

ECS505U Software Engineering

Laboratory Exercise (**Assessed, 2.5% of final mark**)

Generating UML Diagrams from Requirements

Version 1.6, 24/10/2017

1. Prerequisites

- You should watch the tutorial video titled “UML use case diagram video tutorial” on QMplus course page.
- You should have access to Visual Paradigm. For campus students version 14.1 is pre-installed on all machines. For non-campus students check the QMplus course page for download and licensing information.

2. Glossary

The library system (or the system): The software system designed to help people in the library.

System User: A person in the library who is using the system. Includes all three types of users described below.

User: Users are non-member system users.

Member: A system user who is registered using the library system.

Staff: The employees of the library who handles day to day activities in the library using the system.

3. System Requirements

Library Items:

1. Library items: books, magazines and movies.
2. System must allow adding library items to the system.
3. System must allow removing library items from the system.

System Users:

1. The system must have 3 types of users: user, member and staff.
2. Users must be able to register using the system to become members.
3. Users should be able to get help during registration.
4. All system users must be able search for items (without needing to register).
5. The system must allow searching the items in the library by the following:
 - a. Books
 - b. Magazines
 - c. Movies
6. Members and staff must be able to loan items from their search results.
7. Staff must be able to loan items using their staff account (no separate loan for staff).
8. System should allow creating a loan receipt during the loan process if the member/staff asks for one.
9. Staff must be able to create a loan receipt for any loan in the system.
10. Members and staff must be able to update their personal information.
11. Members and staff must be able to change their passwords.
12. Staff must be able to add and remove items from/to the system.
13. Staff must be able to create new catalogues (book catalogues only).
14. System should not allow having an empty catalogue (a catalogue with no books).
15. Staff must be able to add books to an existing catalogue.
16. Staff must be able to remove books from a catalogue.
17. Staff must be able to process returned items (from loan).

HINTS:

- The loan activity starts with a search for items similar to many online systems. A user must search for items and find the item to loan in order to loan it.
- During the loan users are given the option to create loan receipts. The receipt is created only if the user chooses to create a receipt.
- When creating a catalogue, the staff is asked to add books to the catalogue in order to fulfill RQ14.

You are expected use the one of the names below for each use case and actor in your use case diagram.
Loan, Create Loan Receipt, Update Personal Information, Add Item, Remove Item, Register, Get Register Help, Change Password, Search, Search Books, Search Magazines, Search Movies, Create Catalogue, Add Books to Catalogue, Remove Books from Catalogue, User, Member, Staff, Process Returned Item.