

# RECOMMENDER SYSTEMS

PRESENTED BY  
A..EESHATWAYI

# **RECOMMENDER SYSTEMS**

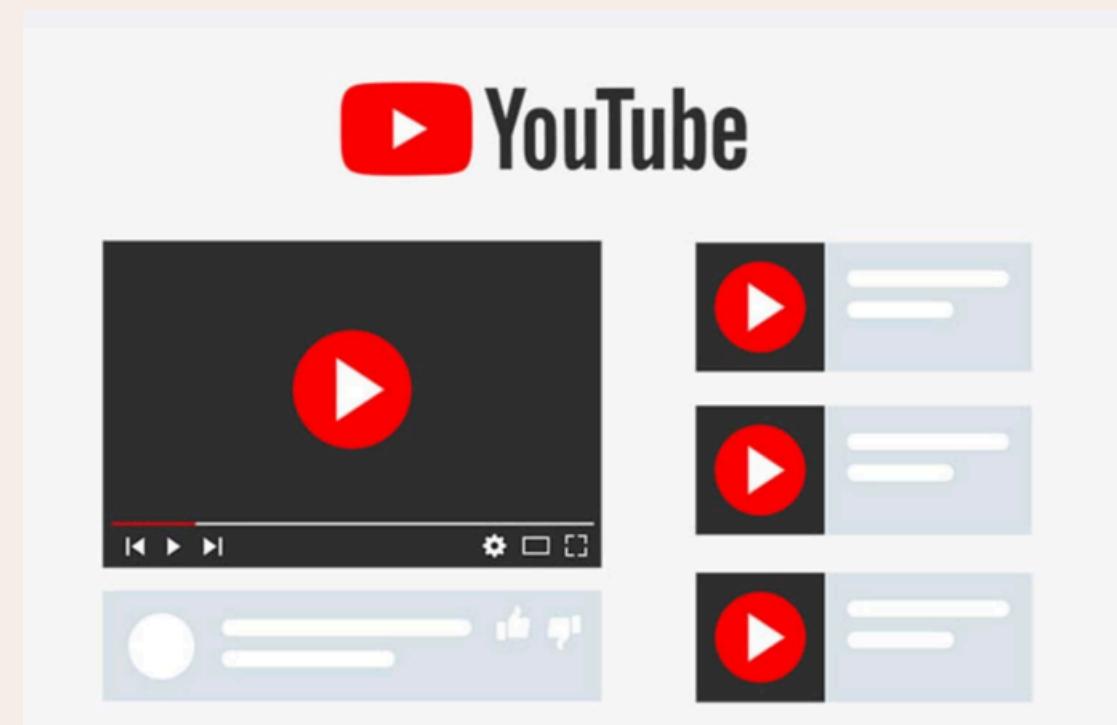
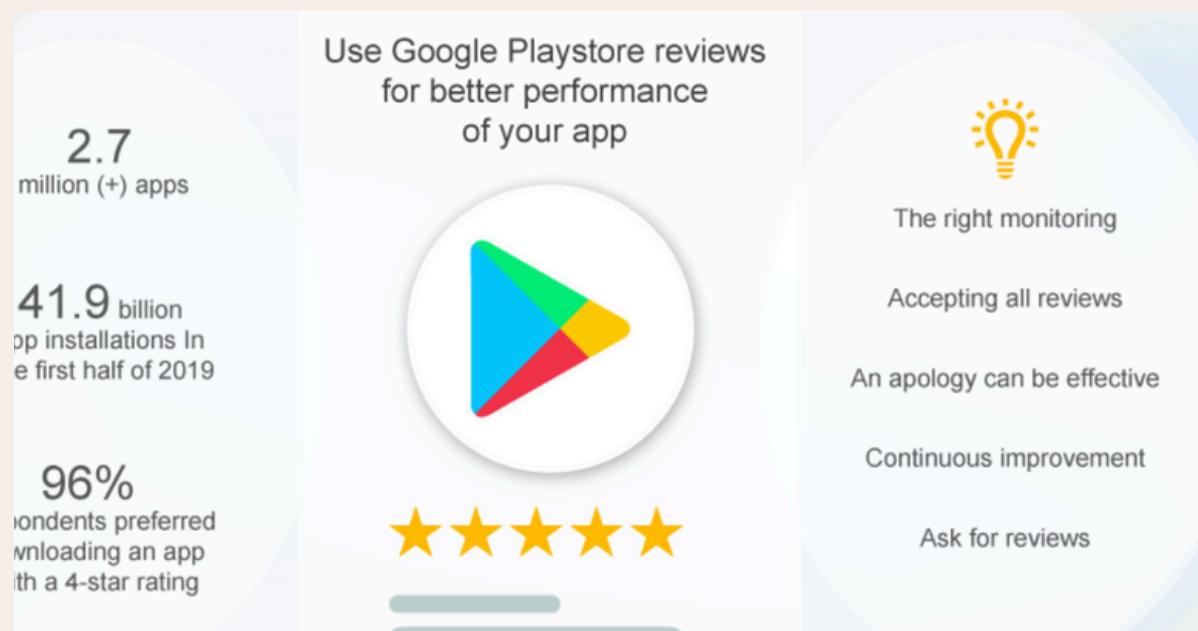
A RECOMMENDATION SYSTEM or usually known as RECOMMENDERS leverage data on past user behaviors to make future recommendations.

It is a subclass of INFORMATION FILTERING system that seeks to predict the rating or preference or priority a user would give to an item.

# Examples Of Recommendation Systems:

- Online e-commerce model such as Amazon recommends products based on our browsing and purchase history.
- Music streaming services like Spotify, propose songs and artists based on our listening history and liked,saved preferences.
- Podcast streaming providers such as Netflix recommend movies and TV series based on our watch history.

# EXAMPLES OF RECOMMENDER SYSTEMS



RECOMMENDERS ACCOUNT FOR:  
40% OF APP INSTALLS ON GOOGLE PLAY  
35% OF PURCHASES ON AMAZON  
60% OF WATCH TIME ON YOUTUBE

# TYPES OF RECOMMENDER SYSTEMS

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## 01 COLLABORATIVE FILTERING

## 02 CONTENT BASED FILTERING

**COLLABORATIVE FILTERING RECOMMENDS ITEMS BASED ON THE PREFERENCES OF SIMILAR USERS. IT FINDS USERS WHO HAVE SIMILAR TASTES AND SUGGESTS ITEMS THAT THOSE USERS HAVE LIKED**

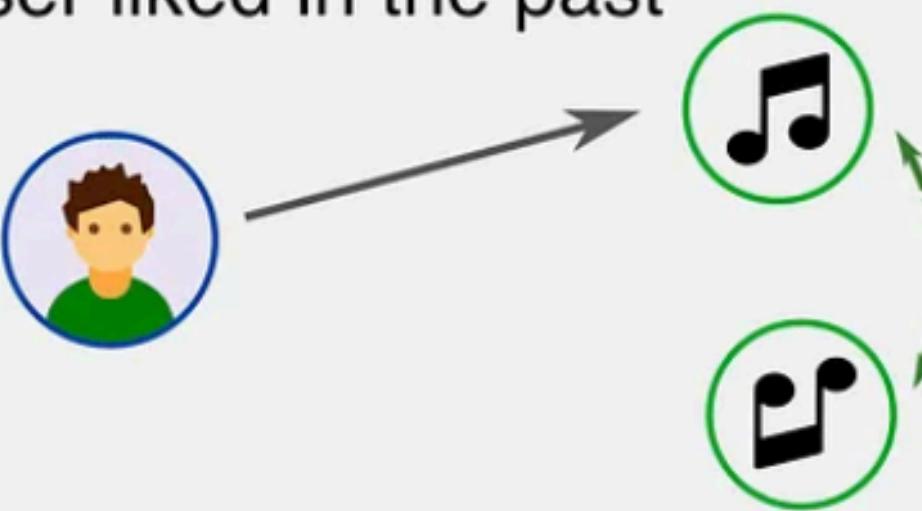
**EG: BOOK RECOMMENDATION BASED ON RATING AND REVIEWS OF OTHER READERS**

**CONTENT-BASED FILTERING RECOMMENDS ITEMS TO A USER BASED ON THE ATTRIBUTES OF ITEMS THEY HAVE LIKED IN THE PAST.**

**EG: MOVIE RECOMMENDATIONS BASED ON GENRE AND ACTORS**

## Content-Based

- Use items metadata / tags
- Suggest items similar to what user liked in the past



### Recommended



MORE LIKE  
**Billie Eilish**



**American Teen**  
Khalid



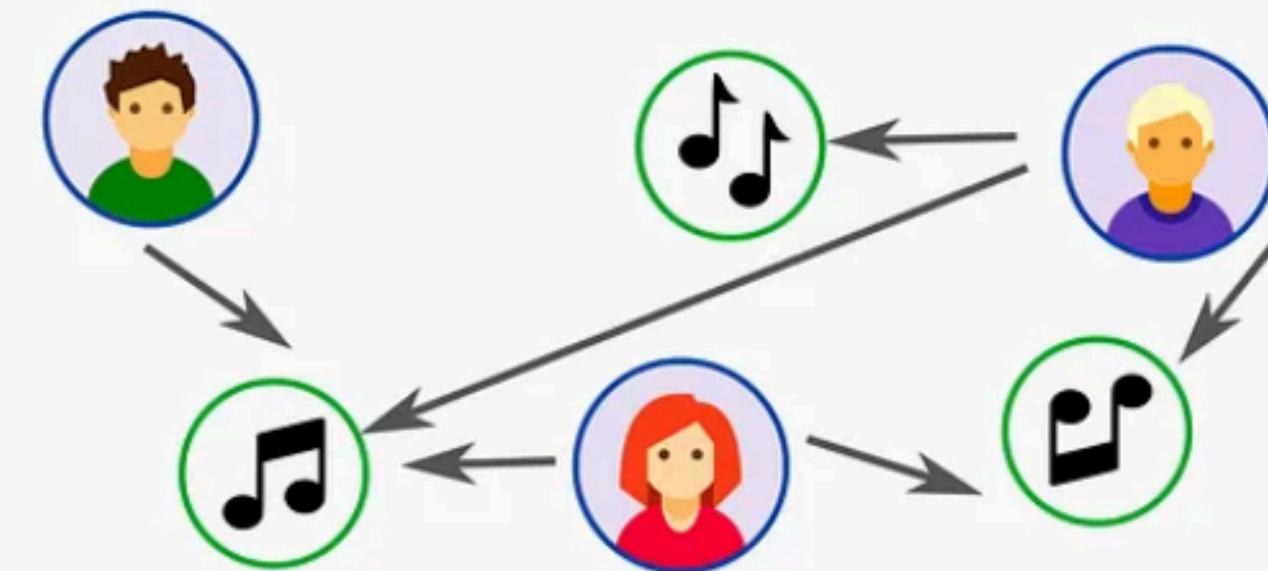
**Reflection**  
Fifth Harmony



**Lo Vas A Olvidar**  
Rosalía

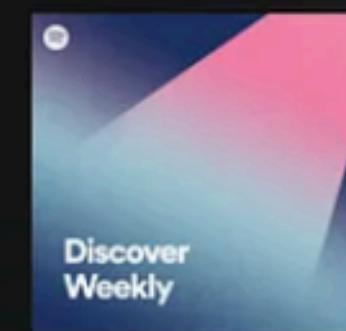
## Collaborative Filtering

- Use all feedbacks from all users
- Similar users like similar items



### Recommended

#### Made For You



**Discover Weekly**  
Enjoy new discoveries  
chosen just for you!



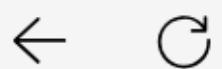
**Your Daily Drive**  
Fans like you also  
like these songs!

# CASE STUDY

## MSN(MICROSOFT NETWORK) RECOMMENDER SYSTEM

M

MSN HOMEPAGE IS THE DEFAULT PAGE FOR MSN (MICROSOFT NETWORK) ON THE WEB AND PROVIDES A PERSONALIZED FEED WITH EASY ACCESS TO A WIDE RANGE OF TOPICS, ALLOWING THEM TO BROWSE, READ, AND WATCH CONTENT ALL IN ONE PLACE. IT INCLUDES VARIOUS SECTIONS LIKE NEWS, SPORTS, MONEY, WEATHER, GAMING, AND MORE. IT IS DESIGNED TO OFFER USERS A CUSTOMIZABLE EXPERIENCE WITH TRENDING AND RELEVANT INFORMATION.



https://www.msn.com/en-in/feed?ocid=msedgntp&pc=HCTS



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## Microsoft adds new AI tool in Notepad to rewrite and refine your text with ease

9 likes

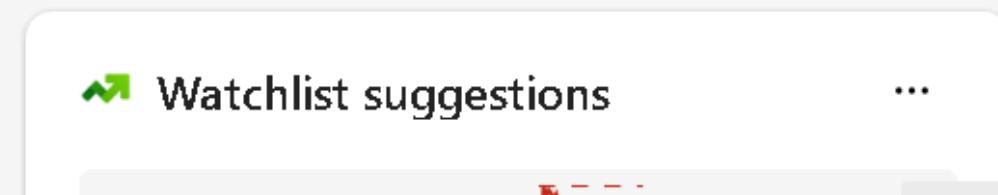
Tenali 28 °C

Tomorrow's high temperature may be > near the record for 11...

Hourly Daily

Today	Mon	Tue	Wed	Thu
33°	33°	32°	32°	31°
24°	26°	25°	25°	25°

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# How MSN Recommender System Works

## A. CONTENT-BASED FILTERING

**ARTICLES BASED ON THE SPECIFIC INTERESTS OF EACH USER. IF A USER FREQUENTLY READS TECHNOLOGY OR SPORTS NEWS, MSN WILL PRIORITIZE SIMILAR ARTICLES ON THE HOMEPAGE.**

### HOW IT WORKS:

**THE SYSTEM ANALYZES THE TEXT WITHIN THE ARTICLES A USER ENGAGES WITH, IDENTIFYING KEYWORDS, TOPICS, AND CATEGORIES (E.G., “TECHNOLOGY,” “FINANCE”). BASED ON THIS ANALYSIS, IT FINDS SIMILAR ARTICLES AND RECOMMENDS THEM.**

### EXAMPLE:

**IF A USER READS A LOT ABOUT MOVIES AND ENTERTAINMENT, THE SYSTEM WILL SHOW MORE MOVIE-RELATED CONTENT ON THE HOMEPAGE.**

## B. COLLABORATIVE FILTERING

COLLABORATIVE FILTERING RECOMMENDS ARTICLES BASED ON THE BEHAVIOR OF SIMILAR USERS. IT LOOKS AT WHAT OTHER USERS WITH SIMILAR READING PATTERNS ARE VIEWING.

### HOW IT WORKS:

COLLABORATIVE FILTERING TYPICALLY USES TWO METHODS:

**USER-USER COLLABORATIVE FILTERING:** RECOMMENDS CONTENT BASED ON WHAT USERS WITH SIMILAR INTERESTS READ.

**ITEM-ITEM COLLABORATIVE FILTERING:** RECOMMENDS ARTICLES THAT ARE OFTEN READ TOGETHER BY MANY USERS.

### EXAMPLE:

IF A USER WITH SIMILAR HABITS READS ABOUT THE LATEST ECONOMIC NEWS, MSN MIGHT SUGGEST THIS ARTICLE TO YOU AS WELL, EVEN IF YOU HAVEN'T SHOWN AN INTEREST IN IT DIRECTLY.

# EXAMPLE SCENARIO:

LET'S SAY A USER READS SEVERAL ARTICLES ABOUT MOVIES  
AND INTERNATIONAL NEWS ON MSN:

**CONTENT-BASED FILTERING:**  
MSN MIGHT RECOMMEND MORE MOVIE ARTICLES ABOUT NEW  
MOVIES, UPCOMING EVENTS AND RELEASES, AND ACTORS.

**COLLABORATIVE FILTERING:**  
THE SYSTEM ALSO RECOMMENDS GLOBAL NEWS THAT SIMILAR  
USERS HAVE READ, LIKE POLITICAL UPDATES OR ECONOMIC  
INSIGHTS.

# ADVANTAGES

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graph TD; A[ADVANTAGES] --- B[PERSONALIZED USER EXPERIENCE]; A --- C[BROADER EXPOSURE]; A --- D[DISCOVERABILITY OF NEW CONTENT OR PRODUCTS]; A --- E[REAL-TIME UPDATES]; A --- F[BOOSTS SALES AND REVENUE]
```

**PERSONALIZED  
USER EXPERIENCE**

**BROADER  
EXPOSURE**

**DISCOVERABILITY  
OF NEW CONTENT  
OR PRODUCTS**

**REAL-TIME  
UPDATES**

**BOOSTS SALES AND  
REVENUE**

# CONCLUSION

**MSN'S RECOMMENDER SYSTEM IS DESIGNED TO KEEP USERS INFORMED AND ENGAGED BY DELIVERING PERSONALIZED AND TRENDING CONTENT.**

**THE HYBRID APPROACH, WHICH COMBINES CONTENT-BASED AND COLLABORATIVE FILTERING, ENSURES THAT USERS SEE A MIX OF FAMILIAR AND NEW CONTENT, MAKING MSN A POWERFUL TOOL FOR NEWS AGGREGATION AND INFORMATION DISCOVERY.**

THANK YOU  
VERY MUCH!

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