

LAB 211 Assignment

Type: Long Assignment
Code: J1.L.P0015
LOC: 200
Slot(s): N/A

Title

Asset Management- Upgrade

Background

BMLT Company is a software company. HR in the company includes employees and a manager. In the company, there are shared assets such as projectors, laptops, The manager has functions such as adding, deleting, editing, finding assets. In addition, the manager also approves the requests to borrow assets of employees. As an employee, it has the following functions: search and send requests to borrow as well as return assets.

You are required to develop a program to manage the assets of the BMLT company.

Asset management will include 2 programs: one for employees and other one for manager.

Asset information is stored in the **asset.dat** file

assetID	name	color	price	weight	quantity
A001	Samsung projector	White	500	3.2	10
A002	Macbook pro 2016	Sliver	1000	2.2	5

The **employee.dat** file has stored **employee information** including the manager.

employID	name	birthdate	role	sex	password
E160001	Nguyen Hong Hiep	12/06/2000	EM	male	e10adc3949ba59abbe56e057f20f883e
E160240	Tran Dinh Khanh	15/07/2002	EM	male	e10adc3949ba59abbe56e057f20f883e
E140449	Le Buu Nhan	10/07/2002	EM	male	e10adc3949ba59abbe56e057f20f883e
E160798	Truong Le Minh	03/12/2002	EM	male	e10adc3949ba59abbe56e057f20f883e
E160052	Hoa Doan	05/06/1990	MA	male	e10adc3949ba59abbe56e057f20f883e

The **request.dat** file has stored the **borrow request information**

rID	assetID	employeeID	quantity	requestDateTime
R001	A001	E140449	1	23-12-2021 13:17:56
R002	A002	E160001	1	24-12-2021 12:18:56
R003	A001	E160798	1	23-12-2021 11:19:56
R007	A002	E160240	1	24-12-2021 10:10:56

The **borrow.dat** file has stored **borrow information**.

bID	assetID	employeeID	quantity	borrowDateTime
B001	A001	E160001	1	23-12-2021 15:13:46
B002	A001	E160001	2	25-12-2021 16:14:56
B003	A002	E160798	3	15-12-2021 17:15:52
B007	A001	E160240	2	26-12-2021 12:16:53

A. Employee's program

Program Specifications

Build a management program for employee. With the following basic functions

1. Login

2. Search asset by name
 3. Borrow the assets
 4. Cancel request
 5. Return asset
- Others- Quit

Each menu choice should invoke an appropriate function to perform the selected menu item. Your program must display the menu after each task and wait for the user to select another option until the user chooses to quit the program.

Features:

This system contains the following functions:

Display a menu and ask users to select an option.

- **Function 0: Build the data structure - 50 LOC**
 - Classes, abstract classes, Interfaces.
 - **assetID, employeeID cannot change after created.**
 - Must implement the polymorphism properties of object-oriented programming.
- **Function 1: Login - 0 LOC**
- **Function 2: Search asset by name – 0 LOC**
- **Function 3: Borrow the assets - 50 LOC**
 - Employee must login to use this function.
 - Show list of asset (**asset.dat file**).
 - Employee input the assetID and quantity to send request.
 - **Add the new data into request.dat file**
 - Ask to continuous or go back to the main menu.
- **Function 4: Cancel request – 50 LOC**
 - Employee must login to use this function
 - The system shows a list of assets requested of this employee (**request.dat file**)
 - Employee select the request ID want to cancel.
 - System must show the confirm message before cancel
 - Delete the select request (**request.dat file**)
 - Ask to continuous or go back to the main menu.
- **Function 5: Return request – 50 LOC**
 - Employee must login to use this function
 - The system shows a list of assets borrowed of this employee (**borrow.dat file**)
 - Employee select the borrow ID want to return.
 - System must show the confirm message before cancel
 - Delete the selected borrow (**borrow.dat file**)
 - Update quantity of the asset at stock (**asset.dat file**)
 - Ask to continuous or go back to the main menu

✚ The above specifications are only basic information; you must perform a requirements analysis step and build the application according to real requirements.

✚ The lecturer will explain the requirement only once on the first slot of the assignment.