**Specification Document: Peer-to-Peer Camera Rental Application**

1. Introduction

The purpose of this specification document is to outline the capabilities, appearance, and user interactions of the peer-to-peer camera rental application developed for rentmycam.io. This document will serve as a reference for the development team to understand the requirements and goals of the project.

2. Product Overview

The camera rental application aims to provide a platform for users to rent cameras from other individuals. It facilitates a peer-to-peer rental system where users can list their cameras for rent and other users can browse and rent available cameras. The application will include features such as camera listing, camera rental, wallet management, and basic navigation options.

3. Functional Capabilities

The application will provide the following functionalities:

3.1. Camera Listing

- Users can add new cameras to the existing camera list.

- The camera list will include details such as brand, model, and per-day rental amount.

- Cameras can be sorted based on different criteria, such as brand or rental amount.

- Users can view the list of available cameras for rent.

3.2. Camera Rental

- Users can select a camera from the listing to rent.

- The application will check the user's wallet balance to ensure sufficient funds.

- If the wallet balance is sufficient, the per-day rental amount will be deducted from the balance.

- If the wallet balance is insufficient, an appropriate message will be displayed.

3.3. Wallet Management

- Users can add or view the balance in their wallet.

- A sub-menu will provide options to deposit an amount and update the wallet balance accordingly.

- Messages will be displayed to indicate the status of wallet operations, such as successful deposit or insufficient funds.

3.4. Navigation Options

- Users will have the ability to navigate from the current execution context to the main context.

- A close option will be provided to exit the application.

4. Appearance and User Interactions

The application will have a user-friendly interface with clear and intuitive interactions. The following design elements will be considered:

4.1. Welcome Screen

- A welcome screen will be displayed upon launching the application.

- The screen will include the application name and developer details.

- Options will be presented for users to interact and access various features of the application.

4.2. Listing and Selection Screens

- The camera listing screen will display the available cameras with relevant details.

- Users can scroll through the listing and select a camera for rental.

4.3. Wallet Management Screen

- The wallet management sub-menu will provide options to add or view the wallet balance.

- Users can input the desired deposit amount to increase the wallet balance.

4.4. Error Handling and Messages

- Appropriate error messages will be displayed for scenarios such as insufficient wallet balance or invalid user inputs.

- Messages will provide feedback on successful operations, such as camera rental or wallet deposit.

5. Conclusion

This specification document outlines the key capabilities, appearance, and user interactions of the peer-to-peer camera rental application. It serves as a guide for the development team to implement the required features and create a functional prototype. The document will be updated as needed to accommodate any changes or refinements during the development process.

**Algorithm**

1. Start the Camera Rental application.

2. Display the welcome screen, including developer details.

3. Prompt the user to enter their username and password (optional).

4. Display the main menu options:

- "MY CAMERA"

- "RENT A CAMERA"

- "VIEW ALL CAMERAS"

- "MY WALLET"

- "EXIT"

5. Repeat the following steps until the user chooses to exit:

1. Prompt the user to enter their choice.

2. If the choice is valid, proceed; otherwise, display an error message and go back to step 5.

3. Based on the user's choice, execute the corresponding action:

- If the choice is "MY CAMERA":

- Display the "MY CAMERA" menu options:

- "ADD"

- "REMOVE"

- "VIEW MY CAMERAS"

- "GO TO PREVIOUS MENU"

- Repeat the following steps until the user chooses to go back to the main menu:

1. Prompt the user to enter their choice.

2. If the choice is valid, proceed; otherwise, display an error message and go back to step 5.3.

3. Based on the user's choice, execute the corresponding action:

- If the choice is "ADD":

- Prompt the user to enter the camera details (brand, model, per day price).

- Create a new Camera object with the entered details.

- Add the camera to the cameraList.

- Display a success message.

- If the choice is "REMOVE":

- Display the user's cameras.

- Prompt the user to enter the ID of the camera to remove.

- If the ID is valid, remove the camera from the cameraList and display a success message; otherwise, display an error message.

- If the choice is "VIEW MY CAMERAS":

- Display the user's cameras with their details (ID, brand, model, price, and status).

- If the choice is "GO TO PREVIOUS MENU":

- Exit the current menu and go back to the main menu.

- If the choice is "RENT A CAMERA":

- Display all available cameras with their details (ID, brand, model, price, and status).

- If there are no cameras available, display a message and go back to the main menu.

- Prompt the user to enter the ID of the camera they want to rent.

- If the ID is valid and the camera is not already rented:

- Check if the user has enough balance in their wallet to rent the camera.

- If yes, deduct the rental price from the user's wallet balance, set the camera status to rented, and display a success message.

- If no, display an error message about insufficient balance.

- If the ID is invalid, display an error message.

- If the choice is "VIEW ALL CAMERAS":

- Display all cameras with their details (ID, brand, model, price, and status).

- If the choice is "MY WALLET":

- Display the user's current wallet balance.

- Prompt the user to choose whether to deposit more amount to their wallet or not.

- If yes, prompt the user to enter the amount to deposit and update the wallet balance accordingly.

- If no, go back to the main menu.

- If the choice is "EXIT":

- Display an exit message and end the application.

6. End the Camera Rental application.

