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:**

  - Good use of visual feedback (e.g., input field outlines and button hover states).
  - Clear language aligned with real-world conventions.
  - 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).

  - Inconsistencies in button styles, colour usage, and labels (Consistency and Standards).
  - Error text not translated in private pages (Match Between System and the Real World).
  - Private tab name is unintuitive (Consistency and Standards).
  - Error messages sometimes display multiple lines simultaneously (Error Prevention).
  - Reservation duration unclear to users (Help and Documentation).

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**

   - **Issue**: Error text in private pages does not change language, reducing accessibility for multilingual users.
   - **Strength**: Icons and terminology are clear and familiar to users across all pages.
   - **Recommendation**: Add translation support for error pages to ensure consistency with user language preferences.

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.
   - **Issue 3:** Differences in button styles and label wording across pages.
   - **Issue 4:** Private tab name is inconsistent and unintuitive.
   - **Recommendation:** Standardize button styles, colour codes, and labels. Rename the private tab to something more intuitive (e.g., "My Account" or "Dashboard").

5. **Error Prevention**

   - **Issue**: Error messages sometimes display two different lines simultaneously, which may confuse users.
   - **Strength**: Forms and actions generally prevent errors effectively.
   - **Recommendation**: Ensure only one error message is displayed at a time to maintain clarity.

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**

    - **Issue**: Users do not know how long their book reservation lasts.
    - **Strength**: System is intuitive and requires minimal documentation.
    - **Recommendation**: Update reservation messages to clearly state the base reservation duration (e.g., "Your reservation is valid for 7 days").

Conclusion and Recommendations

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

- Add **loading indicators** to all pages.
- Implement **undo or confirmation mechanisms** for critical actions.
- Standardize button styles, colour usage, and labels; rename private tab to something intuitive.
- Provide translation for error pages to support multilingual users.
- Ensure error messages display only one line at a time.
- Clarify reservation duration in user messages.

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