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http://web.engr.oregonstate.edu/~murpchar/book_interface.php

The Book database is designed to store information about books and readers in a personal book collection. This includes information about books, readers, where books are located, what books each reader wants to read, and what books each reader has read. In particular, this database allows the user to search for books based on location and move books to new locations, as needed.

This database is useful to keep track of where the books are located, who is reading the books, and who wants to read which books.

Entities in the database are:

Book – book must have id and title and can optionally have length in pages.

Each book must have a unique id.

Each book must have a unique title and author combination. This library does not contain duplicate copies of any books.

A book belongs to exactly one genre, exactly one author, and exactly one location.

A book can be on zero or more has_read lists and on zero or more will_read lists.

Author – author must have id, first name, last name.

Each author must have a unique id.

Each author must have a first name and a last name. And author must have a unique first name + last name combination. Authors cannot have the same name.

An author has zero or more books.

An author can only have books with unique titles.

Zero to many authors may have books with the same title.

Genre – genre must have id and genre name.

Each genre must have a unique id and a unique genre name.

A genre can have zero or more books.

Location – must have id and location name.

Each location must have a unique id and a unique location name.

A location can have zero or more books.

A location can only hold one instance of a book. All titles stored at a location must be unique. And only one location at a time can hold a particular book. A book cannot be stored in more than one location simultaneously. However, a book may change locations.

Reader – reader must have id and first name and can optionally have last name.

Each reader must have a unique id.

Each reader must have a unique first name + last name combination. Readers may not have the same name.

A reader can have zero or more books on a has_read list.

A reader can have zero or more books on a will_read list.

Has read list – Has_read must have a reader id and a book id.

Has_read belongs to exactly one reader and has exactly one book id.

A reader can add zero to many books to the has_read list.

Each reader can only add a book to the has_read list once. More than one reader may add the same book to his/her has_read list. However, the titles must be unique relative to each reader.

Will read list – Will_read must have a reader id and book id, and will_read can optionally have priority.

Will_read belongs to exactly one reader and has exactly one book id.

A reader may assign zero to many books the same priority.

Each reader can only add a book to the will_read list once. More than one reader may add the same book to his/her will_read list. However, the titles must be unique relative to each reader.