

# CS432/532: Final Project Report

**Project Title: Insights into Movie Marketing and Narrative Trends Across Genres**

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## I. N+1 NOSQL QUERIES

### **Query 1: Comparing Revenue and Budget across Genres with Tagline Count**

This query delves into investigating the financial aspects of filmmaking by assessing the relationship between the budget and revenue across different genres, juxtaposed with the frequency of tagline production.

The aim is to determine if there is a discernible pattern that links a movie's financial input and output to the prominence of its marketing efforts, particularly through the use of taglines. The budget attribute represents the investment made into the production of films. We examine budget allocations across genres to understand the financial backing that different types of movies receive. The tagline count is a measure of financial success, revenue is evaluated to reveal the commercial performance of movies. We explore how revenue correlates with the budget and whether certain genres are more financially lucrative than others.

The analysis seeks to identify if there is a significant link between the number of taglines—a facet of promotional expenditure—and a film's financial success. We hypothesize that a higher tagline count could potentially reflect more aggressive marketing, which might be associated with higher budgets and, in turn, could influence the revenue generated.

### **Query 2: Exploring the Influence of Ratings on Tagline Trends and Movie Runtimes Across Years**

This query delves into the interplay between average movie ratings, average runtime in correspondence with tagline trends over the years from 1971 to 2068. The query analyzes how the creativity and thematic elements of taglines have evolved and whether they correlate with changes in movie ratings and runtimes. The `average_rating` attribute refers to the overall critical and audience ratings that movies receive, typically on a scale from one to ten. The project explores how these ratings influence the style and substance of movie taglines and whether there is a connection between high ratings and specific types of taglines or movie lengths. This measures the typical length of movies in minutes. The study looks at trends in movie durations over the years and investigates whether changes in average runtime are associated with shifts in tagline strategies or movie ratings. The average runtime of movies displays a discernible oscillation over the years, with notable peaks and troughs

suggesting changes in audience preferences or production standards over time. It's observed that the average movie runtime tends to hover around a median value, with some exceptional years where this trend is disrupted.

### **Query 3: Unveiling Popularity and Shared Traits in Movie Taglines Across Various Genres**

This query aims to decode the correlation between the prevalence of taglines and the popularity of the films they represent, segmented by genre. By doing so, we seek to understand if certain genres are more reliant on taglines for their popularity or if the creativity encapsulated in these taglines has a universal influence across genres.

The project reveals intriguing patterns about how specific genres may share common traits in their taglines, reflecting a broader narrative strategy or audience targeting. For example, action movies might frequently employ high-energy, impactful taglines, while romance films often feature emotive or evocative catchphrases. Such insights can shed light on the underlying psychological drivers that make certain taglines—and by extension, the movies they represent—resonate with their intended audience.

The query reveals an intriguing spread of tagline count across genres, with notable spikes in genres that traditionally perform well in animated formats. For instance, family and comedy genres exhibit a higher concentration of taglines, potentially indicating a greater reliance on these succinct phrases to attract their target demographic. Popularity, as depicted in the visualization, is represented as a percentage, and it provides insight into the audience's reception of these films. We observe that certain genres not only have a high number of taglines but also correspond with an elevated popularity score. This might suggest that the effectiveness of a tagline could be genre-specific, with certain narrative styles resonating more profoundly with audiences.

### **Query 4: Explore Genre-Specific Storytelling Patterns in Overviews and Taglines**

The query delves into the narrative fabric of cinematic genres, exploring how storytelling patterns manifest uniquely in both movie overviews and taglines. This section dissects the genre-specific linguistic and thematic constructs that filmmakers and marketers employ to convey the essence of a film's story to its audience.

The project scrutinizes the content of overviews—succinct synopses that outline plot and characters—and taglines, the memorable catchphrases that often accompany promotional

material. By comparing these narrative elements across a variety of genres, we aim to reveal underlying storytelling frameworks that define genre identity and audience expectations.

For instance, action movies might feature overviews and taglines laden with verbs that suggest movement and excitement, whereas romance films may focus on emotive language that evokes intimacy and connection. Science fiction genres, on the other hand, might use jargon and concepts that signal innovation and futurism. The content analysis within this research employs both qualitative and quantitative methods to identify these patterns.

The findings are expected to show that overviews and taglines are not random amalgamations of words but are carefully crafted to align with genre conventions. This alignment not only helps to set the tone and mood for potential viewers but also serves as a strategic marketing tool to attract and retain audience interest.

### Query 5: Explore How Movie Genres Correlate with Positive Sentiment Counts and Average Vote in Their Overviews

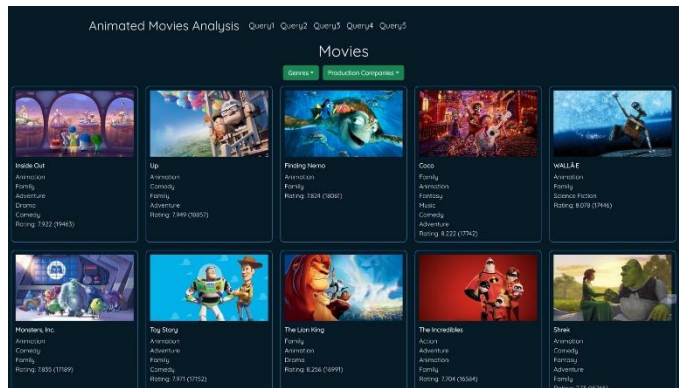
This query seeks to understand whether there is a correlation between the positivity of language used in overviews—a film's introductory text—and the average vote, or rating, that a film receives, while also considering how these factors vary across different genres. The overviews attribute involves a textual analysis of the language used to describe a film. By using natural language processing techniques, we specifically measure the count of words and phrases with positive connotations, which we define as the 'Positive Sentiment Count.' As a categorical variable, the genre classifies movies into groups such as drama, comedy, thriller, romance, etc., each with distinct narrative styles and audience expectations.

The preliminary hypothesis posits that genres traditionally associated with uplifting or inspirational content—such as comedies or family movies—will exhibit a higher positive sentiment count in their overviews and possibly correlate with a higher average vote. Conversely, genres that tend to have more complex or serious narratives—like drama or thriller—might not have as high a positive sentiment count, which could affect their average vote in different ways.

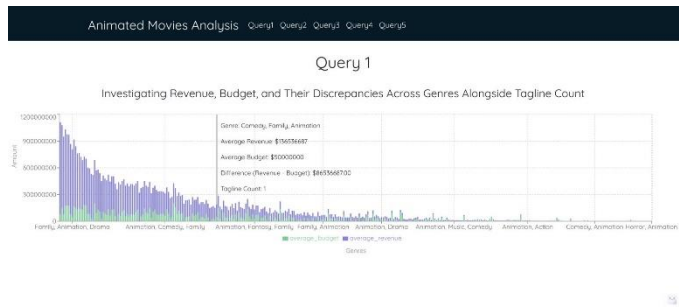
## II. NoSQL Database and Dataset

No-SQL database used is MongoDB [1] and dataset used is Animated Movies [2].

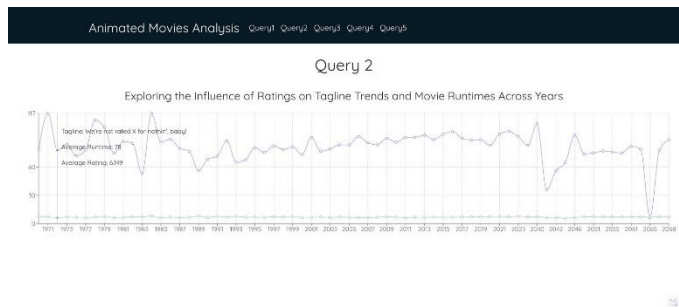
## III. Project Outcome



The homepage showcases a comprehensive display of movies from the dataset, complete with functionality for basic filtering by genres and production companies, allowing users to refine and obtain desired results seamlessly.

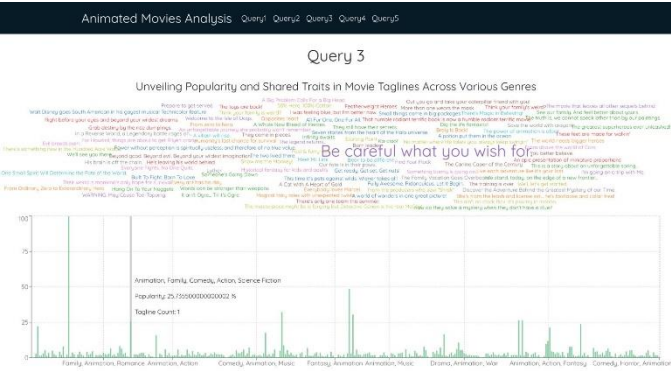


This graphical representation provides a comparative analysis across genres, showcasing which genre combinations are more financially viable and highlighting the efficiency of marketing strategies as evidenced by tagline counts. This data may reveal if a greater number of taglines correlates with either increased revenue or budget efficiencies within different genres.



The graph aims to analyze how the average ratings might affect the trends in taglines and whether there's any observable

pattern that suggests a correlation between the critical success of a movie (as reflected by ratings) and its runtime. This kind of analysis could provide insights into the evolving nature of animated films and the potential impact of public perception on movie production and marketing strategies.

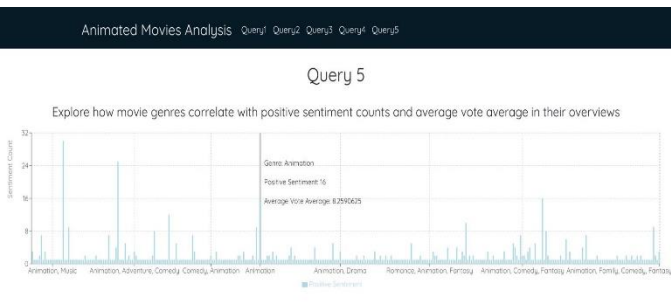


A visible trend suggests that certain genre combinations have higher popularity scores, potentially linked to their tagline count. The data implies that marketing efforts through taglines may play a role in a film's popularity, with variations observed across different genre blends.



The result shows a word cloud from highlighting key terms from overviews and taglines associated with different animated

movie genres. Words like "family," "adventure," and "escape" suggest common themes in Family, Animation, Fantasy, and Adventure genres. The visualization reveals genre-specific language that likely resonates with the intended audience demographics.



The result examines the correlation between positive sentiment in movie overviews and average vote across various animated movie genres. Bars represent the count of positive sentiments, indicating that certain genres, like pure Animation, might elicit more positive language in their overviews. The chart suggests a potential relationship between the positivity of a genre's narrative description and its average viewer or critic ratings.

REFERENCES

[1] Database MongoDB, <https://www.mongodb.com/>

[2] Dataset, <https://www.kaggle.com/datasets/asaniczka/52000-animation-movie-details-dataset-2024>

[3] Aggregation in MongoDB, <https://www.mongodb.com/docs/manual/reference/operator/aggregation/avg/>

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