CALIFORNIA STATE UNIVERSITY, LONG BEACH
IS 699 – Information Systems Project – GROUP 7
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PROJECT CHARTER

GENERAL PROJECT INFORMATION

PROJECT NAME	EXECUTIVE SPONSORS	EXPECTED START DATE	EXPECTED COMPLETION DATE
NETFLIX RECOMMENDATION SYSTEM	CSU Long Beach	09/24/2024	12/10/2024

PROJECT OVERVIEW

Problem Or Issue	***Accuracy***: Users often receive recommendations that are not closely aligned with their actual interests, leading to lower satisfaction and potential churn. ***Personalization***: The recommendations are sometimes too generic, missing the opportunity to tailor suggestions based on nuanced user preferences and behavior. ***Engagement***: The current system does not fully leverage available data, including detailed user behavior and content metadata, to enhance personalization.
Purpose	The purpose of this project is to enhance Netflix's recommendation system to improve user satisfaction and engagement. The current recommendation system has room for improvement in accuracy and personalization. By implementing advanced recommendation algorithms and incorporating more user data, we aim to increase user retention and watch time.
Objective	To analyze how different OTT platforms are performing and assess whether people prefer watching movies in theaters or on OTT platforms.
Business Impact	***Increased User Retention***: Improved recommendations will lead to higher user satisfaction and lower churn rates. ***Enhanced User Experience***: Faster and more accurate recommendations will create a more engaging and enjoyable experience for users. ***Competitive Advantage***: A more sophisticated recommendation system will differentiate Netflix from competitors and attract new users. ***Revenue Growth***: Higher user engagement and retention can drive increased subscription renewals and potentially attract more subscribers.
Goals / Metrics	***Enhance Recommendation Accuracy***: Develop and implement advanced recommendation algorithms to increase the relevance of content suggestions. Utilize machine learning models that incorporate both collaborative filtering and content-based filtering techniques. ***Improve Personalization***: Incorporate detailed user behavior data and content metadata to deliver highly personalized recommendations. Leverage contextual information (e.g., time of day, recent searches) to refine recommendations. ***Increase User Engagement***: Boost user interaction with the platform by providing more relevant and engaging content suggestions.

	Track and analyze user feedback to continuously improve recommendation accuracy and relevance.
Expected Deliverables	A functional recommendation system integrated into the Netflix platform Performance metrics and evaluation reports

PROJECT ROLES & RESPONSIBILITIES

	Name	**Department**	**E-mail**
Project Manager	Saumya Prasad	Data Analyst / Business Analyst	saumyachandrakant.prasad01@student.csulb.edu
Team Lead	Shloka Daga	BI Analyst/ Machine Learning Engineer	shlokaramesh.daga@student.csulb.edu
Team Member	Saumya Prasad	Data Analyst / Business Analyst	saumyachandrakant.prasad01@student.csulb.edu

PROJECT MILESTONES

Milestone #1	Project kick-off and requirements gathering
Milestone #2	Completion of data collection and preprocessing
Milestone #3	Data cleaning, Data Analysis and Visualization
Milestone #4	Prototype of the recommendation model
Milestone #5	Implementation of recommendation model
Milestone #6	Building a Dashboard and reports

PROJECT SCOPE

Within Scope	1. Developing new machine learning algorithms for more accurate content recommendations. 2. Improving recommendation diversity and reducing algorithmic bias. 3. Collection of real-time data and analysis
Outside Of Scope	1. Overhauling Netflix's user interface or app design. 2. Recommending content that is restricted by region or unavailable due to licensing issues. 3. Developing content based on user preferences (focus is on recommendations only). 4. Handling subscription management or changes in pricing strategies. 5. A//B Testing.

RESOURCES

Project Team	Shloka Daga (BI Analyst / Machine Learning Engineer), Saumya Prasad (Data Analyst / Business Analyst)
Support Resources	***Consultants/External Experts****:* Experts in machine learning, recommendation systems, or AI ethics who can provide specialized knowledge. ***Data Privacy and Compliance Specialists****:* Experts in data protection laws (e.g., GDPR, CCPA) who ensure that the system complies with regulations. ***Customer Support Team****:* Provides user feedback and insights on customer pain points related to content recommendations. ***Training and Development Teams****:* Provide ongoing education to the technical team on new technologies, tools, or methodologies.
Technical Resources	***Software Tools*****:** Jupyter Notebook, data analysis tools (e.g., Python libraries), and databases. ***Hardware*****:** Servers, storage solutions, and workstations. ***Libraries & Frameworks*****:** Machine learning frameworks – scikit-learn, and Python data processing and analysis libraries (e.g., Pandas, NumPy, Streamlit, Matplotlib, Plotly). ***Personnel*****:** Data scientists, data analyst, software developers, data engineers, and system administrators. ***Collaboration Tools*****:** Documentation tools and communication platforms – Microsoft Azure Boards.

STAKEHOLDERS AND BENEFITS

Process Owner	They are responsible for the algorithms behind the recommendation system. They ensure that the new recommendation engine meets technical and business objectives, improves user experience, and continues to evolve post-launch.
Key Stakeholders	***CTO (Chief Technology Officer):*** Interested in how the recommendation system impacts Netflix's overall technical capabilities and scalability. ***Content Acquisition Team***: Focuses on how the system promotes newly acquired shows and movies.

	Marketing Team: Relies on recommendations to drive engagement and retention strategies. ***Data Science and Engineering Teams***: They build and maintain the system. ***Legal and Compliance Teams***: Ensure the system complies with privacy and data usage regulations. ***Customer Support Team***: Responsible for handling user feedback related to recommendations and ensuring that any issues related to the new system are resolved quickly. ***Finance Team***: Monitors the budget for the project, ensuring that costs are kept within limits and evaluates the ROI of the project. ***Customers:*** They are the end users who will use the platform and navigate it.
Final Customer	***Netflix Customers (Users):*** They are the people who will use the platform and get normal recommendations. ***Netflix Subscriber:*** They are the people who will use the platform and experience the enhanced personalized recommendations, which will influence their overall satisfaction with the service.
Expected Benefits	***Improved User Experience***: More personalized and accurate content recommendations leading to better user engagement. ***Increased User Retention***: A system that keeps users engaged for longer periods, reducing churn. ***Enhanced Content Discovery***: Exposing users to a wider range of content, increasing views on newly added shows and movies. ***Reduction in Algorithmic Bias***: Fairer content recommendations, catering to diverse user preferences. ***Scalability***: A more robust system capable of handling increasing user data and content libraries with high performance.

RISKS, CONSTRAINTS, AND ASSUMPTIONS

Risks	Data Collection Challenges Model Accuracy and Stability OTT platform dynamics User Adoption and feedback
Constraints	***Budget Constraints***: Limited financial resources for the project, affecting the tools, personnel, and infrastructure that can be used. ***Time Constraints***: A fixed deadline or project timeline that dictates when the project must be completed. ***Scope Constraints***: Defines what is included or excluded in the project; expanding the scope may lead to delays or increased costs. ***Resource Constraints***: Limited availability of personnel, technology, or other resources necessary to complete the project.

	Quality Constraints: Expectations for the level of quality or performance the project deliverables must meet, which can limit speed or reduce flexibility. ***Data Privacy and Compliance Constraints***: Legal limitations related to data usage and protection (e.g., GDPR, CCPA) that the project must adhere to. ***Technological Constraints***: Limitations in the availability or capability of technology platforms or tools required for the project. ***Organizational Constraints***: Internal policies or procedures within the company that may limit how the project is executed. ***User Expectation Constraints***: The need to meet user expectations for performance, reliability, and user experience, limiting experimental features.
Assumptions	▪ Access to up-to-date user data (viewing history, ratings, interactions) will be maintained. ▪ Adequate infrastructure (e.g., cloud resources and GPUs) will be available for the large-scale deployment of the new algorithm. ▪ User preferences will evolve consistently with historical trends, and no abrupt market shifts (e.g., due to competition) will occur during development. ▪ The new system will integrate seamlessly with Netflix's existing platform without significant downtime.

Success Criteria:
Improvement in user engagement metrics such as longer session times and reduced churn.
Increased diversity in recommended content, reducing the risk of overfitting to specific user behavior.
Successful handling of cold start problems for new users and newly added content.
A scalable recommendation system capable of processing real-time data with no performance issues.