

Over the top Platform

Vipashyna Arun Sable¹, Namrata Yeola², Sanchee Sable³, Kanishka Sable⁴

CSE , Rajiv Gandhi Institute of Technology, Mumbai, India^{1,2}

MSc , Institute Of Science, Mumbai, India³

BSc , HVPS RamNiranjan JhunJhunwala, Mumbai, India⁴

Abstract- Hotstar, (now Disney+ Hotstar), is the most subscribed-to OTT platform in India, owned by Star India. The major cause of the issue might be an unreliable internet connection or connection that is not operating correctly in hotstar. OTT has boosted experimentation to another level. exchange4media Group held the second edition of its one-day event on OTT titled e4m Play Streaming Media Conference & Metal Announcements on May 12, 2021, at 2 pm. The awards honoured excellence in the on-demand video and audio content. OTT platforms deliver content via the Internet, circumventing the need to pay subscriptions to traditional cable broadcast and satellite TV service providers. Therefore, we are building an OTT platform. We are adding subscription model. The web system is developed with PHP, MySQL and Xampp

Index Terms-OTT, Subscription, Internet and Streaming .

I. INTRODUCTION

Launched By Reliance Entertainment In 2008, Bigflix Became India's First Ott Platform. Eventually, Ott Started Thriving In India In 2013 After The Launch Of Zee Tv And Sony Liv. Ott (Over-The-Top) Is A Means Of Providing Television And Film Content Over The Internet At The Request And To Suit The Requirements Of

The Individual Consumer. The Term Itself Stands For "Over-The-Top", Which Implies That A Content Provider Is Going Over The Top Of Existing Internet Services High-Speed Mobile Internet At Affordable Prices, Doubling Of Internet Users, Increased Adoption Of Digital Payments And Discounts Have Combined To Fuel Ott Industry's Eye-Catching Growth In India.

Ott's Rise Is Expected To Eat Into Cinemas' Profits As Over 70 Per Cent Of Subscribers Use Otts More Than 4 Hours A Month. As We Mentioned Earlier, The Over The Top (Ott) Market Was Valued At Usd 101.42 Billion In 2020, And It Is Expected To Reach Usd 223.07 Billion By 2026, Registering A Cagr Of 13.87%, During The Period Of 2021 – 2026.

These Platforms Earn Through The Ad Revenue Model, Where They Charge Brands And Companies For Posting Ads On Their Platform. This Model Is Adopted By Voot & Mx Player.

In May 2021, Amazon Introduced A Free, Ad-Supported Video Streaming Services On Its Shopping App In India - Minitv. So, Amazon Has Launched A Free Video/Streaming

Content Or, The Technical Term Is An Ad-Supported Video On Demand (Avod) Known

As 'Mini Tv' Within Amazon's Mobile Application For Now And Has Plans To Extend it to Amazon's Website And Ios Devices. Believes Free Content For The Consumers Would Mean Spending More Time On The Amazon Platform And Eventually Ensuring Amazon As The First Preference While Purchasing A Product.

Netflix Has An Incredibly Intelligent Recommendation Algorithm. In Fact, They Have A System Built For The Streaming Platform. It's Called The Netflix Recommendation Algorithm, Nre For Short. This Software Is A Key Player In Netflix's Success.

The Nre Is Composed Of Multiple Algorithms That Filter Content Based On A User's Profile. The System Filters Over 3,000+ Titles Using 1,300 Recommendation Clusters All Based On An Individual User's Preferences. It Is Robust And It Pays Off Considering That 80% Of Netflix Viewer Activity Is A Direct Result Of Personal Recommendations.

II. PROPOSED SYSTEM

We Are Going To Make A Web Page Based Over The Top Platform With A Home Page, A Payment Page A Sign Up Page A Content Page And Watch History Page All These Will Be In A Single Web Page With Different Module A Viewer Will

Be Able To Signup Into The Webpage And Start Streaming The Content Available On The Platform. At The Backend Will Be Using The Database To Store The Content. We Will Be

Using Content Based Filtering And The Collaborative Filtering For The Recommendation Of The Content To The Viewer.

Video Streaming: In Website's Basic Purpose Is Video Streaming Wherein People Can Watch Movies This Is Done Using Video Control Tag Of Html/.

Subscription Page: Users Can The See The Premium Movies On Our Website By Buying The Our Subscription. Creating A Watch List: Our Signup Customers Can Create Their Own Watch List And Save The Movies In That Watch List For Later Viewing.

Content Recommendation: Once A Viewer Has Finished A Movie Or A Series They Will Get The Recommendation Of Other Series Or Movie Through 2 Different Algorithm.

III. METHODOLOGY/PROCEDURE

Methodology Based On Frontend And Backend Levels. This Approach Combines Two Different Levels: On A Web Level, It Consists Of The Web Page Which Is Made Using The Javascript, Php, Css And Bootstrap Javascript Is Used To Make The Modiles Of The Webpage And The Working Of The Webpage, Css And Bootstrap Is Used To Design Each Module In Web And Php Is The Improving The Functionality Of The Webpage And To Implement Interworking In The Modules.

On A Backend Level, We Have Used Database To Store The Movies And Videos And Using The Collaborative Filtering Ang Content Based Filtering,

These Algorithm Will Be Used To Improve The Recommendation Of The User And Provide Them With Good Content.

Project Identification and Selection

In This Project, We Aimed To Develop An Ott Platform As A Web Qpplication Which Will Focus On Providing Content To The User In The Form Of Videos. Anyone Who Is Interested In Streaming Movies And Has Internet Can Watch The Movies On This Web Page.

Project Initialization and Planning

To Begin The Project, We Have Gathered User Requirement Of This System And Prepare The Scope And Objective. The Results From This Phase Are Scope And Limitation, Objectives, Feature Of The Proposed System And User Interface Design.

Analysing System Needs

We Have Studied And Identified Problems Of Existing System, Then We Develop Data Flow Diagram For The

Existing System. We Also Develop Data Flow Diagram (Dfd) Figure 3.1.

Designing the Proposed System

Based On The Analysis Phase, We Created Data Dictionary And Dfd And User Interface Are Designed In This Process. Development Of The Proposed System

In This Phase, We Are Going To Convert The Design Of Proposed System To Computer Software, Which Includes Computer Programming Using Php, Mysql And Xampp.In Testing The Proposed System

This Step Is The Process Of Testing Whether The Programming Code Will Work Correctly With The Conditions In Our System Or Not. In This Phase, We Will Fix Bugs In Order To Produce A System With Maximum Performance. Manual Testing Will Be Done. Implementing The Proposed System

We Will Launch This System On The Xampp Server, Where We Will Have Our Database.

As User Enter The Platform The Home Page Will Appear. Then He/ She Can Choose The Subscription Model. Then The Payment Getaway Will Be Shown. Users Can Choose The Path They Want.

Once The Payment Is Done The Options For Movies Will Be Displayed. Here User Can See Movie's Cast, About, Director And Ratings Too. They Can Add It To Watch Later. They Can Also Watch Its Trailer. 7 The Core Concepts Of Above Implementation Will Give User Content.

IV. FIGURES AND TABLES

1. Collaborative Filtering Algorithm

To Address Some Of The Limitations Of Content-Based Filtering, Collaborative Filtering Uses Similarities Between Users And Items Simultaneously To Provide Recommendations.

This Allows For Serendipitous Recommendations; That Is, Collaborative Filtering Models Can Recommend An Item To User A Based On The Interests Of A Similar User B. Furthermore, The Embeddings Can Be Learned Automatically, Without Relying On Hand-Engineering Of Features.

A Movie Recommendation Example

Consider A Movie Recommendation System In Which The Training Data Consists Of A Feedback Matrix In Which: Each Row Represents A User.

Each Column Represents An Item (A Movie)

The Feedback About Movies Falls Into One Of Two Categories:

Explicit— Users Specify How Much They Liked A Particular Movie By Providing A Numerical Rating. **Implicit**— If A User Watches A Movie, The System Infers That The User Is Interested. To Simplify, We Will Assume That The Feedback Matrix Is Binary; That Is, A Value Of 1 Indicates Interest In The Movie.

When A User Visits The Homepage, The System Should Recommend Movies Based On Both: Similarity To Movies The User Has Liked In The Past Movies That Similar Users Liked.

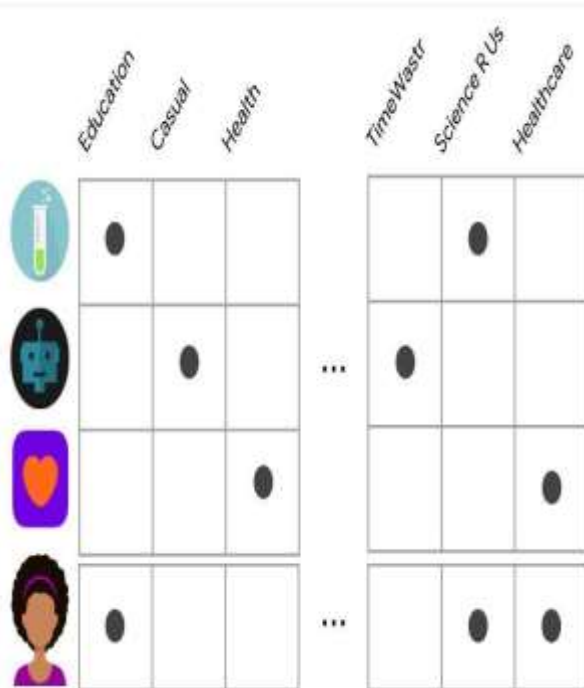


Figure 1: Filtering Algorithm

2. Content Based Filtering Algorithm

Content-based filtering uses item features to recommend their items similar to what the user likes, based on their previous actions or explicit feedback. Content-based filtering makes recommendations by using keywords and attributes assigned to objects in a database (e.g., items in an online marketplace) and matching them to a user profile. The user profile is created based on data derived from a user's actions, such as purchases, ratings (likes and dislikes), downloads, items searched for on a website and/or placed in a cart, and clicks on product links.

For example, a user selects "Entertainment apps" in their profile. Other features can be implicit, based on the apps they

have previously installed. For example, the user installed another app published by Science R Us.

The model should recommend items relevant to this user. Therefore, you must first pick a similarity metric (for example, dot product). Then, you must set up the system to score each candidate item according to this similarity metric.

Note that the recommendations are specific to this user, as the model did not use any information about other users.

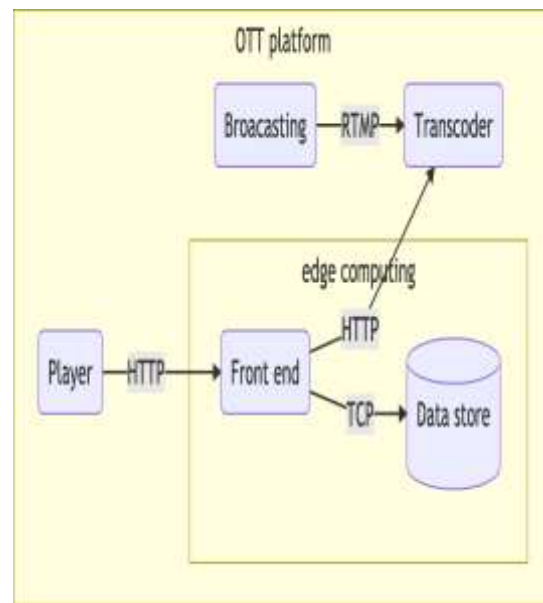


Figure 2: Data Flow Diagram

V. WORKING/ ARCHITECTURE

This diagram illustrates a client-server architecture used for web and mobile applications that interact with a remote server over the internet. Here's a breakdown of the components:

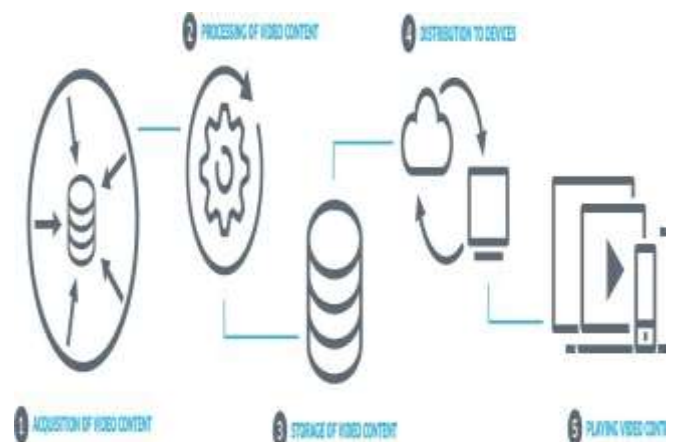


Figure 3: System Architecture

Workflow

- Local Server: Developers can test their PHP web application and MySQL database locally before deployment.
- Remote Server: Hosts the PHP web application and MySQL database, accessible to clients.
- Web View: Users access the application through a web browser.
- Android Application: Mobile users access the same backend server using a native app.
- Internet: Facilitates the transfer of data between clients (web view or mobile) and the remote server.
- PHP Application: Handles logic, such as fetching, processing, and storing data.
- MySQL Database: Stores the application's data.

VI. CONCLUSION

India is a huge market for OTT platforms, so offering different plans to satisfy a diverse user base with different income levels is the only solution for faster absorption and growth. Focusing more on Indian-friendly content would be another plus point for OTT providers.

Appendix

This study examines the rapid growth and impact of Over-the-Top (OTT) platforms on media consumption patterns. It explores key factors driving the adoption of OTT services, such as affordability, accessibility, and personalized content. The research also highlights challenges like data privacy, content regulation, and competition among platforms. A comparative analysis of major platforms, including Netflix, Amazon Prime Video, and Disney+ Hotstar, demonstrates varying strategies to attract and retain users. The findings suggest that OTT platforms are reshaping the global entertainment industry, with emerging trends emphasizing localized content and advanced recommendation algorithms.

Acknowledgment

We wish to state that the work embodied in this project is led "Over The Top Platform" forms our own contribution to the work carried out under the guidance of "Prof. Preeti Satao" at the Rajiv Gandhi Institute of Technology. We are also grateful to my "Parents" and "Bangtan Sonyeondan" for the encouragement and morale support. I declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/ fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action and can also evoke penal action from the sources which have

thus not been properly cited or from whom proper permission has not been taken when needed.

REFERENCES

1. "Amazon Prime Video," Accessed: Dec. 1/, 2024. [Online]. Available: <https://www.primevideo.com>
2. H. Singh and R. Mehta, "The impact of over-the-top platforms on traditional media," *Media and Technology Journal*, vol. 1/, n. 2, pp. 101–110, Apr. 2023.
3. P. K. Gupta, "Content personalization strategies in OTT services," in *Proc. IEEE Int. Conf. Digital Entertainment*, Tokyo, Japan, 2022, pp. 23–27.
4. J. D. Williams, *OTT Streaming Services and Consumer Behavior*, 3rd ed. London, U.K.: Routledge, 2021.
5. PwC, "Global entertainment and media outlook 2023-2027," PwC, Rep. 34789, Jul. 2023.
6. "Disney+ Hotstar," Accessed: Dec. 1/, 2024. [Online]. Available: <https://www.hotstar.com>
7. M. K. Roy, "OTT platforms: Redefining the future of television," *Journal of Media Studies*, vol. 19, n. 3, pp. 67–77, Sep. 2022.
8. KPMG, "India's digital future: Insights into the OTT industry," KPMG Report, Dec. 2023.
9. "Hulu," Accessed: Dec. 1/, 2024. [Online]. Available: <https://www.hulu.com>
10. S. T. Lewis, "The economics of OTT platforms," in *Proc. IEEE Global Comm. Conf.*, Barcelona, Spain, 2021, pp. 421–428.
11. R. Singh, S. Maurya, T. Tripathi, T. Narula, and G. Srivastava, "Movie recommendation system using cosine similarity and k-NN," pp. 2249–89/8, 06 2020.
12. M. Kumar, D. Yadav, A. Singh, and V. K. Gupta, "Article: A movie recommender system: Movie recommender system," *International Journal of Computer Applications*, vol. 124, pp. 7–11, August 2017.
13. L. M. de Campos, J. M. Fernández-Luna, J. F. Huete, and M. A. Rueda-Morales, "Combining content-based and collaborative recommendations: A hybrid approach based on Bayesian networks," *International Journal of Approximate Reasoning*, vol. 1/, n. 7, pp. 787–799, 2010.
14. E. A. S. Harpreet Kaur Virk, Er. Maninder Singh, "Analysis and design of hybrid online movie recommender system," *International Journal of Innovations in Engineering and Technology*, 2017.
15. U. Gupta and N. Patil, "Recommender system based on hierarchical clustering algorithm," *International Advanced Computing Conference (IACC)*, 2017.
16. U. Kuzelewska, "Clustering algorithms in hybrid recommender system on movie data," *Studies in Linguistics, Grammar and Rhetoric*, vol. 1, pp. 37, 01 2017.
17. "Youtube," Accessed: Dec. 1/, 2024. [Online]. Available: <https://www.youtube.com>

18. R. Kumar And S. Patel, "A Study On User Engagement In Ott Platforms," *International Journal Of Digital Media*, Vol. 10, No. 1, Pp. 4/–/3, Jan. 2023.
19. "Zee/," Accessed: Dec. 1/, 2024. [Online]. Available: <https://www.zee.com>
20. A. Bose, "Regional Content On Ott Platforms: A Game-Changer," In *Proc. Ieee Mediatech Conf.*, Mumbai, India, 2023, Pp. 102–108.
21. Ernst & Young, "The Future Of Ott Platforms In Emerging Markets," *E&Y Report*, Aug. 2023.
22. "Apple Tv+," Accessed: Dec. 1/, 2024. [Online]. Available: <https://www.apple.com/apple-tv-plus>
23. L. T. Nguyen, "Content Delivery Challenges In Ott Streaming Services," *Journal Of Network Engineering*, Vol. 8, No. 4, Pp. 211–220, Nov. 2023.
24. Statista, "Global Ott Platform Subscription Growth 2020–2024," Accessed: Dec. 1/, 2024. [Online]. Available: <https://www.statista.com>
25. "Mx Player," Accessed: Dec. 1/, 2024. [Online]. Available: <https://www.mxplayer.in>
26. T. Johnson, "Ad-Supported Versus Subscription-Based Ott Platforms: A Comparative Analysis," *Media Economics Review*, Vol. 14, No. 2, Pp. 98–107, Jul. 2022.
27. "Voot," Accessed: Dec. 1/, 2024. [Online]. Available: <https://www.voot.com>
28. J. P. Lee, "Technology Advancements In Ott Streaming: 4k And Beyond," In *Proc. Ieee Int. Conf. Multimedia Tech.*, Seoul, South Korea, 2022, Pp./6–63.
29. Deloitte Insights, "Key Trends Shaping The Ott Industry," *Deloitte Report*, Oct. 2023.
30. "Sonyliv," Accessed: Dec. 1/, 2024. [Online]. Available: <https://www.sonyliv.com>
31. H. Mehta, "User Retention Strategies On Ott Platforms," *Digital Content Studies Journal*, Vol. 18, No. 3, Pp. 34–40, May 2023.