

CSE 460
Software Analysis and Design
(Fall 2022)

Homework #3

Assigned: October 5, 11:59 pm

Due: October 15, 11:59 pm

Posting ID 9816-379

1) (a) Actors:

Library Online System: Keeps track and manages information on its patron such as the things that they have borrowed.

Patrons: The students, staff, and faculty at the university who has the rights to borrow items from the library.

Self-Checkout Register: The systems that allows user to scan their items that they want to borrow by themselves.

Library Networks: Links the library online systems to the self-checkout register and other systems such as the computers, printer, and scanner to it.

Use-Cases:

Borrow Items: User can borrow items from library using self-checkout register.

Check Due Dates: User can check their borrowed items' due dates using library online systems.

Print Documents: Users can print documents they want using the printer in the library which will then incur the charges to the user library online system account.

Browse Available Items: Users can use the computer in the library to browse for the items available for borrow as the computers are connected to the library online system.

Return Items: User can return the items to the library which are going to be due.

Pay Overdue Items: User can pay for overdue items in the library using the Library Online System.

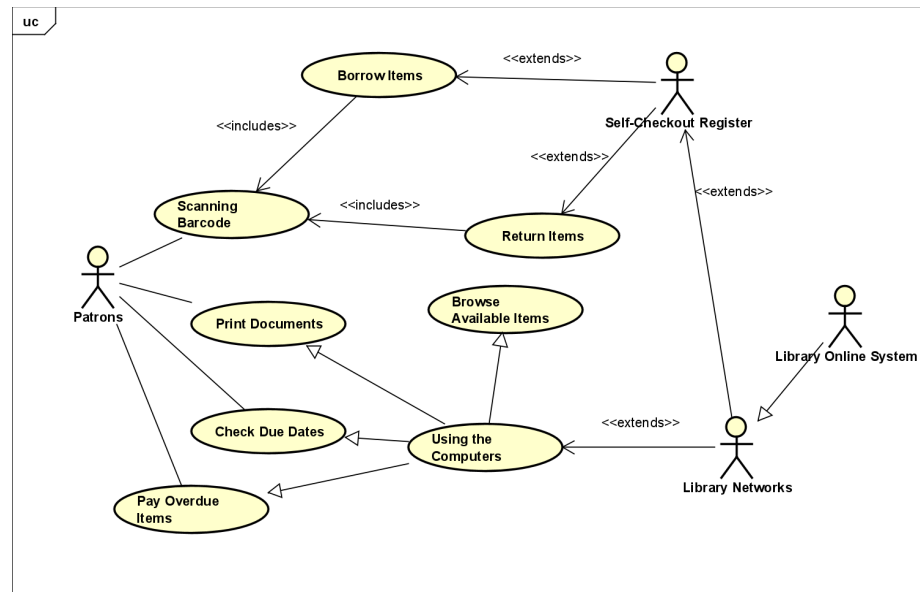
(b) Some items in the library that cannot be checked out are the printers, computers, scanners, and the Self-Checkout Registers.

Use-Cases

Scanning Barcode: The scanner can be used to scan the bar code for the items which the user wants to borrow.

Using the Computers: The users can use the computer for their own usage such as browsing internet.

(c)



2) (a) Classical Categorization:

The two categories of objects are library systems and library users (patrons).

For library users, the users are students and staffs have same problem interest since they all use library system to borrow library items such as books.

As for library systems, the systems are scanners, printer, computers, SCR machines. These have the same use case - works together to facilitate the borrowing of items in library.

(b) Conceptual Clustering:

The library systems cannot be borrowed by library users. These systems only facilitates the borrowing of library items and let users keep track of due dates as well as check for what is available in the library.