

Movie-App

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Abstract- In this project, Users can watch movies by using Movie-App. The users can directly watch movies. They are many features for registered users. They can find movies by using smart search bar. The purpose of this app is to provide a movie streaming application for the people. The project has been developed by using different technologies like Java, Angular, Bootstrap, CSS, JUNIT, HTML, API Gateway, Eureka Service, RabbitMQ, Spring-Boot, MySQL, MongoDB.

Indexed Terms- API Gateway, RabbitMQ.

I. INTRODUCTION TO MOVIE-APP

The Movie-App is similar to the movie-based application which is used to watch movies. It is a streaming media service offered directly to viewers via the Internet. We can Search movies with help of smart search and also find popular and trending movies. Movie-App provides many features for registered users. It is a Friendly User-Interface Application. Most of these services are owned by a major film studio. Streaming is an alternative to file downloading, a process in which the end-user obtains the entire files for the content before watching or listening to it.

Users will need an Internet connection to stream or download video content. Users lacking compatible hardware or software systems may be unable to stream or download certain content. There are many apps which streams movies like Netflix, Amazon, Aha, HBO Now, Twitch etc.

Streaming media is multimedia that is delivered and consumed in a continuous manner from a source, with little or no intermediate storage in network elements. Streaming refers to the delivery method of content, rather than the content itself. There are challenges with streaming content on the Internet. For example, users whose Internet connection lacks sufficient bandwidth may experience stops, lags, or poor buffering of the content, and users lacking compatible hardware or software systems may be unable to stream certain content. With the use of buffering of the content for just a few seconds in advance of playback, the quality can be much

improved. Streaming is most prevalent in video on demand and streaming television services.

II. ARCHITECTURE DIAGRAM OF MOVIE-APP

When the user enters the data in FrontEnd then the data flows to the backend with the help of HTTP Request. This data will get saved in the respective databases.

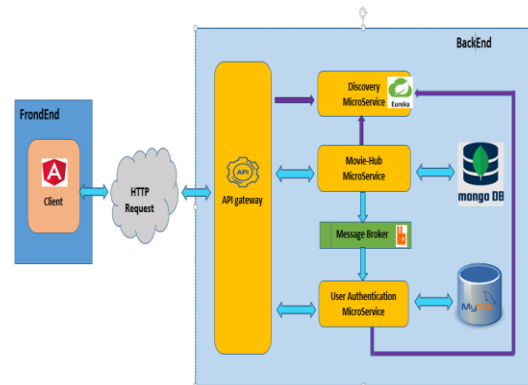


FIGURE 1: ARCHITECTURE DIAGRAM

III. FLOW DIAGRAM OF USER IN MOVIE-APP

When the user enters into the movie-app. If the user is new to the application. He/She can search movie by different category, Play movie, View movie details. User can add movie to favorite, add movie to watch later by Registering to movie-App and after logging in. If user has existing account then he/she can login directly and if the password is wrong, it will directly redirect to login page. If the password is correct then he can login and enjoy the movie experience and can search movies of different categories, view movie details, add movie to favorite, remove movie from favorite, play movie, add movie to watch later, remove movie from watch later. Users can also View their profile and can also edit their profile. Users can logout anytime and can login anytime as they wish.

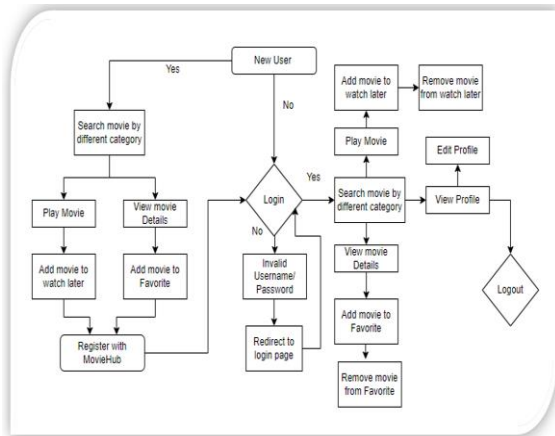


FIGURE 2: FLOW DIAGRAM OF USER

IV. FLOW DIAGRAM OF ADMIN IN MOVIE-APP

When the admin enters into the movie-app. Admin can login. If the password is incorrect, it will redirect to login page. After logging in, Admin can add movies, Delete Movies, Update Movies and View Movies. After completing the work, he/she can logout.

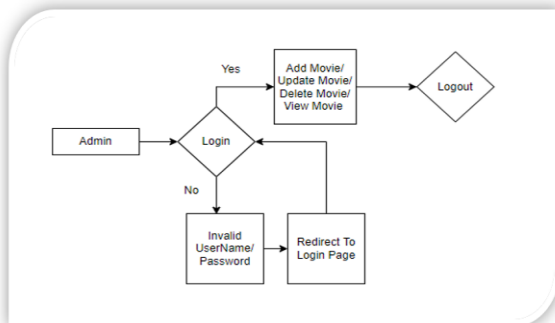


FIGURE 3: FLOW DIAGRAM OF ADMIN

V. TECHNOLOGIES AND FRAMEWORKS

PROGRAMMING LANGUAGE:

JAVA:

Java is a high level, class based and object oriented programming language. Java was originally developed by James Gosling at Sun Microsystems. It was released in May 1995 as a core component of Sun Microsystems' Java platform. It is a general purpose programming language intended to let programmers to write once and run anywhere (WORA) means the compiled java code can run on all the platforms that support java. Java applications are typically compiled to bytecode that can run on any Java_virtual machine (JVM). Java is a object oriented and robust platform. It is simple, platform

independent. Everything in Java is an object. Object-oriented means we organize our software as a combination of different types of objects that incorporate both data and behaviour.

FRAMEWORK:

SPRINGBOOT:

Spring Boot is a project that is built on the top of the Spring Framework. It provides an easier and faster way to set up, configure, and run both simple and web-based applications. It is used to create a stand-alone Spring-based application that you can just run because it needs minimal Spring configuration. There is no requirement for XML configuration. It increases productivity and reduces development time. We don't need to deploy WAR files in spring boot. Spring Boot can use dependencies that are not going to be used in the application. These dependencies increase the size of the application. Spring Boot is a Spring module that provides the RAD (Rapid Application Development) feature to the Spring framework.

WEB DEVELOPMENT FRAMEWORK:

ANGULAR:

Angular is a TypeScript Based, Free and open source single page web application framework. It is component based framework. It is mainly used to built single page applications. Angular allows us to write client application in Component Based Design Pattern. It offers us to write both in JavaScript and Typescript, however it majorly prefers TypeScript. A Component design approach is very useful from UI/UX perspective because if we see things in real world we realize that those are individual entities or are made up of some other entities. A single unit of application in Angular is called Module . A module consists of different components, services and functions. Angular's own module is called Ng Module which should be imported in the application before using Angular and its features.

CSS:

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS and HTML are used together to create a colourful webpage.

BOOTSTRAP:

Bootstrap is a free open source frontend framework for the creation of websites and webapps. Designed

to enable responsive development of mobile first websites. Web developers using bootstrap can build websites much faster without spending time worrying about basic commands and functions. The most popular CSS framework for developing responsive and mobile-first websites is bootstrap. The newest version is Bootstrap 5.

ANGULAR MATERIAL:

Materials were introduced as a design language that was developed by Google in 2014. Material Design is a tool for front-end frameworks, which helps you with visual, motion and interactive design. It also helps you adapt across different devices and different screen sizes. It help you to design your application in a structured manner. They attract users and make it easier to access the elements or the components present in your application.

DATABASES:

MYSQL:

MYSQL is an open-source relational database management system (RDBMS). The acronym for Structured Query Language. A relational database organizes data into one or more data tables in which data may be related to each other; these relations help structure the data. SQL is a language that programmers use to create, modify and extract data from the relational database, as well as control user access to the database. MySQL is free and open-source software under the terms of the GNU General Public License.

MONGODB:

MongoDB is a source available cross platform document oriented database program. Classified as NoSQL database program. MongoDB uses JSON like documents. MongoDB is developed by MongoDB Inc. MongoDB is a member of MACH Alliance.

WEB TECHNOLOGIES:

HTML:

The Hyper Text Markup Language or HTML is the standard markup language for documents designed to be displayed in a web browser. It defines the meaning and structure of web content. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page.

TESTING FRAMEWORKS:

JUNIT:

JUnit is a unit testing framework for Java programming language. JUnit has been important in the development of test-driven development. Java Developers use this framework to write and execute automated tests. JUnit has several graphs that represent the progress of a test. When the test runs smoothly, the graph displays a green colour, and it turns red if the test fails. JUnit Testing enables developers to develop highly reliable and bug-free code.

IDE:

INTELLIJ:

IntelliJ IDEA is the leading IDE for Java and Kotlin development. It helps you stay productive with a suite of efficiency-enhancing features such as intelligent coding assistance, reliable refactorings, instant code navigation, built-in developer tools, web and enterprise development support, and much more.

VISUAL STUDIO CODE:

Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs including websites, web apps, web services and mobile apps. Visual studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store, Microsoft Silverlight.

ARCHITECTURE:

MICROSERVICES:

Microservices are an architectural way of software development where the application is divided into small components (service). It allows the application to break into small parts which helps in solving debugging issues. Microservices were introduced to update the requirement in the application (components) without affecting the entire application. Microservices architecture is a type of application architecture where the application is developed as a collection of services. It helps in providing a framework used to develop , deploy and maintain microservices architecture diagrams and services independently. Each service can be changed according to the need of the application without affecting the rest of the application.

REST API'S:

API GATEWAY:

An API gateway accepts API requests from a client, processes them based on defined policies, directs them to the appropriate services, and combines the responses for a simplified user experience. It acts as a barrier in between frontend and backend. API gateway acts as a single point of entry into the system. It handles some requests by simply routing them to the appropriate backend service.

DISCOVERY SERVICE:

Discovery Service sends heartbeats to services to check whether it is up or down. It monitors which service is up and down and it will not stop the heartbeat to services. It sends the heartbeat for a time period, if it is not responding it is down. Services are registered to discovery service. Discovery Service is also known as Eureka Service.

RESULTS AND DISCUSSIONS



FIGURE 4: HOMEPAGE DETAILS

The users can add movies to their favorite, view movie details and play movie. User can add movie to their favorite, watch later only by logging in.

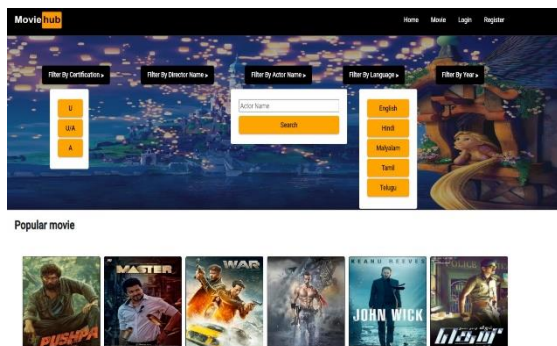


FIGURE 5: MOVIE-APP FEATURES

The users can find the movies by certification, director name, actor name, language and year. User

can search any movie by using the smart search bar in homepage.

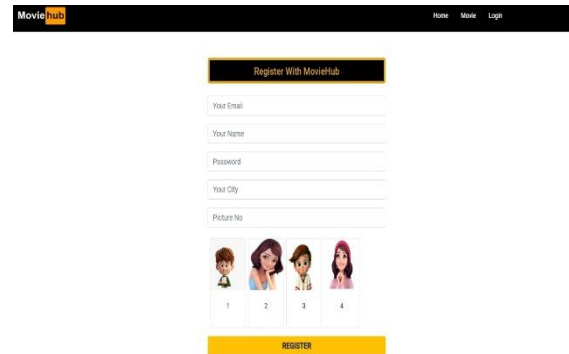


FIGURE 6: USER SIGNUP PAGE

The user need to register first before login. User need to click register to access this page.

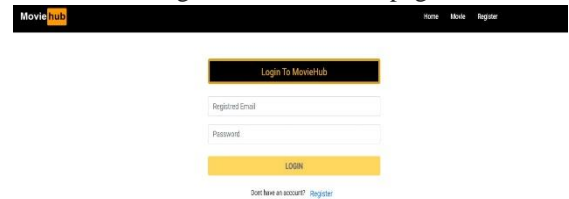


FIGURE 7: USER LOGIN PAGE

This is the user login page. User can login only after signup.

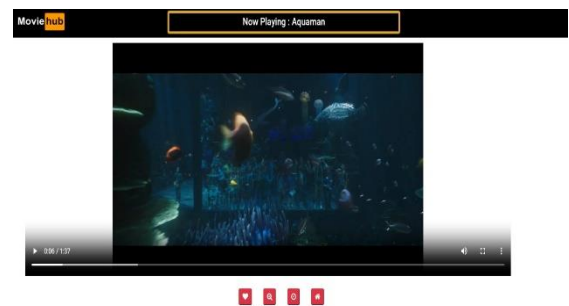


FIGURE 8: MOVIE STREAMING

User can watch movies even without signing in. Users can enjoy the movie by using our movie streaming application.

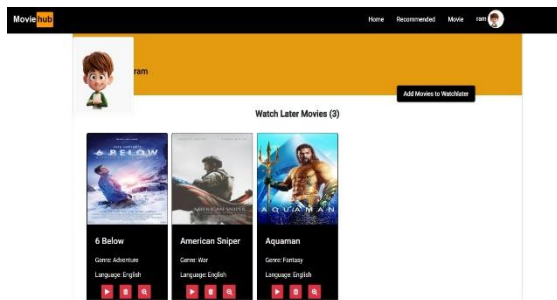


FIGURE 9: WATCH LATER

Users can add movies to watch later. You can go and watch the movie any time that is added to watch later. You can also remove it from watch later. Users need to login to add movie to watch later. You can add movie to watch later at movie streaming.

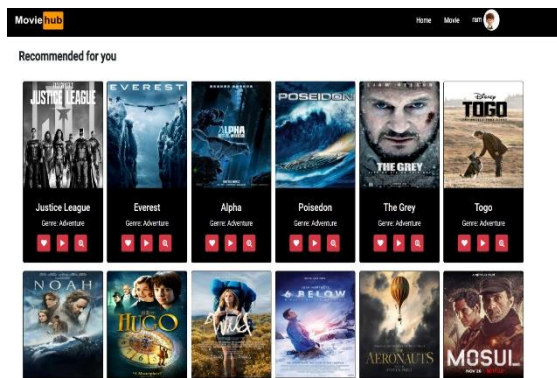


FIGURE 10: RECOMMENDED MOVIES

Users can also go and watch movies which are recommended.

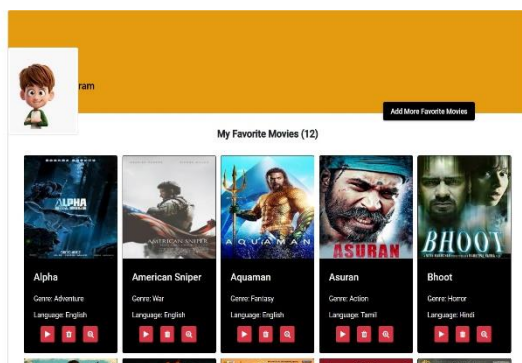


FIGURE 11: FAVOURITE MOVIES

Users can add, delete the movies to favourites. Users can watch their favourite movie.

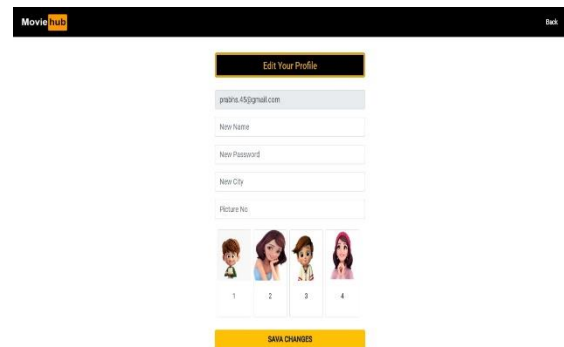


FIGURE 12: PROFILE UPDATE

Users can update the details and can also upload the profile picture.

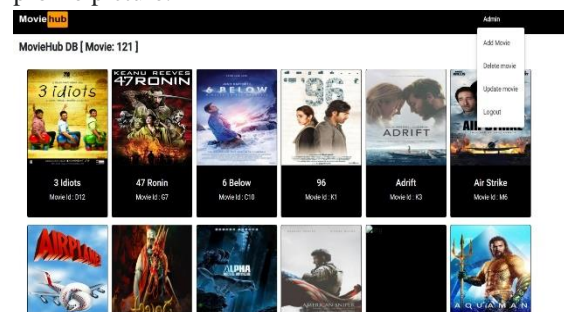


FIGURE 13: ADMIN HOMEPAGE

Admin need to register and login, to perform operations like adding, updating and deleting the movie.

CONCLUSION

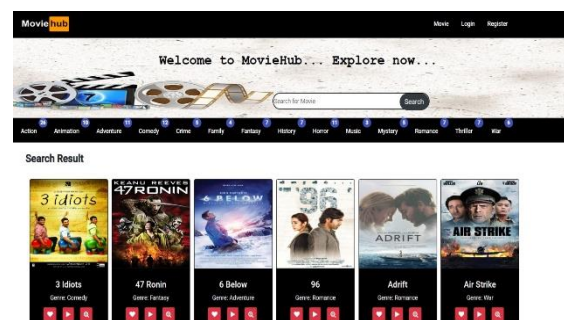


FIGURE 14: MOVIE APP

Users can enjoy the movie-app application anywhere anytime. All the internet users can access the application. Users can use the smart search to find movies. Movie-app provides many features for registered users. Movie application is friendly user interface. Users can login and logout anytime.