

Camera Rental Application

Overview:

The Camera Rental Application is designed to streamline the process of renting cameras, catering to both administrators responsible for managing the inventory and users seeking to rent cameras for various purposes. This software solution offers a user-friendly interface with distinct functionalities tailored to each user role, ensuring efficient interaction and transparent management of camera rentals.

Functionality:

Admin Features:

- **Login:** Administrators can securely access the application by providing their designated username and password, ensuring confidentiality and data security.
- **Admin Main Menu:**
 - **Add Camera:** Admins can effortlessly expand the camera inventory by adding new cameras, specifying details such as brand, model, and price, thereby ensuring an up-to-date catalog for users.
 - **Remove Camera:** This feature empowers administrators to efficiently manage the inventory by removing cameras as needed, maintaining inventory accuracy and relevance.
 - **View All Cameras:** Admins can gain comprehensive insights into the camera inventory, distinguishing between available and rented cameras, facilitating informed decision-making and inventory monitoring.
 - **Navigate Back:** Administrators can seamlessly navigate back to the main menu, ensuring smooth interaction and workflow management.

User Features:

- **Login:** Users can securely log in using their credentials, granting access to functionalities tailored to their needs, ensuring personalized user experiences.
- **User Main Menu:**
 - **My Cameras:** Users can conveniently view a list of cameras they have rented, promoting transparency and facilitating easy tracking of their rentals.
 - **Rent a Camera:** This feature empowers users to browse available cameras, select their preferred options, and rent cameras based on their preferences and wallet balance, ensuring flexibility and convenience in the rental process.
 - **View All Cameras:** Users have access to a comprehensive catalog of all available cameras for rent, enabling informed decision-making and enhancing user satisfaction.

- **Manage Wallet:** Users can effortlessly manage their wallet balance, depositing funds as needed to facilitate seamless transactions and ensure uninterrupted access to camera rentals.
- **Logout:** Users can securely log out of the application, ensuring data security and privacy, enhancing overall user experience and satisfaction.

Conclusion:

The Camera Rental Application revolutionizes the camera rental process, offering a user-friendly interface and robust functionalities tailored to the needs of administrators and users. By providing seamless interaction, transparent inventory management, and personalized user experiences, the application enhances efficiency, convenience, and satisfaction in camera rentals. Whether it's expanding the inventory, tracking rentals, or managing wallet balances, the Camera Rental Application is a valuable asset for rental businesses and camera enthusiasts, ensuring a smooth and hassle-free rental experience.

Algorithm:

1. Initialization:

- Initialize the application by setting up the necessary data structures and variables.
- Load the initial camera inventory into memory.

2. Welcome Page:

- Display the welcome message and options for logging in as an admin or user.
- Prompt the user to choose their role.
- If the user selects admin:
 - Call the admin login function.
- If the user selects user:
 - Call the user login function.

3. Admin Login:

- Prompt the admin to enter their username and password.
- Validate the credentials against the stored admin data.
- If the credentials are correct:
 - Display a login success message.
 - Call the admin menu function.
- If the credentials are incorrect:
 - Display a login failure message.
 - Redirect back to the welcome page.

4. Admin Menu:

- Display options for adding a camera, removing a camera, viewing all cameras, or exiting.
- Prompt the admin to choose an action.
- If the admin selects:
 - Add Camera: Call the add camera function.
 - Remove Camera: Call the remove camera function.
 - View All Cameras: Call the view all cameras function.
 - Exit: Return to the welcome page.

5. **User Login:**

- Prompt the user to enter their username and password.
- Validate the credentials against the stored user data.
- If the credentials are correct:
 - Display a login success message.
 - Call the user menu function.
- If the credentials are incorrect:
 - Display a login failure message.
 - Redirect back to the welcome page.

6. **User Menu:**

- Display options for viewing rented cameras, renting a camera, viewing available cameras, managing the wallet, or exiting.
- Prompt the user to choose an action.
- If the user selects:
 - View Rented Cameras: Call the view rented cameras function.
 - Rent a Camera: Call the rent camera function.
 - View All Cameras: Call the view all cameras function.
 - Manage Wallet: Call the manage wallet function.
 - Exit: Return to the welcome page.

7. **Add Camera:**

- Prompt the admin to enter details for the new camera (ID, brand, model, price).
- Create a new camera object with the provided details.
- Add the camera to the inventory.
- Display a success message.

8. **Remove Camera:**

- Prompt the admin to enter the ID of the camera to be removed.
- Find the camera in the inventory by its ID.
- If the camera is found, remove it from the inventory.
- Display a success message.
- If the camera is not found, display an error message.

9. **View All Cameras:**

- Display a list of all cameras in the inventory, distinguishing between available and rented cameras.

10. **View Rented Cameras:**

- Display a list of cameras rented by the current user.

11. **Rent Camera:**

- Prompt the user to enter the ID of the camera to rent.
- Check if the selected camera is available.
- If available, deduct the price from the user's wallet and mark the camera as rented.
- Add the camera to the user's rented cameras list.
- Display a success message.
- If the camera is not available, display an error message.

12. **Manage Wallet:**

- Display the user's current wallet balance.
- Prompt the user to deposit funds if needed.
- Update the wallet balance accordingly.
- Display a success message.

13. **Logout:**

- Log out the user or admin.
- Return to the welcome page.

Conclusion: The Camera Rental Application is equipped with a robust algorithm that ensures seamless interaction and efficient management of camera rentals. By providing distinct functionalities for admins and users, the application streamlines processes such as adding and removing cameras, renting cameras, and managing wallet balances. With its user-friendly interface and comprehensive features, the application enhances the overall rental experience for both rental businesses and camera enthusiasts, making it a valuable asset in the realm of camera rentals.