VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi-590018

AngularJS and NodeJs Mini Project Report on

"IMDB Clone"

Submitted in Partial fulfillment of the Requirements for the V Semester of the Degree of

Bachelor of Engineering in

Information Science & Engineering

By

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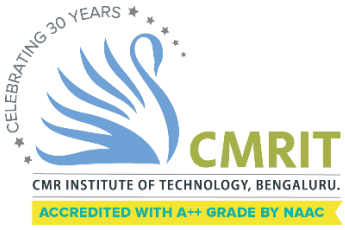
Under the Guidance of,

Mr. Partha Chattopadhyay, Assistant Professor, Dept. of ISE



DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

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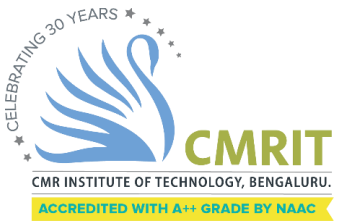

CERTIFICATE

This is to certify that the AngularJS and NodeJS Project work entitled **"IMDB Clone"** has been carried out by **Vishal Sangtani, 1CR21IS179, Zayed Ali, 1CR21IS187 And Caren D'sa, 1CR21IS188** bonafide students of CMR Institute of Technology, Bengaluru in partial fulfillment for the award of the Degree of **Bachelor of Engineering in Information Science and Engineering** of the Visvesvaraya Technological University, Belagavi during the year **2023-2024**. It is certified that all corrections/suggestions indicated for the Internal Assessment have been incorporated in the report deposited in the departmental library. This Project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the said Degree.

Signature of Guide	**Signature of HOD**
Ms. Sabha	**Dr Jagadishwari V**
Assistant Professor	**Professor & HoD**
Dept. of ISE, CMRIT	**Dept. of ISE, CMRIT**

External Viva

Name of the Examiners	Signature with date
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DECLARATION

We, the students of V semester from Department of Information Science and Engineering, CMR Institute of Technology, Bangalore declare that the project work entitled "**IMDb Clone'** has been successfully completed under the guidance of Mr. Partha Chattopadhyay, Assistant Professor, Dept. of Information Science and Engineering, CMR Institute of technology, Bengaluru. This project work is submitted in partial fulfillment of the requirements for the award of the Degree of Bachelor of Engineering in Information Science and Engineering during the academic year 2023-2024. The matter embodied in the project report has not been submitted previously by anybody for the award of any degree or diploma to any university.

Place: Bangalore

Date:05/03/2024

Team members:

VISHAL SANGTANI (1CR21IS179)	
ZAYED ALI (1CR21IS187)	
CAREN ELRIN D'SA (1CR21IS188)	

ABSTRACT

The IMDb Clone project aims to replicate the functionality of the popular Internet Movie Database (IMDb) using HTML, CSS, TypeScript, and the TMDb API (The Movie Database API). This project endeavors to provide users with an intuitive and interactive platform to search for, explore, and discover information about movies, TV shows, actors, and more.

The project features a comprehensive set of functionalities designed to enhance the user experience and provide valuable insights into the world of movies and TV shows. Users can easily search for their favorite movies or explore new releases, genres, and trending content. The platform offers detailed information about each movie or TV show, including synopsis, cast and crew details, ratings, release date, and more.

One of the key aspects of the IMDb Clone project is its integration with the TMDb API, which serves as a valuable source of real-time data about movies, TV shows, actors, and related information. This integration ensures that the platform remains up-to-date with the latest content, providing users with accurate and relevant information at all times.

ACKNOWLEDGE

I take this opportunity to express my sincere gratitude and respect to **CMR Institute of Technology, Bengaluru** for providing me a platform to pursue my studies and carry out the Database Management System Project.

It gives me an immense pleasure to express my deep sense of gratitude to **Dr. Sanjay Jain,** Principal, CMRIT, Bengaluru, for his constant encouragement.

I would like to extend my sincere gratitude to **Dr. Jagadishwari V,** HOD, Department of Information Science and Engineering, CMRIT, Bengaluru, who has been a constant support and encouragement throughout the course of this project.

I would like to thank my guide **Ms. Sabha, Assistant Professor,** Department of Information Science and Engineering, for the valuable guidance throughout the tenure of the project work.

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Finally, I thank my parents and friends for all the moral support they have given me during the completion of this work.

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CHAPTER 1

INTRODUCTION

The IMDb Clone project is a comprehensive endeavor aimed at recreating the functionality and essence of the renowned Internet Movie Database (IMDb). Utilizing a combination of HTML, CSS, TypeScript, and the TMDb API (The Movie Database API), this project embarks on providing users with an immersive and interactive platform for exploring the vast world of movies and TV shows. With an extensive database at its core, this project seeks to empower users to effortlessly search, discover, and delve into a plethora of cinematic content.

With the integration of the TMDb API, our project ensures that users have access to the most up-to-date information about their favorite movies and TV shows. Whether it's exploring detailed synopses, discovering talented cast and crew members, or gauging audience reactions through ratings and reviews, our platform aims to provide a comprehensive and reliable source of cinematic knowledge.

Furthermore, the IMDb Clone project isn't just about consuming content—it's also about engaging with it. Through features such as user ratings and reviews, registered users have the opportunity to contribute to the platform's vibrant community. By sharing their opinions, recommendations, and insights, users play an active role in shaping the collective cinematic discourse.

In essence, the IMDb Clone project represents more than just a technical endeavor—it's a celebration of the magic of movies and TV shows. By bringing together the worlds of technology and cinema, we hope to create a platform that not only entertains but also inspires, informs, and fosters a sense of community among movie enthusiasts worldwide.

1.1 Objectives

The specific objectives of the IMDb clone project include:
Objectives of the IMDb Clone Project:

- Replicate the functionality of the popular Internet Movie Database (IMDb) using HTML, CSS, TypeScript, and the TMDb API.
- Create an intuitive and interactive platform for users to search, explore, and discover information about movies, TV shows, actors, and more.
- Implement a comprehensive search and browsing feature that allows users to find content based on title, genre, actor, and other relevant criteria.
- Provide detailed information about each movie or TV show, including synopsis, cast and crew details, ratings, release date, and more.
- Integrate the TMDb API to fetch real-time data about movies, TV shows, actors, and related information, ensuring that the platform remains up-to-date with the latest content.
- Enable users to rate and review movies, contributing to the community-driven aspect of the platform.

1.2 Scope of the project

1. Frontend Development: Design and implement the user interface (UI) using HTML, CSS, and TypeScript to create a visually appealing and interactive platform for users to navigate.

2. Backend Development: Develop server-side logic to handle user requests, process data from the TMDb API, and manage user accounts and interactions.

3. Integration with TMDb API: Integrate the TMDb API to fetch real-time data about movies, TV shows, actors, and related information, ensuring that the platform remains up-to-date with the latest content.

4. Search and Browsing Functionality: Implement robust search and browsing features that allow users to find content based on title, genre, actor, release date, and other relevant criteria.

5. Content Display: Display detailed information about each movie or TV show, including synopsis, cast and crew details, ratings, reviews, trailers, and more.

6. User Interaction: Enable users to rate and review movies, contribute to discussions, create personalized profiles, and interact with other users within the platform.

8. Responsive Design: Ensure that the platform is responsive and optimized for different devices and screen sizes, providing a seamless user experience across desktops, tablets, and mobile devices.

The scope of the IMDb Clone project encompasses all aspects of building a functional and user-friendly movie database platform, from frontend design and backend development to API integration, user interaction, and testing. By addressing these key areas, the project aims to deliver a high-quality and feature-rich platform that meets the needs of movie enthusiasts and provides a seamless and enjoyable experience for users.

CHAPTER 2

SYSTEM REQUIREMENTS

For an IMDb Clone application, the system requirements can vary based on the scale and complexity of the project. Here's a general outline of the hardware and software requirements you might consider:

1. **Hardware Requirements:**

Server-side requirements include:

- Minimum dual core CPU, recommended quad core or above
- Minimum 8GB RAM
- 20GB Hard Drive Space

Client-side requirements are any device that is capable of connecting to the internet and running a web browser.

2. **Software Requirements:**

- **Operating System**: Choose an operating system that supports your chosen technologies. Linux distributions (e.g., Ubuntu, CentOS) are commonly used for web servers, while Windows Server is also an option.
- **Web Server**: Apache, Nginx, or Microsoft IIS are popular choices for hosting web applications.
- **Programming Languages**: Angular or React for the frontend, Node.js for the backend, and HTML/CSS for styling.
- **Frameworks**: Express.js for building the backend of the application.

3. **Development and Deployment Tools:**

- **IDE**: Use an Integrated Development Environment (IDE) such as VisualStudio Code, WebStorm, or Atom for coding.
- **Version Control**: Git for version control and collaboration.
- **Deployment**: Tools like Docker, Kubernetes, or AWS Elastic Beanstalk for containerization and deployment

CHAPTER 3

IMPLEMENTATION

Implementation of the IMDb Clone Project:

- Design and create the user interface (UI) using HTML, CSS, and TypeScript.
- Develop interactive components and user interface elements for searching, browsing, and displaying movie information.

- Set up a server-side environment using a suitable backend framework (e.g., Node.js, Django, Flask).
- Implement server-side logic to handle user requests, process data from the TMDb API, and manage user authentication and authorization.
- Create endpoints for fetching movie data, user profiles, ratings, and reviews.

- Obtain API keys from TMDb and set up authentication for accessing the API.
- Develop functions to fetch data from the TMDb API, such as movie details, cast and crew information, ratings, and reviews.
- Implement search functionality allowing users to search for movies by title, genre, actor, release date, etc.
- Develop filters and sorting options to refine search results based on user preferences.
- Create browsing categories for trending movies, top-rated movies, new releases, etc.

By following these implementation steps, the IMDb Clone project can be successfully developed and deployed, providing users with a feature-rich and interactive movie database platform.

CHAPTER 4

INTERPRETATION OF RESULT

The interpretation of the results of the IMDb Clone project involves evaluating the platform's functionality, usability, performance, content accuracy, security measures, and community engagement. This assessment encompasses assessing whether the platform successfully replicates IMDb's core features, providing an intuitive and accessible user experience, accurately fetching, and presenting movie data, ensuring robust security measures to protect user information, and fostering active community engagement. By analyzing feedback from users and stakeholders, monitoring key performance metrics, and identifying areas for improvement, the project team can iteratively refine and enhance the platform to better meet the needs and expectations of its audience. Ultimately, the interpretation of the results aims to gauge the platform's effectiveness in delivering value to its users and achieving its objectives of providing a comprehensive and enjoyable movie database experience.

4.1 OUTPUT

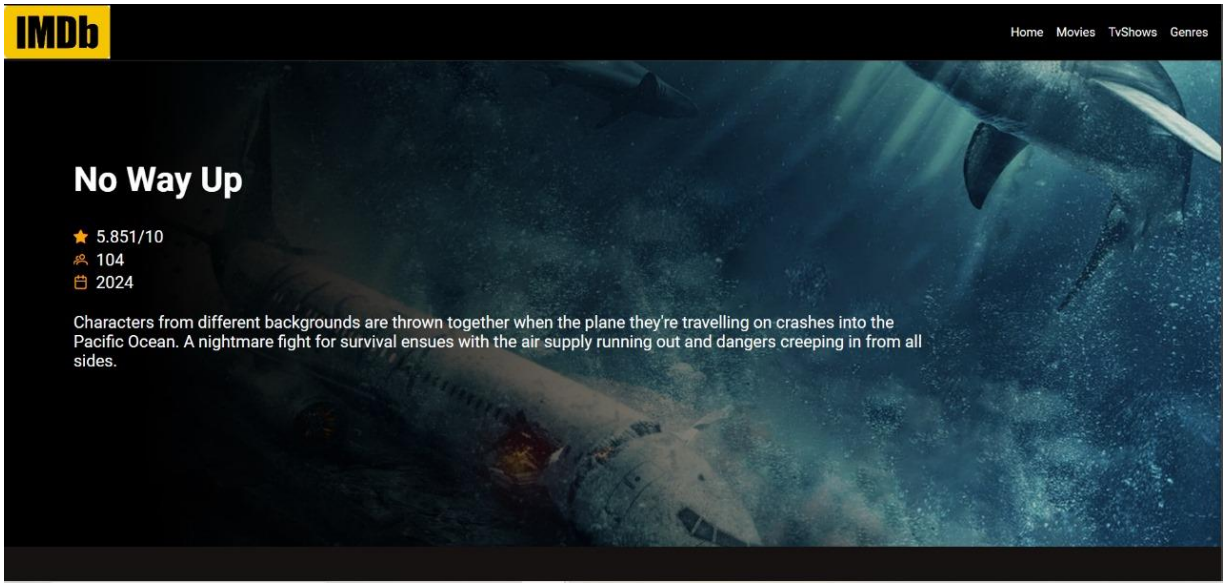

Fig 4.1 Home Screen

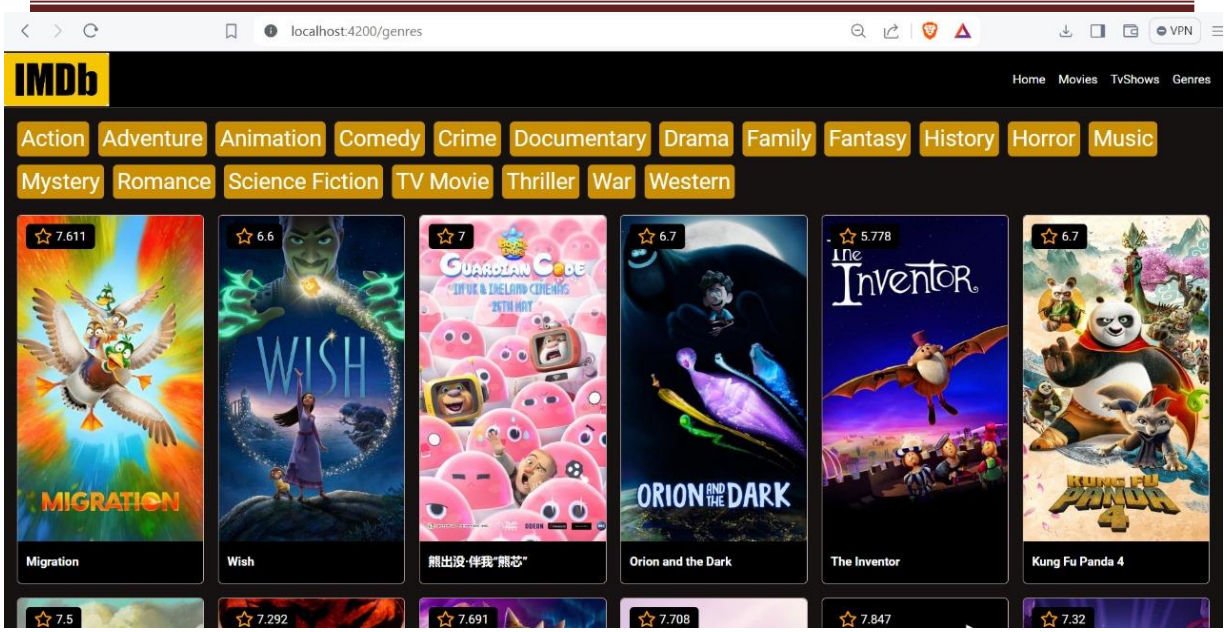

Fig 4.2 Genre Page

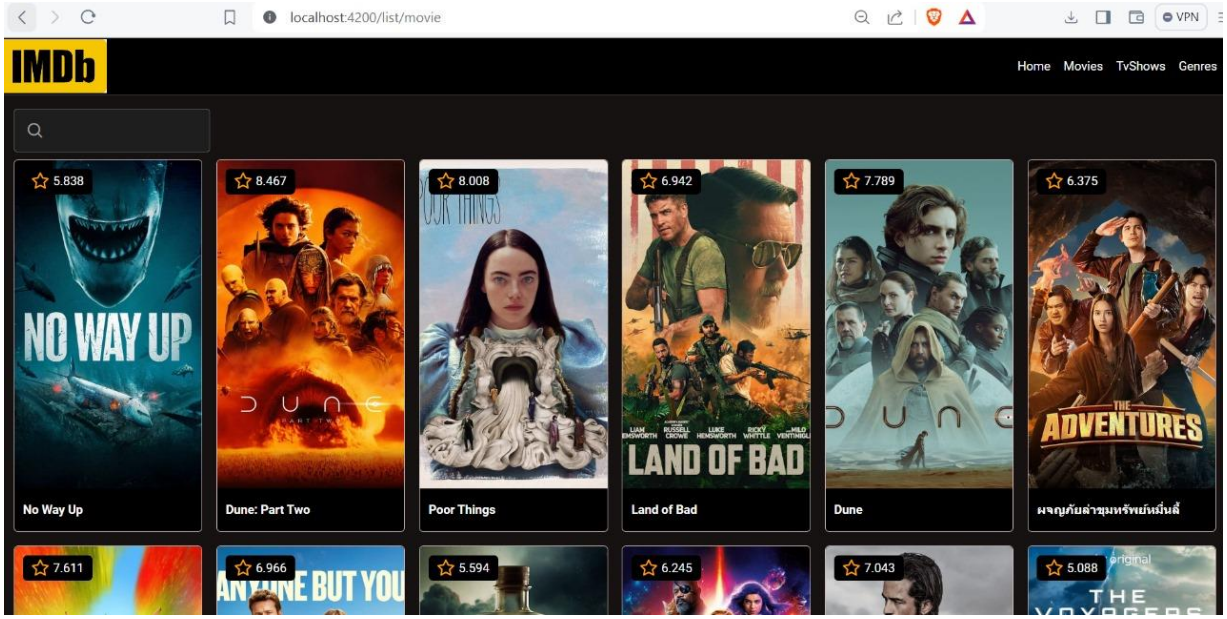

Fig 4.3 Movies Page

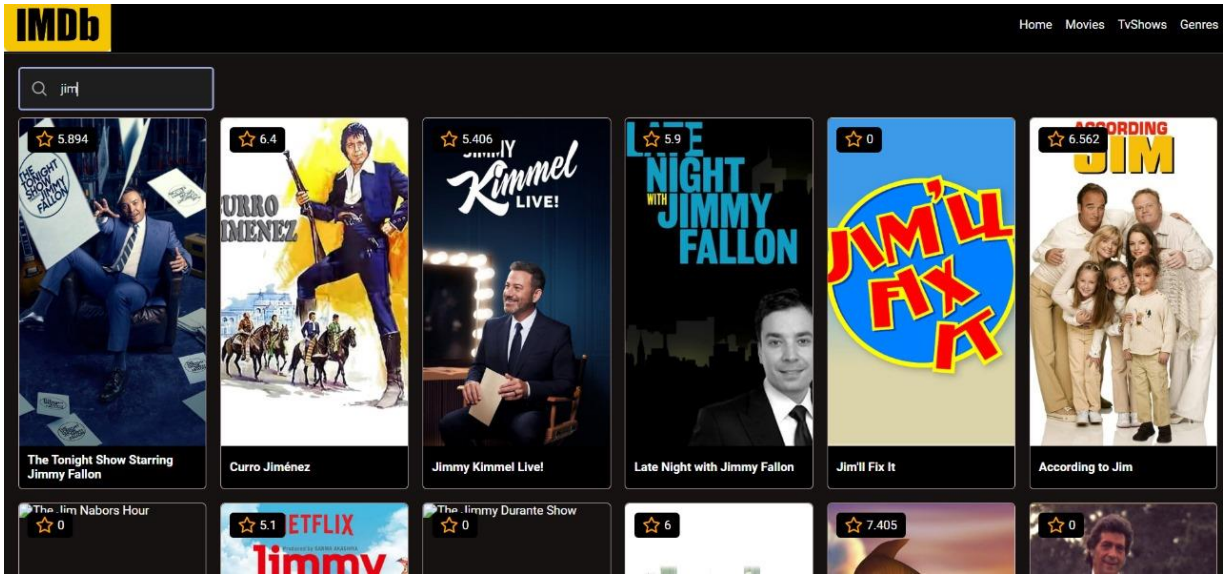

Fig 4.4 Search TV show by Name

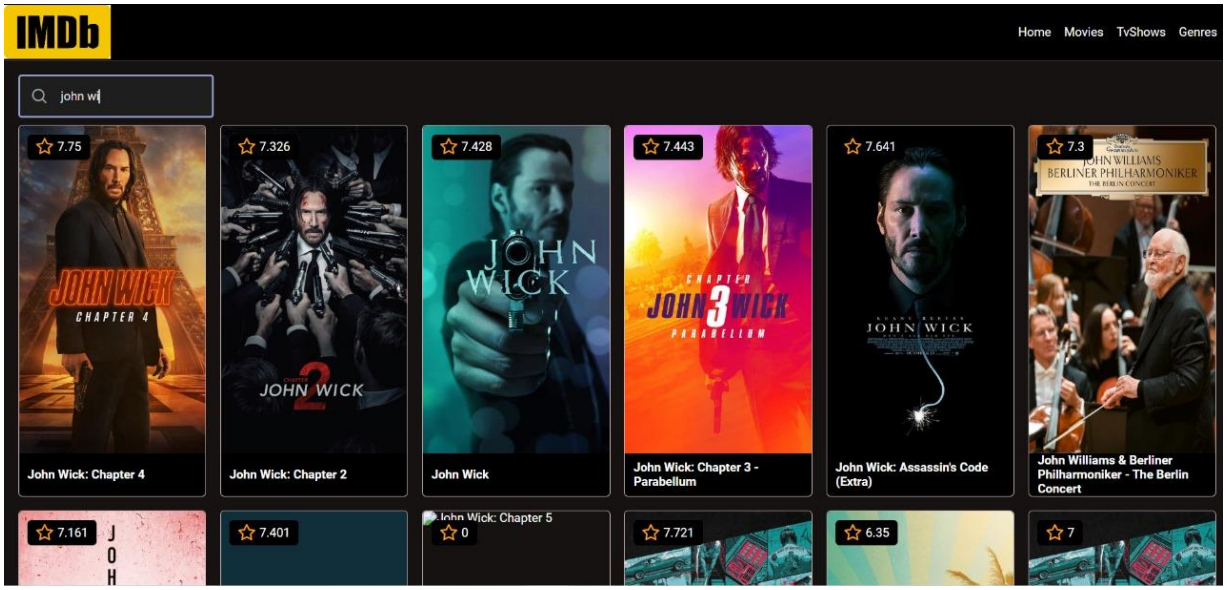

Fig 4.5 Search Movie by Name

CHAPTER 5

CONCLUSION AND FUTURE SCOPE

5.1 Conclusion

The development of an IMDb-like clone project using Angular has been an enriching experience, providing hands-on experience with modern web development technologies and practices. Throughout the project, we utilized HTML, CSS, TypeScript, and the Angular framework to create a responsive and dynamic application.

The project featured four main pages: the Home page, Genre page, Movies page, and TV show page, each designed to showcase movie and TV show data fetched from the TMDb API. Components such as banner, show-item, and show-video were implemented to enhance the user experience and provide engaging content.

Key features of the application included search functionality, pagination, and integration with the TMDb API to fetch and display movie and TV show data. Overall, the IMDb-like clone project served as a valuable learning experience, allowing for the practical application of web development concepts and techniques. It provided insights into the challenges and considerations involved in building a modern web application while showcasing proficiency in Angular development.

5.2 Future Scope

- **User Authentication and Authorization:** Implement user authentication and authorization features to allow users to create accounts, log in, and access personalized content. You can also define different user roles and permissions to control access to certain features or pages.

- **User Reviews and Ratings:** Allow users to leave reviews and ratings for movies and TV shows. Implement a rating system that aggregates user ratings to display an overall rating for each item. This can enhance user engagement and provide valuable feedback for other users.

- **Favorites and Watchlist:** Add functionality for users to mark movies and TV shows as favorites or add them to a watchlist for later viewing. This can improve user retention and provide a personalized experience for users to keep track of their favorite content.

- **Social Sharing:** Enable users to share their favorite movies and TV shows on social media platforms such as Facebook, Twitter, and Instagram. This can help increase the visibility of your application and attract new users.

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