1 (a) Actors:
- Library Patrons: Student, staff, faculty who are eligible to use the university's library
- Library online system: The system where patrons can find information for many items they might be interested in
- Self-Checkout Register (SCR) machines: Machines for patrons to self checkout their library items
- Library Network: The library's computers, scanners, and printers that can communicate using wired and wireless connectivity
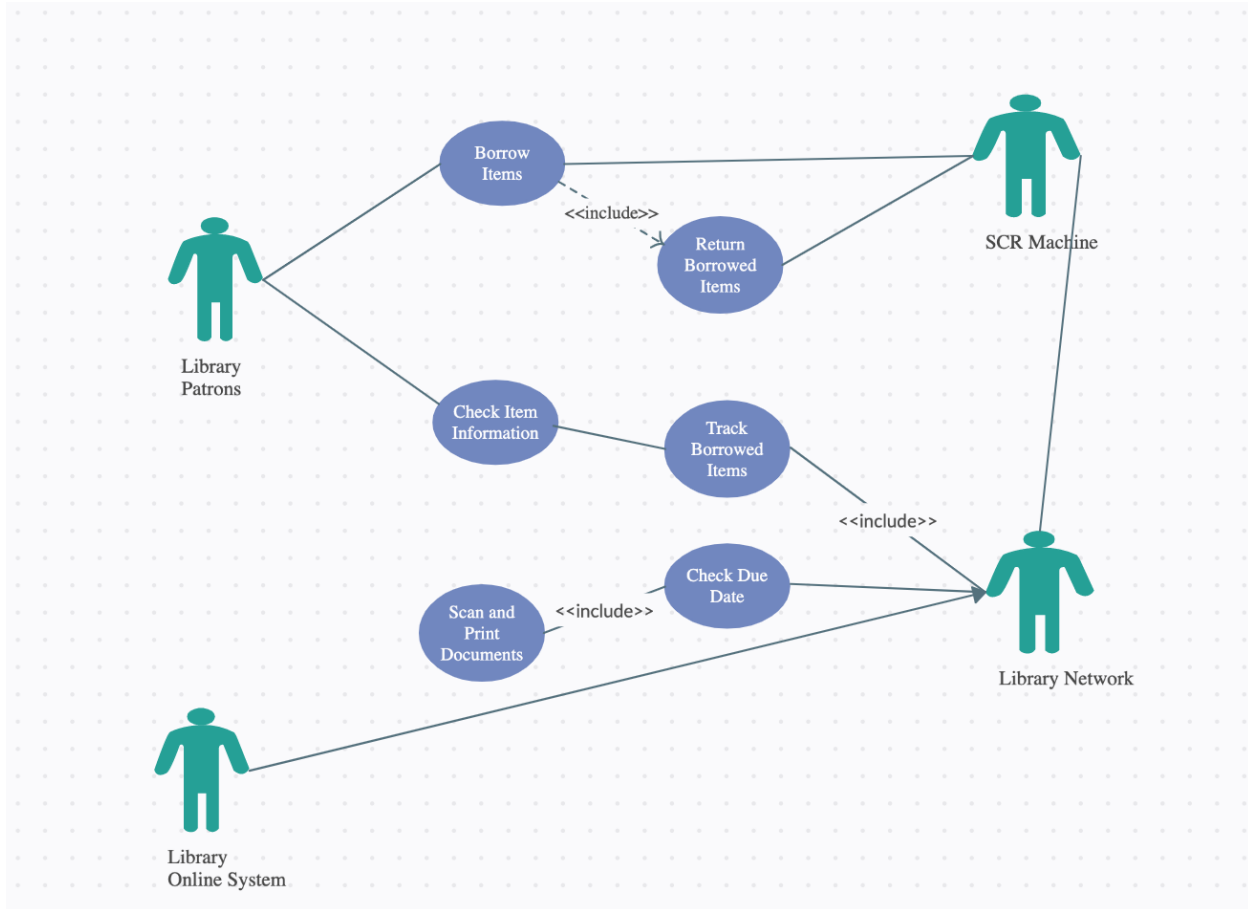
Use cases:
- Borrow items: User can borrow items from the university's library using the SCR machines
- Check item information: User can find information for the items they are interested in using the online system
- Scan and print documents: User can scan and print documents using the library network that supports wired and wireless connectivity
- Return borrowed items: User can return their borrowed items on their return due date
- Track borrowed items: User can track the library holdings using the barcode on the library items
- Check due date: User can track the return due date of the items they borrowed

(b) Use cases:
- Computers, scanners, printers:
    - User can use the scanner to scan the barcode of the items they are interested in to keep track of the specific library items
    - User can use the printers and computers to print out documents that are stored as soft copies in the library
- SCR Machines :
    - User can use the SCR Machines to self-checkout their borrowed library items

(c) Use Case Diagram:

2 (a) Classical Categorization:
- Library Users: The users, which includes students, staff, and faculty, have the same problem of interest, as they are the ones to utilize the library's system in order to borrow library items.
- Library Systems: The systems, which includes the computers, scanners, printers, SCR Machines, and barcodes, have the same properties, such that it allows library users to borrow items in the library. Moreover, it works together to ease the process of users borrowing library items.

(b) Conceptual Clustering:
- The library systems, such as computers, scanners, printers, and SCR Machines, are not being lended to the library users. These systems allow library users to borrow items, and eases the process of users borrowing library items. These systems allow users to keep track of library items, check the return dates, past borrowing history, and etc.