# PHASE-END PROJECT

**Project Agenda:** Build a peer-to-peer camera rental application

## Specification Document: Camera Rental Application

### 1. Product Overview:

The Camera Rental Application is a Java-based software application that allows users to rent cameras for a specified duration. It provides a platform for camera owners to list their cameras for rent and enables users to browse available cameras, rent them, manage their rented cameras, and deposit funds into their wallet.

### 2. Product Capabilities:

- Admin Login: Admin can log in using their username and password to access the application.
- Add Camera: Camera owners can add their cameras to the application by providing the brand, model, and per-day rental price.
- Remove Camera: Camera owners can remove their cameras from the application based on the camera ID.
- View My Cameras: Camera owners can view the list of cameras they have added to the application.
- Rent a Camera: Users can browse the list of available cameras, select a camera for rent, and complete the transaction if they have sufficient funds in their wallet.
- View All Cameras: Users can view the list of all available cameras in the application, including the brand, model, price per day, and availability status.
- Manage Wallet: Users can view their current wallet balance and deposit additional funds if needed.

### 3. Appearance:

The application will have a user-friendly command-line interface (CLI) where users can interact with the system. The CLI will display menus, prompts, and messages to guide users through different functionalities.

### 4. User Interactions:

- Logging in: Admin will enter their username and password to log into the application.
- Menu Navigation: Users will select options from the menu using numerical input.
- Input Collection: Users will provide camera details, camera IDs, rental durations, and wallet deposit amounts using the CLI.
- Confirmation Messages: Users will receive success or error messages upon completing transactions or encountering errors.

### Application Flow:

1. Admin logs in with their username and password.
2. User selects an option from the main menu:
   a. "My Camera":
      i. User selects "Add" and provides camera details.

ii. User selects "Remove" and enters the camera ID to be removed.
iii. User selects "View My Cameras" to see the list of cameras they have added.

b. "Rent a Camera":
i. Application displays the list of available cameras.
ii. User enters the camera ID they want to rent.
iii. Application checks the wallet balance and completes the transaction if sufficient funds are available, otherwise displays an error message.

c. "View All Cameras":
i. Application displays the list of all available cameras.

d. "My Wallet":
i. Application displays the current wallet balance.
ii. User can choose to deposit more funds into their wallet or return to the main menu.

e. "Exit": Application terminates.

Number and Duration of Sprints:
Based on the complexity of the application, the development process can be divided into the following sprints:

Sprint 1:
- User Login functionality: 2 days
- Add Camera functionality: 2 days

Sprint 2:
- Remove Camera functionality: 2 days
- View My Cameras functionality: 1 day

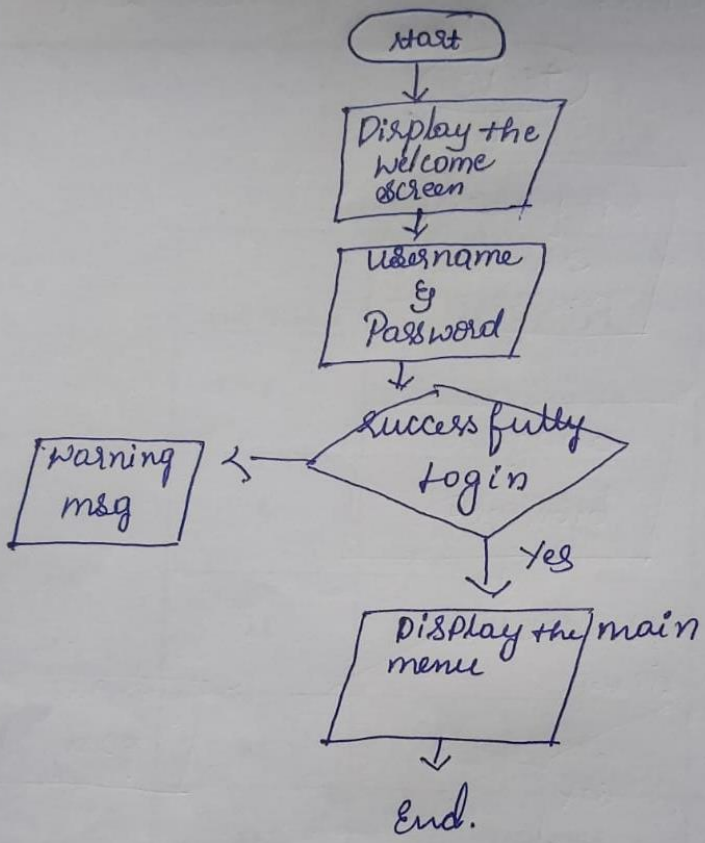
Sprint 3:
- Rent a Camera functionality: 3 days
- View All Cameras functionality: 2 days

Sprint 4:
- Manage Wallet functionality: 2 days
- Error handling and user interface improvements: 2 days

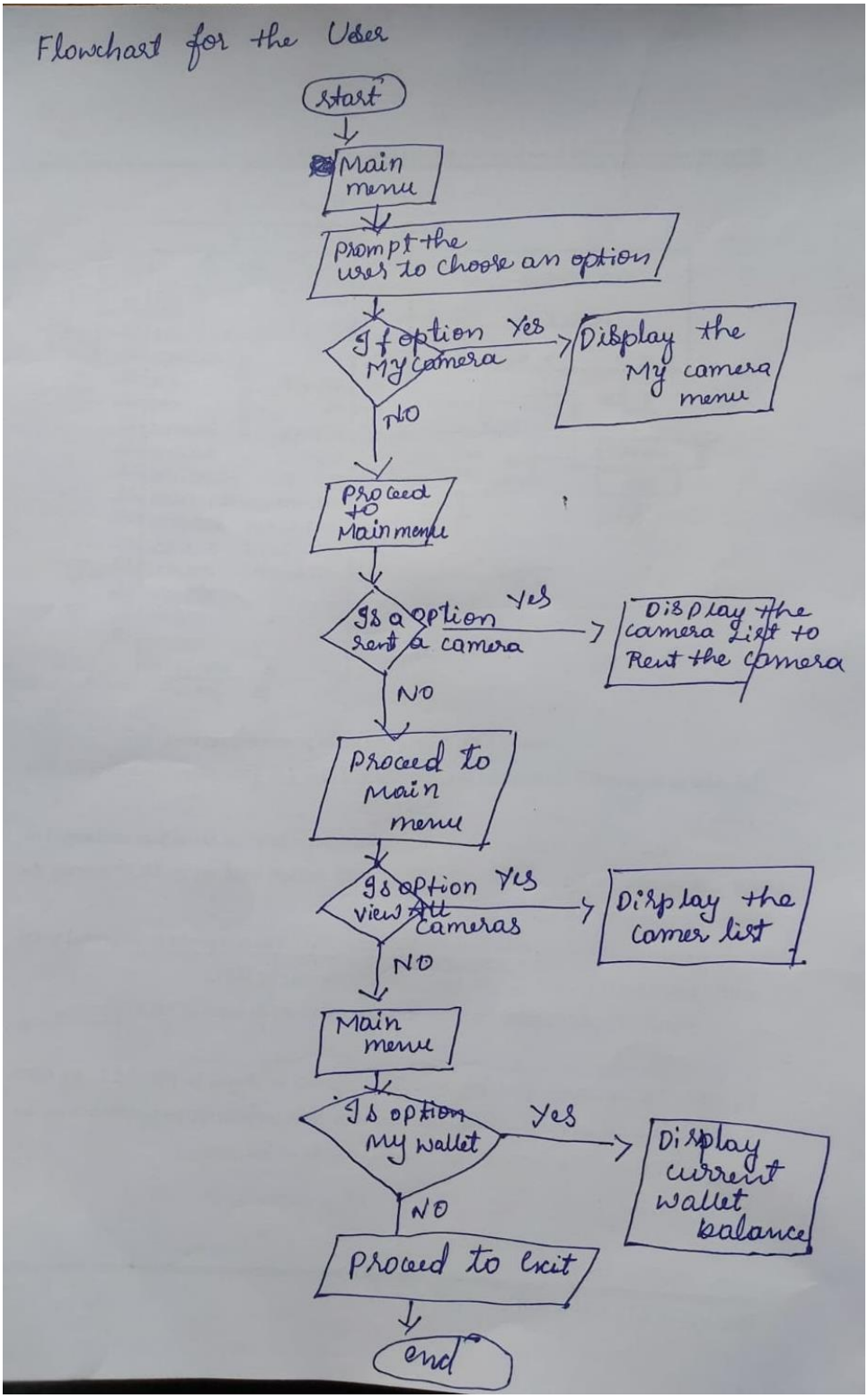
Sprint 5:
- Documentation and finalization: 2 days

The above estimates are approximate and may vary.

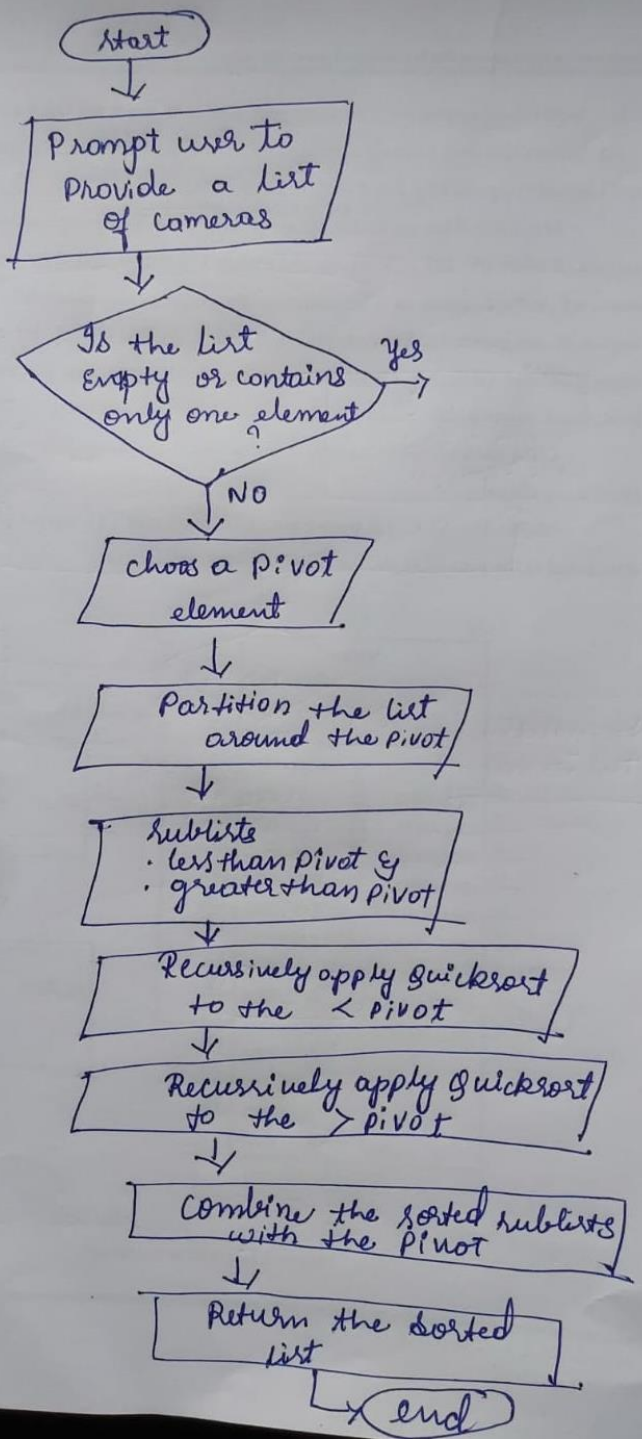
Flowchart for Login



Flowchart for the User



Flowchart for Quicksort used in camera rental application.



Flowchart for the Linear Search used in the Camera rental application.