Gemini

2.5 Flash

 Upgrade

Storybook

Movie Ranking Formula For Roommates

# **Conversation with Gemini**

“Given two college roommates—A avoids gore/death and wants fast pacing; B needs a romance thread—propose a ranking formula with explicit weights for action intensity, romance strength, rating ≤ PG-13, runtime ≤120, and EN subtitles. Output as a weighted list plus one example calculation.”

To propose a movie ranking formula for two roommates, A and B, let's first define the criteria and their weights based on their preferences.

## **Ranking Formula**

The ranking formula, R, is a weighted sum of normalized scores for each criterion. The formula is:

R=w1​I+w2​M+w3​P+w4​L+w5​S

Where:

* **I** is the **Action Intensity** score. Roommate A wants fast pacing, so high action is good.
* **M** is the **Romance Strength** score. Roommate B needs a romance thread, so high romance is good.
* **P** is the **PG-13** score. Roommate A avoids gore/death, making a rating of PG-13 or less essential.
* **L** is the **Runtime** score. Roommate A wants fast pacing, so a shorter runtime is a plus.
* **S** is the **EN Subtitles** score. English subtitles are a practical requirement for viewing.

### **Weights and Scoring**

Here are the proposed weights and how each score is calculated:

* **Action Intensity (I)**:
  + **Weight (w1​)**: **0.35**
  + **Calculation**: A movie's action intensity is often represented on a scale. We'll use a 1-10 scale. The score is simply the movie's rating on this scale divided by 10. For example, a movie with an action intensity of 8/10 gets a score of 0.8.
* **Romance Strength (M)**:
  + **Weight (w2​)**: **0.35**
  + **Calculation**: Similar to action, we'll use a 1-10 scale. The score is the movie's romance rating divided by 10. For example, a movie with a romance strength of 9/10 gets a score of 0.9.
* **PG-13 (P)**:
  + **Weight (w3​)**: **0.20**
  + **Calculation**: This is a binary score. A movie rated PG-13 or less gets a score of **1**. A movie rated R or NC-17 gets a score of **0**. This is a hard requirement for A.
* **Runtime (L)**:
  + **Weight (w4​)**: **0.05**
  + **Calculation**: We want shorter runtimes to have a higher score. We'll use the formula: L=1−(runtime in minutes/120). A runtime of 120 minutes or less is preferred. A movie with a runtime of 90 minutes gets a score of 1−(90/120)=0.25. A movie with a runtime over 120 minutes will get a negative score, penalizing it.
* **EN Subtitles (S)**:
  + **Weight (w5​)**: **0.05**
  + **Calculation**: This is also a binary score. A movie with English subtitles gets a score of **1**. A movie without gets a score of **0**. This is a non-negotiable requirement.

The weights are explicitly balanced to give **Action** and **Romance** the highest influence, reflecting the core preferences of both roommates. The **PG-13** rating is weighted slightly less but is still highly influential as a "deal-breaker." The **Runtime** and **EN Subtitles** are given minimal weights as they are secondary preferences but still important.

## **Example Calculation**

Let's apply the formula to the movie **"Spiderman: Homecoming"**. 🎬

* **Action Intensity**: We'll rate it an **8/10** for its frequent action sequences.
  + I=8/10=0.8
* **Romance Strength**: We'll rate the romance subplot between Peter and Liz an **4/10**.
  + M=4/10=0.4
* **PG-13**: The movie is rated **PG-13**.
  + P=1
* **Runtime**: The runtime is **133 minutes**.
  + L=1−(133/120)=1−1.108≈−0.108
* **EN Subtitles**: The movie has English subtitles.
  + S=1

Now, let's plug these values into the ranking formula:

R=(0.35×0.8)+(0.35×0.4)+(0.20×1)+(0.05×−0.108)+(0.05×1)

R=0.28+0.14+0.20−0.0054+0.05

R=0.6646

"Spiderman: Homecoming" gets a final score of **0.6646**. This score can be compared to other movies to create a ranked list. For example, a movie with a higher romance score might rank higher, or a shorter movie might overcome a slightly lower action score. The negative runtime score highlights its disadvantage due to its length.

Draft one-sentence ‘why this’ rationales that show genre balance without spoilers. Provide 3 templates and keep them ≤20 words.

### **Why This Rationales**

**Template 1 (Action/Adventure)**: A thrilling adventure with heart-pounding action and a compelling romantic subplot.

**Template 2 (Sci-Fi/Fantasy)**: This journey blends high-stakes action with a subtle, emotional romance.

**Template 3 (Romantic Comedy/Drama)**: A character-driven romance with a backdrop of unexpected, intense challenges.

For a family profile needing Spanish audio + captions, list the minimum provenance fields to show on card and to store in metadata (Schema.org/PROV terms welcome).

## **Movie Provenance Fields**

For a family profile needing Spanish audio and captions, here are the minimum provenance fields to show on a movie card and to store in metadata.

### **On-Card Display Fields**

These are the essential fields to display on the movie card for immediate user review:

* **Content Type:** schema:genre (e.g., "Family," "Animated")
* **Original Title:** schema:name (The film's original title)
* **Spanish Audio:** schema:translationOfWork (A yes/no indicator)
* **Spanish Captions:** schema:subtitleLanguage (A yes/no indicator)

### **Backend Metadata Fields**

These fields provide detailed provenance information, often for filtering, search, and quality control.

* **Original Creation:** prov:wasAttributedTo (The entity responsible for the film's original creation, e.g., director, studio)
* **Original Language:** schema:inLanguage (The original language of the work, e.g., "en-US")
* **Spanish Versioning:** prov:wasDerivedFrom (A link to the original work)
* **Dubbing/Captioning Agent:** prov:wasGeneratedBy (The entity that created the Spanish audio and captions)
* **Date of Dubbing/Captioning:** prov:generatedAtTime (The date the Spanish version was completed)
* **Audio Quality:** schema:audioQuality (e.g., "Dolby 5.1")
* **Caption Format:** schema:captionFormat (e.g., "SRT," "VTT")

Design a one-turn refinement grammar for user overrides (e.g., ‘more romance’, ‘≤90 min’, ‘Spanish only’) and show how the AI should acknowledge constraints it cannot meet.

Here's a one-turn refinement grammar for user overrides, along with a strategy for acknowledging unmet constraints.

## **Refinement Grammar**

The grammar uses a simple, keyword-based structure to parse user overrides. It allows for single-attribute modifications and clear value assignments. The AI should prioritize parsing the most common or impactful keywords first.

**Grammar Rules:**

1. **Attribute Keyword + Modifiers:**
   * **Action/Pacing:** more action, fast paced, less action
   * **Romance:** more romance, less romance
   * **Rating:** PG only, PG-13 only, no gore
   * **Runtime:** short, long, ≤ [number] min, under [number] min
   * **Language:** [language] audio, [language] subtitles, [language] only
2. **Specific Value Assignments:**
   * [Attribute] is [value] or [Attribute] [value]
   * Example: runtime is 90 min, romance 8/10, rating PG

This grammar is designed for a single-turn interaction. The AI processes the request, adjusts the ranking formula weights based on the user's input, and presents a new, refined list.

## **Acknowledging Unmet Constraints**

When a user's request cannot be met, the AI must provide a polite and informative acknowledgment. The key is to be transparent about the limitation without being overly technical.

**Strategy:**

1. **Identify the Unmet Constraint:** The AI first checks if the requested override is feasible within the current movie catalog. For example, a request for "Spanish only" might be impossible if no movies with Spanish audio exist in the current selection.
2. **Provide a Clear, Direct Acknowledgment:** The AI should state the constraint it cannot meet directly.
   * *Example 1 (Lack of content):* "I'm sorry, I can't find any movies with **Spanish audio** in the current selection. The results are ranked based on your other requests."
   * *Example 2 (Conflicting constraints):* "I can't fully prioritize **less romance** while also finding a movie that fits your previous preference for a strong romance thread. I've adjusted the ranking to favor your other constraints."
3. **Explain the Rationale Briefly (if necessary):** If the reason isn't obvious, a short explanation can help. For example, if a user requests a movie that is both "PG" and has "high action," the AI might acknowledge that these two are often difficult to find together.
4. **Reaffirm the Remaining Constraints:** To show that the AI is still trying to be helpful, it should confirm that it has applied the other, feasible overrides. This keeps the user engaged and shows the system is still working for them.
   * *Example:* "I've still prioritized a **fast-paced** and **PG-13 or less** movie from your original request."

List edge cases where ‘action + romance’ could surface unsafe or culturally narrow results. Suggest mitigations that preserve user choice but reduce harm.

Action-romance can surface unsafe or culturally narrow results in several edge cases. The primary risks stem from the potential for **stereotypes**, **glorification of harmful behaviors**, and a lack of **diverse representation**.

### **Edge Cases and Potential Harms**

* **Stereotypical Gender Roles:** Many action-romance films portray men as stoic, aggressive protectors and women as passive damsels in distress. This reinforces outdated and harmful gender stereotypes. For example, a film where the male hero must "save" the female lead from a villain.
* **Glorification of Violence and Control:** The "action" element can lead to the normalization of violence as a means of expressing love or resolving conflict. This includes cases where stalking, unwanted advances, or controlling behavior are romanticized as "passion" or "persistence."
* **Cultural and Racial Monoculture:** The genre is often dominated by a single cultural lens, typically Western, and lacks representation from diverse backgrounds. This can lead to a user's results being saturated with films that reinforce a narrow view of what love and heroism look like, excluding stories from other cultures. For instance, a search might only return Hollywood blockbusters, neglecting rich action-romance traditions from Bollywood, Korean cinema, or Chinese wuxia.
* **Sexualization and Objectification:** High-action films often sexualize characters, especially women, reducing them to objects of desire or plot devices rather than fully realized individuals. This can be particularly harmful if it's the primary way romance is introduced.

### **Mitigations**

To preserve user choice while reducing harm, the system can implement the following mitigations:

* **Offer Diversity Filters:** Introduce optional filters that allow users to explicitly request content from specific cultural origins, genres (e.g., "Bollywood Action," "Korean Thriller"), or by diverse creators. This empowers the user to broaden their search beyond the default algorithm.
* **Provide Content Warnings and Tags:** Instead of blocking content, the system can add prominent, context-aware content warnings. For example, a film could be tagged with "Contains Depictions of Stalking" or "Outdated Gender Roles" next to its description. This gives the user agency to make an informed decision.
* **Refine the Ranking Algorithm:** The algorithm can be adjusted to slightly **deprioritize** films that heavily rely on harmful tropes. While not a hard rule, this subtle shift can help surface healthier, more diverse options without removing the more problematic ones entirely. For instance, an algorithm could penalize films with a high **disparity** between a male character's on-screen power and a female character's on-screen agency.
* **Implement a "What to Watch Next" Carousel:** After a user watches a film with potentially problematic tropes, the system can suggest a more progressive or diverse alternative. For example, if a user watches a stereotypical action-romance, the system might recommend a film with a more balanced partnership or a female-led action story. This nudges users toward more varied content without removing their initial choice.



Tools

Gemini can make mistakes, so double-check it

Google Account

Zhengrui Hao

haozhengrui0103@gmail.com