# Library Management Application

Database Systems, Fall 2020

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System Description

Application with administrators and end users

- For administrator, provide tasks to easily manage a library (e.g. adding, deliting, and editing books)

- For end user, provide tasks to easily utilize library resources (e.g. check-out books, search books)
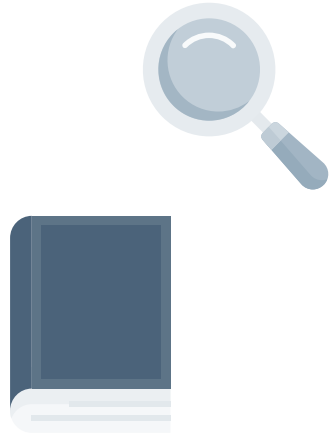
Implementation

- **Database**
  - Access managed by sqlite3 module
- **Backend**
  - Python Flask
- **Front-end**
  - HTML, CSS, and JS

Key Use Cases

For librarian and end user:
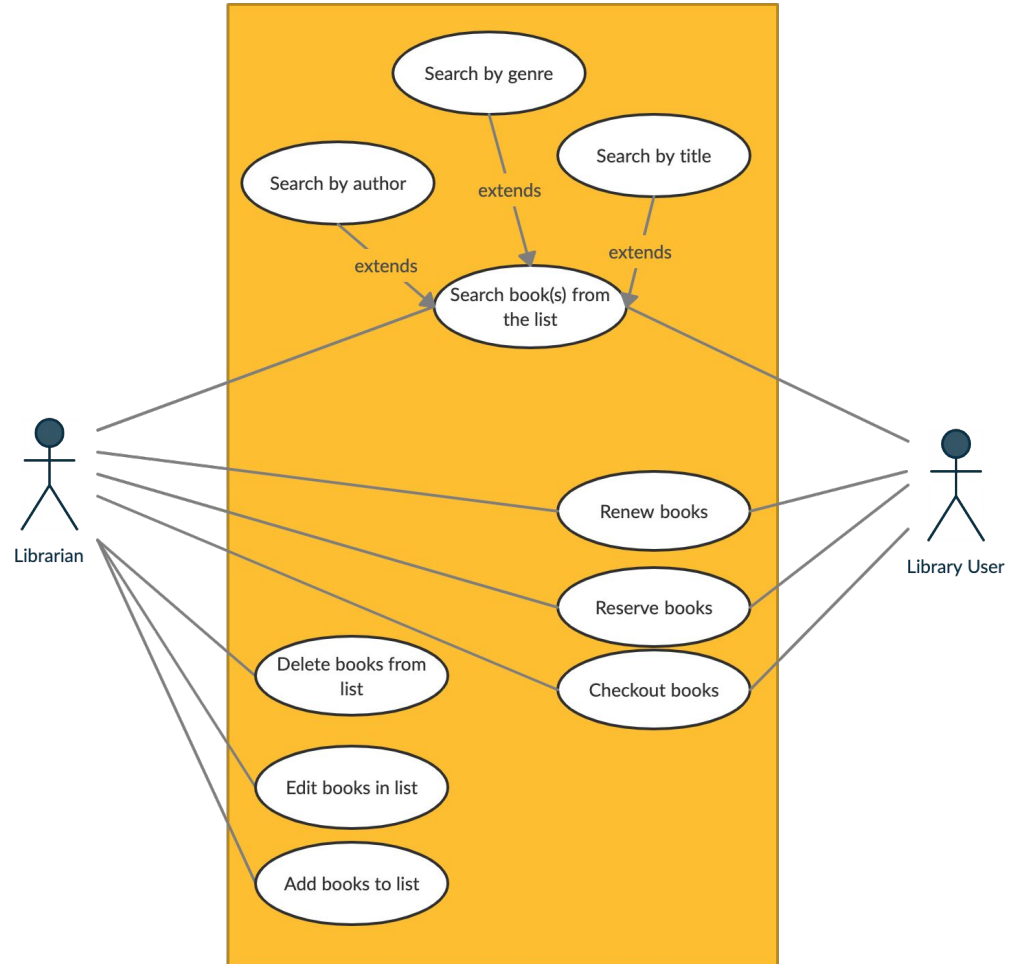- To search books by different traits (author name, title, genre)

For end user:
- Check-out books
- Reserve books if not available
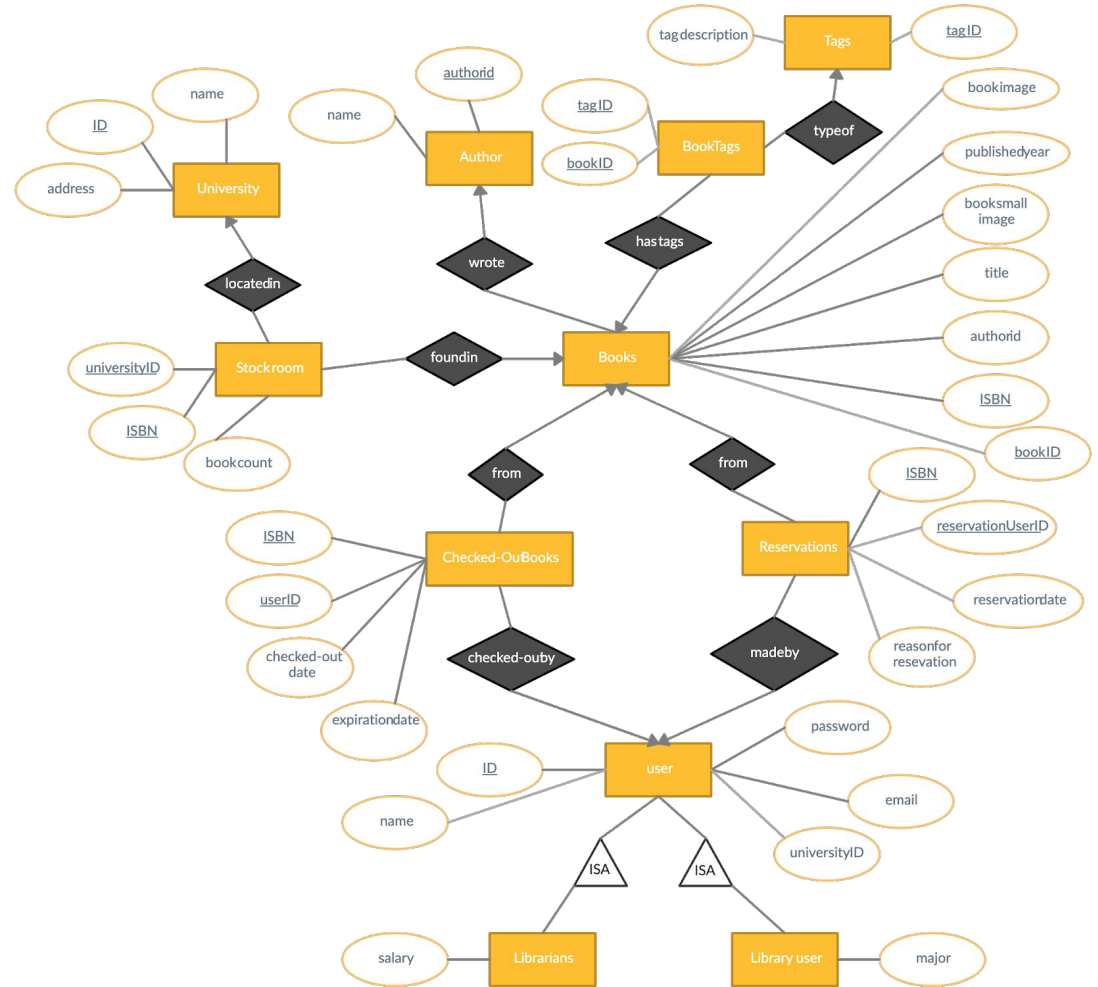
For librarian:
- Add, delete and edit books

User-Case Diagram

E/R Diagram

Relational Schema

Books:
- **b_isbn**, **b_bookid**, b_authorname, b_title, b_genre, b_publisheddate, b_small_img, b_image

University:
- **uni_id,** uni_name, uni_address

Users:
- **u_userid,** u_name, u_email, u_password, u_universityid

Library users:
- **lu_userid**, lu_major

Librarians
- **l_userid**, l_salary

Reservations:
- **r_isbn**, **r_fromuserid**, r_reason, r_reservationdate

Checked-out Books:
- **cb_isbn**, **cb_userid**, cb_checkeddate, cb_experiationdate

Authors:
- **a_name**, a_isbn, a_address

Stock room:
- **s_universidtyid**, **s_isbn**, s_bookcount

Tags:
- **t_tagid,** t_description

BookTags:
- **bt_tagid**, **bt_bookid**

Demo...

WELCOME STUDENT Pikachu!

UC Merced Books

Filter Book

| Title ▾ | Search | | Filter | Refresh |

Book	Title
	Harry Potter: Film Wizardry
	The First Fifteen Lives of Harry August
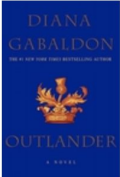
Hello Pikachu

Account Info   Checked Books   Reserved Books

Checked Books

Book	Book Info	Checked-ou...
	Book title: Evil at Heart **ISBN:** 230015913 **Author:** Chelsea Cain	**Checked da...** **Expiration c...**
	Book title: Outlander **ISBN:** 440242940 **Author:** Diana Gabaldon	**Checked da...** **Expiration c...**

Thanks!

Any questions?