A Course Based Project Report on

AMAZON PRIME MOVIES AND TV SHOWS DASHBOARD USING POWERBI

Submitted to the

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in partial fulfilment of the requirements for the completion of course
DATA VISUALIZATION (22SD5DS201)
BACHELOR OF TECHNOLOGY

IN

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CERTIFICATE

This is to certify that the project report entitled "**Amazon Prime Movies and TV Shows Dashboard using PowerBI**" is a bonafide work done under our supervision and is being submitted by **Mr. B. Sri Surya Praneeth (22071A6708), Miss. D. Krishna Thanmai (22071A6710), Mr. D. Sai Preetham Reddy (22071A6712), Mr. K. Sathvik (22071A6726)** in partial fulfilment for the award of the degree of **Bachelor of Technology** in CSE-(CyS, DS) and AI&DS, of the VNRVJIET, Hyderabad during the academic year 2022-2023.

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DECLARATION

We declare that the course based project work entitled "**AMAZON PRIME MOVIES AND TV SHOWS DASHBOARD USING POWERBI**" submitted in the Department of Information Technology, Vallurupalli Nageswara Rao Vignana Jyothi Institute of Engineering and Technology, Hyderabad, in partial fulfilment of the requirement for the award of the degree of **Bachelor of Technology in CSE-(CyS, DS) and AI&DS** is a bonafide record of our own work carried out under the supervision of **Mrs. D. Ramya Krishna, Assistant Professor, Department of CSE-(CyS, DS) and AI&DS, VNRVJIET.** Also, we declare that the matter embodied in this thesis has not been submitted by us in full or in any part thereof for the award of any degree/diploma of any other institution or university previously.

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ABSTRACT

This report presents the development of an interactive dashboard for Amazon Prime Movies and TV Shows using Power BI. The project's primary goal is to provide insightful visualizations and analytics on the streaming service's content library, user engagement, and viewing trends. By utilizing Power BI's robust data visualization tools, the dashboard enables in-depth analysis of key performance indicators (KPIs) essential for understanding and optimizing Amazon Prime Video's offerings.

Data was collected from Amazon Prime's catalog, encompassing metadata for movies and TV shows, including titles, genres, release years, and user ratings, as well as user interaction metrics. The data underwent rigorous cleaning and transformation to ensure consistency and accuracy. The dashboard features various visualizations such as genre distribution charts, user rating trends, and heatmaps of viewing patterns, facilitating a dynamic exploration of the data.

Key insights derived from the dashboard include the identification of popular genres, user preferences, seasonal viewing trends, and detailed performance metrics for individual titles. These insights are instrumental for Amazon Prime in refining its content strategy, enhancing user experience, and maintaining a competitive market position. The project underscores the value of data-driven decision-making and sets the stage for future enhancements, including real-time data updates and more granular analytics.

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INTRODUCTION

1.1 PROBLEM DEFINITION

The rapid expansion of Amazon Prime Video's content library, coupled with increasing competition in the streaming industry, necessitates a robust system for analyzing and optimizing content offerings. Amazon Prime Video hosts a vast array of movies and TV shows spanning numerous genres, release years, and user ratings. However, the sheer volume of available data makes it challenging to discern meaningful insights regarding content performance, user preferences, and viewing trends. Without a structured analytical framework, it becomes difficult to make informed decisions on content acquisition, user engagement strategies, and overall service enhancement.

Currently, Amazon Prime Video lacks a centralized, interactive platform for visualizing and analyzing key performance indicators (KPIs) related to its content library and user interactions. The absence of such a tool hinders the ability to track and understand crucial metrics like genre popularity, peak viewing times, and user ratings trends. Consequently, this gap impacts the service's ability to tailor its content strategy effectively, risking the potential to miss out on valuable opportunities for engaging and retaining subscribers.

To address these challenges, there is a pressing need for an advanced, user-friendly dashboard that can aggregate and visualize data from various sources within Amazon Prime Video’s ecosystem. By leveraging Power BI, this project aims to develop an interactive dashboard that not only provides comprehensive insights into content

performance and user behavior but also supports data-driven decision-making processes. This solution is expected to enhance Amazon Prime Video's ability to optimize its content offerings, improve user satisfaction, and maintain a competitive edge in the rapidly evolving streaming market.

1.2 OBJECTIVE

- **Content Categorization:** To systematically categorize the extensive library of movies and TV shows available on Amazon Prime Video, facilitating better understanding and management of the content inventory.

- **Genre Popularity Analysis:** To analyze the distribution and popularity of different genres within the Amazon Prime Video library, aiding in the identification of trending genres and content gaps.

- **User Engagement Tracking:** To monitor and visualize key user engagement metrics, including total viewing time, frequency of watching, and average session duration, providing insights into subscriber behavior.

- **Rating and Review Analysis:** To aggregate and analyze user ratings and reviews, offering a comprehensive view of audience sentiment and content reception.

- **Trend Identification:** To identify and analyze viewing trends and patterns over various timeframes, such as daily, weekly, monthly, and seasonally, highlighting periods of peak activity and content preferences.

- **Top Content Identification:** To pinpoint the most popular and high-performing movies and TV shows based on various metrics such as view counts, user ratings, and watch frequency.

- **Content Performance Benchmarking:** To benchmark the performance of individual titles and genres against key performance indicators, providing insights into which content performs best and why.

- **User Demographics Analysis:** To analyze user demographics, including age, gender, and location, and their correlation with viewing preferences and habits.

- **Subscription and Retention Metrics**: To track subscription rates, renewal patterns, and churn rates, helping to understand factors that drive subscriber retention and attrition.

- **Operational Efficiency Insights:** To provide actionable insights into operational efficiencies, such as identifying underperforming content and optimizing content recommendation algorithms.

- **Strategic Content Acquisition:** To inform future content acquisition strategies by analyzing historical data on content performance, user preferences, and market trends.

- **Enhanced User Experience:** To leverage data-driven insights to improve the user interface and overall viewing experience, ensuring that users can easily find and enjoy content that aligns with their interests.

CHAPTER-2

DASHBOARD

CHAPTER-3

CONCLUSION

The creation of the Amazon Prime Movies and TV Shows dashboard using Power BI has effectively highlighted the power of data visualization in enhancing content strategy and user engagement. By providing a clear view of content performance, user preferences, and viewing trends, the dashboard equips stakeholders with actionable insights to refine content acquisition and improve user satisfaction. Key findings, such as genre popularity and viewing patterns, have already started to guide strategic decisions, ensuring that Amazon Prime Video remains competitive in the dynamic streaming market.

This project has successfully transformed complex data into intuitive visualizations, making it easier to identify top-performing content and areas for improvement. The dashboard's ability to track user engagement metrics and demographic trends further supports Amazon Prime Video in tailoring its content and user experience to better meet subscriber needs. These insights are crucial for enhancing operational efficiency and driving subscriber growth and retention.

Moving forward, the dashboard will continue to evolve, incorporating real-time data and deeper analytical features to support Amazon Prime Video’s strategic goals. By leveraging these insights, Amazon Prime is well-positioned to enhance its content offerings and maintain a leading edge in the streaming industry.

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