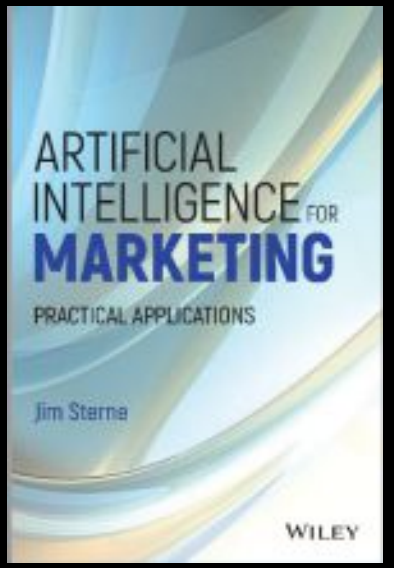
Jim Sterne

This Time, the Robots ARE Coming to Disrupt Marketing

MARKETING ANALYTICS SUMMIT
DATA AT WORK

DIGITAL ANALYTICS ASSOCIATION 15 YEARS



jsterne@targeting.com – Marketing Analytics Summit – @jimsterne

ROBOT ZOMBIES WITH LAZERS

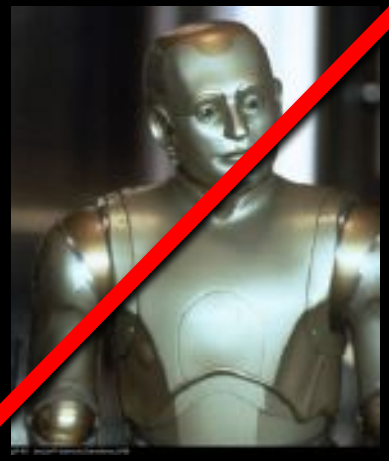
As Seen on TV

AI: Anything computers can't
SciFi: Anything AI can't

"General AI" – thinks and acts human
Sentience = SciFi

"Narrow AI" – task specific
Functional

As Seen on TV



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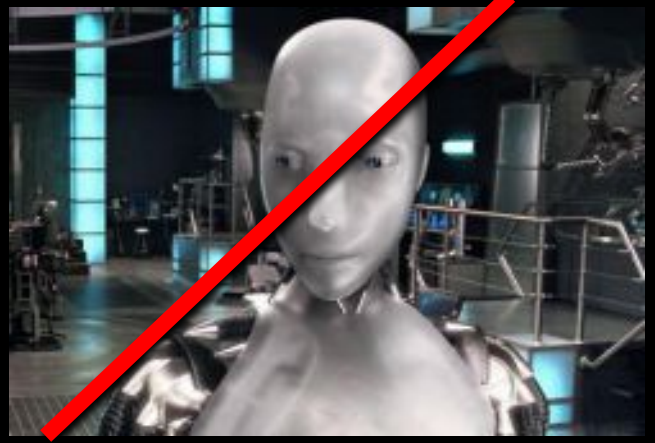

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Artificial Intelligence

Natural Language Processing
Conversation Bots
Computer Vision
Self-Driving Cars & Robots
Machine Learning

Software Grows Up

Specific Logic

Mathematical Model

Statistical Model

Machine Learning

Software Grows Up

Specific Logic

Mathematical Model

```
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(a.getAttribute("type")||a.tagName).toUpperCase()in ca},ba={CHECKBOX:!0,OPTION:!0,RADIO:!0},ca={COLOR:!0,
DATE:!0,DATETIME:!0,"DATETIME-LOCAL":!0,EMAIL:!0,MONTH:!0,NUMBER:!0,PASSWORD:!0,RANGE:!0,SEARCH:!0,TEL:!0,
TEXT:!0,TEXTAREA:!0,TIME:!0,URL:!0,WEEK:!0},da={A:!0,AREA:!0,BUTTON:!0,DIALOG:!0,IMG:!0,INPUT:!0,LINK:!0,MENU:
!0,OPTGROUP:!0,OPTION:!0,PROGRESS:!0,SELECT:!0,TEXTAREA:!0};var I=function(){this.i=this.g=null}
```

Statistical Model

Machine Learning

Software Grows Up

Specific Logic

Do this, then this, then this

If this happens, do that

If confused, report error

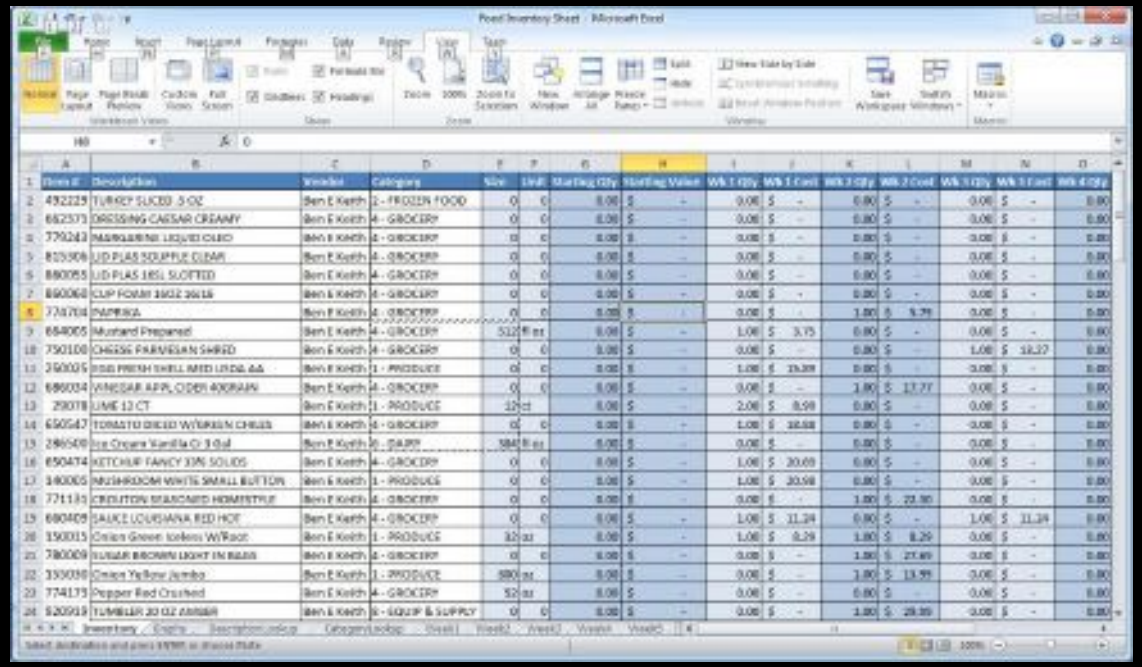
Mathematical Model

Statistical Model

Machine Learning

:(
Your PC ran into a problem and needs to restart. We're just collecting some error info, and then we'll restart for you.
35% complete
For more information about this issue and possible fixes, visit
https://www.windows.com/stopcode
If you call a support person, give them this info:

Software Grows Up



Mathematical Model

Describe numerical relationships

Calculate alternatives

Human compares results & iterates

Machine Learning

Software Grows Up

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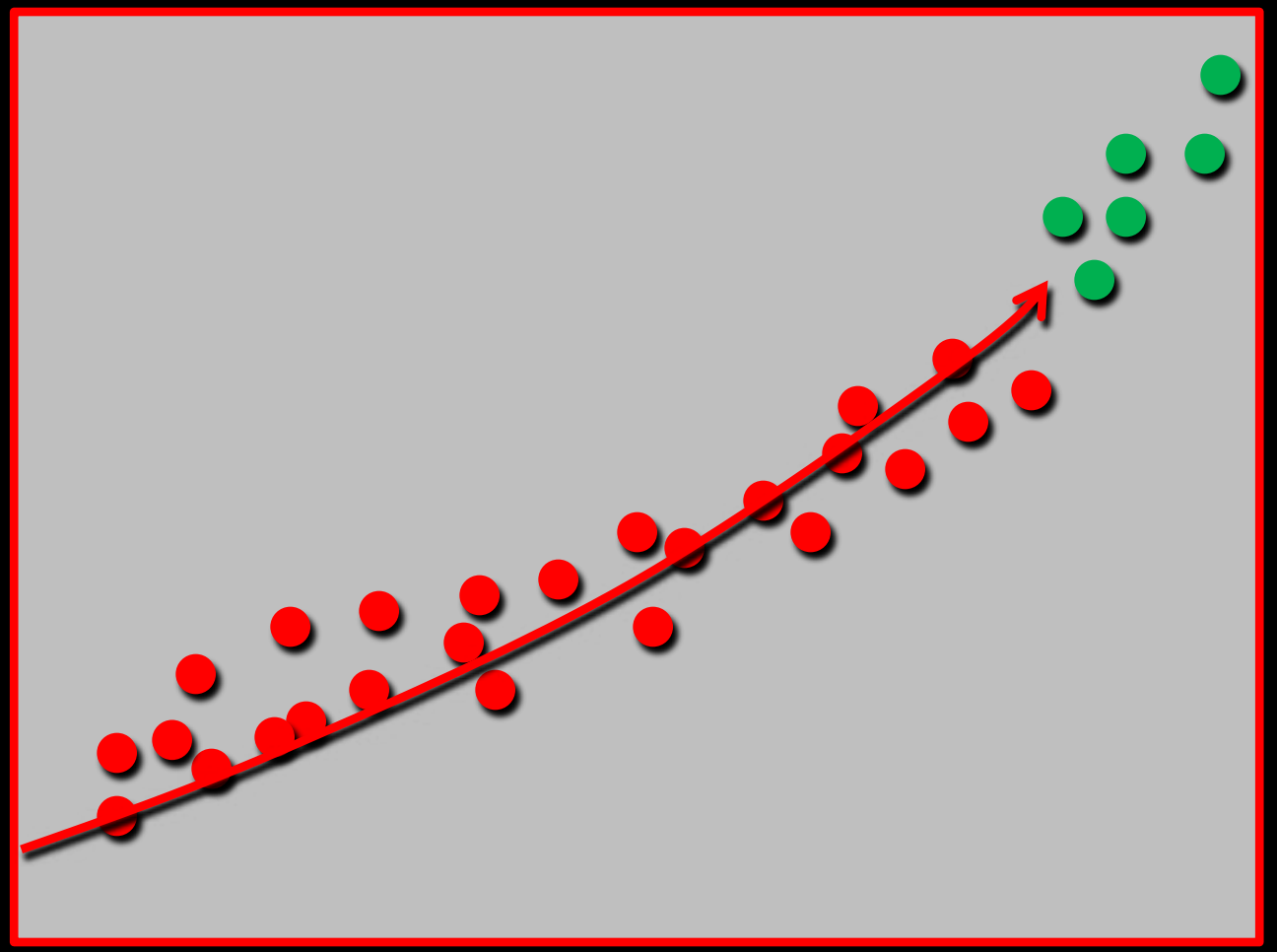
Statistical Model

Calculate probabilities

Project likelihoods

Human compares & iterates



Software Grows Up

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Machine Learning

Uses examples to figure it out

and changes its mind

Software Grows Up

Machine Learning

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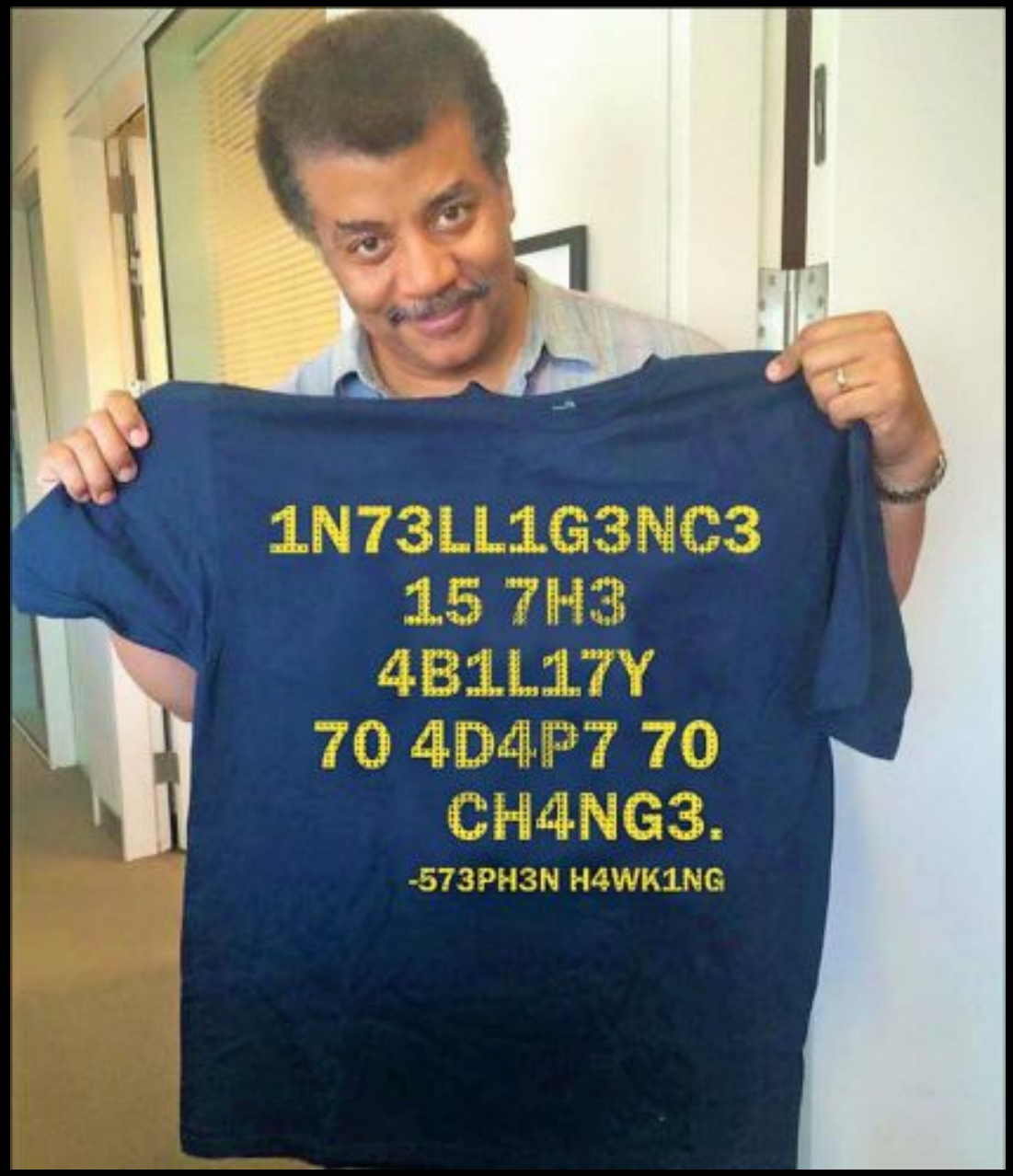
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15 7H3
4B1L17Y
70 4D4P7 70
CH4NG3.
-573PH3N H4WK1NG

Machine Learning

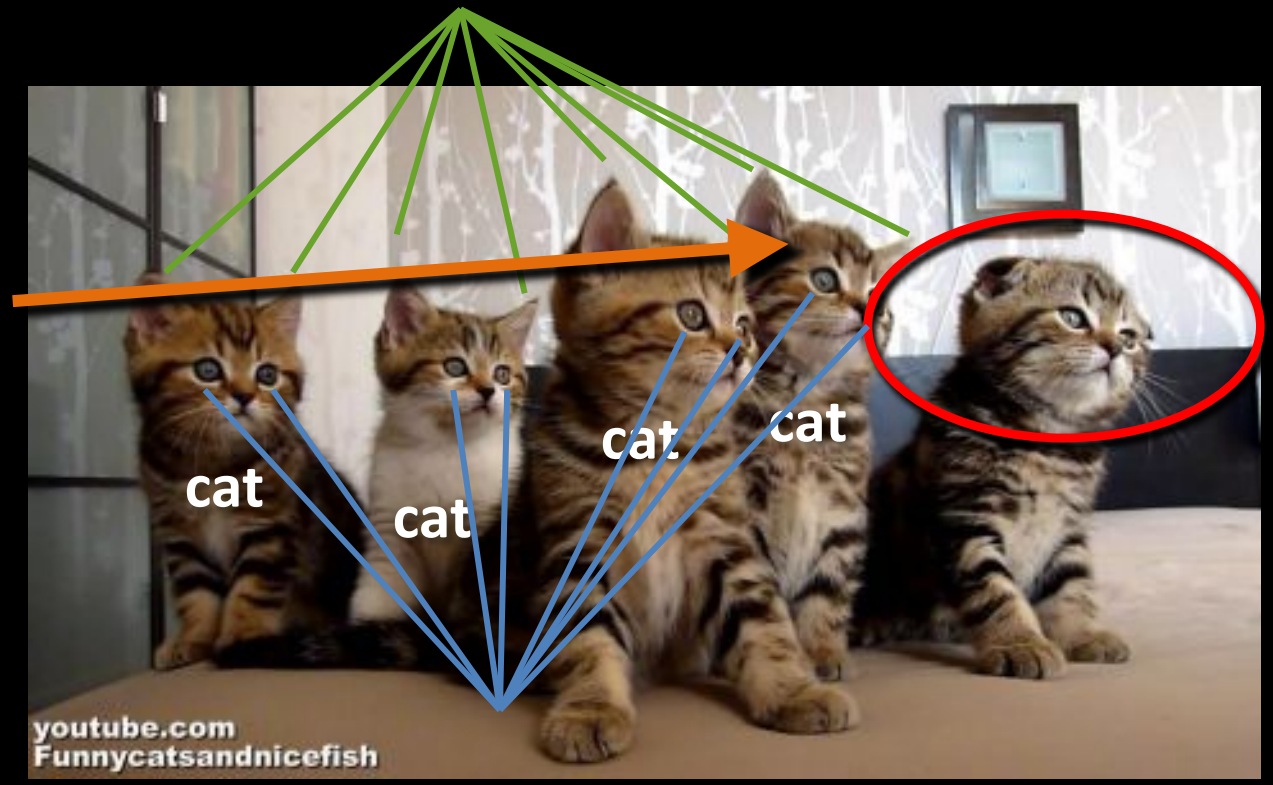
Supervised

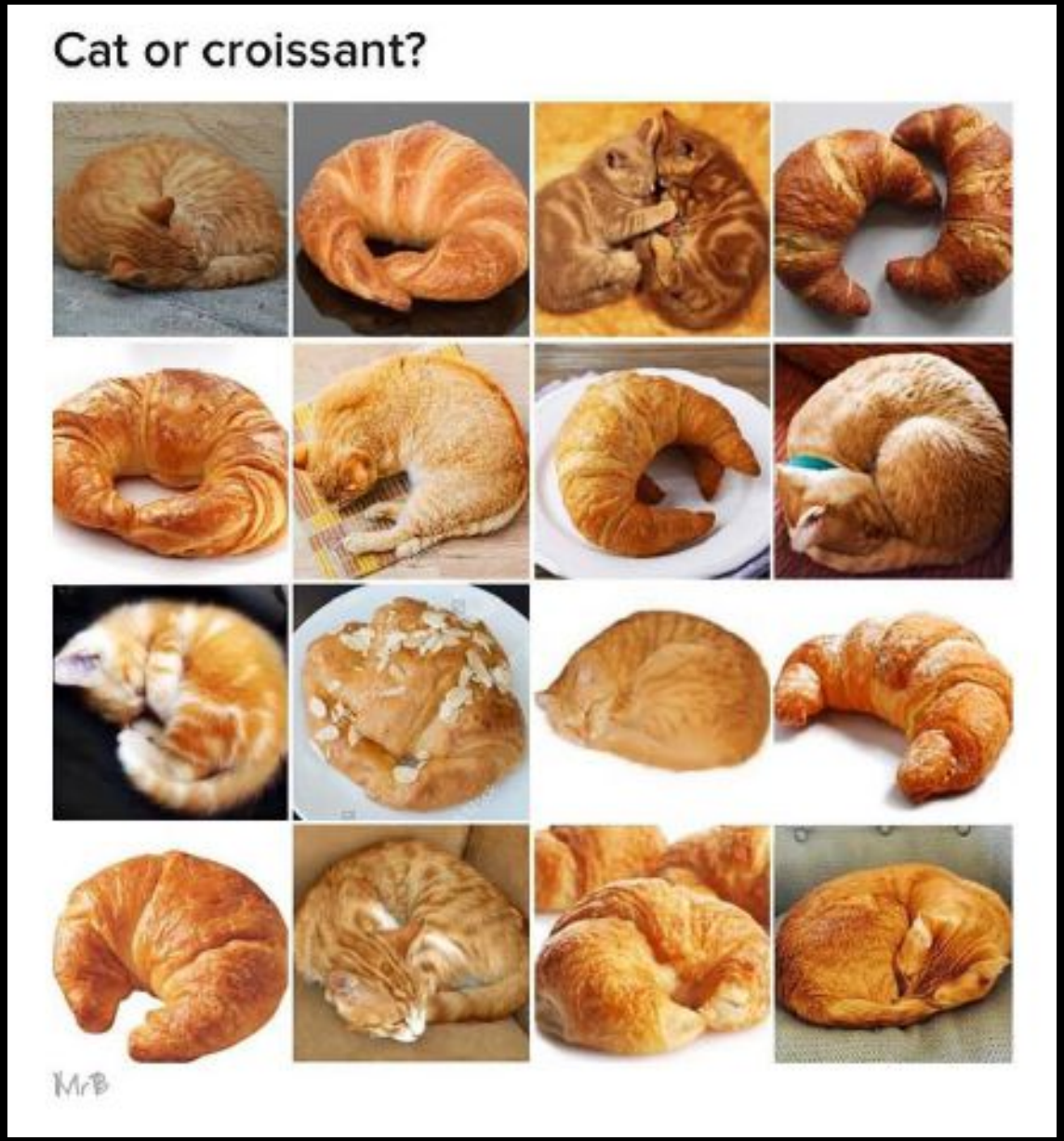
Unsupervised

Reinforcement

Machine Learning
Supervised

You know the right answer
needs many examples
of labeled data




Cat or croissant?
MrB

VIA 9GAG.COM

Machine Learning

Supervised

You know the right answer
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Machine Learning

Supervised

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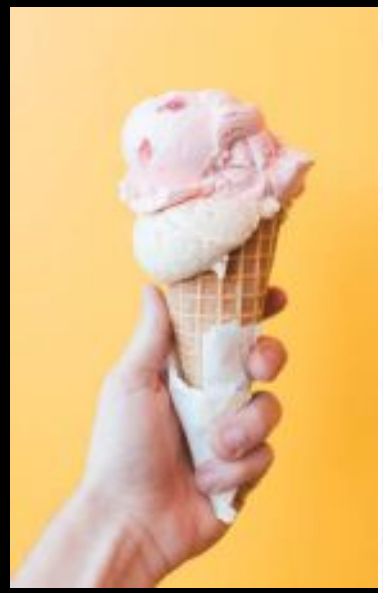

Unsupervised

You don't know the right answer
finds patterns in unlabeled data
may or may not be useful (correlation/causation)

Photo by ian dooley on Unsplash

Photo by Cristian Palmer on Unsplash

Machine Learning

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Reinforcement

No absolute right answer
- some answers are better
- "rewards" results + optimizes over time

Photo by Marek Szturc on Unsplash

Machine Learning

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Machine Learning

Supervised

Customers vs. never bought
High CLV vs. profit drains
Tech support vs. cancellation

Reinforcement

Email opens and clickthroughs
Display ad response
Conversion rate optimization

Unsupervised

Find look-alike prospects
People who act like this buy that
Ads with these features attract higher CVL customers

Software Grows Up

Machine Learning

Uses examples to figure it out

and changes its mind

Marketing Operationsis Changing

Market Research

Marketing Operationsis Changing

Market Research

Word of Mouth

Discovering Customer Experience Trends with Natural Language Processing

Last updated on September 19, 2018 by Dylan Azulay

Email

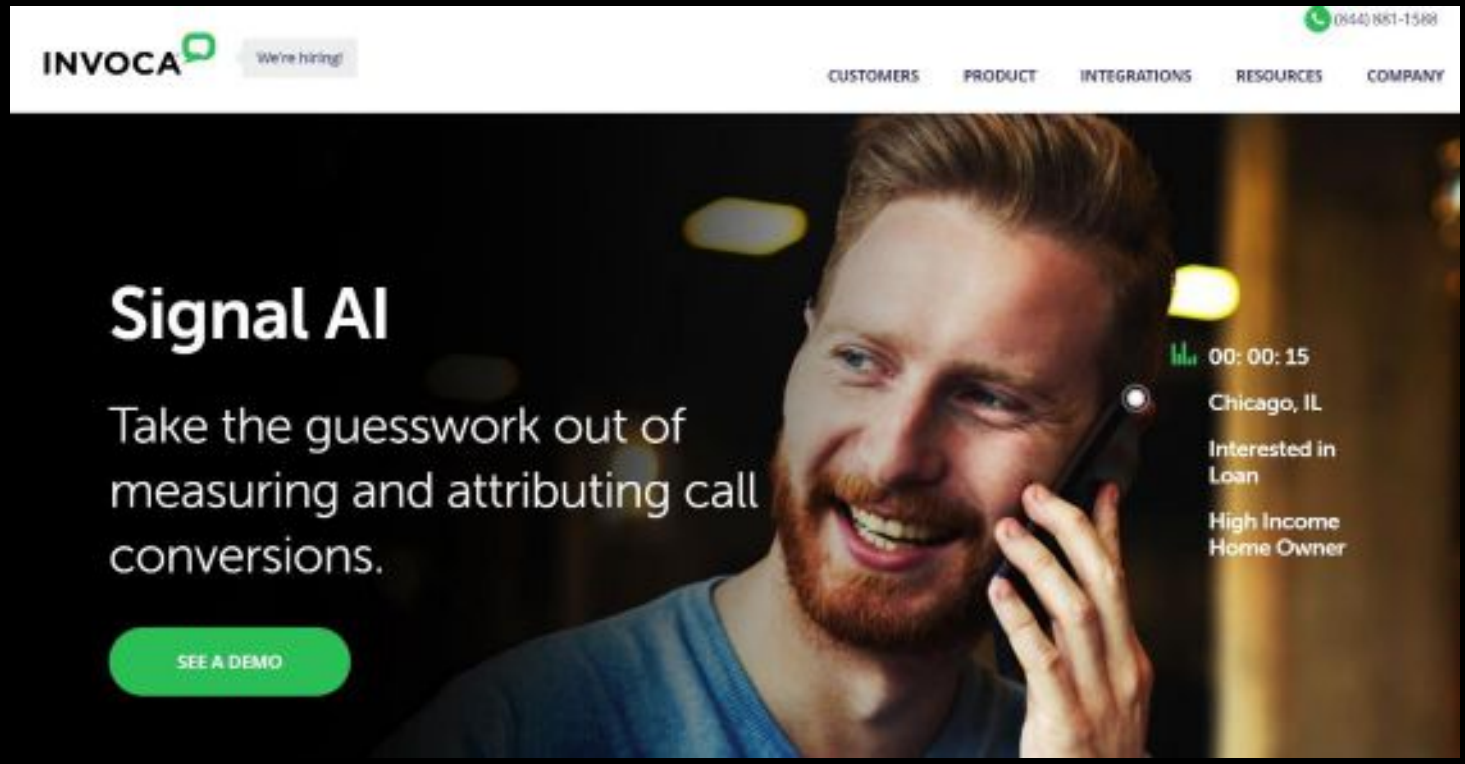
Understanding customer feedback gets harder and harder at greater scale and with a greater variety of channels through which customers can provide feedback.

https://www.techemergence.com/discovering-customer-experience-trends-natural-language-processing/

Marketing Operationsis Changing

Market Research

Word of Mouth

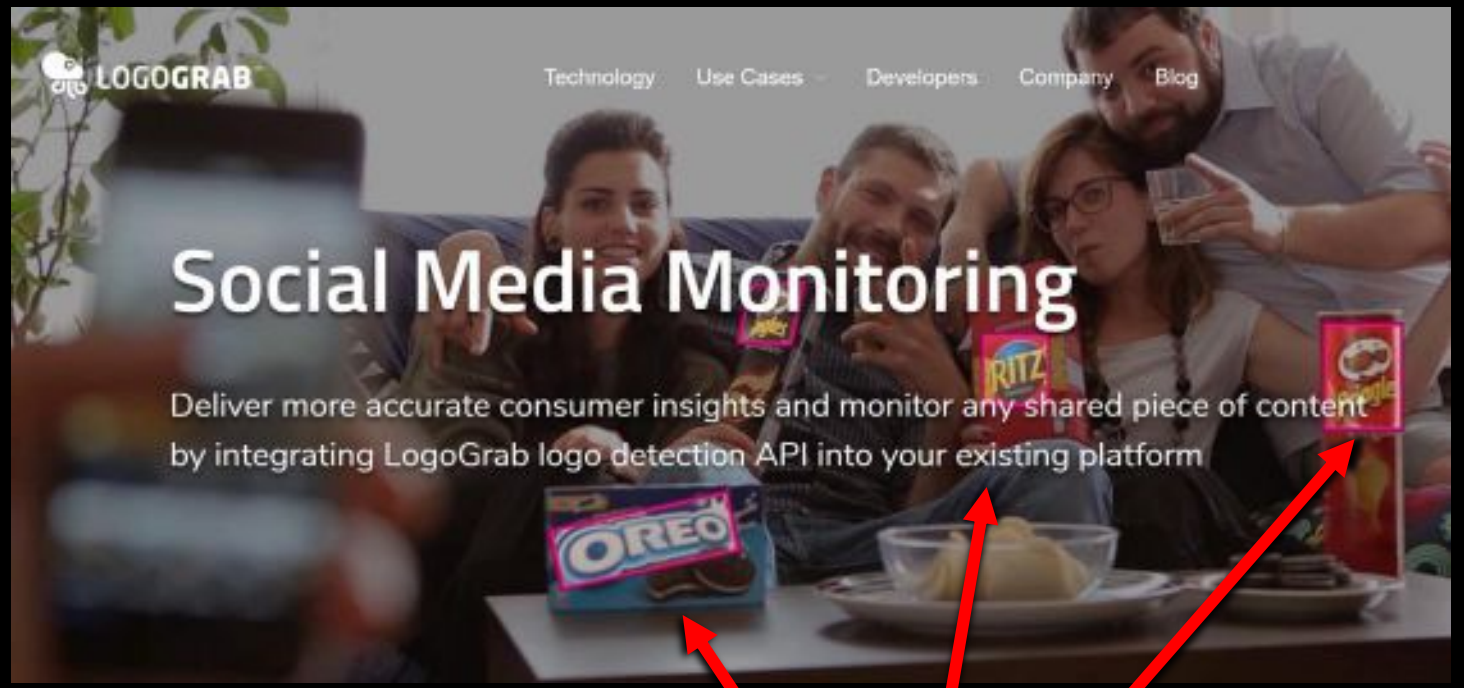


Invoca.com

Marketing Operationsis Changing

Market Research

Word of Mouth



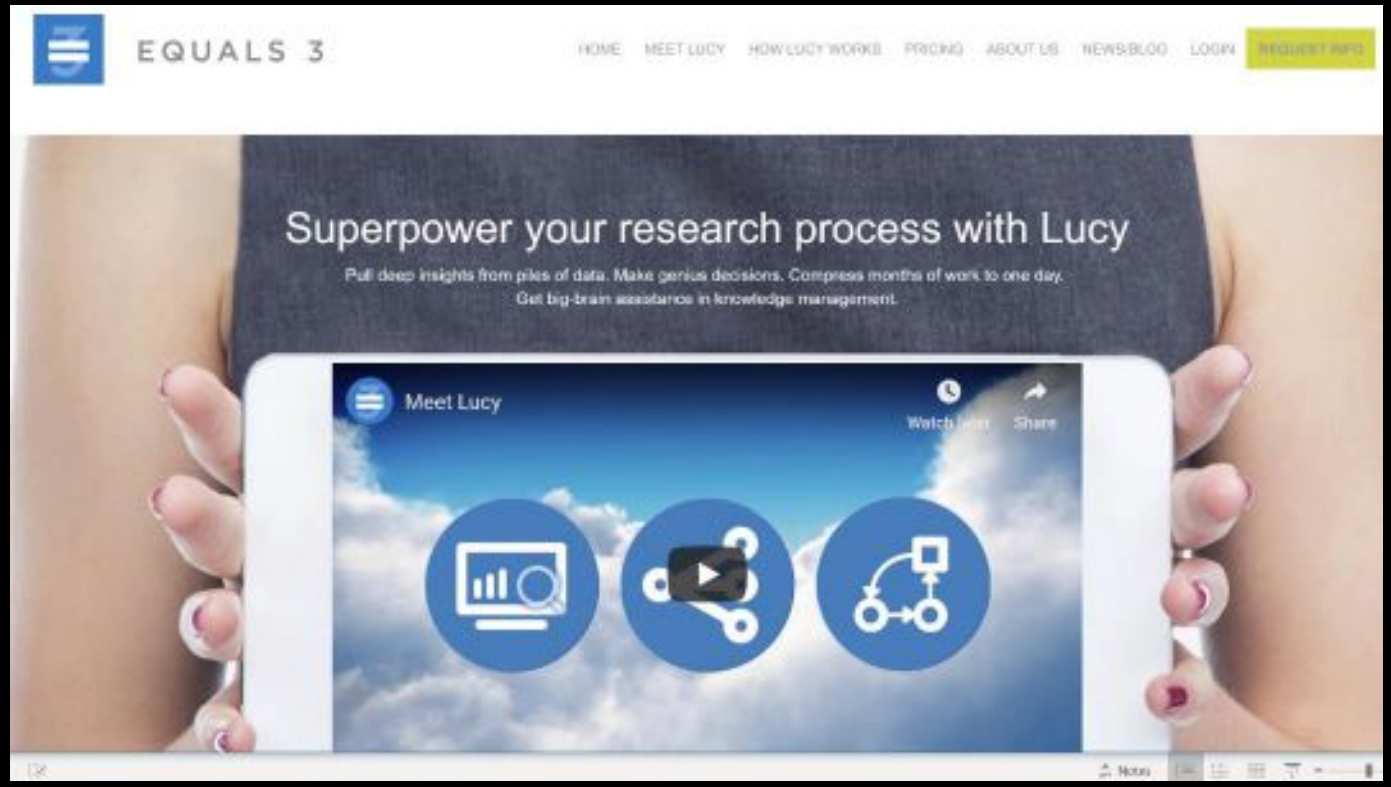
LogoGrab.com

Marketing Operationsis Changing

Market Research

Word of Mouth

Literature Eval



Equals3.ai

Marketing Operationsis Changing

Market Research

Word of Mouth

Literature Eval

Tell me everything about marketing shoes
with a budget between $ 2 million and $ 7 million
in the past 4 years
in the EU
with a celebrity spokesperson

Equals3.ai

Marketing Operationsis Changing

Market Research
Audience Targeting
Message Creation
Creative Design
Ad Spend
Loyalty Management
Test Coordination
Project Planning
Project Staffing
Meeting Scheduling
Budget Allocation
Data Cleansing

What Can ML Do Better?

Correlations	people with *this* attribute have *that* attribute
Segmentation	these people form a group
Clustering	there are X number of groups
Anomalies	these people are unique

Are results interesting? Useful? Worthy of further study?

The Big Guys

Adobe	Sensei
IBM	Watson
Oracle	Intelligent Cloud Applications
Salesforce	Einstein
SAP	Leonardo
Shopify	Kit

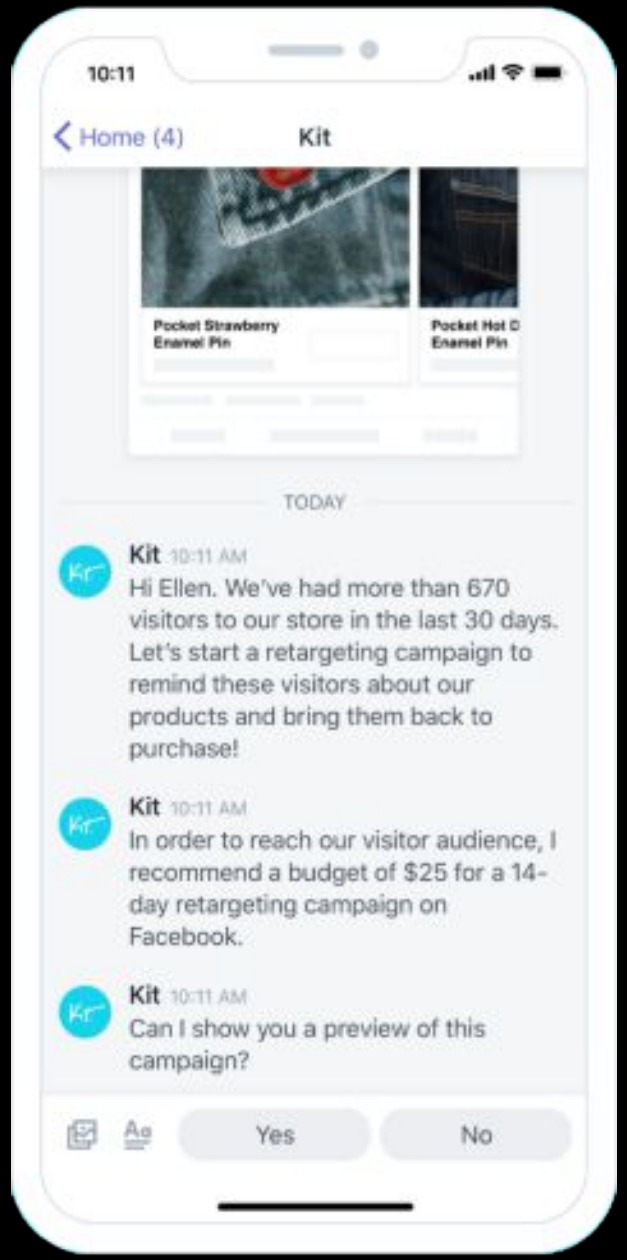
Shopify Kit

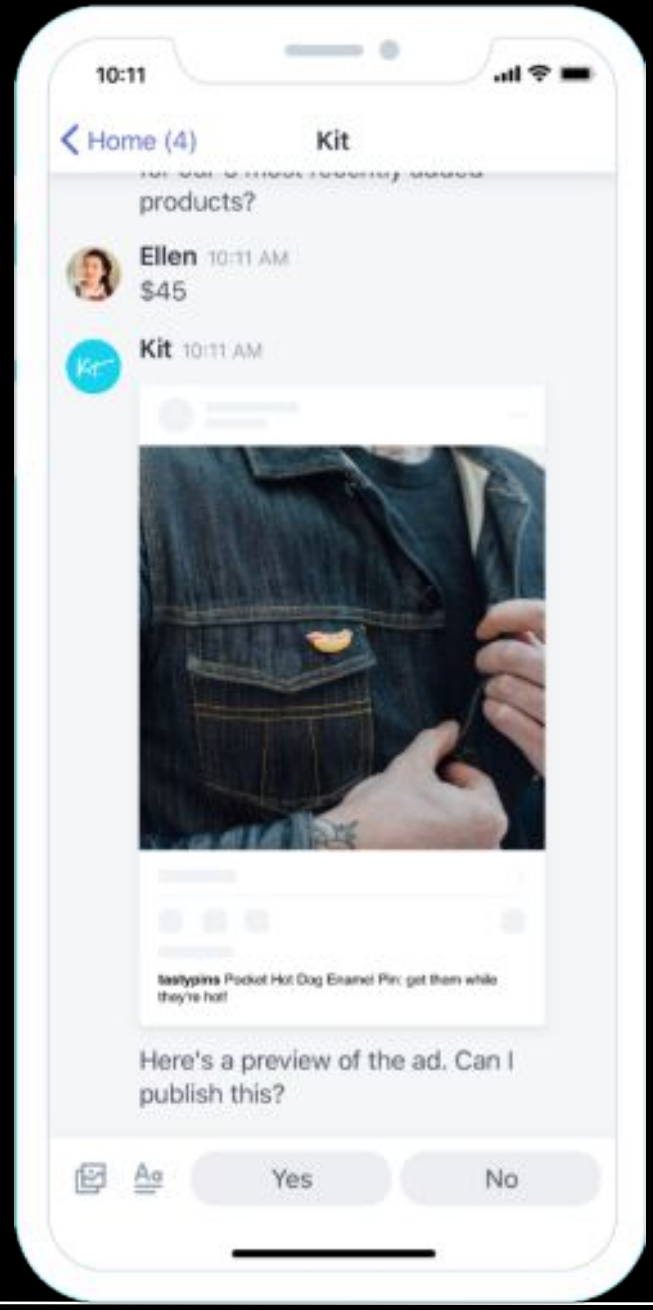
Frequently asked questions

How many Shopify stores are there?

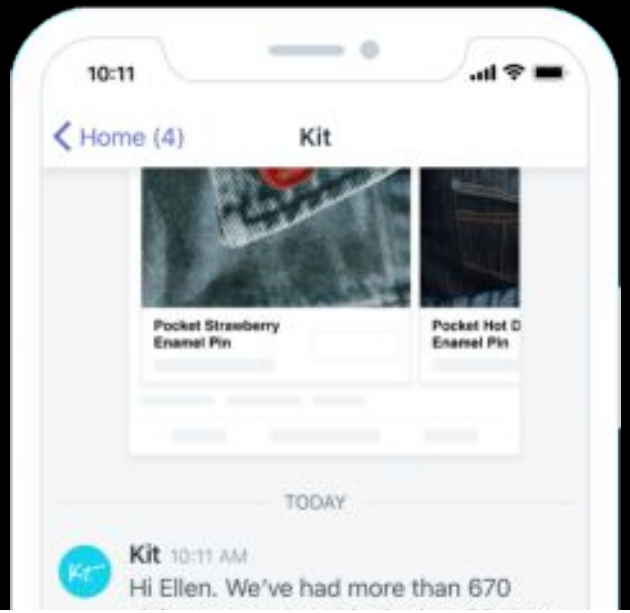
Last reported in February 2019, the figure quoted was more than 800,000 merchants are now powered by Shopify. 2017 saw an increase of 200,000+ new merchants.

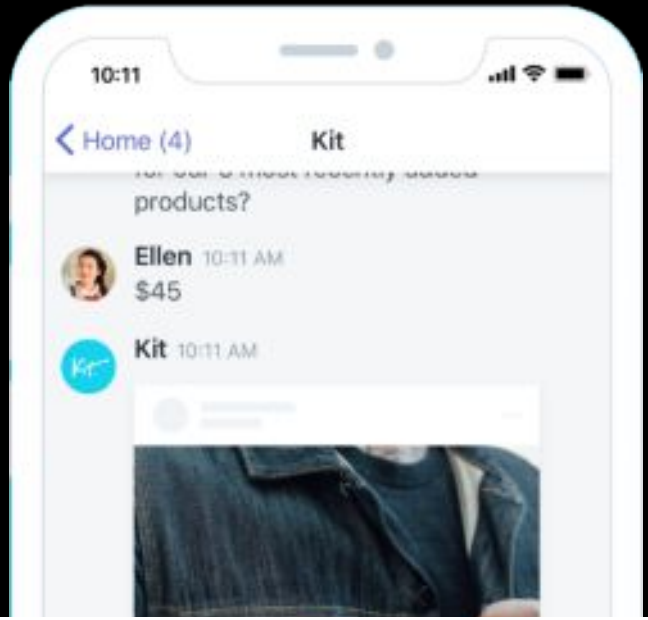
Shopify Kit


10:11
Home (4)
Kit
Pocket Strawberry Enamel Pin
TODAY
Kit 10:11 AM
Hi Ellen. We've had more than 670 visitors to our store in the last 30 days. Let's start a retargeting campaign to remind these visitors about our products and bring them back to purchase!
Kit 10:11 AM
In order to reach our visitor audience, I recommend a budget of $25 for a 14-day retargeting campaign on Facebook.
Kit 10:11 AM
Can I show you a preview of this campaign?
Yes
No


10:11
Home (4)
Kit
products?
Ellen 10:11 AM
$45
Kit 10:11 AM
Here's a preview of the ad. Can I publish this?
Yes
No

Shopify Kit





Easy Instagram and Facebook ads

Create highly-targeted social ad campaigns, effortlessly. Kit will write, build, and post the ad for you.

Email marketing automation

Kit can send custom emails to your customers thanking them for their purchase and promoting new products and discounts.

Powerful app integrations

Use other Shopify apps? Connect them to Kit so it can handle even more marketing tasks for you.

Marketing Operationsis Changing

Market Research

Audience Targeting

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Data Cleansing

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Meeting Scheduling

Staffing

Budget Allocation

Operations

Customer Communication is Changing

Photo by Jason Rosewell on Unsplash

Customer Communication is Changing

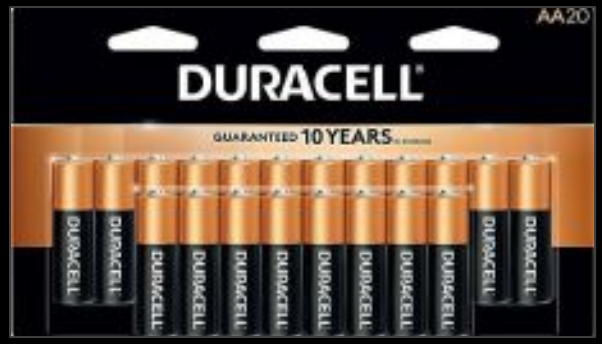


Photo by Jason Rosewell on Unsplash

Customer Communication is Changing

Samsung Galaxy S10

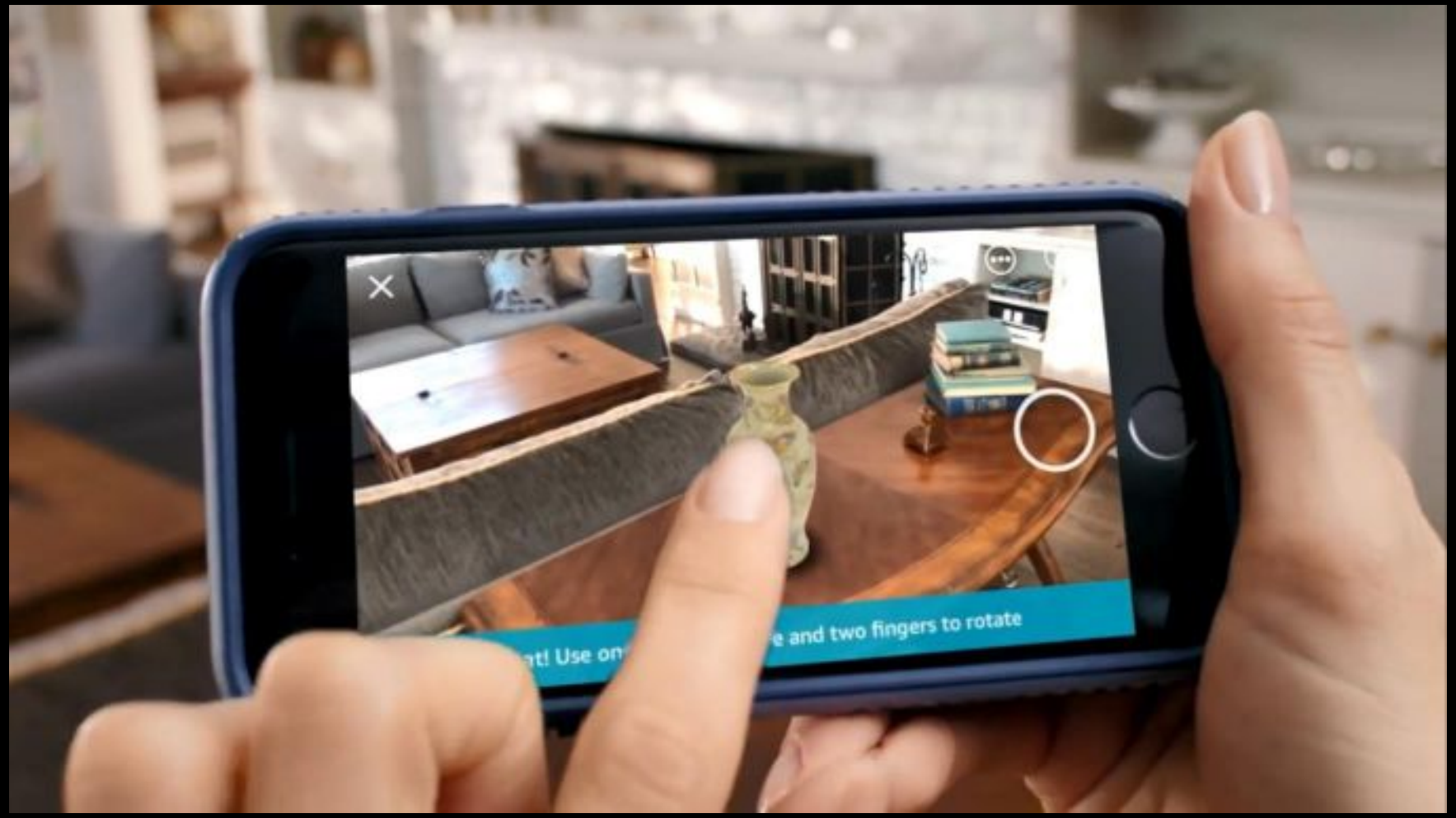
Customer Communication is Changing

Optimize for Voice
Optimize for Augmented Reality

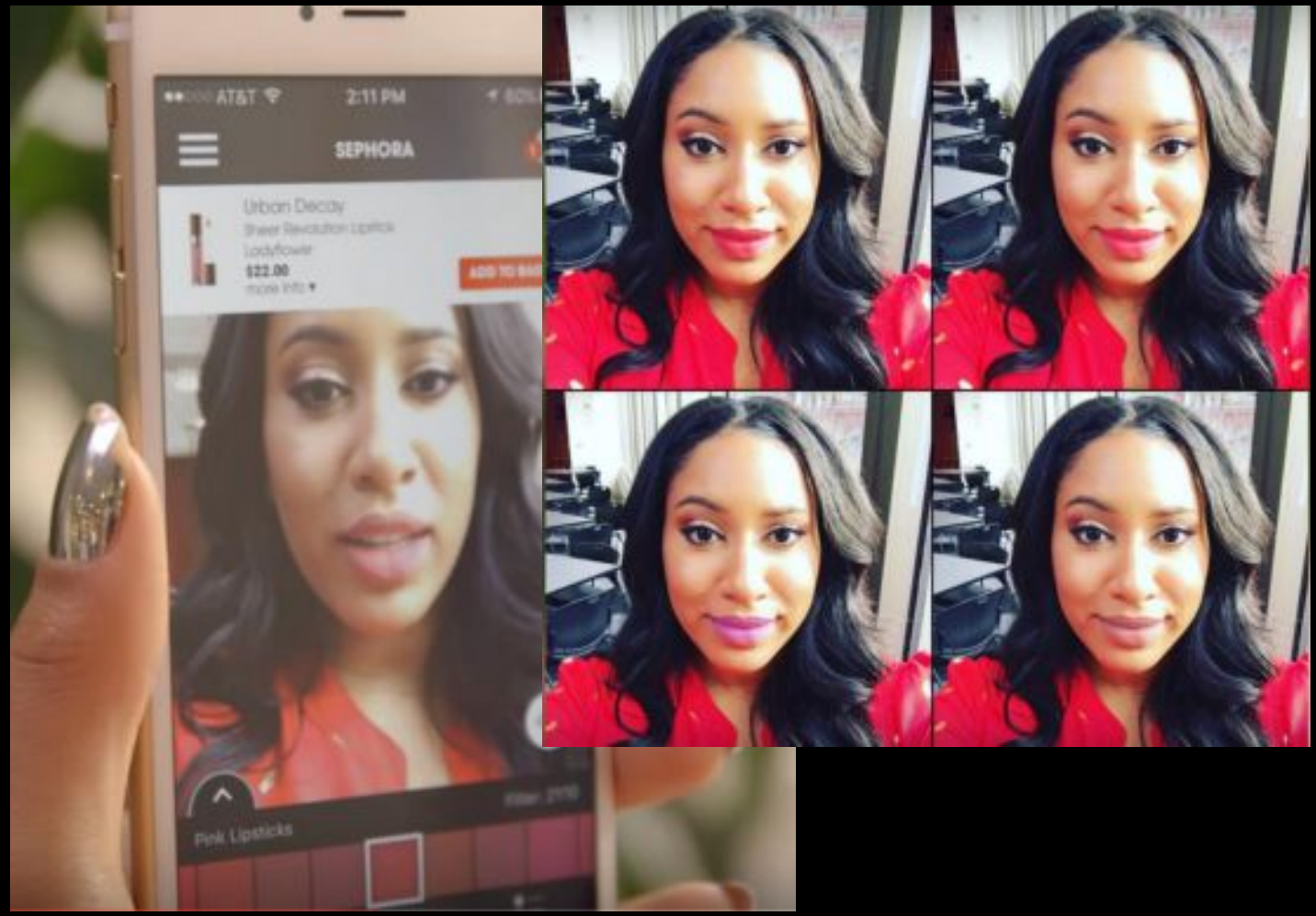
Augmented Reality

Augmented Reality

Augmented Reality



Facial Recognition



Facial Recognition

AI Mistakes Bus-Side Ad for Famous CEO, Charges Her With Jaywalking

By Tang Ziyi / Nov 22, 2018 04:17 PM / Society & Culture

An ad featuring Dong Mingzhu. Photo: VCG

Customer Communication is Changing

Optimize for Voice
Optimize for Augmented Reality
Optimize for Facial Recognition
Optimize for Vehicle

Car as Marketing Platform

Car as Marketing Platform

Location-based ads - coordinate with billboards

Entertainment, work, and sleep apps

Take your brand on the road (curated road trip)

Delivery to car

Optimize for Delivery

key

for your home for your car for your garage

Open convenience

Control what happens at your front door.

Key Smart Lock Kit

Easily monitor and control your door with the Key App

Choose the smart lock that matches your style, download the Key App to unlock your door from anywhere, and if you've connected your kit with an Amazon Cloud Cam, you can check in anytime with a live view.

Optimize for Delivery

key

for your home **for your car** for your garage

Open anywhere Conveniently turn your vehicle into a personal mobile locker.

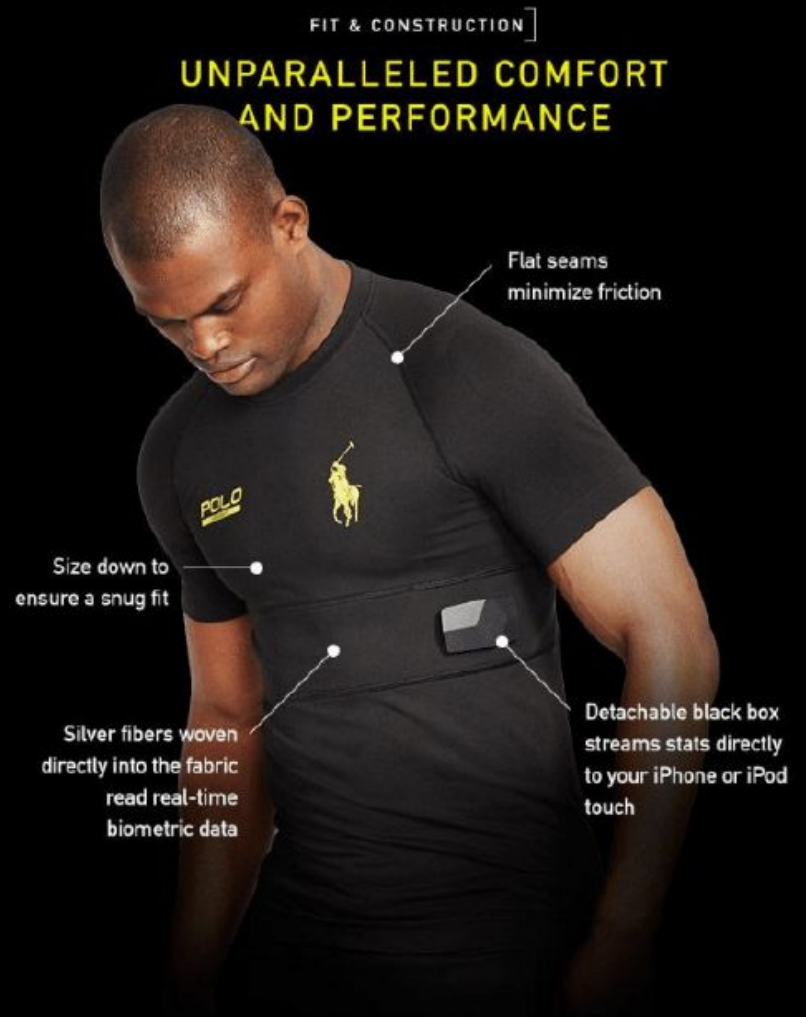
Customer Communication is Changing

Optimize for Voice
Optimize for Augmented Reality
Optimize for Facial Recognition
Optimize for Vehicle
Optimize for Delivery

Customer Communication is Changing

Optimize for Voice
Optimize for Augmented Reality
Optimize for Facial Recognition
Optimize for Vehicle
Optimize for Delivery
Optimize for Partnerships

Customer Communication is Changing



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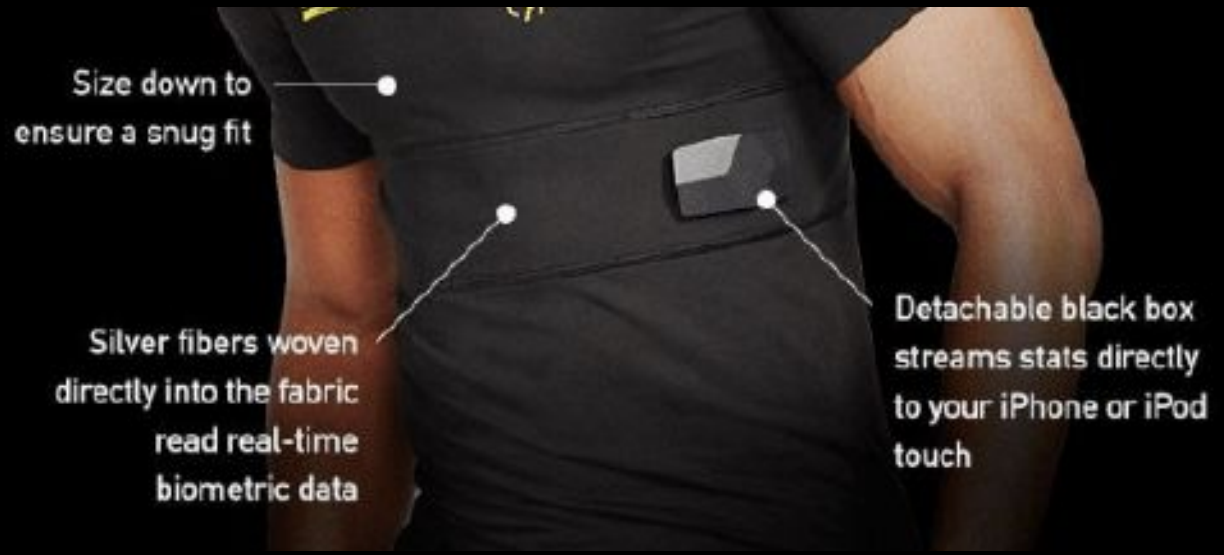

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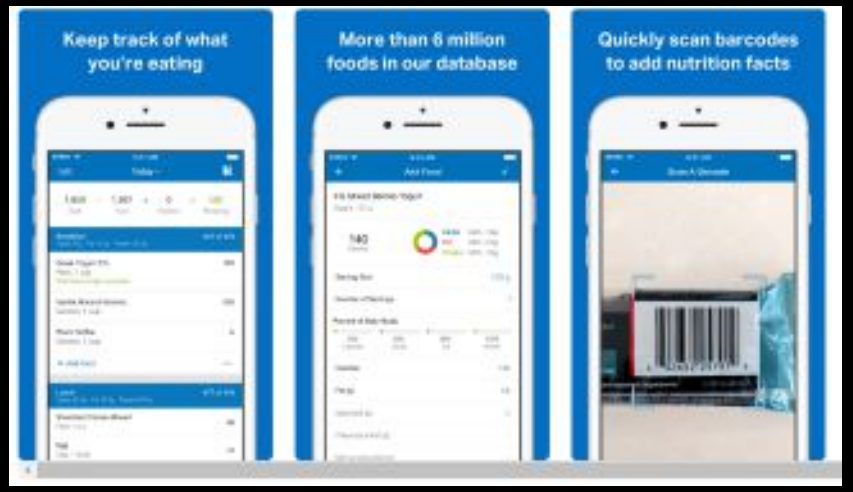

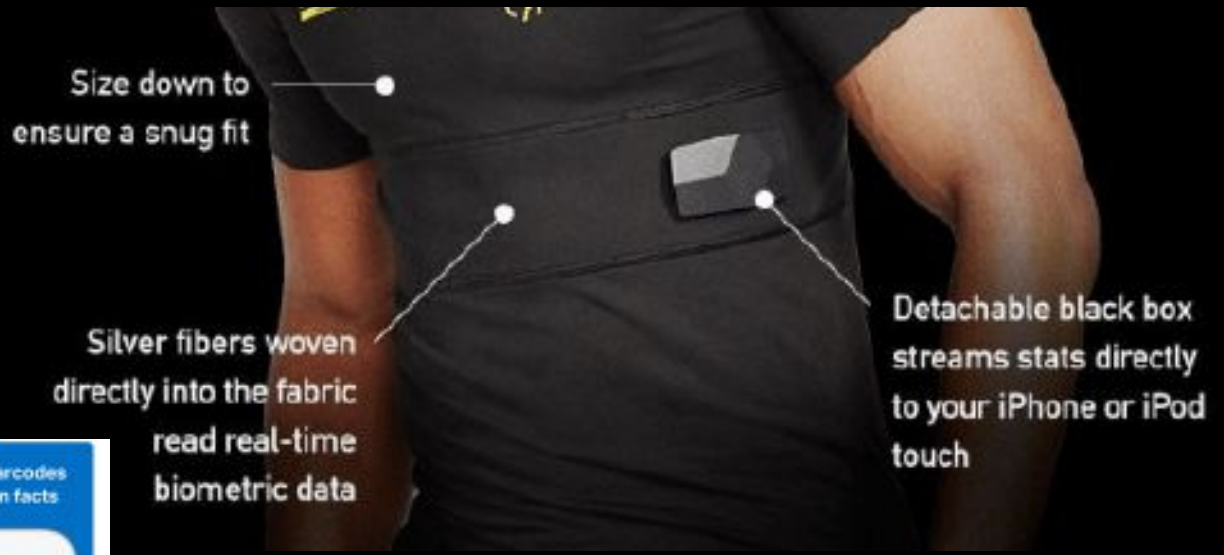

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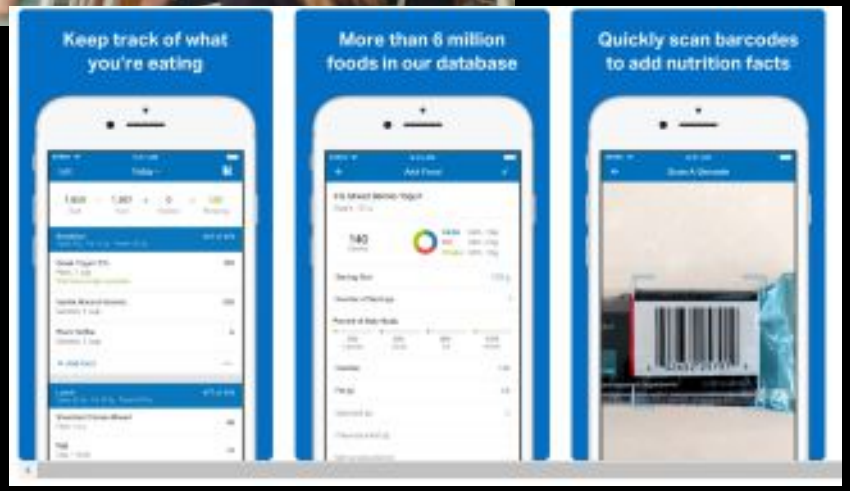

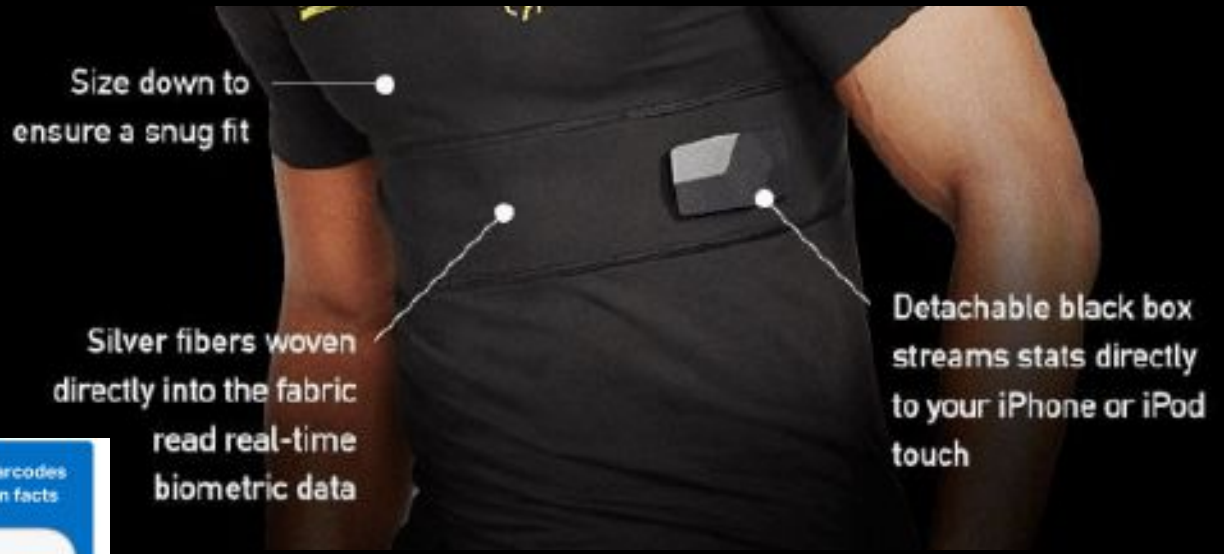

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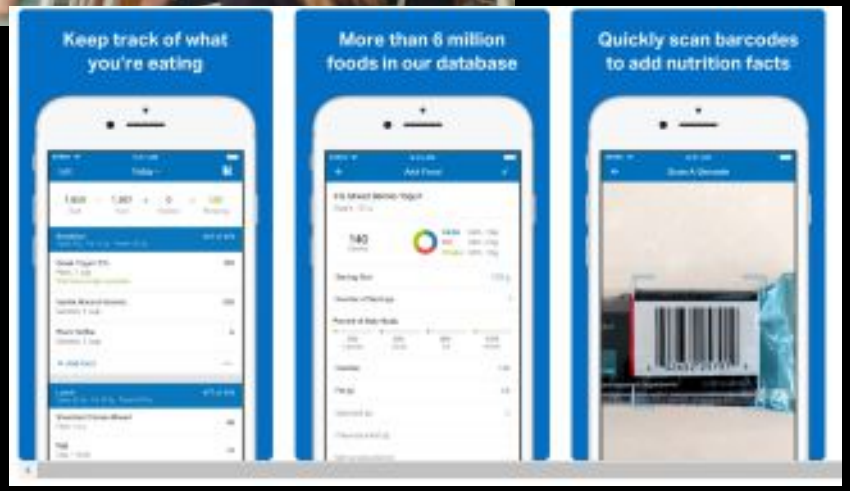

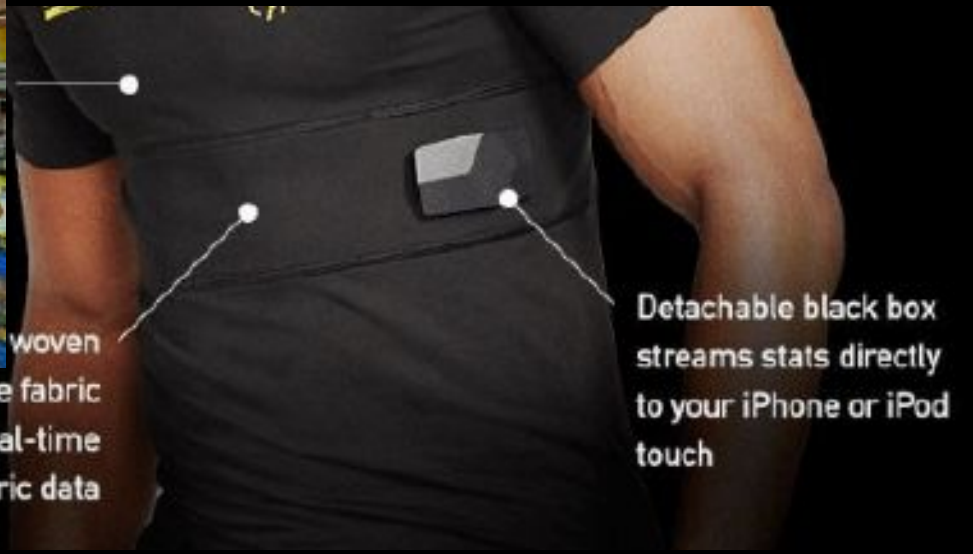

Photo by Fikri Rasyid on Unsplash

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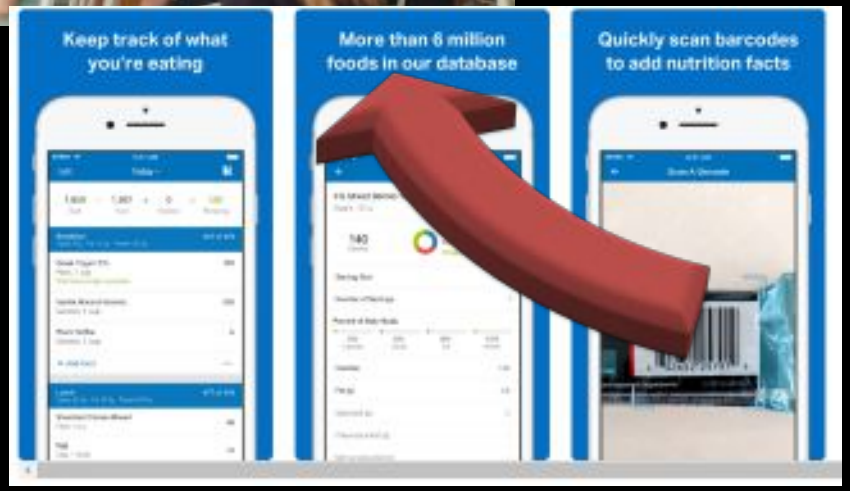

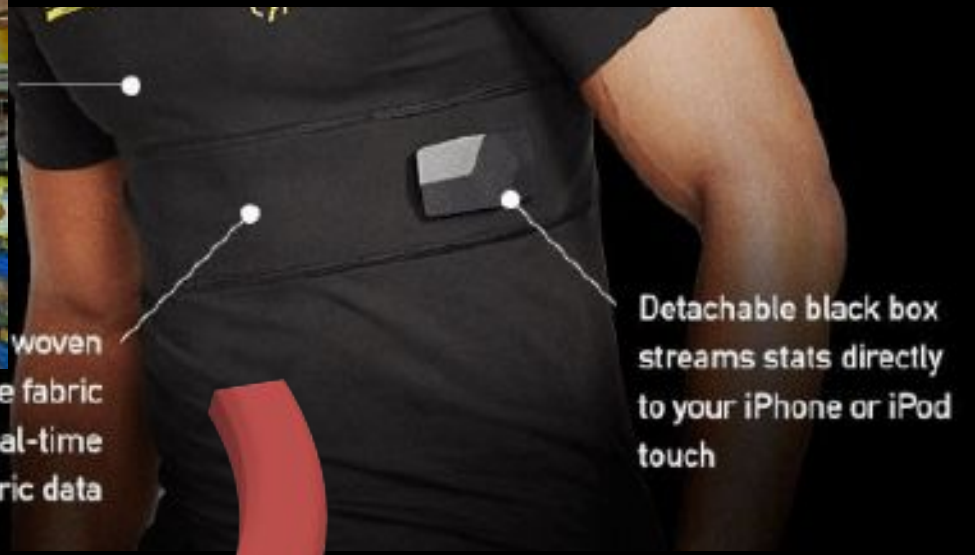

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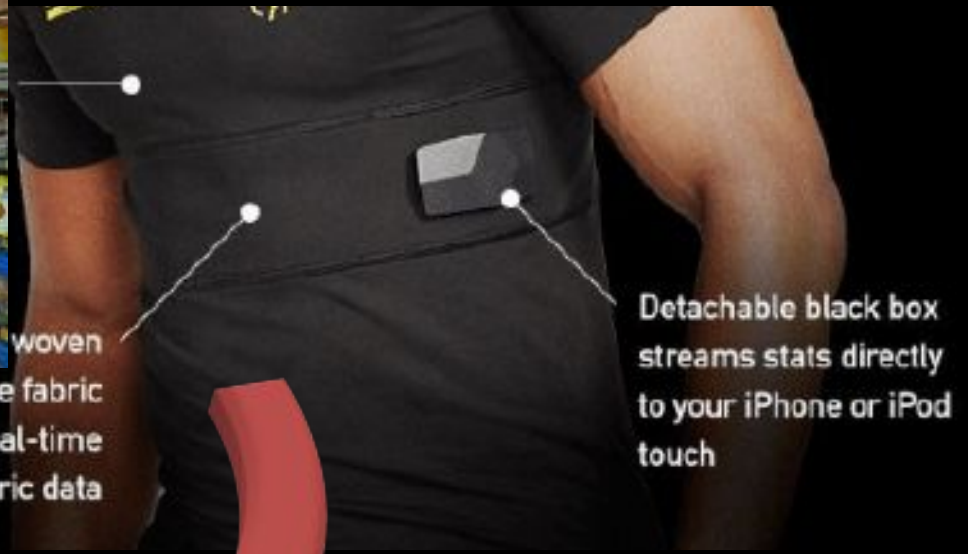

Photo by Jose Soriano on Unsplash
Photo by Fikri Rasyid on Unsplash

Customer Communication is Changing

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Customer Communication is Changing

Because of LOTS of data

Optimize for Voice
Optimize for Augmented Reality
Optimize for Facial Recognition
Optimize for Vehicle
Optimize for Delivery
Optimize for Partnerships

Customer Communication is Changing

Because of LOTS of data

Founded by industry veterans John Sculley and David Steinberg, Zeta Global helps customers like American Airlines, Toys R Us and Sprint manage their data and optimize digital communication. Insights are derived from the software company's database of more than 350 million people, and the company claims to have an average of 3,000 attributes per consumer.

Zeta Global aggregates data across channels, including mobile, social and email, to help its customers personalize brand communication with more relevant offers and ads. The company then tracks how people interact with the advertisements to help improve future communications with the help of machine-learning algorithms.

A Customer Data Taxonomy

Who They Are	What They Did	What They Like	What They Have	What They Do	How They Feel
Name	Education	Preferences	Income	Keystrokes	Religion
Gender	Career	Settings	Home	Gestures	Values
Age	Criminal Record	Avocations	Cars	Gaze	Donations
Race	Press exposure	Political Party	Devices	Day part	Political party
Address	Publications	Social Groups	Clothing	Location	Skeptic/Altruism
Phone	Awards	Social Likes	Jewelry	IP address	Intro/Extrovert
Fingerprint	Associations	Entertainment	Investments	Social posts	Liberal/Conserv.
Heart Rate	Credit score	Hobbies	Subscriptions	Dining out	Flexible/Inflexible
Weight	Legal matters	News feeds	Memberships	Purchases	Aggress./Passive
Device	Loans	Browser history	Collections	TV viewing	Opinion
Gov ID	Divorce	Brand affinity	Relationships	Travel	Mood
etc.	etc.	etc.	etc.	etc.	etc.

A Customer Data Taxonomy

GDPR

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Race	Press exposure	Political Party	Devices	Day part	Political party
Address	Publications	Social Groups	Clothing	Location	Skeptic/Altruism
Phone	Awards	Social Likes	Jewelry	IP address	Intro/Extrovert
Fingerprint	Associations	Entertainment	Investments	Social posts	Liberal/Conserv.
Heart Rate	Credit score	Hobbies	Subscriptions	Dining out	Flexible/Inflexible
Weight	Legal matters	News feeds	Memberships	Purchases	Aggress./Passive
Device	Loans	Browser history	Collections	TV viewing	Opinion
Gov ID	Divorce	Brand affinity	Relationships	Travel	Mood
etc.	etc.	etc.	etc.	etc.	etc.

Customer Communication is Changing

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Customer Communication is Changing

Optimize for Voice
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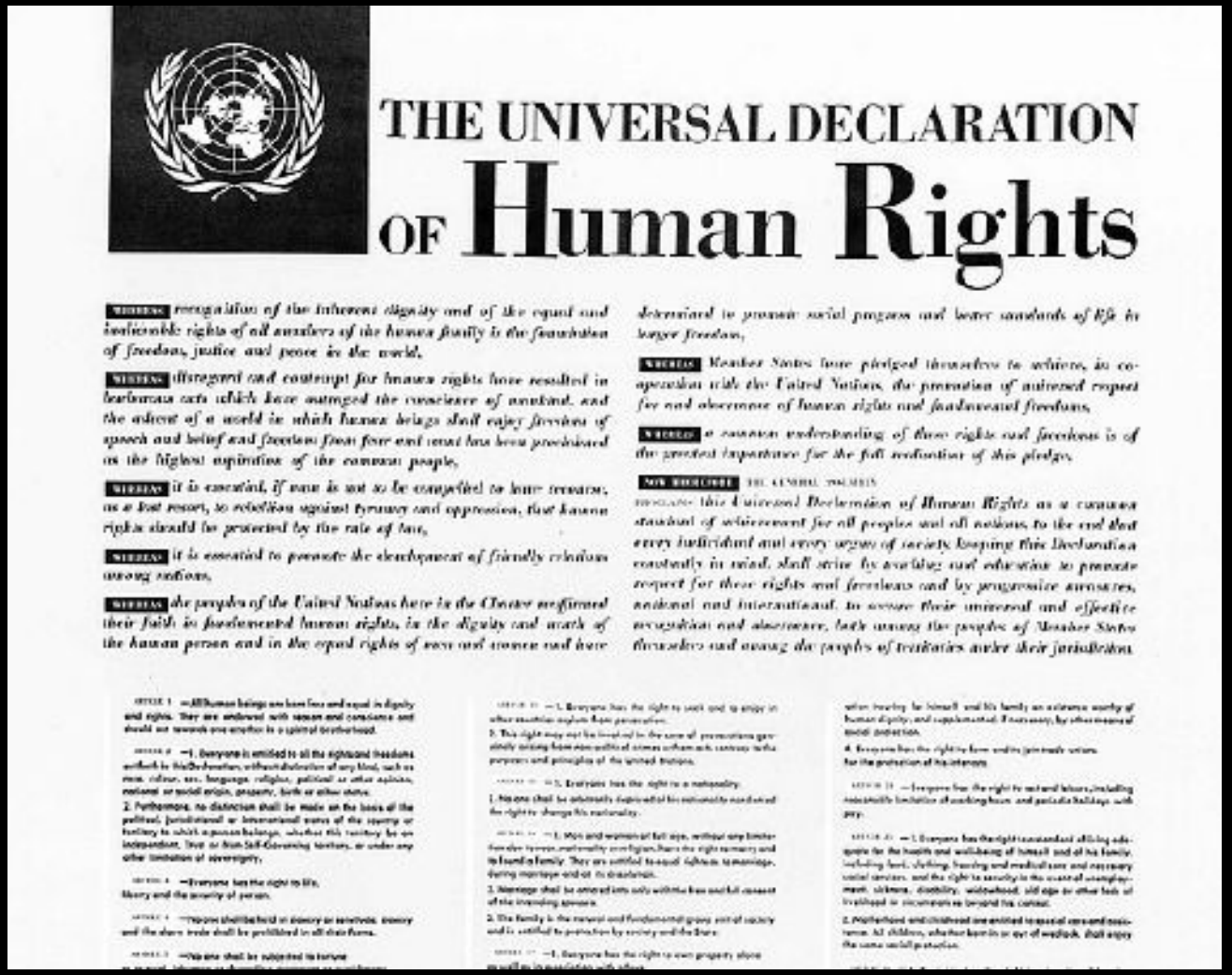
Optimize for Vehicle
Optimize for Delivery
Optimize for Partnerships
Optimize for C2B Bot Negotiation

C2B Bot Negotiation

Premise: Customers Own Their Own Data

United Nations Declaration of Human Rights



THE UNIVERSAL DECLARATION OF Human Rights

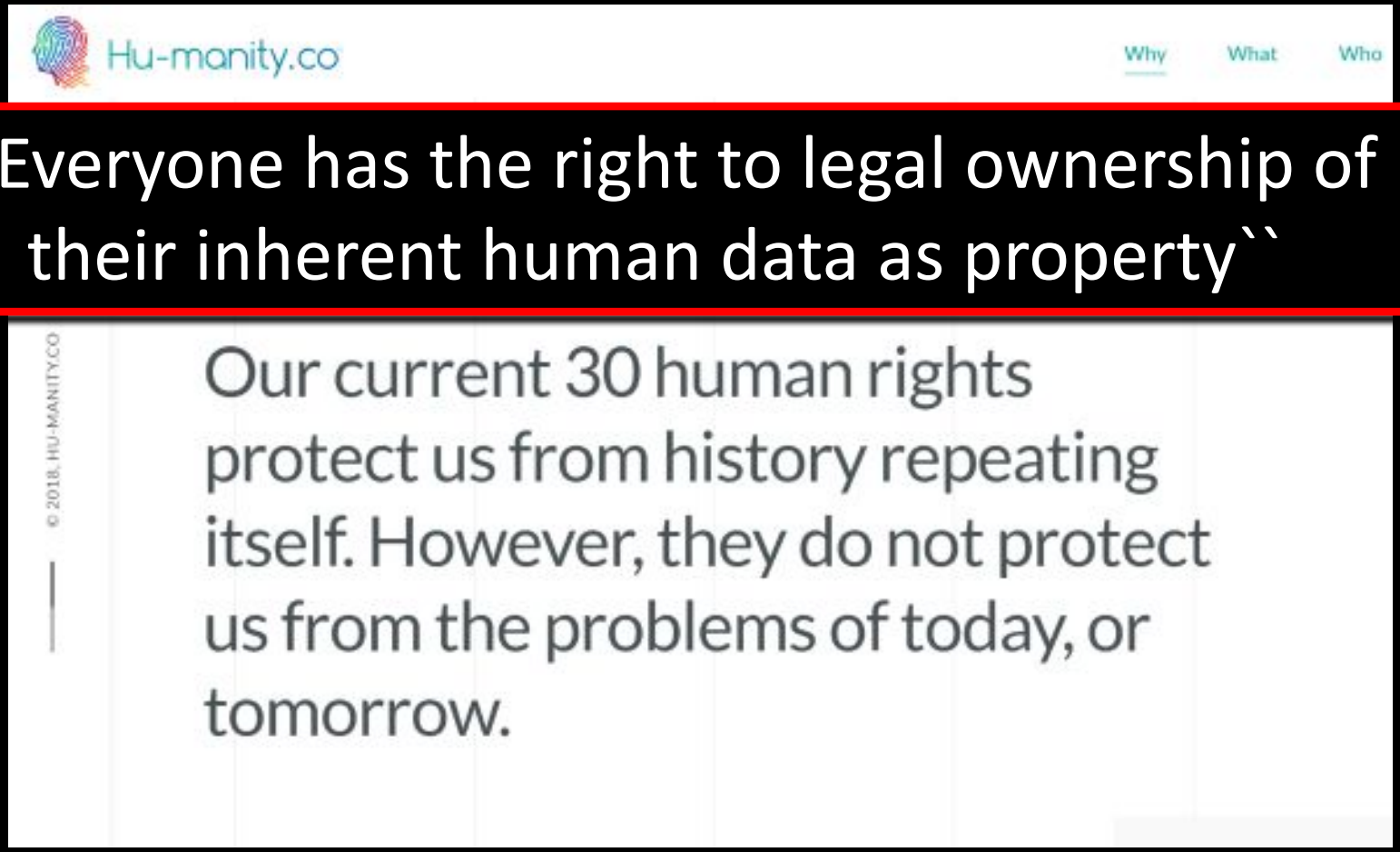
1948

United Nations Declaration of Human Rights

2019

United Nations Declaration of Human Rights

#31 ``Everyone has the right to legal ownership of their inherent human data as property`` 2019



C2B Bot Negotiation

Premise: Customers Own Their Own Data

How?

Vendor Relationship Management

C2B Bot Negotiation

Premise: Customers Own Their Own Data

- DNS for identity
- Distributed services (respect network)
- Transaction auditability

Vendor Relationship Management

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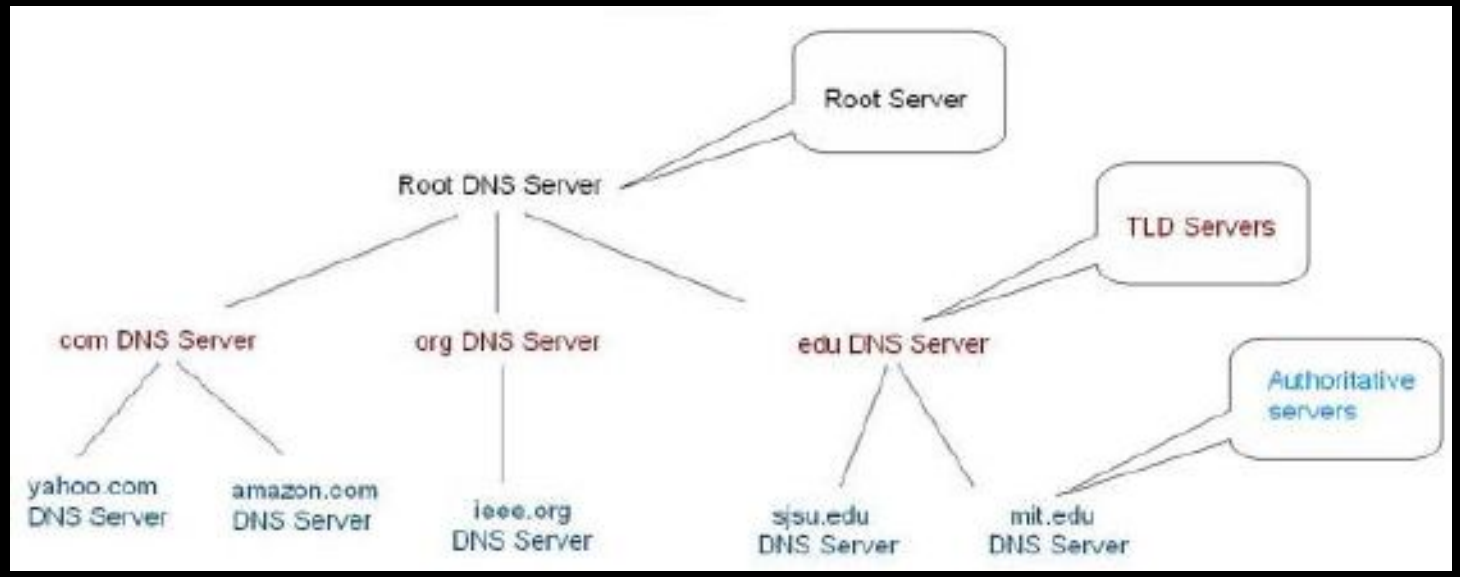
Vendor Relationship Management

Internet Corporation for Assigned Names and Numbers



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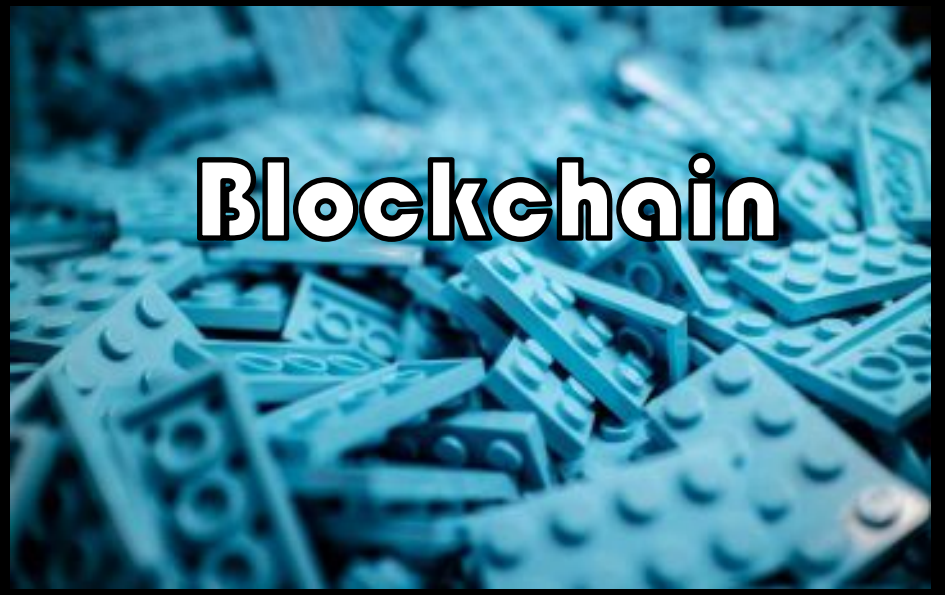

Distributed
Secure
Auditable
Trustworthy

Photo by Iker Urteaga on Unsplash

C2B Bot Negotiation

Premise: Customers Own Their Own Data

C2B Bot Negotiation

Premise: Customers Own Their Own Data

Customers Store Their Own Data

C2B Bot Negotiation

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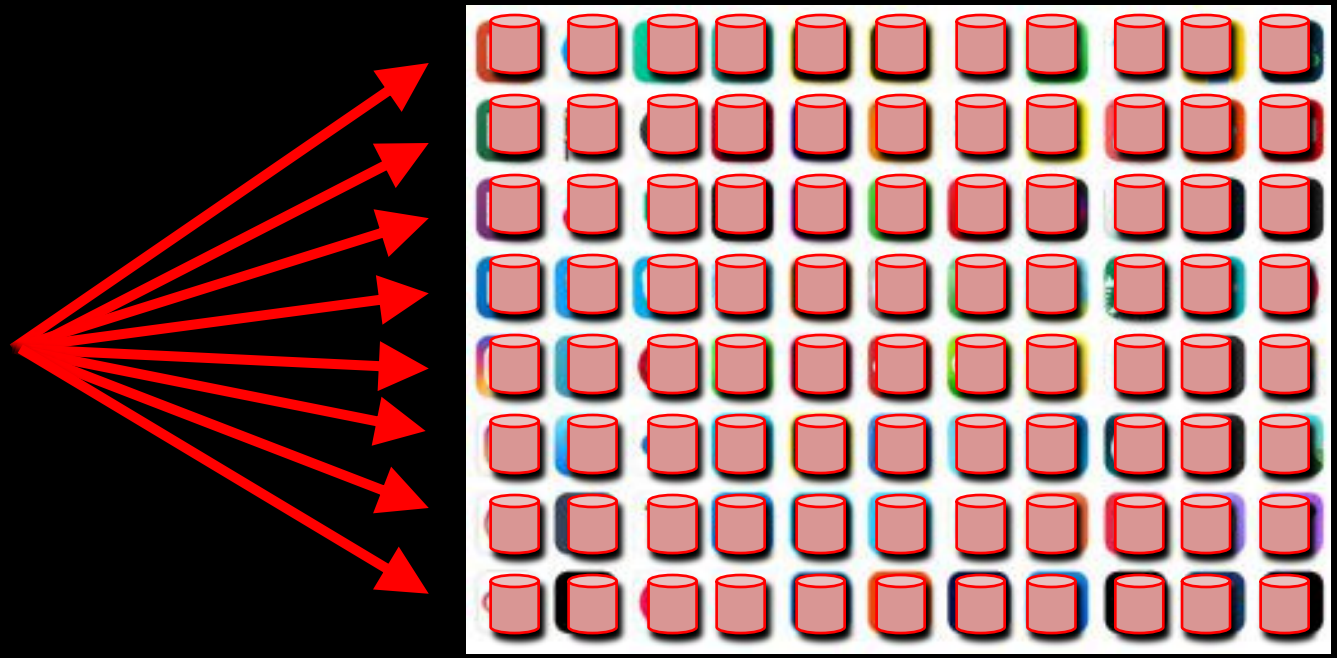

Photo by Joseph Gruenthal on Unsplash

C2B Bot Negotiation

Premise: Customers Own Their Own Data

Customers Store Their Own Data

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Premise: Customers Own Their Own Data

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Photo by Joseph Gruenthal on Unsplash

C2B Bot Negotiation

Premise: Customers Own Their Own Data

Customers Store Their Own Data

Trustworthy?

solid.inrupt.com

You decide where to store your data POD
Separate from apps so free to move at any time
You give people and apps permission to read or write
Data saved by one app available in another
All data in sync, always

C2B Bot Negotiation

Premise: Custor
Custor

Trustworthy?

solid.inrupt.com

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C2B Bot Negotiation

MAD LONDON

AROUND THE NET

Tim Berners-Lee Warns Of 'Nastiness And Misinformation' Spreading

BBC, Tuesday, March 12, 2019 9:14 AM

MENU CSO FROM IDG CSO Events Resources/Whitepapers Opinions Blogs CSOM CISO Leaders

Tim Berners-Lee: Sick web needs saving from companies and governments

Liam Tung (CSO Online) on 13 March, 2019 07:25

Tim Berners-Lee

@timberners_lee

Director of the World Wide Web Consortium (W3C) w3.org, the place to agree on web standards. Founded webfoundation.org - let the web serve humanity

C2B Bot Negotiation

Premise: Customers Own Their Own Data

Customers Store Their Own Data

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solid.inrupt.com

You decide where to store your da

Separate from apps so free to mov

You give people and apps permissi

Data saved by one app available in

All data in sync, always

C2B Bot Negotiation

Premise: Customers Own Their Own Data

Customers Store Their Own Data

C2B Bot Negotiation

Premise: Customers Own Their Own Data

Customers Store Their Own Data

Customers Want Their Own Data

Nobody (but Sir Tim) is Trustworthy

C2B Bot Negotiation

Premise: Customers Own Their Own Data

Customers Store Their Own Data

Customers Want Their Own Data

Nobody is Trustworthy

Convenience

Convenience

2 lbs =
80 ea, 12oz cups =
12.5¢ per cup

"Tall" =
1 ea, 12oz cup =
$1.85 per cup

15 times More $$$

Convenience

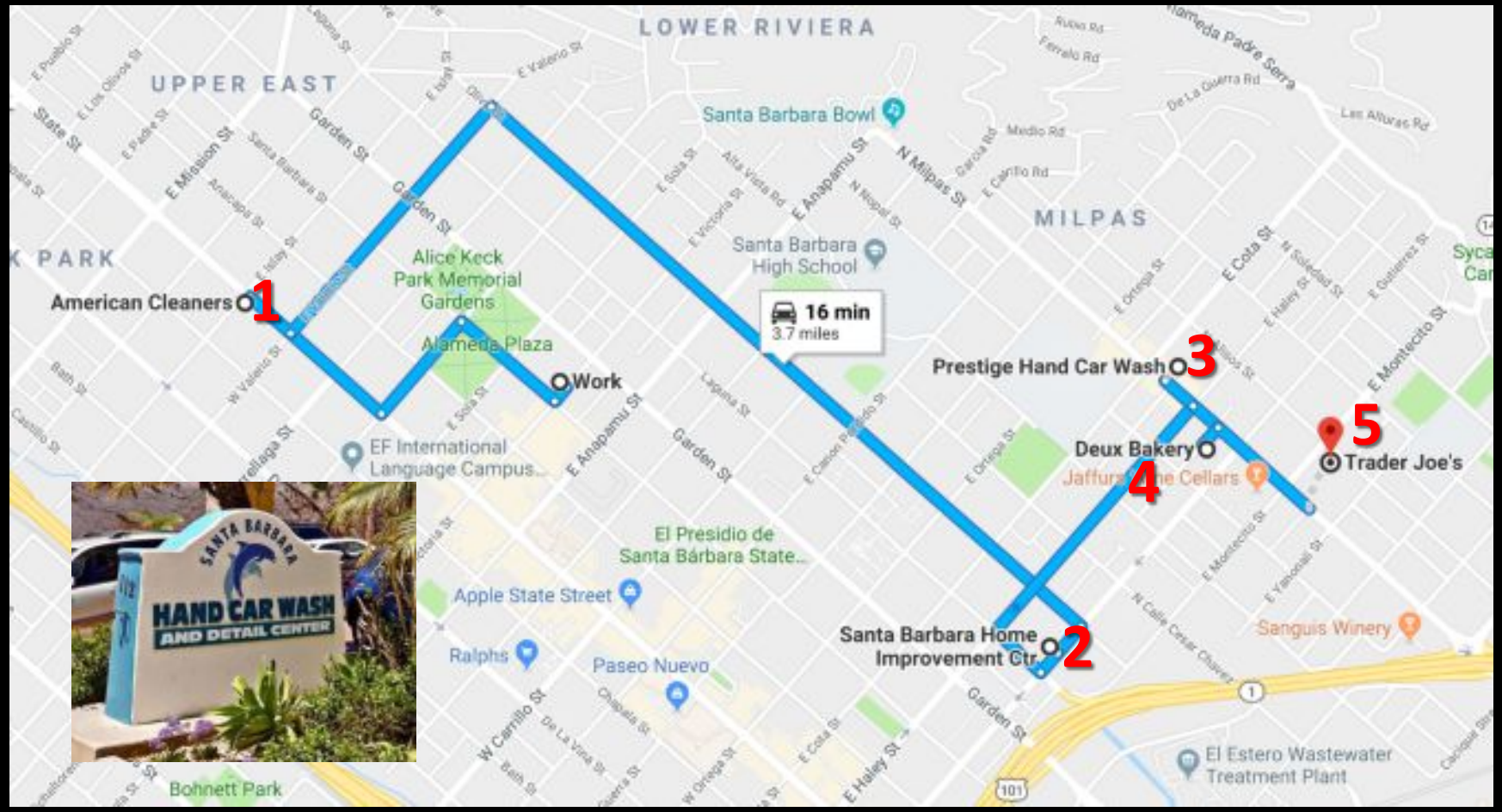
Shopping List

- AA batteries
- Dry cleaner
- Car wash
- Trash bags
- Groceries
- Bakery
- Light bulbs

Convenience

Shopping List

- 2 AA batteries
- 1 Dry cleaner
- 3 Car wash
- 2 Trash bags
- 5 Groceries
- 4 Bakery
- 2 Light bulbs



Convenience

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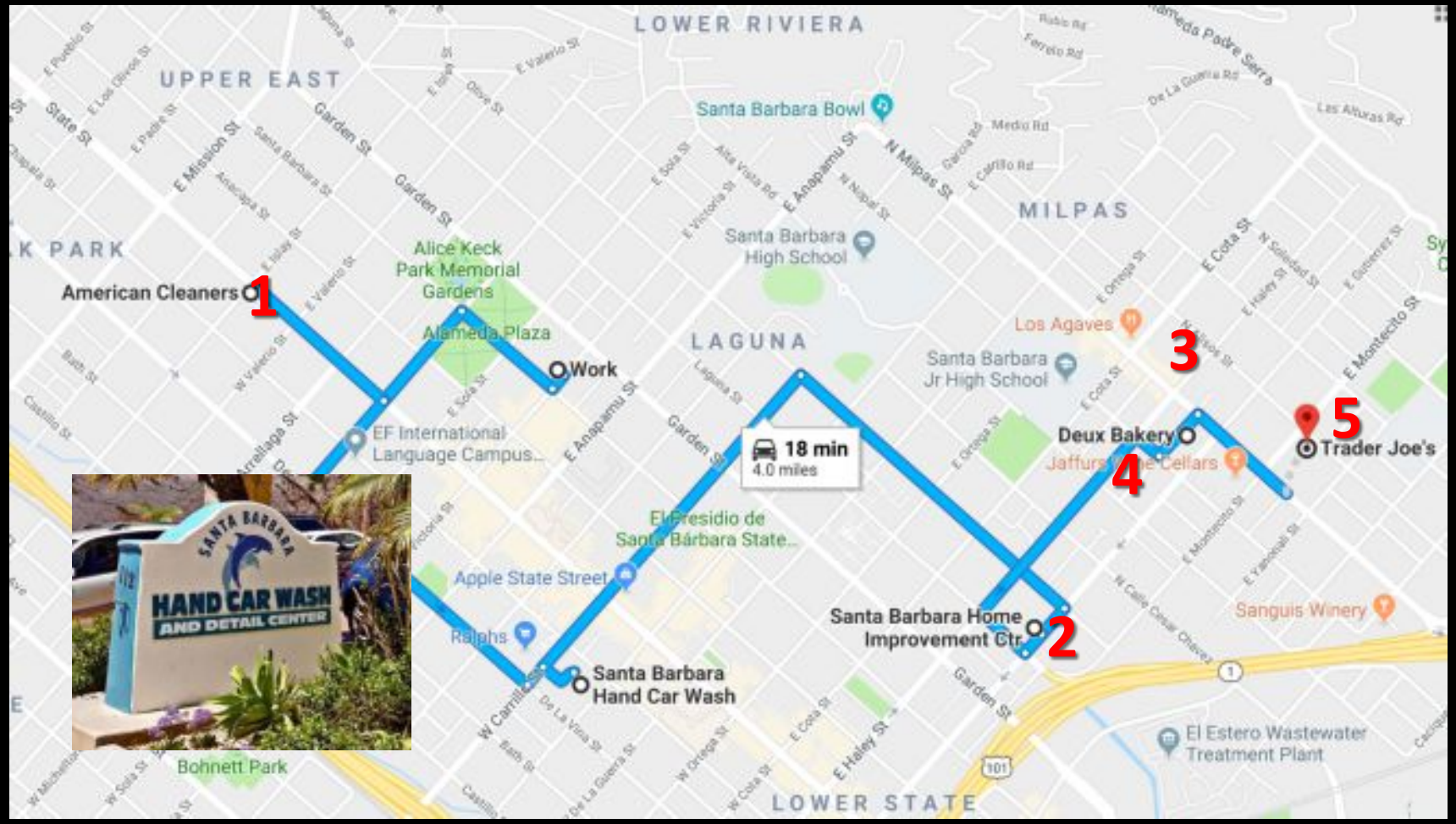


C2B Bot Negotiation

Premise: Customers Own Their Own Data

Customers Store Their Own Data

Customers Want Their Own Data

Nobody is Trustworthy

Convenience

The ultimate convenience is having to do *nothing*.

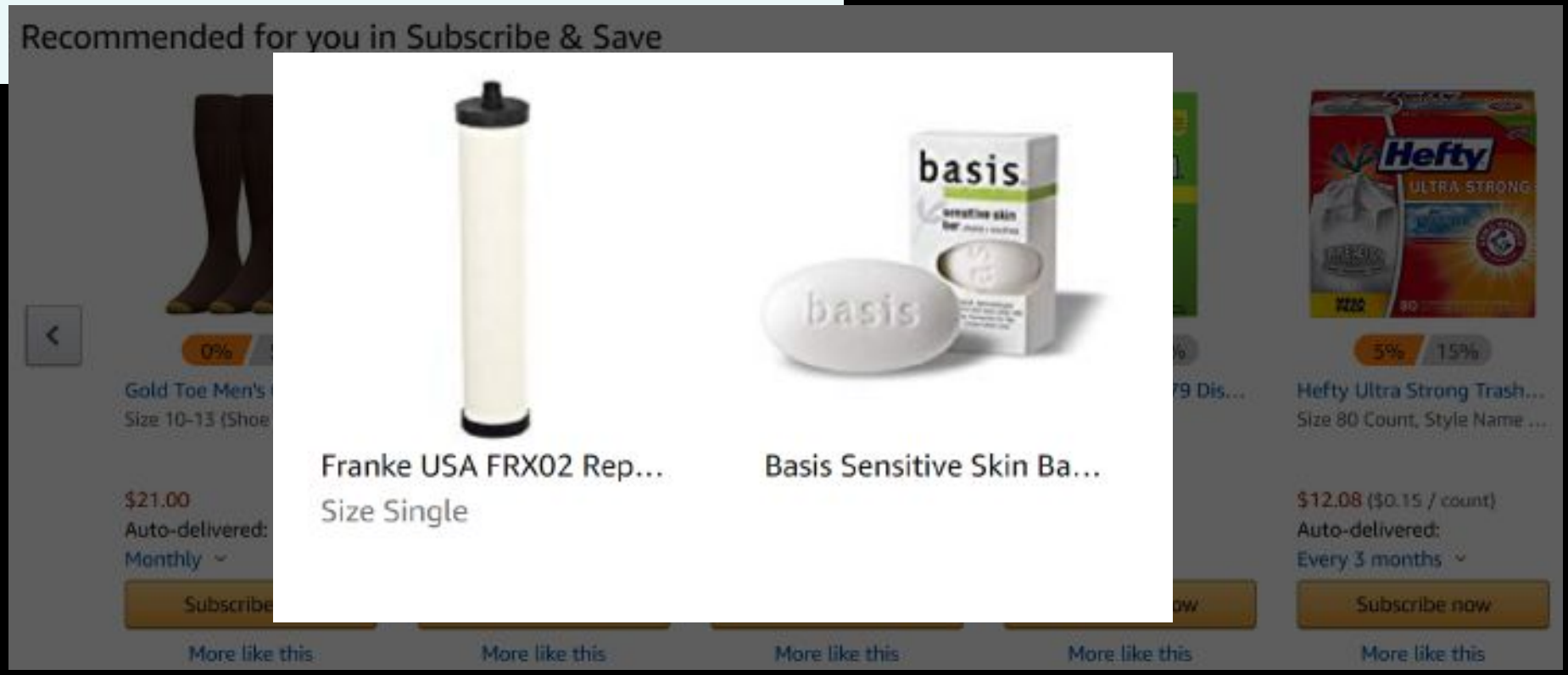
- Jonathan Yarmis, The Skills Connection

Convenience

Subscribe&Save

Convenience

Subscribe&Save



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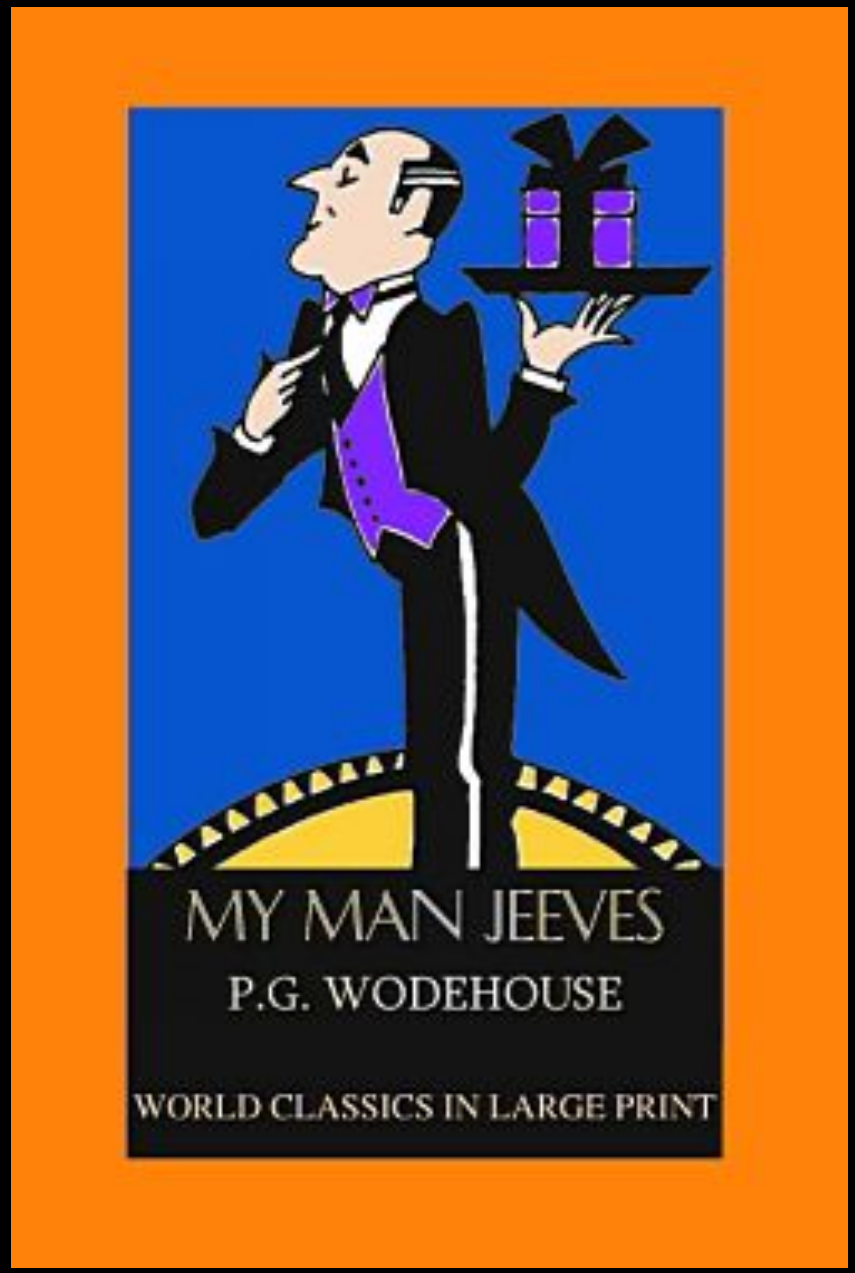
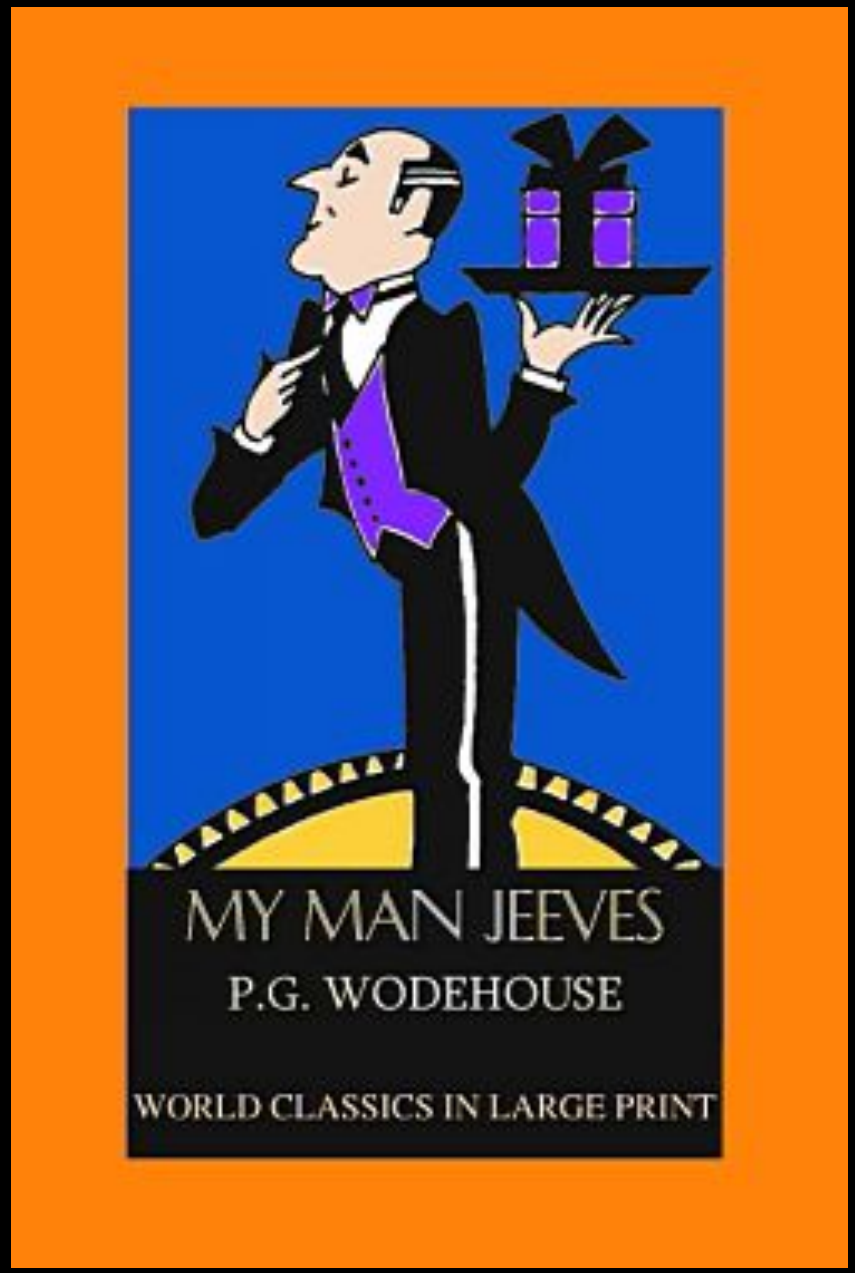

MY MAN JEEVES
P.G. WODEHOUSE
WORLD CLASSICS IN LARGE PRINT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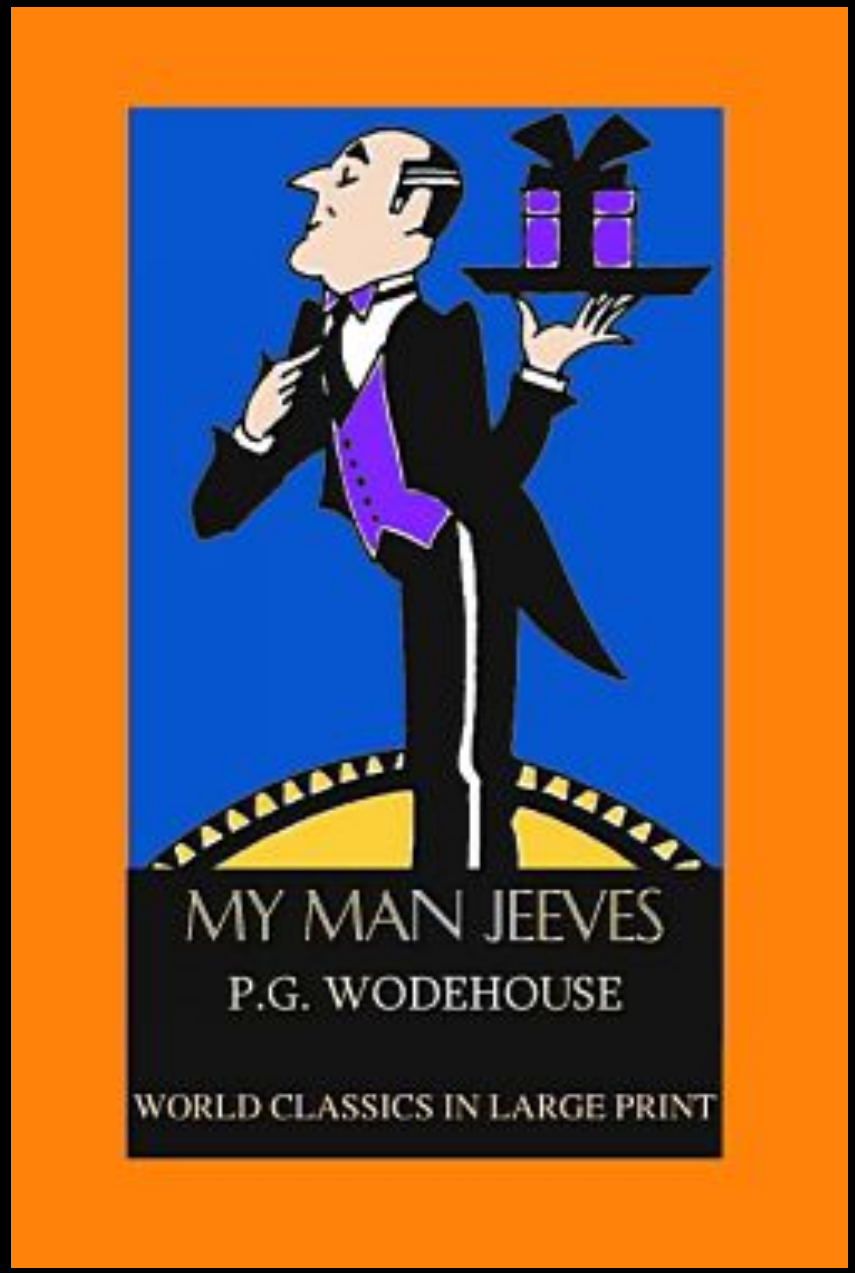
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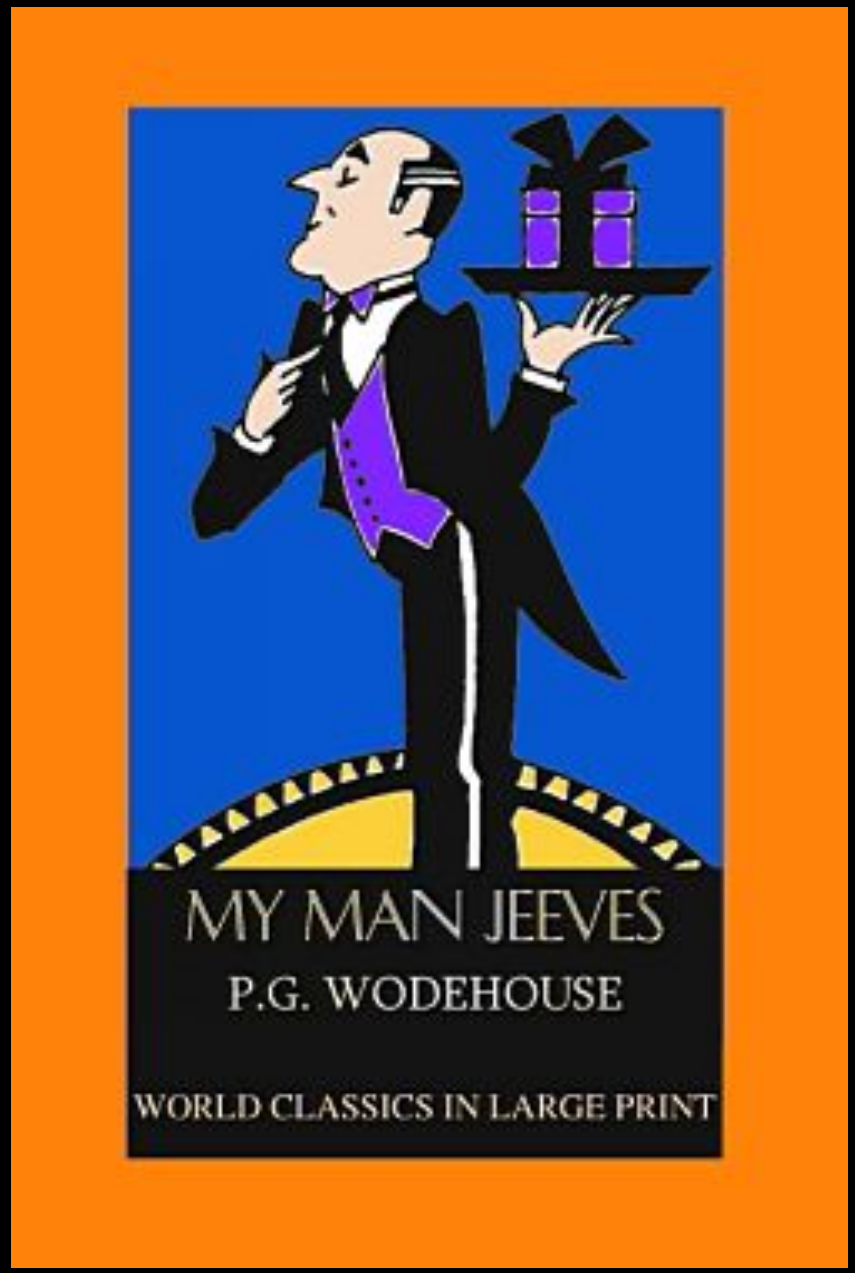
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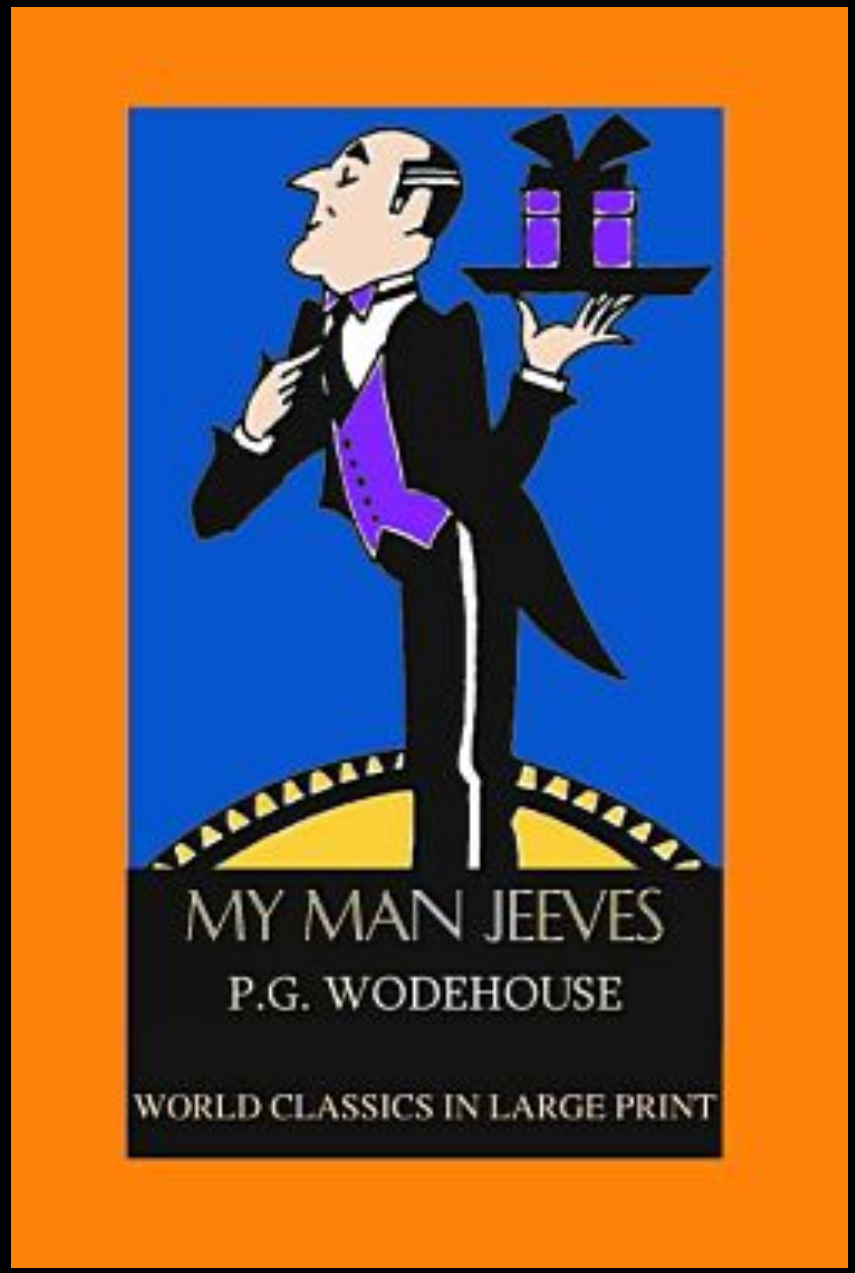
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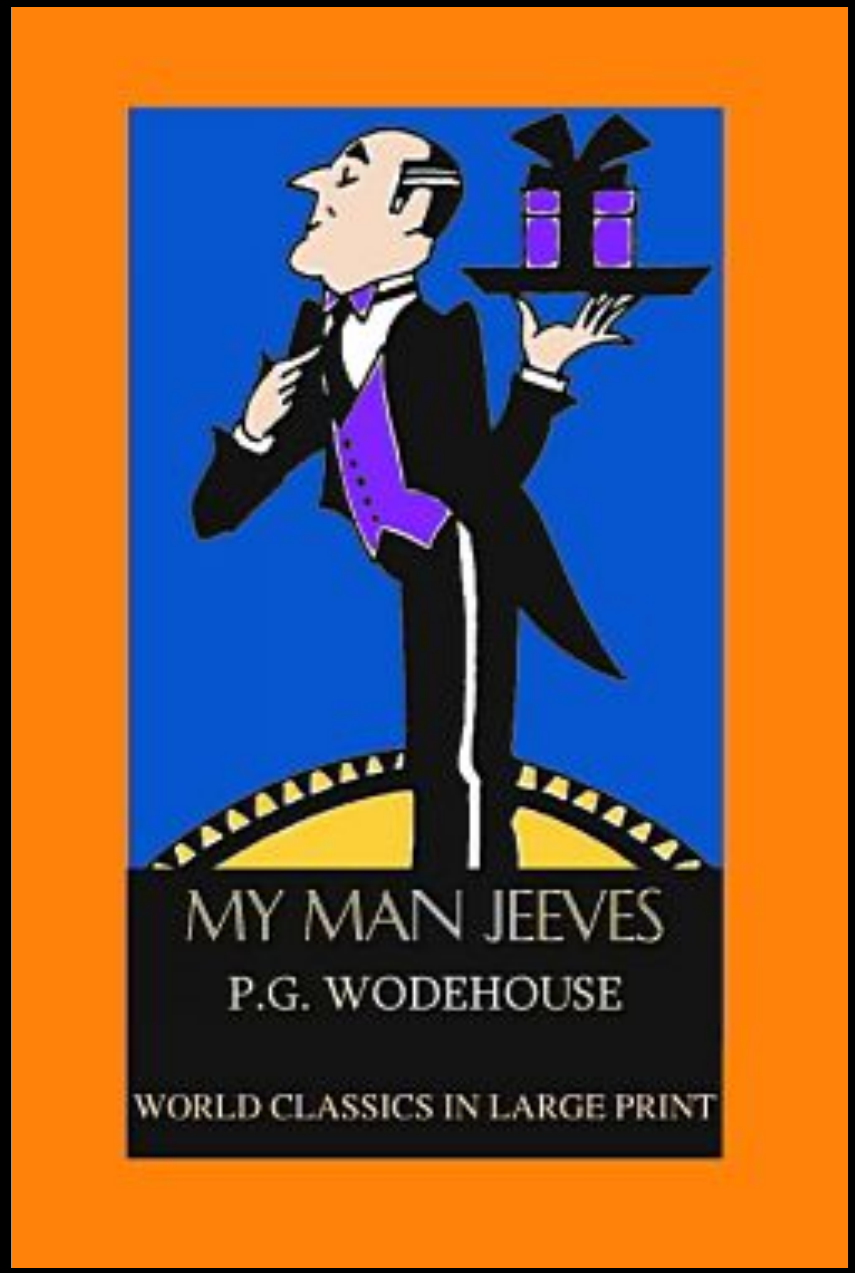
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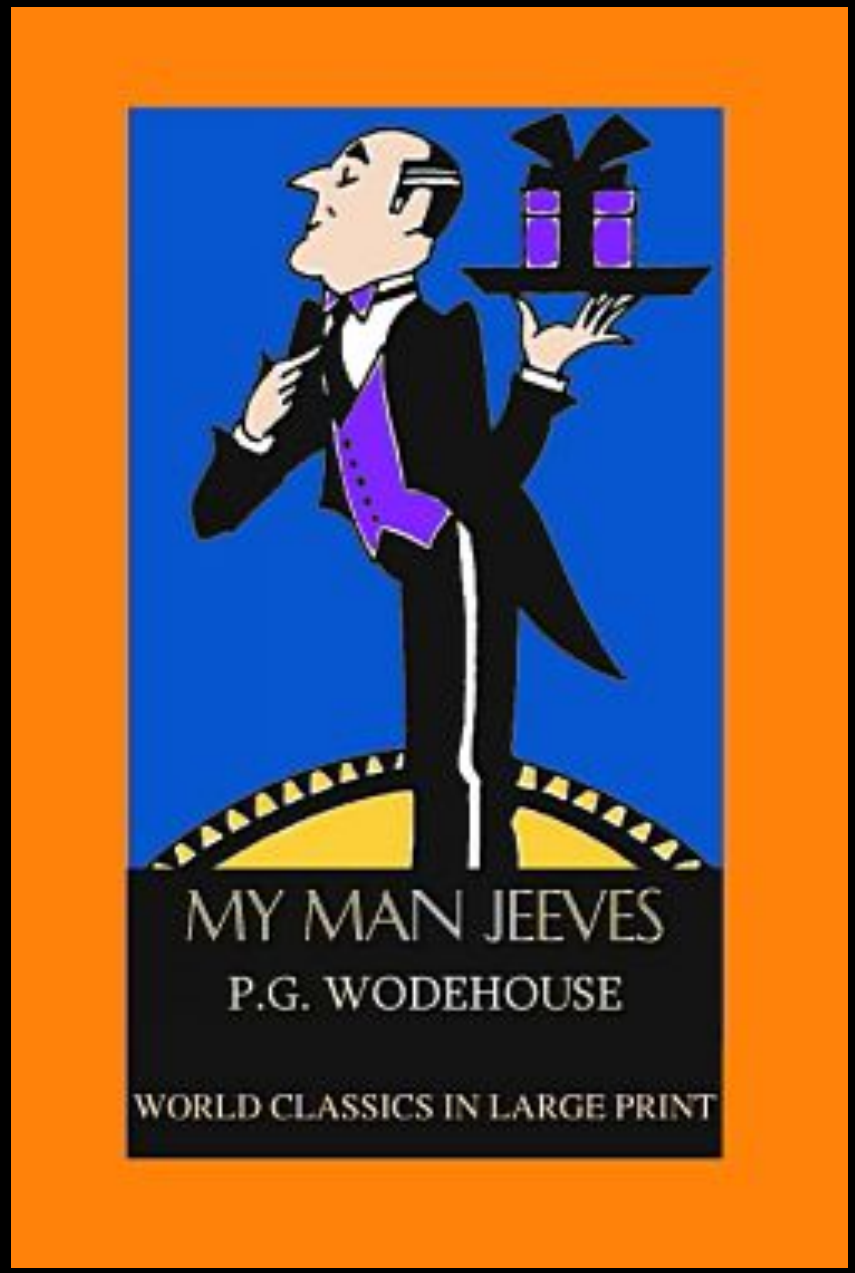
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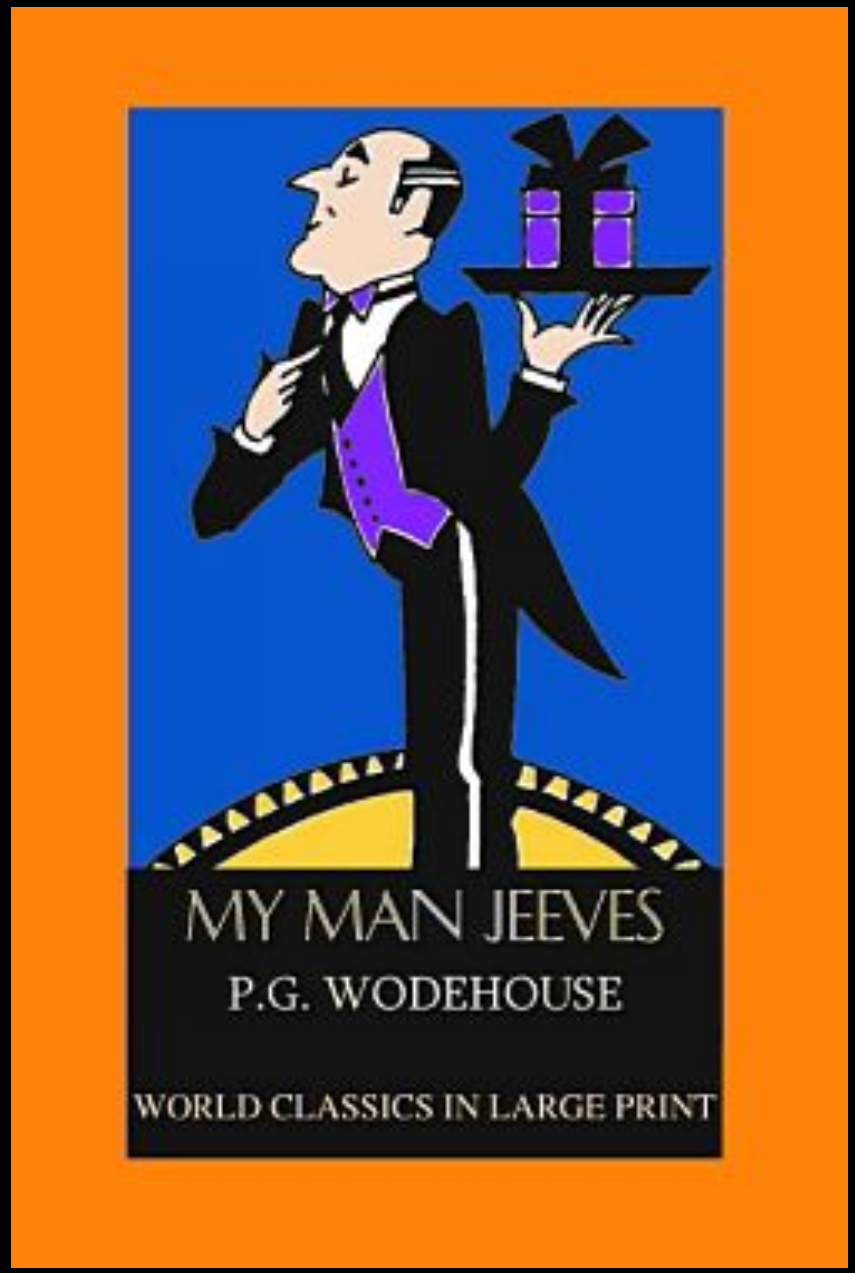
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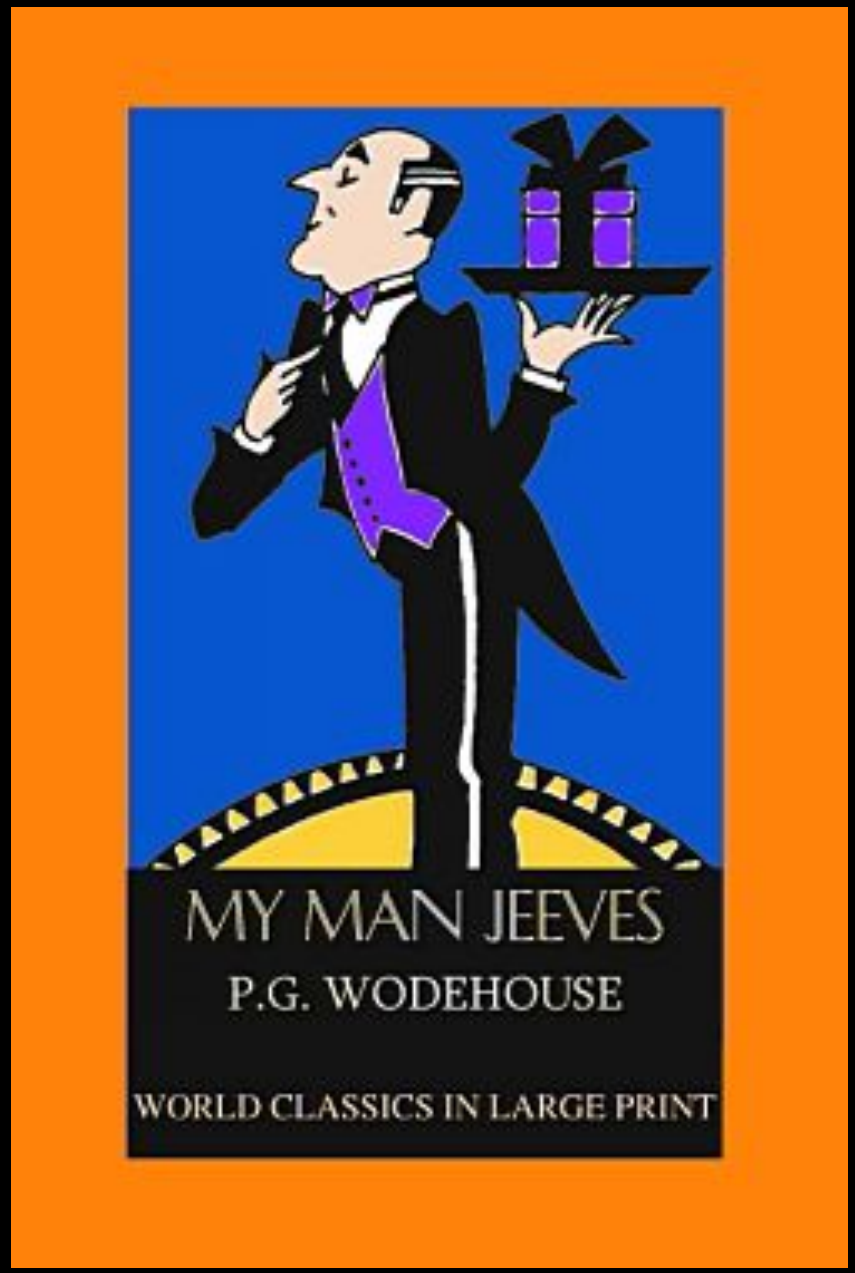
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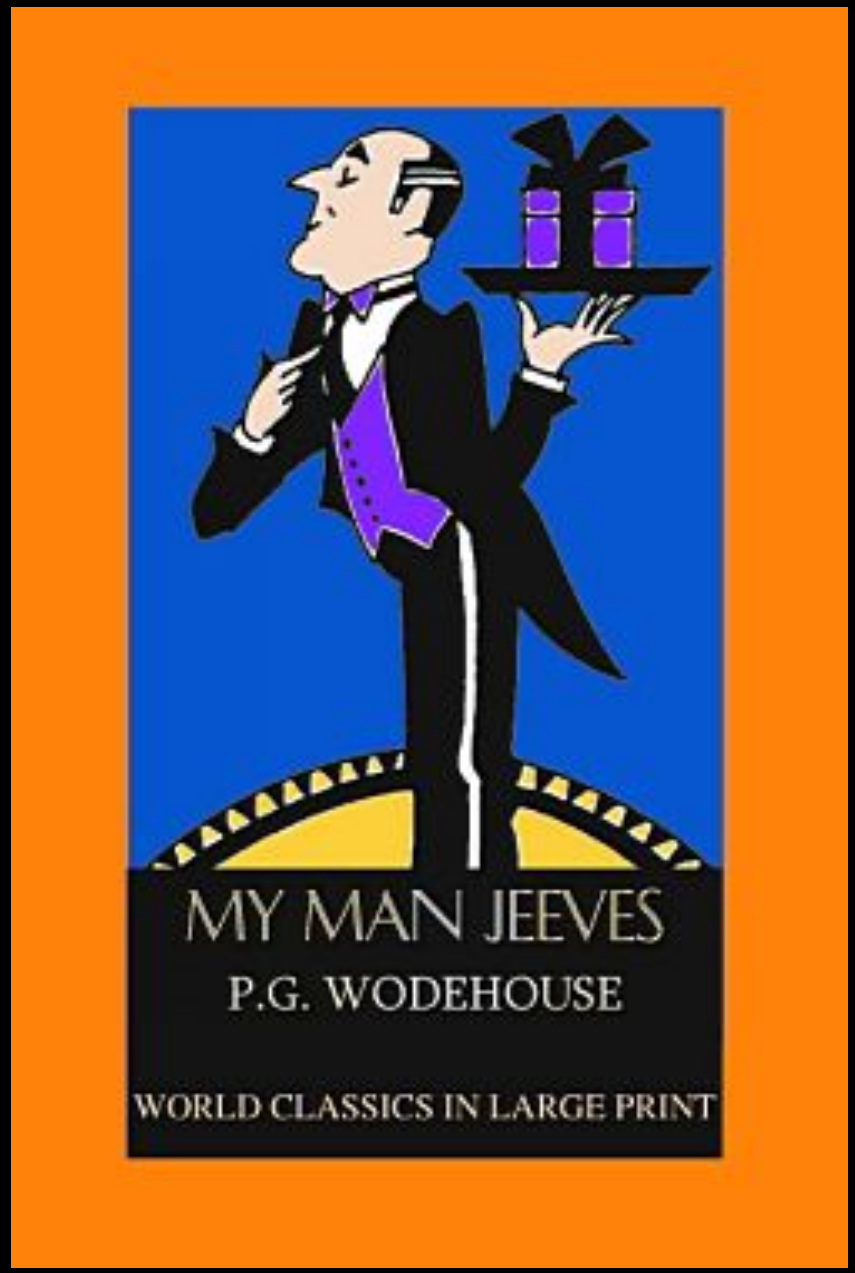
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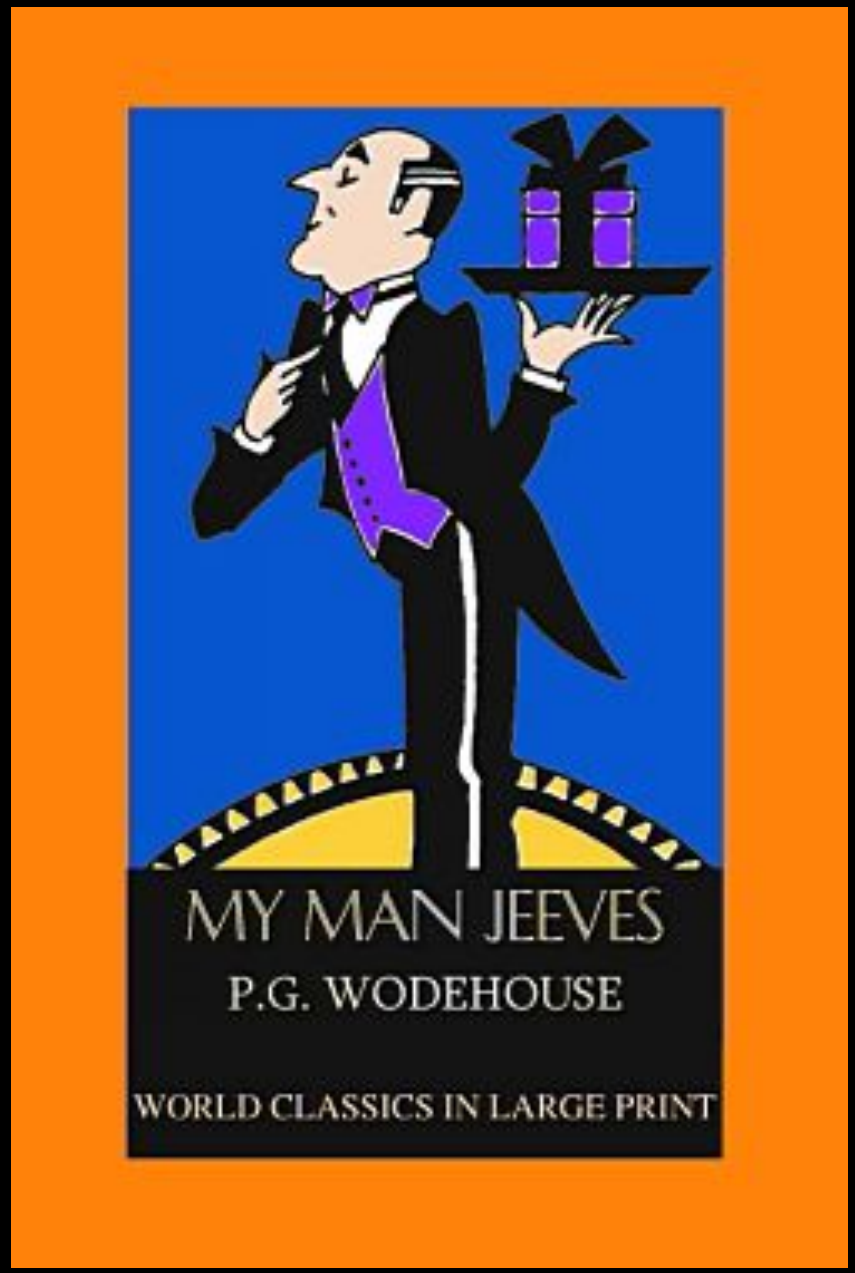
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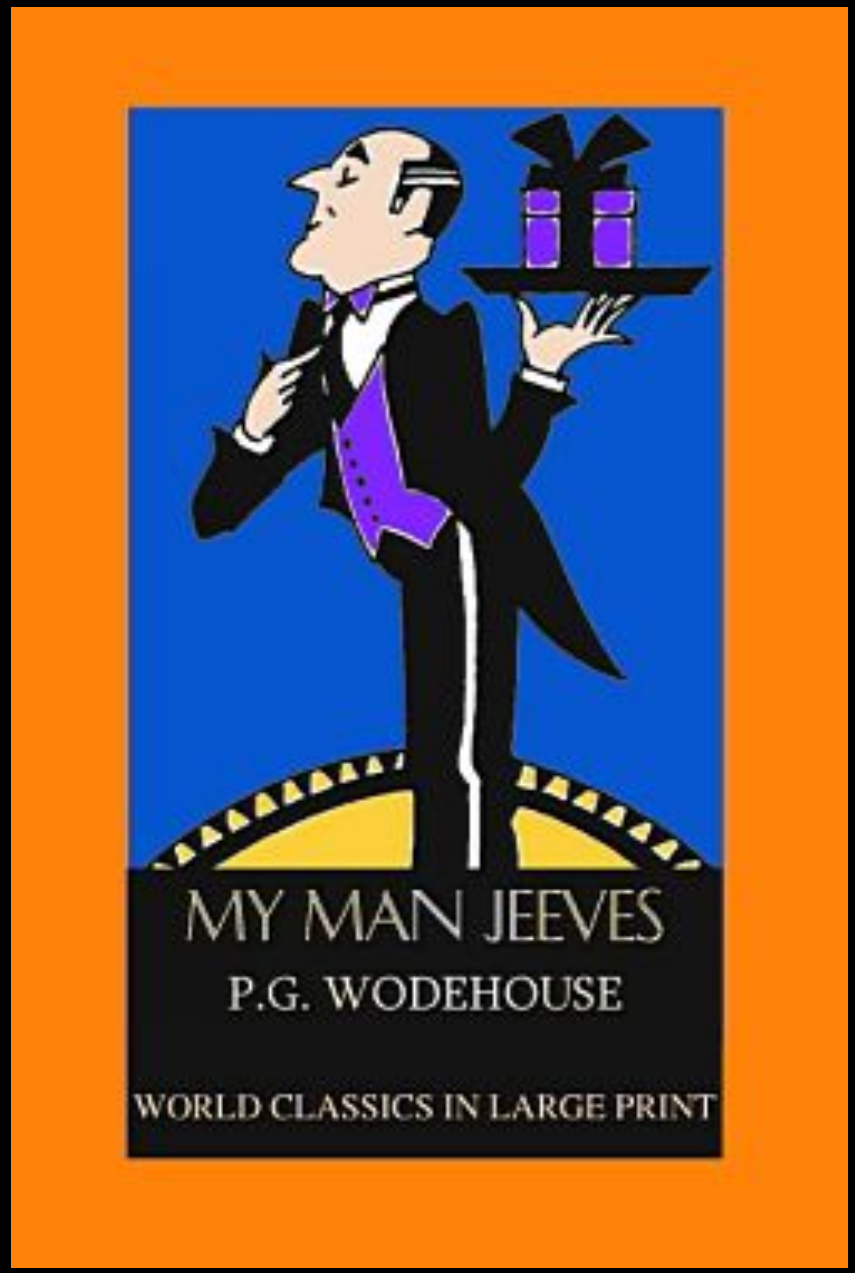
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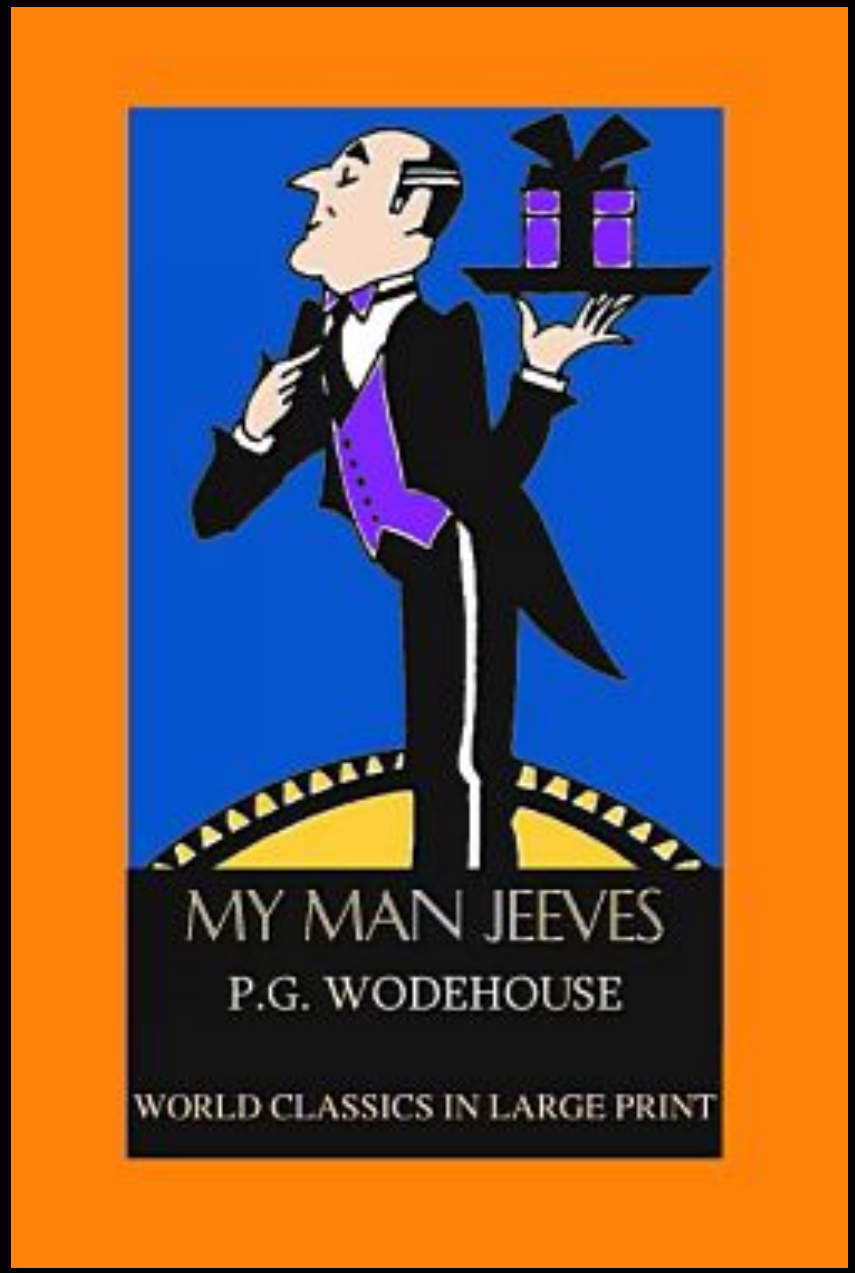
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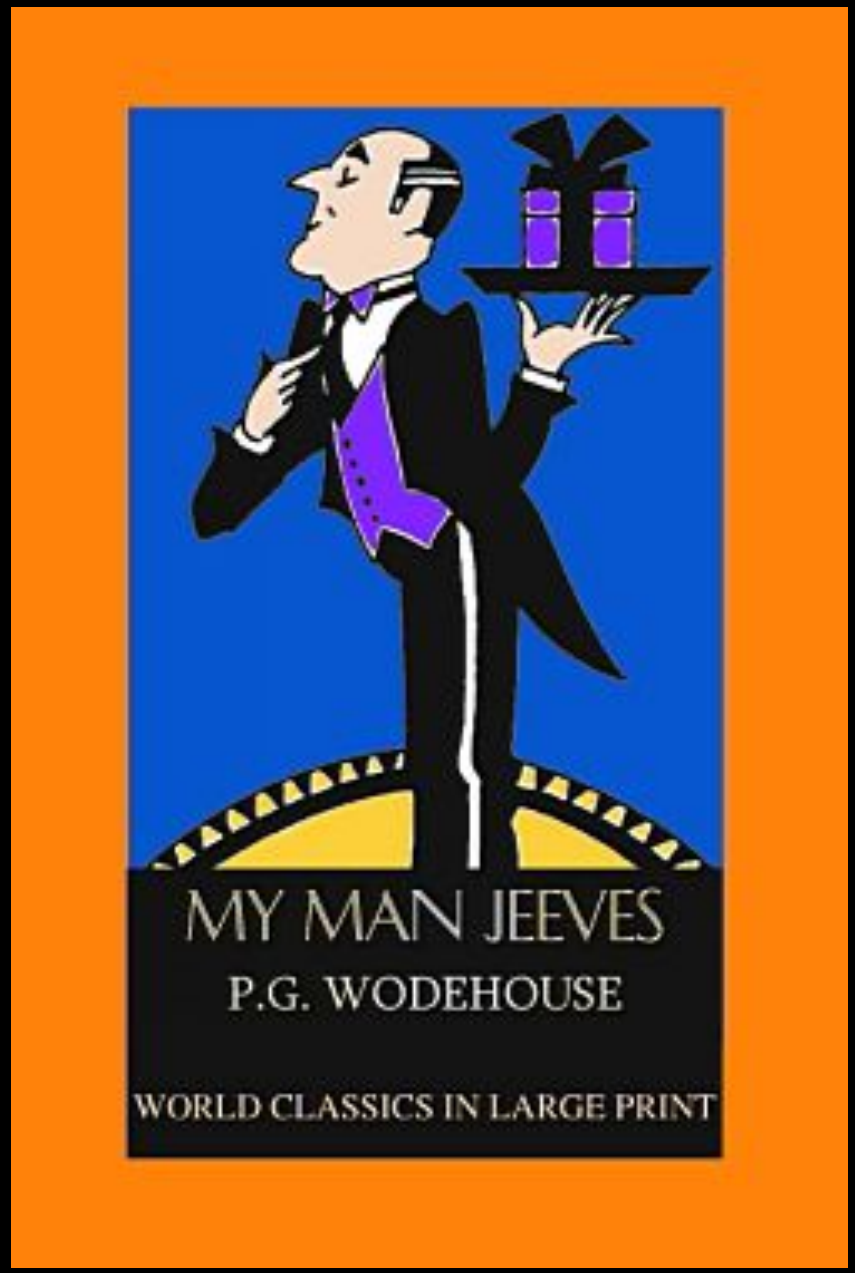
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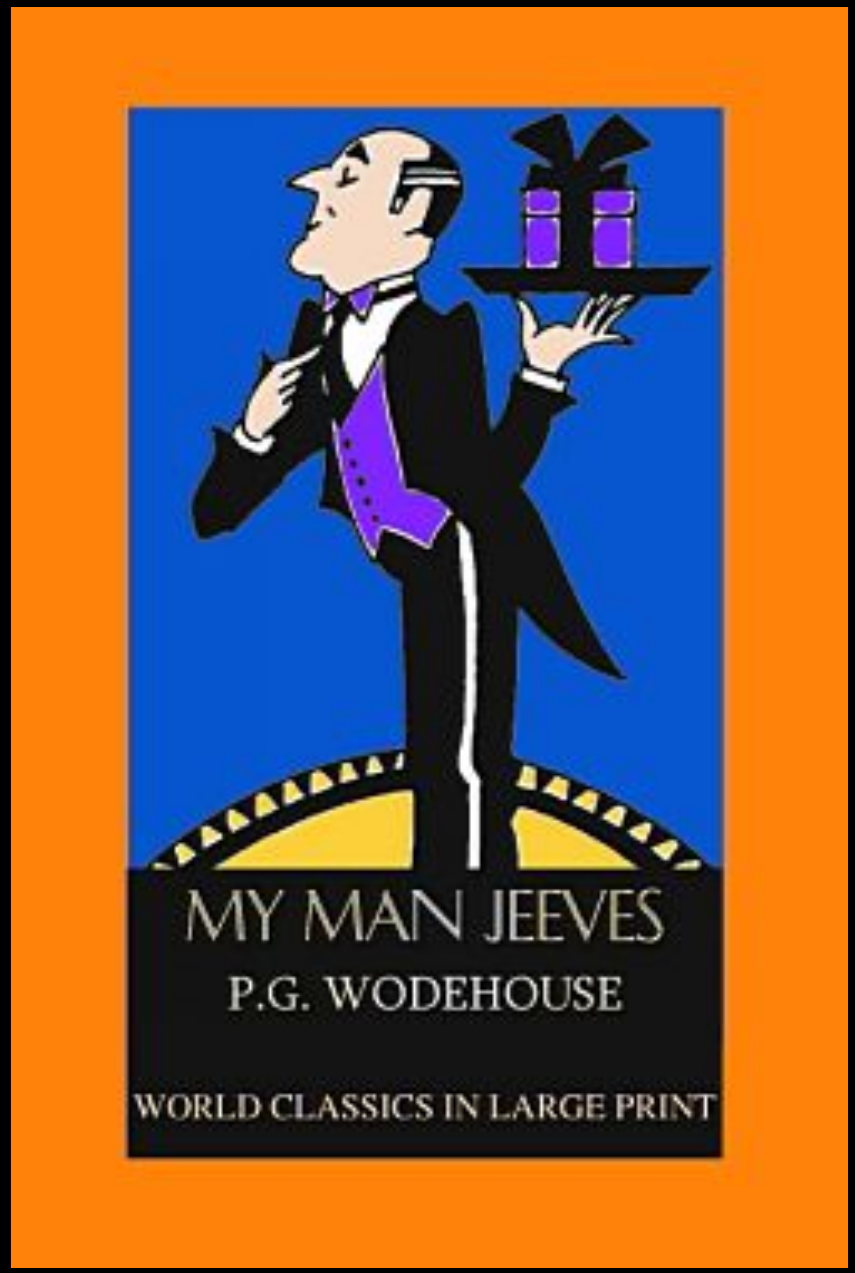
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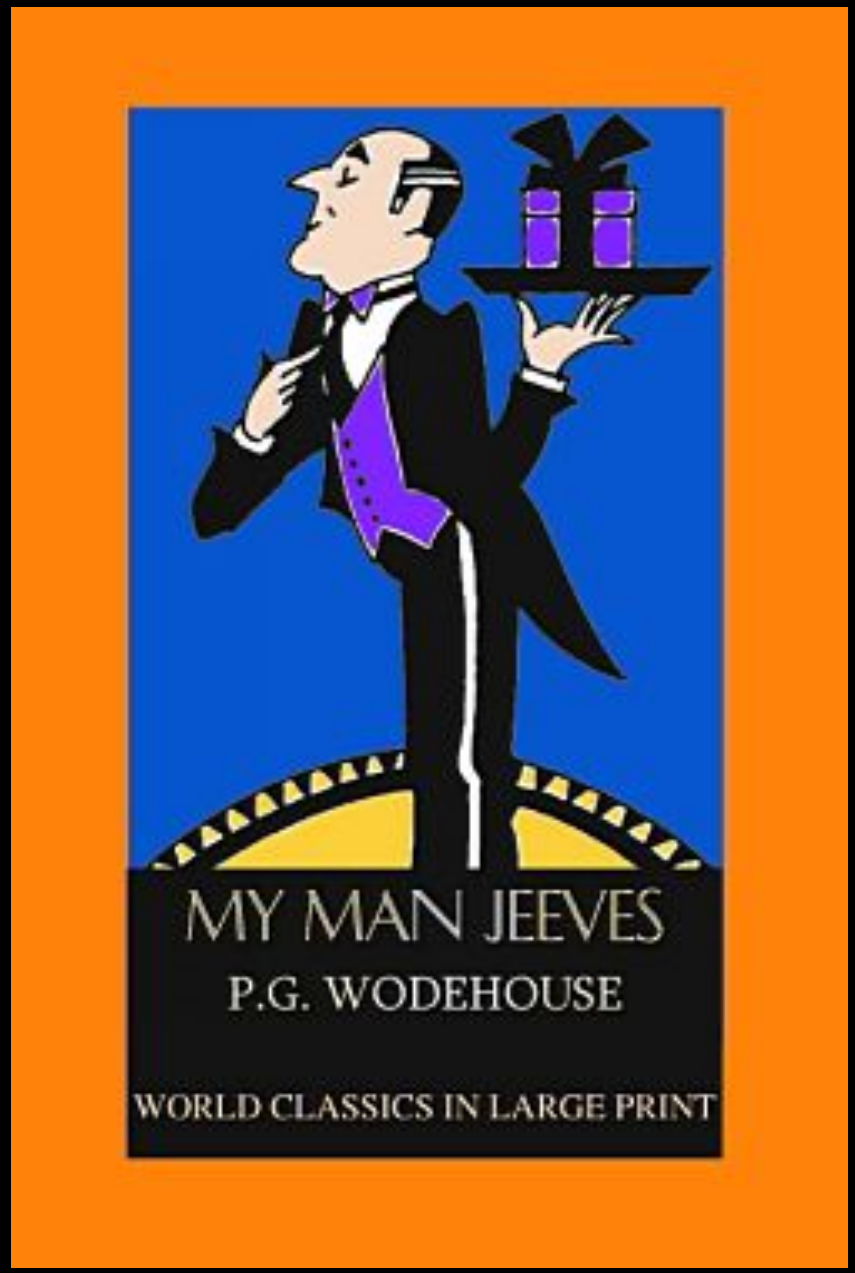
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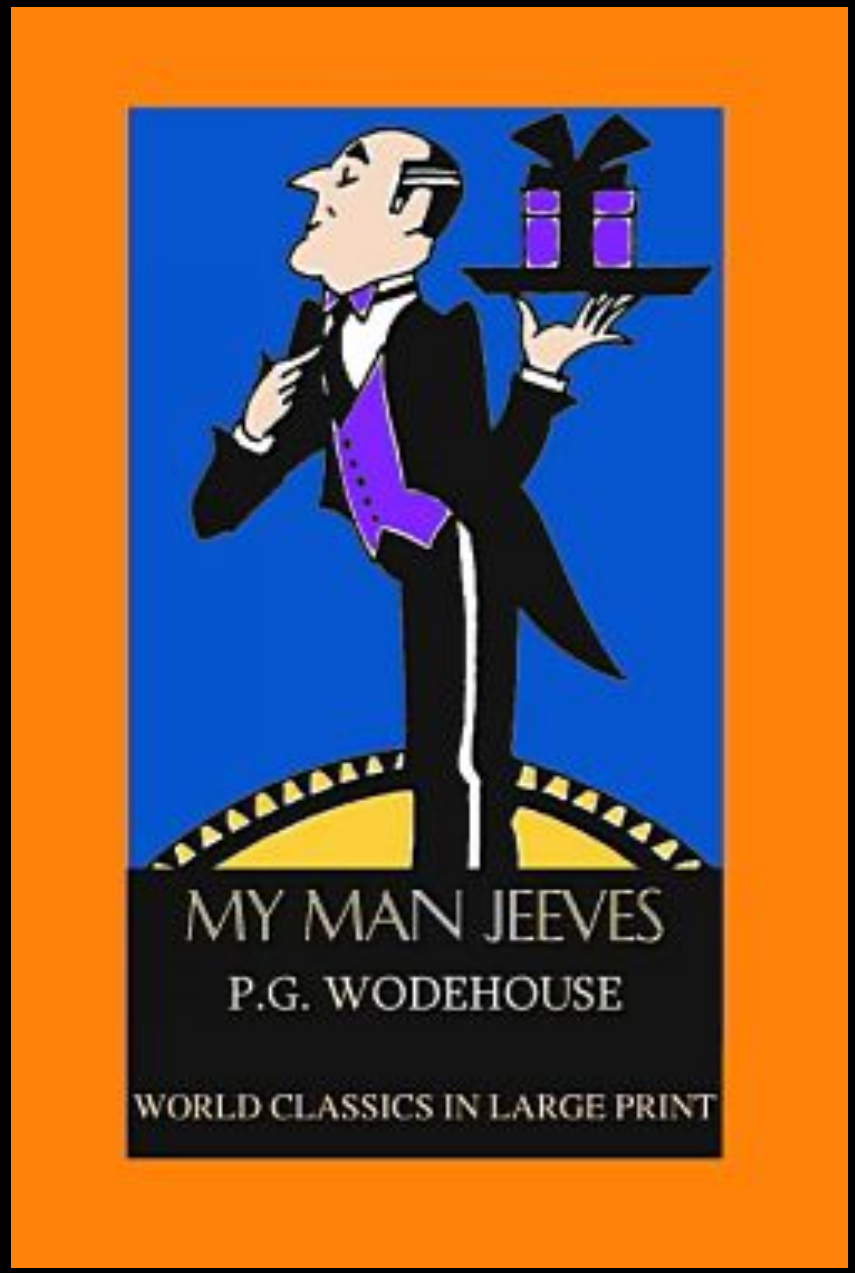
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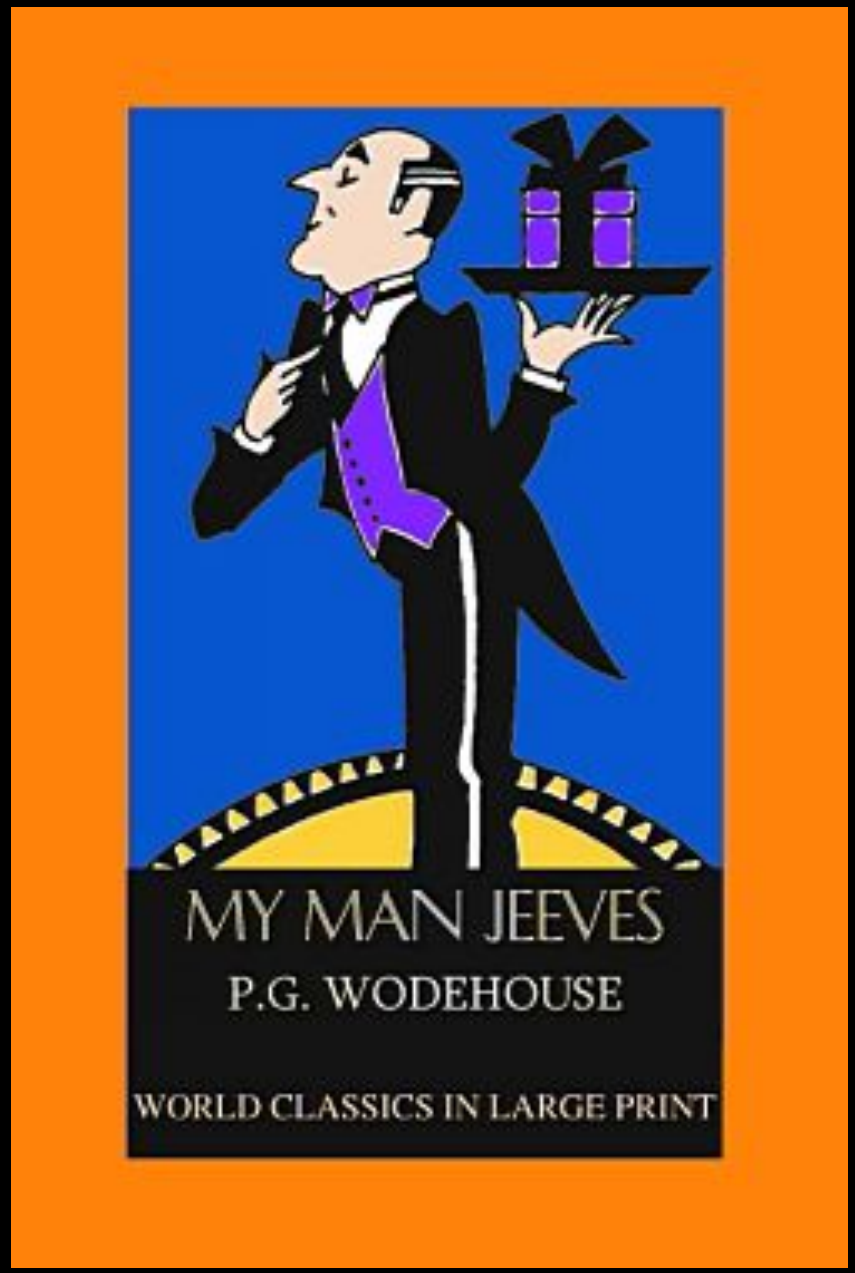
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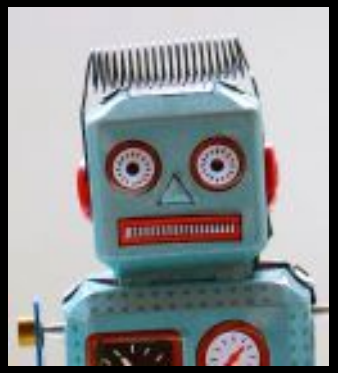
Grants degrees of data access (circles of trust)

Proactive

Convenience

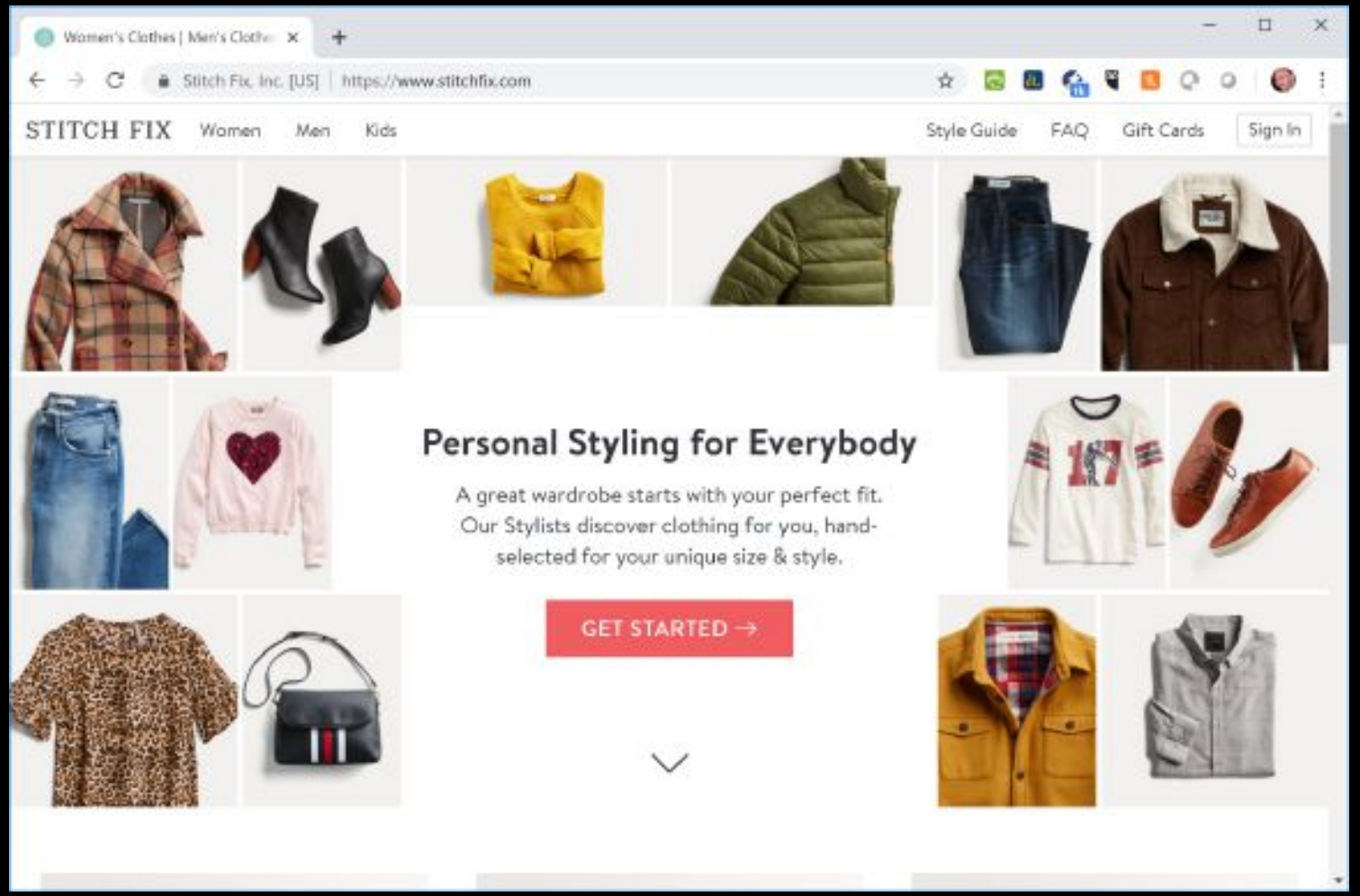


Dishwasher fail in 30 days at 90%
12 models fit kitchen dimensions
4 models fit kitchen style
2 models fit budget
1 model fits schedule
Negotiated best price
Install Wednesday?

[ ] OK?
[ ] Not yet

Photo by Lucas Benjamin on Unsplash
Photo by Rock'n Roll Monkey on Unsplash

Convenience



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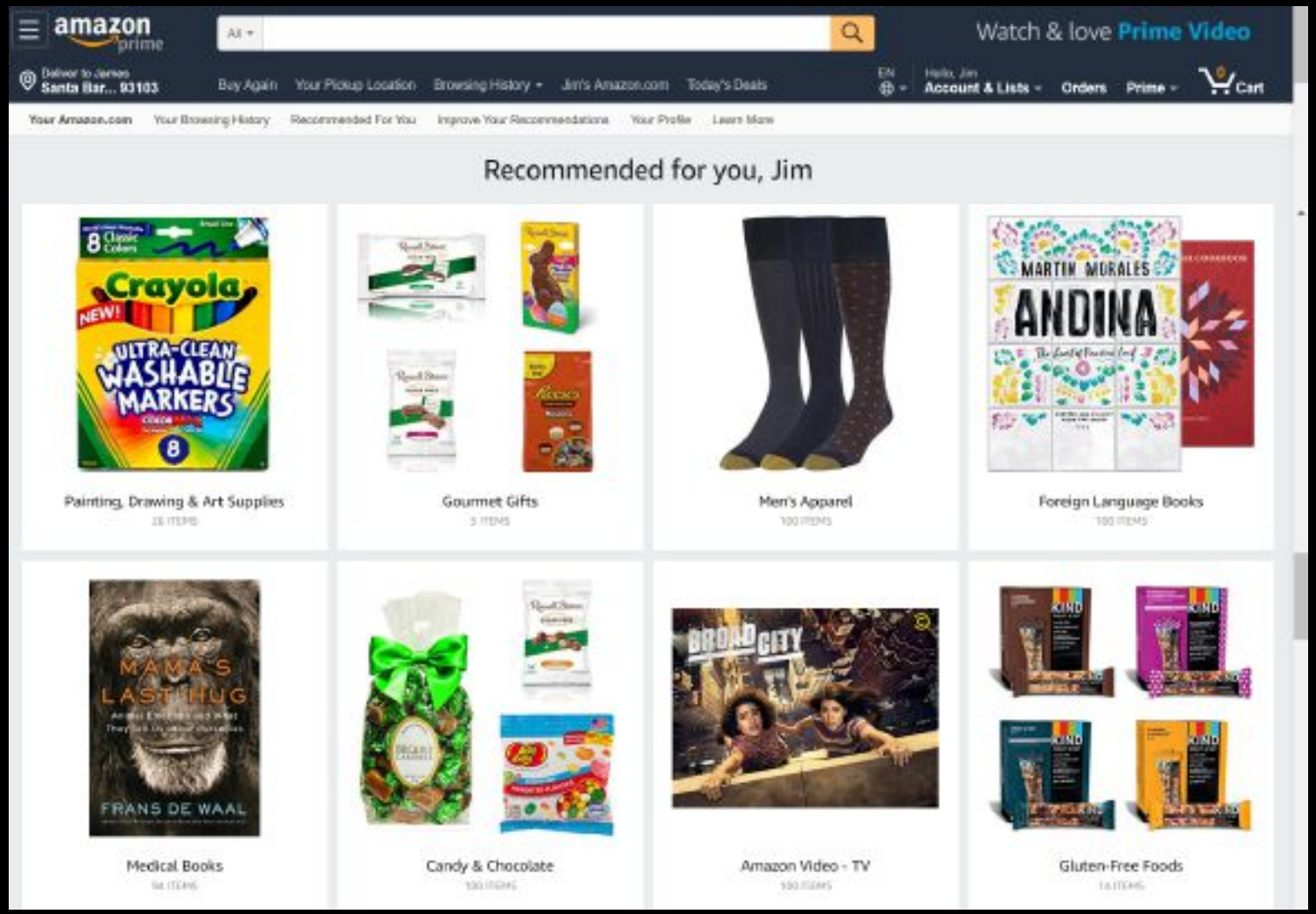

C2B Bot Negotiation

The ultimate convenience is having to do *nothing*.

- Jonathan Yarmis, The Skills Connection

C2B Bot Negotiation

C2B Bot Negotiation

C2B Bot Negotiation

1.45 pm

Room: Saal 1

Keynote:

This Time, the Robots ARE Coming

Jim Sterne has an impressive track record looking over the horizon and telling the rest of us what to expect. He wrote his first book, "World Web Marketing:" in 1995. He wrote "Web Metrics" in 2002, He wrote "Artificial Intelligence for Marketing" in 2017. This year, he explains how robots will help you do your job and how they will transform marketing forever. Your professional, digital agents can work by your side to get the right message to the right person at the right time. But soon, marketing as we know it will change forever. If you're in B2B or B2C and have learned to survive in a C2C world, get ready for C2B: where your customers' bots negotiate with your bots.

Moderator:

Alexander Holl, CEO, 121WATT

Speaker:

Jim Sterne, Co-Founder and Board Chair, Digital Analytics Association

2.30 pm Session Change

ROBOT ZOMBIES WITH LAZERS

Harness the Power for Yourself

Take advantage of the tools

Build your brand

Build systems to talk to customers' systems

Your Advantages

Reason
Common sense
Empathy
Experience
Ability to relate unrelated info
Ability to onboard new ideas

Your Job Will Always Be

Recognizing the problem
Deciding which data to consider
Evaluate the output

Jim Sterne

This Time, the Robots ARE Coming to Disrupt Marketing

jsterne@targeting.com – Marketing Analytics Summit – @jimsterne