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A Database Management Systems Mini Project report on

"MOVIE DATABASE MANAGEMENT SYSTEM"

Submitted in partial fulfillment of the requirement for the award of Degree of

BACHELOR OF ENGINEERING IN COMPUTER SCIENCE AND ENGINEERING

By

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



CERTIFICATE

Certified that the Database Management Systems mini project entitled "MOVIE DATABASE MANAGEMENT SYSTEM" is a bonafide work carried out by SOUMY JAIN(1AY21CS185), VIBHA RAVINDRA HEGDE(1AY21CS205) of 5th semester in partial fulfillment for the award of degree of Bachelor of Engineering in Computer Science & Engineering of the Visvesvaraya **Technological University**, **Belagavi**, during the year **2023-2024**. It is certified that all corrections suggestions indicated for internal assessments have been incorporated in the Report deposited in the departmental library. The Mini Project report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the **Bachelor of Engineering Degree**.

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Name of the examiners

Signature with date

1.

ABSTRACT

The Movie Database Management System mini-project aims to design and develop a comprehensive platform for managing and accessing movie-related information efficiently. This system addresses the need for a centralized repository that facilitates seamless storage, retrieval, and organization of diverse data related to movies. Through a user-friendly interface, users can explore extensive collections of movies, including details such as titles, genres, release dates, cast information, director name and ratings. Utilizing advanced search and filtering functionalities, users can easily locate specific movies based on various criteria. It supports collaborative contributions, allowing users to submit reviews, ratings, and corrections to enrich the database. The Movie Database System is designed to be scalable, accommodating an ever-expanding catalog of movies and evolving user requirements. Implementation involves leveraging modern technologies and frameworks for robustness, reliability, and performance optimization. Through this project, the aim is to streamline movie-related information management, enhance user engagement, and foster a vibrant community around cinema appreciation and exploration.

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CHAPTER 1

INTRODUCTION

1.1 Introduction to database management system

Databases are integral to the widespread use of computers, impacting various fields such as business, e-commerce, engineering, medicine, genetics, law, education, and library science. When discussing databases, it's essential to first define the term. While one could argue that any collection of related data constitutes a database, the term is typically used more narrowly.

A database, in essence, represents a slice of the real world, often referred to as the "mini world" or the "universe of discourse". It reflects changes occurring in the real world and contains a logically organized collection of data with inherent meaning. Unlike a random assortment of data, a true database is purposefully designed, constructed, and populated for specific uses, with intended users and applications in mind.

In today's movie world, there's a big need for a better way to manage and find information about movies. Whether you're someone who loves watching movies or you work in the industry, having all the details in one place is really important. That's where the Movie Database System comes in. It's like a giant library for movies that collects and organizes tons of information in an easy-to-use way.

The Movie Database is not merely a passive repository of information but a dynamic platform that fosters community engagement and collaboration. Users can contribute to the database by submitting corrections, thereby enriching the content and enhancing the overall user experience. This collaborative approach not only ensures the accuracy and relevance of the data but also cultivates a sense of community among movie enthusiasts, fostering discussions, and shared appreciation for cinema.

CHAPTER 2

SYSTEM REQUIREMENTS SPECIFICATION

2.1 Functional Requirements

The specific functional requirements of the Movie Details Page are stated as follows:

- Search and Browse: The system allows users to search for movies based on various criteria such as title, genre, release date, actor, director, etc.
- Movie Details: Users should be able to view detailed information about each movie including cast, runtime, ratings, movie poster and trailers.
- User Reviews and Ratings: Users has the ability to rate movies, and these reviews should be visible to other users.
- Data Import/Export: The system supports importing movie data from external sources and exporting data for backup or analysis purposes.
- Add/Edit/Delete Movies: Admins should be able to add, edit, and delete movie entries
 including all associated data.
- User Interaction: Users should be able to interact with the system through intuitive interfaces.

2.2 Non-Functional Requirements

The specific non-functional requirements of the Movie Details Page are stated as follows:

- Reliability: Database updating should follow transaction processing to avoid data inconsistency.
- Availability: The project will be deployed on a public shared server so it will be available all the time and will be accessible anywhere of the world using internet.
- Maintainability: It is very easy to maintain the system. The system has been developed on PHP so anyone who has the knowledge of PHP, can easily maintain the system.
- Portability: This system is portable and we can switch the servers very easily.
- Browser capability: The project being web based required compatibility with at least the
 popular web browsers. Microsoft windows XP and above, Linux and Macintosh being the
 current popular operating system and Microsoft Internet Explorer, Mozilla Firefox, Opera,
 Safari and Google Chrome being the currently popular web browser.

SYSTEM REQUIREMENTS SPECIFICATION

2.2 Non-Functional Requirements

2.2.1 Hardware Requirement

Processor : Intel PentiumT4200/ Intel Core Duo 2.0 GHz / more RAM

Minimum 1GB RAM capacity

Hard disk : Minimum 40 GB ROM capacity Cache Memory : L2-1 MB

GPU : Intel HD Graphics/AMD RADEON Graphics

2.2.2 Software Requirement

Front End : PHP (Hypertext preprocessor), HTML, CSS, JavaScript Back

End : XAMPP server, My SQL

Operation System : Windows 10

2.3 About Technologies used

- HTML (Hypertext Markup Language): HTML is the backbone of web pages. It's used to structure the content of a webpage, including text, images, and links. It provides the basic structure and layout for displaying information on the web. HTML uses tags to define different elements like headings, paragraphs, lists, and more.
- CSS (Cascading Style Sheets): CSS is used to style the appearance of web pages. It controls how HTML elements are displayed on the screen or other media. With CSS, you can change things like colors, fonts, spacing, and layout to make your webpage visually appealing and user-friendly.
- MySQL: MySQL is a database management system. It's used to store and manage data in a structured format. MySQL allows you to create, read, update, and delete data in a database. It's commonly used for web applications to store user information, product details, and other types of data.

SYSTEM REQUIREMENTS SPECIFICATION

2.4 About Technologies used

- **XAMPP:** XAMPP is a software bundle that includes several components needed for web development. The name stands for Cross-platform (X), Apache (A), MySQL (M), PHP (P), and Perl (P). It's a convenient way to set up a local web server environment on your computer for testing and development purposes.
- **Apache:** Apache is a web server software that serves web pages to users who request them. It's the software that handles HTTP requests from web browsers and delivers web pages and other web content to the users' computers.
- **React:** React is a free and open-source front-end JavaScript library for building user interfaces based on components. It is maintained by Meta and a community of individual developers and companies. React can be used to develop single-page, mobile, or server-rendered applications with frameworks like Next.js

CHAPTER 3

SYSTEM DESIGN

3.1 ER DIAGRAM

Fig 3.1 consists of entities Movies, Actors, MovieActors, and Reviews, and each entity has attributes of its own. For example, Movies table consists of attributes movie_id, title, release_year ,genre etc represented using an oval shape. Some of the attributes in the table are underlined because it is identified as primary key for that entity, and the relationship are represented using diamond shape, which describes the relation among the entities.

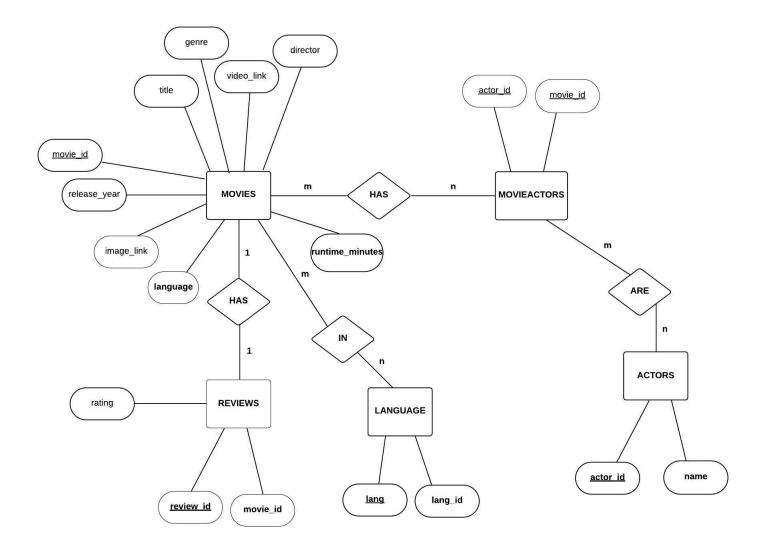


Fig 3.1 ER Diagram

3.2 SCHEMA DIAGRAM

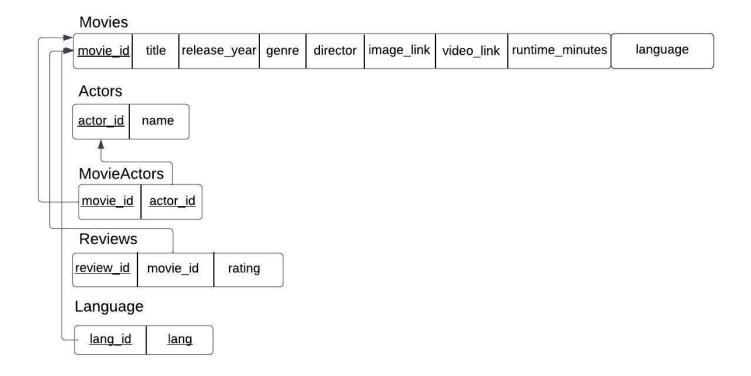


Fig 3.2: Schema Diagram

In Fig 3.2 the schema diagram of Movie Details Page database system where each table has attributes and some attributes are underlined, it is called primary key and this primary key is referred in another table as foreign key and this representation is done with the schema diagram as shown in figure. For example, for the entity movies movie_id is primary key and it is used as foreign key in tables MovieActors and Reviews.

CHAPTER 4

SYSTEM IMPLEMENTATION

4.1 Implementation

Implementation is the stage in the project where the theoretical design is turned into a working system and is giving confidence on the new system for the users that it will work efficiently and effectively. It involves careful planning, investigation of the current system and its constraints on implementation, design of methods to achieve the changeover, an evaluation of change over methods.

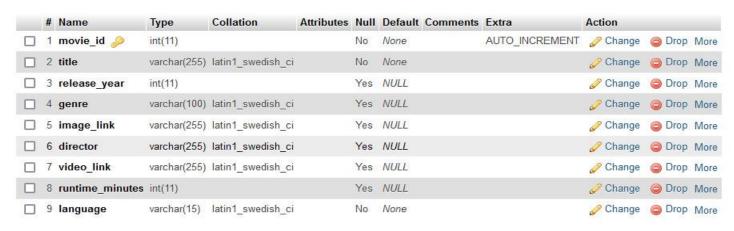
4.2 Creation of Tables

Tables created:

- Movies
- Actors
- MovieActors
- Reviews
- Language

4.2.1 Movies

```
CREATE TABLE Movies (
movie_id INT AUTO_INCREMENT PRIMARY KEY,
title VARCHAR(255) NOT NULL,
release_year INT,
genre VARCHAR(100),
image_link VARCHAR(255),
director VARCHAR(255),
video_link VARCHAR(255),
runtime_minutes INT,
language varchar(10)
);
```



4.2.1: Creation of Movies Table

4.2.2 Actors

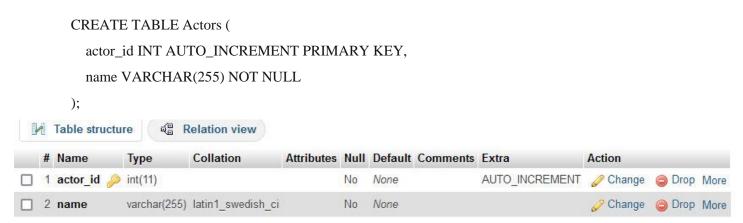


Figure 4.2.2: Creation of Actors Table

4.2.3 MovieActors

```
CREATE TABLE MovieActors (
   movie_id INT,
   actor_id INT,
   PRIMARY KEY (movie id, actor id),
   FOREIGN KEY (movie_id) REFERENCES Movies(movie_id),
   FOREIGN KEY (actor_id) REFERENCES Actors(actor_id)
);
# Name
               Type Collation Attributes Null Default Comments Extra Action
                                                                   Change
1 movie id 🔑
               int(11)
                                       No
                                           None
                                                                             Drop More
No
                                           None
                                                                   Change
                                                                            Drop More
```

Figure 4.2.3: Creation of MovieActors Table

4.2.4 Reviews

```
CREATE TABLE Reviews (
review_id INT AUTO_INCREMENT PRIMARY KEY,
movie_id INT,
rating DECIMAL(3,1),
FOREIGN KEY (movie_id) REFERENCES Movies(movie_id)
);
```

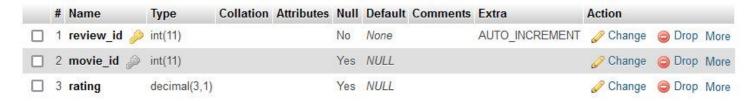


Figure 4.2.4: Creation of Reviews Table

4.2.5 Language

```
CREATE TABLE Language (
lang varchar(10),
lang_id INT,
PRIMARY KEY (lang)
);
```

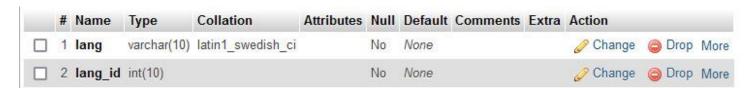


Figure 4.2.5: Creation of Language Table

4.3. Insertion of Values:

4.3.1 Movies

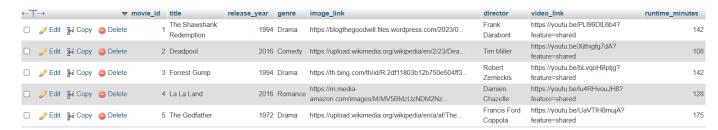


Fig 4.3.1 Movies

4.3.2 Actors



Fig 4.3.2 Actors

4.3.3 MovieActors



Fig 4.3.3 MovieActors

4.3.4 Reviews



Fig 4.3.4 Reviews

4.3.5 Language



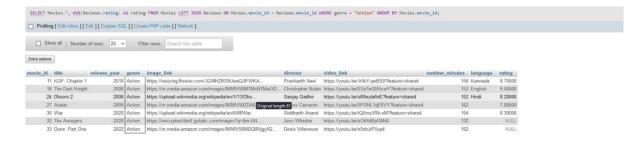
Fig 4.3.5 Language

4.4 Queries

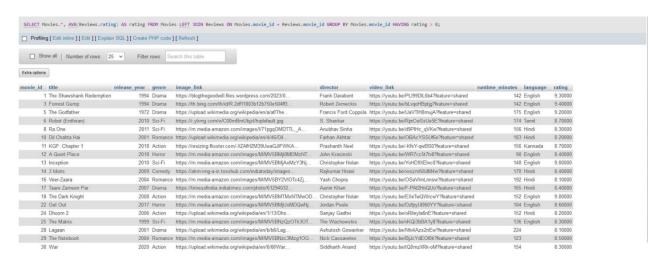
4.41 To retrieve movie details by name



4.42 To retrieve movies by genre



4.43 To retrieve movie Details based on rating



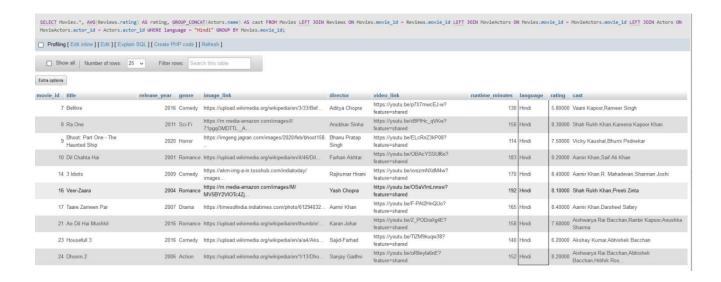
4.44 To retrieve cast of the movie



4.45 To insert new movie details to database



4.46 To Retrieve movie details from language

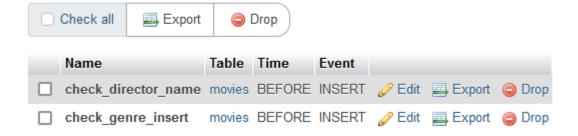


4.5 Trigger

This Trigger will check that the Director name is Alphabet or not before inserting new movie details

```
ELIMITER //
CREATE TRIGGER check_director_name
BEFORE INSERT ON Movies
FOR EACH ROW
BEGIN
  DECLARE director_name_valid BOOLEAN;
  SET director_name_valid = TRUE;
  -- Check if director name contains only alphabetic characters
  IF NOT NEW.director REGEXP '^[A-Za-z]+$' THEN
    SET director_name_valid = FALSE;
  END IF;
  -- Raise an error if director name is not alphabetical
  IF NOT director name valid THEN
    SIGNAL SQLSTATE '45000'
    SET MESSAGE_TEXT = 'Director name must contain only alphabetical characters';
  END IF;
END;
DELIMITER;
```

Triggers @



4.6 Front-End Details

REACT:

React is a free and open-source front-end JavaScript library for building user interfaces based on components. It is maintained by Meta and a community of individual developers and companies. React can be used to develop single-page, mobile, or server-rendered applications with frameworks like Next.js

HTML:

HTML or Hyper Text Markup Language is the standard markup language used to create web pages.HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like <html>). HTML tags most commonly come in pairs like <h1> and </h1>, although some tags represent empty elements and so are unpaired, for example . The first tag in a pair is the start tag, and the second tag is the end tag (they are also called opening tags and closing tags). The purpose of a web browser is to read HTML documents and compose them into visible or audible web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page. HTML describes the structure of a website semantically along with cues for presentation, making it a markup language rather than a programming language.

CSS:

Cascading Style Sheets (CSS) is a style sheet language used for describing the look and formatting of a document written in a markup language.

CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple pages to share formatting, and reduce complexity and repetition in the structural content.

JAVASCRIPT:

JavaScript (JS) is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. It is also being used in server-side network programming (with Node.js), game development and the creation of desktop and mobile applications.

CHAPTER 5

RESULTS AND DISCUSSIONS

5.1 Home Page

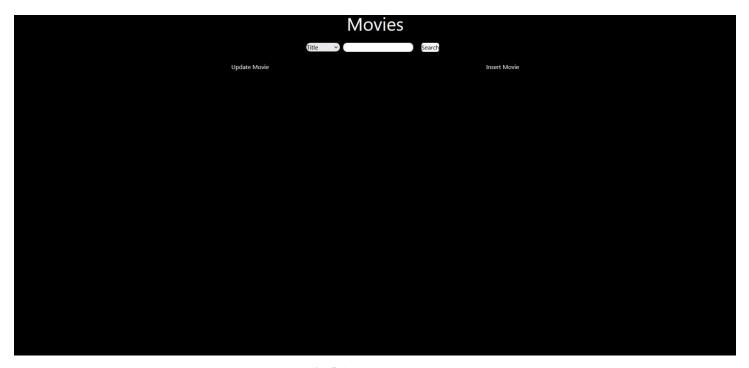


Fig 5.1 Home Page

5.2 Results of movie title search

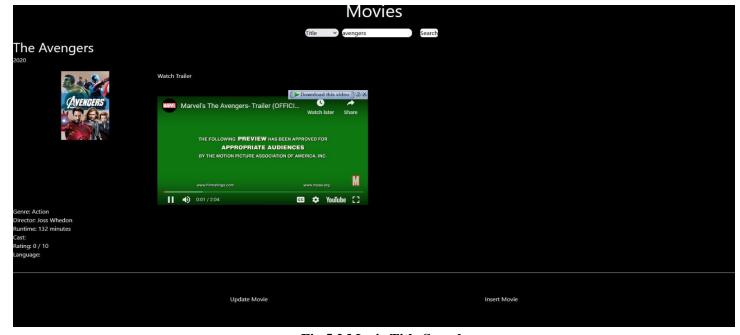


Fig 5.2 Movie Title Search

5.3 Results of particular genre search

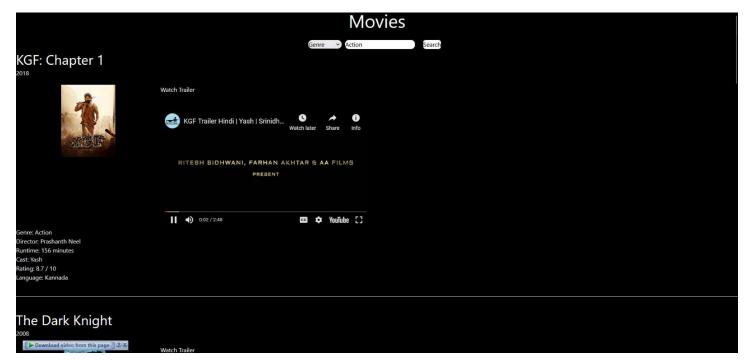


Fig 5.3 Genre Search

5.4 Results of particular rating search

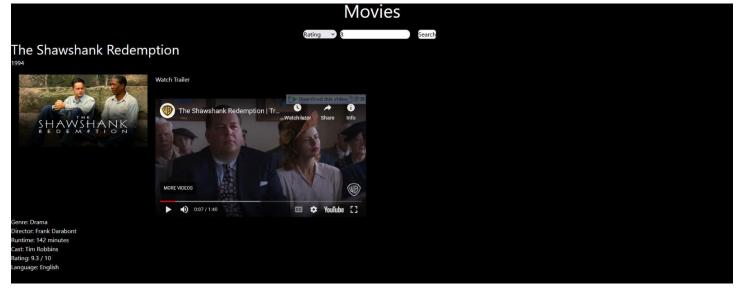


Fig 5.4 Rating Search

5.5 Results of particular language search



Fig 5.5 Language Search

5.6 Insert or Update Details

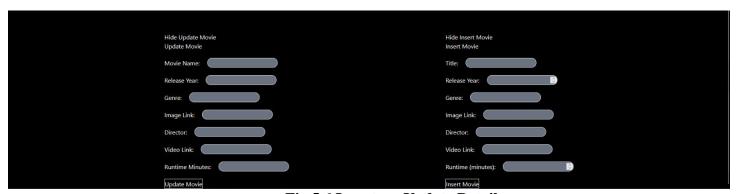


Fig 5.6 Insert or Update Details

CONCLUSION

The Movie Details database system marks a significant advancement in managing movie-related information, catering to the diverse needs of both casual viewers and industry professionals. With its wide range of features, the system offers users a seamless and fulfilling experience, transforming the way they interact with and explore the world of cinema. By serving as a centralized hub for extensive movie data, the Movie Details Page meets the urgent need for efficient access to information in today's ever-changing film industry. From comprehensive movie listings to usergenerated reviews, the system empowers users to discover, research, and engage with movies in innovative ways. The collaborative aspect of the system fosters a lively community of movie enthusiasts, allowing users to contribute their insights and ratings to enrich the database. This collaborative effort not only enhances the accuracy and relevance of the data but also encourages affinity among users, sparking discussions and shared appreciation for film. Moreover, supported by robust technological infrastructure, the Movie Details Page ensures scalability, reliability, and security. It provides seamless and secure user experience while accommodating the growing collection of movies and user interactions.

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