National University of Technology

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Final project

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Online Movie Rental System Code

PROGRAM: Write a program to make a online rental system.

Code#

```
#include <iostream>
#include <fstream>
#include <vector>
#include <string>
#include <sstream>
#include <algorithm>
#include <cctype>

using namespace std;

struct Movie {
   string name;
   int year;
   double rent;
};

struct User {
   string username;
   string password;
};

vector<Movie> loadMovies() {
   vector<Movie> movies;
   ifstream movieFile("movies.txt");
   string line;

   while (getline(movieFile, line)) {
      stringstream ss(line);
      Movie movie;
      ss >> ws; // eat whitespace
      getline(ss, movie.name, ',');
      ss >> movie.year;
      ss >> movie.rent;
      movies.push_back(movie);
   }
```

```
    return movies;
}

vector<User> loadUsers() {
    vector<User> users;
    ifstream userFile("users.txt");
    string line;

    while (getline(userFile, line)) {
        stringstream ss(line);
        User user;
        ss >> user.username >> user.password;
        users.push_back(user);
    }
    return users;
}

bool registerUser (const string& username, const string& password) {
    ofstream userFile("users.txt", ios::app);
    if (userFile.is_open()) {
        userFile << username << " " << password << endl;
        userFile.close();
        return true;
    }
    return false;
}

bool loginUser (const string& username, const string& password, const vector<User>&
users) {
    for (const auto& user : users) {
        if (user.username == username && user.password == password) {
            return true;
        }
    }
    return false;
}

void displayMovies(const vector<Movie>& movies) {
    cout << "Available Movies:
";
    for (size_t i = 0; i < movies.size(); ++i) {
        cout << i + 1 << ". Name: " << movies[i].name << ", Year: " << movies[i].year << ", Rent:
$" << movies[i].rent << endl;
```

```
    }
}

string toLower(const string& str) {
    string lowerStr = str;
    transform(lowerStr.begin(), lowerStr.end(), lowerStr.begin(), [](unsigned char c) { return
tolower(c); });
    return lowerStr;
}

void rentMovie(const string& username, vector<Movie>& movies, vector<string>&
rentedMovies) {
    displayMovies(movies);
    string movieName;
    cout << "Enter the name of the movie to rent: ";
    cin.ignore();
    getline(cin, movieName);
    movieName = toLower(movieName); // Convert user input to lowercase

    // Check if the movie exists
    auto it = find_if(movies.begin(), movies.end(), [&movieName](const Movie& movie) {
        return toLower(movie.name) == movieName; // Convert movie name to lowercase for
comparison
    });

    if (it != movies.end()) {
        rentedMovies.push_back(it->name); // Store the original movie name
        cout << "You have rented: " << it->name << endl;

        // Save rented movie to user's file
        ofstream userRentals(username + "_rentals.txt", ios::app);
        if (userRentals.is_open()) {
            userRentals << it->name << endl; // Store the original movie name
            userRentals.close();
        }
    } else {
        cout << "Movie not found.
";
    }
}

void returnMovie(const string& username, vector<string>& rentedMovies) {
    if (rentedMovies.empty()) {
```

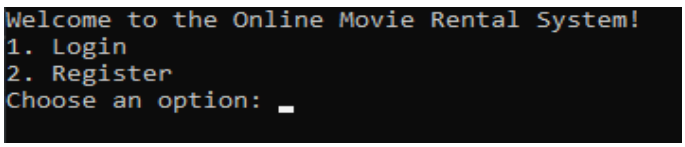
```
        cout << "You have no rented movies to return.
";
        return;
    }

    cout << "Your rented movies:
";
    for (size_t i = 0; i < rentedMovies.size(); ++i) {
        cout << i + 1 << ". " << rentedMovies[i] << endl;
    }

    int movieIndex;
    cout << "Enter the number of the movie to return: ";
    cin >> movieIndex;

    if (movieIndex > 0 && movieIndex <= rentedMovies.size()) {
        cout << "You have returned: " << rentedMovies[movieIndex - 1] << endl;
        rentedMovies.erase(rentedMovies.begin() + (movieIndex - 1));

        // Update user's rental file
        ofstream userRentals(username + "_rentals.txt");
        if (userRentals.is_open()) {
            for (const auto& movie : rentedMovies) {
                userRentals << movie << endl;
            }
            userRentals.close();
        }
    } else {
        cout << "Invalid selection.
";
    }
}

vector<string> loadRentedMovies(const string& username) {
    vector<string> rentedMovies;
    ifstream userRentals(username + "_rentals.txt");
    string line;

    while (getline(userRentals, line)) {
        rentedMovies.push_back(line);
    }
    return rentedMovies;
}
```

```
int main() {
    vector<Movie> movies = loadMovies();
    vector<User> users = loadUsers();
    string username, password;
    int choice;

    cout << "Welcome to the Online Movie Rental System!
";
    cout << "1. Login
2. Register
Choose an option: ";
    cin >> choice;

    if (choice == 1) {
        cout << "Enter username: ";
        cin >> username;
        cout << "Enter password: ";
        cin >> password;

        if (!loginUser(username, password, users)) {
            cout << "Invalid username or password. Exiting.
";
            return 0;
        }
    } else if (choice == 2) {
        cout << "Enter a new username: ";
        cin >> username;
        cout << "Enter a new password: ";
        cin >> password;

        if (registerUser(username, password)) {
            cout << "Registration successful! You can now log in.
";
        } else {
            cout << "Registration failed. Exiting.
";
            return 0;
        }
    } else {
        cout << "Invalid choice. Exiting.
";
        return 0;
```

```
    }

    // Load user's rented movies
    vector<string> rentedMovies = loadRentedMovies(username);

    while (true) {
        cout << "
Options:
1. Display Movies
2. Rent Movie
3. Return Movie
4. Exit
Choose an option: ";
        cin >> choice;

        if (choice == 1) {
            displayMovies(movies);
        } else if (choice == 2) {
            rentMovie(username, movies, rentedMovies);
        } else if (choice == 3) {
            returnMovie(username, rentedMovies);
        } else if (choice == 4) {
            cout << "Exiting the system. Thank you!
";
            break;
        } else {
            cout << "Invalid choice. Please try again.
";
        }
    }

    return 0;
}
```

Outputs:

Number1:



Number2:

```
Choose an option: 1
Enter username:
```

Number3:

```
Choose an option: 2
Enter a new username: hafsah
Enter a new password: 1234
Registration successful! You can now log in.

Options:
1. Display Movies
2. Rent Movie
3. Return Movie
4. Exit
Choose an option:
```

Number 4:

```
Choose an option: 1
Available Movies:

Options:
1. Display Movies
2. Rent Movie
3. Return Movie
4. Exit
Choose an option:
```

Number 5:

```
Choose an option: 4
Exiting the system. Thank you!

--------------------------------
Process exited after 12.88 seconds with return value 0
Press any key to continue . . .
```

The End