

Project Report: Movie Vault – Personalized Movie System

# 1. Project Title

Movie Vault: Personalized Movie System with Ratings & Bookmarks

# 2. Project Team

Dhruv Gadge – Roll No: 1032221588  
Aadi Jain – Roll No: 1032212011  
Date of Submission: 9th April 2025

# 3. Introduction

In the era of digital streaming, users are overwhelmed with content choices. To simplify movie selection and enhance user satisfaction, Movie Vault offers a platform that:  
- Delivers personalized movie recommendations based on user interaction.  
- Provides a mechanism for rating and bookmarking movies.  
- Leverages real-time data to offer accurate and updated movie details.

# 4. Problem Statement

Most movie platforms lack personalized recommendation systems based on actual user preferences like ratings and bookmarks. Additionally, integrating social features, real-time updates, and cloud-based user data storage can elevate the user experience. Movie Vault is developed to address these gaps.

# 5. Objectives

The primary goals of the Movie Vault system are:  
1. To build a user-friendly and interactive interface.  
2. To integrate Firebase Authentication for secure and easy login/signup.  
3. To allow users to rate movies on a 1–5 scale.  
4. To implement a bookmarking feature so users can save movies for later.  
5. To use the TMDb API for fetching accurate, up-to-date movie details like posters, descriptions, and ratings.  
6. To store all data in real time using Firebase Firestore.  
7. To ensure the entire system is responsive and optimized for all devices.

# 6. Literature Survey

A comparison was conducted with existing movie recommendation systems such as:  
- Netflix: Uses collaborative filtering but lacks public bookmarking.  
- IMDb: Strong database, but lacks a dynamic personal recommendation engine.  
- Letterboxd: Good for reviews and sharing but limited on real-time data.  
  
The survey highlighted the need for a lightweight, secure, and highly personalized system that could be used without a heavy subscription model.

# 7. Features

- User Authentication: Firebase Authentication for secure user login/signup.  
- Movie Search & Discovery: Real-time movie data from TMDb API.  
- Rating System: 1–5 star rating for each movie by logged-in users.  
- Bookmarking: Save favorite movies for later access.  
- Firestore Integration: User preferences and interactions stored in the cloud.  
- Responsive Design: React.js frontend ensures compatibility across all devices.

# 8. Technologies Used

Frontend: React.js, JavaScript  
Backend: Node.js, Express.js  
Database: Firebase Firestore  
Authentication: Firebase Authentication  
API Integration: TMDb API  
Architecture: MERN Stack (MongoDB, Express.js, React.js, Node.js) – Firestore used instead of MongoDB

# 9. System Workflow

1. User Authentication – Login or signup via Firebase Authentication.  
2. Movie Exploration – Search movies via TMDb API.  
3. User Interaction – Rate and bookmark movies.  
4. Data Storage – Save preferences in Firestore.  
5. Real-Time Updates – TMDb API ensures current and accurate movie info.

# 10. Results

Movie Vault effectively delivers personalized recommendations and a user-friendly interface. Initial testing shows that user engagement is significantly improved due to customization and ease of use.

# 11. Future Scope

- AI-Based Recommendations: Smarter suggestions using machine learning.  
- Community Reviews & Social Features: Share reviews and watchlists.  
- Streaming Integration: Connect to platforms like Netflix or Prime.  
- UI Enhancements: Improved visuals, accessibility, and animations.

# 12. Conclusion

Movie Vault is an intelligent, scalable movie recommendation platform focused on user satisfaction. It provides secure authentication, personalized suggestions, and real-time movie data using modern tools like React, Firebase, and the TMDb API. It stands as a promising solution to enhance how users discover and manage their movies.