| **Aspect** | **Your List-Based CF** | **OTA Systems** |
| --- | --- | --- |
| Similarity Matching | Based on overlapping places or activities | Uses cosine or Pearson similarity on user ratings and histories |
| Neighbor-Based Recommendations | Recommends itineraries from the most similar user | Similar idea, but applied at scale with millions of users and interactions |
| Use of Side Information | Binary profile features only | Incorporates reviews, contextual info, embeddings, device types, time of access, etc. |
| Scale & Complexity | Simple list comparison | Operates on large datasets using matrix factorization, deep learning, and hybrid models |
| Algorithm Type | Memory-based collaborative filtering | Hybrid: combines memory-based, content-based, and model-based filtering |
| Data Sparsity Handling | No specific handling | Tackles sparsity using latent factor models (SVD, matrix factorization) and side-data injection |

**TripAdvisor**

**Weblink:** [**https://www.tripadvisor.com**](https://www.tripadvisor.com)

* Features a “**Similar Experiences**” section recommending attractions based on other users with overlapping interests. This mirrors **user-based collaborative filtering**, suggesting items liked by similar users.
* **Similarity to our algorithm**: Uses other users’ preferences to suggest matching items, just like matching places/activities in lists.
* **Difference**: Probably uses advanced metrics and large-scale data (reviews, location, ratings), not simple list comparisons.
* **Evidence**: Multiple industry sources describe TripAdvisor using collaborative filtering to recommend relevant experiences

**Expedia:**

**Weblink:** [**https://www.expediagroup.com**](https://www.expediagroup.com)

* Utilizes a **hybrid recommender**: combines collaborative filtering with content‑based/contextual signals (e.g., channel, search context) and also employs **deep-learning ranking models** on top [IRJMETS+1arXiv+1](https://www.irjmets.com/uploadedfiles/paper/issue_10_october_2024/61949/final/fin_irjmets1727961425.pdf?utm_source=chatgpt.com).
* **Similarity to our algorithm**: Uses collaborative patterns from users; simple similarities drive recommendations.
* **Difference**: Incorporates search context, price diversity, deep models—far more complex than list overlaps.
* **Evidence**: Expedia acknowledges using collaborative filtering and experimenting with item/user similarity and ranking with neural networks

**Ctrip (China)**

* Research from Ctrip (published in a hybrid CF model paper) shows they **use collaborative filtering and matrix factorization**, then enhance with side information [cdn.aaai.org](https://cdn.aaai.org/ojs/10747/10747-13-14275-1-2-20201228.pdf?utm_source=chatgpt.com).
* **Similarity**: Leverages user–item similarity to recommend, akin to matching user profiles.
* **Difference**: Uses matrix factorization and deep learning—more mathematically advanced than list overlaps.
* **Evidence**: Research attributed to Ctrip confirms their use of CF with side-data and deep‐learning enhancements.

Can Colaborative Filtering (CF) Technique be used excluding other recent techniques?

**MovieLens and Slope One** illustrate that pure CF can be implemented and works for smaller-scale recommendation tasks.

**MovieLens** is a fully user-based collaborative filtering system built by GroupLens at the University of Minnesota. It recommends movies purely based on users' ratings and similarity to other users.

* **What it uses**: Fully user-item ratings matrix, with methods like user-based CF, item-based CF, and uses similarity metrics like cosine or Pearson correlation. Also incorporates SVD later for performance. [arxiv.org+15en.wikipedia.org+15girlincomputerscience.blogspot.com+15](https://en.wikipedia.org/wiki/MovieLens?utm_source=chatgpt.com)
* **Relevance**: Closely aligns with our list-based CF approach in intent—the system leverages overlapping preferences to recommend—but MovieLens uses numerical ratings rather than simple string lists.