

COMP30860 Assignment: Library Management Systems

Library Management Systems (LMS) are software products that are designed to support the information resources held by one, or more, libraries. At its core, an LMS is concerned with the acquisition, representation and circulation of such resources.

Historically, Information Resources held by a library included a range of artifacts including: books, audio, video, journals and periodicals (magazines), and newspapers. While much of this content is increasingly available online the transition is not where near complete, and there is still a significant need for physical artifacts that are made available at physical locations (library buildings). Libraries often keep more than one copy of the more popular artifacts.

Common features of an LMS include:

- **Cataloguing:** catalogue different types of artifact: books, PDFs, CDs, DVDs, comics, magazines, ...
- **Searching:** tools to locate relevant artifacts of interest
- **Circulations:** issue and return, reserve and chase up overdue items
- **Management and Reports:** produce reports and statistics, schedule activities, import/export and bulk data modification
- **Housekeeping:** all the tools you need to make global changes and set rules for running the system

The purpose of this assignment is for you to work in teams of 3 to implement a partial LMS. As a minimum, the LMS you develop should be designed for a small, single location, library and must support the first three of these features: cataloguing, searching, and circulations. Ideally, it would include some more advanced management and reporting features. It should allow for multiple copies of each information resource to exist (i.e. there can be 3 copies of the latest Tom Clancy thriller).

From a design perspective, the library should be treated like a society or club. Users must join the library in order to use its services (i.e. to loan artifacts), but non-members should (at a minimum) be able to search the catalogue so that they can see what they can get access to if they join. Members should be given a unique Membership ID on joining that they should use to access the LMS.

From an implementation perspective, it is expected that the system should be deployable to the cloud (as docker images), and should support two main types of user: members and librarians. Access to functionality should require that the user first login to the system. As mentioned above, non-members (the public) should be able to use the search functionality to see what the library offers.

Summary of Mandatory Requirements:

Members should be able to login to a Member Portal that should provide the following functionality:

- M0: Member Login
- M1: To view their current list of loans (inc. return dates)
- M2: To renew loans (so long as they are not reserved for other members)
- M3: To reserve artifacts that are available
- M4: To reserve artifacts that are on loan
- M5 :To view your loan history.
- M6: To search for artifacts of interest.
- M7: To view and update their member profile.

Librarians should be able to login to an Administrator Portal that should provide the following functionality:

- L0: Librarian Login
- L1: To add / remove artifacts from the catalogue.
- L2: To search for members.
- L3: To view the current loans of a given member.
- L4: To view the historical loans of a given member.
- L5: To renew loans of members.
- L6: To reserve artifacts for members.
- L7: To record artifacts as being on loan.
- L8: To record artifacts as being returned.
- L9: To search for artifacts.
- L10: To edit member profiles

Members of the public should be able to access the following functionality through the website:

- G1: Search the catalogue
- G2: Join the library

Documentation Required

You should submit all of the following items via Gitlab:

- D1: Wireframe design of your website
- D2: List of User Stories in who, what, why form (i.e. a product backlog)
- D3: Your website
- D4: A Final Report

The Final Report should include an extended list of requirements that clarifies which of the requirements you think you have completed and what additional requirements you added to aim for an A grade. The report should also provide reflections on what you have learnt through the project and what you would do differently. A template will be provided.

Marking Scheme

Grade	Member Portal (30%)	Librarian Portal (30%)	General Website (20%)	Documentation (20%)
A	Something more...	Something more...	B requirements + <i>Well designed website that is intuitive and easy to use.</i>	B requirements + <i>Clear mapping to website. Obvious that you have thought about them and that they were used to help design your submission.</i>
B	C requirements + M4 + M5 + M7	C requirements + L2 + L4 + L6 + L10	C requirements + <i>Clear effort at providing a consistent look and feel, but some elements inconsistent.</i>	C requirements + both D1 & D2 + <i>It should be possible to see how these deliverables map to the website</i>
C	D requirements + M1 + M2 + M3	D requirements + L3 + L5 + L7 + L8	D requirements + G2 + <i>Minimal effort to provide a consistent look and feel.</i>	D requirements + D1 or D2 + <i>There must be some attempt to make the deliverable match the website</i>
D	M0 + M6	L0 + L1 + L9	G1	D3 & D4 Submitted
Fail	No functionality implemented	No functionality implemented	Nothing done	No documents submitted

