### ****Project Integration & Module-Level Challenges****

Throughout the development of the Movie Collection project, various integration and module-specific challenges were encountered across frontend and backend components. The integration phase exposed several issues such as duplicate function names across modules, inconsistent port usage among developers, and mismatched API base URLs and routing paths, which led to significant server errors and deployment failures. Modules like **Add Movie**, **Edit/Delete**, **Search**, **Filtering**, **Sorting**, and **View Movie Details** also faced unique issues: the Add Movie form initially allowed genre misentries due to a text input instead of a dropdown, lacked proper validation, and failed to display backend errors correctly. The Search feature only worked with the starting letters of titles and lacked genre support. Filtering logic mistakenly included unsupported categories, and the Sorting module ordered numerically-titled movies incorrectly. The View Details layout suffered from text overflow and inconsistent card sizing, while Edit/Delete posed UX risks by combining both actions, lacking validation, and omitting confirmation prompts. Overall, missing feedback mechanisms, improper formatting, and inconsistent design and development practices were recurring challenges.

To address these issues, a structured resolution strategy was adopted. A consistent file structure, standardized port usage, and unified naming conventions for functions and API endpoints were enforced across all teams. Problematic modules were reviewed, and components with inconsistencies were sent back to respective developers along with precise documentation and feedback. The Add Movie form was refactored with dropdown-based genre selection, JavaScript validation, and toaster notifications for better UX. The Search functionality was enhanced to support partial keyword matching and genre-based filtering, while Filtering was cleaned to reflect only the required categories. Sorting logic was customized to treat numeric titles appropriately and extended to support both alphabetical and year-based sorting. The View Movie cards were adjusted using CSS constraints to maintain layout consistency and readability. In the Edit/Delete module, delete operations were moved to a separate confirmation flow to reduce accidental deletions, and user feedback was integrated throughout. Through clear communication, iterative debugging, and team coordination, all modules were successfully reintegrated and the final application was delivered as a fully functional, cohesive system.