

SRS Documentation

Publishing Review Management

(Assignment 1)

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Assignment 1

Two case studies are given below. You have to analyse the situation; prepare the requirements (functionalities i.e. the probable reports that may be needed by consumers); accordingly decide the data requirement, express it through E-R data model. clearly state the assumptions, if any.

Case Study 2:

—Publishers publish many different types of professional journals and books. Some publishers only publish books, some journals and some both. No book or journal is published by more than one publisher. An author may write either books, journal articles, or both. A journal typically contains several articles, each one written by one or more authors. No article appears in more than one journal. Any journal may have one or more abbreviations, or none.

—Every book or article is reviewed by several professionals in the field who may or may not be authors as well. Of course, an author never reviews his or her own book article. Each book reviewer and author works for and is paid by a single publisher. Article authors and reviewers are not paid, however and thus article reviewers are not book reviewers. Authors and reviewers who are not paid by a publisher are known as independent professionals.

1. Data Requirement

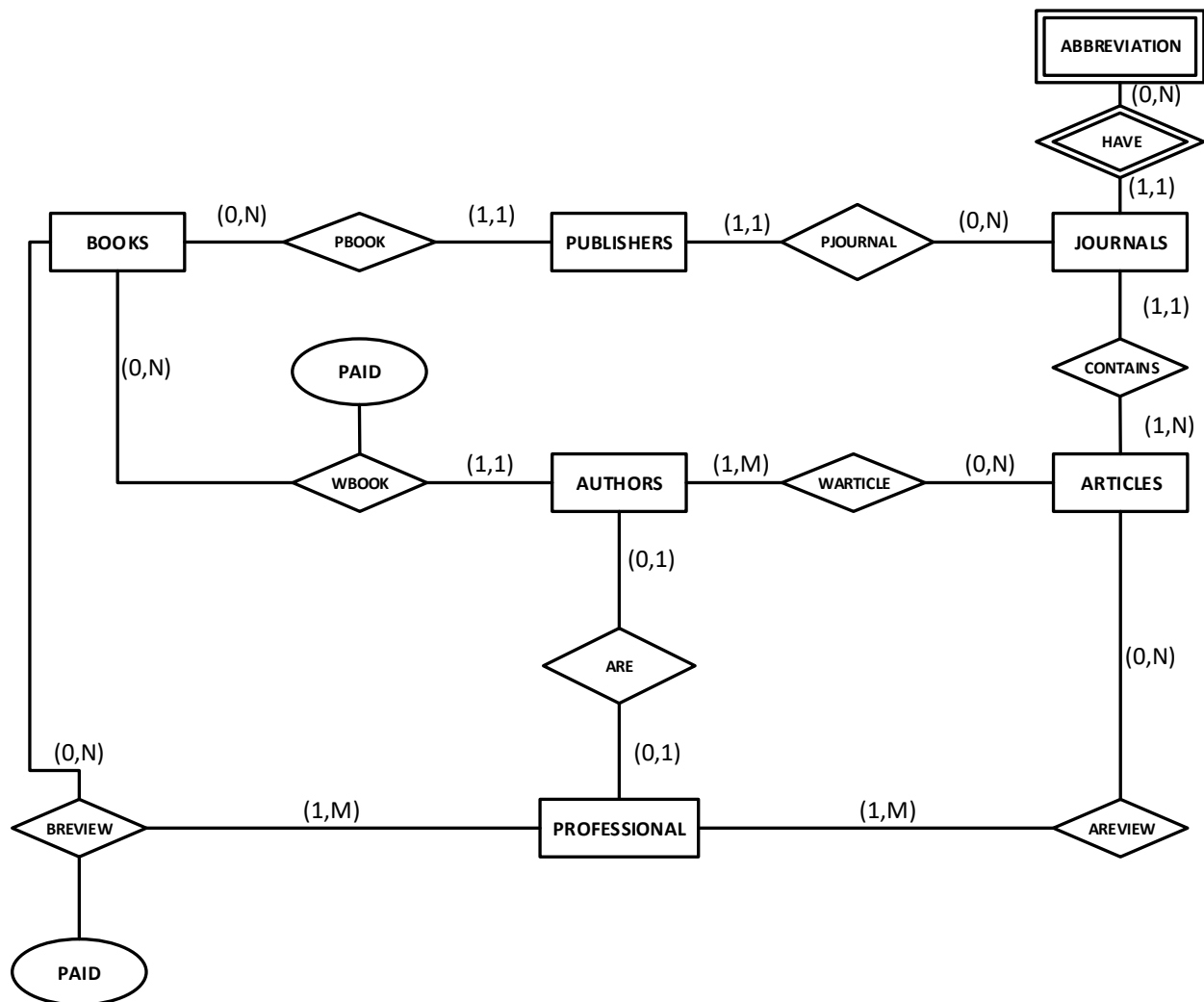
- **BOOKS:** Every book has an unique Bid which is book id , Bname which is name of the book , Price , Paid which is the amount paid by publisher to author for the book.
- **PUBLISHERS:** Every publisher has specific publisher id (Pub_id) , name of the publisher (Pub_name), Address and Phone number.
- **JOURNALS:** Each journal has unique journal id (Jid) ,name of the journal (Jname) ,No_art which determine number of article contains by that journal and price.
- **ARTICLES:** Every article contains individual article id (Art_id) , name of the article (Art_name).
- **ABBREVIATION:** Every abbreviation of a journal has unique Abb_id which is id of abbreviation and Date in which abbreviation is published.
- **AUTHORS:** Each author has unique id (Aid) , name(Aname) ,address and phone number.
- **PROFESSIONAL:** Every professional has specific id (Pro_id), name (Pro_name).

2. Assumption

1. This is a simpler version of a Publishing review system. Many improvements can be done to this system to meet the requirements of real life problems.
2. An author can write multiple papers. It is not mandatory that an author can write only one paper at one time but an author must be part of at least one paper.
3. When multiple reviewers are reviewing a paper, the data from each reviewer is collected and formulated to produce a final review of the paper.
4. A reviewer may have multiple field of interest. The paper which he/she will review must belong from his/her preferred field of interest.
5. When a paper contains multiple authors, one of the author is made the contact author. Now this contact author cannot be made the contact author of another group of authors.
6. An author writes books and a reviewer reviews books for only one publisher, so they are paid by only that publisher.
7. Article authors and reviewers are not paid. Authors and reviewers are not paid called independent professional.
8. An author may or may not be a professional.
9. One publisher may publish many different types of professional journals and books.
10. One author may write journal article, books or both. One journal contains several article. Each article written by one or more author.
11. A journal may have several abbreviations.
12. Professionals review books and articles.

3. Entity Relationship Diagram

A. Diagram



B. Description

1. In this diagram there is a weak entity “abbreviation” which is connected with journal through “have” relationship.
2. The other entities are Books, Publishers, Journals, authors, articles, professional.
3. Publishers publishes books and journals so “journal” and “book” is connected with *pjournal* and *pbook* relationship respectively.
4. Authors writes books and articles so “books” and “article” are connected with *wbook* and *wartricle* relationship respectively with “author”.
5. a “journal” contains many articles so journal and articles are connected with one to many relationship “contains”.
6. Professional reviews books and article so entity “books” and “articles” are connected with “professional” through “breview” and “areview” relationship.
7. Some authors may be professionals so they are connected with “professional” with “are” relationship.

8. Book writers and reviewers are paid so “wbook” and “breview” each has an attribute called “paid”.

C. Attributes

BOOKS: {Bid, Bname, Price}
JOURNALS: {Jid, Jname, No_art, Price}
PUBLISHERS: {Pub_id, Pub_name, Address, Phone}
ARTICLES: {Art_id, Art_name}
AUTHORS: {Aid, Aname, Address, Phone}
ABBREVIATION: {Abb_id, Date}
PROFESSIONAL: {Pro_id, Pro_name}

4. Relationships

1. Abbreviation is weak entity because it cannot be uniquely identified by its attributes alone. An abbreviation does not exist without journal.
2. Author-professional (1:1) comprises.
3. Publisher-book and publisher-journal (1:N) comprises.
4. Author-book (1:N) comprises and author-article (M:N) holds. Journal-article (1:N) comprises.
5. Journal-abbreviation (1:N) holds.
6. Professional-books and professional-article (M:N) comprises.

5. Relational Schema

BOOKS: {Bid, BName, Price, **FOREIGN KEY**(ProfId) **REFERENCES** PROFESSIONAL(ProfId), **FOREIGN KEY**(Aid) **REFERENCES** AUTHORS(Aid)}

PUBLISHERS: {Pub_Id, Pub_Name, address, Phone}

JOURNALS: {JId, JName, No_Art, Price, **FOREIGN KEY**(ProfId) **REFERENCES** PROFESSIONAL(PId)}

ABBREVIATION: {Abb_Id, **FOREIGN KEY**(JId) **REFERENCES** JOURNALS(JId), Date}

ARTICLES: {Art_Id, Art_Name, **FOREIGN KEY**(JId) **REFERENCES** JOURNALS(JId)}

AUTHORS: {Aid, AName, Address, Phone}

PROFESSIONAL: {ProfId, Prof_Name, **FOREIGN KEY**(Aid) **REFERENCES** AUTHORS(Aid)}

WRITEARTICLE: { **FOREIGN KEY**(Aid) **REFERENCES** AUTHORS(Aid), **FOREIGN KEY**(Art_Id) **REFERENCES** ARTICLES(Art_Id)}

BOOKREVIEW: { **FOREIGN KEY**(ProfId) **REFERENCES** PROFESSIONAL(ProfId), **FOREIGN KEY**(Bid) **REFERENCES** PROFESSIONAL(BId), paid}

ARTICLEREVIEW: { **FOREIGN KEY**(ProfId) **REFERENCES** PROFESSIONAL(ProfId), **FOREIGN KEY**(Art_Id) **REFERENCES** ARTICLES(Art_Id)}

6. Normalization of Relational Schema

- 1) BOOKS table has (Bid, Bname, Price, Pub_id, Aid, A_paid)

Bid is primary key. A_paid keeps record of payment which is given by publisher to a author for write a book.

Pub_id and Aid use as foreign key to relate PUBLISHERS and AUTHORS table with BOOKS table simultaneously.

Bid->{Bname, Price, Pub_id, Aid, A_paid }

So, table BOOKS is in 3nf.

2) JOURNALS table has (Jid, Jname, Price, No_art, Pub_id)

Jid is primary key.

Pub_id use as foreign key to relate PUBLISHERS and JOURNALS table

Jid->{ Jname, Price, No_art, Pub_id }

So, table is in 3nf

3)ARTICLES table has (Art_id, Art_name, Jid)

Art_id is primary key.

Jid use as foreign key to relate JOURNALS and ARTICLES table

Art_id ->{ Art_name, Jid }

So the table is in 3NF.

4)AUTHORS table has (Aid, Aname, Address, Phone)

Aid is primary key.

Aid->{ Aname, Address, Phone }

So the table is in 3NF.

5)PUBLISHERS table has (Pub_id, Pub_name, Address, Phone)

Pub_id is primary key.

Pub_id->{ Pub_name, Address, Phone }

So the table is in 3NF

6)PROFESSIONAL table {_Pro_id, Pro_name, Aid}

Pro_id is primary key. If a professional is a author then instance has Aid for a person.

Pro_id ->{ Pro_name, Aid }

So the table is in 3NF

7) ABBREVIATION table {Abb_id, Jid, Date}

Abb_id is primary key.

Jid use as foreign key to relate JOURNALS and ABBREVIATION table

Abb_id ->{ Date, Jid }

So the table is in 3NF.

8) WARTICLE has {Aid , Art_id } attribute.

It is used to relate ARTICLES and AUTHORS table.

Table is in 3NF.

9)AREVIEW has {Pro_id , Art_id } attribute.

It is used to relate ARTICLES and PROFESSIONAL table.

Table is in 3NF.

10) BREVIEW has {Pro_id , Bid , Paid } attribute.

It is used to relate BOOKS and PROFESSIONAL table. Paid column keeps record of amount which is paid to a professional for review a book.

{Pro_id , Bid} -> Paid

Table is in 3NF.