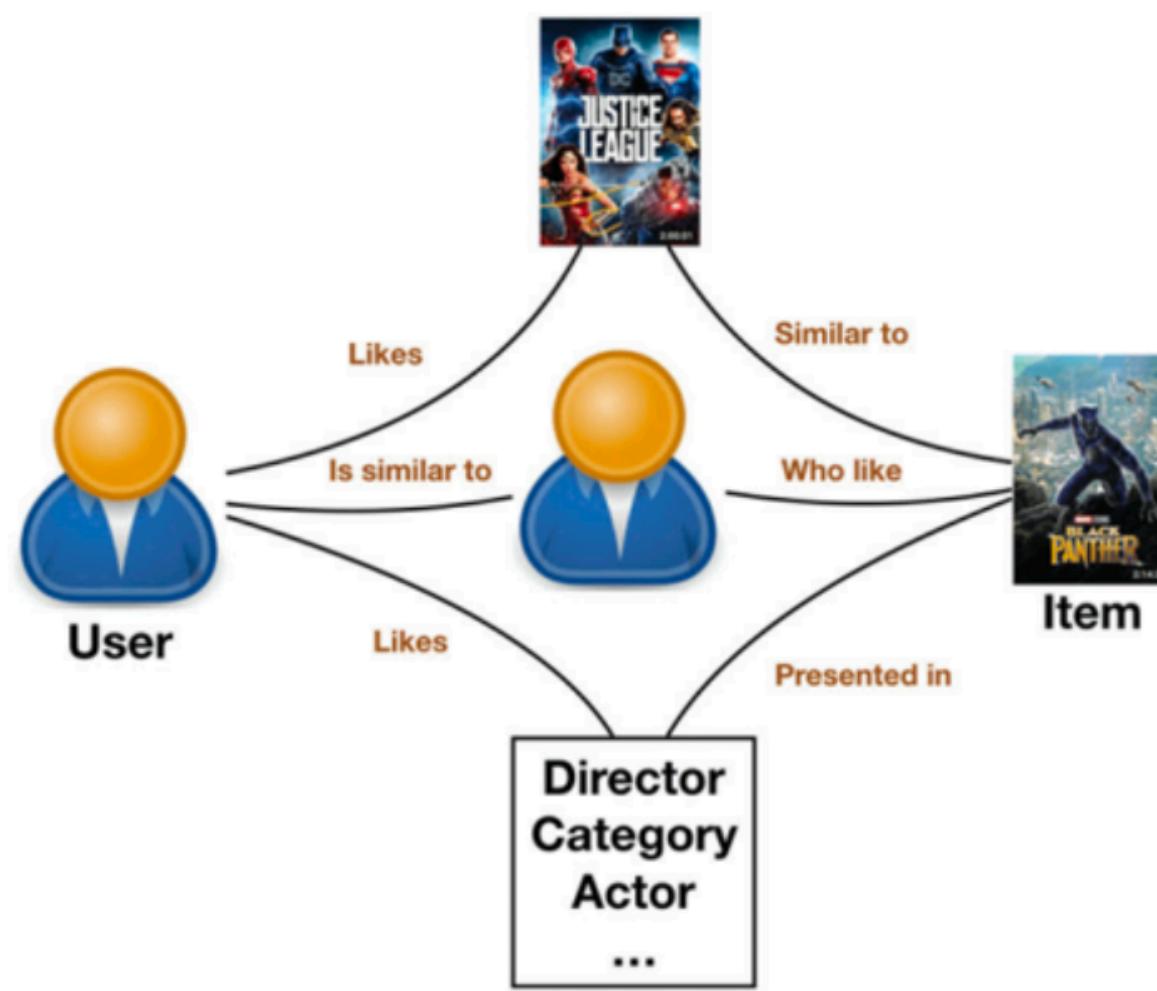
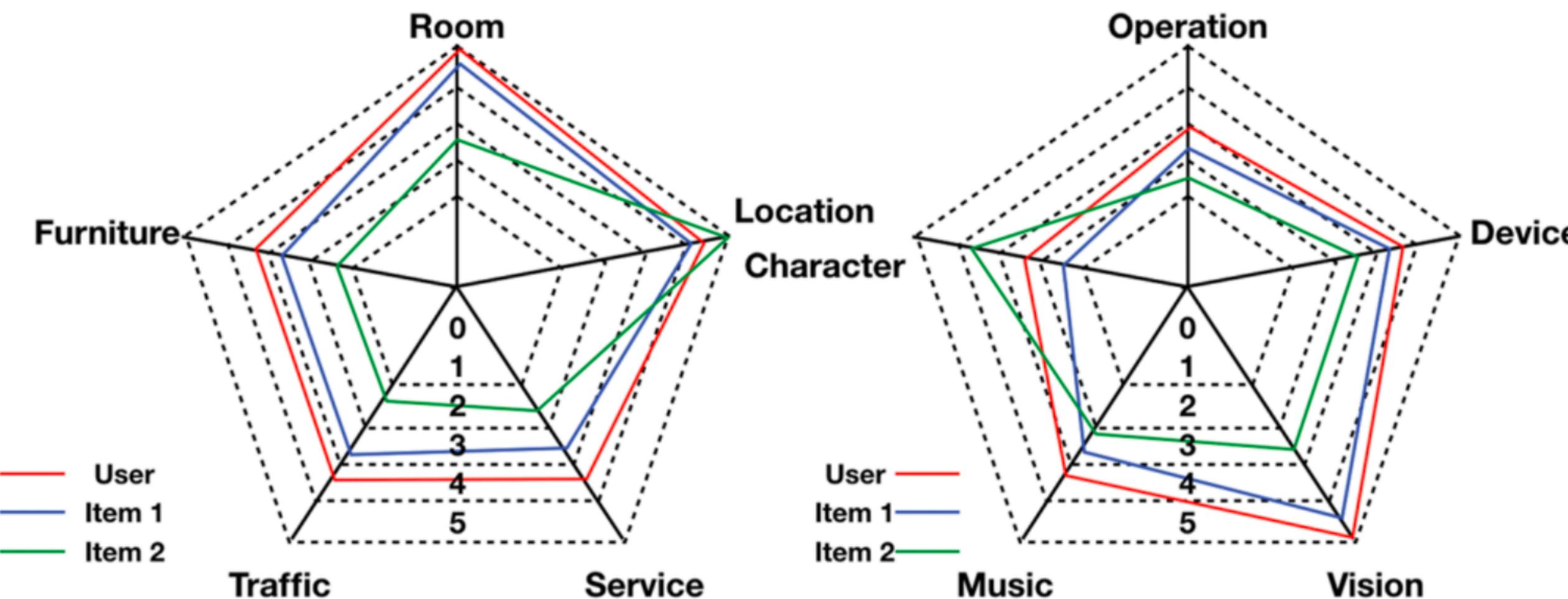
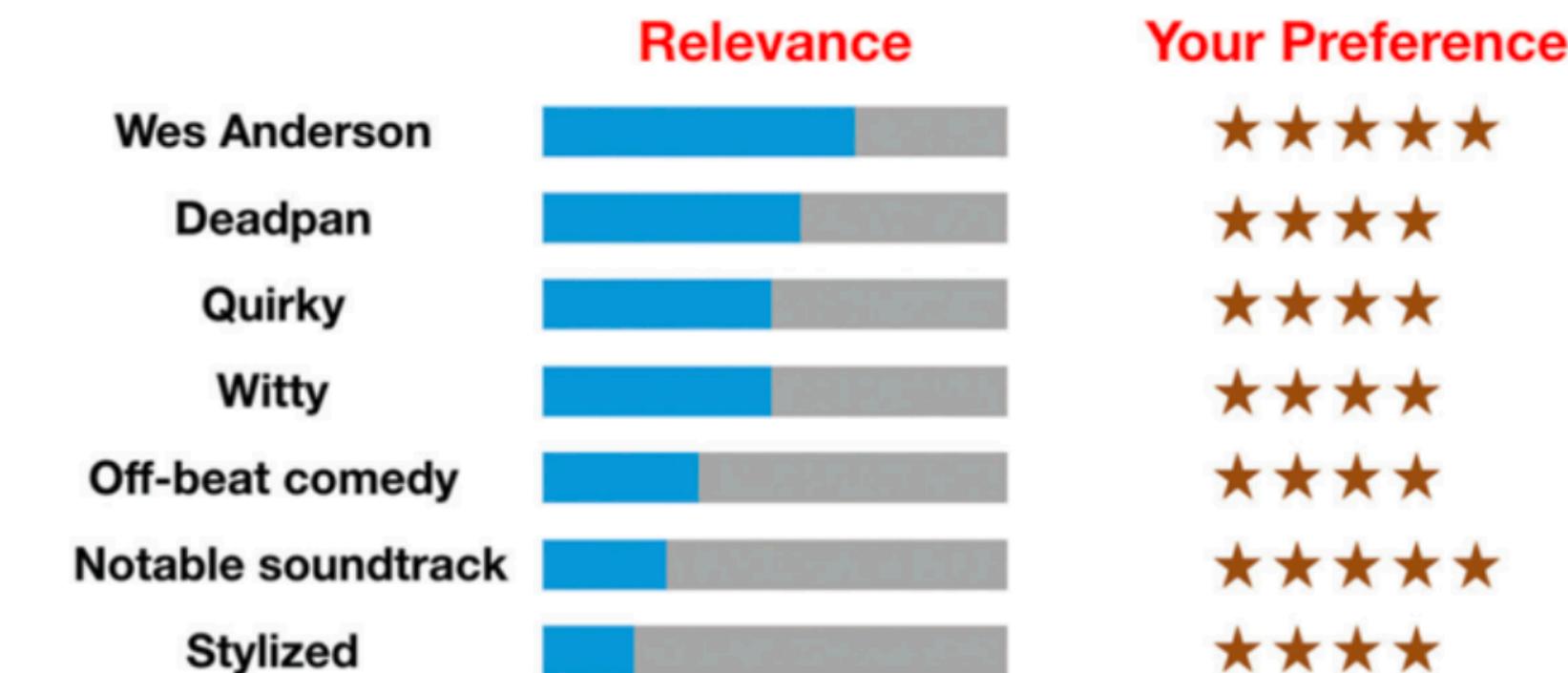


Others

Explainability - feature based



Your recommendation is based on how MovieLens thinks you like the following aspects



Others

Explainability - semantic based

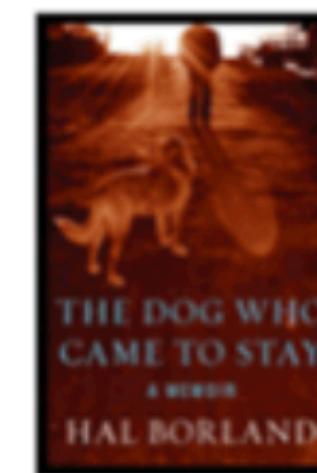
You might be interested in [feature],
on which this product performs well.

You might be interested in [feature],
on which this product performs poorly.

Amazon Books



Recommended



This is well written book with a very good detail of a person that love his dog but didn't restrain his freedom. I think that I relive the joy of my experiences with my dogs, a Labrador and a Siberian Husky. Both were rescued, one from the shelter and the other from the street. After 4 months with me, the owner of the husky appeared and I returned the dog. Two weeks later the dog escaped and returned to my house. He decided who will be his owner. The author described with details the relationship of them, concerns, disappointments and health issues. The final chapter was a surprise that I am still enjoying.

Others

Explainability - visual based

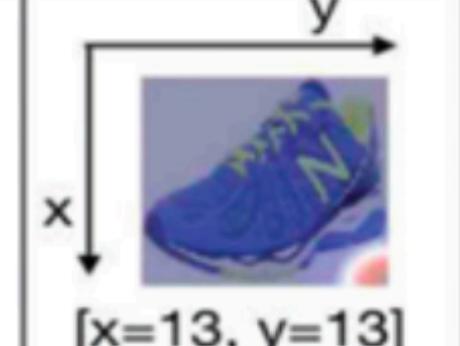
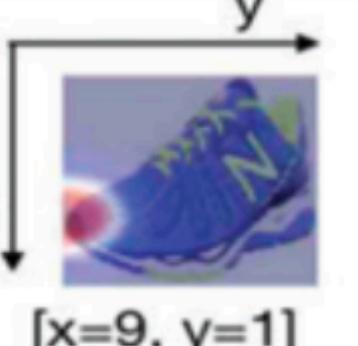
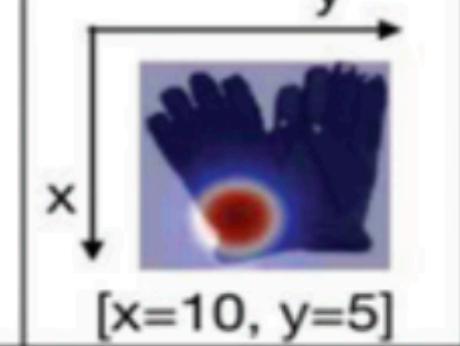
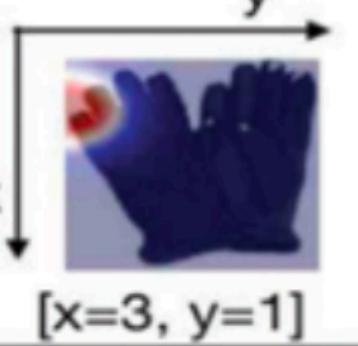


★★★★★ Great material, loose fit around the waist
By Maureen Button on November 2, 2017
Size: Medium/US 8-10 | Color: Black | Verified Purchase
Great material, loose fit around the waist. Nice wide **neck** opening, very **stylish looking**.

★★★★★ I absolutely love this tunic
By Amazon Customer on November 30, 2017
Size: Small/US 4-6 | Color: Wine | Verified Purchase
Nice quality, incredibly soft (especially the blue one) and really nice **pocket** size. Received numerous compliments on this.

A

B

Target Item	Textual Review	Visual Explanation	
		VECF(-rev)	VECF
	I loved about the previous generation and expanded the toe box a little to improve the fit . great buy, highly recommended.	 [x=13, y=13]	 [x=9, y=1]
	They fit my stubby fingered hand pretty well. I bought the large and my hand measured 9.25&34 at the knuckles.	 [x=10, y=5]	 [x=3, y=1]

Bonus

Data Sources/Tasks	Notes	Publications
Sequential Information	w/t User ID	[16, 29, 33, 35, 73, 91, 117, 133, 143, 160, 173, 175, 189, 194, 198, 205]
	Session based w/o User ID	[55–57, 68, 73, 99, 101, 102, 117, 142, 148, 149]
	Check-In, POI	[150, 151, 165, 185]
Text	Hash Tags	[44, 110, 118, 158, 182, 183, 193, 209]
	News	[10, 12, 113, 135, 169, 200]
	Review texts	[11, 87, 126, 146, 174, 197, 202]
	Quotes	[82, 141]
Images	Visual features	[2, 14, 25, 49, 50, 84, 98, 105, 112, 165, 172, 179, 191, 192, 197, 206]
Audio	Music	[95, 153, 167, 168]
Video	Videos	[14, 17, 27, 83]
Networks	Citation Network	[9, 38, 66]
	Social Network	[32, 116, 166]
	Cross Domain	[39, 92, 166]
Others	Cold-start	[154, 156, 170, 171]
	Multitask	[5, 73, 87, 174, 187]
	Explainability	[87, 126]

Break

Recommender Systems In Practice

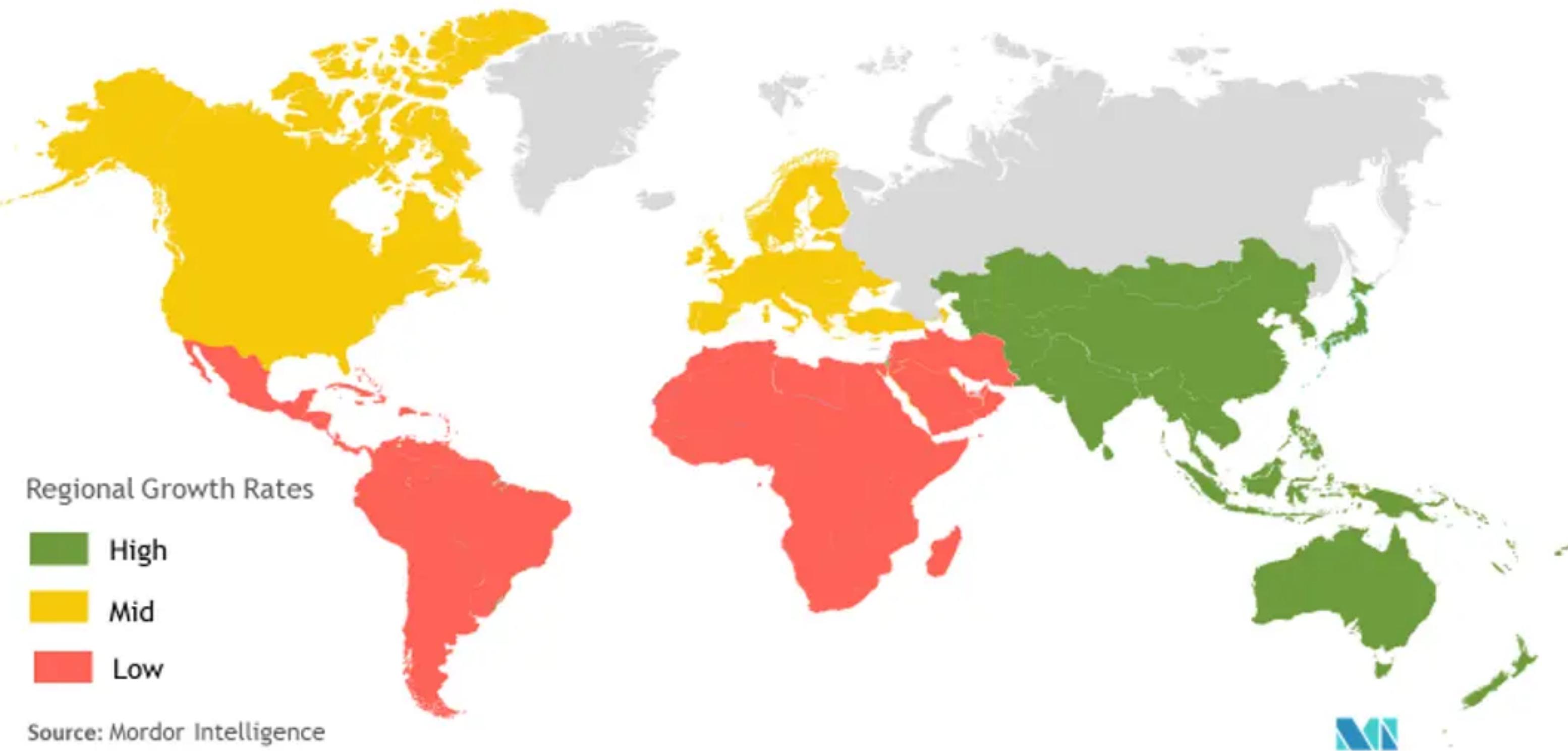
Revisit

- Interaction data (clicks, purchases, etc.) lives at the heart of many recommendation applications (e.g., music, podcast, e-commerce)
- Amazon, Netflix, Spotify, Apple, etc.
- The Recommendation Engine market was valued at USD 2.12 billion in 2020, and it is expected to reach USD 15.13 billion by 2026

Revisit

Deployment Mode	On-Premise Cloud
Types	Collaborative Filtering Content-Based Filtering Hybrid Recommendation Systems Other Types
End-user Industry	IT and Telecommunication BFSI Retail Media and Entertainment Healthcare Other End-user Industries
Geography	North America Europe Asia Pacific Latin America Middle East and Africa

Recommendation Engine Market - Growth Rate by Region (2021 - 2026)

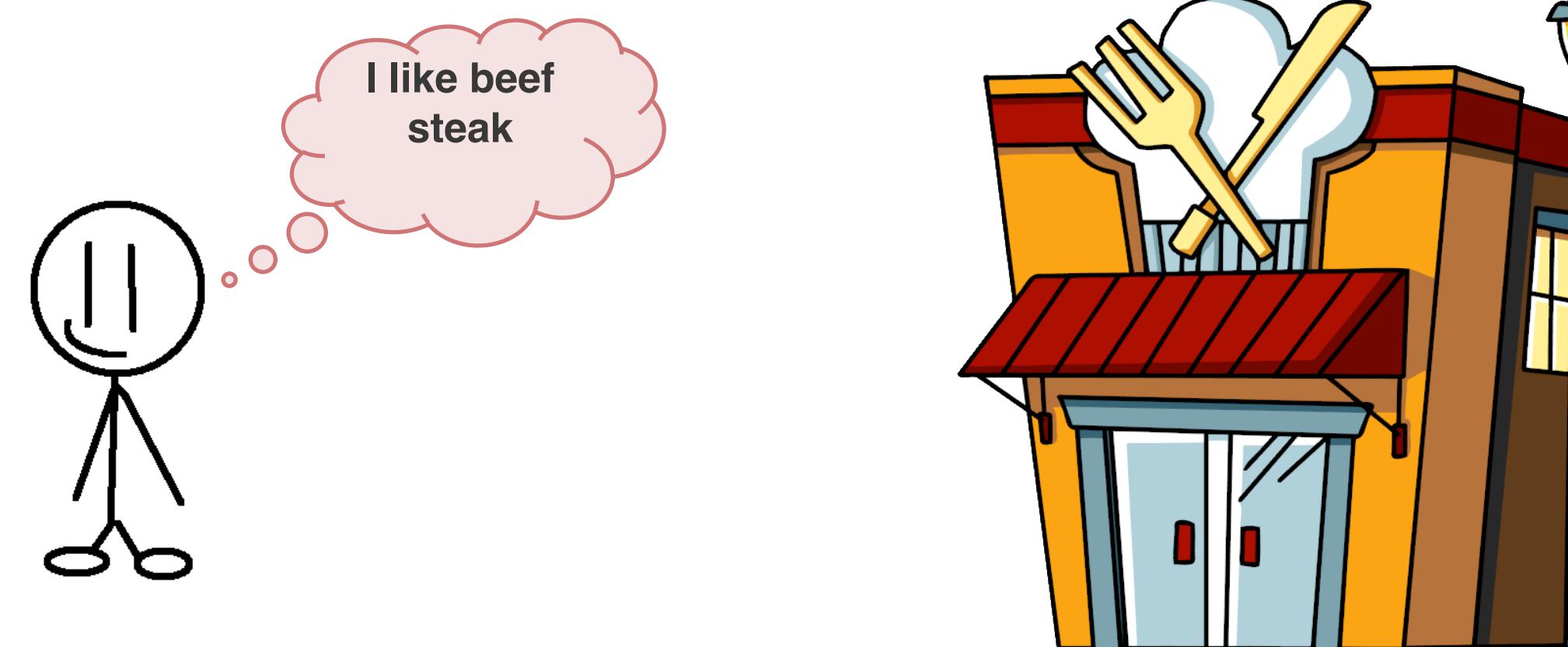


Personalized Recommendation

For each user u , we would like to estimate the rating for any unseen user-item pair, i.e. the rating that user u would give to an item i that he/she has not interacted with previously.

Implicit Feedback Matrix $R \in \mathbb{R}^{N \times M}$

- N users, M items, $r_{u,i} = 1$ if user u has interacted with item i ; 0 otherwise



Personalized Recommendation

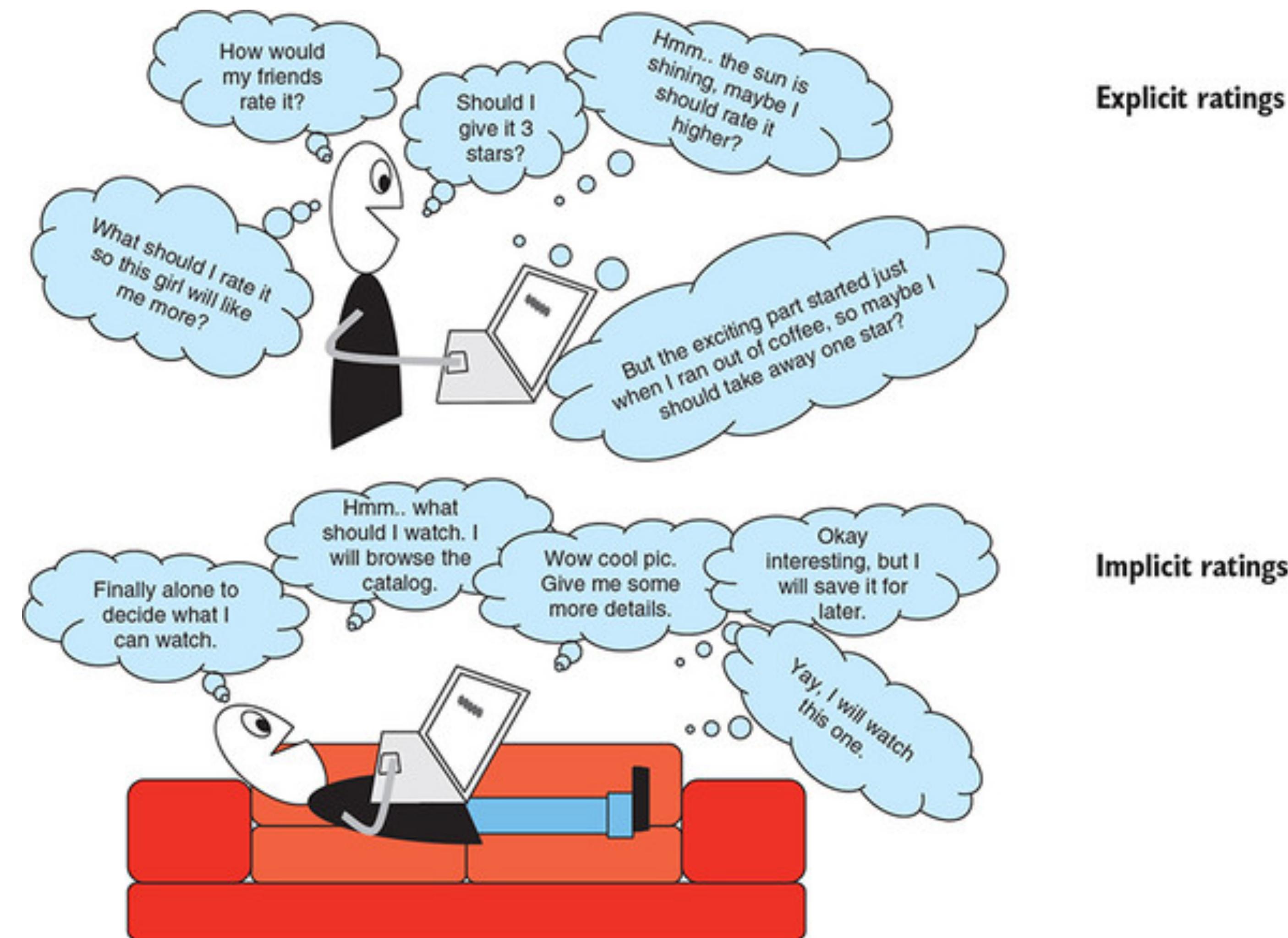
For each user u , we would like to estimate the rating for any unseen user-item pair, i.e. the rating that user u would give to an item i that he/she has not interacted with previously.

Explicit Feedback Matrix $R \in \mathbb{R}^{N \times M}$

- N users, M items, $r_{u,i} = \{1, \dots, 5\}$ if user u has interacted with item i ; 0 otherwise



Implicit or Explicit?



Explicit

- Ratings have all other kinds of issues. User feedback has lots of “noise”. E.g.,
 - People rate as they want to be perceived, not as they act
 - Depend on cultural factors, user’s expertise, user’s effort
 - User rating will depend on how the item is presented, how much is recalled, or... moods (e.g., sunny/rainy day)

 **Good solid film**

By M-M on July 30, 2013

Format: Amazon Video | **Verified Purchase**

It turned out to be entertaining and at the end I enjoyed the film. Good special effects, nice story line for "actions" and "comics". The protagonist (Tony Stark) looks natural: arrogant, brash, but at the same time clever, intelligent and ethic. The villain is a little bit overreacting, and annoying, as most of antagonists :) Overall that's a good movie.