Interactive Library Catalog: LibHub

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Project Summary

This project's objective is to develop a user-friendly web application for a library catalog. The application will allow users to conduct searches, view details, create new entries, update existing entries, and delete entries for library resources. This project involves creating a Library Management System with an interactive web interface that connects to a robust database. The user-friendly interface will allow both library staff and patrons to update, delete, create new entries, and visualize data, making the library experience more efficient and convenient for all.

Project Description

Objectives:

- Design and develop a user-friendly web interface for managing library resources.
- Integrate the interface with a relational database to store and manage resource information.
- Implement functionalities for searching, creating, updating, and deleting library entries.
- Develop data visualization tools to analyze check-out trends and identify popular resources.
- Create a centralized system for managing resources, tracking checkouts, and providing insightful data analytics.
- Simplify tasks for library staff and enhance the overall user experience for patrons.

Usefulness:

- The current library catalogs often have limited search and interaction options.
- This application aims to offer several benefits for both patrons and librarians.
- Patrons can enjoy an improved user experience by easily searching, viewing details and managing resource information.
- Librarians can streamline resource management by adding new resources, updating details and removing outdated entries.
- The application also provides visualization tools for librarians to identify popular items and optimize collection management.
- Existing online library catalogs offer basic search functionalities, but this application is more interactive.
- Users can create, update, and delete entries, and data visualization tools are also provided.
- The application targets both library patrons and librarians.
- Patrons can manage their library accounts (optional) and enjoy an enhanced search experience.
- Librarians can make use of streamlined resource management tools and data insights.

Dataset:
For this project, we will be using a raw data file (in either Excel or CSV format) which contains information about the library resources. This dataset includes records of library resources such as BibNumber, ItemBarcode, ItemType, Collection, CallNumber, and CheckoutDateTime. The library staff collected this dataset to keep accurate records of their resources and transactions. It's essential to note that the data used in this project is legitimate and appropriately documented, ensuring the privacy and security of library users.

Sharing:
We are planning to share the code of this project on a public GitHub repository.

Development Approach:
In terms of development approach, we plan to use a framework such as Flask or Django for building the web interface. To ensure ease of deployment, we will implement the database using SQLite. Additionally, we will utilize data visualization libraries like Matplotlib to create interactive charts and graphs.

Group Contribution:
As this is a group project, all the team members will equally contribute to completing all tasks and milestones.

Name	Task	Average Time Spent (per Milestone)
Pushkal	Finding the dataset	2Hrs
Kasturi	Preparing project proposal documentation	4Hrs
Thy	Sharing and Proof reading	1Hr