

# Requirement Document - Movie Streaming Platform

## 1. Introduction

### 1.1 Purpose

This document describes the functional and non-functional requirements of the Online Movie Streaming Platform. It serves as a comprehensive guide for the project's development process, including scope, use cases (scenarios), constraints, general overview, and data management.

### 1.2 Scope

The system will provide a platform for streaming and managing movies. Users will be able to watch and download movies, manage their watchlists, and rate or review films. The platform will offer both free and premium subscriptions. While free users will be required to watch advertisements during movies and will not have the option to download movies, premium users will enjoy an ad-free experience in addition to higher-quality downloads. A recommendation system will suggest movies based on user preferences. Administrators will be able to manage user accounts, content updates, and advertisements to ensure smooth operation and a better user experience.

### 1.3 Case (Scenario)

A fast growing online movie streaming platform that aims to increase user experience by developing an advanced Movie Streaming and Watchlist Management System. This platform will allow users to watch and download movies, manage and share their watchlists, see cast of a specific movie, and interact with the platform through reviews.

The platform will have a subscription system. It will offer both free and premium subscription plans. Premium users can watch movies without advertisements and download movies in up to 4K quality, while normal (non-premium) users will see advertisements before and during movies. In addition to that normal users will not be allowed to download movies to their computer or mobile device.

The platform will provide a personalized recommendation system. For example, if the user likes horror movies, horror movie recommendations will be made. There will not be recommendations about less rated movies. Platform will send notifications for new movies to inform the user.

Users will be able to create an account using their username, e-mail, and password to manage their profiles, including updating their subscription type (free or premium) and changing their username. The platform will work based on user activity, such as watched movies, favorite genres, and rating history, to generate personalized recommendations. Both normal and premium users will be able to see recommended movies based on these factors.

Users will access to details about any movie available on the platform. These details include the full cast, a detailed description, duration of the movie, its average rating based on user reviews, and comments shared by other users.

There will be a watchlist feature. It will allow users to add movies if they want to watch them later. Users will be able to manage and update their watchlists by adding or removing movies at any time. They will be able to share their watchlist link with their friends. Moreover, they will receive notifications that remind them to watch it. Also when a movie from their watchlist is about to leave the platform or when similar movies are available they will receive notifications as well.

Users will have the ability to rate and review movies they have watched. Each movie will display a rating based on user reviews from 1 to 10. Users will only be able to rate a movie after watching at least 50% of its duration so that rating averages will be more reliable. The system will also highlight top-rated movies based on given user ratings. They can also see the average rating of a specific movie.

There will be administrators which manage the movie platform and database. The administrators will be able to view system operations, manage user accounts, and ensure fast streaming services. They will control movie licensing agreements, update the movie catalog by removing or adding, and handle subscription-related issues. More than that, administrators will manage advertising settings to optimize and fix ad placements for free users without disrupting their experience. To prevent unexpected access, they will apply strong security protocols, including encrypted user data storage and multi-factor authentication methods.

New movie releases will be announced via real-time system notifications and e-mails. So that system will ensure that users stay updated with the latest content. The system will also have social sharing features, allowing users to share their watchlist links and favorite movies with their friends. Users will be able to see ratings given by other people before watching the movie.

The platform will support cross-platform. It will be available on desktop, mobile, and smart TV applications. Also it will use a relational database, which is MySQL to store and manage structured data, including user accounts, movies, watchlists, ratings, cast-movie relationships and reviews.

Key data tables will include User Authentication, Movie Catalog, Watchlist Management, User Ratings, and Movie Cast.

The platform will be designed to support up to 100,000 users watching at the same time without any issues. Strong security measures will be implemented to protect user data and keep the platform safe. Also strong protocols against cyber attacks will be provided. Against unexpected situations user will also have a right to delete their account.

The development team will follow a plan designed to activate the platform within seven months. The process is divided into six stages which can be listed as: project planning and requirement analysis (3 weeks), interface design (4 weeks), system architecture and database design (4 weeks), frontend, backend, and API development (7 weeks), testing, debugging, and optimization (5 weeks), and finally, deployment with ongoing process.

#### 1.4 Target Audience

- Software development team
- Test engineers
- Stakeholders (Users, Content Providers, Administrators)

## 2. General Overview

The platform will be accessible as a web, TV, and mobile application, offering an easy-to-use interface that keeps all users satisfied. Users can log in to the system via email and password, view available movies, list them based on genres, view the actors and directors, and manage their watchlists. They can also view other user profiles including their watchlists.

## 3. User Roles and Permissions

There are three main user types in the movie platform:

User Type	Permission
Free User	They can watch movies with ads, browse the catalog, create personal watchlists, and rate movies.
Premium User	In addition to free user permissions, they can watch movies without interruption and download content up to 4K quality.
Admin	They can manage user accounts, control content and update settings.

#### 4. Functional Requirements (FR)

No	Functional Requirements
<b>FR-01</b>	Users must be able to create a new account.
<b>FR-02</b>	Users must be able to log in with their username and password.
<b>FR-03</b>	Users must be able to reset their password via email or phone verification.
<b>FR-04</b>	Users must be able to update their data, including username, password and email.
<b>FR-05</b>	Users must be able to change their subscription type between free and premium.
<b>FR-06</b>	Users must be able to browse movies by genre, release date, and ratings.
<b>FR-07</b>	Users must be able to browse movies by cast information.
<b>FR-08</b>	Users must be able to view detailed information for each movie.
<b>FR-09</b>	Users must be able to filter movies based on user ratings.
<b>FR-10</b>	Users must be able to view actor and director profiles associated with a specific movie.
<b>FR-11</b>	Users must be able to view movie trailers before watching the full movie.
<b>FR-12</b>	Users must be able to sort movies by popularity and rating.
<b>FR-13</b>	Premium users must be able to download movies for offline watching.
<b>FR-14</b>	Premium users must be able to download movies in up to 4K quality.
<b>FR-15</b>	The platform must display advertisements to free users.
<b>FR-16</b>	Users must be able to upgrade their subscription plan through the platform interface.
<b>FR-17</b>	Users must be able to add movies to their personal watchlist.
<b>FR-18</b>	Users must be able to remove movies from their personal watchlist.
<b>FR-19</b>	Users must be able to see the average rating of a specific movie.
<b>FR-20</b>	Users must be able to see total number of movies.
<b>FR-21</b>	The platform must recommend multi-factor authentication for better security.
<b>FR-22</b>	Users must be able to delete their account permanently if they want to.
<b>FR-23</b>	The platform must be integrated with a relational database which is MySQL.
<b>FR-24</b>	Administrators must be able to log in system with their username and password.
<b>FR-25</b>	Administrators must be able to access database.

<b>FR-26</b>	Administrators must be able to view database tables.
<b>FR-27</b>	Administrators must be able to manage and update movie details.
<b>FR-28</b>	Administrators must be able to manage user accounts, including insertion or deletion.
<b>FR-29</b>	Administrators must be able to insert new users into the database.
<b>FR-30</b>	Administrators must be able to see total number of movies, users and genres.
<b>FR-31</b>	Administrators must be able to add, edit, or remove movies from the movie catalog.
<b>FR-32</b>	Administrators must be able to see total number of cast member
<b>FR-33</b>	Administrators must be able to update and delete user reviews and ratings.
<b>FR-34</b>	Administrators must be able to manage genre categories, including adding, updating, and deleting genres
<b>FR-35</b>	The platform must support cross-platform functionality on desktop, mobile, and smart TV applications.
<b>FR-36</b>	The platform must provide a user-friendly interface for browsing and selecting movies.

## 5. Non-Functional Requirements (NFR)

No	Non-Functional Requirements
<b>NFR-01</b>	The platform must load the homepage within 3 seconds.
<b>NFR-02</b>	Movie streaming should start within 5 seconds after the user selects a movie.
<b>NFR-03</b>	All user data must be securely encrypted using encryption protocols.
<b>NFR-04</b>	The application must be compatible with TV, mobile and desktop.
<b>NFR-05</b>	User activity data must be anonymized for privacy purposes.
<b>NFR-06</b>	The system must provide real-time notifications with no more than a 5-second delay.

## 6. Constraints

No	Constraints
<b>C-01</b>	Only premium users can download movies.
<b>C-02</b>	Premium users can download up to 100 GB of movies per month.
<b>C-03</b>	Users will receive notifications about scheduled maintenance or significant system updates at least 24 hours in advance.
<b>C-04</b>	A user cannot submit more than one rating or review for the same movie.
<b>C-05</b>	Users can only access the platform on a maximum of 5 devices at the same time, and any additional device will be logged out automatically.

## 7. Data Management

**Database:** MySQL

Key Tables:

- **Users** (UserID, Username, Email, Password, JoinDate, IsPremium)
- **Movies** (MovieID, Title, ReleaseYear, Duration, ViewCount, Rating)
- **Genres** (GenreID, GenreName)
- **Reviews** (ReviewID, UserID, MovieID, Rating, Comment, ReviewDate)
- **CastMember** (CastID, Name, Role, BirthDate, Nationality)
- **MovieGenre** (GenreID, MovieID)
- **MovieCast** (CastID, MovieID)
- **Watchlist** (WatchlistID, UserID, MovieID)

## 8. Risks

- **Data loss:** Regular data validation and consistency checks will be applied.
- **Unauthorized access to user accounts:** Two-factor authentication and secure password policies will be recommended.
- **Inaccurate movie recommendations:** AI algorithms will be updated and improved based on user feedback.

## 9. Deliverables and Timeline

Deliverables	Timeline
Project Planning and Requirement Analysis	3 Weeks
Interface Design	4 Weeks
System Architecture and Database Design	4 Weeks
Frontend & Backend & API Development	7 Weeks
Testing, Debugging and Optimization	5 Weeks
Deployment & Maintenance	Ongoing