INFO 6210 Best Book to Read Database

Database Specification: Purpose, Business Problems Addressed and Business Rules

Team Member:

Chuangwei Qing, Min Jia, Qidi Xu, Xianzhou Pan, Zhao Zhang

Database Purpose:

The purpose of this database is to maintain the data used to track and report purchasing books' records, provide information of worth buying books, and supply marketing insights. The database will be used by the team administrative, book stores, and customers.

Business Problem Addressed:

- Provide suggestions and descriptions of books worth reading for customers.
- Supply proper marketing strategies for publishers to drive targeted marketing initiatives.
- Allow customers, publishers, managers to query books' information.
- Provide authors with the most popular book types to cater to the interests of customers.
- Attract and initiate different customers to buy books.

Bussiness Rules:

- Each book may get zero or more awards.
- Each book may have one or more genres.

- A genre should contain one or more books and a book may belong to one or more genres.
- A series should hold one or more books.
- A book may belong to zero or more series.
- Each book will have only one description.
- Each book should contain zero or more characters.
- The BBE (Best Book Ever List) should record one score and one vote for each book.
- Each book will have one or more orders.
- Each book will have one publisher.
- Each publisher can publish one or more books.
- Each order will have one seller and one customer.
- A publisher will hold one or more editions of the book.
- Each book only has one author.
- An author may write one or more books.

Design Requirements (Credit to Professor Simon Wang):

- Use Crow's Foot Notation.
- Specify the primary key fields in each by specifying PK besides the fields.
- Draw a line between the fields of each table to show the relationships between each table. This line should be pointed directly to the fields in each table that are used to form the relationship.
- Specify which table is on the one side of the relationship by placing a one next to the field where the line starts.
- Specify which table is on the many sides of the relationship by placing a crow's feet symbol next to the field where the line ends.

Design Decisions:

Entity Name	Why Entity Included	How Entity is Related to Other Entities
Books	One of the primary purposes of the database is to collect the information about books' elements. The important book data to collect include book header information, such as the name, author, publisher, etc.	As the core entity in the database, the Books entity's primary key, BookID is related to award getting information, awards, description, orders. The Books entity has many relationships with other entities, and some of these relationships are many-to-many, so several associative entities are created as described for each entity.
AwardGettingInfo	One purpose of this database is to recommend worth-buying books, and the number of awards a book won is an important indicator for that.	The AwardGettingInfo entity is related to the Books entity and Awards entity. One book can win many awards, so the relationship between the Book entity and the AwardGettingInfo entity is one to many. The relationship between the Awards entity and AwardGettingInfo entity is one-to-many.
Awards	The awards entity shows names of awards a book won, so that the customers might be attracted and initiated to buy a book.	The Awards entity is related to the AwardGettingInfo entity. One award can have different award getting dates depending on which year/month/date the book won the award.
Genres	Another purpose of this database is to allow customers, publishers and managers to query books' information. The Genres entity	The Genres entity is related to the Books entity. According to the business rule, one book can belong to one or more genres, and one genre

	allows them to find books of a specific genre.	should contain one or more books. The Genres entity is related to the Books entity through the associative entity Category due to their many-to-many relationship.
Series	The customers might be interested in the series of books to read together. It would be helpful for staff to put books of the same series together in bookstores.	The Series Entity is directly related to the Books entity as a crucial factor. As the business rules indicate, a series would hold one or more books.
Category	The category entity is used to build relationships between Books entity and Genres entity.	The Category entity is an associative entity to simplify the many-to-many relationship between the Books entity and the Genres entity.
Description	The Description entity includes an introduction for customers to get a summary of a book. This entity allows customers to quickly know the main idea of a book and attracts specific customers to buy a book.	The Description entity is related to the Books entity as well as the MainCharacters entity. One book can only have one description, and one description is for one book, so they are a one-to-one relationship. It is regarded as an entity for normalization.
MainCharacters	The main character entity provide important information of main characters in a book and capture details like name, age and sex.	The MainCharacters entity is related to the Description entity. There are several main characters that can occur in the description of a book, so the relationship between the MainCharacter and Description entity is one-to-many.

BBEList	One important function of this database is to provide information worth buying books. BBEList entity contains vote, score, rating, etc, which will help the customers find the most popular books.	The BBEList entity is related to the Books entity. According to the business rule, the Best Book Ever List should record one score and one vote for each book, so the relationship between the BBEList and Books entity is one-to-many.
Publisher	The team is interested in tracking details of every book. One important element of books is the publisher. The team's staff can get detailed information about publishers, such as name.	The Publisher entity is related to the Books entity. According to the business rule, each book will have one publisher, but one publisher can publish many books. The relationship between the Publisher and Books entity is one-to-many.
Orders	This Orders entity tracks each transaction for book sales. The team's staff may be interested in getting the sales order header information.	The Orders entity is related to the Customers entity, Sellers entity and Books entity. One book may be sold many times, which means one book will create one or more orders. So the relationship between the Books and Orders entity is one-to-many.
Customers	This Customers entity tracks each transaction for book sales. The publishers and managers may be interested in collecting customers' information, such as first name, last name, age, and sex, to help them to get some marketing startegies.	The Customers entity is related to the Orders entity. According to the business rule, each order will have one seller and one customer. One customer can have one or more orders, so the relationship between the Customers and Orders entity is one-to- many.
Sellers	This Sellers entity tracks each transaction for book sales. The team's staff may be interested in collecting sellers' information,	The Sellers entity is related to the Orders entity. According to the business rule, each order will have one seller and one customer. One

	including first name and last name.	seller can have one or more orders, so the relationship between the Sellers and Orders entity is one-to-many.
Authors	The team is interested in tracking details of every book. One important element of books is the author. The team's staff can get detailed information about authors, such as first name, last name, age, and sex.	The Authors entity is related to the Books entity. According to the business rule, each book only has one author, but one author can write many books. The relationship between the Authors and Books entity is one-to-many.