RNS Institute of Technology

Dept. of CSE

Java Project:

Game Tracker Pro: Effortlessly Manage and Organize Your Video Game Collection

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Abstract:

The Game Tracker Pro project is a Java-based application that enables users to manage game data stored in a MySQL database. The program implements a 3-tier architecture with a client, server, and database. Users can create, read, update, and delete game data based on the game's title through a login-based menu system. The system allows users to securely manage their data, with the client-side interface designed in Java and the database backend implemented in MySQL. The program is designed for ease of use, and its intuitive interface makes it ideal for both novice and experienced users. Overall, the Game Tracker Pro project provides a powerful yet user-friendly solution for managing game data.

Chapter 1:Introduction

This project is aimed at implementing a 3-tier architecture, which will be divided into three separate units - client-frontend, server-backend, and database. The front end of the program will be handled by Eclipse in its console, the server will be implemented using Java, and MySQL will be used as the database management system. The objective of the project is to develop a user-friendly and simple application to manage game data. The application will be programmed in Java, which is a popular and widely used programming language. MySQL, on the other hand, is a robust and efficient database management system that will be used to store and manage game data. When you run the program, it will ask the user for their username and password, if the account exists and the password is correct it logs into the software. If wrong credentials are entered it will allow the user for 3 tries to enter the correct credentials, and after 3 tries it will exit the program if the credentials are still incorrect. Once a user logs in, the application will present them with a menu of all possible actions that can be performed. The user can select an option from the menu to perform the desired action. The functionalities of the application will include the ability to add, modify, delete, and view game data. Overall, the project aims to develop a reliable and efficient application that simplifies the management of game data. With its user-friendly interface and comprehensive set of features, the application will provide a hassle-free experience to its users.

Chapter 2: Requirements

2.1 Functional Requirements

- Database connection
- User Identification
- Create a new table called "games" if it doesn't exist
- Menu-Based Program
- Read/display data list
- Update data
- Delete data
- Add new data
- Usable Front-end

2.2 Non-functional Requirements

- Reliability: Should be able to run without causing errors, and any error must be aptly handled
- Durability: Should be serviceable for future adjustments
- Secure login system: Should not allow leaking of User Information
- User-friendly interface
- Speed: Must run the Program without much time delays or lag
- Compatibility with MySQL database

Chapter 3: Possible Methodology

The project is implemented using a structured approach. The program establishes a connection to the database(MYSQL) using JDBC and prompts the user for their username and password, if the account exists and the password is correct it logs into the software. If wrong credentials are entered it will allow the user for 3 retries to enter the correct credentials, and after 3 retries if the user still doesn't enter the correct credentials, it will exit the program. If the credentials entered are correct, the application starts. If the "games" table does not exist, the program creates it. The program presents the user with a menu of options, including reading/displaying the current game list, updating data, deleting data, adding new data, and exiting the program.

- To read data from the database, the program executes a SELECT statement and prints the results to the console.
- To update data, the program prompts the user for the game title to be updated, the new platform, and the new price. Then it executes an UPDATE statement.
- To delete data, the program prompts the user for the game title to be deleted and executes a DELETE statement.
- To add new data, the program prompts the user for the game title, platform, and price, then executes an INSERT statement.

The program handles errors and exceptions gracefully, such as checking if the game title already exists before adding new data and validating if the user enters a valid price. Overall, the project provides a simple example of how to interact with a MySQL database using Java and JDBC.

Conclusion

The project is a simple and user-friendly application for managing game data. It provides efficient and error-free data management through a secure login system and a user-friendly interface. It is compatible with the MySQL database and has been implemented using a structured approach with proper exception handling. Overall, the project provides a practical and reliable solution for game data management. It is an excellent tool for game enthusiasts, developers, and researchers who require a simple yet effective application for managing their game data.