on more complicated things.

How to install Kiwi Kit?

Just work with Abstract, as you are used to. Kiwi Kit was linked to all your projects so it should be accessible in your Sketch right now. Open "Symbol" drop-down, hover over "Kiwi Kit (Master @ ...)" and all mentioned symbols are already there.

Current components in Kit

- 4 types of system messages (error, danger, success, info), w/ and w/o icons, w/ and w/o title
- 3 types of buttons (Large, Normal, Small), w/ and w/o icons + disabled state
- Few form elements (checkboxes, radio buttons)
- Few basic icons (alert, info, ...)

Sketch palette with 16 unified colors:

- Download palette here: https://www.dropbox.com/s/19q0ere8jm6dxcr/kiwi-kit.sketchpalette?dl=0 (if you need help to install it to your Sketch just catch me and I'll help)
- Basic guidelines for colors are here: https://marvelapp.com/79c0g9e/screen/36355252 (it's work in progress, your feedback from using these colors will be priceless)
- These colors should be enough to create anything you need, maybe expect the most complicated components (eg. calendar). If you'll find out that it's not possible, just ping me, we can discuss it and possibly update the palette if needed.
- I am currently testing Design System Manager for sharing palette and text & layer styles.

Continuous effort

To raise awareness.

Next version

- Set of most used icons in our product UI
- Form components (inputs, select boxes, etc.)
- Your suggestions!

Let's try to use Kit and colors from sketch palette. Find the limits, report everything you find and we can think how to solve it 🙂 (edited)

A lot of small changes.

As much as you can.

honza 14:42

@product_designers * Kiwi Kit for Sketch - version 0.1.1 *

- FIXED color for text in secondary buttons
- FIXED artboard height for small buttons
- ADDED normal buttons with icon
- ADDED normal buttons in disabled state

Thanks @henne for reporting! 🏳️‍🌈

It should update in your Sketches automagically. 🧹

Giving people control.

Always.

What should be next? Vote below the post!

1️⃣ Form inputs

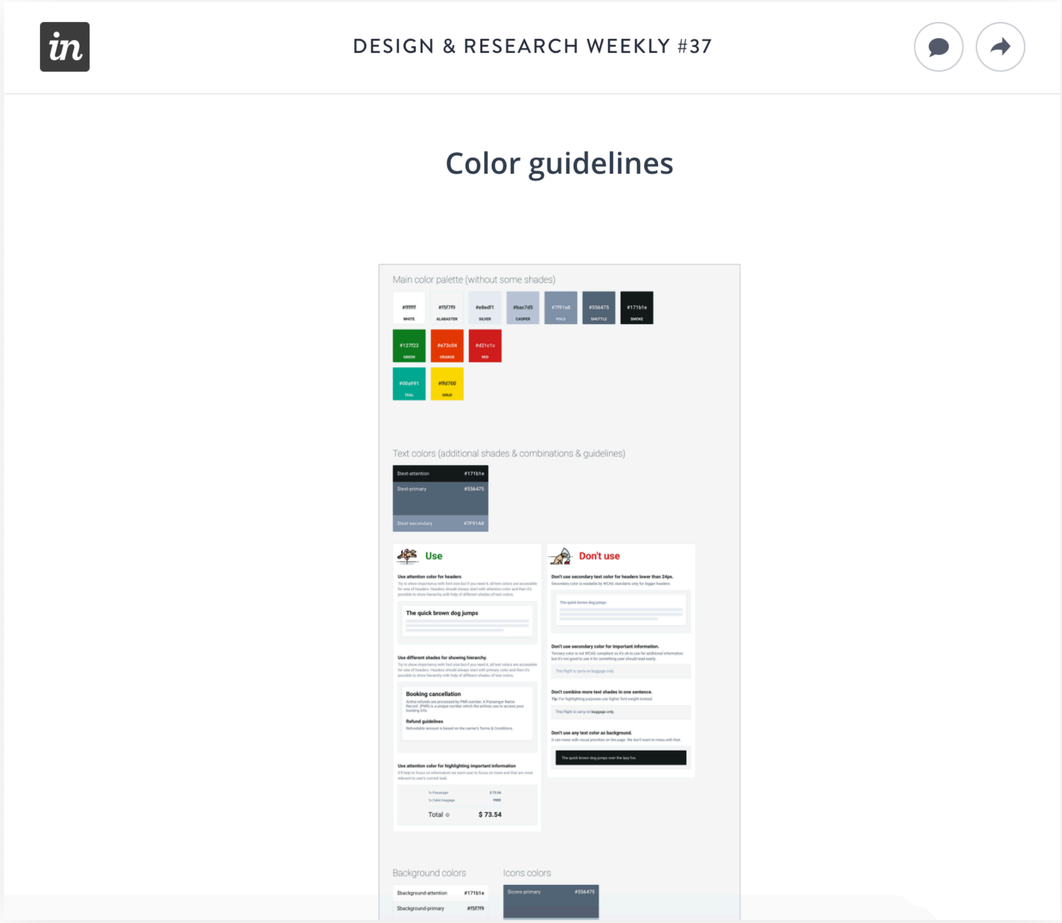
2️⃣ Modal wrapper

3️⃣ Cards (edited)

1️⃣ 9 2️⃣ 1 3️⃣ 1

Silent weekly updates

To management, PMs, devs...

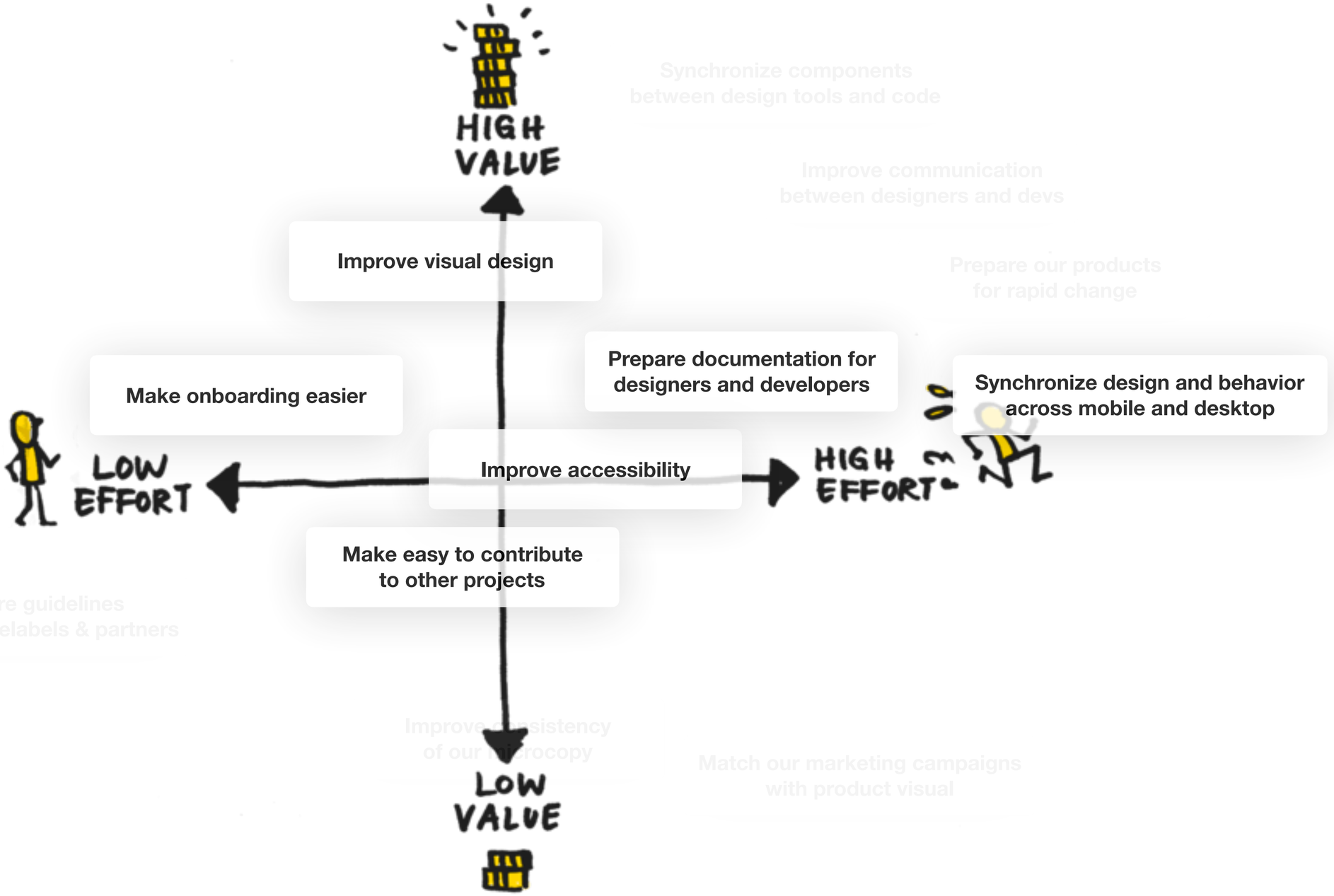


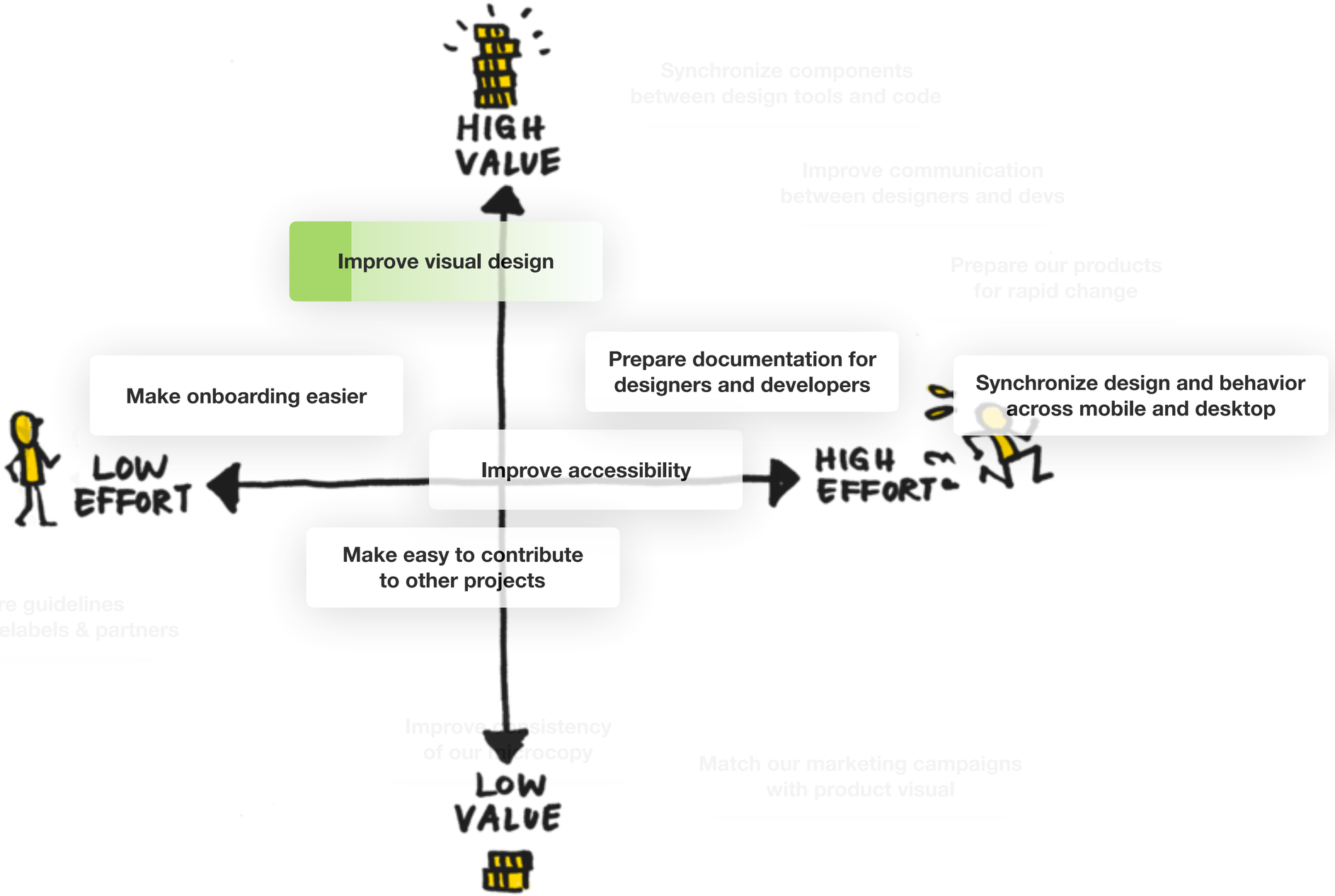
👊👊

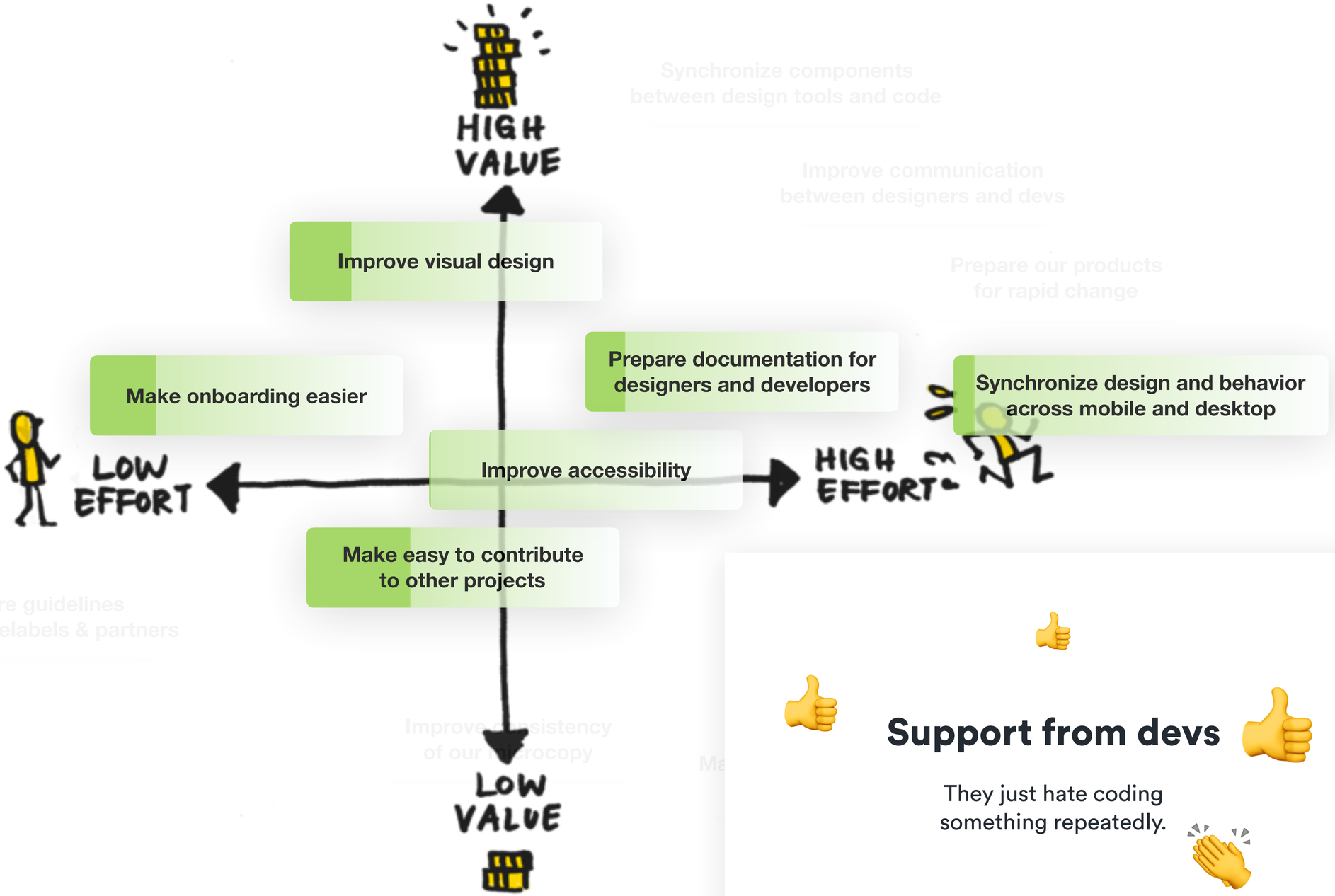
It’s all about gaining trust.

Check

our roadmap

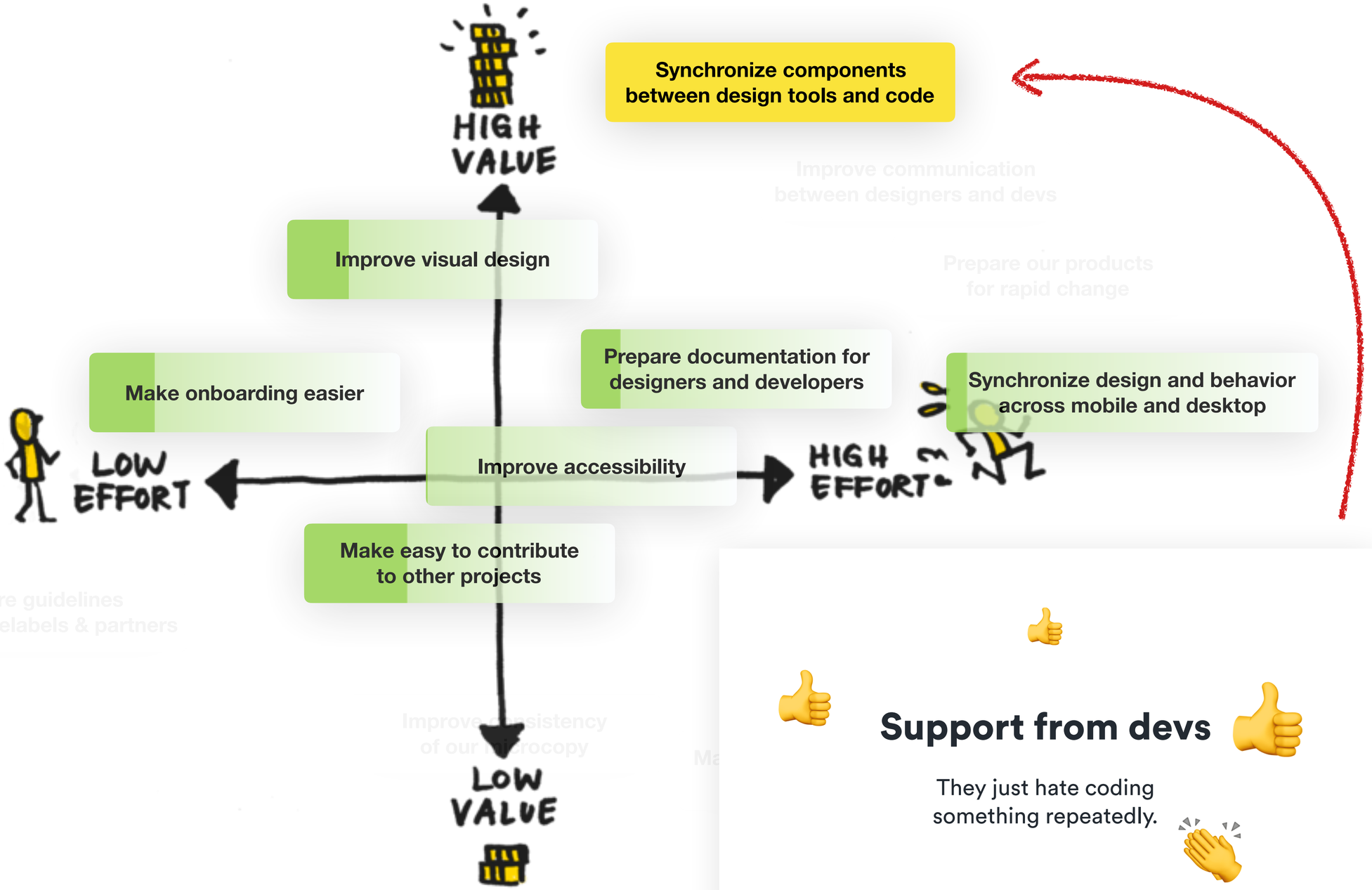

HIGH VALUE
Improve visual design
Make onboarding easier
Prepare documentation for designers and developers
Synchronize design and behavior across mobile and desktop
LOW EFFORT
Improve accessibility
HIGH EFFORT
Make easy to contribute to other projects
LOW VALUE


HIGH VALUE
Improve visual design
Make onboarding easier
Prepare documentation for designers and developers
Synchronize design and behavior across mobile and desktop
LOW EFFORT
Improve accessibility
HIGH EFFORT
Make easy to contribute to other projects
LOW VALUE



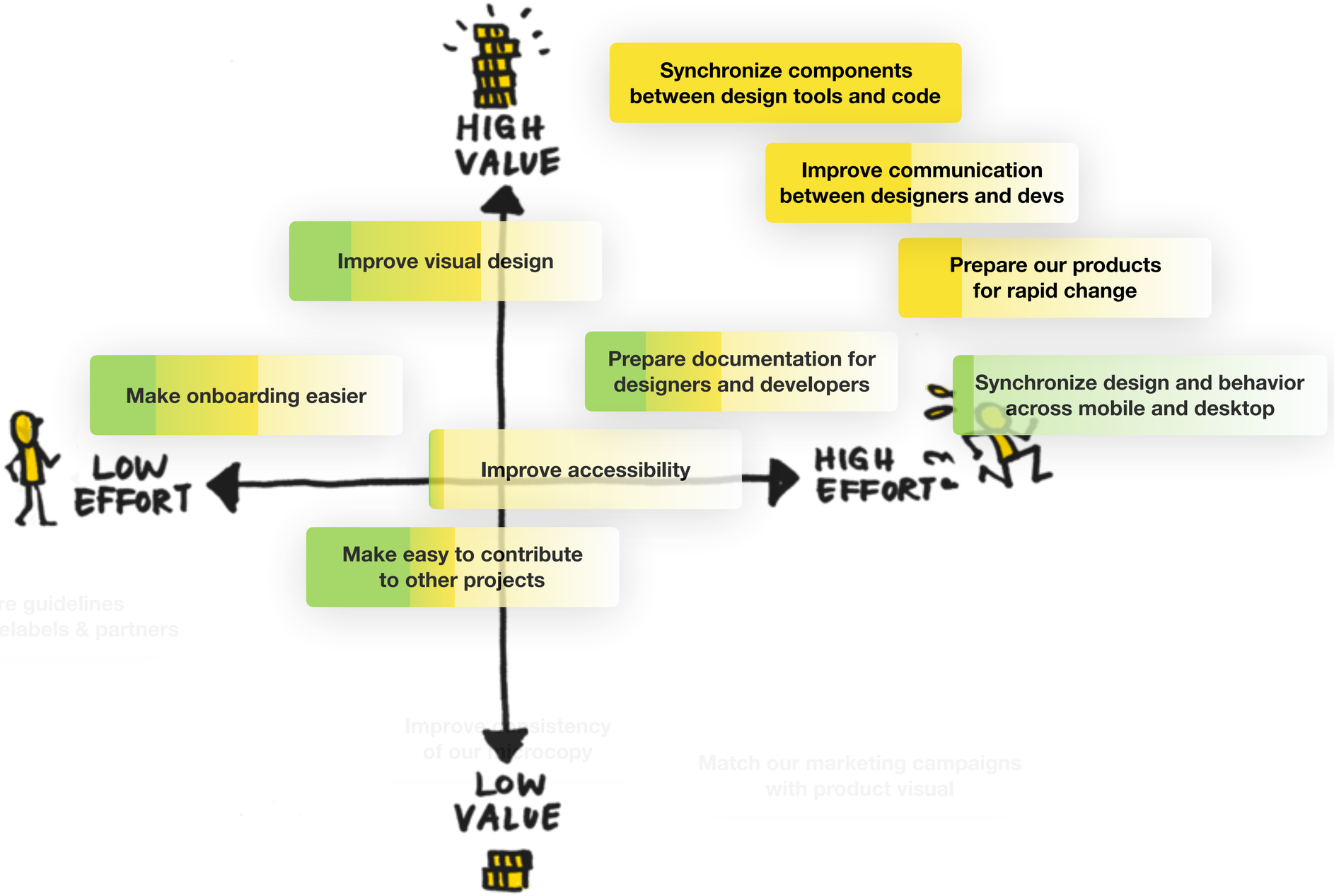
Support from devs

They just hate coding something repeatedly.



Support from devs

They just hate coding something repeatedly.


HIGH VALUE
Synchronize components between design tools and code
Improve communication between designers and devs
Improve visual design
Prepare our products for rapid change
Prepare documentation for designers and developers
Synchronize design and behavior across mobile and desktop
Make onboarding easier
LOW EFFORT
Improve accessibility
HIGH EFFORT
Make easy to contribute to other projects
LOW VALUE

“Nothing is invented
and perfected at the same time.“

- John Ray

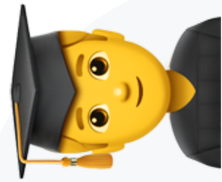
think

Benefits of this approach

Delivering small parts that matter

Delivering small parts that matter

Continuous proof of value



Delivering small parts that matter

Continuous proof of value

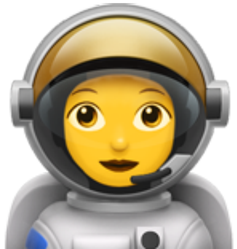
Getting frequent feedback

Delivering small parts that matter

Continuous proof of value

Getting frequent feedback

Increasing awareness



Change won’t happen overnight

Be persistent. Be transparent. Be there for them.

Thank you.

Reach out to me on Twitter: @HonzaTmn

SCAN ME

https://joind.in/talk/9d110