

# Public Library Circulation System

## Entity Descriptions

Patron: Library Customer. They usually interact with our system by checking out books. For each patron, we track standard directory information. Each patron has a unique library card number.

Title: A title represents a book of a specific edition. We may have more than one edition of the book. Each edition is given a unique ISBN number. We track the name of the title, and other descriptive information such as if it is a paperback or hardback, Dewey decimal value (if appropriate), General category of the book (fiction / non-fiction), etc.

Copy: Each physical item in the library is a copy. Each copy is given a unique Inventory ID. There can be multiple copies for each Title in our collection. Patrons check out copies, not titles.

## Transactional Use Cases

- 1) A patron checks out a book
- 2) A patron returns a book
- 3) The library purchases a new copy of a book

## Reporting Use Cases

- 1) The head librarian wants monthly circulation reports including
  - a. Daily circulation for all books
  - b. Daily circulation for fiction / non-fiction
  - c. Overdue aging report (average number of days overdue for all books)

## Activities

- 1) Define a relational database structure to support the Transactional Requirements
- 2) Define a multidimensional data structure to support the Reporting Requirements