algolia
Powering discovery

Semantic Image Retrieval

The Good, The Bad, and The Ugly

algolia
Powering discovery

Presenter

Raed Chammam

Sr. Software Engineer
Team Recommend at Algolia

Paul-Louis Nech

Sr. Machine Learning Engineer
Team Recommend at Algolia

Agenda

1. The Good 😌
2. The Bad 🧐
3. The Ugly 😵

the World is Visual

and so is the Web

The World is Visual: hence, the Web too

Pinterest

*"**97%** of top searches are **unbranded** [...] people come to Pinterest to shop for **generic terms** and not **specific brands**"*

airbnb

Places with professional photos can get *upto* ***20%*** more bookings

NETFLIX

Thumbnails take ***82%*** of the **browsing** focus

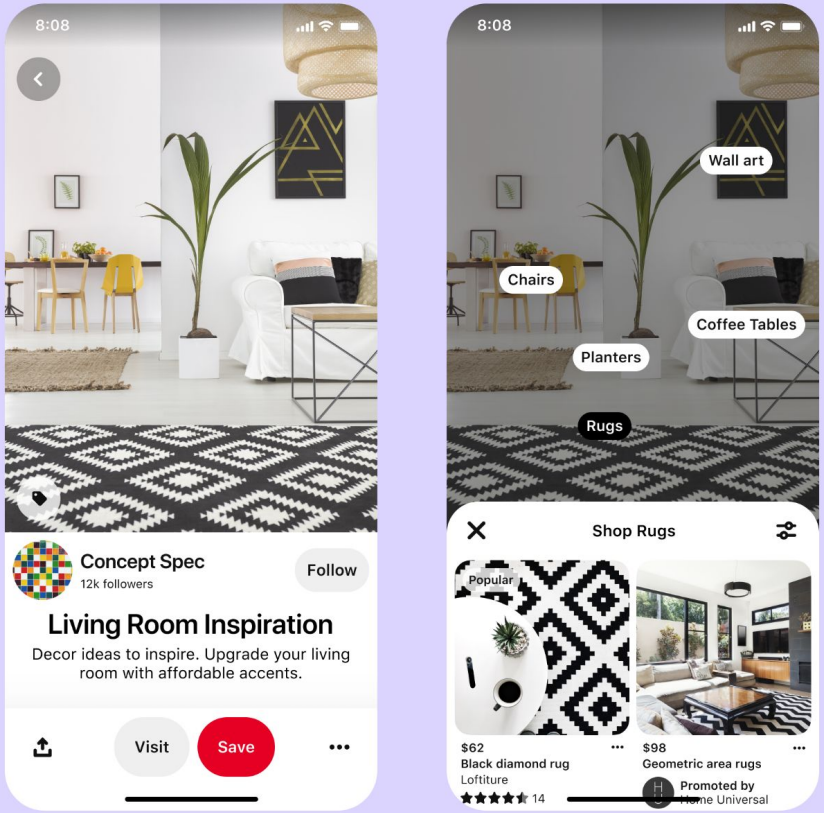
https://www.airbnb.com/e/pro-photography
https://www.airbnb.com/help/article/3381
https://about.netflix.com/en/news/the-power-of-a-picture

Etsy: Search by Image

from Building Etsy's Search by Image Feature

By Eden Dolev, Alaa Awad

Pinterest: Shop from Pins



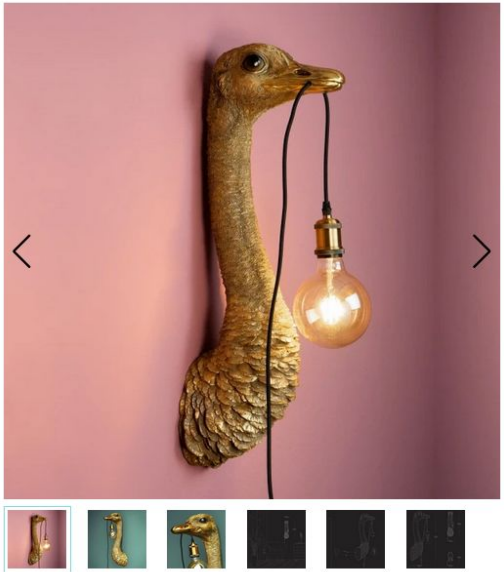
...and you can have it too

Under the hood: using vectors & metadata together

See alg.li/ecir23-slides

the Good

🇷🇴 XTDeco.ro: is it a bird? Is it a plane?



LAMPĂ FRANZ

Scrie o

1.318,40 lei

DISPONIBILITATE:

1

Producător:
WernerVoss

Foarte asemănătoare

Lampă de masă, Papagal auriu, Timmy, 27.5 x 18 x 61 cm

1.318,40 lei

Lampă de masă, Focă aurie, Robbie, 32.5 x 28.5 x 51.5 cm

1.489,60 lei

Lampă de masă, Maimuță aurie, Abu, 25.5 x 23.5 x 39.5 cm

940,80 lei

XTDeco.ro

XTDeco.ro

Acasă > Iluminat > Lampadare > Lampadar Iepuraș auriu, Hiding Rabbit, 39 x 39 x 115 cm

LAMPADAR IEPURAȘ AURIU, HIDING RABBIT, 39 X 39 X 115 CM

Scrie o recenzie

Cod: WRV-43022

2.356,80 lei

DISPONIBILITATE: 7 - 14 Zile

1 ADAUGĂ ÎN COȘ

Producător: WernerVoss

LA FAVORITE

Descriere | Specificații | Referitor livrare

Foarte asemănătoare

Lampă de masă, Iepuraș, Hiding Bunny, Negru, 24 x 24 x 74 cm

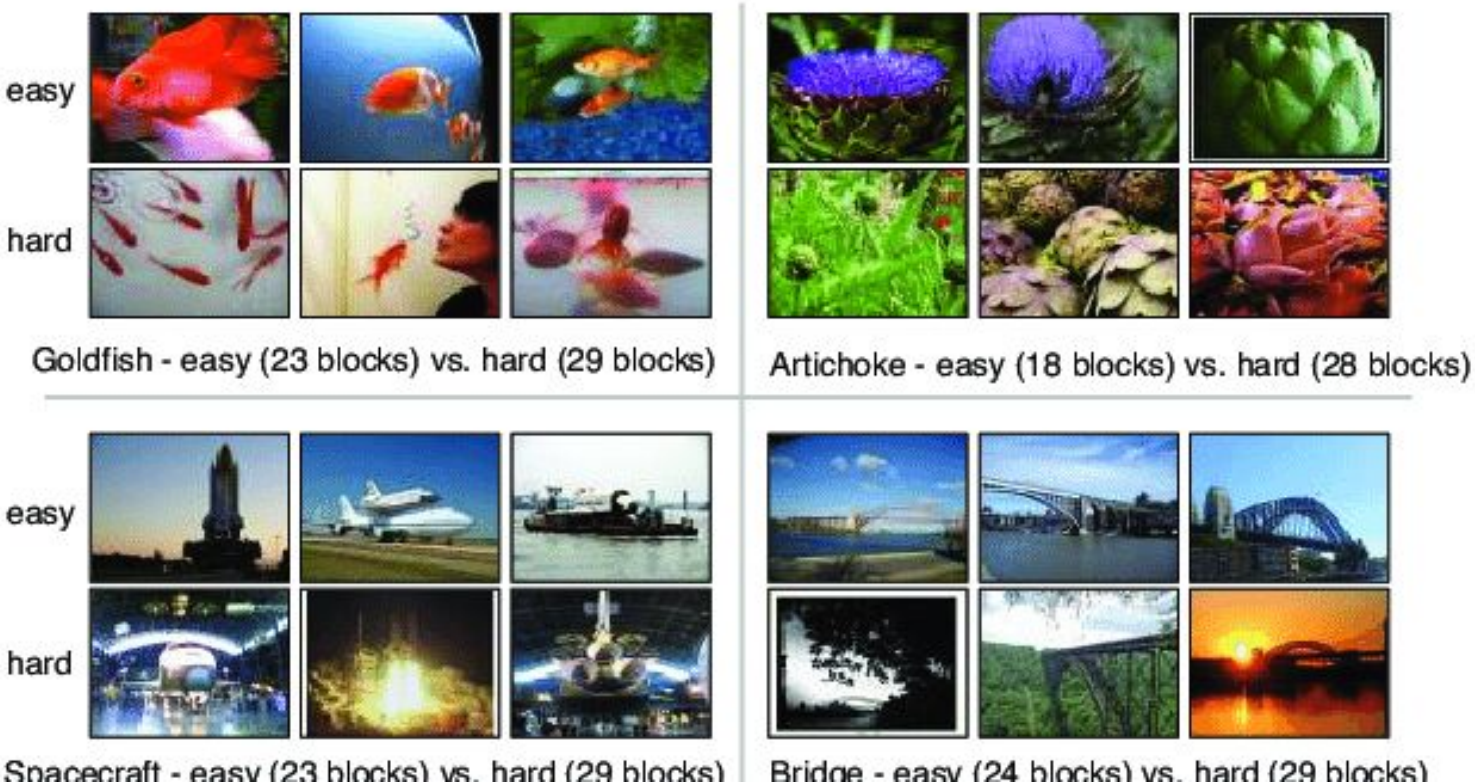
Lampă de masă, Iepuraș, Hiding Bunny, Portocaliu, 24 x 24 x 74 cm

Lampă de masă, Girafă aurie, Lucie, 35 x 28 x 70 cm

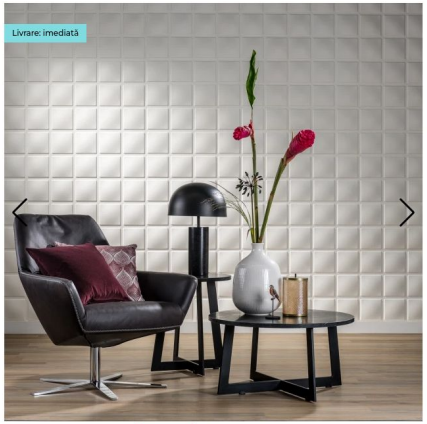
Lampă de masă, Iepuraș, Hiding Bunny, Magenta, 24 x 24 x 74 cm

Lampă de Bunny, Tu

XTDeco.ro: what does the model *see*?



XTDeco.ro



CUBES

★★★★★ Scrie o recenzie

Cod: WRT_GA-WA07_CUBES

269,00 lei / cutie (89,67 lei / mp)

DISPONIBILITATE: În stoc (9)

1 ADAUGĂ ÎN COȘ

WallArt Producător: WallArt

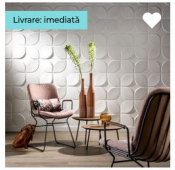
♡ LA FAVORITE

Foarte asemănătoare

Panouri decorative 3D Vaults, WallArt, 12 placi 50x50cm

★★★★★

89,67 lei / mp (269,00 lei / cutie)



Panouri decorative 3D Sweeps, WallArt, 12 placi 50x50cm

★★★★★

89,67 lei / mp (269,00 lei / cutie)

Panouri decorative 3D Beau, WallArt, 12 placi 50x50cm

☆☆☆☆☆

89,67 lei / mp (269,00 lei / cutie)

Panouri decorative 3D Gaps, WallArt, 12 placi 50x50cm

★★★★★

89,67 lei / mp (269,00 lei / cutie)

Panouri decorative 3D Lia WallArt, 12 placi 50x50cm

☆☆☆☆☆

89,67 lei / mp (269,00 lei , cutie)

CabinetParts.com: my handle broke...

CabinetParts.com: …and I'm out of words

CabinetParts.com
Your #1 Source for Cabinet Hardware. Since 1997

Shop & Save Today
End of Year Sale - $5 off Orders $95+
Coupon EOY2023 exp. 12/31/23

Search for Product

My Account | Help | Cart

Departments | Undermount Drawer Slides | Semi Concealed Cabinet Hi... | Standard European Cabinet ... | #1 Cabinet Makers' Shop | Free Shipping Specials | New! Cabinet Doors | Trusted Since 1997

Decorative > Knobs and Pulls > French Farm Designs Collec...

French Farm Designs 8 Inch Center to Center Ancient Bronze Cabinet Pull

★★★★★ Rating 4.8 | 97 Reviews | Our Item Number SHC-263-ABZ

Intricate French country design is the inspiration behind this elegant collection. Contours, curves and fluid design hug each piece.

$56.80 Was $71.00
SAVE 20% thru 12/09/2023

PRO Packs™
$54.53/ea for 5
$52.82/ea for 10
$51.12/ea for 20
60 or more See Pricing

Free Shipping on Schaub and Company Knobs - Orders $49+
Use Code BFSSCHAUB2312 Expires 12/31/2023

End of Year Sale - $5 off Orders $95+
Use Code EOY2023 Expires 12/31/2023

Finish: Ancient Bronze

Product Info Overall Length: 11-3/4", Projection: 1-3/8", Product Finish: Bronze, See more product details

Qty: 1 Each

Add to Cart

or

PRO Packs™
Save more! Buy a Pro Pack.

Buy Pack of 5

Buy Pack of 10

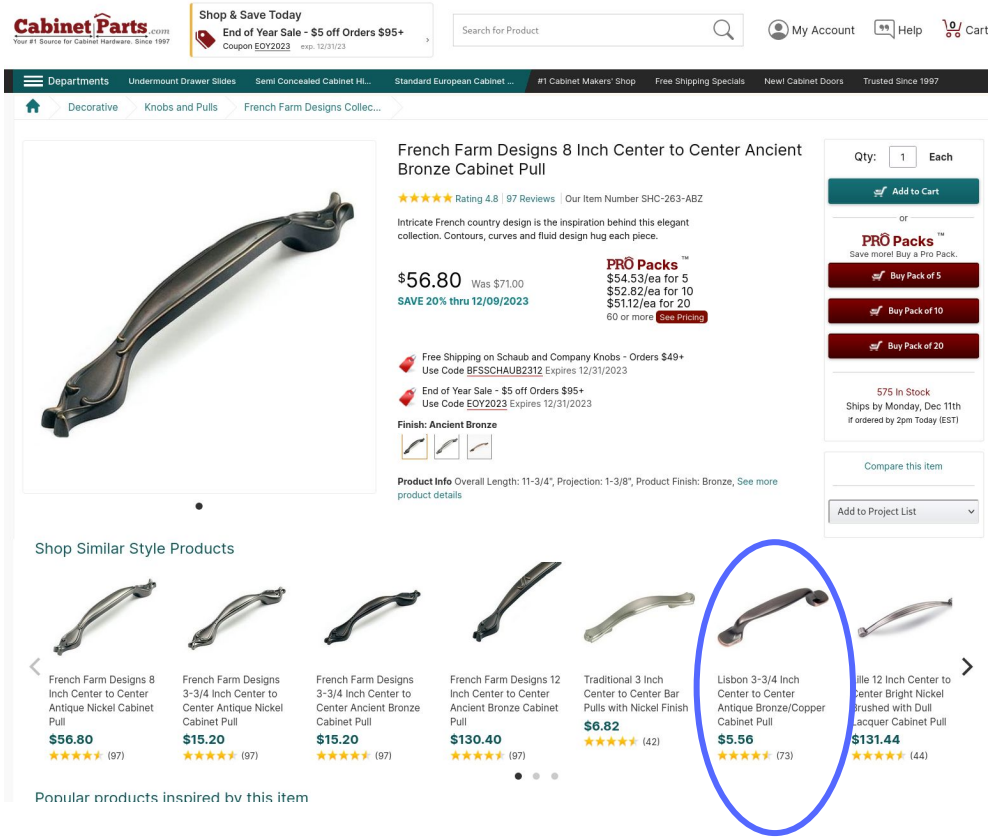
Buy Pack of 20

575 In Stock
Ships by Monday, Dec 11th
if ordered by 2pm Today (EST)

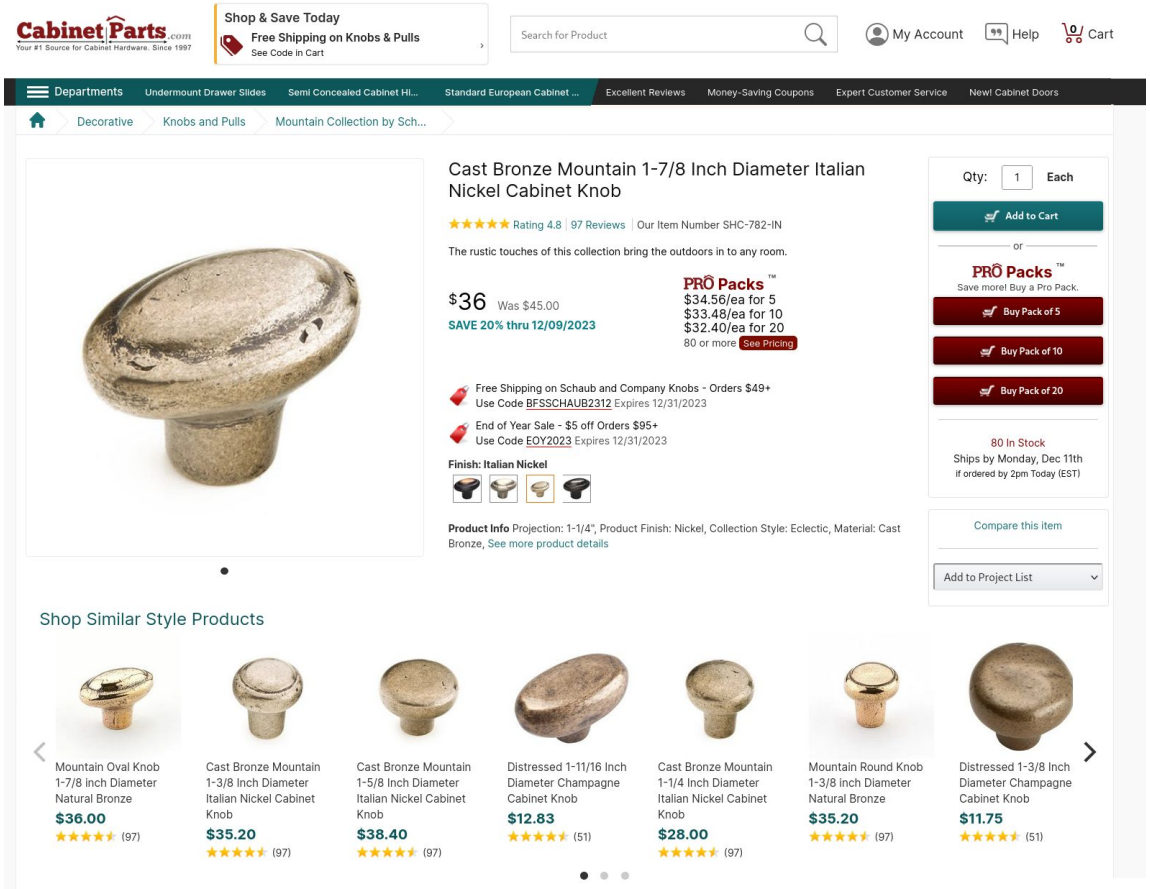
Compare this item

Add to Project List

CabinetParts.com: allow exploration beyond words



CabinetParts.com: great variant-awareness



Nooteboom Textiles

Home › Tissus à motifs floraux › Jersey de Viscose imprimé fleurs Cobalt

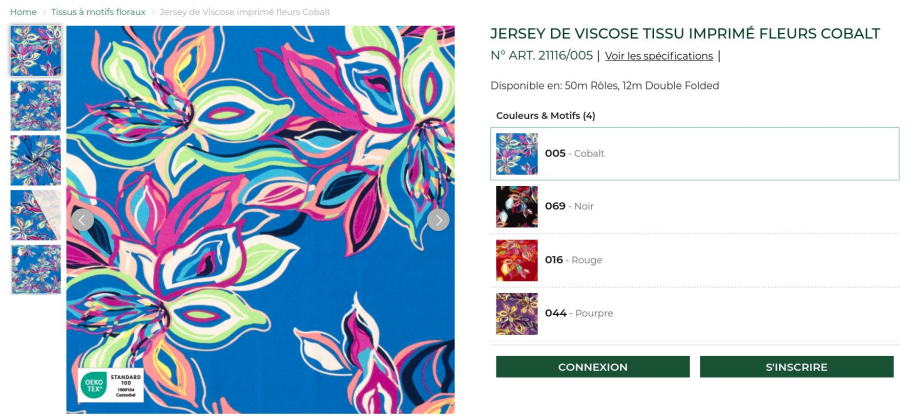
Nooteboom Textiles: power users recognize patterns

...

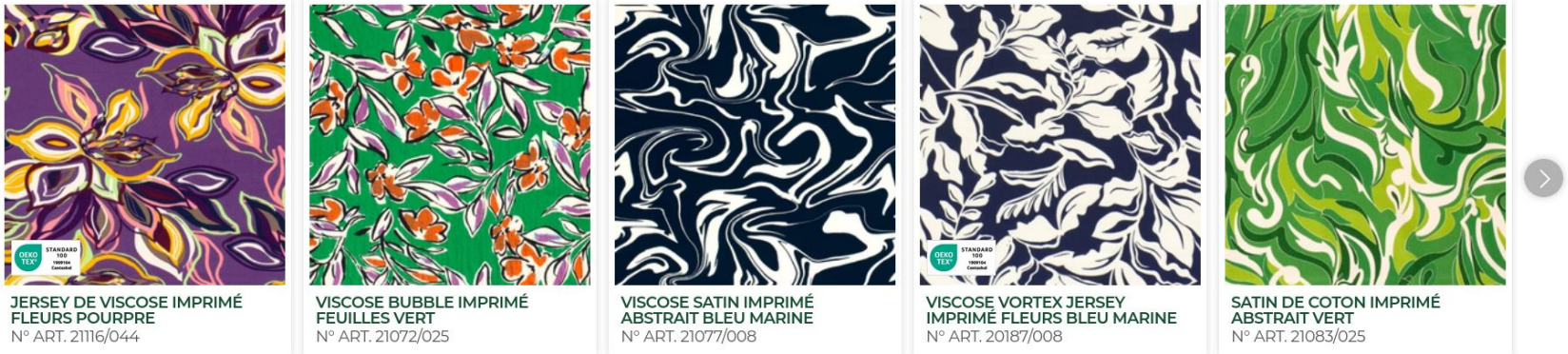
JERSEY DE VISCOSE IMPRIMÉ
FLEURS POURPRE
N° ART. 21116/044

VISCOSE BUBBLE IMPRIMÉ
FEUILLES VERT
N° ART. 21072/025

Nooteboom Textiles: allow newcomers to deep dive



Tissus associés



the **Bad**

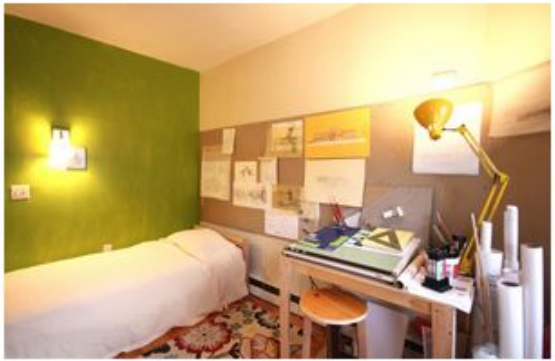
often
the Badly
DONE

The “What you see is what you get” problem

Showing 3 of 3 results

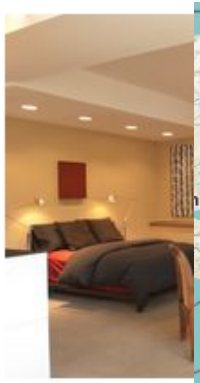
1

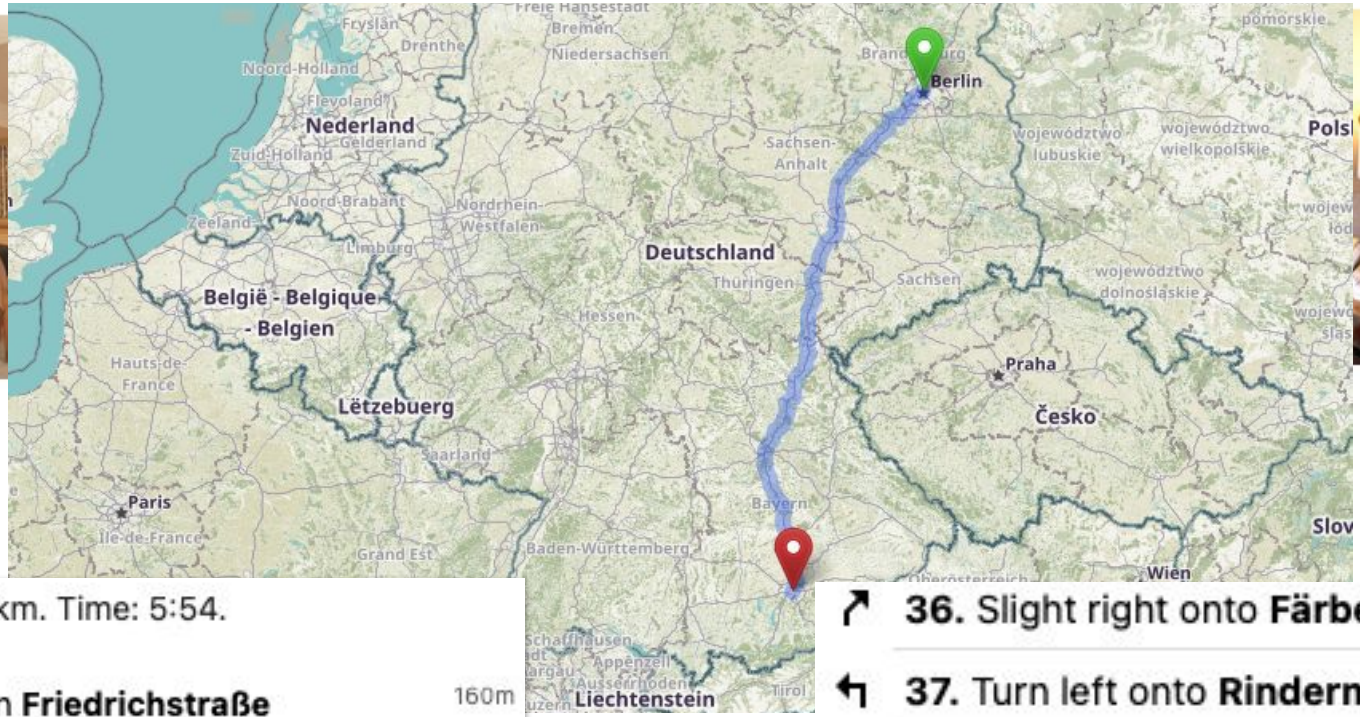
0.732421875



0.7064453125

The “What you see is what you get” problem





Distance: 585km. Time: 5:54.

↑	**1.** Start on **Friedrichstraße**	160m
↱	**2.** Turn right onto **Behrenstraße**	800m
↰	**3.** Turn left onto **Ebertstraße**	200m

↗	**36.** Slight right onto **Färbergraben**	200m
↰	**37.** Turn left onto **Rindermarkt**	140m
↱	**38.** Turn right onto unnamed road	40m
🚶	**39.** Reach destination	

often

the Badly

DONE

🇩🇰 Your next Guitar: Andre købte også?

DanGuitar.dk
Alt i musikinstrumenter, lyd & lys

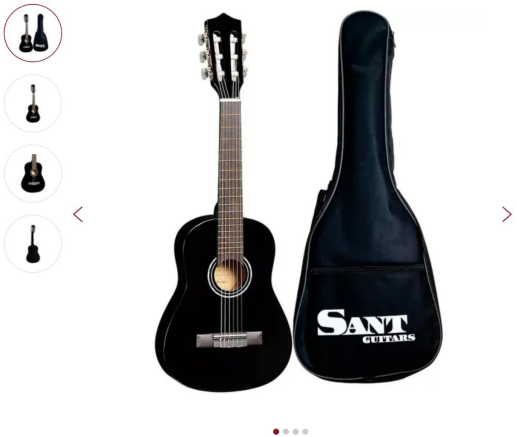
Søg på alt i musikinstrumenter, lyd og lys

FAVORIT

Forside | Musikinstrumenter | Lydudstyr | Lys & effekter | Tilbehør | Udsalg | B-Stock | Lykkeposer

Hjem / Musikinstrumenter / Guitar / Spansk guitar / Børne spansk guitar / Sant Guitars CJ-30-BK 1/2 spansk børne-guitar sort

Sant Guitars CJ-30-BK 1/2 spansk børne-guitar sort

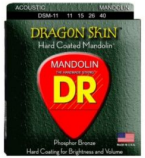


Andre købte også

Sant CL-50-WH spansk guitar hvid, pakkeløsning

1.018,16 DKK ~~1.276,00 DKK~~

Varen er på lager - Levering 1 - 2 hverdage



DR Strings DSM-11 mandolin-strenge, light

129,00 DKK

Varen er på lager - Levering 1 - 2 hverdage

Thornton HY504 megafon, 5 W

59,00 DKK ~~99,00 DKK~~

Varen er på lager - Levering 1 - 2 hverdage

Santana 01 DK ukulele danish flag

299,00 DKK

Varen er på lager - Levering 1 - 2 hverdage

HiEnd 2 x XLR(han)-til-minijack(stereo)-kabel 3 meter

69,00 DKK

Varen er på lager - Levering 1 - 2 hverdage

Your next Guitar

DanGuitar.dk
Alt i musikinstrumenter, lyd & lys

Søg på alt i musikinstrumenter, lyd og lys

FAVORITTER (0) INDKØBSKURV (0)

Forside | Musikinstrumenter | Lydudstyr | Lys & effekter | Tilbehør | Udsalg | B-Stock | Lykkeposer | Mærker

Hjem / Musikinstrumenter / Andre strengeinstrumenter / Mandolin / Akustisk mandolin / Tanglewood TWMF VSE mandolin

Tanglewood TWMF VSE mandolin

~360€

Anmeld

Tanglewood

- Mandolin med f-formet krop i en flot sunburst farve
- Med indbygget mikrofon
- Dæk, sider og bagside er udført i lindetræ

Læs hele beskrivelsen | Se specifikationer

2.699,00 DKK

Varen er på lager - Levering 1 - 2 hverdage

1 Læg i kurv

Tilfredshedsgaranti: 30 dages returret

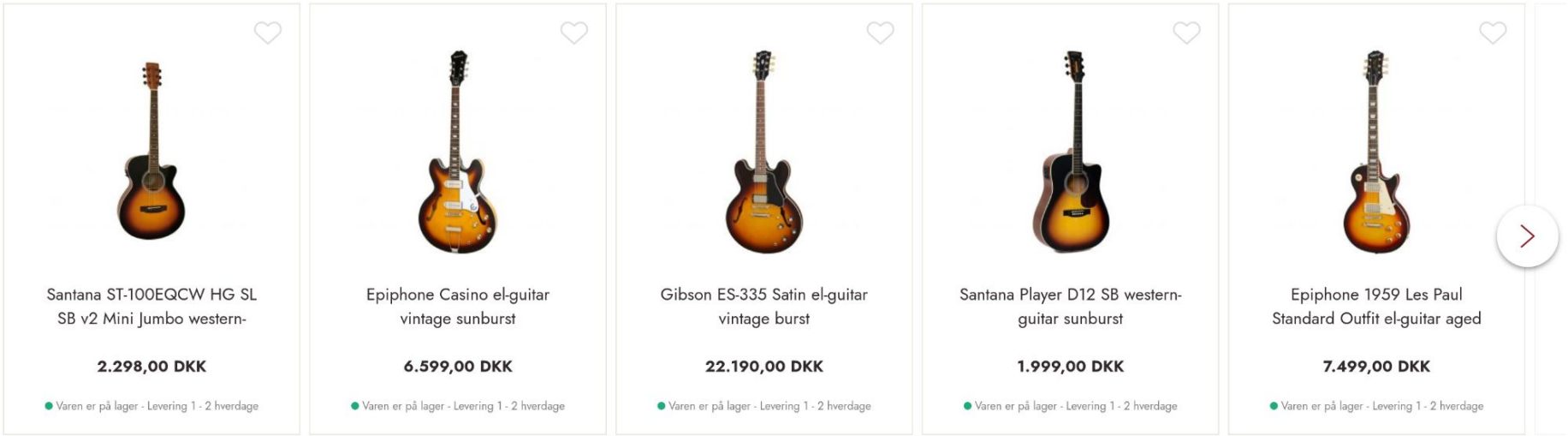
Varenr.:TW-TWMFVSE

Your next Guitar

Andre købte også nope

Gode alternativer

what do you do when you have **no user events** ?



Always have something to show

Shoes? Visual scores tell you about specificity

Item viewed

Nike Air Max 97 - Boys' Grade School

Looking similar

83.594

Nike Air Max 97 SE - Boys' Grade School

83.496

Nike Air Max '97 - Men's

83.32

Nike Air Max 97 SE - Boys' Grade School

83.242

Nike Air Max 97 - Girls' Grade School

82.773

Nike Air Max 97 - Men's

82.715

Nike Air Max 97 - Girls' Grade School

82.559

Nike Air Max 97 - Boys' Grade School

82.246

Nike Air Max 95 SE - Men's

82.148

Nike Air Max 97 SE - Boys' Grade School

82.09

Nike Air Max 97 - Boys' Grade School

Shoes? Knowing **Specificity** tells you what to show them

Reebok Step N Flash - Girls' Presch… × Show random Show Rules? Display F

Item viewed

Reebok Step N Flash - Girls' Preschool

Looking similar

87.852

Reebok Classic Leather - Girls' …

86.992

New Balance BB550 - Men's

85.879

New Balance 550 - Boys' Grade School

85.723

Reebok Classic Leather - Girls' …

85.684

New Balance 574 Classic - Girls' …

85.391

Reebok Classic Leather - Girls' …

85.352

Reebok Step N Flash - Girls' Preschool

85.332

Reebok Classic Leather - Girls' …

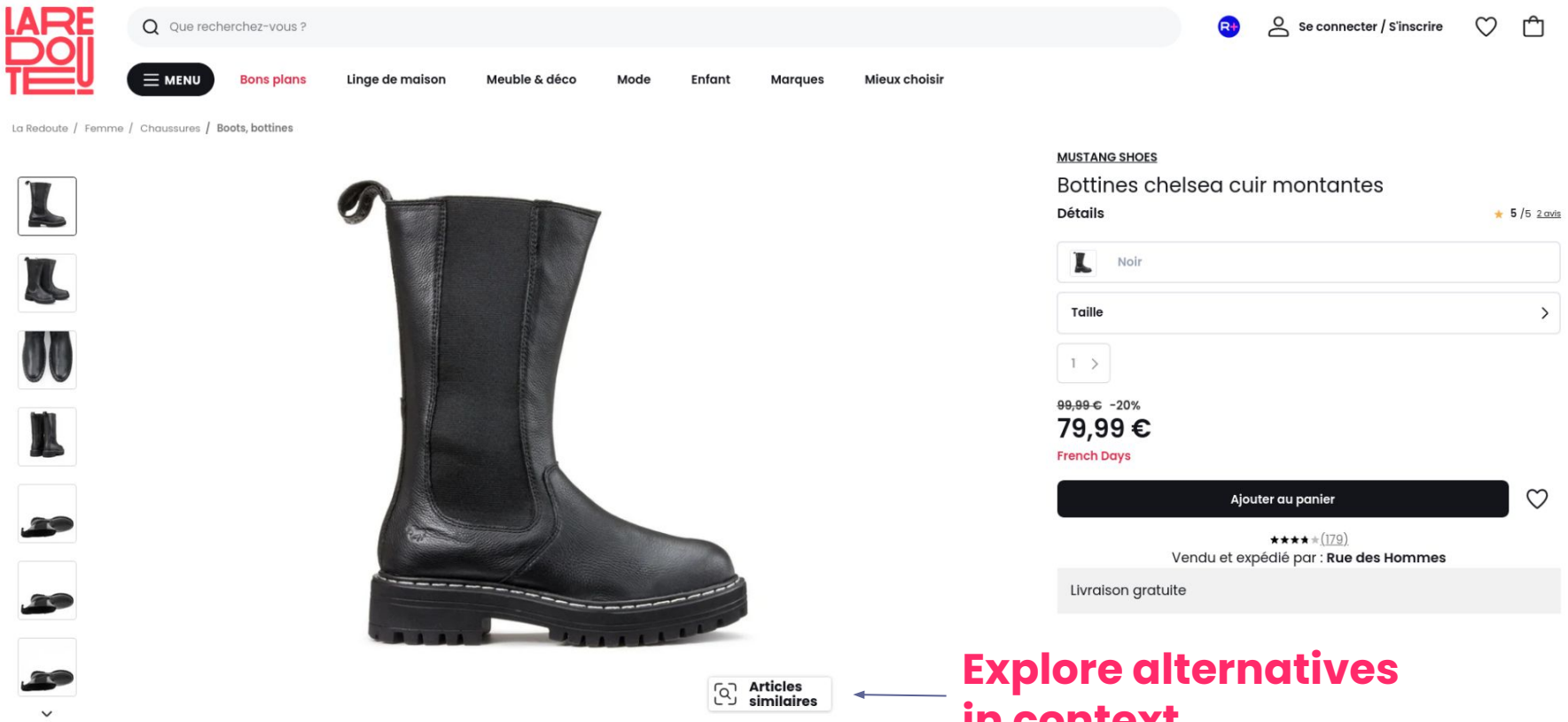
85.195

Reebok CL Dazzle - Girls' Preschool

85.117

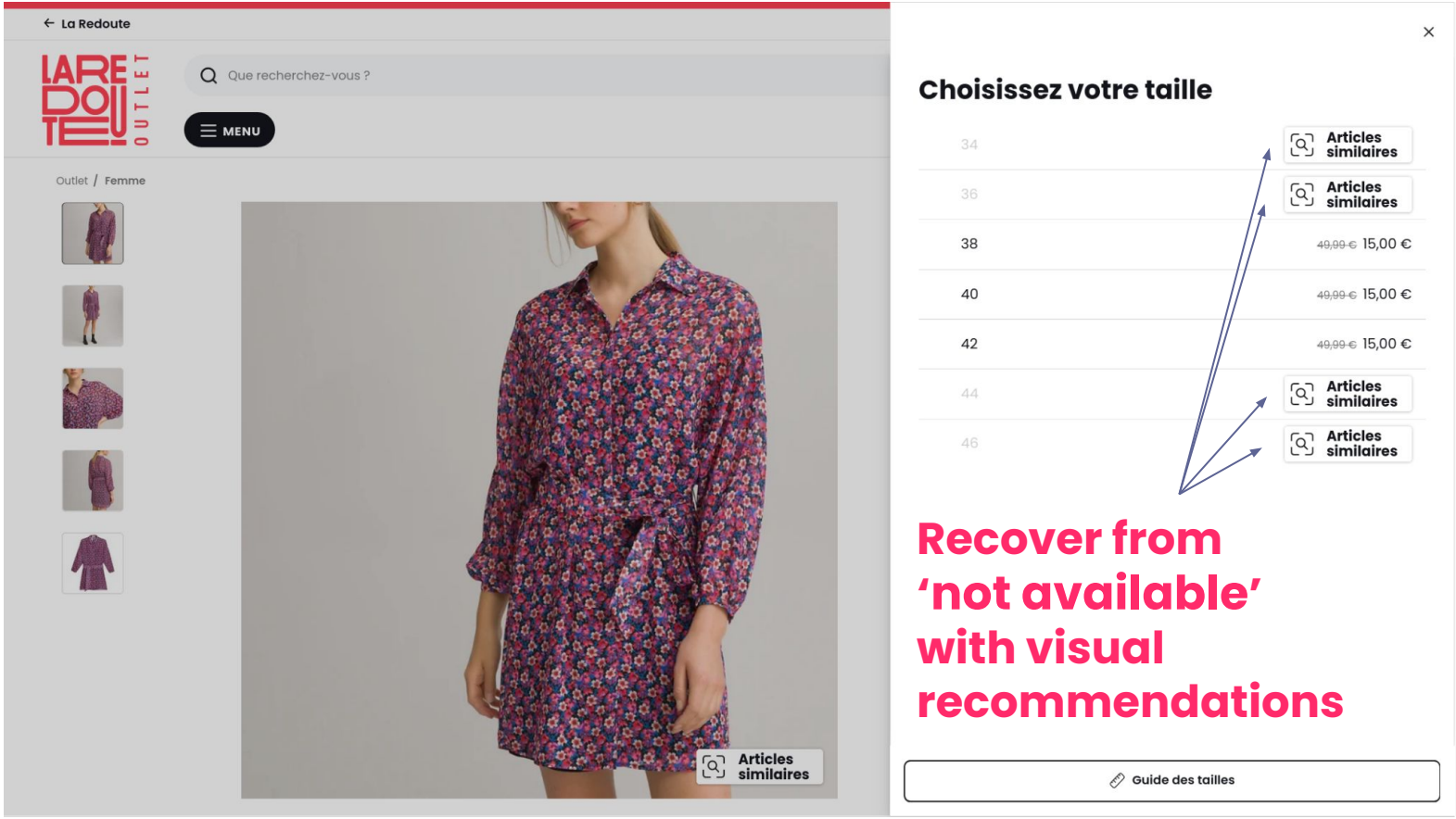
Reebok Classic Leather - Girls' …

🇫🇷 Shoes - La Redoute



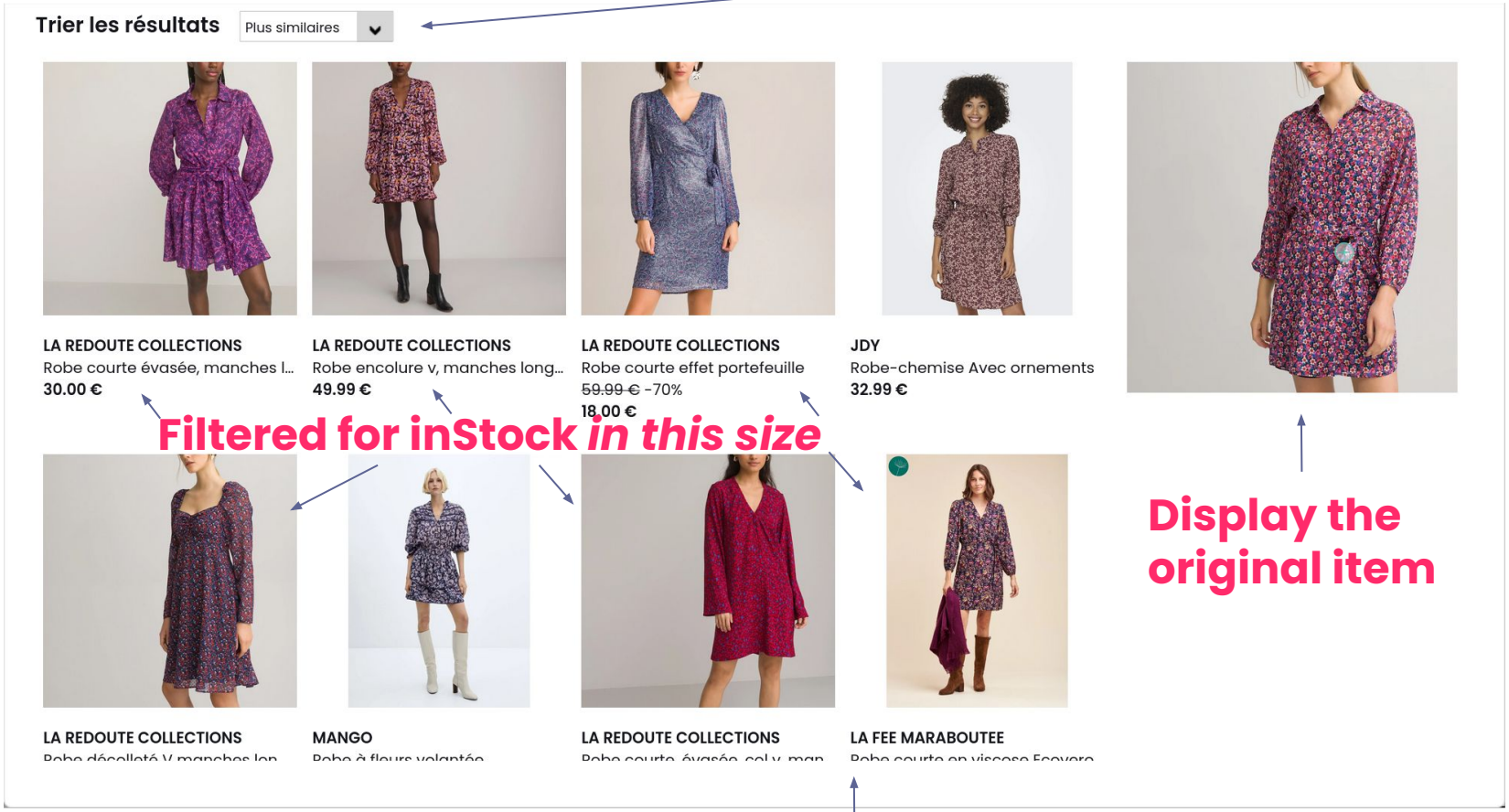
Explore alternatives in context

Sizes - La Redoute



Sizes - La Redoute

Sort by similarity - and more



Display the original item

the Ugly

Matching random user review pictures

Item viewed

Caveman Kitchen

Looking similar

King Donut

Taste of Mexico

Elements

Matching random user review pictures

Item viewed

Chez Alice Cafe & Bakery

Looking similar

Sweet Acorn

Edible Arrangements

Thomas Sweet Ice Cream

Matching random user review pictures

Item viewed

Firestone Grill

Looking similar

Five Guys Burgers and Fries

David's Books

Philly Diner

Matching random user review pictures

Item viewed

Broadway Brew Biergarten

Looking similar

SideBar & Grill

Fred's Italian Corner Restaurant

The Point Tavern

Matching random user review pictures

Item viewed

Whiskey Blue

Looking similar

Thai Market

Brass Rail

The ROI Food & Music

Matching random user review pictures

Item viewed

Oliver & Bonacini Cafe Grill

Looking similar

Baby Blues BBQ

Mango Mango

Venable Rotisserie Bistro

Matching hands

Try **better data**

Focused **imagery**

Object **segmentation**

Or use the **threshold**! **“`threshold: 0.7`”**

Matching MUSCLES 💪

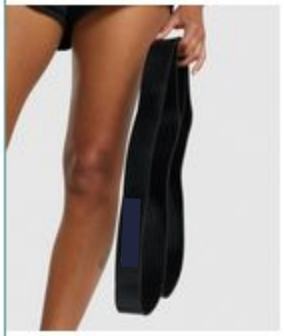
Product

23kg to 54kg Resistance Band

6693084102702

Price: 12.8 💴

Stock: 100



Pure muscles in... **PURE MUSCLES OUT** 💪

What to do when an use-case is **ugly?**

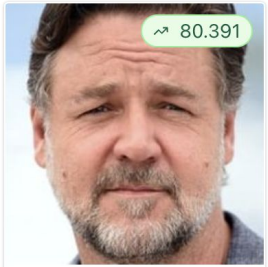
There’s always an alternative to better serve your content!

- **Metadata-based carousels** 📜 🔢
- **User-behavior based suggestions** 🫂
  - Out-of-stock -> suggest **alternative** items
  - On the cart page -> offer **complementary** items

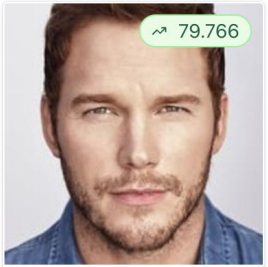
Image-based suggestions is **only one way**
to surface **relevant items** to your users!

Faces

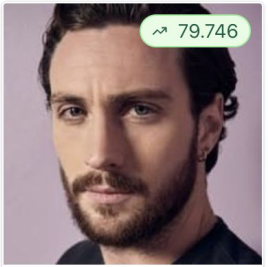
Nicolas Cage



Russell Crowe

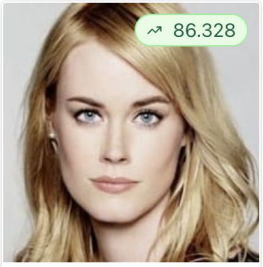


Chris Pratt

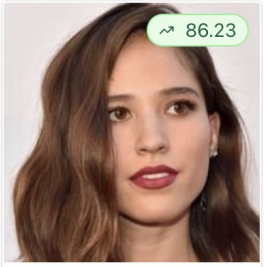


Aaron Taylor-Johnson

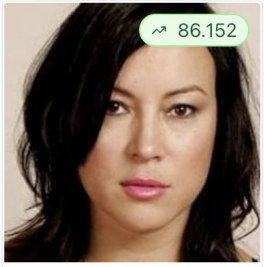
Scarlett Johansson



Abigail Hawk



Kelsey Asbille



Jennifer Tilly

🇫🇷 Wine

EDNA VALLEY
PINOT NOIR
M&S
CLASSICS
No.35
BEAUJOLAIS-VILLAGES
M&S
CLASSICS
No.34
CLARET
BORDEAUX
Maruxa
MENCÍA
VACQUEYRAS
Grande Garrigue
VACQUEYRAS
ALAIN JAUME
DES DOMAINES
EDMOND DE ROTHSCHILD
BEAUJOLAIS-VILLAGES
DOMINIQUE PIROS
M&S
No.21
Reserva
LOMAS DEL MARQUÉS
RIOJA

Conclusion

Conclusion

- **The Good**: great use-cases get **immediate uplift**
- **The “Bad”**: some should use visual recommendations **alongside other signals** to benefit
- **The Ugly**: don’t judge a **book** by its **cover**!

Think about *your* use-case

Think about *your* use-case

Would **image matching:**

- 😌 **immediately delight** ?
- 🧐 work with **other features** user's **purchasing criteria**?
- 😵‍💫 or ultimately be **a distraction**?

algolia
Powering discovery

Thank you!

Get the slides

Try the model