Heuristic Evaluation Report

Introduction

This report presents the results of a heuristic evaluation conducted on the library management system prototype. Each page of the system was evaluated against Nielsen's 10 usability heuristics. The goal was to identify usability strengths and weaknesses and provide recommendations for improvement.

Summary of Findings

- **Strengths:** The system demonstrates good use of visual feedback (e.g., input field outlines and button hover states), clear language aligned with real-world conventions, and consistent minimalist design.

- **Issues Identified:**
  - Lack of loading indicators across multiple pages (Visibility of System Status).
  - Missing undo functionality for critical actions (User Control and Freedom).
  - Minor inconsistencies in button styles and colour usage (Consistency and Standards).

Detailed Findings

1. **Visibility of System Status**
   - **Issue: No loading indicator when pages are loading (Home, Private Customer, Private Librarian, Library Collection, Book Information, Sign In, Sign Up).**
   - **Strength: Input fields and buttons provide clear visual feedback when interacted with.**
   - **Recommendation**: Implement loading spinners or progress bars to inform users of system activity.

2. **Match Between System and the Real World**
   - **Strength:** Icons and terminology are clear and familiar to users across all pages.

3. **User Control and Freedom**
   - **Issue:** No undo function for critical actions (Extend/Return, Add Book, Reserve, Mark as Returned).
   - **Recommendation:** Provide confirmation dialogs or undo options to allow recovery from unintended actions.

4. **Consistency and Standards**
   - **Issue 1:** Search button differs between navbar (icon) and hero section (label).
   - **Issue 2:** Overdue badge red colour differs slightly from overdue warning message red.
   - **Recommendation:** Standardize button styles and colour codes to maintain consistency.

5. **Error Prevention**
   - **Strength:** No major issues; forms and actions prevent errors effectively.

6. **Recognition Rather Than Recall**
   - **Strength:** Labels and options are visible; users do not need to memorize information.

7. **Flexibility and Efficiency of Use**
   - **Strength:** No issues; system supports both novice and experienced users.

8. **Aesthetic and Minimalist Design**
   - **Strength:** Clean design with no unnecessary elements.

9. **Help Users Recognize, Diagnose, and Recover from Errors**
   - **Strength:** Sign In and Sign-Up forms provide clear feedback for user inputs.

10. **Help and Documentation**
    - **Strength:** No issues; system is intuitive and requires minimal documentation.

Conclusion and Recommendations

The system demonstrates strong usability foundations, particularly in visual feedback, language clarity, and minimalist design. However, issues must be addressed to ensure user trust and efficiency:

- Add **loading indicators** to all pages.
- Implement **undo or confirmation mechanisms** for critical actions.
- Standardize **button styles and colour usage** for consistency.

By resolving these issues, the system will achieve higher usability, reduce user frustration, and align more closely with established design heuristics.