

جامعة الأخوين

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AI for Digital Project
Movie Recommender: Movie-Roulette.

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Introduction:

MovieRoulette is a movie recommendation website carefully crafted to meet the sophisticated tastes of cinephiles. We introduce a user-friendly environment that goes beyond traditional movie databases. Our platform not only provides users with specialized movie recommendations, but it also encourages active participation through personalized profiles, buddy networks, and a thorough feedback system. We provide a dynamic community for film enthusiasts to interact, discover, and enrich their cinematic experiences by allowing them to rate, review, and share their favorite films. The system is going to have a machine learning part integrated into the software which will take care of the proper recommendation system by checking the likes and the movies the user's log and the model will also be able to detect sentiment by analyzing the feedback the user gave. Embrace the future of movie discovery and social involvement with our cutting-edge recommendation website!

1. Business Case Description:

MovieRoulette stands itself as a pioneering initiative with a deep awareness of the cultural subtleties and sensitivities common in the Arab world. Beyond the boundaries of traditional movie databases, the platform has been deliberately constructed to appeal to the sophisticated interests of cinephiles in this cultural context. It serves as a beacon of cinematic discovery, recognizing the existence of sensitive content that necessitates a thorough and targeted approach to suggestions. MovieRoulette wants to be more than just a movie platform, offering a holistic

experience that respects the Arab audience's beliefs and values.

2. Business Value of Using ML:

The addition of machine learning to MovieRoulette for the Arab audience increases its financial value by introducing a sophisticated and culturally sensitive approach to movie suggestions. The recommendation engine, backed by machine learning algorithms, becomes not just a source of individualized movie recommendations, but also a protector of cultural sensitivity. This strategic integration guarantees that users, particularly parents and guardians, are given with recommendations that are not only tailored to their own interests but also adhere to cultural standards, avoiding sensitive information that may be improper for specific age groups. As a result, MovieRoulette becomes a valued ally for families, providing an environment in which entertainment coexists harmoniously with cultural values. Furthermore, the machine learning-driven recommendation system serves as an encouragement for enhanced user involvement in the Arab area. By carefully addressing cultural sensitivities, MovieRoulette creates an experience that builds a stronger connection with the audience. Users actively contribute to the site, not just influencing the cinematic journey but also engaging in a cultural discourse fostered by their shared love of movies. The value proposition goes beyond simple movie suggestions, transforming MovieRoulette into a dynamic cultural hub where involvement is about more than simply pleasure but also shared cultural experiences.

3. Data Requirements:

To accomplish this ambitious objective, MovieRoulette's data needs go beyond the typical boundaries. User data, in addition to demographic information and movie interests, includes cultural characteristics that define the intricacies of Arab film enjoyment. Understanding the complexities of cultural sensitivities is critical because it serves as the foundation for a recommendation system that values the variety of the Arab audience. The movie database, which is rich in Arab cinema-specific characteristics, goes beyond basic classifications to incorporate

cultural appropriateness signals, guaranteeing that the machine learning model has the contextual knowledge needed for rigorous curating. Activity or interaction data, as the pulse of the MovieRoulette community, is increasingly important. Beyond quantitative measurements, it includes qualitative characteristics such as user interactions, feedback, and cultural preferences. This dense data fabric becomes the lifeblood of MovieRoulette, allowing the machine learning model to reliably propose movies while simultaneously navigating the sensitive environment of cultural sensitivities in the Arab area.

4. Metrics for Business Goal Evaluation:

The parameters used to evaluate MovieRoulette's business goals in the Arab area go beyond simple quantitative measurements. User engagement metrics are inextricably linked to cultural context, assessing not just the frequency of logins and reviews, but also the platform's resonance with the different cultural values of its audience. This sophisticated review guarantees that MovieRoulette not only attracts consumers, but also becomes an important part of their cultural environment. Culturally relevant suggestion accuracy, as measured by precision, recall, and appropriateness criteria, forms the foundation of MovieRoulette's success. The evaluation is not limited to individual tastes; it also considers the platform's ability to offer material that is culturally appropriate for the Arab area. The indicators for community growth quantify the increase of MovieRoulette's user base while also encapsulating the platform's dedication to building a culturally diverse and courteous community.

5. The Baseline:

Setting a baseline for MovieRoulette in the Arab area requires a thorough examination of the present landscape, including user engagement, content preferences, and cultural sensitivity. This baseline is not a static image, but rather a dynamic story that captures the ebb and flow of MovieRoulette's transition into the Arab cultural setting. Before incorporating machine learning,

an in-depth examination of the present recommendation system's efficiency, user satisfaction levels, and the platform's capacity to respect cultural sensitivity is performed. The investigation goes beyond technical aspects and includes a thorough grasp of the cultural subtleties that impact movie tastes in the Arab area. This baseline serves as the cultural compass for MovieRoulette's transition, ensuring that the platform advances while being respectful of the cultural values and sensitivities of its Arab audience.

6. Value of the Product:

MovieRoulette, with its Arabic-specific machine learning, has become an invaluable cultural companion for its customers. Personalized movie recommendations are more than just ideas; they are carefully selected experiences that respect and align with the Arab audience's various cultural values. This customized touch is more than simply a feature; it demonstrates MovieRoulette's dedication to serving as a cultural ally in its customers' cinematic journeys. MovieRoulette fosters a sense of camaraderie that transcends beyond entertainment. It develops into a cultural refuge in which people feel both understood and represented. MovieRoulette evolves into a platform that not only celebrates shared cultural experiences, but also incorporates them into the fabric of its identity. The product's value proposition extends beyond cinematic suggestions to include a common cultural narrative that connects with the varied Arab audience. Data-driven insights enabled by machine learning become more than just a way of refining suggestions; they also serve as a bridge to cultural understanding. The machine learning model turns into a cultural appropriateness watchdog, guaranteeing that each recommendation adds to a cinematic landscape that is both enjoyable and culturally enlightening. MovieRoulette demonstrates the peaceful coexistence of technology and cultural values in the Arab world.

7. Why use AI?

The integration of artificial intelligence into MovieRoulette for the Arab area goes beyond technological improvement; it becomes an ethical and cultural imperative. Machine learning is more than just a tool; it is a cultural steward, ensuring that the platform respects and fits with the

sensibilities of its Arab audience. As MovieRoulette grows, the adaptability of machine learning becomes not just a technology but also a cultural imperative. In a place where cultural appropriateness is critical, the economic advantage afforded by AI is more than simply sophistication; it is also about trust. Users trust MovieRoulette to make reliable suggestions while still respecting their cultural beliefs. Continuous development enabled by machine learning is not a luxury, but rather a cultural obligation, guaranteeing that MovieRoulette advances in parallel with the changing cultural environment of the Arab area. I chose this specific AI model that I found on github because it was the closest model to what I am actually planning to do so it will require the less training and maintenance since it's already deployed and working. So, the model chosen has two functionalities, first, it collects the likes and not likes and the movie logged by the user to have an understand of what genre of movies they like to watch, and the second one is that the AI have a sentiment analyser that analyse the sentiments on the reviews given by the user for that movie. The model already has the data sets from 2018 to 2020 and the datasets IMDB which includes so far 5000 movies.

8. Difficulties

Unquestionably, integrating an existing AI model with MovieRoulette, which is designed for Arab and Muslim culture, provides a complex set of obstacles. One of the most significant challenges is the necessity to adjust the AI model to match smoothly with the complexities of Arab movie preferences, cultural norms, and sensibilities. AI model that will be used, while strong, frequently lack the cultural uniqueness needed to negotiate the complex environment of Arab and Muslim viewing of content. Training the AI model to recognize the nuances of cultural appropriateness becomes a complex task. The model must be meticulously adapted to account for differences in watching patterns, topic interests, and sensitivities throughout the Arab area. This procedure entails not just fine-tuning computational parameters, but also adding a large dataset capturing the complexity and diversity of Arab film. However, the lack of culturally annotated datasets is a substantial problem, necessitating novel model training procedures that take into account cultural differences while adhering to ethical guidelines. Additionally, the

issues extend beyond technological considerations to include ethical and cultural competencies. Ensuring that the AI model avoids prejudices and preconceptions while yet providing accurate and culturally acceptable suggestions is a tough balancing act. The interpretability of the model's decision-making processes becomes critical, necessitating openness in understanding how cultural aspects are incorporated into the recommendation system. Furthermore, MovieRoulette's collaborative nature, which relies heavily on user-generated material, adds another degree of difficulty. Balancing the cultural insights gained from user interactions with the requirement for responsible AI deployment necessitates continual awareness and a willingness to iteratively refine the model. Furthermore, addressing any ethical issues about user privacy and permission during the training process is critical to establishing and maintaining confidence among the Arab user community. So, we can say that while incorporating an existing AI model into MovieRoulette has enormous promise, the path entails overcoming the hurdles inherent in customizing the model to the specific cultural context of the Arab and Muslim audiences. This necessitates a comprehensive strategy that combines technical expertise with cultural sensitivity, ensuring that the AI model not only provides accurate recommendations, but also respects and aligns with the diverse values and preferences of the users in this dynamic cultural environment.

9. Conclusion

Finally, the MovieRoulette project is a pioneering endeavor into the field of cinematic discovery, distinguished by a thorough integration of cutting-edge machine learning technology with a comprehensive awareness of the multifaceted cultural environment of the Arab and Muslim audiences. MovieRoulette's vision goes beyond traditional movie platforms, aiming to be a cultural curator and a dynamic community hub that not only provides personalized recommendations but also respects and aligns with its users' diverse values and sensitivities. The strategic integration of an existing AI model, albeit fraught with difficulties, provides the possibility of evolving the website into a smart and culturally sensitive platform. The obstacles,

which range from adjusting the AI model to the specific complexities of Arab film preferences to ethical concerns about prejudice and privacy, are tackled with a dedication to innovation and cultural responsibility. The path entails not just fine-tuning algorithmic parameters but also negotiating the complexity of user-generated material, with the goal of making MovieRoulette a trusted friend that not only entertains but also improves its users' cultural experiences.

MovieRoulette's envisioned success is judged not just by the efficacy of its suggestion system, but also by the breadth of cultural awareness it generates. The portal aspires to serve as a beacon, taking users on a cinematic journey that not only represents their own preferences but also connects with the Arab region's vast and rich cultural tapestry. The project's iterative approach, characterized by continual refinement and adaptation, demonstrates a dedication to being sensitive to the changing dynamics of user preferences and cultural trends.