
Extracting a dataset for a swapping recommender system

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Optional semester project

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Outline

1. Introduction
2. Real life dataset
3. Gameswap
4. Building a dataset
5. Conclusion

Introduction

- Trading website
 - BookMooch
 - Gameswap subreddit
- Drawback
 - Find trading partner
- Swapi
 - Provide recommendation of exchange











Real life dataset

- Real life dataset
 - Need real data to test the recommender system

Real life dataset

- Website for Swapi
 - Users can connect, exchange objects and services
- Integrate Swapi in Gameswap
- Extract dataset from online bartering platform

Gameswap

- **3**  submitted 3 hours ago by no_thought_process (self.gameswap)
2 comments [share](#)
- **2**  submitted 2 hours ago by RandyNinja (self.gameswap)
1 comment [share](#)
-   submitted 20 minutes ago by StarOceanRotMG (self.gameswap)
2 comments [share](#)
-   submitted 28 minutes ago by Gizlo (self.gameswap)
1 comment [share](#)
- [USA] [H] Fallout 4, sealed (PS4) | [W] Divinity Original Sin, Offers (PS4)
- [UK] [H] FIFA 16 XB1 digital code [W] Forza Horizon 2 or offers
- [US] [H] Lego Dimensions Fun packs, Amiibos, Steelbooks, Various games, Majora's Mask LE System and Game, Kingdom Hearts 1.5 and 2.5 LE | [W] Splatoon 3-pack, Shovel Knight, Wind Waker HD LE, PsP 2000+, PSVita, RPGs, Lists/Offers
- [USA] [H] Call of Duty: Black Ops III, Witcher 3 (PS4 Digital Downloads) | [W] MGS V: TPP, FFXIV, NHL 16 (PS4), Splatoon, Xenoblade Chronicles X (Wii U)

Gameswap post



1

[CAN/will ship to US] [H]Story of Seasons (3DS) | [W] List Inside (3DS, DS, Wii, GCN), offers (self.gameswap)

submitted 18 hours ago by Yetea

Hi! I'm looking to swap my **Story of Seasons CIB mint condition** for **one** of the following (needs to be CIB and in great or mint condition):

- One Piece Unlimited World Red (3DS)
- Chrono Trigger (DS)
- Ace Attorney Investigations: Miles Edgeworth (DS)
- Rune Factory Frontier (Wii)
- Trauma Team (Wii)
- Harvest Moon: Another Wonderful Life (GCN)

Feel free to make other offers as well, I might have forgot some games I'd be willing to trade for. I have all the Sony consoles/handheld except Vita and all the Nintendo ones starting from the SNES, so it can be a game from any of those.

I only created a reddit account when I found this subreddit but I traded on 99gamers for a long time before the site went dormant (at least on the Canadian side) I have written proof of my reliability if needed.

Thanks for reading! c:

Introduction ⇒ Real life dataset ⇒ **Gameswap** ⇒ Build dataset ⇒ Conclusion

Gameswap negotiation

 Mario Tennis Open for anything on my list?

https://www.reddit.com/r/gameswap/comments/40ydl0/usact_h_pokémon_3ds_wii_n64_360_and_more_w_see/


permalink save report give gold reply

[~] [Supermike1300](#) [S] 1 point 18 hours ago

 Looking at Triforce Heroes but apart from that, nothing really

permalink save parent report give gold reply

[~] [NeonTrotsky](#) 1 point 17 hours ago

 See anything else? I'd be interested in Mario Kart 7 and Mario Tennis Open...though not sure if that matches up with a new Tri Force Heroes...

permalink save parent report give gold reply

[~] [Supermike1300](#) [S] 1 point 17 hours ago

 Sorry, i didn't really see much else that I'd want

permalink save parent report give gold reply

[~] [NeonTrotsky](#) 1 point 17 hours ago

 Your Mario Kart 7 & Mario Tennis Open for my Tri Force Heroes?

permalink save parent report give gold reply

[~]  [ariest89](#) [👍] 1 point 18 hours ago

Introduction ⇒ Real life dataset ⇒ **Gameswap** ⇒ Build dataset ⇒ Conclusion

Gameswap confirmation



Successful trade with [/u/nat_danger](#)

I traded my GBA SP AGS-101 for his copy of TMNT IV: Turtles in Time.

Link: https://www.reddit.com/r/gameswap/comments/3o92ab/usa_h_gameboy_advance_amiibo_w_snes_games/cvvcrsq

[permalink](#) [save](#) [report](#) [give gold](#) [reply](#)

[\[-\]](#) [nat_danger](#) 1 point 3 months ago



Successful indeed! 10/10 would trade again.

[permalink](#) [save](#) [parent](#) [report](#) [give gold](#) [reply](#)

[\[-\]](#) [rojocapo610](#) 2 points 3 months ago

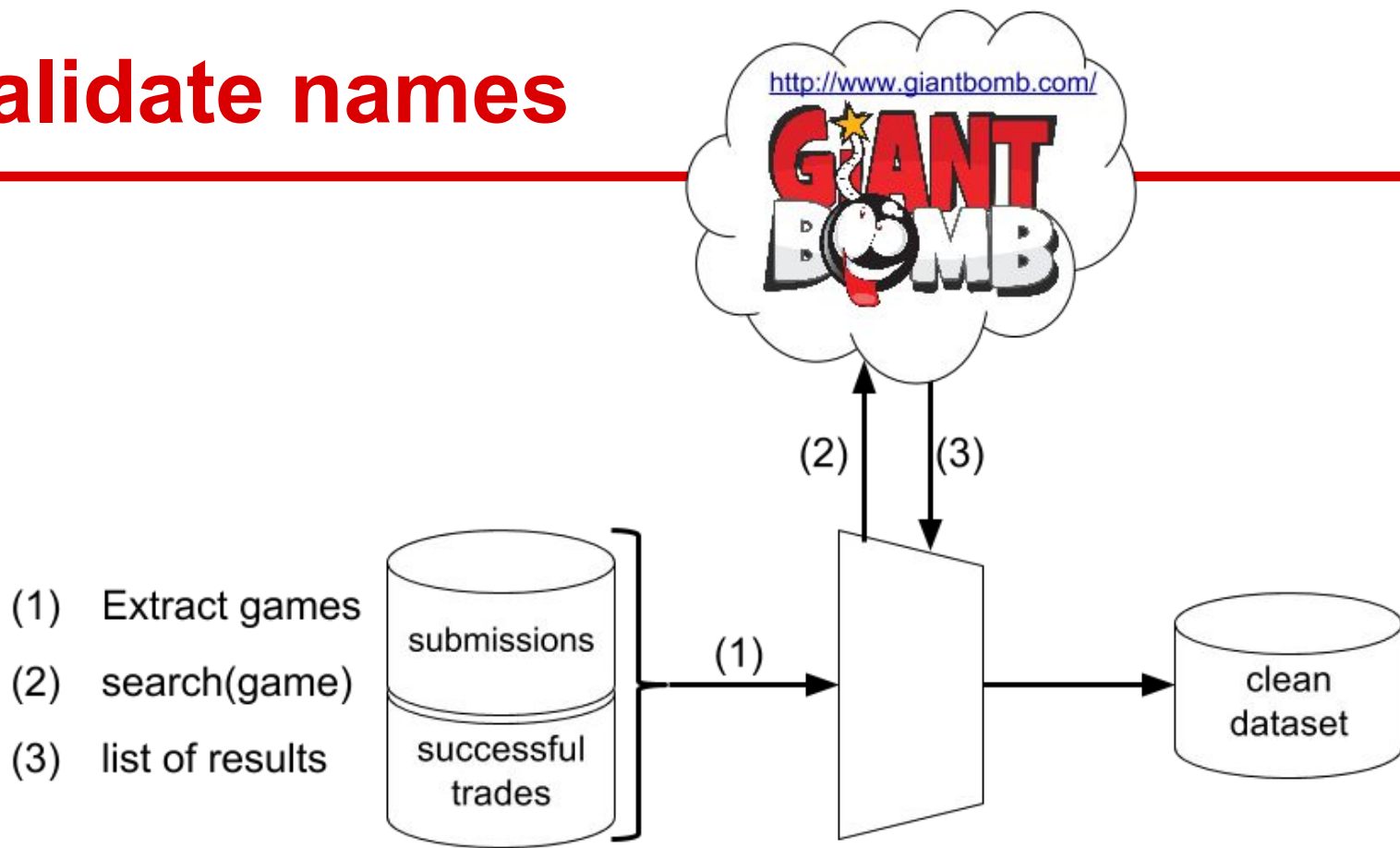
Building a dataset

- Build dataset from Gameswap
 - For each user
 - Item list
 - Wish list
 - Success trade

Extract game names

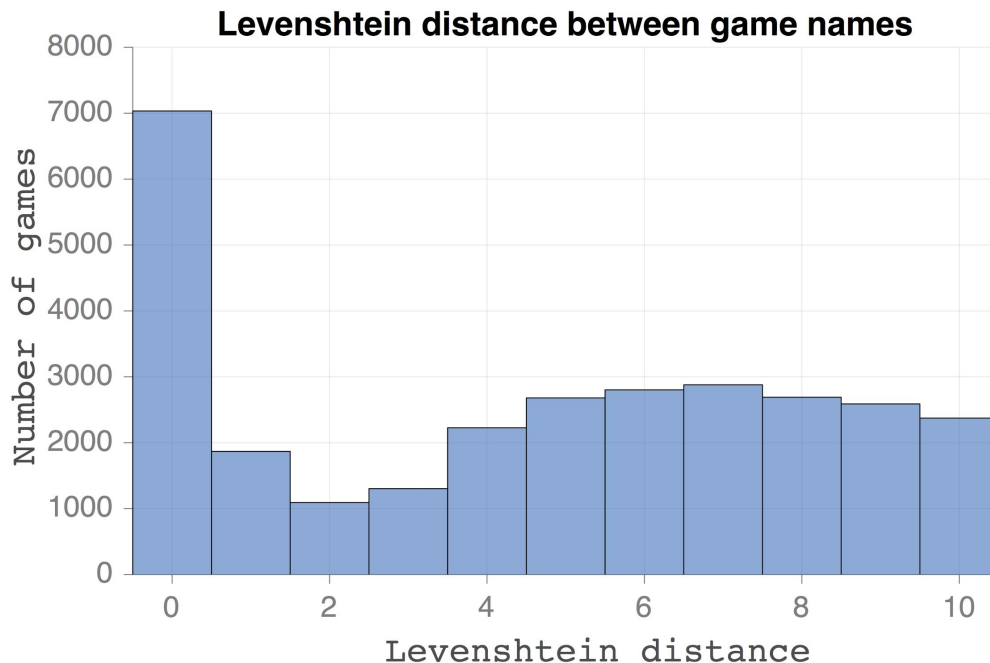
- Extract names from posts
 - Title ([Country][H] Games(Systems) || [W] Games(Systems))
 - Body
- e.g.
 - [USA][H] **Star Wars Battlefront** (Ps4) || [W] **Just Cause 3** (Ps4)
 - [USA][H] **See List** || [W] **Any offers for PS4**

Validate names



Comparison

- Levenshtein distance
 - Threshold = 1



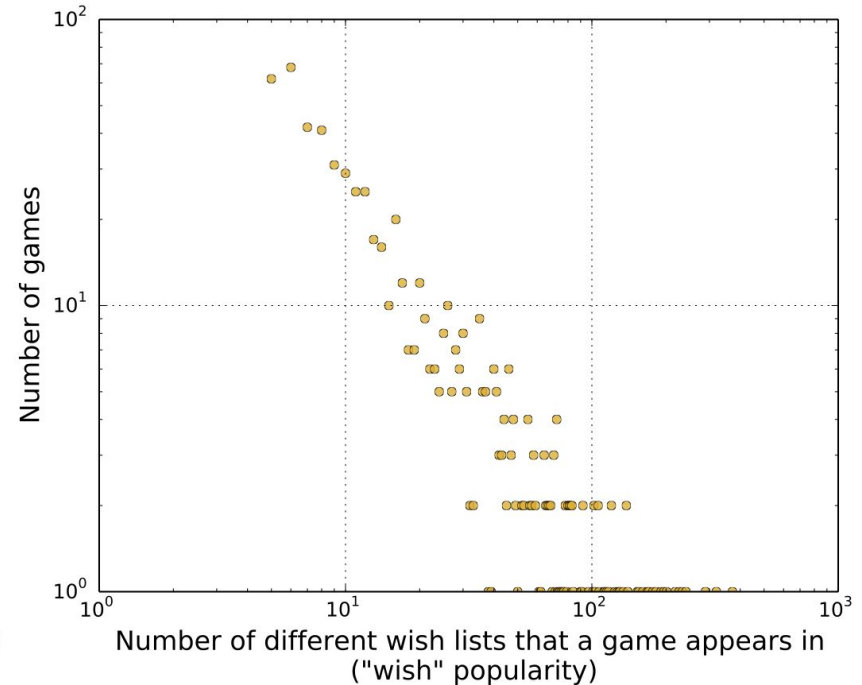
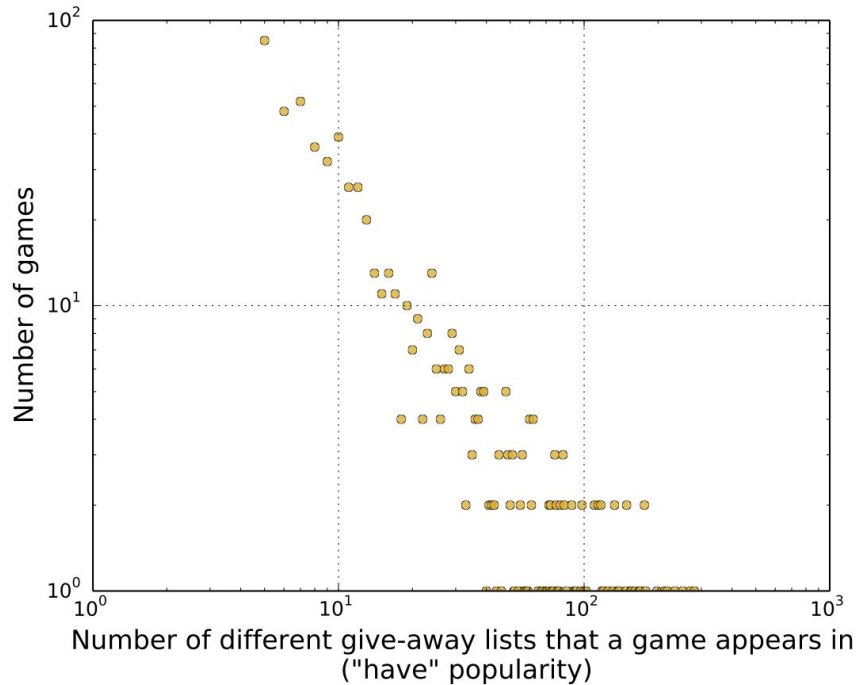
Rules

	# games in wish list	# games in give-away list
0 - No rules (only Levenshtein \leq threshold)	18'676	17'069
1 - Remove punctuation	19'032 (+1.9%)	17'479 (+2.4%)
2 - Remove keywords	20'244 (+6.3%)	18'363 (+5.1%)
3 - Replace acronyms	20'954 (+3.5%)	19'245 (+4.8%)
4 - Replace numbers by roman numerals	21'946 (+4.7%)	20'338 (+5.7%)

Implicit feedback

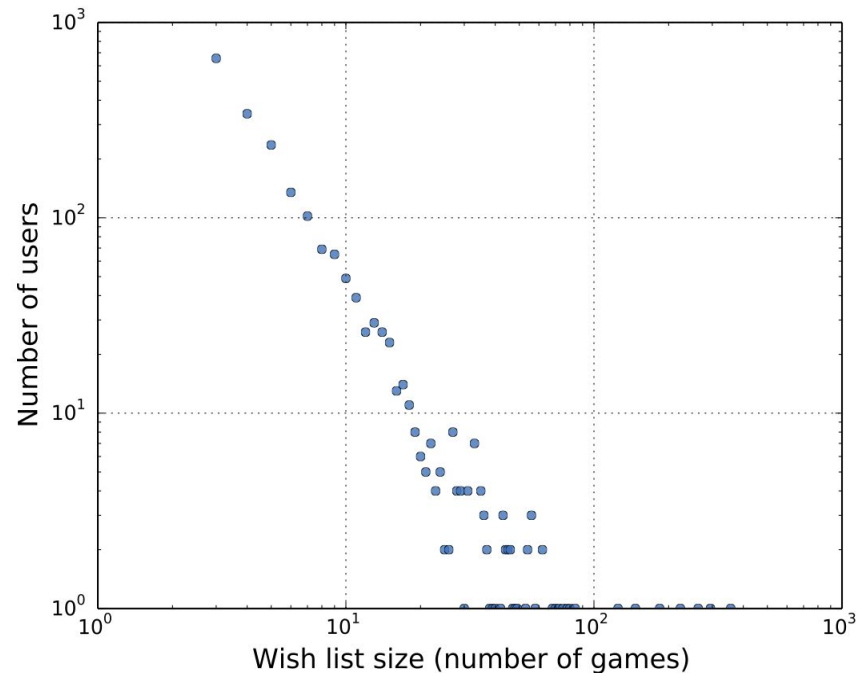
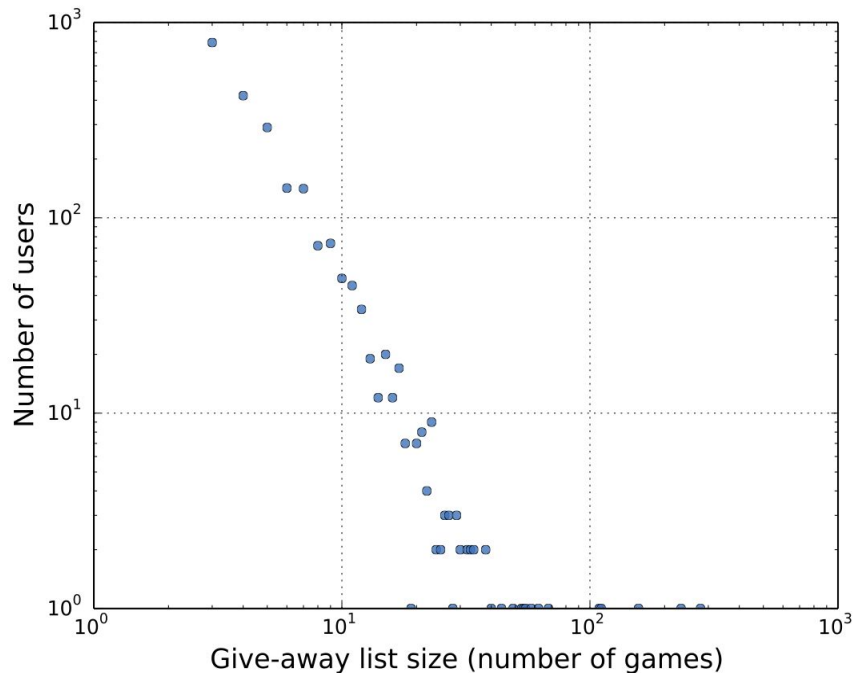
- Increase wish list size
 - Assume comment implies interest

Bartering data



Introduction \Rightarrow Real life dataset \Rightarrow Gameswap \Rightarrow **Build dataset** \Rightarrow Conclusion

Bartering data



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Success trades

	# trades	Total percentage
0 - No filters	6634	100%
1 - Discard money transfer	4428	66.74%
2 - Discard unconfirmed trades	3495	52.68%
3 - Manually confirmed	1794	27.04%

Conclusion

- Clean dataset
- Improvements
 - Bigger dataset
 - Improving current method
 - Crowdsourcing