MoviesDB Android Application

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Abstract:- The Motion Picture Industry has always captivated the minds of its viewers. Recently, it has seen a massive surge in profit, with the industry generating billions of dollars in revenue across the globe. As the interest among people has increased, so has discussions and reviews relating to the movie. An entire industry within the Movie industry has sprung up, which evaluates, critiques and reviews these movies. Online platforms have come up which hold regular discussions among the fans of a particular movie. Print and electronic media have separate sections dedicated to discussing movies and the people involved in cinema's craft. The audience's hunger for consuming content related to movies is increasing, and thus, a platform that combines discussions, reviews and ratings will be handy to the movie lover. MoviesDB application looks to implement this idea using Android and REST API.

Keywords:- Context, Entertainment, Monitoring New Movie Releases.

I. INTRODUCTION

The advent of the modern age and the invention of the internet has propelled the Movie Industry to a place it has never gone before. It has taken cinema to even the most remote places and the comfort of every viewer's home on television and other mobile devices. As the fanfare has increased, so has the discussion related to the subject. Huge Media Organizations are dedicated solely to the latest news, rumours and discussions around movies. They make much money by introducing people to the ins and outs of the movie industry. In recent years, movie studios have leaned towards creating a 'Cinematic Universe', in which the studios release more than two movies revolving around a single theme. This has been a massive success, with movies like 'Avengers: Endgame' grossing up to 2 billion dollars worldwide and generating a huge amount of intrigue among the viewers. Thus, there is plenty of interest among people, which we are looking to tap into for the success of our application.

The last few years have also seen a massive surge in smartphones and other mobile devices. As per a report by Data Report, there are 5.11 billion unique mobile users worldwide, and 2.71 billion of them use smartphones. Smartphones provide the perfect platform for exchanging ideas, and hence the decision was made to convert our idea into a mobile application.

The idea is to bridge the gap between the viewer and the movies by exposing them to plenty of information related to their favourite movie by using an Android application.

II. OBJECTIVE

The goal of the application is to connect the moviegoer with movies by exposing them to plenty of trivia, information, reviews, trailers of movies so that a user can decide which movie to spend money on in the theatre. Users can also create a list of some of their favourite movies, which they revisit later.

The user can also start discussions about his favourite movies as they will be equipped with much information. Thus, this application provides a perfect platform for the user to keep their interest in movies alive, even after they have viewed them.

III. RELATED WORK

Many applications on the market provide movie information. GOOD SHOW is an app that provides movie reviews and helps people discover movies and TV show by suggesting the user movies which their friends are watching. However, the limitation is, it is an iOS app. Most of the applications like Netflix and Hulu require users to sign in to the Netflix or Hulu accounts to get their personalized content and recommendations. When the user wants to look for Movie titles and just wants to get an abstract of the movie, it becomes a problem. Other applications show reviews and ratings separately, and the user will have to switch applications to get complete information about the movies. For example, Guide box provides the list of sources where movies are available.

IV. EXISTING SYSTEM

Many such services are available on the internet in the form of websites. However, we present an app that is more user friendly than the websites available and uses fewer internet data. GOOD SHOW is an app that provides movie reviews and helps people discover movies and TV shows from friends' reviews and add movies to their watch list. However, the limitation is, it is an iOS app.Most of the applications like Netflix and Hulu require users to sign in to the Netflix or Hulu accounts to get their personalized content and recommendations. When the user wants to look for Movie titles and get an abstract of the movie, it becomes a problem as it would require them to log in first. Other

applications show reviews and ratings separately, and the user will have to switch applications to get complete information about the movies. This system is not enough as these days, people prefer to have an application that gives them this information rather than searching for content on the web as it is more time-consuming.

V. PROPOSED SYSTEM

The proposed solution is 'MoviesDB', an android mobile application using REST Interface, which provides users with accurate and latest information regarding the movies, which helps them decide whether a movie is worth watching or not.This application helps users find the most popular movies, top-rated movies, and upcoming movies running in theatres. It also provides a list of movies based on different genres. Users will read the ratings, movie synopsis, and release information about the latest movie. MoviesDB is developed using different technologies Java, Android and SQLite, and it is integrated with Android libraries such as Picasso and Retrofit. The application is based on the data available in TMdb API but can also integrate new data sources. Our application uses REST interface to pull fresh content each time it opens from the database. The User Interface comes with an ordered sequence of movie titles so that it helps people go over the grid list and discover the most popular movies. The idea is to provide a user-friendly experience to the users. Overall, MoviesDB attempts to demonstrate the integration of several latest technologies to create a useful real-time app.

VI. FEASIBILITY STUDY

Feasibility analysis can occur when objectives are defined. It starts with creating comprehensive, viable solutions that indicate what the new system should be. This is where art and imagination are used. Analysts have to develop new ways of doing things - they have to come up with new ideas. There is no need to log in to a complex system operation yet. The solution should provide enough information to make reasonable estimates of project costs and provide users with an indication of how the new system will fit into the organization. It is essential not to make an effort at this point only to find out if the project is not worthwhile or if there is a need to change the original goal radically.

Feasibility of system means ensuring that the system, which we are going to implement, is efficient and less costly.

The technology required for the application is readily available and is very accessible.

6.1 ECONOMICAL FEASIBILITY
The development of this application is very economically possible. The only thing that needs to be done is to make room for effective monitoring.

The technological frameworks involved in making the application are cost-effective. TmdB API does not charge much for a premium package that includes multiple API hits, and there is no cap for the number of API hits in a day. Google charges a minimal fee for publishing applications on Google's Play Store. The Databases involved do not require an enormous amount of storage and thus will be less expensive. All these expenses can be easily covered.

6.2 TECHNICAL FEASIBILITY
The technical requirement of the program is economical and does not use any additional hardware and additional software. The technical assessment should also assess whether existing systems can be upgraded to use new technologies. Softwares like Android Studio are required to make Android applications easily available and provide a variety of features that make development easier. For example, debugging tools provided by Android Studio help in making the application error-free. Database Services like MySQL and Room are readily available and do not require much technical know-how to set up.

6.3 OPERATIONAL FEASIBILITY
The operating system is very user friendly because of its attractive interface. The user does not need special training to use the system.

The operation of the technology includes issues such as determining whether the API can provide accurate information for the movies and whether the system can be configured to keep this information in place and when storing the user's favourite movies.

VII. LITERATURE REVIEWS /COMPARATIVE STUDY

7.0 LITERATURE REVIEWS
During the times of the pandemic, many new things have come to pass. Most of them being negative. So let us leave them aside. One of the positive things that have been a byproduct of the virus is the free time people have got on their hands.

In the modern post-industrialization era, life has taken a fast-paced turn. Most people complain about the lack of time and dream about things they would do if they had the necessary time. The pandemic has solved that problem.

People locked in their homes with nothing to do can fall into intense and long periods of boredom that can lead to mental instabilities. As a result, they invariably turn to entertainment. Here is where our app comes in.

Like with most things in life, movies, too, have tremendous variability in quality. Like the Shawshank Redemption, some can prove life-changing, and some leave us wanting our time back.

With the intent of not wasting the consumer's time and providing him with a tool to determine the wheat from the chaff, we have created this app.

Our app can list movies with a grid arrangement of movie posters and sort the movies by most popular or highest rated.

7.1 COMPARATIVE STUDY BETWEEN JAVA AND KOTLIN

Java's speed of development is faster than kotlin, but Java does not support lambda speech while kotlin supports it, which is vital in the treatment of unknown functions. Java has its own engine, platform and set of libraries. Another important thing is that its syntax appears mainly in C and C ++. Therefore, Java is a rich language in every way. In contrast, Kotlin is an open language. The JVM-based programming language can be integrated into JavaScript, Android and native languages. It offers a great combination of working skills and focuses on the object.

7.2 COMPARATIVE STUDY BETWEEN MYSQL and SQLITE

MySQL and SQLite are two of the most well-known RDBMS programs. MySQL is the most widely used data system for organizations, while MySQL is the third most popular. In terms of total usage, MySQL is a popular database system after Oracle DB, with SQLite being the most popular. The inconsistencies in these positions are considered because MySQL is most visible in website use. In contrast, SQLite is considered the most attractive tool for people interested in managing the data associated with their mobile applications. MySQL execution is swift. It supports many types of data. The MySQL allocation system is speedy and supports both fixed lengths and records of various lengths.

7.3 COMPARATIVE STUDY BETWEEN IOS AND ANDROID

While Android widely adopted many mobile applications, it was developed by Google and IOS made by Apple. Being open-source software, Android has expanded and is used by one of the most significant manufactured devices, is beneficial because of development costs and offers a good level of customization. Like IOS, the mobile operating system was upgraded to a specific set of devices, including an established list of hardware components. The close relationship between Hardware setup and app development has linked the success of the IOS platform to the popularity of its devices. This approach, however, also represents an advantage, as IOS is made to have a responsive and fast display, explicitly designed around its hardware boundaries.

The system is implemented on the Android platform. So, the application will support Android devices. Android is an operating system based on a modified version of the Linux kernel and other open-source software, primarily designed for touchscreen mobile devices such as smartphones and tablets. Android was developed by a developer organization known as the Open Handset Alliance and commercially sponsored by Google. Unveiled in November 2007, with the first Android commercial device launched in September 2008. It is free and open-source software, and its source code is known as the Android Open Source Project (AOSP), which is heavily licensed under the Apache License. However, many Android devices are delivered with additional pre-installed related software, especially Google Mobile Services (GMS), which includes key applications such as Google Chrome, digital. Distribution platform GooglePlay and GooglePlay Services development platform. About 70 per cent of Android smartphones use the Google ecosystem; Natural competitions for Android forks include Fire OS (made by Amazon) or LineageOS. However, the "Android" name and logo are Google trademarks that set standards to limit "unverified" devices without their natural use of the Android brand.

VIII.   ADVANTAGES OF ANDROID

Android supports a variety of languages. We can say almost all popular languages in about 100 languages. Using this feature is easy to use in different languages. At the beginning of the included calls, English will be the only language on mobile devices. The feature that supports Java enables engineers to improve other features. As it supports Java, performance can be enhanced by a fast data connection making a video call. We can take advantage of the new generation of bandwidth and networks using Android. Users can create their programs and make the necessary changes. They love to make Android more powerful and valuable for self-improvement. As it is an open-source operating system, we can use it easily and at no cost on equipment.

8.1 APPLICATION PROGRAMMING INTERFACE (APIs)

API stands for Application Programming Interface. An API is used as an interface to communicate with an external source. For example, consider a scenario where a user has to fetch some information from a database. Exposing all the data to the user bottle be potentially dangerous in maintaining the integrity of the database. Therefore, API acts as a layer of abstraction using which we expose only that information that the user requires. One more advantage of APIs is that it presents the required information in a readable way. Thus, the developers can further manipulate it to display it in a user-friendly way. API is the middle-man in our operation. Its responsibility is to convey requests to the server-side and return with a response to the user.

Modern APIs are based on REST or HTTP Interface. The next section will delve deeper into the differences between the two. In general, the characteristics of APIs included being developer-friendly and easily accessible to developers. In addition, they provide much-needed security to the Server-side of things and hence have become a mainstay of modern development. APIs are treated like a specific product and have their own Software Development Life Cycle(SDLC) where they are designed, tested and managed.

8.2 REST APIs

REST stands for Representational State Transfer. It is a kind of architectural model which contains guidelines that have to be followed by products using this model. Roy

Fielding originally presented it in 2000. There are six guiding principles of REST which include Client-server separation, having no State(all the client requests must contain all the required information and cannot be taken from information stored on client-side), ability to classify data as cachable or non- cachable, having a uniform interface, arranging data in a layered or hierarchical manner and implementing features as per the current demand. REST APIs follow all these protocols cachable or non- cachable, having a uniform interface, arranging data in a layered or hierarchical manner and implementing features as per the current demand. REST APIs follow all these protocols.

8.3 REST APIs VS HTTP APIs

A common misunderstanding among people is that there is no difference between REST APIs and APIs that use the HTTP protocol. Although REST APIs, like HTTP, intend to make the web more standard and streamlined, the former emphasizes the REST guiding principles as mentioned above. Roy Fielding himself did not mention any protocol preference when laying out his plans about REST. Instead, he emphasized the six guiding principles to be enough for an API to be considered as being RESTful. To conclude, REST APIs may use HTTP protocol in their implementation, but they are not required to do so.

IX. SYSTEM ARCHITECTURE

As soon as the user opens the application, an API call is made to tmDb API, which, in turn, fetches information from the movies database. Response from the API is used to populate the grid structure with the latest movies' name and poster. When the user selects a particular movie, the API calls to get movie details, including release date and other trivia.

The user can also store details of his favourite movies in the database, and this data is later retrieved when the user selects the favourite tab.

If the user wants to search a movie, the keyword typed in is matched with the API request, which generates a result accordingly. Users can sort by most popular movies that can be generated by calling the relevant API.

X. SYSTEM FEATURES

With MoviesDB,the user should be able to:
➢ View all of the movies in the database and their posters
➢ They should be able to search for their favourite movies by name or by popularity.
➢ Should be able to sort the movies based on different categories like Popular, Top Rated and Upcoming. Users can view movie details by clicking on the movie poster.
➢ Overview
➢ Release Date
➢ Rating
➢ Synopsis

XI. DETAILED SYSTEM ARCHITECTURE

A detailed Architecture of the System Design explains. This diagram shows all the modules used in this program and shows how the user can navigate the start screen to other functions until sending SMS.

11.1 USE CASE DIAGRAM
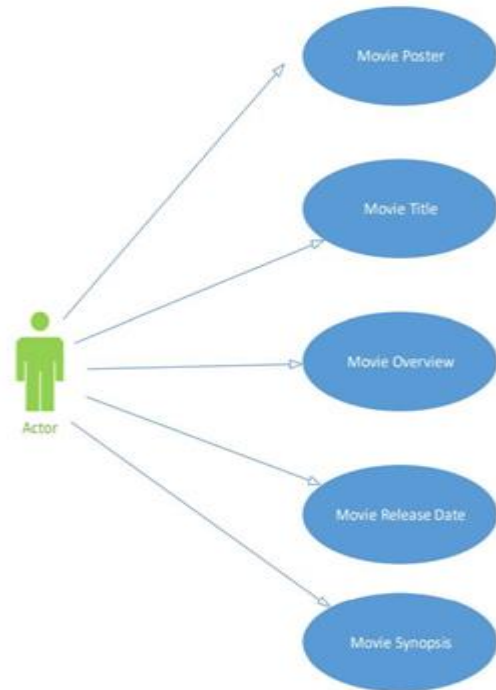
11.2 CLASS DIAGRAM

Let us see the MoviesDB Class Diagram. Here We will show the attributes and functions of all the classes that are used in this project.
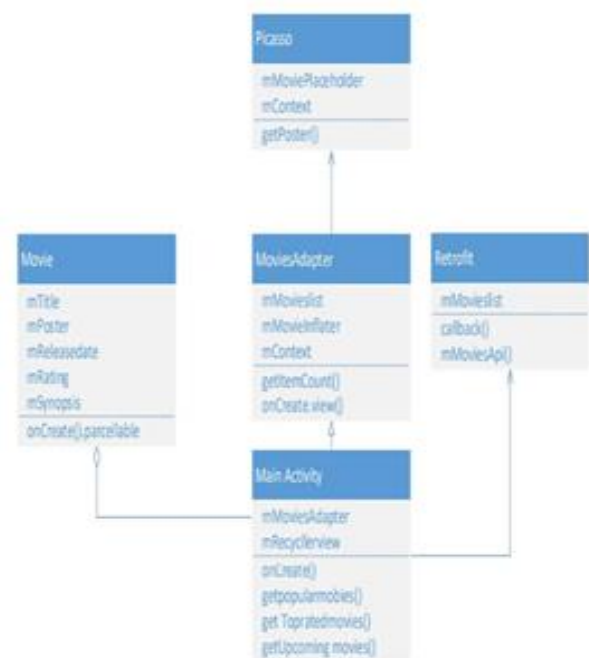
XII. BETTER THAN PC BASED SYSTEM

It is better than a PC-based system in many ways:

1. In an inadequate and inefficient power supply, cell phones are much better than computers; Desktop or Laptop.
2. The mobile phone requires a small portion of the computer's power requirement and can store long-lasting battery power compared to laptops.
3. A cell phone is cheaper than a computer on average, so economically, it is more profitable.
4. In inadequate maintenance procedures, cell phones are less likely to work less than computers. So, Cheap

XIII. ADVANTAGES AND LIMITATIONS OF THE PROPOSED SYSTEM

13.1 ADVANTAGES

Our system allows us to simplify the process of reviewing and rating movies. All the information about the latest movies is simply at the fingertips of the user. The avid movie-lover can also store details about their favourite movies and will also be able to access detailed reviews by the most famous movie critics of the industry. New movies will be added to the database as soon as they release in theatres or online streaming services such as Netflix, Disney Plus, Amazon Prime Video and many more.

13.2 LIMITATIONS

The limitations of our program are as follows:

1. Streaming of movies on the application cannot be allowed due to Copyright Issues.
2. The TmdB API takes a little too long to respond to requests.
3. The mobile OS speed is less than the computer compared to the computer and therefore has a speed limit compared to the computer-based presence system.

XIV. TESTING OF THE SYSTEM.

The app has been tested on Android in real-time with the app installed and the movies present. Weaknesses from various users were documented. However, most users are satisfied with the system.

XV. CONCLUSION AND FUTURE WORK

In this paper, we have outlined the massive potential of the movie industry and tried to implement a system that will satisfy the billions of people who like to watch movies by providing them with a platform that will increase their interest in their favourite piece of cinema. We have also demonstrated that the perfect platform for implementing such an idea is the modern smartphone, as it keeps people glued to its screen. Moreover, with all modern tools at our disposal, such a system can be easily implemented and generate much interest. Moreover, the application will reduce the current system's complexity, where users have to go to different places to get all the information. This will be done by pooling all the information in one place and providing additional information like movie trivia, trailers and other movie-related facts.

We are also looking to continuously improve the application and expand its scope by integrating new features and using other beneficial technologies.

Some desirable features that can be added in future are:

Include the links of streaming sites where this movie will be available to watch for free.

Implementing this application in the iOS platform as an iPhone App as there are many iPhone users. This can be done by shifting the application to Flutter, which has a single code base for both Android and IOS Applications. Thus, it will make cross-platform development easier.

Improve the performance of the app. For example, it takes few seconds to pull the images from the Tmdb API. This should be reduced to less than 3 seconds.

Constantly improve the User Interface and appearance of the app by integrating the latest UI/UX design patterns.

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