ER Diagram

BORROWER entity with attributes: Name, Card_no (key), Address, Phone

BORROWED BY relationship: BORROWER (1) — (M) BOOK_LOANS

BOOK_LOANS (weak entity) with attributes: Branch_id, Card_no, Book_id, Returned, Due_date, Date_out

LOANS relationship: BOOK_LOANS (M) — (1) LIBRARY_BRACH

LIBRARY_BRACH entity with attributes: Branch_id (key), Branch_name, Address

CONTAINS relationship: LIBRARY_BRACH (1) — (M) BOOK_COPIES

BOOK INFO relationship: BOOK_LOANS (M) — (1) BOOK

PUBLISHER entity with attributes: Name (key), Phone, Address

PUBLISHED BY relationship: PUBLISHER (1) — (1) BOOK

BOOK entity with attributes: Publisher_Name, Book_id (key), Title, Author_name

COPIES relationship: BOOK (1) — (M) BOOK_COPIES

BOOK_COPIES (weak entity) with attributes: Number_of_copies, Book_id, Branch_id

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Relational Schema

BOOK

Book_id	Publisher_name	Title	Author_name

PUBLISHER

Name	Phone	Address

BOOK_COPIES

Book_id	Branch_id	Number_of_copies

BOOK_LOANS

Book_id	Branch_id	Card_no	Returned	Due_date	Date_out

LIBRARY_BRANCH

Branch_id	Name	Address

BORROWER

Card_no	Name	Address	Phone

TOOLS

We used lucidchart.com for the ER diagram and relational schema.

ASSUMPTIONS

ER Diagram
- We assumed that BOOK_LOANS needed to be an entity because to keep track of the books due date and date it was checked out. We also assumed that BOOK has a foreign key to access the publisher's name from PUBLISHER.
- We assume BOOK_COPIES of a specific book can only belong to one LIBRARY_BRANCH
- We assume only one PUBLISHER could publish a BOOK (e.g. no co-publishing)

CONTRIBUTION LIST

ER Diagram
- Proposed by Rakshya Basnet and Davis Kasson.
- Edited and finalized by Davis Kasson and Rakshya Basnet.

Relational DB Schema
- Proposed by Rakshya Basnet and Davis Kasson.
- Edited and finalized by Balaputradewa Ratuwina.

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