

Full Stack Java Developer

Phase-End Project Problem Statement



Get Certified. Get Ahead.

Phase-End Project

Camera Rental Application

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

Scenario:

You have been hired by a company called rentmycam.io as a Full Stack Developer with the aim to create a prototype of a camera rental application.

The tasks that need to be performed by you are:

- Create a specification document detailing the product's capabilities, its appearance, and user interactions
 - Document the application flow
- Detail the number and duration of sprints required
 - Plan more than two sprints to complete the application
- Set up Git and a GitHub account to store and track enhancements of the prototype
- Implement Java concepts in the creation of this application
 - This includes data structures for sorting and searching.
- Include the following operations in the application:
 - List a camera along with its brand, model, and per-day rental amount
 - Select a camera from a listing to rent
 - Add or view wallet amount
 - Navigate from the current execution context to the main context
 - Close the application
- Create a welcome screen with the application name and developer details
 - Include options that the user can interact with to access various features of the application

Application features:

- The user can add a new camera, along with its details, to the existing camera list.
- The application can display the list of cameras available for rent.
 - The list will include details like the camera brand, model, and per-day rent amount.
- The user can select a camera to rent for a day.
- The user will only be allowed to rent the camera if there is sufficient balance in the user's wallet to fulfil the per-day rent amount. If not, a message is returned.

Insufficient wallet amount

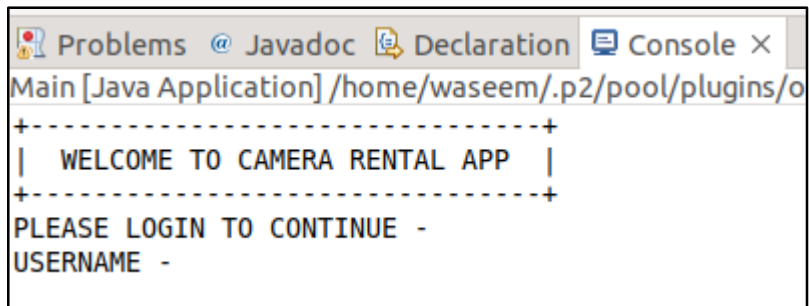
- If there is sufficient balance, the amount will be deducted from the wallet.
- If the list of cameras is empty, an appropriate message is displayed: **No Data Present at This Moment.**
- The user can add or view the balance in the wallet through a sub-menu.
- The user can deposit an amount to increase the wallet balance.
 - A message is displayed to indicate the status of the operation.
- The application implements concepts like exceptions, collections, and sorting techniques for source code optimization and increased performance.

Tools required:

- Eclipse or IntelliJ
- Java
- Git
- GitHub
- Scrum
- Search and Sort techniques
- Open-source documentation tool (For example: Google Docs)

Screenshot:

1. Log in



```
Problems Javadoc Declaration Console X
Main [Java Application] /home/waseem/.p2/pool/plugins/o
+-----+
| WELCOME TO CAMERA RENTAL APP |
+-----+
PLEASE LOGIN TO CONTINUE -
USERNAME -
```

2. Options to be displayed:

```
1. MY CAMERA
2. RENT A CAMERA
3. VIEW ALL CAMERAS
4. MY WALLET
5. EXIT
1
1. ADD
2. REMOVE
3. VIEW MY CAMERAS
4. GO TO PREVIOUS MENU
```

3. Add camera:

```
+-----+
| WELCOME TO CAMERA RENTAL APP |
+-----+
PLEASE LOGIN TO CONTINUE -
USERNAME - admin
PASSWORD - admin123
1. MY CAMERA
2. RENT A CAMERA
3. VIEW ALL CAMERAS
4. MY WALLET
5. EXIT
1
1. ADD
2. REMOVE
3. VIEW MY CAMERAS
4. GO TO PREVIOUS MENU
1
ENTER THE CAMERA BRAND - canon
ENTER THE MODEL - 5050
ENTER THE PER DAY PRICE (INR) - 25000
YOUR CAMERA HAS BEEN SUCCESSFULLY ADDED TO THE LIST.
```

4. Remove camera:

```
1. MY CAMERA
2. RENT A CAMERA
3. VIEW ALL CAMERAS
4. MY WALLET
5. EXIT
1
1. ADD
2. REMOVE
3. VIEW MY CAMERAS
4. GO TO PREVIOUS MENU
```

```
2
```

CAMERA ID	BRAND	MODEL	PRICE (PER DAY)	STATUS
11	Something	some	200.0	Rented
12	Some	Another	100.0	Available
14	NIKON	DSLR-D7500	500.0	Available
15	Sony	DSLR12	200.0	Available
17	Samsung	SM123	200.0	Available
19	SONY	SONY1234	123.0	Available
20	canon	5050	25000.0	Available
21	nikon	2030	500.0	Available

```
ENTER THE CAMERA ID TO REMOVE - 20
CAMERA SUCCESSFULLY REMOVED FROM THE LIST.
```

5. Rent a camera:

1. MY CAMERA
2. RENT A CAMERA
3. VIEW ALL CAMERAS
4. MY WALLET
5. EXIT

I

2

FOLLOWING IS THE LIST OF AVAILABLE CAMERA(S) -

CAMERA ID	BRAND	MODEL	PRICE(PER DAY)	STATUS
1	Samsung	DS123	500.0	Available
2	Sony	HD214	500.0	Available
3	Panasonic	XC	500.0	Available
4	Canon	XLR	500.0	Available
5	Fujitsu	J5	500.0	Available
6	Sony	HD226	500.0	Available
8	LG	L123	500.0	Available
9	Canon	XPL	500.0	Available
10	Chroma	CT	500.0	Available
13	Canon	Digital	123.0	Available
14	NIKON	DSLR-D7500	500.0	Available
15	Sony	DSLR12	200.0	Available
19	SONY	SONY1234	123.0	Available
20	canon	5050	25000.0	Available
21	nikon	2030	500.0	Available

9	Canon	XPL	500.0	Available
10	Chroma	CT	500.0	Available
13	Canon	Digital	123.0	Available
14	NIKON	DSLR-D7500	500.0	Available
15	Sony	DSLR12	200.0	Available
19	SONY	SONY1234	123.0	Available
20	canon	5050	25000.0	Available
21	nikon	2030	500.0	Available

ENTER THE CAMERA ID YOU WANT TO RENT - 20

YOUR TRANSACTION FOR CAMERA - canon 5050 with rent INR.25000.0 HAS SUCCESSFULLY COMPLETED.

6. View all cameras:

1. MY CAMERA
2. RENT A CAMERA
3. VIEW ALL CAMERAS
4. MY WALLET
5. EXIT

3

CAMERA ID	BRAND	MODEL	PRICE (PER DAY)	STATUS
1	Samsung	DS123	500.0	Available
2	Sony	HD214	500.0	Available
3	Panasonic	XC	500.0	Available
4	Canon	XLR	500.0	Available
5	Fujitsu	J5	500.0	Available
6	Sony	HD226	500.0	Available
7	Samsung	DS246	500.0	Rented
8	LG	L123	500.0	Available
9	Canon	XPL	500.0	Available
10	Chroma	CT	500.0	Available
11	Something	some	200.0	Rented
12	Some	Another	100.0	Rented
13	Canon	Digital	123.0	Available
14	NIKON	DSLR-D7500	500.0	Available
15	Sony	DSLR12	200.0	Available
17	Samsung	SM123	200.0	Rented
19	SONY	SONY1234	123.0	Available

7. My wallet or Add money:

1. MY CAMERA
2. RENT A CAMERA
3. VIEW ALL CAMERAS
4. MY WALLET
5. EXIT

4

YOUR CURRENT WALLET BALANCE IS - INR.1723.5
 DO YOU WANT TO DEPOSIT MORE AMOUNT TO YOUR WALLET?(1.YES 2.NO) - 1
 ENTER THE AMOUNT (INR) - 10000
 YOUR WALLET BALANCE UPDATED SUCCESSFULLY. CURRENT WALLET BALANCE - INR.11723.5

8. Failed transaction:

3. VIEW ALL CAMERAS
4. MY WALLET
5. EXIT

2

FOLLOWING IS THE LIST OF AVAILABLE CAMERA(S) -

CAMERA ID	BRAND	MODEL	PRICE(PER DAY)	STATUS
1	Samsung	DS123	500.0	Available
2	Sony	HD214	500.0	Available
3	Panasonic	XC	500.0	Available
4	Canon	XLR	500.0	Available
5	Fujitsu	J5	500.0	Available
6	Sony	HD226	500.0	Available
8	LG	L123	500.0	Available
9	Canon	XPL	500.0	Available
10	Chroma	CT	500.0	Available
13	Canon	Digital	123.0	Available
14	NIKON	DSLR-D7500	500.0	Available
15	Sony	DSLR12	200.0	Available
19	SONY	SONY1234	123.0	Available
20	canon	5050	25000.0	Available
21	nikon	2030	500.0	Available

ENTER THE CAMERA ID YOU WANT TO RENT - 20

ERROR : TRANSACTION FAILED DUE TO INSUFFICIENT WALLET BALANCE. PLEASE DEPOSIT THE AMOUNT TO YOUR WALLET.