

Phase 6: User Interface Development

Goal

To design and deliver an intuitive, responsive, and role-based Lightning UI so that librarians (staff) and students (members) can seamlessly interact with the system.

Step 1: Lightning App Pages

App pages give a structured layout for navigation and quick actions.

Home Page (for Librarians)

- Quick Links Section:
 - Buttons or rich text links for Issue Book, Return Book, Reserve Book.
 - Use Flow screen components or Quick Actions for one-click access.
- Dashboard Widget:
 - Display Books Issued Today, Overdue Returns, Active Reservations (embed report charts or dashboard components).
- Notifications Panel:
 - Surface pending approval requests or reservation alerts.

Member Page

- Member Summary Panel:
 - Member name, ID, total issued books, fines (calculated field).
- Borrowed Books List View:
 - Related list of Currently Borrowed Books (dynamic related list with Due Date highlight if overdue).
- Reservation Requests:
 - List of pending or active reservations.

Step 2: Lightning Components / LWC

Custom components (Lightning Web Components) enhance usability and interactivity.

Book Search Component

- Features:
 - Search bar with filters: Title, Author, Category.
 - Display results in a datatable (Book Name, Availability, Location).
 - “Reserve” or “Issue” action button inline.
- Implementation:
 - Apex controller with SOQL queries for flexible search.
 - LWC for UI + Lightning Data Service for updates.

Book Reservation Component

- Features:
 - Shows available copies.
 - Reserve button → creates a Reservation record.
 - Show confirmation message with due date.
- Extras:
 - If no copy available → add member to Waitlist Queue.

Step 3: Dynamic Forms (Lightning Record Pages)

- On Book Transaction Object:
 - Transaction Type = Issue → Show fields: *Issue Date, Due Date, Member, Book.*
 - Transaction Type = Return → Show fields: *Return Date, Condition, Fine Amount.*
- Conditional Visibility ensures clean UI (no irrelevant fields).

Step 4: Community / Experience Cloud

For student self-service access.

Student Portal Features

- Login Access (via Experience Cloud user profile).
- Dashboard:

- Current borrowed books.
 - Pending fines.
 - Reservation status.
- Book Search & Reserve:
 - Reuse Book Search LWC.
- Request History:
 - Show all past issue/return records.

Step 5: Best Practices & Enhancements

- Use SLDS (Salesforce Lightning Design System) styling for a consistent look.
- Add conditional highlights (e.g., overdue = red text).
- Use Tab Components to separate Issued Books, Reservations, and Fines for clean navigation.
- Make pages mobile-friendly (Lightning pages adapt automatically, but test in Salesforce Mobile App).