

Database Systems Project

Library Management System Database Design

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Description

The objective of this project is to design a database for a Library Management System that manages library operations, including tracking books, authors, members, loans, staff, and categories. This database organizes the processes of book borrowing and returning and overall library administration.

Business Rules

1. Members are identified by a unique id and must provide full contact details to obtain membership.
2. Only active members can borrow books.
3. Books must be returned within 14 days from issue date.
4. A membership becomes inactive if book not returned after 14 days.
5. A member can borrow up to 3 books at a time.
6. Book cannot be issued if its status is marked as “checked out.”
7. A loan record is created by a staff member when issuing a book to a member.
8. Each loan is linked to a unique book and one member only.
9. When a book is returned, the return date in the loan record, and book availability must be updated.
10. Only staff members may create and manage categories.
11. Several categories can be assigned to a single book, and each category can contain multiple books.
12. An author can be associated with multiple books, but each book must reference only one primary author.

