

Final Report: Library Catalog System



EVENTS YOU REGISTERED FOR:

- Career Basics: Interview skills — ONLINE**
Start: Fri Jun 11 2021, 12:00
End: Fri Jun 11 2021, 14:00
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- Drop In Drawing — Seton Library**
Start: Fri Feb 10 2023, 15:00
End: Fri Feb 10 2023, 18:00
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Eric Tan (30069403)

Abstract:

A library is defined as a collection of bibliography, books, movies, games, and other mediums that can be accessed by the public. Most library systems serve the community by making resources accessible to people from all walks of life. Our goal in this project was to replicate a library system but make it more streamlined in the front end. To this end, we used a variety of toolchains to create a library with two different user interfaces -- library customer interface and library staff interface. This allows information to be accessed and displayed only as necessary by the current user. The customers are able to seamlessly browse, checkout and put items on hold as well as participate in library offered events. The librarians are able to manage the whole system seamlessly with dashboard-like views of users and events.

Introduction:

While many library systems sufficiently serve the purpose of accessing publicly available resources and allowing users to accomplish related tasks, some systems feel inefficient at performing common tasks such as searching for items or requesting an item to put on hold. As we were looking at our library systems on the internet such as the Calgary public library website, and the University of Calgary library website, we noticed that it can seem somewhat complicated/tedious to do basic and essential tasks that a library provides as there may be a lot of navigation of screens to go through for simple everyday tasks like placing an item on hold. Our goal is to build a library web application that is simple and efficient for all users to accomplish typical library tasks including signing out items, returning items, and registering for events. Making the library system more simple and efficient to use will allow users of the library system to accomplish their tasks more effectively.

Brief system description:

We have created a simple library web application in which both library customers and librarians can use to perform their library tasks. Library customers are the primary user of the system and the librarian serves as an admin for the system; where they help keep the system maintained and updated for library customers to be able to perform their tasks. Library customers can perform common library tasks such as signing out movies and books, placing holds on movies and books, get more information about particular items, browse events provided by the library, register for events, view the items they have signed out, view the events they are registered for, and return items back to the library. Librarians get some special superuser features including viewing a list of all the customers, viewing customers signed out items, items on hold, and registered events,

view all the customers registered for an event, add events to the system, add items to the system, and add copies of items to the system.

Project Design:

Library customers are the most common users of the system. Library customers can be anyone who uses the library for any reason such as checking out items for educational purposes, checking out items for recreational purposes, attending events to help develop skills, and many other reasons; and thus the demographic of these users can range drastically from different ages, education level, job status, etc. Since there is a large variety of library customers we cannot assume that they may have a certain level of technical skills, so we tried to design and implement the system to be simple for any user to use. Library customers have the following functionality:

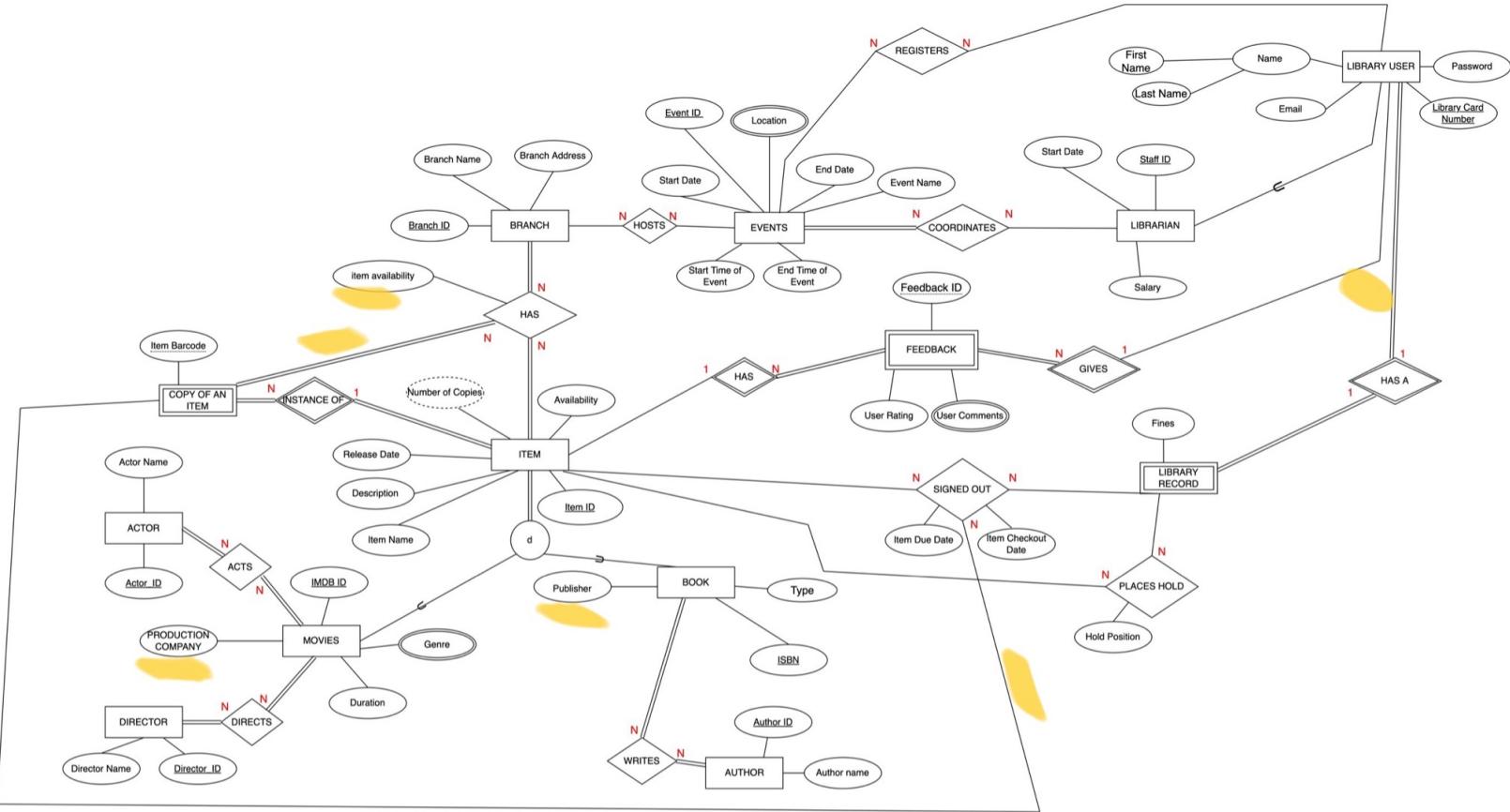
- **Sign up:** A user is able to sign up using a unique email and password if they are not a member. Users are assigned to be a library customer automatically after signup and a card number is generated for them automatically. The current implementation of the system requires a user to be logged in to do most functionalities on the system, so signing up is required.
- **Sign in:** If a user is a library customer, they are able to log in with their email and password and be directed to a profile page afterwards.
- **Browse items and add to cart:** Library customers are able to view all items in the library by using the “Browse Items” button, which is found on the top right of the profile page. If an item is available to be signed out, the “Add to cart” text will be highlighted yellow and a user would be able to add it to cart; otherwise they are able to place the item on hold, so they will be in a queue for the item when it is available to be signed out. Users can choose whether to display all the items in the library system on the page, or they can choose to filter based on if the items are movies or books. Users can also get the description of each item by expanding the “v” button found on each item.
- **Checkout/sign out items:** Library customers are able to checkout items that are in their cart to finish the sign out process. From the “Browse Items” page, users can click the “View Cart” button found on the top right corner of the page to view all the items they have in their cart. Users have the option to modify the quantity they want to checkout or they can remove the item(s) from the cart on this page. Users can choose if they want to borrow items from a particular branch by toggling the checkbox, or they will sign out items from a branch that has the item available (default behaviour). Once the user is happy with their cart contents, they can click the “Proceed to Checkout” button to complete the sign out process and their items will be added to their record.

- **Put items on hold:** If an item is not available the user is able to put items on hold. To place an item for hold, the user would click the “Place Hold” button on the item they want to place on hold and they will get a prompt with their potential waiting list position and if they want to confirm to place the item on hold. After confirming the hold request, they will be placed in the waiting list for the item; once the item is available, the item will automatically be signed out by that user.
- **Register for events:** Library customers are able to register for events offered by the library. On the top right corner, there is a button called “Browse Events” which when clicked presents a list of all events and event information that is provided by the library. By clicking on different column headers, users are able to sort the list by their preferred order. The user needs to make note of the Event ID of the event they want to register for, as when they click the “Register for Event” button, they need to input the short event ID to register for the event. After clicking save, the user will be successfully registered for the event.
- **Viewing Registered Events:** For library customers to view the events they are registered for, they can either view them by the “View Registered Event” button, which is directly to the right of the “Register for Event” button, or they can view their registered events as the first section on the profile page; both options will provide the users with the list of events they are registered for.
- **View borrowed items and items on hold:** For library customers to view the items they have currently borrowed or placed on hold, they can view them from the profile page right underneath where their registered events are located. The borrowed items display the item due date and the items on hold display the current waitlist position the customer is in.
- **Return Items:** For customers to return a borrowed item, they can find the item they want to return (through the profile page), and by clicking on the item, the yellow “Return Item” button appears, which when clicked, will remove the item from the user's record.

Librarians are the second user type of our system and they are not as common as Library Customers. Librarians are typically experienced users of the system and have some level of technical experience; one of the priorities of them is making sure they can access all their different tasks in a quick and effective manner; this is accomplished by having all the features accessible from a single page. Librarians are administrator users that are able to modify the system to affect what items and events library customers have access to. Librarians can enter information about new items that are added to the library system, add new copies of items at the specified branch, create new events, and they can access a list of customers to view what items and events they currently have checked out/registered for. Librarians have the following functionality:

- **View all users:** Librarians are able to view a list of all library customers with their name, card number and email in a tabulated form. This makes it easy for librarians to view all users and sort them for easy finding. After the librarian logs in to the system, this will be the first thing that they see.
- **View individual user profile:** When the librarian clicks on a library customer, the librarian is able to see the items that the user has on loan, the events they are registered for and the holds they currently have.
- **View all events:** Librarians are able to view all events that are offered by the library. They can access the list of events from the “Events” tab on the header.
- **View event participants:** Librarians are able to view all the participants of each event by clicking the “v” button on each event to get a list of participants and some information about them. Librarians are also able to unregister users from events by clicking the “Remove Participant” button next to the participant to be removed.
- **Add events:** Librarians are able to add events to the database. After clicking on the “Add Event” button, a modal opens up with an input page where the librarian fills in the required information about the event including the event name, event location, start date and end date of the event, start time and end time of the event, and the staff ID of the librarian in charge of the event.
- **Add Items:** Librarians are able to add items to the database. After clicking on the “Add Item” button, a modal opens up with an input page where the librarian fills in the required information about the item including item name, item description, and the item release date. Depending on the type of item being added (movie or book), the user fills in certain fields based on this; if adding movies, IMDB, movie producer and movie duration is filled; if adding books, ISBN, book publisher and the book type is filled. After entering the input and submitting the modal, the item will be added to the database and assigned an item identifier, with a copy of the item being created for the Central Library branch.
- **Add Copy of Items:** Librarians are able to add copies of items to the database. After clicking on the “Add Copy” button, a modal opens up with an input page where the librarian fills in the name of the item to make a copy for, and the branch where this copy will be assigned. After entering the input and submitting the modal, the item copy will be assigned an item barcode, added to the database, and assigned to the specified branch.
- **Search Books:** Librarian is able to search for books and get books that match the search term that the librarian entered.
- **Search Events:** Librarian is able to search for events and get events that match the search term that the librarian entered

Project Design (Enhanced Entity-Relationship Model):



Changes made compared to the original EERD submission

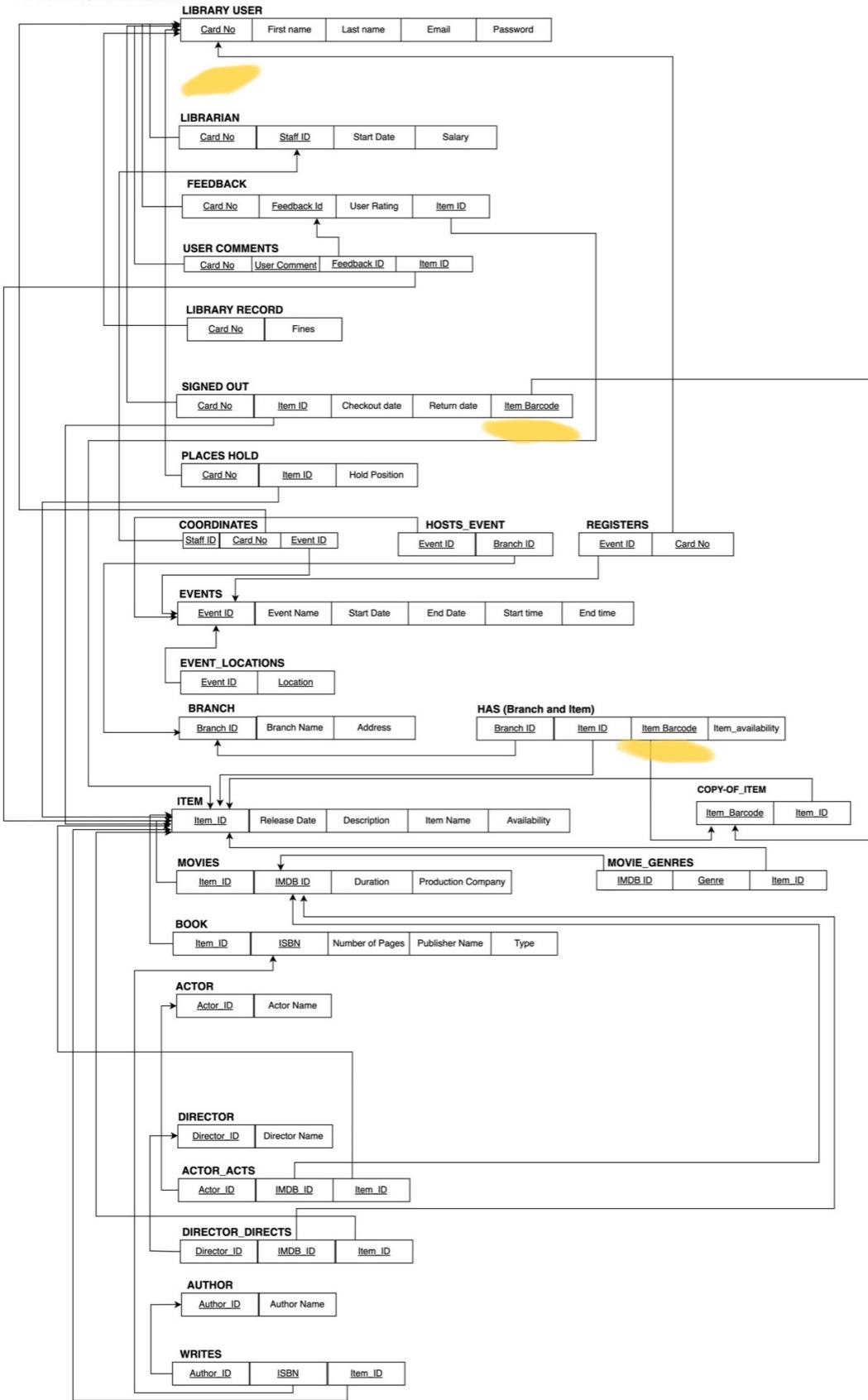
(changes in clockwise order of the diagram starting at the top right according to yellow highlighter):

1. Removed the Library Customer entity because it is redundant (and according to the TAs provided feedback).
2. Converted SIGNED OUT to a ternary relationship so we can use the actual item barcode during signout; this lets us track the actual copy of the item that the library user signs out.
3. Removed the dedicated PUBLISHER entity and made it an attribute of BOOK to reduce the number of relations used and to simplify the implementation since the entity only had 1 attribute; the name of the publisher.
4. Removed the dedicated PRODUCTION COMPANY entity and made it an attribute of MOVIES to reduce the number of relations used and to simplify the implementation since the entity only had 1 attribute; the name of the production company.

5. Converted HAS to a ternary relationship so we can use the actual item barcode to track which branch each copy of the item belongs to.
6. Removed the item quantity attribute and replaced it with item_availability so we can track whether the copy of the item is available to be signed out at each branch. The removed item quantity attribute can also be replaced by SQL aggregate statements.

Implementation:

Relational Model:



Changes made compared to the original relational model

submission (Changes start from top to bottom according to yellow highlighter):

1. Removed the LIBRARY CUSTOMER relation (same reasoning for removing it from the EERD; redundant).
2. Added the Item_Barcodes attribute to SIGNED OUT. Same reasoning for adding it in the EERD; so we can track item barcode/ copy library users sign out.
3. Added the Item_Barcodes attribute to HAS (Branch and Item). Same reasoning for adding it in the EERD; so we can track item barcode/ copy and which branch it belongs to.
4. For HAS (Branch and Item), item_availability replaced item_quantity. Same reasoning for adding it in the EERD; used to track whether the actual copy of the item can be signed out by library users.

Implementation:

Toolchain:

- **VueJS (version 2):** For front end development
- **Vuetify:** As a CSS framework to make styling components easier
- **NodeJS:** Our API was written in NodeJS using the Express library
- **Postman:** For API development
- **MySQL Workbench:** Was used for modeling our SQL database

Database Implementation:

We used MySQL to implement our database. We used this because of the ease of translating from the relational model into a database implementation and because of the structured and consistent properties of MySQL (compared to NoSQL databases such as MongoDB). For each of our relations in our relational model, we created tables for them (using the “CREATE TABLE” command) and defined the attributes and keys inside the my_library_tables.SQL file (in the scripts directory). To have the database loaded, we made use of the “INSERT INTO” command which inserts the specified tuples into the specified relation.

SQL statements for endpoints and a brief description for its contribution towards the transaction:

SQL Statement:	Transaction description:
<pre>`SELECT * FROM library_user WHERE email='\${body.email}' AND user_password='\${body.password}'`</pre>	Endpoint: /getUsers SQL query to check if the login information provided exists in the database.

<pre>`SELECT * FROM library_user`</pre>	Endpoint: /addUser SQL query to check if user email exists in the database yet; future operations extract the email information from the query result.
<pre>"INSERT INTO library_user (card_no, first_name, last_name, email, user_password) VALUES(?, ?, ?, ?, ?);"</pre>	Endpoint: /addUser SQL query to insert a new library customer into the database
<pre>"INSERT INTO library_record (card_no, fines) VALUES (?, ?)"</pre>	Endpoint: /addUser SQL query to create a library_record for the newly created library customer
<pre>`SELECT * FROM feedback`</pre>	Endpoint: /sendFeedback SQL query to determine the feedback ID to be assigned to the posted feedback
<pre>`INSERT INTO feedback (card_no, feedback_id, user_rating, item_id) VALUES(?, ?, ?, ?)`</pre>	Endpoint: /sendFeedback SQL query to insert the feedback rating into the database
<pre>`INSERT into user_comments (card_no, feedback_id, u_comment, item_id) VALUES (?, ?, ?, ?)`</pre>	Endpoint: /sendFeedback SQL query to insert the feedback comment into the database
<pre>`SELECT DISTINCT * from feedback as f, user_comments as u WHERE (f.item_id = u.item_id AND f.feedback_id = u.feedback_id AND u.item_id = \${req.params.itemId})`</pre>	Endpoint: /feedback/:itemId SQL query to extract the posted feedback for a specified item
<pre>`SELECT * from has_for_branch_and_item WHERE branch_id = \${req.params.branchId} AND item_id = \${req.params.itemId} AND item_availability='1'`</pre>	Endpoint: /signout/:itemId/:branchId SQL query to check if the item to be signed out is available at the specified branch
<pre>`INSERT INTO signed_out (item_id, card_no, item_barcode, checkout_date, return_date) VALUES(?, ?, ?, ?, ?)`</pre>	Endpoint: /signout/:itemId/:branchId SQL query to sign out the actual item for the library customer and add it to the library customer record
<pre>`UPDATE has_for_branch_and_item SET item_availability='0' WHERE item_barcode=\${barcode}`</pre>	Endpoint: /signout/:itemId/:branchId SQL query to update the copy of the item to be unavailable to be signed out by other users.
<pre>`SELECT * from has_for_branch_and_item WHERE item_id = \${req.params.itemId} AND item_availability='1'`</pre>	Endpoint: /signout/:itemId/:branchId SQL query to check if item is available across all branches
<pre>`UPDATE item SET item_availability='0' WHERE item_id=\${req.params.itemId}`</pre>	Endpoint: /signout/:itemId/:branchId SQL query to make the item unavailable to checkout across all branches if no available copies exist.
<pre>`SELECT * from has_for_branch_and_item WHERE item_id = \${req.params.itemId}`</pre>	Endpoint: /hold/:itemId/:card_no SQL query to search for copies across all branches

<pre>`SELECT DISTINCT * from places_hold WHERE card_no=\${req.params.card_no} AND item_id=\${req.params.itemId}`</pre>	Endpoint: /hold/:itemId/:card_no SQL query to check if the library customer already has this item placed on hold
<pre>`SELECT * from places_hold WHERE item_id=\${req.params.itemId}`</pre>	Endpoint: /hold/:itemId/:card_no SQL query to make sure copies of the item is available and the customer does not have the item on hold
<pre>"INSERT INTO places_hold (card_no, item_id, hold_position) VALUES(?, ?, ?)"</pre>	Endpoint: /hold/:itemId/:card_no SQL query to place the item on hold
<pre>`SELECT DISTINCT * from signed_out as s, item as i WHERE (s.item_id = i.item_id AND s.card_no = \${req.params.card_no})`</pre>	Endpoint: /loanedItems/:card_no SQL query to extract all the items that the library customer has signed out
<pre>`SELECT DISTINCT * FROM places_hold as p, item as i WHERE (p.item_id = i.item_id AND p.card_no=\${req.params.card_no})`</pre>	Endpoint: /holds/:card_no SQL query to extract all the items that the library customer has on hold
<pre>`SELECT DISTINCT * FROM places_hold as p, item as i WHERE p.item_id = i.item_id`</pre>	Endpoint: /holds/ SQL query to extract all the items that are on hold for all library customers
<pre>`SELECT * FROM signed_out WHERE item_barcode='\${req.params.item_barcode}' AND card_no='\${req.params.card_no}'`</pre>	Endpoint: /returnItem/:card_no/:item_barcode SQL query to make sure the item being returned is signed out by the library customer
<pre>`DELETE FROM signed_out WHERE item_barcode='\${req.params.item_barcode}' AND card_no='\${req.params.card_no}'`</pre>	Endpoint: /returnItem/:card_no/:item_barcode SQL query to delete the item from the library customers record.
<pre>`UPDATE has_for_branch_and_item SET item_availability = 1 WHERE item_barcode='\${req.params.item_barcode}'`</pre>	Endpoint: /returnItem/:card_no/:item_barcode SQL query to update the availability of the item back in stock
<pre>`SELECT * FROM registers WHERE event_id='\${req.body.event_id}' AND card_no='\${req.body.card_no}'`</pre>	Endpoint: /userRegisterEvents SQL query to check if the user has registered for the event previously
<pre>"INSERT INTO registers (event_id, card_no) VALUES(?, ?);"</pre>	Endpoint: /userRegisterEvents SQL query for the library customer to register for the event
<pre>`SELECT DISTINCT * FROM registers as r, lib_events as l, event_location as e WHERE (r.card_no = '\${req.params.card_no}' AND l.event_id = r.event_id AND r.event_id = e.event_id);`</pre>	Endpoint: /getUserRegisteredEvents/:card_no SQL query to find all the events that the library customer is registered for
<pre>`SELECT * FROM lib_events`</pre>	Endpoint: /createEvent SQL query to help extract the event_ids for all the existing events for determining what the newly created event id is

<pre>`SELECT * FROM lib_events NATURAL JOIN event_location WHERE event_name='\${req.body.event_name}' AND event_start_date='\${req.body.event_start_date}' AND end_date='\${req.body.end_date}' AND start_time='\${req.body.start_time}' AND end_time='\${req.body.end_time}' AND e_location='\${req.body.e_location}'`</pre>	<p>Endpoint: /createEvent SQL query to determine if the event has been previously added to the system already</p>
<pre>"INSERT INTO lib_events (event_id, event_name, event_start_date, end_date, start_time, end_time) VALUES (?, ?, ?, ?, ?, ?);"</pre>	<p>Endpoint: /createEvent SQL query to insert the event into the events relation</p>
<pre>"INSERT INTO event_location (event_id, e_location) VALUES (?, ?);"</pre>	<p>Endpoint: /createEvent SQL query to insert the event with the assigned event location</p>
<pre>`SELECT branch_id FROM branch WHERE branch_name='\${req.body.e_location}'`</pre>	<p>Endpoint: /createEvent SQL query to get the branch_id of the specified branch location</p>
<pre>"INSERT INTO hosts_event (event_id, branch_id) VALUES (?, ?)"</pre>	<p>Endpoint: /createEvent SQL query to insert the event to the assigned event location</p>
<pre>"INSERT INTO coordinates (card_no, staff_id, event_id) VALUES (?, ?, ?)"</pre>	<p>Endpoint: /createEvent SQL query to assign the event with the coordinator of the event</p>
<pre>`SELECT * FROM item`</pre>	<p>Endpoint: /addItem SQL query to determine if the item exists in the system (based on item name)</p>
<pre>"INSERT INTO item (item_id, release_date, item_desc, item_name, item_availability) VALUES (?, ?, ?, ?, ?);"</pre>	<p>Endpoint: /addItem SQL query to insert the newly created item to the system</p>
<pre>"INSERT INTO movies (item_id, production_company, imbd_id, duration) VALUES (?, ?, ?, ?)"</pre>	<p>Endpoint: /addItem SQL query to insert in the movies relation if it is a movie</p>
<pre>"INSERT INTO book (item_id, isbn, publisher_name, book_type) VALUES (?, ?, ?, ?)"</pre>	<p>Endpoint: /addItem SQL query to insert in the books relation if it is a book</p>
<pre>`SELECT * FROM copy_of_item`</pre>	<p>Endpoint: /addItem SQL query to help extract the maximum item_barcode to help assign a new item_barcode for the newly created item copy</p>
<pre>"INSERT INTO copy_of_item (item_barcode, item_id) VALUES (?, ?)"</pre>	<p>Endpoint: /addItem SQL query to create a copy of the item</p>
<pre>"INSERT INTO has_for_branch_and_item (branch_id, item_id, item_barcode, item_availability) VALUES (?, ?, ?, ?)"</pre>	<p>Endpoint: /addItem SQL query to assign the copy of the item to a branch</p>

<pre>`SELECT * FROM item`</pre>	Endpoint: /addItemCopy SQL query to check if item exists in the database
<pre>`SELECT item_id FROM item WHERE item_name='\${req.body.item_name}'`</pre>	Endpoint: /addItemCopy SQL query to extract the item id of the item to be added
<pre>`SELECT * FROM copy_of_item`</pre>	Endpoint: /addItemCopy SQL query to extract the barcodes to help assign a new barcode for the copy to be created
<pre>"INSERT INTO copy_of_item (item_barcode, item_id) VALUES (?,?)"</pre>	Endpoint: /addItemCopy SQL query to insert the item copy to the database
<pre>"INSERT INTO has_for_branch_and_item (branch_id, item_id, item_barcode, item_availability) VALUES (?,?,?,?,?)"</pre>	Endpoint: /addItemCopy SQL query to assign the copy of the item to a branch
<pre>`SELECT b.item_id, b.publisher_name, b.isbn, i.release_date, i.item_desc, i.item_name, a.author_name FROM book as b, item as i, writes as w, author as a WHERE i.item_id = b.item_id AND w.item_id = i.item_id AND a.author_id = w.author_id AND (item_desc LIKE '%\${searchTerm}%' OR item_name LIKE '%\${searchTerm}%' OR publisher_name like '%\${searchTerm}%' OR author_name like '%\${searchTerm}%' OR b.isbn like '%\${searchTerm}%')`</pre>	Endpoint: /search/:searchType/:searchTerm SQL query to search for book items in the system
<pre>`SELECT DISTINCT h.event_id, event_name, event_start_date, end_date, start_time, end_time, card_no, staff_id, e_location, branch_id FROM lib_events as l, coordinates as c, event_location as el, hosts_event as h WHERE h.event_id = l.event_id AND c.event_id = el.event_id AND h.event_id = el.event_id AND c.event_id = l.event_id AND (event_name LIKE '%\${searchTerm}%' OR e_location like '%\${searchTerm}%' OR event_start_date like '%\${searchTerm}%' OR end_date like '%\${searchTerm}%' OR start_time like '%\${searchTerm}%' OR end_time like '%\${searchTerm}%');`</pre>	Endpoint: /search/:searchType/:searchTerm SQL query to search for events in the system
<pre>`SELECT * from library_user WHERE isLibrarian='0'`</pre>	Endpoint: /users SQL query to extract all the library customers in the system

<pre>`SELECT DISTINCT h.event_id, event_name, event_start_date, end_date, start_time, end_time, u.card_no, staff_id, e.location, branch_id, first_name, last_name FROM lib_events as l, coordinates as c, event_location as el, hosts_event as h, library_user as u WHERE h.event_id = l.event_id AND c.event_id = el.event_id AND h.event_id = el.event_id AND c.event_id = l.event_id AND c.card_no = u.card_no`;</pre>	<p>Endpoint: /events SQL query to extract all the events in the system</p>
<pre>`SELECT * from signed_out WHERE item_id = \${req.params.itemId}`</pre>	<p>Endpoint: /itemRecord/:itemId" SQL query to extract all users that have the specified item checked out</p>
<pre>`SELECT * from has_for_branch_and_item`</pre>	<p>Endpoint: /availableItems SQL query to find all items available to be checked out</p>
<pre>`SELECT * from branch`</pre>	<p>Endpoint: /branches SQL query to find all library branches</p>
<pre>`SELECT * from item`</pre>	<p>Endpoint: /items SQL query to extract all items in the system</p>
<pre>`SELECT * from movies`</pre>	<p>Endpoint: /items SQL query to extract all movies in the system</p>
<pre>`SELECT * from book`</pre>	<p>Endpoint: /items SQL query to extract all books in the system</p>
<pre>`SELECT * FROM library_user WHERE card_no = \${userId}`</pre>	<p>Endpoint: /user/:userId SQL query to extract library customer information based on their card number</p>
<pre>`SELECT l.staff_id, u.first_name, u.last_name, u.email FROM library_user as u, librarian as l WHERE l.card_no = u.card_no`</pre>	<p>Endpoint: /staff SQL query to extract information about all staff in the system</p>
<pre>`SELECT DISTINCT r.card_no, u.first_name, u.last_name, u.email FROM lib_events as l, registers as r, library_user as u WHERE r.card_no = u.card_no AND r.event_id = l.event_id AND l.event_id = '\$ {req.params.eventId}'`;</pre>	<p>Endpoint: /participants/:eventId SQL query to help extract all the library customers registered for the specified event</p>
<pre>`SELECT * from registers WHERE card_no=\${req.params.userId} AND event_id=\${req.params.eventId}`</pre>	<p>Endpoint: /unregisterEvent/:userId/:eventId SQL query to check if the user is already registered for the specified event</p>
<pre>`DELETE from registers WHERE card_no=\${req.params.userId} AND event_id=\${req.params.eventId}`</pre>	<p>Endpoint: /unregisterEvent/:userId/:eventId SQL query to unregister the user from the event.</p>

Postman Documentation:

Please use the link below to view our documentation for our APIs and to send requests to the API.

<https://documenter.getpostman.com/view/19137712/UVyyuYb5>

User Guide:

1. The following is the first page the user sees when they access the library webpage. Users must log in to use the system by using their email and password to access it:

The screenshot shows a simple login form. At the top is a blue header bar with the word "Login". Below it is a white input field labeled "E-mail". Underneath is another white input field labeled "Type your password here", which includes a small circular icon with a magnifying glass and the number "0" to its right. At the bottom of the form are two rectangular buttons: a green one on the left labeled "LOGIN" and a red one on the right labeled "SIGNUP".

2. If a user is not a member they are able to sign up by clicking the **SIGNUP** button and they are redirected to the sign in page.

This screenshot is identical to the one above, showing the login form with its fields and buttons. However, a thick black oval has been drawn around the red "SIGNUP" button at the bottom right of the form.

3. The signup page has a form where users can sign up using a unique email. An error is thrown if the email already exists in the database.

3a. The signup page:

Sign Up

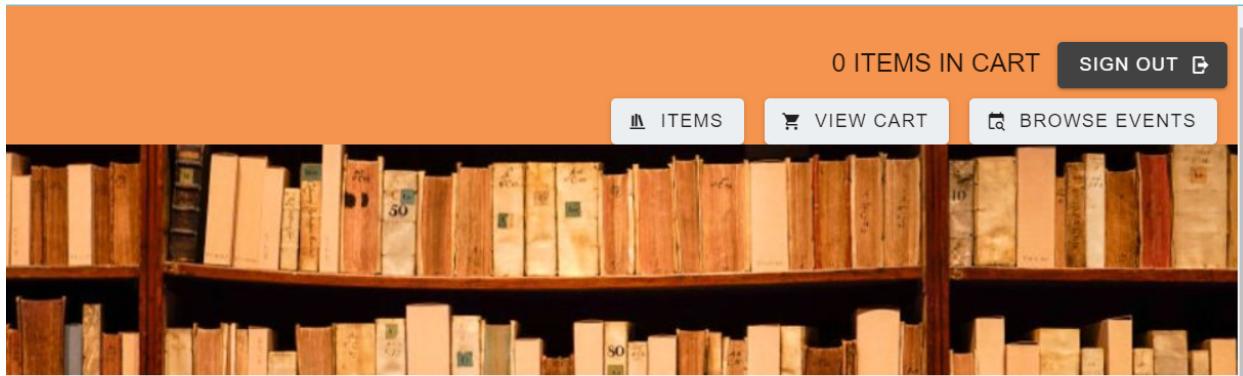
First	Last
Email	
Password	
Confirm	
SIGN UP	
ALREADY A MEMBER? SIGN IN	

3b. Sign up throws an error if the email already exists in database

Sign Up

First Test	Last User
Email leo@gmail.com	
Email already exists in database	
Password ...	
Confirm ...	
SIGN UP	
ALREADY A MEMBER? SIGN IN	

4. Once the user signs up using an email, or logs in, they are directed to their user profile. This page allows them to view registered events, checked out items, and items on hold by the user.



EVENTS YOU REGISTERED FOR:

- Career Basics: Interview skills — ONLINE**
Start: Fri Jun 11 2021, 12:00
End: Fri Jun 11 2021, 14:00

[UNREGISTER FROM THIS EVENT](#)
- Book Discussion: The Lord Of the Rings — Louise Riley Library**
Start: Wed Aug 03 2022, 17:00
End: Wed Aug 03 2022, 21:00

[UNREGISTER FROM THIS EVENT](#)
- Making Comics: Getting Started — Judith Umbach Library**
Start: Sat Apr 27 2024, 16:00
End: Sat Apr 27 2024, 19:00

5. Users are able to browse items based on category by accessing the “Items” navigation tab on the upper right of the page. If an item is available they can add it to cart. If an item is unavailable they are able to place hold. These 2 actions are mutually exclusive as indicated by conditional deactivation of the buttons:
 - 5a. All items

ALL ITEMS	BOOKS	MOVIES	
Clara Callan: A novel Book, Jan 01 2001 ADD TO CART PLACE HOLD ▾	The Kitchen God's Wif... Book, Jan 01 1991 ADD TO CART PLACE HOLD ▾	The Testament Book, Jan 01 1999 ADD TO CART PLACE HOLD ▾	Beloved Book, Jan 01 1994 ADD TO CART PLACE HOLD ▾
Our Dumb Century: The... Book, Jan 01 1999 ADD TO CART PLACE HOLD ▾	New Vegetarian: Bold ... Book, Jan 01 2001 ADD TO CART PLACE HOLD ▾	Wild Animus Book, Jan 01 2004 ADD TO CART PLACE HOLD ▾	Airframe Book, Jan 01 1997 ADD TO CART PLACE HOLD ▾
Timeline Book, Jan 01 2000 ADD TO CART PLACE HOLD ▾	Prague : A Novel Book, Jan 01 2003 ADD TO CART PLACE HOLD ▾	The Godfather Movie, Jan 01 1972 ADD TO CART PLACE HOLD ▾	The Dark Knight Movie, Jan 01 2008 ADD TO CART PLACE HOLD ▾
The Godfather: Part I... Movie, Jan 01 1974 ADD TO CART PLACE HOLD ▾	12 Angry Men Movie, Jan 01 1957 ADD TO CART PLACE HOLD ▾	Schindlers List Movie, Jan 01 1994 ADD TO CART PLACE HOLD ▾	The Lord of the Rings... Movie, Jan 01 2003 ADD TO CART PLACE HOLD ▾
Pulp Fiction Movie, Jan 01 1996 ADD TO CART PLACE HOLD ▾	The Lord of the Rings... Movie, Jan 01 2001 ADD TO CART PLACE HOLD ▾	The Good, the Bad and... Movie, Jan 01 1966 ADD TO CART PLACE HOLD ▾	The Shawshank Redempt... Movie, Jan 01 1994 ADD TO CART PLACE HOLD ▾

5b. Books:

ALL ITEMS	BOOKS	MOVIES	
Clara Callan: A novel Jan 01 2001 ADD TO CART PLACE HOLD ▾	The Kitchen God's Wif... Jan 01 1991 ADD TO CART PLACE HOLD ▾	The Testament Jan 01 1999 ADD TO CART PLACE HOLD ▾	Beloved Jan 01 1994 ADD TO CART PLACE HOLD ▾
Our Dumb Century: The... Jan 01 1999 ADD TO CART PLACE HOLD ▾	New Vegetarian: Bold ... Jan 01 2001 ADD TO CART PLACE HOLD ▾	Wild Animus Jan 01 2004 ADD TO CART PLACE HOLD ▾	Airframe Jan 01 1997 ADD TO CART PLACE HOLD ▾
Timeline Jan 01 2000 ADD TO CART PLACE HOLD ▾	Prague : A Novel Jan 01 2003 ADD TO CART PLACE HOLD ▾		

5c. Movies:

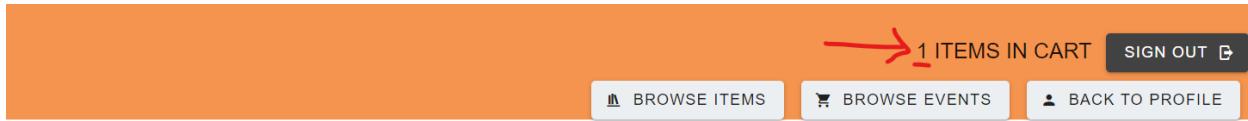
ALL ITEMS	BOOKS	MOVIES
The Godfather Jan 01 1972 ADD TO CART PLACE HOLD	The Dark Knight Jan 01 2008 ADD TO CART PLACE HOLD	The Godfather: Part I... Jan 01 1974 ADD TO CART PLACE HOLD
Schindlers List Jan 01 1994 ADD TO CART PLACE HOLD	The Lord of the Rings... Jan 01 2003 ADD TO CART PLACE HOLD	Pulp Fiction Jan 01 1996 ADD TO CART PLACE HOLD
The Good, the Bad and... Jan 01 1966 ADD TO CART PLACE HOLD	The Shawshank Redempt... Jan 01 1994 ADD TO CART PLACE HOLD	12 Angry Men Jan 01 1957 ADD TO CART PLACE HOLD

6. Should the user decide to add any of the items from the browsing page to their cart. It will appear in the cart page which can be accessed from the navigation tabs on the upper right of the page.

6a) Empty cart: transaction buttons are disabled when the cart is empty.

The screenshot shows a web page titled 'Your Cart'. At the top, there is an orange header bar with the text '0 ITEMS IN CART' and a 'SIGN OUT' button. Below the header, there are three navigation buttons: 'BROWSE ITEMS', 'BROWSE EVENTS', and 'BACK TO PROFILE'. The main content area is titled 'Your Cart' and contains the message 'Your cart is empty!'. Below this message, there is a checkbox labeled 'I would like to borrow these items from a specific branch.' followed by a dropdown menu labeled '*Select a branch'. At the bottom of the page is a 'PROCEED TO CHECKOUT' button.

6b) Modify item quantity: Users may choose to change the quantity of any items in their cart by clicking on the Quantity button. Quantity options are only available as the amount of the available copies of the item in the database. For this example, there are 6 copies of the Clara Callan book item available in the database thus the user may choose any quantity within that range. The item number in the cart on the top right of the page is also updated whenever a quantity is changed.



Your Cart

Clara Callan: A novel

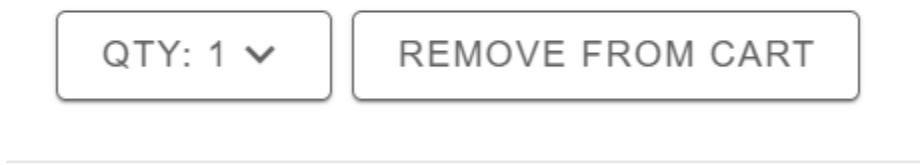
Book, Jan 01 2001

In a small town in Canada, Clara Callan reluctantly takes leave of her sister, Nora, who is bound for New York. Its a time when the growing threat of fascism in Europe is a constant worry, and people escape from reality through radio and the movies. Meanwhile, the two sisters -- vastly different in personality, yet inextricably linked by a shared past -- try to find their places within the complex web of social expectations for young women in the 1930s.

A screenshot of a product listing in a shopping cart. The product is "Clara Callan: A novel". The quantity is set to 1, indicated by a dropdown menu with options 1, 2, 3, 4, 5, and 6. A red circle highlights the "QTY: 1" dropdown. A red curly brace groups the quantity input with the "REMOVE FROM CART" button. Below the quantity dropdown is a list of items from a branch, with a dropdown menu showing "1". At the bottom right is a yellow "PROCEED TO CHECKOUT" button.

6c) Remove From Cart: This simply allows users to quickly get rid of an item in the cart should they change their mind about it.

worry, and people escape from reality through radio and the movies. Meanwhile, the two sisters -- vastly different in personality, yet inextricably linked by a shared past -- try to find their places within the complex web of social expectations for young women in the 1930s.



6d) Specifying a branch option: Users are given an option to checkout their item from a specific branch should they prefer to. When the checkbox is clicked, then the Proceed to Checkout button will be disabled until the user chooses a branch from the given list.

I would like to borrow these items from a specific branch.

*Select a branch

PROCEED TO CHECKOUT

people escape from reality through radio and the movies. Meanwhile, the two sisters -- very unlike within the complex web of social expectations for young women in the 1930s.

1 ▾ REMOVE FROM CART

Central Library

Fish Creek Library

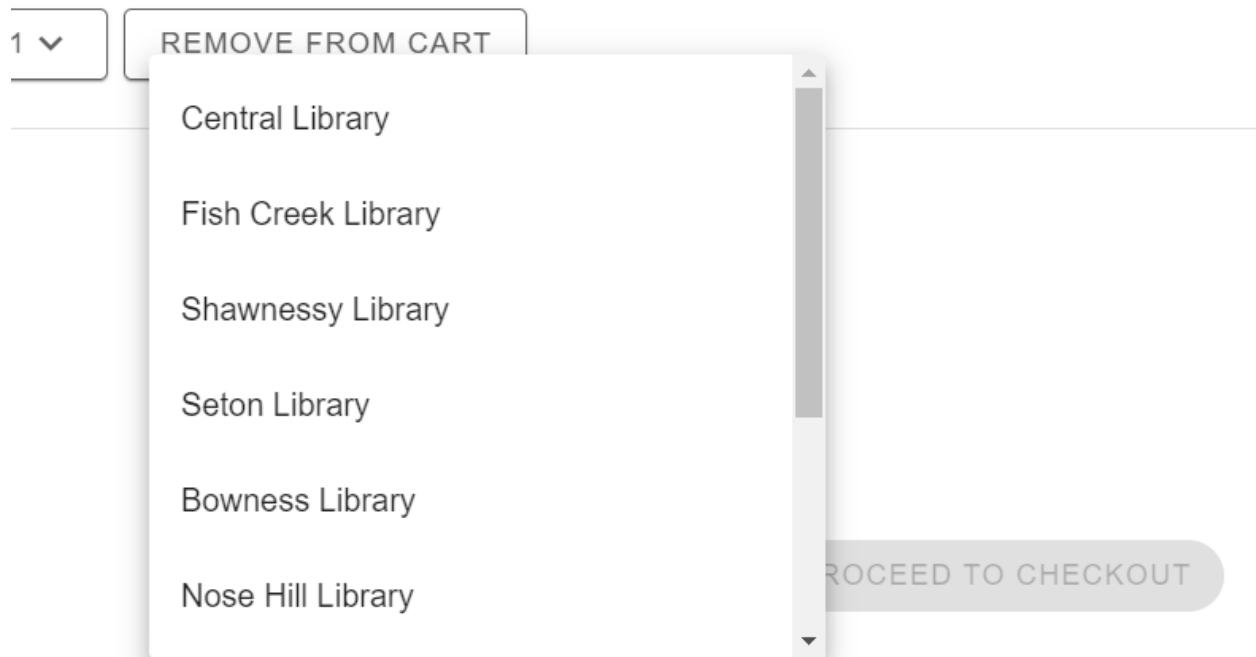
Shawnessy Library

Seton Library

Bowness Library

Nose Hill Library

PROCEED TO CHECKOUT



7. Checking out an item

7a) Alerts: Users are alerted when any of the items in their cart are unavailable at the specific branch they chose and are prompted whether they want to continue or not. Should they continue, users will be alerted when any of the items has not been signed out but also alerts for successful transactions when at least one item is available and has been signed out for the user. These same alerts also show up for regular transactions (i.e., no branch preference by user).

12 Angry Men

Movie, Jan 01 1957

The jury in a New York City murder trial is frustrated by a single member whose skeptical caution forces them to more carefully consider the evidence before jumping to a hasty verdict.

QTY: 1 ▾

REMOVE FROM CART

The Dark Knight

Movie, Jan 01 2008

When the menace known as the Joker wreaks havoc and fight injustice.

QTY: 1 ▾

REMOVE FROM CART

Uh oh!

It looks like the following item(s) are unavailable at Seton Library:

1 copy(s) of Pulp Fiction
1 copy(s) of 12 Angry Men

Would you still like to proceed?

NO

YES

I would like to borrow these items from a specific branch.

*Select a branch

Seton Library

PROCEED TO CHECKOUT

0 ITEMS IN CART

SIGN OUT

BROWSE ITEMS

BROWSE EVENTS

BACK TO PROFILE

Your Cart

Your cart is empty!

I would like to borrow these items from a specific branch.

*Select a branch

Seton Library

PROCEED TO CHECKOUT



Success! Thank you! Navigate to your profile to check your borrowed items.



Sorry, we were unable to checkout the following item(s):

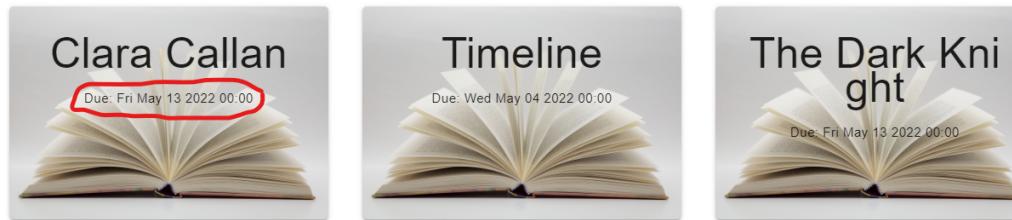
Pulp Fiction
12 Angry Men

7b) Loaned/Checked Out Items Record: Users may navigate back to their profile page to see which items they currently have on-hand (checked out). A return or due date is generated and displayed for the user to see (31 days after checkout). They may click on any of the items to see more details about the item and they may also return the item by clicking on the return button.

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[UNREGISTER FROM THIS EVENT](#)

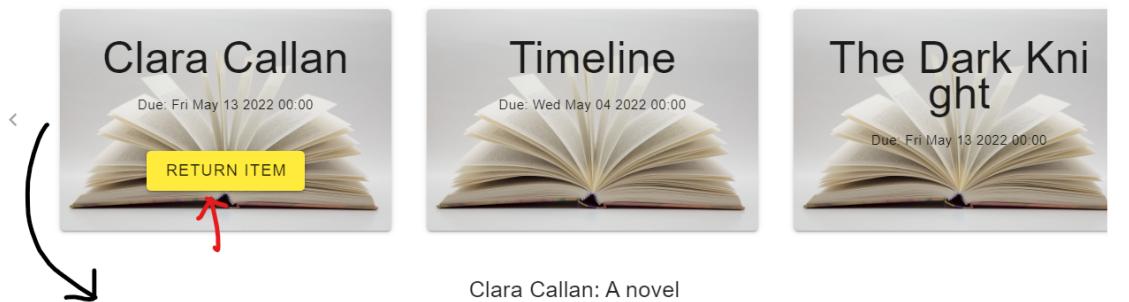
YOUR BORROWED ITEMS:



ITEMS YOU HAVE ON HOLD:

You do not have any items on hold.

YOUR BORROWED ITEMS:



Clara Callan: A novel

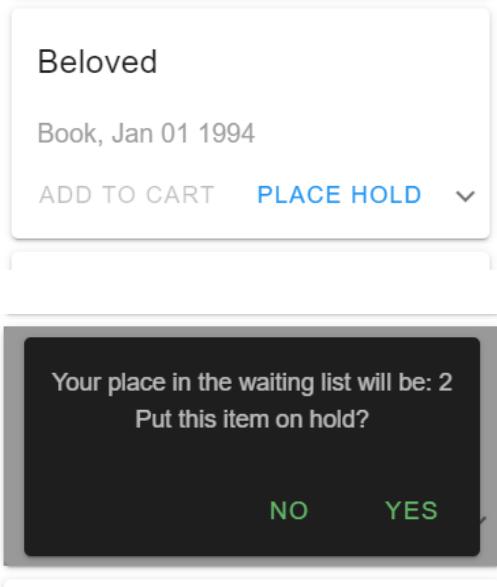
In a small town in Canada, Clara Callan reluctantly takes leave of her sister, Nora, who is bound for New York. It's a time when the growing threat of fascism in Europe is a constant worry, and people escape from reality through radio and the movies. Meanwhile, the two sisters -- vastly different in personality, yet inextricably linked by a shared past -- try to find their places within the complex web of social expectations for young women in the 1930s.

ITEMS YOU HAVE ON HOLD:

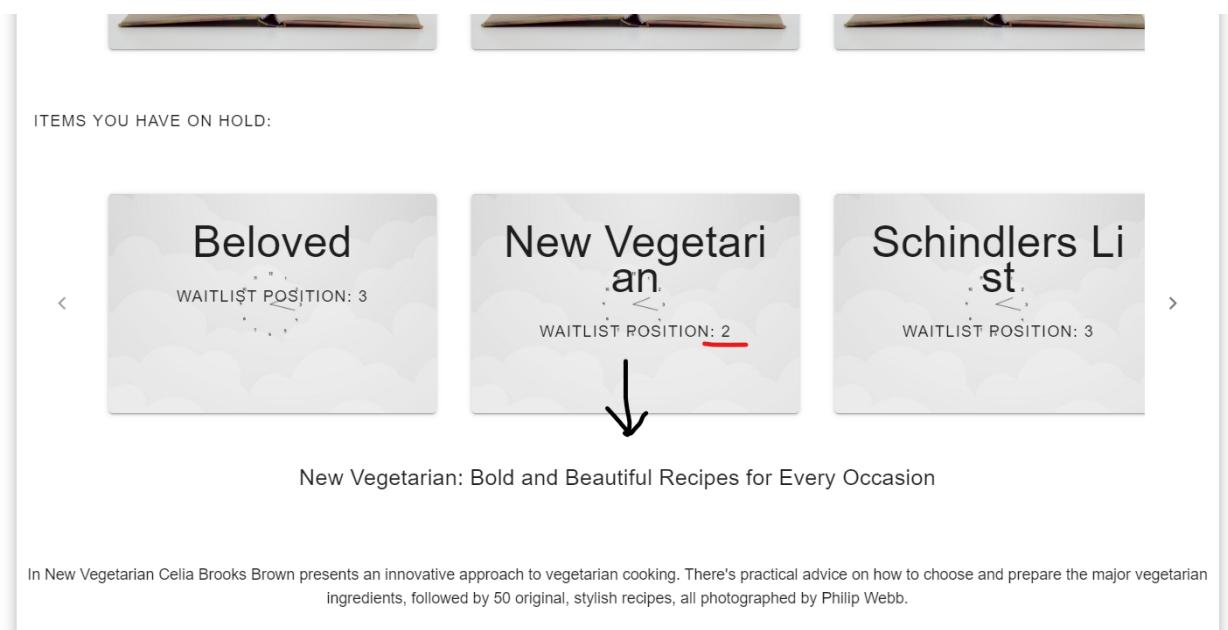
You do not have any items on hold.

8.Puting item on hold

8a) Hold Inquiry: Users may choose to put an unavailable item on hold at the browsing items page for when it becomes available again. Should they choose to place a hold then they are informed of what their position in the waiting list is going to be and they will be given the option to cancel or continue.



8b) Hold Record: Any items put on hold by a user is shown in the user's profile page as well. Here, they can see the position in the waiting list and a description of the items they have on hold.



ITEMS YOU HAVE ON HOLD:

Beloved WAITLIST POSITION: 3	New Vegetarian WAITLIST POSITION: 2	Schindlers List WAITLIST POSITION: 3
--	---	--

New Vegetarian: Bold and Beautiful Recipes for Every Occasion

In New Vegetarian Celia Brooks Brown presents an innovative approach to vegetarian cooking. There's practical advice on how to choose and prepare the major vegetarian ingredients, followed by 50 original, stylish recipes, all photographed by Philip Webb.

9.Librarian view

9a. When the librarian logs in, they are directed to a view of all library customers.

The screenshot shows a web application interface for a librarian. At the top, there is a header bar with the title "Test Librarian" and a search input field. Below the header are navigation tabs: "CUSTOMERS" (which is highlighted in blue), "EVENTS", "SEARCH RESULTS", and three buttons: "ADD EVENT", "ADD ITEM", and "SIGN OUT". The main content area displays a table of customer information. The columns are "Customer name", "Card Number ↑ 1", and "email ↓ 2". The data rows include: Alice Smith (1157422742, anon@anonymous.com), Kawhi Leonard (1234567890, kawhi@hotmail.com), Leonardo Dicaprio (2346271619, leo@gmail.com), Matthew Tkachuk (3461246421, mmtkachuk@flames.com), Lebron James (6830547195, lebron23@gmail.com), Hailee Steinfeld (7234561552, hailee@hotmail.com), Margot Robbie (7920625716, margot@outlook.com), Paul George (8426482051, paulGeorge@hotmail.com), Joe Biden (9646514567, pres@USA.com), and Nick Bosa (9934758123, bosa97@niners.com). At the bottom right of the table, there are pagination controls: "Rows per page: 10", "1-10 of 10", and navigation arrows.

Customer name	Card Number ↑ 1	email ↓ 2
Alice Smith	1157422742	anon@anonymous.com
Kawhi Leonard	1234567890	kawhi@hotmail.com
Leonardo Dicaprio	2346271619	leo@gmail.com
Matthew Tkachuk	3461246421	mmtkachuk@flames.com
Lebron James	6830547195	lebron23@gmail.com
Hailee Steinfeld	7234561552	hailee@hotmail.com
Margot Robbie	7920625716	margot@outlook.com
Paul George	8426482051	paulGeorge@hotmail.com
Joe Biden	9646514567	pres@USA.com
Nick Bosa	9934758123	bosa97@niners.com

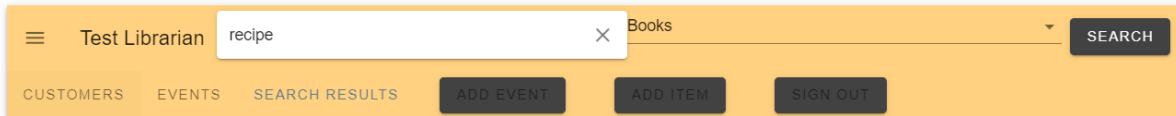
9b. By clicking the **Events** tab, a librarian can view all the events provided by the library

The screenshot shows the same web application interface as above, but with the "EVENTS" tab selected. The header bar now has the word "story" in the search input field. The main content area displays a table of event information. The columns are "Event Name", "Event Location", "Event Time", and "Event coordinator". The data rows include: Family Storytime (Central Library, 2020-01-21, Test Librarian), Career Basics: Interview skills (ONLINE, 2021-06-11, Test Librarian), Creative Writing (Fish Creek Library, 2022-04-13, Sarah Silverman), Author Meet and Greet (Bowness Library, 2022-04-13, Eric Tan), Family Storytime (Nose Hill Library, 2022-05-08, Kelly Osena), Drop In Drawing (Seton Library, 2023-02-10, James Johnson), Drop in Drawing (Crowfoot Library, 2023-02-11, Kelly Osena), Book Discussion: The Lord Of the Rings (Louise Riley Library, 2022-08-03, Kelly Osena), and Making Comics: Getting Started (Judith Umbach Library, 2024-04-27, Kelly Osena). At the bottom right of the table, there are pagination controls: "Rows per page: 10", "1-9 of 9", and navigation arrows.

Event Name	Event Location	Event Time	Event coordinator
Family Storytime	Central Library	2020-01-21	Test Librarian
Career Basics: Interview skills	ONLINE	2021-06-11	Test Librarian
Creative Writing	Fish Creek Library	2022-04-13	Sarah Silverman
Author Meet and Greet	Bowness Library	2022-04-13	Eric Tan
Family Storytime	Nose Hill Library	2022-05-08	Kelly Osena
Drop In Drawing	Seton Library	2023-02-10	James Johnson
Drop in Drawing	Crowfoot Library	2023-02-11	Kelly Osena
Book Discussion: The Lord Of the Rings	Louise Riley Library	2022-08-03	Kelly Osena
Making Comics: Getting Started	Judith Umbach Library	2024-04-27	Kelly Osena

9c. Search results which can be accessed by clicking the search results tab. Shows no results to display if nothing is being searched.

9d. Book search.



The screenshot shows a library management system interface. At the top, there is a navigation bar with tabs for 'CUSTOMERS', 'EVENTS', 'SEARCH RESULTS' (which is currently selected), 'ADD EVENT', 'ADD ITEM', and 'SIGN OUT'. A search bar at the top center contains the text 'recipe' and has dropdown options for 'Books' and 'Search Type'. Below the search bar is a yellow header bar with the title 'Test Librarian'. On the left, there is a small image of a desk setup with a keyboard, a book titled 'ipod & iPod mini', and some papers. The main content area displays a search result for a book:



Title: New Vegetarian: Bold and Beautiful Recipes for Every Occasion

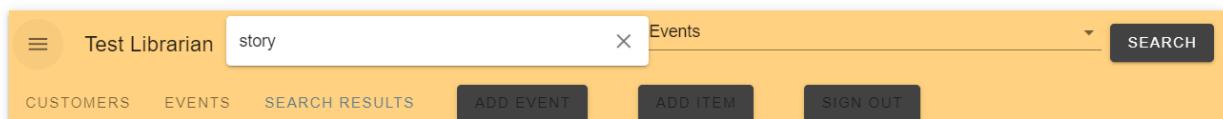
Author name: Celia Brooks Brown

Release Date: 2001-01-01

ISBN: 1841721522

Synopsis: In New Vegetarian Celia Brooks Brown presents an innovative approach to vegetarian cooking. There's practical advice on how to choose and prepare the major vegetarian ingredients, followed by 50 original, stylish recipes, all photographed by Philip Webb.

9e. Event search



The screenshot shows a library management system interface. At the top, there is a navigation bar with tabs for 'CUSTOMERS', 'EVENTS', 'SEARCH RESULTS' (which is currently selected), 'ADD EVENT', 'ADD ITEM', and 'SIGN OUT'. A search bar at the top center contains the text 'story' and has dropdown options for 'Events' and 'Search Type'. Below the search bar is a yellow header bar with the title 'Test Librarian'. On the left, there is a small image of a desk setup with a keyboard, a book titled 'ipod & iPod mini', and some papers. The main content area displays a search result for an event:



Event Name: Family Storytime

Coordinator:

Location: Central Library

Start Date: 2020-01-21

End Date: 2020-01-21



Event Name: Family Storytime

Coordinator:

Location: Nose Hill Library

Start Date: 2022-05-08

End Date: 2022-05-08

10. When the librarian clicks a customer in the user view (Step 9a) the librarian is redirected to a new page where they can view a user summary profile. The

librarian is able to see the loaned items by the user with checkout date and due date, items the user has on hold with the hold position and events the user is registered in.

Customer profile for Margot Robbie

Loaned items

Clara Callan: A novel
Checkout Date: 2022-04-04
Due Date: Thu May 05

New Vegetarian: Bold and Beautiful Recipes for Every Occasion
Checkout Date: 2022-04-04
Due Date: Thu May 05

Hold items

Schindlers List
Hold Position: 2

Events

Career Basics: Interview skills
ONLINE
Start Date: Fri Jun 11
End Date: Fri Jun 11

11. Individual event view where the librarian is able to view the users that are registered for an individual event.
 - 11a. Librarian view of 2 events “Family story time” and “Career basics”. Note Margot Robbie is registered for both.

Event Name	Event Location	Event Time	Event coordinator
Family Storytime	Central Library	2020-01-21	Test Librarian
	Name: Leonardo Dicaprio Email: leo@gmail.com Card No: 2346271619	REMOVE PARTICIPANT	
	Name: Margot Robbie Email: margot@outlook.com Card No: 7920625716	REMOVE PARTICIPANT	
^ Career Basics: Interview skills	ONLINE	2021-06-11	Test Librarian
	Name: Margot Robbie Email: margot@outlook.com Card No: 7920625716	REMOVE PARTICIPANT	

11b. This is consistent with Margot Robbie's user profile (on the library customer side)



WELCOME BACK MARGOT ROBBIE!

EVENTS YOU REGISTERED FOR:

 **Family Storytime** — Central Library

Start: Tue Jan 21 2020, 14:00
End: Tue Jan 21 2020, 13:00

[UNREGISTER FROM THIS EVENT](#)

 **Career Basics: Interview skills** — ONLINE

Start: Fri Jun 11 2021, 12:00
End: Fri Jun 11 2021, 14:00

[UNREGISTER FROM THIS EVENT](#)

12. Upon removing participants, the page will flip back to the customer tab and the librarian will have to click the events tab again. In the example below "Margot Robbie was removed from the event "Family storytime". Note this also updates the user side. Shown in 12b.

The screenshot shows the Librarian view with the following interface elements:

- Header:** Test Librarian, Search...
- Navigation:** CUSTOMERS, EVENTS, SEARCH RESULTS, ADD EVENT, ADD ITEM, ADD COPY, SIGN OUT
- Event Details:**

Event Name	Event Location	Event Time	Event coordinator
Family Storytime	Central Library	2020-01-21	Test Librarian
- Participant Profile:**

Name: Leonardo Dicaprio
Email: leo@gmail.com
Card No: 2346271619

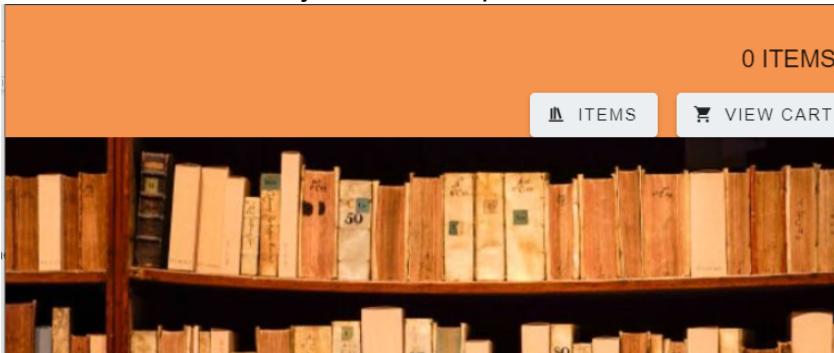
[REMOVE PARTICIPANT](#)
- Another Event:**

Career Basics: Interview skills	ONLINE	2021-06-11	Test Librarian
---------------------------------	--------	------------	----------------
- Participant Profile (Second):**

Name: Margot Robbie
Email: margot@outlook.com
Card No: 7920625716

[REMOVE PARTICIPANT](#)

12b. User profile view after participant is removed from an event. The page needs to be refreshed as sockets are beyond the scope of this course.



13.Add event: Librarians can add new events to the system by using the “Add Event” navigation tab seen on the librarian view.

13a. After “Add Event” clicked. Librarian fills the form with event information. Save to submit the form.

SEARCH RESULTS ADD EVENT ADD ITEM ADD COPY

Event Details

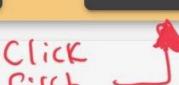
click first

Event Name*	Location*	
Book Review	Central Library	
Coordinator Staff ID*	Start Date*	End Date*
777	2022-04-18	2022-04-19
Start Time*	End Time*	
02:00 PM	03:00 PM	
Coordinator Card Number*		
2238324761		
<small>*indicates required field</small>		
<i>When finished</i> 		
CLOSE SAVE		

14. Add item: Librarians can add new items to the system by using the “Add Item” navigation tab seen on the librarian view.

a) Adding a movie item

ADD EVENT ADD ITEM ADD COPY SIGN OUT

Click first 

number ↑ 1 email ↓ 2

Item Details (replace null for used fields only)

Item Name*

The Batman

ISBN For Books

null

IMDB For Movies

1877830

Type

Movie

Release Date*

2022-03-04



Book Publisher

null

Movie Producer

Warner Brothers

Book Type

null

Movie Duration

176

Item Description*

When the Riddler, a sadistic serial killer, begins murdering key political figures in Gotham, Batman is forced to investigate the city's hidden corruption and question his family's involvement.

*indicates required field

Item Description*

When the Riddler, a sadistic serial killer, begins murdering key political figures in Gotham, Batman is forced to investigate the city's hidden corruption and question his family's involvement.

*indicates required field

When finished

CLOSE

SAVE

b) Adding a book item

ADD EVENT ADD ITEM ADD COPY SIGN OUT

Number ↑ 1 Click first email ↓ 2

Item Details (replace null for used fields only)

Item Name*	ISBN For Books	IMDB For Movies
The Fellowship of the I	0007488300	null
Type	Release Date*	
Book	2012-08-30	<input type="button" value=""/>
Book Publisher	Movie Producer	
George Allen	null	
Book Type	Movie Duration	
Fantasy	null	
BOOK TYPE		
Item Description*		
Continuing the story begun in The Hobbit, this is the first part of Tolkien's epic masterpiece, The Lord of the Rings, featuring an exclusive cover image from the film, the definitive text, and a detailed map of Middle-earth.		

*indicates required field

Continuing the story begun in The Hobbit, this is the first part of Tolkien's epic masterpiece, The Lord of the Rings, featuring an exclusive cover image from the film, the definitive text, and a detailed map of Middle-earth.

*indicates required field

when finished
↓
CLOSE **SAVE**

15. Add Item Copy: Librarians can add copies of items to the system by using the “Add Item” navigation tab seen on the librarian view and by entering the item to create another copy of and the branch where this copy is assigned to .

The screenshot shows a library management system interface. At the top, there are four buttons: 'SEARCH RESULTS', 'ADD EVENT', 'ADD ITEM', and 'ADD COPY'. Below these, there are two rows of search results. Each result includes a card number, an email address, and an 'email' link. The second result has a red arrow pointing to the 'email' link with the handwritten note 'CLICK First' and 'anon@anonymous.com'. In the center, a modal window titled 'Add Item Copy' is open. It contains fields for 'Item Name*' (with 'The Batman' entered) and 'Branch id*' (with '4' entered). A note at the bottom left of the modal says '*indicates required field'. At the bottom right of the modal, there are 'CLOSE' and 'SAVE' buttons, with a red arrow pointing to the 'SAVE' button and the handwritten note 'when finished' above it.

Card Number ↑ 1	email ↓ 2
1157422742	anon@anonymous.com
1234567890	kawhi@hotmail.com

Add Item Copy

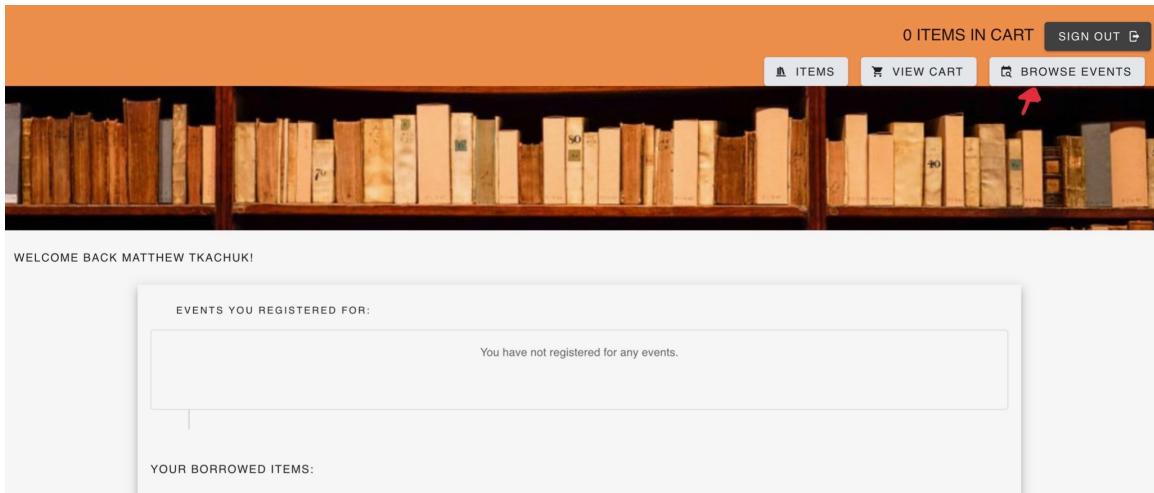
Item Name*
The Batman

Branch id*
4

*indicates required field

when finished
↓
CLOSE **SAVE**

16. For Library Customers: Register for events
16a) Navigate to the events



16b) View the events and click “Register Event”

The screenshot shows a table of events with the following columns: Event Name, Event ID, Event Location, Event Time, Event Start Time, and Event End Time. The events listed are:

Event Name	Event ID	Event Location	Event Time	Event Start Time	Event End Time
Family Storytime	1234	Central Library	2020-01-21	14:00:00	13:00:00
Career Basics: Interview skills	1235	ONLINE	2021-06-11	12:00:00	14:00:00
Creative Writing	1236	Fish Creek Library	2022-04-13	10:00:00	13:00:00
Author Meet and Greet	1238	Bowness Library	2022-04-13	10:00:00	13:00:00
Family Storytime	1239	Nose Hill Library	2022-05-08	13:00:00	14:00:00
Drop In Drawing	1240	Seton Library	2023-02-10	15:00:00	18:00:00
Drop in Drawing	1241	Crowfoot Library	2023-02-11	15:00:00	18:00:00
Book Discussion: The Lord Of the Rings	1242	Louise Riley Library	2022-08-03	17:00:00	21:00:00
Making Comics: Getting Started	1243	Judith Umbach Library	2024-04-27	16:00:00	19:00:00
Semester end event	1244	Fish Creek Library	2022-12-15	10:00:00	13:00:00

16c) Fill the Event ID

The screenshot shows a table of registered events with a modal window overlaid. The modal is titled "Event Details". It contains fields for "Event ID*" (1234) and "Library Card Number*" (3461246421). A note at the bottom left says "*indicates required field". On the right side of the modal, there is handwritten red text: "Click First" with an arrow pointing to the "Event ID" field, and "when finished" with an arrow pointing to the "SAVE" button. The "SAVE" button is highlighted with a blue border.

Event Name	Event ID	Event Location	Event Time	Event Start Time
Family Storytime	1234	Central Library	2020-01-21	14:00:00
Career Basics: Interview skills	1235	ONLINE	2021-06-11	12:00:00
Creative Writing				
Author Meet and Greet				
Family Storytime				
Drop In Drawing				
Drop in Drawing				

Event Details

Event ID*
1234

Library Card Number*
3461246421

*indicates required field

when finished

CLOSE SAVE

16d) Viewing the registered events for the user

The screenshot shows a table of registered events with a modal window overlaid. The modal is titled "Events for 3461246421". It displays the details for a "Family Storytime" event: "Central Library", "Start Date: Tue Jan 21", and "End Date: Tue Jan 21". There is a yellow info icon on the right. Handwritten red text "Click First" is written above the modal, with an arrow pointing to the "Event ID" column in the table. The "Event ID" column for the first row is also highlighted with a blue border.

Event Name	Event ID	Event Location	Event Time	Event Start Time
Family Storytime	1234	Central Library	2020-01-21	14:00:00
Career Basics: Interview skills	1235	ONLINE	2021-06-11	12:00:00
Creative Writing				
Author Meet and Greet				
Family Storytime				
Drop In Drawing				
Drop in Drawing				

Events for 3461246421

Family Storytime
Central Library
Start Date: Tue Jan 21
End Date: Tue Jan 21

CLOSE

17. For library customers: returning items they have currently signed out:

- 17a) from the profile page, navigate to the borrowed items and choose the item to return
- 17b) Click the "Return Item" button

WELCOME BACK MATTHEW TKACHUK!

EVENTS YOU REGISTERED FOR:



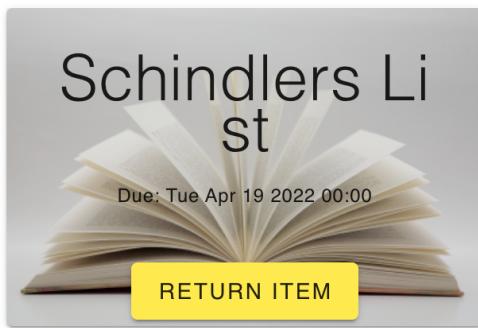
Family Storytime — Central Library

Start: Tue Jan 21 2020, 14:00

End: Tue Jan 21 2020, 13:00

[UNREGISTER FROM THIS EVENT](#)

YOUR BORROWED ITEMS:



17c) Item has now been returned

WELCOME BACK MATTHEW TKACHUK!

EVENTS YOU REGISTERED FOR:



Family Storytime — Central Library

Start: Tue Jan 21 2020, 14:00

End: Tue Jan 21 2020, 13:00

[UNREGISTER FROM THIS EVENT](#)

YOUR BORROWED ITEMS:

You currently do not have any borrowed items.

References used:

The only references we used to complete this project are the course contents (lecture and tutorial notes), various tutorials and guides for implementation for Vue.JS, NodeJS, SQL, and postman. We used the University of Calgary (<https://library.ucalgary.ca>) and Calgary Public Library (<https://calgarylibrary.ca>) for references

Optional Appendix:

The following appendices contain the following information for image resolution reasons (for the final EERD and RM) and to compare changes to the original EERD and RM submissions.

1. A high resolution image of the final EERD (page 37)
2. A higher resolution image of the final RM (page 38)
3. The original EERD submission (page 39)
4. The original RM submission (page 42)