MOVIE RECOMMENDATION APPLICATION

High-Level Design Document

Document Version Control

Date Issued	Version	Description	Author
07-03-2023	1.0	Initial LLD	Ashish Kr Jha
10-03-2023	1.1	Base Model	Ashish Kr Jha
15-03-2023	1.2	Final UI Version	Ashish Kr Jha
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Abstract

The Movie Recommendation application is a web app where users can find Movie Details and browse through it to find the next movie they want to watch. They can also search for movies and view detailed information about the movies. This application uses The Movie Database to fetch the meta-data of the movies. Using this application users can look at the list of movies that are trending, now playing, search, or find genre-based lists. And look at the details of the movie along with trailer

1. Introduction

1.1 Why this High-Level Design Document?

The purpose of this High-Level Design (HLD) Document is to add the necessary detail to the current project description to represent a suitable model for coding. This document is also intended to help detect contradictions prior to coding and can be used as a reference manual for how the modules interact at a high level.

The HLD will:

- Present all of the design aspects and define them in detail
- Describe the user interface being implemented
- Describe the hardware and software interfaces
- Describe the performance requirements
- Include the design features and the architecture of the project
- List and describe the non-functional attributes like
  - Security
  - Reliability
  - Maintainability
  - Portability
  - Reusability
  - Application compatibility
  - Resource utilization
  - Serviceability

1.2 Scope

The HLD documentation presents the structure of the system, such as the database architecture, application architecture (layers), application flow (Navigation), and technology architecture. The HLD uses non-technical to mildly-technical terms which should be understandable to the administrators of the system.

1.3 Definitions

Term	Description
API	Application Programming Interface
CRA	Create React App
TS	Typescript
CSS	Cascading Style Sheet
HTML	Hyper Text Markup Language

2. General Description

2.1 Product Perspective

The Movie Recommendation Application helps users search and browse through a list of movies and find details on the movie they are interested in and watch the trailer of the movie to see a glimpse of the movie

2.2 Problem Statement

- To create a Movie browse site. The movies are aggregated in one place based on the category which in this case would be genre-based, and check the movie details
- To design a page where users can choose a category and get a list of movies based on the category and check the details of the movie

2.3 Proposed Solution

The solution proposed here is a web application that uses The Movie DataBase to fetch the metadata of the movies. And Explore the movie details

2.4 Further Improvements

This project has been improved by adding the trending section, now playing section, a search feature implementation, and trailer watching feature.

2.5 Project Requirements

In this project we need data on the movies which is fetched through the movie database App and the details are displayed in the movie section.

2.6 Tools Used

In this project we are using React Library along with Typescript to build this application. To prevent excessive use of external dependencies we have used Context API as a state management tool

- VS Code as Code Editor
- Google Chrome as a web browser
- React with Typescript to build Frontend of the App
- Tailwind CSS to handle the Styling of the elements on our website
- Movie Database API to fetch metadata of the Movies
- Github as Version Control System

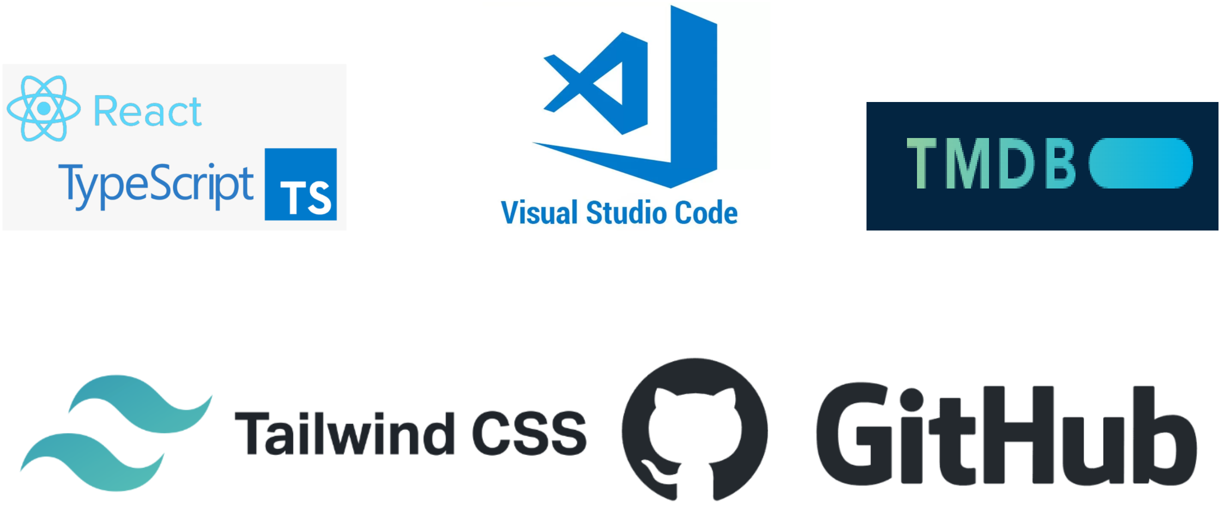


Figure 1:- Technologies Used

2.7 Constraints

The Movie recommendation system is based on the API data and hence the sections which require live data will be as accurate as the backend API of TMDB.

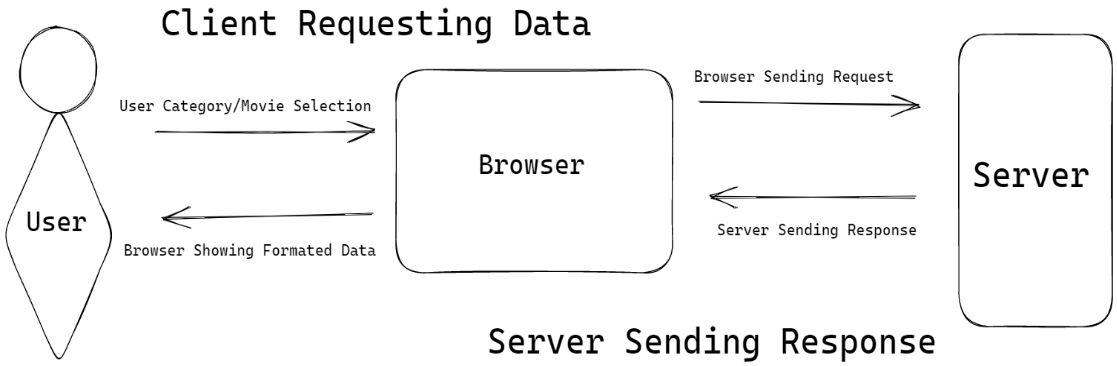
2.8 Assumptions

The main objective of the projects is to provide users with a distraction-free environment to browse through the list of movies(2.2 Problem Statement). The user can select a genre or other sections to browse through the movie list and check the movie details to watch the trailer. For the search feature, it is assumed that the user knows the name of movie

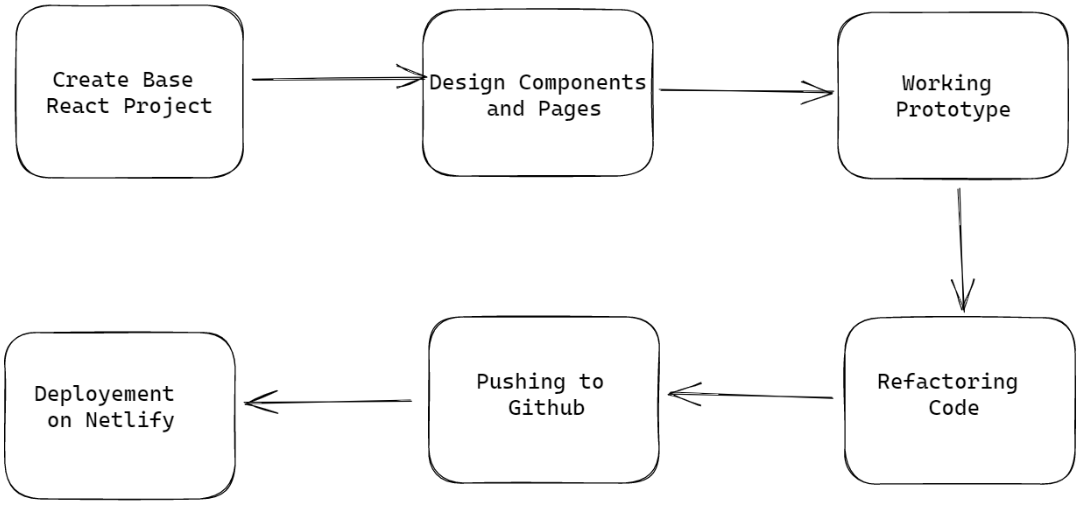
3. Design Details

3.1 Process Flow

To fetch metadata of a Movie we take input from the client and request TMDB API then we show that response to the client in an intuitive way. The process flow diagram is shown below.



Development Process



Error Handling:

The Project was made using Typescript with strict type checking prevent some of the usual bugs. An error is any unexpected behavior in the application and should it arise it will be displayed and as future versions are released the Application will become more optimized.

4. Performance and Accessibility

The Movie Recommendation Application should be having high performance i.e., faster page loads and less payload in API calls. And it should be following good practices for accessibility and further accessibility options will be added.

4.1 Reusability

The code written and the components used, have the ability to be reused.

4.2 Application compatibility

This project is cross-platform supporting i.e., we should support mobile and desktops also.

4.3 Resource utilization

When any task is performed, it will likely use all the processing power available until that function is finished.

4.4 Deployment

For this application we choose **Netlify** for hosting our application because of its ease of use and because it is comparatively cheaper when compared to its alternative

5. Conclusion

The Movie Recommendation Application Provides a better way to search and browse for the desired Movie and get some information on the Movie before watching it. It allows you to get all this information in a much more clutter-free environment with a nice User interface.