



Enhancing customer experiences using Amazon Personalize

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What are we going to cover today?

- The case for personalization
- Overview of Amazon Personalize
- What's new
 - Recommenders optimized for video on demand and retail use cases
 - User segmentation
- Demo and reference architecture

Every touchpoint is personal

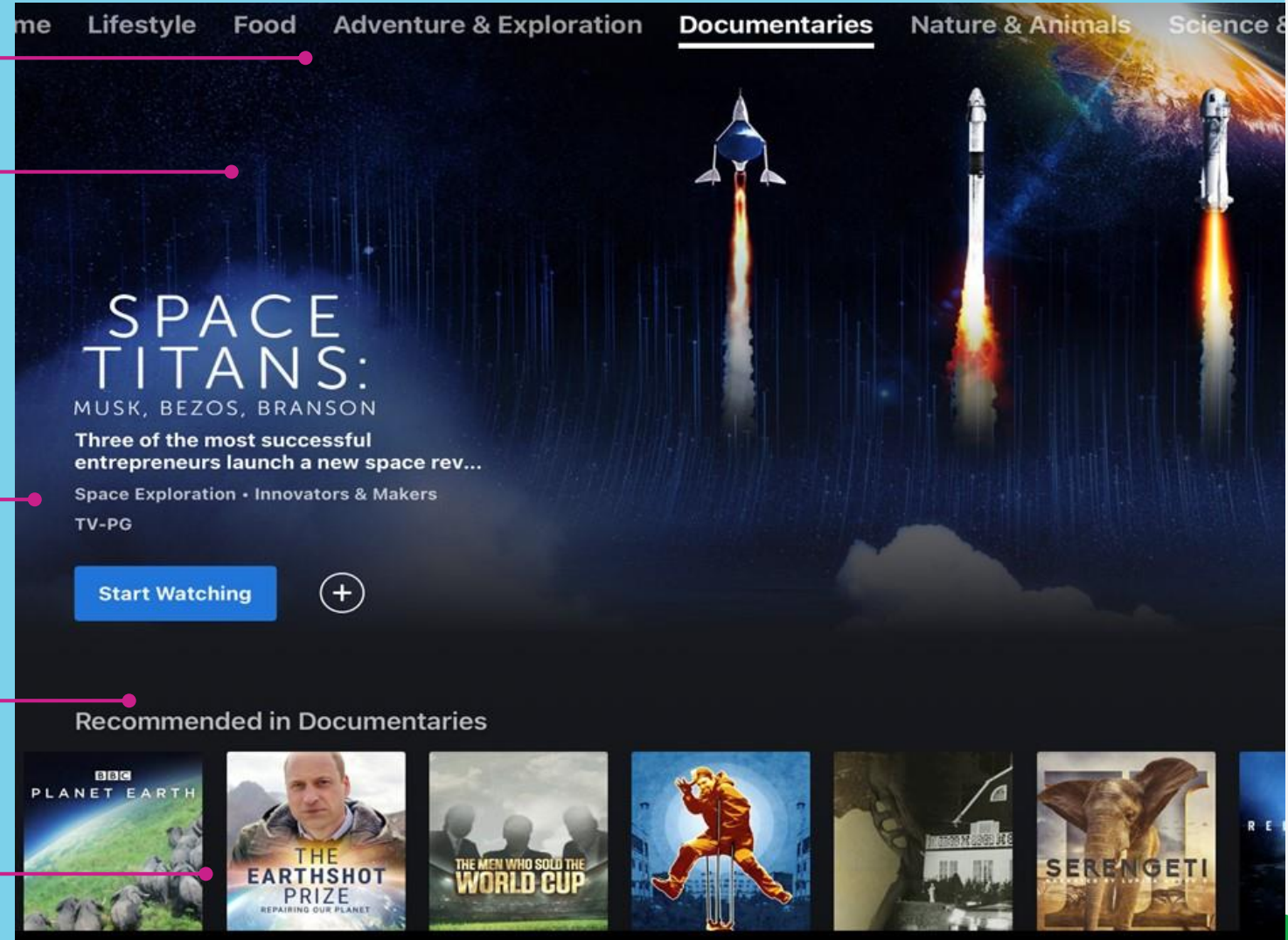
Categories

Artwork

Promotions

Order of rails

Order of content

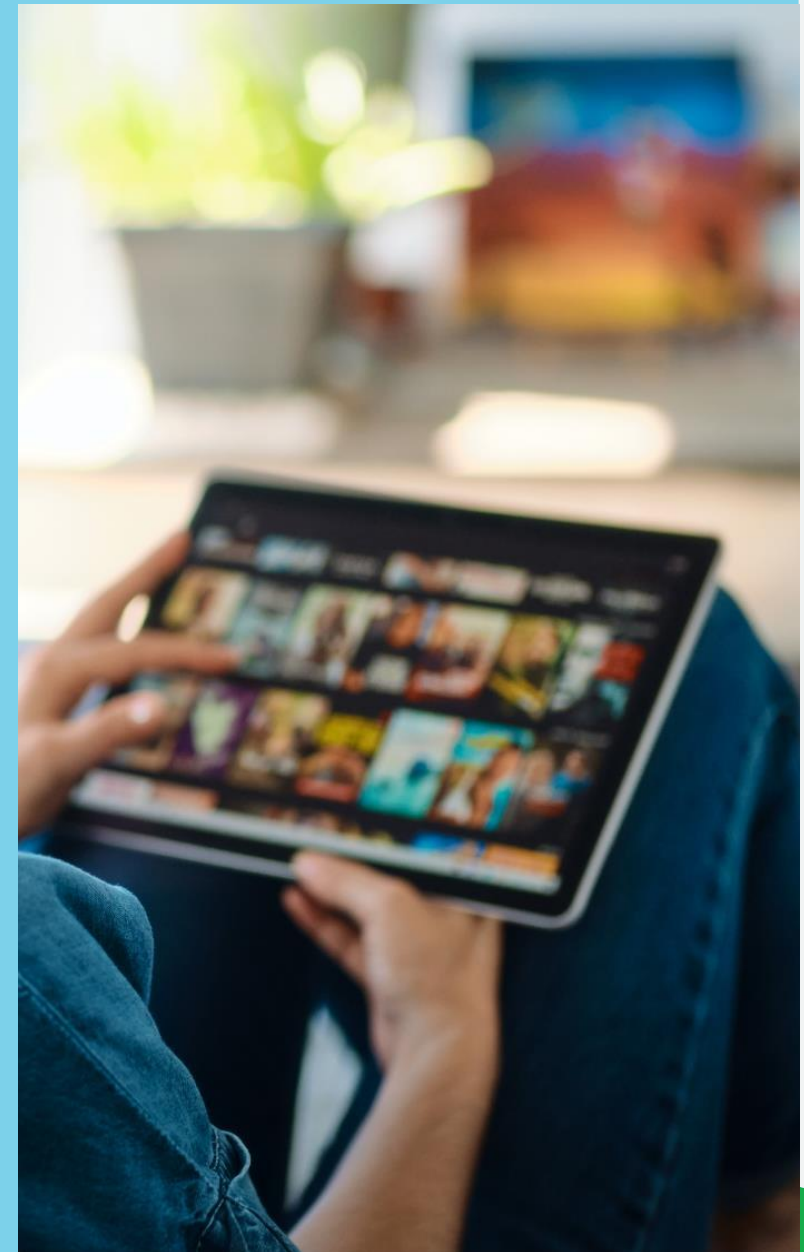


Customers expect personalized customer experiences

63%

of consumers see **personalization as the standard level of service**

<https://www.business2community.com/marketing/30-amazing-personalization-statistics-02289044>



Improving business outcomes

Acquisition and retention



Attracting new customers

Retaining customers in a crowded digital environment

Discoverability



Helping customers discover relevant products and content

Highlighting new products, content, and promotion offerings

Engagement



Understanding, measuring, and improving user experiences across digital channels

Increasing time spent engaging with products and content

Efficiencies and revenue



Improving digital marketing efficiencies

Increasing free trial conversions and customer LTV

Pioneering personalization at Amazon

The evolution of 20+ years

Then

First feature launched for recommendations in 1998

Customers who bought items in your Shopping Cart also bought:

 <p>Mathematics for 3D Game Programming & Computer Graphics by Eric Lengyel Our Price: \$49.95 7 used from \$37.76 Add to cart</p>	 <p>Game Programming Gems 2 by Mark DeLoura (Editor) Our Price: \$69.95 6 used from \$52.35 Add to cart</p>	 <p>AI Game Programming Wisdom (with CD-ROM) by Steve Rabin (Editor) Our Price: \$69.95 7 used from \$52.20 Add to cart</p>
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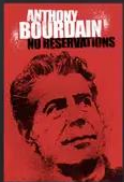


Now

Delivering sophisticated and unique experiences to consumers across channels and devices using machine learning




For You Relationships True C

Recommended For You





 <p>Anthony Bourdain: No Reservations</p>	 <p>Bizarre Foods: Delicious Destinations</p>	 <p>Bizarre Foods: Andrew</p>
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TV shows we think you'll like



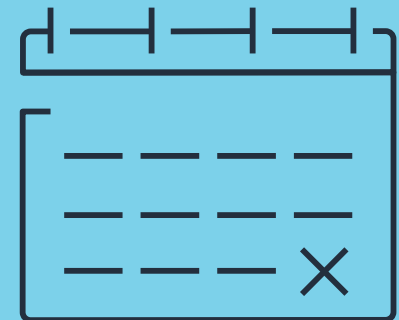
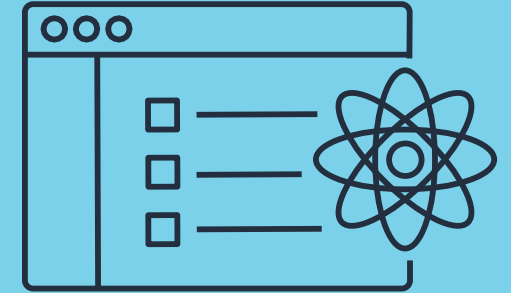
amazon smile prime

Christopher's Buy Again

 <p>\$7.19 ✓prime Add to Cart</p>	 <p>\$27.43 ✓prime Add to Cart</p>
 <p>\$24.99 ✓prime Add to Cart</p>	 <p>\$16.50 ✓prime Add to Cart</p>

It can be challenging to build a personalization system from the ground up

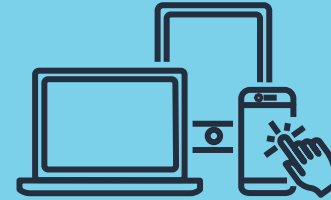
- Hard to hire talent with the right skill set and ML experience
- Development & data science teams may be bandwidth constrained
- Development time is too long
- Total cost of ownership is too high



Amazon Personalize



Delivers personalized user experiences faster



Responds quickly to changing user intent



Easily integrates with existing systems



Encrypted to be private and secure



Pay only for what you use

How it works

1

Add your data

User interactions
(views, sign-ups, conversions, etc.)

Item metadata
(details of articles, products, videos, etc.)

User metadata
(age, location, etc.)

2

Create a solution

User-level recommendations

Item-item similarity

Personalized ranking

3

Tune recommendations

New item bias

Business rules/filters

Optimize for business metric
(e.g., profit, revenue, watch time)

4

Access recommendations

Real-time recommendations API

Download batch recommendations

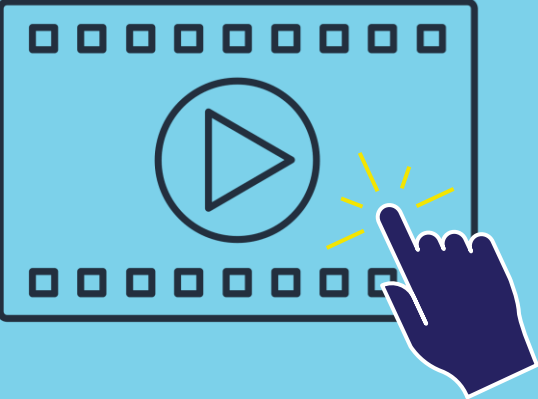
Contextualize recommendations
(e.g., device type, location)

Real-time recommendations

User intent can change quickly; you need recommendations that can keep up in real time



Amazon Personalize senses changes in user intent in real time based on their session activity to keep recommendations fresh and relevant



Recommendations

A horizontal row of five empty square boxes, each representing a recommendation item. The entire row is enclosed in a yellow rounded rectangular border.

Contextual recommendations

Providing relevant recommendations requires that you consider the context in which they are being viewed



Amazon Personalize considers the context while generating recommendations

Examples

- **Device type**
- **Location**
- **Time of day/seasonality**

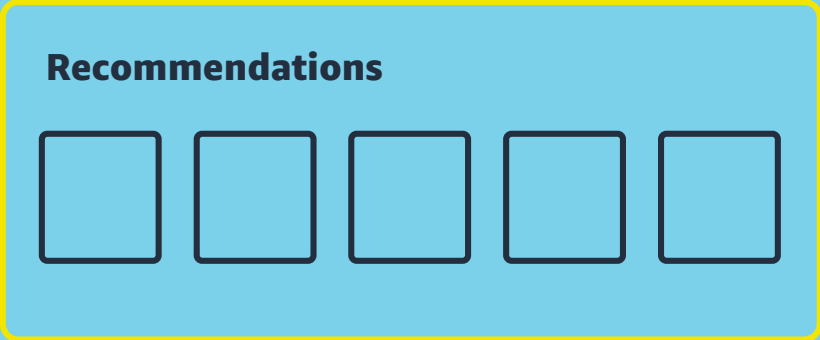


Business rules

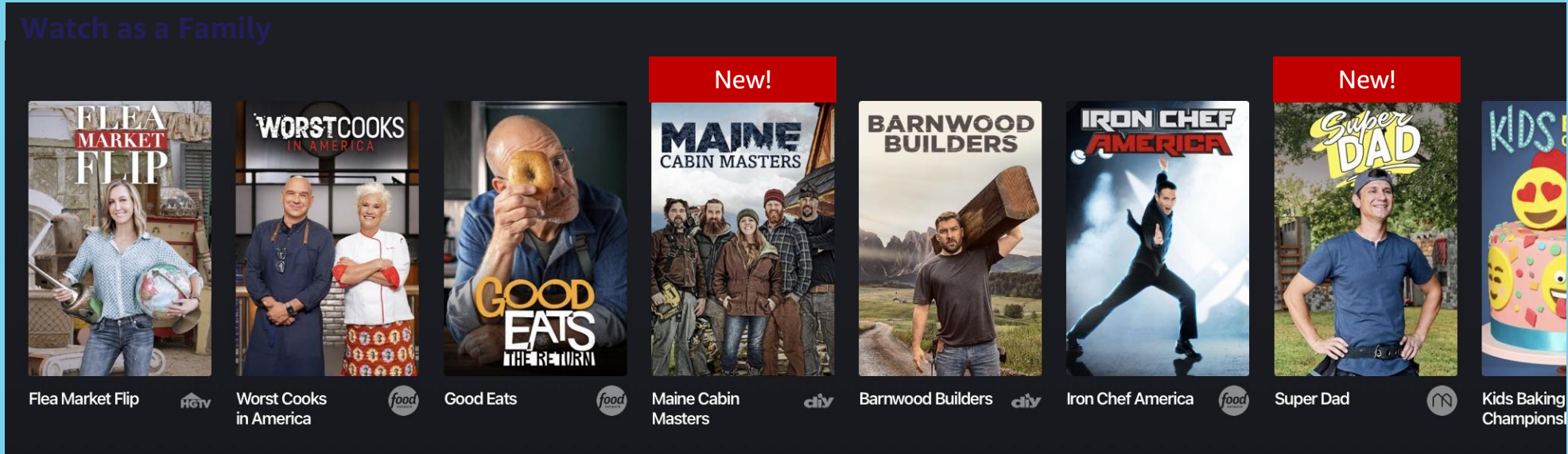
You need extra control over your recommendations without extra overhead



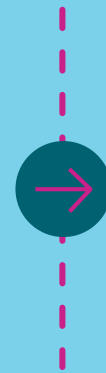
Amazon Personalize enables you to specify business rules to automatically augment the recommendations generated by ML models



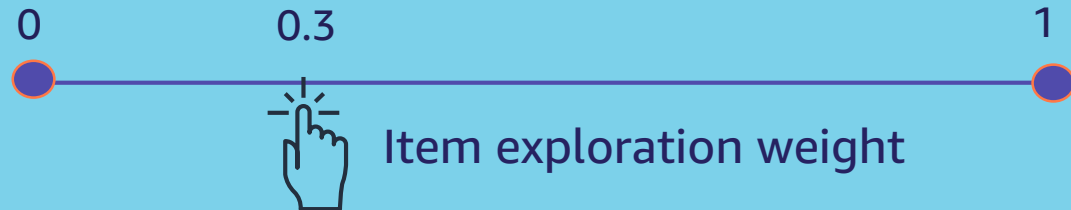
New items in fast-changing catalogs (cold start)



New items have no interaction history, which makes personalization challenging

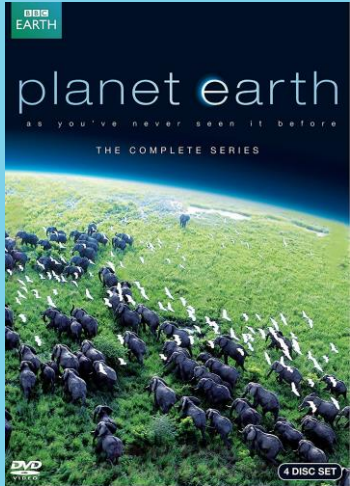


Amazon Personalize enables you to create a balance between recommendations for new and old items in your catalog



New in 2021

Unlock information in unstructured text



Description:

David Attenborough narrates this highly-acclaimed series exploring the natural world of the planet. Each episode explores a different habitat, focusing on how living creatures deal with the challenges posed by each environment.

Emmy Award-winning, 11 episodes, 5 years in the making, the most expensive nature documentary ever commissioned by the BBC, and the first to be filmed in high definition.

Magnificent. ☆☆☆☆☆

Amazing. Stunning. Magnificent. Planet Earth goes where no show has gone before. It captures beautiful images and animals that no one has before captured on film. I was absolutely blown away.

A True Masterpiece ☆☆☆☆☆

Alastair Fothergill's cinematic docu-series was a phenomenon in 2006 - and the touchstone for an extremely consistent franchise of remarkable and evergreen nature documentaries showing us with unparalleled technical ability the majesty and beauty of our planet.

Astonishing ☆☆☆☆☆

The production value is absolutely amazing and is so informative. You honestly can't believe what your watching because it doesn't seem possible. The shots they do are so creative and is well worth the time. A must watch for everyone.

Valuable signals are often trapped in descriptions, synopses, and reviews



Amazon Personalize uses Natural Language Processing (NLP) to automatically extract key information from unstructured text

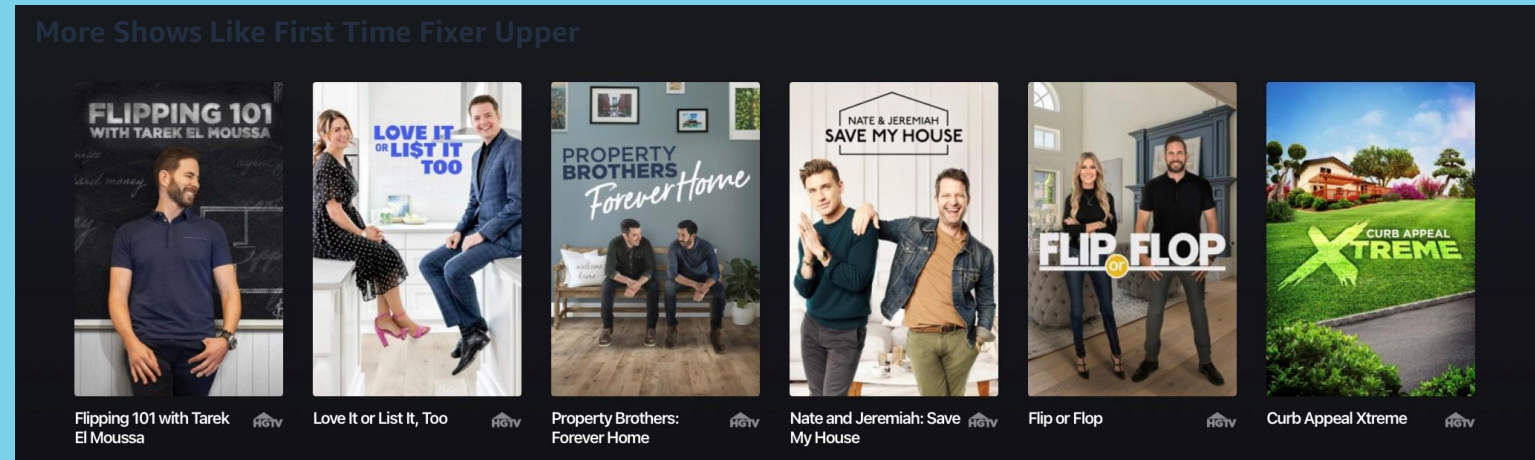
New in 2021

New similar items recipe

Similarity algorithms that only look at co-interactions between items are not sufficient



New similarity recipe uses item metadata, in addition to co-interactions, to determine similarity

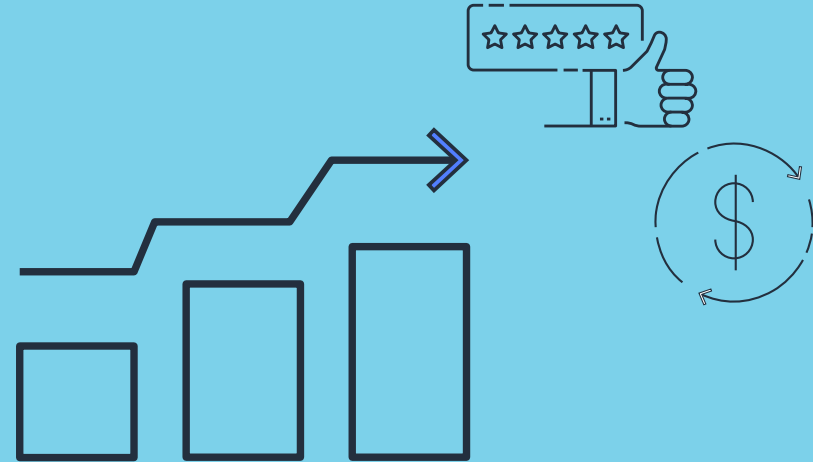


New in 2021

Optimize for business metrics



Most recommender systems are designed to only increase user engagement



Optimize recommendations for relevance while improving business metrics

Optimize for revenue, profit margin, video watch time, or any numerical attribute in your catalog

User segmentation

- Identify users interested in a genre, category, or any other item attribute
 - Identify users interested in a given item such as a movie, product, etc.
-
- More effective campaigns through marketing channels
 - Acquire users for new product categories, genres, channels, etc.
 - Improve return on investment for your marketing spend



Action movie fans

Use-case-optimized recommenders for media & entertainment

- Top picks for you
- Because you watched X
- More like Y
- Most popular

Top picks for you



Most Popular



Because you watched Forrest Gump



Use-case-optimized recommenders for retail

- Recommended for you
- Customers who viewed this also viewed
- Frequently bought together
- Most viewed
- Best sellers

Recommended for You



Ring Video Doorbell Wired with Ring Chime
 ★★★★★ 27,738
 \$79.99
 Prime FREE Delivery In stock soon.



Echo Dot (4th Gen, 2020 release) | Smart speaker with Alexa | Charcoal
 ★★★★★ 372,105
 \$34.99
 Prime FREE Delivery



Amazon Basics Microwave, Small, Cu. Ft, 700W, Works with Alexa
 ★★★★★ 29,781
 \$74.99
 Prime FREE Delivery



All-new Ring Floodlight Cam Wired Plus with motion-activated 1080p HD video, White (2021 release)
 ★★★★★ 5,693
 \$179.99
 Prime FREE Delivery



Echo Show 5 (1st Gen, 2019 release) -- Smart display with Alexa -- stay connected with video calling - Charcoal
 ★★★★★ 339,850
 4 offers from \$46.87



Amazon Smart Plug Works with Alexa Certified for Humidity
 ★★★★★ 454,811
 #1 Best Seller in Smart Home Equipment
 \$24.99
 Prime FREE Delivery

Customers who viewed this also viewed



BISSELL MultiClean Allergen Pet Slim Upright Vacuum with HEPA Filter Sealed...
 ★★★★★ 2,039
 \$216.29 Prime



Hoover MAXLife Pro Pet Swivel Bagless Upright Vacuum Cleaner, HEPA Media Filtration...
 ★★★★★ 7,805
 \$199.99 Prime



Oreck - U2000RB-1 Commercial, Professional Upright Vacuum Cleaner, ...
 ★★★★★ 2,153
 \$199.99 Prime



Shark Rotator Lift-Away DuoClean Pro with Self-Cleaning Brushroll Upright Vacuum (Z...)
 ★★★★★ 1,255
 \$219.99 Prime



Kenmore BC7005 Pet Friendly Crossover Bagged HEPA Canister Vacuum Cleaner 2...
 ★★★★★ 2,707
 \$449.99 Prime



Tineco Floor One Cordless Hardwood Floors Cleaner, Lightweight Wet...
 ★★★★★ 14,611
 \$399.00 Prime

Frequently Bought Together



Total price: \$91.97

Add all three to Cart

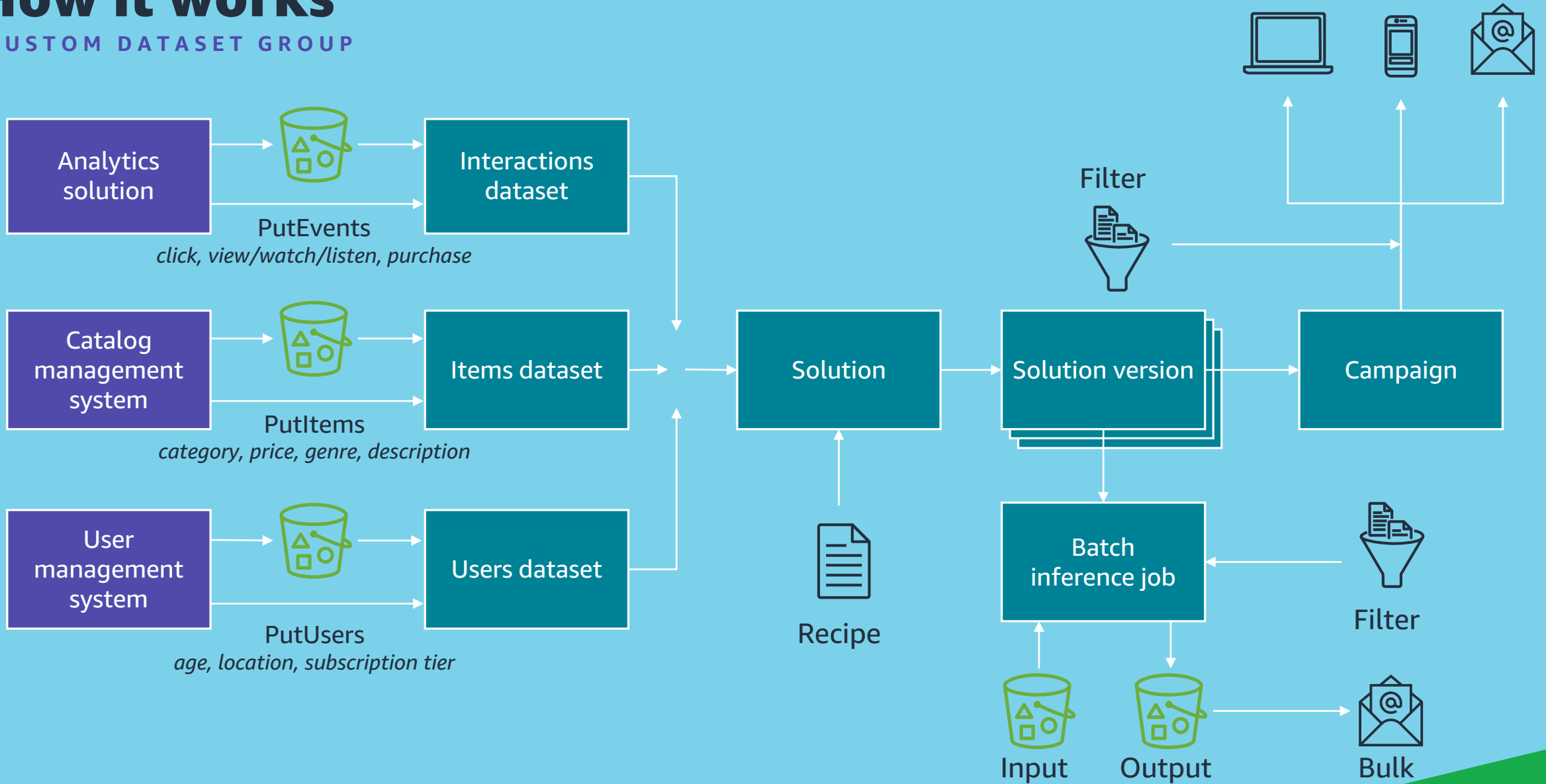
- ✓ **This item:** Kasa Outdoor Smart Plug, Smart Home Wi-Fi Outlet with 2 Sockets, IP64 Weather Resistance, Compatible with Alexa, Echo, Google Home & IFTTT, No Hub Required, Remote Control, 15 Amp, Single Pole, Needs Neutral Wire, 2.4GHz Wi-Fi Light Switch Works with Alexa and Google Home, UL Certified, No Hub Required... \$21.99 Prime Saturday, Nov 6
- ✓ Smart Home Wi-Fi Outlet Works with Alexa, Echo, Google Home & IFTTT, No Hub Required, Remote Control, 15 Amp, Single Pole, Needs Neutral Wire, 2.4GHz Wi-Fi Light Switch Works with Alexa and Google Home, UL Certified, No Hub Required... \$29.99 Prime Saturday, Nov 6
- ✓ Single Pole, Needs Neutral Wire, 2.4GHz Wi-Fi Light Switch Works with Alexa and Google Home, UL Certified, No Hub Required... \$39.99 Prime Saturday, Nov 6

How it works: a closer look



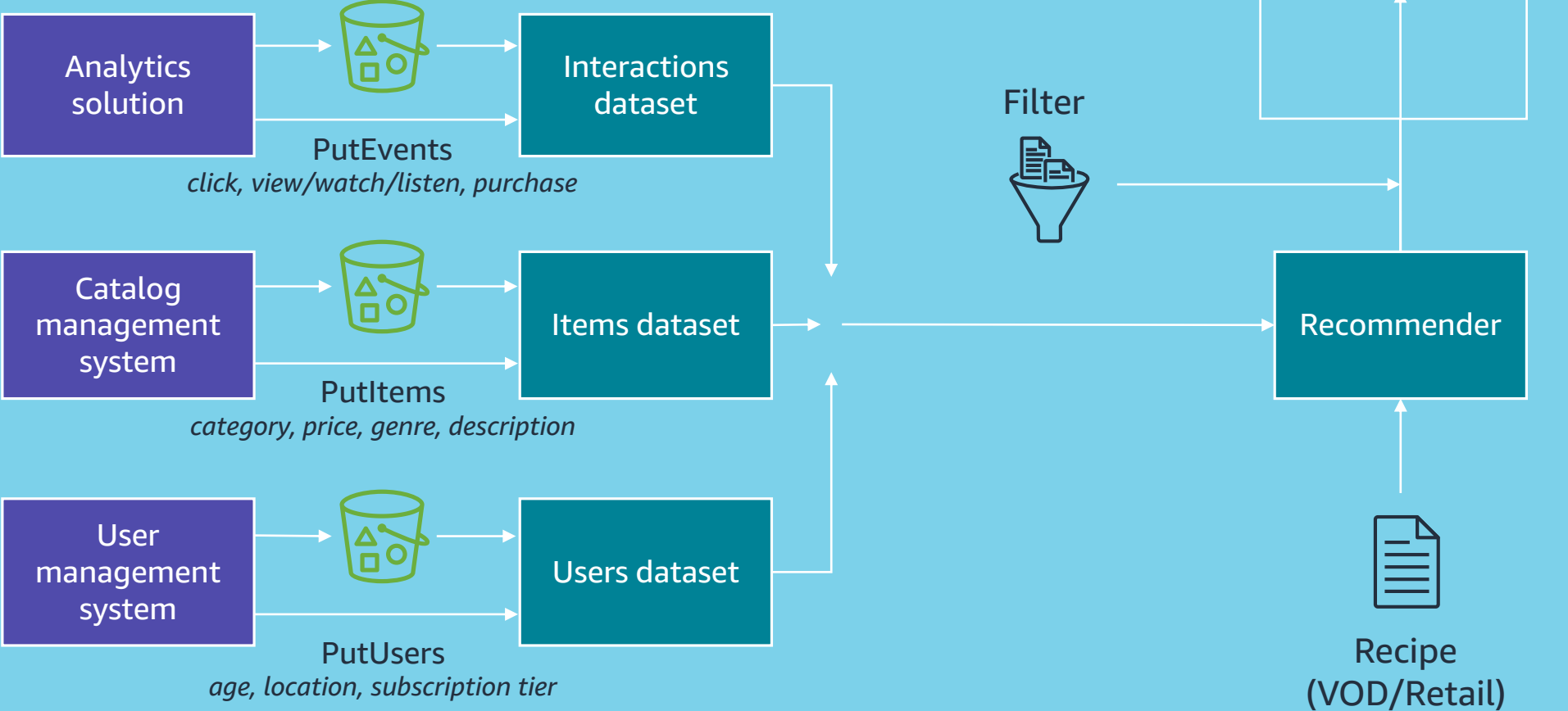
How it works

CUSTOM DATASET GROUP



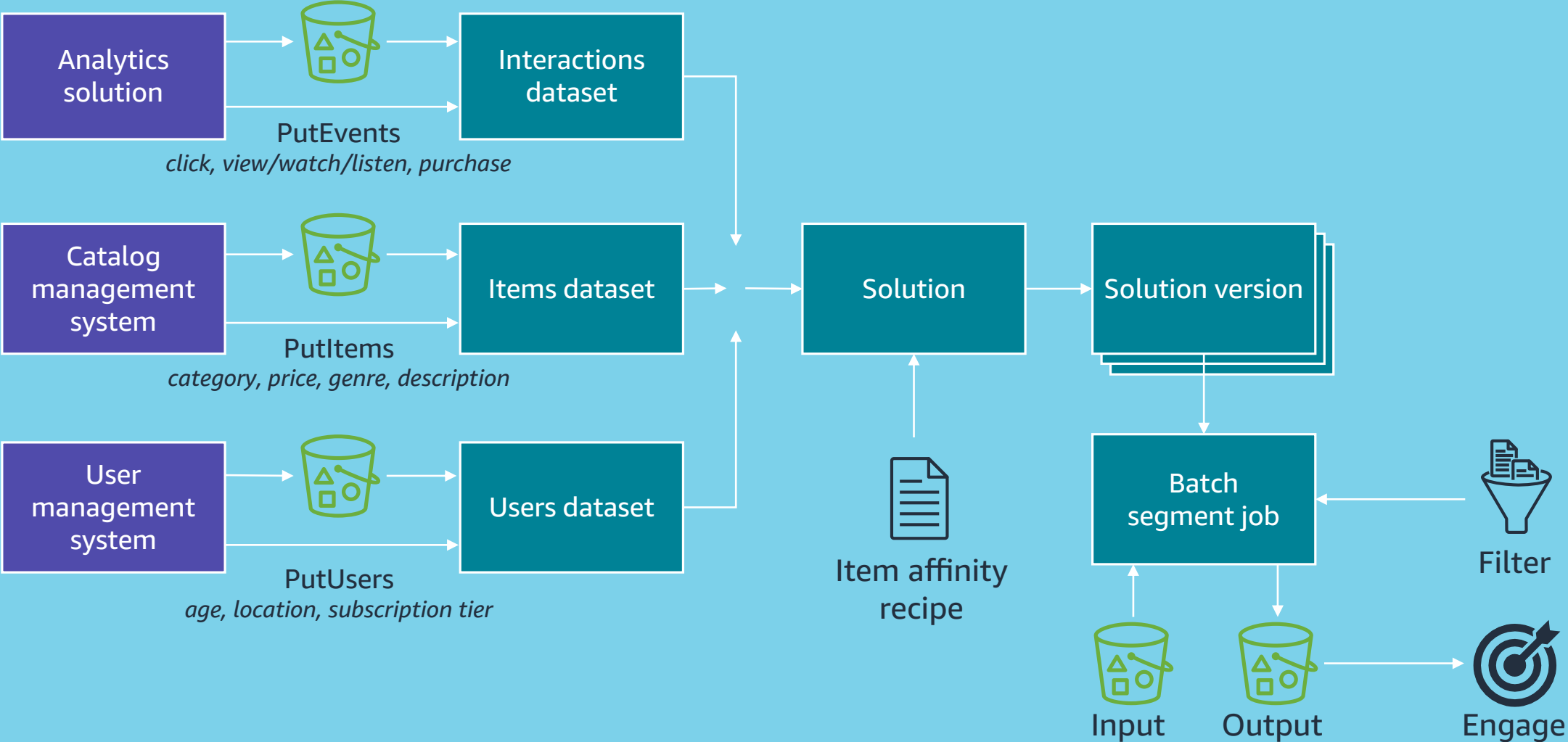
How it works

DOMAIN DATASET GROUP FOR VOD/RETAIL USE CASES



How it works

USER SEGMENTATION



Demo and reference architecture



Enhancing customer experiences with Amazon Personalize

- Build state-of-the-art recommendation systems
- Personalize key customer touchpoints
- Engage customers based on their affinity with your products and content
- No machine learning experience required
- Pay-as-you-go

Resources

- Amazon Personalize product page
 - <https://aws.amazon.com/personalize/>
- Retail Demo Store reference architecture
 - <https://github.com/aws-samples/retail-demo-store>
- Sample code and solutions
 - <https://github.com/aws-samples/amazon-personalize-samples>



Thank you!