Library Information System Assignment

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Requirements Review

Please complete the following tables indicating which of the mandatory requirements you have completed. In cases where there is an issue or you interpreted the requirement in a specific way, please use the comment field to clarify the issue / your interpretation. In the status column indicate whether each requirement was: COMPLETED (you did it), NOT STARTED (you didn't do it), PARTIAL (you did part of it).

Member Requirements Progress

Req. #	Title	Comment	Status
M0	Member Login	Members join the library by signing up from the non-user state. If they join the library and logout, they can always log back in through the index page.	COMPLETED
M1	View List of Loans	Once they login, or from the index page/navbar they can be linked to their user page through the account/profile hyperlinks, there they can click the User History button, where their current loans will be visible at the top of the page highlighted in orange. These are in a schema with the number of the transaction, title of the media item, type, text, start and return dates, etc.	COMPLETED
M2	Renew Loans	When in the catalogue, items which a user currently owns and which no other user has reserved have the renewal option.	COMPLETED
M3	Reserve Available Artifacts	When in the catalogue, items which are available (not loaned out by any other user or by admin) will have the loan button visible on them. This adds the item as a loan to the current user's list of transactions.	COMPLETED
M4	Reserve On Loan Artifacts	When in the catalogue, items which someone else has on loan (or the admin has loaned out) have the "reserve" option showing for the current user which will add it as a reservation on their list of transactions.	COMPLETED

M5	View Loan History	As with the current list of loans, to see their historic loans (and reservations) the current user must navigate to their user page and then click on the User History button. The date the transaction occurred will be visible in the table along with the title of the Media involved. Historic loans/ reservations aren't highlighted.	COMPLETED
M6	Search for Artifacts	Just like a no-user, a user can navigate to the catalogue from the index page. They can search items just like a no user. Under each item they will also have options such as loan (if the item is available), reserve (if it isn't) and renew (if they already own it and no-one else has reserved it).	COMPLETED
M7	Update Profile	A user can navigate to their page using the account/ profile buttons in the index page. There they can view their details such as their username, address, account type, permissions etc. There they can also use a form to edit any or all their details.	COMPLETED

Librarian Requirements Progress

Req. #	Title	Comment	Status
L0	Librarian Login	Admin level user (a librarian) can login/ signup just like a normal user can, in the index page.	COMPLETED
L1	Add / Remove Artifacts	When in the catalogue, an admin level user sees the option to create media under the search bar. In the catalogue table, each media item output has the option to be deleted (or made invisible to the user) if it isn't in use by some other member of the library. If an admin wants to restore any such deleted item, they also have the option to view the catalogue items with the deleted media included, these will have the option to be restored.	COMPLETED
L2	Search for Members	From their user page, an admin level user can search/ view the current members of the library. They will be able to see an admin section of the page, where they can either enter an id of a user and search it or click the "users" entity to see a list of the current members. They can also login as any of these users and act for them.	COMPLETED
L3	View Members Current Loans	The admin can search the user table (using the "users" button on their page) and login as any of the users. Then they can view the related user's current loans/ reservations in their User History.	COMPLETED
L4	View Members Past Loans	As in L3, this way they can access the historical transactions too.	COMPLETED
L5	Renew Loans	As in L3 and L4, an admin can search through the users, login as some user, then they can navigate to the catalogue where they can renew any of the user's current loans (provided no other user has reserved them).	COMPLETED
L6	Reserve Artifacts	As in L3, L4, L5, an admin can login as any other user and reserve any artifact for them.	COMPLETED
L7	Record Loaned Artifacts	As in the previous points they can login as a user, navigate to the catalogue and loan out available media. They can also loan out items by just navigating to the catalogue as themselves and clicking the loan out option on an item. This will make said item unavailable for loaning out by users, though still reservable.	COMPLETED
L8	Record Returned Artifacts	An admin can navigate to the catalogue and any items which are currently loaned out by anyone (the admin included) will have the return option.	COMPLETED

| L9 | Search for Artifacts | An admin can navigate to the catalogue and search for all items in the library just like the user and no-user. They also have the option to view content they deleted (and restore it thus). An admins other options are to loan out, return and delete media. | COMPLETED |
| L10 | Edit Member Profiles | An admin can login as any user (as in L3-L7). This will redirect them to said user's page where they can edit their details. | COMPLETED |

General Requirements Progress

Req. #	Title	Comment	Status
G0	Search for Artifacts	If they click on the catalogue entity, they will be redirected to the catalogue page where they can browse and search through all visible (un-deleted) content. Most fields in the media class will be searched, this includes title, media type and media description.	COMPLETED
G1	Join Library	Non-users can only browse 2 pages, index and catalogue. Any other links will redirect them to the signup page. If they already have an account, they can also login on the index page.	COMPLETED

Additional Requirements

Describe any additional requirements you have completed above and beyond the spec of the project. Use as much space as you require to do this.

Content is classified as child friendly or not. Users enter their age when logging in. Underage users can only see child friendly content, which gives the library application more lifelike behavior.

Entertainment – our application has a Star Wars theme; this was not only to make it more fun for us to make but also to make it more fun to use.

Custom error page.

The website's documents are dynamic. We could have easily made up two dozen static html pages. Instead we thought it would be more elegant to have few pages but make them dynamic instead, in other words, use each one page to show different content depending on the state of the viewer. We did this using Thymeleaf flow of control tools such as for loops and if statements. For example, the buttons in the catalogue change depending on how all the media relates to the current user, the login alternates with logout depending on whether the current user is logged in, the option to search through the members of the library appears on the user page, but only if the user has admin privileges.

Summarize these requirements using the requirements table below.

Req. #	Title	Comment	Status
A0	Classify content as child friendly and otherwise	Underage accounts will not be able to see adult content when they search the catalogue.	COMPLETED
A1	Dynamic pages	Pages' appearance and functionality provided differs depending on who is using it and their state.	COMPLETED
A2	Custom error page	A custom error page was made and mapped to at every error encountered throughout the execution of the app.	COMPLETED
A3	Custom theme to app	Our application's pages are Star Wars themed for our own as well as others enjoyment.	COMPLETED

Reflections

Please summarise your experiences on the project: what did you learn; what challenges did you have to overcome; what would you have done differently if you could have started over.

DO NOT WRITE MORE THAN ONE PAGE

Challenges: "I thought that using the Java Persistence API repository queries as well as having the user session update state with every change made to the application."

"Displaying the correct buttons in catalogue, in context of the currently logged in user. I wanted the renew button only appearing for some media if the current user loans that media and if no one else is reserving it. The loan button if the user doesn't loan the media, nor does anyone else. Reserve if someone loans it but the current user doesn't. The loan out/ delete button if the current user is an admin and the object is not in use, return if someone is loaning it out. Getting all the necessary data (which object is being loaned or reserved, which object has an active transaction with the current user, what type of transaction it is) to the model and for ALL the objects to be displayed was difficult for me. My original plan was to pass to the model a list or two of Booleans (along with the list of media objects). Each element of the list corresponding to each medium in the medium list. Then I could use a Thymeleaf for loop on these three lists. That felt clumsy. Instead I ended up passing a list of all the media objects, a list of the current users loaned objects and a list of the current users reserved objects and finding whether each media item is present in these sets using a combination of Thymeleaf if statements/ for loop."

"The part of the project that I found most challenging was writing the code for the backend of the application."

Lessons: "Near the beginning of the I was having issues visualizing how I would approach the project. I decided to meet with the professor so we could discuss my implementation at the time and correct it. This thought me to be proactive."

"I learned that web development, for all its depth and complexity, has an immediate-feedback nature and I found that extremely motivating. If I had a second chance at the project, I would have spent less time preparing for the project, planning out its structure, et cetera and instead jumped right into it to take full advantage of this feedback loop."

"I expected the wireframes to be exactly replicated by the website. It took me a while to understand that even though the wireframes are meant to represent our goal, they are meant to evolve and more importantly represent our goals as they CHANGE, with our ideas and our understanding of the project."

"I learnt to ask for help when I am struggling with a task instead of spending so much time getting nowhere. If I could do this again, I would have asked for help earlier so I could be an optimally efficient member of the team."

"I learned a lot about the technical components of the project. Had I another chance at this, I would have paid more attention in class and to the inner workings of these technical components."

"When it comes to the timing of results/ work done, our team had a very broad spectrum. Some team-mates started up work immediately. Some days before deadline. Also, some were more likely to work in the mornings, some in the afternoons while others late at night. Naturally, this caused some conflicts in the group, which I think was great as it is reflective of what I expect a team in the workspace to face. While the results of our struggle weren't perfect, I think we had to (and still are doing this) learn to compromise with each-other."