Animated Movie Recommender AI Agent - Documentation

# 🧾 SECTION 1: BASIC DETAILS

Name: **Shrishti Agarwal**

Use Case: **AI Agent for Animated Movie Recommendations Based on User Ethical Values and Emotional Preferences**

# 🧠 SECTION 2: PROBLEM FRAMING

**2.1. What problem does your AI Agent solve?**  
This AI Agent helps users discover animated movies specifically tailored to their ethical values (e.g., courage, justice, freedom) and desired emotional experiences (e.g., bittersweet, heartwarming). It addresses the challenge of finding meaningful content beyond generic recommendations.

Real Case Scenario: *Some XYZ person may be interested to see a movie which reflects justice and is full of entertainment.*

**2.2. Why is this agent useful?**  
It provides personalized movie recommendations that align deeply with individual user values and emotional preferences, improving movie-watching satisfaction and engagement by including both popular movies and hidden gems (not very popular but highly relevant with user input).

**2.3. Who is the target user?**  
The target users are animation enthusiasts, educators seeking meaningful movies for students, parents looking for value-rich family entertainment, or anyone who appreciates emotionally and ethically driven storytelling.

**2.4. What not to include?**  
The agent consciously avoids general movie recommendations based purely on IMDb rankings or trending popularity. Recommendations rely strictly on user-provided values and a carefully curated dataset or intelligent fallback logic. (*Explained later in detail*)

# 🧱 SECTION 3: 4-LAYER PROMPT DESIGN

## 🔹 3.1 INPUT UNDERSTANDING

Prompt:

“🎬 Welcome to the Animated Movie Recommender!

✨ This AI assistant will recommend animated gems based on the values you believe in and the emotions you want to feel.

🔍 Step 1: Choose 1–3 \*\*ethical values\*\* that matter to you:

Examples: kindness, courage, family, friendship, freedom etc.”

INPUT 1: 💬 Enter ethical values (comma-separated):

Value: freedom

🎭 Step 2: What emotional experience are you looking for in a movie?

Examples: heartwarming, high-energy, dream-driven, bittersweet etc.

INPUT 2: 💬 Enter emotional tones values (comma-separated):

Value: bittersweet

**OUTPUT Generated:**

🔍 Finding matches based on your values...

🎬 Final Recommendations:

Here’s a bittersweet animated movie that beautifully explores the theme of freedom:

🎯 Popular Pick:

**1.** **Eternal Spring (2023)**

- Studio: Lofty Sky Pictures, Telefilm Canada

- Language: English

- IMDb Rating: 7.9, Duration: 86 mins

- Why It Fits: Through the story of a comic book illustrator fleeing violent repression in China, this film delves into the pursuit of freedom against oppressive regimes.

- You'll Love It If You Enjoy:

- Movies with themes of political activism

- Stories of individuals fighting for their beliefs

💎 Hidden Gem:

**2. Chicago 10 (2008)**

- Language: English

- IMDb Rating: 6.0, Duration: 110 mins

- Why It Fits: Using archival footage and animation, this film portrays the struggle of anti-war protesters, highlighting the bittersweet journey of seeking justice and freedom.

- You'll Love It If You Enjoy:

- Documentaries with a mix of historical footage and animation

- Stories of activism and resistance

💎 Hidden Gem:

**3. Glossary of Broken Dreams (2018)**

- Studio: monochrom

- Language: English

- IMDb Rating: 6.8, Duration: 98 mins

- Why It Fits: This film challenges societal norms and dives into the complexities of freedom, privacy, and resistance with a mix of puppetry, animation, and live action.

- You'll Love It If You Enjoy:

- Films that question political and social constructs

- Creative storytelling through diverse visual mediums

🎯 Popular Pick:

**4. Exodus: A Brickfilm (2019)**

- Studio: N/A

- Language: English

- IMDb Rating: N/A, Duration: 45 mins

- Why It Fits: Through LEGO® characters, this film retells the story of Exodus, emphasizing the pursuit of freedom and redemption in a visually appealing and engaging manner.

- You'll Love It If You Enjoy:

- Creative adaptations of biblical stories

- Stories of liberation and faith

**What is this prompt responsible for?**  
Guiding the user clearly and engagingly to provide specific ethical and emotional inputs for tailored recommendations.

## 🔹 3.2 STATE TRACKER

I used Python variables like ethical\_values, emotional\_tones, and filtered\_df to remember what the user asked and track the filtered results.

“The user is seeking animated movies that reflect the following:

- Ethical Values: {', '.join(ethical\_values)}

- Emotional Tones: {', '.join(emotional\_tones)} ”

**How does this help the agent “remember”?**

Instead of using long-term memory or conversation history, my code holds key information (like user preferences and filtered results) in variables. This helps the agent make decisions based on what happened earlier in the process — just like short-term memory.

**Did you simulate memory with variables/system messages?**

## Yes. Even though it’s not real memory like a chatbot with history, I used Python variables to carry information forward — like whether any movie was found or whether to trigger the fallback message. This allowed our agent to behave as if it “remembers” the user’s input.

if filtered\_df.empty:

    print("😞 No movies found matching your criteria on my dataset but wait, Let's find some alternatives!")

    fallback\_prompt = f"""

You are a movie recommendation assistant.

The user is seeking animated movies that **. . . .** """

else:

    🎬 List of movies:

{movie\_details\_text}

    gpt\_prompt = f"""

You are a friendly animated movie recommendation assistant.

Below is a list of animated movies from the user's dataset that align with their preferences:

Ethical Values: {', '.join(ethical\_values)}

Emotional Tones: {', '.join(emotional\_tones)} . . . . . """

([Code Link](file:///D:\Akash\Desktop\shrishti\TMDB%20Animation%20Movie%20Scraper\ai_recommender.py))

## 🔹 3.3 TASK PLANNER

## Prompt: Steps: 1. User provides ethical + emotional inputs. 2. Python filters the dataset using these values. 3. If results found → top results are passed to GPT for styled recommendation. 4. If dataset is empty → fallback prompt is activated with GPT-only response. 5. GPT formats the final output with Popular Pick 🎯 or Hidden Gem 💎 labels

## 🔹 3.4 OUTPUT GENERATOR

Prompt:  
"""For each selected movie, generate a recommendation that includes

- a thematic heading - title - studio - IMDb rating - duration - overview - why it fits the user's ethical/emotional preferences. - Clearly label movies as Popular Pick 🎯 or Hidden Gem 💎. """

**Special behavior**: Plain-text formatting for readability, conditional inclusion of valid ratings/durations, and a friendly conversational tone.

EXAMPLE:

🎬 Welcome to the Animated Movie Recommender!

✨ This AI assistant will recommend animated gems based on the values you believe in and the emotions you want to feel.

🔍 Step 1: Choose 1–3 ethical values that matter to you:

Examples: kindness, courage, family, friendship, freedom etc.

💬 Enter ethical values (comma-separated): justice, loyalty

🎭 Step 2: What emotional experience are you looking for in a movie?

Examples: heartwarming, high-energy, dream-driven, bittersweet etc.

💬 Enter emotional tones (comma-separated): high-energy

🔍 Finding matches based on your values...

😞 No movies found matching your criteria on my dataset but wait, Let's find some alternatives!

🎬 Final Recommendations:

Here’s a high-energy animated movie that beautifully explores the theme of justice, loyalty:

🎯 Popular Picks:

**1. Spider-Man: Into the Spider-Verse (2018)** - Studio: Sony Pictures Animation - Language: English - IMDb Rating: 8.4 - Duration: 117 min

- Why It Fits: This movie follows various versions of Spider-Man coming together to fight for justice and protect their worlds, showcasing themes of loyalty and standing up for what's right.

You’ll Love It If You Enjoy:

- Action-packed superhero movie - Multiverse storytelling - Diverse and unique animation styles Popularity Tag: Highly Popular

**2. How to Train Your Dragon (2010)**

- Studio: DreamWorks Animation

- Language: English

- IMDb Rating: 8.1

- Duration: 98 min

Why It Fits:

Through the bond between a Viking named Hiccup and his dragon Toothless, this film highlights themes of loyalty, friendship, and the journey towards understanding and justice.

You’ll Love It If You Enjoy:

- Fantasy adventures

- Heartwarming relationships

- Epic battles and aerial scenes

Popularity Tag: Highly Popular

💎 Hidden Gems:

**1. Ernest & Celestine (2012)**

- Studio: Les Armateurs

- Language: French

- IMDb Rating: 7.9

- Duration: 80 min

Why It Fits:

This heartwarming tale follows the unlikely friendship between a bear named Ernest and a mouse named Celestine, as they challenge societal norms and stand by each other through thick and thin, embodying loyalty and standing up for justice.

You’ll Love It If You Enjoy:

- Charming hand-drawn animation

- Unique and touching storytelling

- Stories of friendship and overcoming obstacles

Popularity Tag: Cult Favorite

**2. The Secret of Kells (2009)**

- Studio: Cartoon Saloon

- Language: English

- IMDb Rating: 7.7

- Duration: 75 min

Why It Fits:

Set in medieval Ireland, this visually stunning film follows a young boy, Brendan, on a quest to complete the illuminated Book of Kells, showcasing themes of loyalty to his family, community, and preserving their culture against threats.

You’ll Love It If You Enjoy:

- Beautifully hand-drawn animation

- Folklore and mythological elements

- Stories of bravery and preservation

Popularity Tag: Cult Favorite

# 🔍 SECTION 4: CHATGPT EXPLORATION LOG

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attempt #** | **Prompt Variant** | **What Happened** | | **What You Changed** | **Why You Changed It** |
| 1 | Fallback GPT general suggestions:  Before: GPT returned value only from dataset provided using segmentation logic whether movie is popular or hidden gem:  popular = (filtered\_df['popularity'] >= 80) & (filtered\_df['rating'] >= 7.5)    average = (filtered\_df['popularity'] < 80) & (filtered\_df['popularity'] >=7.42) | There was 0 movie Recommendation may be possible due to segmenting logic whether movie is popular or not very popular but highly relevant to user input. | | Removed predefined threshold values and let GPT decide which movie is popular or Hidden Gem.  Instructions:  - Label each movie as either:     - Popular Pick 🎯 → (widely loved, high IMDb or highly popular)     - Hidden Gem 💎 → (lesser-known, but deeply matching user's values)  - Select 2 movies which is Popular Pick 🎯 and 2 movies which is Hidden Gem 💎 from the above list. | To return movies to user even if, combination of ethical values+ emotional theme is not present in dataset I provided to GPT. |
| 2 | Markdown formatting for output:  Before:  "Your task:  - For each movie, write a friendly 1–2 sentence recommendation.  - Emphasize how it fits the user's requested ethical values and emotional tones.  - Use the popularity label exactly as provided — do not guess or create new ones.  - Format each movie clearly in markdown. " | Formatting not rendered correctly | Changed to plain text with rich style  After:  For each movie:  1. 🎬 Title (Year)  2. Studio, Language, IMDb Rating, and Duration  3. A 2–3 line "Why It Fits" explaining its connection to the ethical values and emotional tones  4. A bullet list: "You’ll Love It If You Enjoy…"  5. End each with its Popularity Tag (Highly Popular, Popular among few, or Niche Audience) | | For better readability and clarity |
| 3 | Handling 0.0 values for rating/runtime  Before:  For each movie:  1. 🎬 Title (Year)  2. Studio, Language, IMDb Rating, and Duration | Showed invalid Studio/ratings/durations | | Conditional filtering of invalid data.  After:  - For each movie, generate:  1. 🎬 Title (Year)  2. Studio if nan don’t return, IMDb Rating, and Duration if 0.0 don't return | To avoid confusion and maintain accuracy |

# 🧪 SECTION 5: OUTPUT TESTS

## Test 1: Normal input

Input: "freedom, self-acceptance", "bittersweet"  
Output: Matched movies clearly described, correctly labeled with engaging explanations. ([See Example in Section 3.4](#_🔹_3.4_OUTPUT))

## Test 2: Vague input

Input: "something emotional"  
Output: Prompted the user to retry with clearer examples.

🔍 Step 1: Choose 1–3 \*\*ethical values\*\* that matter to you:

Examples: kindness, courage, family, friendship, freedom, perseverance, self-acceptance, empathy, resilience, responsibility, justice, loyalty

💬 Enter ethical values (comma-separated): something emotional

Re-enter value from following examples: kindness, courage, family, friendship, freedom, perseverance, self-acceptance, empathy, resilience, responsibility, justice, loyalty

## Test 3: Invalid input

Input: " ", " "  
Output: Asked User again to re-enter valid value.

🔍 Step 1: Choose 1–3 \*\*ethical values\*\* that matter to you:

Examples: kindness, courage, family, friendship, freedom, perseverance etc.

💬 Enter ethical values (comma-separated):

😞 No input provided. Please enter at least one ethical value : loyalty

🎭 Step 2: What emotional experience are you looking for in a movie?

Examples: heartwarming, high-energy, dream-driven, bittersweet etc

💬 Enter emotional tones (comma-separated):

😞 No input provided. Please enter at least one emotional tone : pure fun

# 🔄 SECTION 6: REFLECTION

## 6.1. What was the hardest part of this assignment?

The hardest part was debugging the filtering logic and segmentation thresholds, particularly ensuring the fallback logic was activated appropriately without overriding genuine dataset matches.

## 6.2. What part did you enjoy the most?

The most enjoyable part was seeing the creative and emotionally resonant recommendations the GPT generated, particularly when it effectively balanced popular and lesser-known films.

## 6.3. If given more time, what would you improve or add?

Given more time, I would fully deploy this chatbot through Streamlit or a similar platform, enabling user-friendly web interactions and further customization.

## 6.4. What did you learn about ChatGPT or prompt design?

I learned the importance of clearly structured and constrained prompts in ensuring GPT-generated outputs stay aligned with expectations, especially during fallback scenarios.

## 6.5. Did you ever feel stuck? How did you handle it?

Yes, I felt stuck, particularly when GPT hallucinated recommendations unrelated to my dataset. I overcame this by explicitly constraining GPT to use only provided data and clear fallback rules.

# 🧠 SECTION 7: HACK VALUE

• Implemented an intelligent fallback mechanism when dataset matches weren't found.  
• Added conditional logic to gracefully handle missing data fields.  
• Combined dataset filtering and GPT creative generation seamlessly.  
• Clearly distinguished "Popular Picks" and "Hidden Gems" based on contextual cues rather than hard-coded thresholds.  
• Future work includes web deployment using Streamlit, enhancing accessibility and usability in real-world scenarios.

THANK YOU

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