

Book Crossing

Due date: 20 April, 2014, 11:55pm IST

1 Description and Schema

The idea of this project is basically like Quikr for books. The application allows users to sell books and buy books put up by other users in similar way as Quikr does. The application has a search utility which allows search over the book database over various fields namely genre, book title, book isbn and author. There is support of user accounts, and once a user is logged in, he/she can add books for sale, or can buy other books put up by other users. The application also supports rating of the books. Users can rate books on a scale of 1 to 10.

Motivation

The aim of this project is to provide a convenient platform to the users to sell the books they have already read, as well as to buy books that other users have read. It will help users to sell their books from the convenience of their home. The users can get books at competitive rates from a large pool of users, and the providers can also have a good optimal price for their books. The platform is free of cost, and doesn't include any involvement of site admins and retailers.

Schema

- Schema for Users

Column Storage	Type Description	Modifiers	
firstname	character varying(20)	not null	
extended			
secondname	character varying(23)	not null	
extended			
gender	character varying(6)		
extended			
emailaddress	character varying(100)	not null	
extended			
username	character varying(25)	not null	
extended			
password	character varying(25)	not null	
extended			
streetaddress	character varying(100)	not null	
extended			
city	character varying(100)	not null	
extended			
state	text		
extended			
country	character varying(100)	not null	
extended			
userid	bigint	not null default nextval('users_userid_seq'::regclass)	
plain			
Indexes:			
"users_pkey" PRIMARY KEY, btree (userid)			

```

"useruni" UNIQUE CONSTRAINT, btree (username)
"user_index" hash (username)
Referenced by:
TABLE "transactions" CONSTRAINT "id1_fkey" FOREIGN KEY (id1) REFERENCES users(userid) ON
DELETE CASCADE
TABLE "transactions" CONSTRAINT "id2_fkey" FOREIGN KEY (id2) REFERENCES users(userid) ON
DELETE CASCADE
TABLE "ratings" CONSTRAINT "userid_fkey" FOREIGN KEY (userid) REFERENCES users(userid) ON
DELETE CASCADE
TABLE "booksandusers" CONSTRAINT "userid_fkey" FOREIGN KEY (userid) REFERENCES
users(userid) ON DELETE CASCADE
Has OIDs: no

```

- Schema for Books.

Column	Type	Modifiers	Storage	Description
isbn	character varying(13)	default ''::character varying	extended	
title	character varying(255)	default NULL::character varying	extended	
author	character varying(255)	default NULL::character varying	extended	
year	integer			plain
publisher	character varying(255)	default NULL::character varying	extended	
images	character varying(255)	default NULL::character varying	extended	
imagem	character varying(255)	default NULL::character varying	extended	
imagel	character varying(255)	default NULL::character varying	extended	
genre	character varying(40)	default NULL::character varying	extended	
bookid	bigint	not null default nextval('books_bookidd_seq'::regclass)	plain	
avgrating	double precision			plain

Indexes:

```

"books_pkey" PRIMARY KEY, btree (bookid)
"isbnuni" UNIQUE CONSTRAINT, btree (isbn)
"author_key" btree (author)
"title_key" btree (title)
"year" btree (year)

```

Referenced by:

```

TABLE "transactions" CONSTRAINT "book_fkey" FOREIGN KEY (bookid) REFERENCES books(bookid)
TABLE "ratings" CONSTRAINT "bookid_fkey" FOREIGN KEY (bookid) REFERENCES books(bookid) ON
DELETE CASCADE
TABLE "booksandusers" CONSTRAINT "bookid_fkey" FOREIGN KEY (bookid) REFERENCES
books(bookid) ON DELETE CASCADE

```

Has OIDs: no

- Schema for BooksAndUsers

Column	Type	Modifiers	Storage	Description
bookid	integer	not null	plain	
userid	integer	not null	plain	
price	integer	not null	plain	
available	integer		plain	

```

hard      | integer |          | plain |
Foreign-key constraints:
  "bookid_fkey" FOREIGN KEY (bookid) REFERENCES books(bookid) ON DELETE CASCADE
  "userid_fkey" FOREIGN KEY (userid) REFERENCES users(userid) ON DELETE CASCADE
Has OIDs: no

```

- Schema for Transactions

Column	Type	Modifiers	Storage	Description
id1	integer	not null	plain	
id2	integer	not null	plain	
bookid	integer	not null	plain	
modeofpayment	text	not null	extended	
tid	integer	not null default nextval('transactions_tid_seq'::regclass)	plain	

```

Indexes:
  "transactions_pkey" PRIMARY KEY, btree (tid)
Foreign-key constraints:
  "book_fkey" FOREIGN KEY (bookid) REFERENCES books(bookid)
  "id1_fkey" FOREIGN KEY (id1) REFERENCES users(userid) ON DELETE CASCADE
  "id2_fkey" FOREIGN KEY (id2) REFERENCES users(userid) ON DELETE CASCADE
Triggers:
  transactions_trigger AFTER INSERT ON transactions FOR EACH ROW EXECUTE PROCEDURE
    auditlogfunc2()
Has OIDs: no

```

- Schema for Ratings

Column	Type	Modifiers	Storage	Description
bookid	integer		plain	
userid	integer		plain	
rating	integer		plain	
upvotes	integer		plain	

```

Foreign-key constraints:
  "bookid_fkey" FOREIGN KEY (bookid) REFERENCES books(bookid) ON DELETE CASCADE
  "userid_fkey" FOREIGN KEY (userid) REFERENCES users(userid) ON DELETE CASCADE
Triggers:
  ratings_trigger AFTER INSERT ON ratings FOR EACH ROW EXECUTE PROCEDURE auditlogfunc()
Has OIDs: no

```

ENTITIES	ATTRIBUTES
Books	Title, Author, ISBN, Publisher, <u>Bookid</u>
Users	Firstname, Secondname, Username, Password, Gender, Address, City, State, Country, <u>UserID</u>
Transactions	<u>Tid</u> , Id1, Id2, Bookid, ModeOfPayment

2 Dataset sources

Source	Readymade/Scraped	Cleanup Steps
http://www.informatik.uni-freiburg.de/~chiegler/BX/	Readymade	Required data was filtered using grep utility
http://snap.stanford.edu/data/amazon-meta.html	Scraped	
http://www.fakenamegenerator.com/order.php	Readymade	

Generation of tables

Table Name	Method of generation
BooksAndUsers	Generated randomly using python script.
Ratings	Generated from source 2 after processing using grep utility
Transactions	Generated randomly using python script.
Books	From the SQL dump obtained in source 1.
Users	From the csv file obtained in source 3.

2.1 Statistics

Table Name	Number of Tuples	Time to load	Size of raw dataset	Size of dataset after cleanup
Books	61150	11.2175 min	77.8 MB	77.8 MB
Users	11548	607.753 ms	1.7 MB	1.4 MB
BooksAndUsers	195304	18.779 s	3.7 MB	3.7 MB
Transactions	10007	8.38119 s	265.7 KB	265.7KB
Ratings	7488318	12.3875 min	977.5 MB	111.3 MB

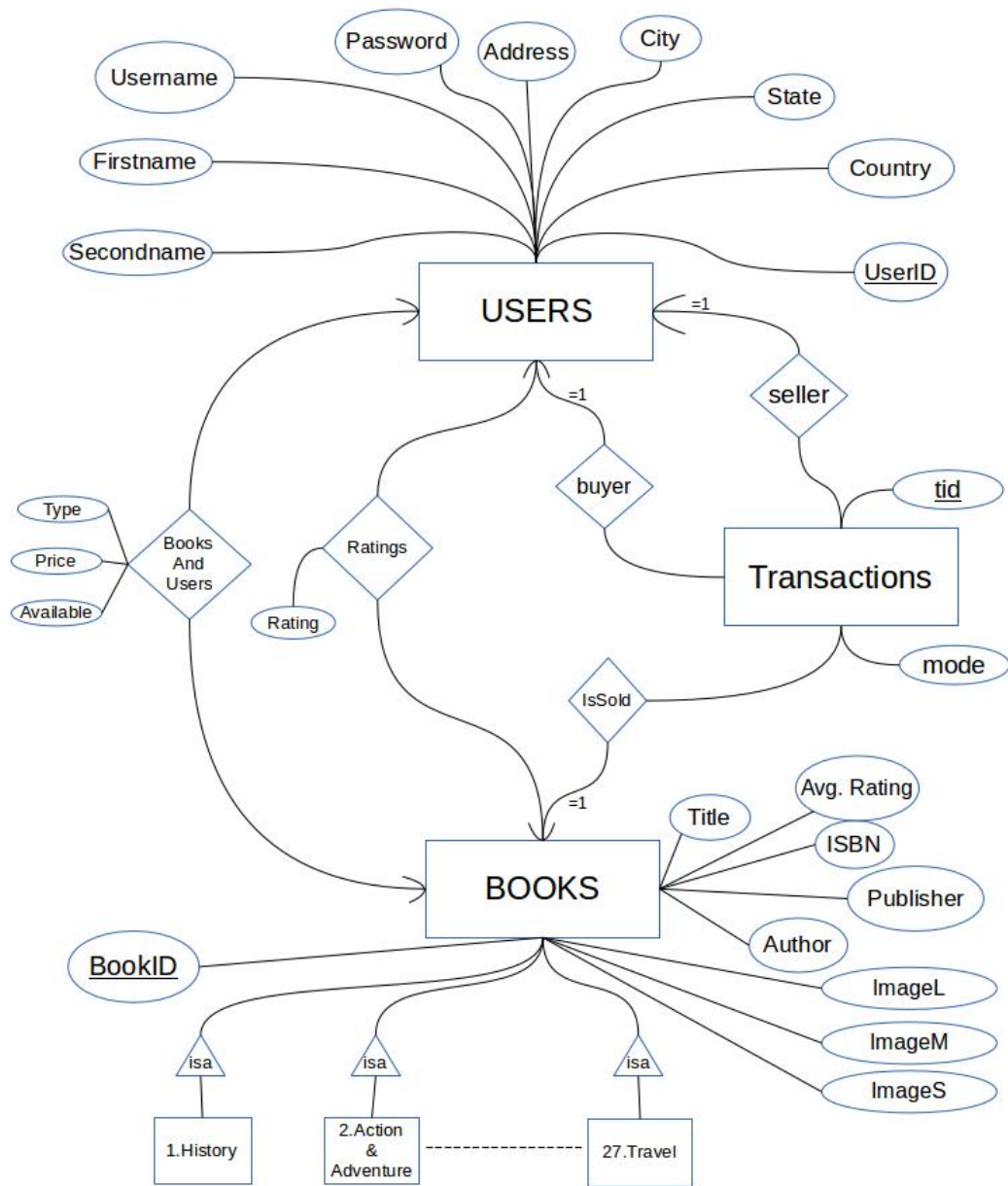


Figure 1: ER Diagram

3 User's View, functionality and queries

3.1 User's View

- **Login/Signup** : Login form is displayed on top of page, if no user is logged in. It also provides option for signup. If a user is logged in, it displays links to account's page, pages for adding books, seeing bought and sold books and see currently up for sale books.

- **Search Form** : To search for the required books, user can mention the details of books in the search boxes in the search form on the left hand side of the screen. It supports *partial matching* on text fields, such as author and title.
- **Search Results** : After a search is done, the results are presented on the right side of the page which satisfy the constraints mention by the user in the search form 20 items per page. Clicking the title of books leads to book information page.
- **Book Information Page** : It displays information of the book selected, i.e. ISBN, Title, Author, Publisher, Average rating and an image of the book. User can also rate the book. Clicking on buy link redirects to a the page showing the list of providers. List of all the providers, along with the price each of them has provided the books is shown. Clicking on the buy button leads to transaction page.
- **Transaction Page** : Shows the details of the final transaction. User can select the method of payment, and clicking on buy button finishes the transaction.
- **Add Books** : It contains a form for mentioning the details of the book to be provided. Submitting the form registers the corresponding book.
- **SignUp page** : A form prompting for the user information i.e. first name, second name, username, password, address, etc comes up. Successful submission of form makes the user account of the user, if the username mentioned does not pre exist, else it displays invalid username.
- **Account page** : The user can see account information and can also update it along with deletion of account.

3.2 Special functionalities

- **Rating's trigger** : Addition of new rating in the ratings table recalculates the average rating of the corresponding book and updates it in the books table.
- **Transaction's trigger** : When a transaction is made, the corresponding entry is made into the transaction table which triggers the updation of copies available in the booksandusers table.
- **Transaction in transactions** : The final transaction is done under a (SQL)transaction, so that two simultaneous purchases of a single book is prevented.
- **Transaction in SignUp** : The sign up of the new account is done under an SQL transaction, so that two users signing up with same username simultaneously does not cause any error.
- **Transaction for adding books** : Transaction for adding books so as to prevent inconsistent database state, which might arise if two users add simultaneously or one adds while other purchases.
- **Index on username** : Hash Index is made on username attribute of users table in the users table to facilitate faster log in system. Hash index is used because only equality checks are made.
- **Index on authurname** : BTree Index is made on author attribute of books table for faster comparison in searches.
- **Index on title** : BTree Index is made on title attribute of books table for faster comparison in searches.
- **Index on year** : BTree Index is made on year attribute of books table for faster comparison in searches.

3.3 Potential queries

- Ratings Trigger

```
CREATE OR REPLACE FUNCTION auditlogfunc() RETURNS TRIGGER AS $example_table$
BEGIN
    update books set avgrating = (select avg(rating) from ratings where
        ratings.bookid=new.bookid group by ratings.bookid)
        where books.bookid= new.bookid;
RETURN NEW;
```

```
END;
$example_table$ LANGUAGE plpgsql;
```

```
CREATE TRIGGER ratings_trigger AFTER INSERT ON ratings
FOR EACH ROW EXECUTE PROCEDURE auditlogfunc();
```

- Transactions Trigger

```
CREATE OR REPLACE FUNCTION auditlogfunc2() RETURNS TRIGGER AS $example_table$

BEGIN
    update booksandusers set available = available - 1
        where booksandusers.userid = new.id1 and booksandusers.bookid = new.bookid ;
    return new;
END;

$example_table$ LANGUAGE plpgsql;
```

```
CREATE TRIGGER transactions_trigger AFTER INSERT ON transactions
FOR EACH ROW EXECUTE PROCEDURE auditlogfunc2();
```

- Search Query

```
SELECT *
FROM [books|crime|humour|...|law]
[ WHERE [isbn=queryISBN]
      | [author ilike '%queryAuthor%']
      | [title ilike '%queryTitle%']
      | [year = '%queryYear%'] ];
```

- Query for user authentication.

```
SELECT * FROM users WHERE username='$myusername' and password='$mypassword';
```

- Prepared query for updating new users into the users table.

```
INSERT INTO users(firstname, secondname, gender, emailaddress, username, password,
    streetaddress, city, state, country) VALUES($1, $2, $3, $4, $5, $6, $7, $8, $9, $10);
```

- Query which returns details containing details of books provided by userid 'Uid'

```
SELECT books.bookid,title,author,isbn,price,available,hard
FROM booksandusers,books
WHERE booksandusers.userid=Uid and booksandusers.bookid=books.bookid;
```

- Query which returns details containing details of books sold by userid 'Uid'

```
SELECT tid,price,title,isbn,author,firstname,secondname,modeofpayment
FROM users,books,transactions,booksandusers
WHERE id1=Uid
and transactions.bookid=booksandusers.bookid
and id1=booksandusers.userid
and id2=users.userid
and transactions.bookid=books.bookid;
```

- Query which returns details containing details of books purchased by userid 'UId'

```
SELECT tid,price,title,isbn,author,firstname,secondname,modeofpayment
FROM users,books,transactions,booksandusers
WHERE id2=UId
and transactions.bookid=booksandusers.bookid
and id1=booksandusers.userid
and id1=users.userid
and transactions.bookid=books.bookid;
```

- Transaction for adding books.

```
BEGIN;
SELECT * FROM books WHERE isbn=queryISBN;
[
    [
        SELECT * FROM booksandusers WHERE userid=uid and bookid=bid
        [
            [UPDATE booksandusers SET available=available+ queryCopies WHERE
              bookid=bid;]
            OR
            [INSERT INTO booksandusers VALUES(queryBid, queryU2id,
              queryPrice, queryCopies, queryHard);]
        ]
    ]
    OR
    [
        INSERT INTO books (isbn,title,year,publisher,genre,imagel,avgrating)
        VALUES(queryISBN,queryTitle,queryYear,queryPublisher,queryGenre,queryLink,'0');
        SELECT * FROM books WHERE isbn=queryISBN;

        INSERT INTO booksandusers
        VALUES(queryBid,queryU2id,queryPrice,queryCopies,queryHard);
    ]
]
COMMIT;
```

- Query for removing book with bookid='Bid' provided by user with userid='UId'

```
UPDATE booksandusers
SET available=0
WHERE bookid= Bid and userid=UId;
```

- SQL Transaction for transactions between users (rest work is done by trigger);

```
BEGIN;
INSERT INTO transactions VALUES(queryU1id,queryU2id,queryBid,queryMode);
SELECT * FROM booksandusers WHERE bookid=queryBid and userid = queryU1id;

[ABORT;]
OR
[COMMIT;]
```

- Query for updating rating in ratings table

```
UPDATE ratings SET rating = rate
WHERE userid=uid and bookid=bid;
```

- Query for inserting into ratings table for users who rate a book for first time.

```
INSERT INTO ratings VALUES (bookID,userID,ratingValue);
```

3.4 Tested queries

- ```
SELECT * FROM action WHERE AUTHOR ilike '%OTTO PENZLER%' AND TITLE ilike '%The Best American Crime Writing: 2003 Edition : The Years Best True Crime Reporting (Best American Crime Writing)%' AND YEAR = 2003 ORDER BY avgrating DESC;
```

Run time : 21.444 ms

- ```
SELECT * FROM books WHERE TITLE ilike '%database%' ORDER BY avgrating DESC;
```

Run time : 282.062 ms

- ```
SELECT * FROM science WHERE AUTHOR ilike '%Robert Graves%' AND TITLE ilike '%Claudius the god and his wife Messalina: The troublesome reign of Tiberius Claudius Caesar, Emperor of the Romans (born 10 B.C., died A.D. 54), as DESCRibed BY himself, also his murder at the hands of the notorious Agrippina (mother of the Emperor Nero) a%' ORDER BY avgrating DESC;
```

Run time : 210.525 ms

- ```
SELECT * FROM books WHERE AUTHOR ilike '%lewis%' AND TITLE ilike '%Alice%' AND YEAR = 1999 ORDER BY avgrating DESC;
```

Run time : 192.539 ms

- ```
SELECT * FROM crime WHERE AUTHOR ilike '%Helen%' ORDER BY avgrating DESC;
```

Run time : 187.081 ms

- ```
SELECT * FROM books WHERE TITLE ilike '%da vinci%' AND YEAR = 2003 ORDER BY avgrating DESC;
```

Run time : 286.655 ms

- ```
INSERT INTO booksandusers VALUES(17,90,500,3,0);
```

Run time : 30.504 ms

- ```
SELECT books.bookid,title,author,isbn,price,available,hard FROM booksandusers,books WHERE booksandusers.userid= 56 and booksandusers.bookid=books.bookid;
```

Run time : 15.188 ms

- ```
UPDATE ratings set rating =7 WHERE userid=516 and bookid=78;
```

Run time : 0.882 ms

- ```
SELECT price,hard FROM booksandusers WHERE userid=89 and bookid=1000;
```

Run time : 0.794 ms

- ```
BEGIN;
 SELECT * FROM books WHERE isbn='89546';
 UPDATE booksandusers set available=available+1 WHERE bookid=78;
 COMMIT;
```

---

Run time : 50.65 ms

---

- ```
BEGIN ;
      Insert INTO transactions VALUES(123,1999,6021,net-banking);
      SELECT * FROM booksandusers WHERE bookid=".$bid." and userid = ".$uid.";
      abort;
```

Run time :0.457 ms

- ```
SELECT tid,price,title,isbn,author,firstname,secondname,modeofpayment FROM
 users,books,transactions,booksandusers WHERE id1=89 and
 transactions.bookid=booksandusers.bookid and id1=booksandusers.userid and
 id2=users.userid and transactions.bookid=books.bookid;
```

---

Run time : 2.974 ms

---

- ```
INSERT INTO
      users(firstname,secondname,gender,emailaddress,username,password,streetaddress,city,state,country)
      VALUES('devansh','dalal','male','devansh@gmail.com','devanshdalal','dalal','kambohpura','karnal','haryana');
```

Run time : 35.203 ms

- ```
UPDATE booksandusers set available=0 WHERE bookid=89 and userid=1092;
```

---

Run time : 0.826 ms

---

- ```
SELECT * FROM users WHERE username='devansh' and password='dalal';
```

Run time : 8.312 ms

Comparison of performance of various indices when executed on warmed database.

- ```
SELECT * FROM books WHERE TITLE ilike '%jewel%' AND YEAR = 1999 order by avgrating desc;
```

---

- 26.405 ms extra btree index on year (best)
- 27.705 ms extra hash index on year
- 266.913 ms without any extra index on year

---

- ```
SELECT * FROM books WHERE AUTHOR ilike '%john%' AND TITLE ilike '%of%' AND YEAR = 1996 order
      by avgrating desc;
```

- 18.707 ms extra btree index on year (best)
- 19.421 ms extra hash index on year
- 261.444 ms without any extra index on year

- ```
SELECT * FROM arts WHERE AUTHOR ilike '%Eileen Behan%' AND TITLE ilike '%Eat Well, Lose
 Weight While Breastfeeding: Complete Nutrition Book for Nursing Mothers, Including a
 Healthy Guide to Weight Loss Your Doctor Promise%' AND YEAR = 1992 order by avgrating
 desc;
```

---

- 14.883 ms extra btree(year) and btree on title
- 217.372 ms no extra index

## Screenshots of Web Application

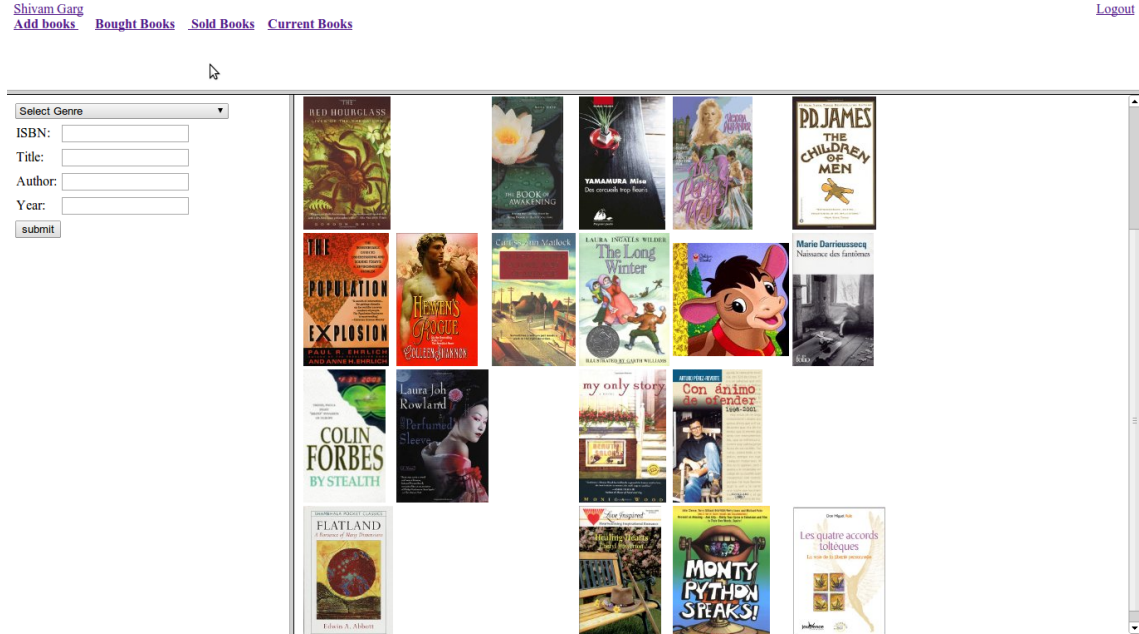


Figure 2: Logged in

Shivam Garg [Add books](#) [Bought Books](#) [Sold Books](#) [Current Books](#) [Logout](#)

Select Genre:  ISBN:  Title:  Author:  Year:

| ISBN       | Year | Author        | Title                                                                                                                                                                                               | Publisher                           | Rating |
|------------|------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------|
| 019283374X | 1998 | Lewis Carroll | <a href="#">Alices Adventures in Wonderland and Through the Looking-Glass: And What Alice Found There (Oxford Worlds Classics)</a>                                                                  | Oxford University Press             | 5      |
| 086611873x | 1996 | Lewis Carroll | <a href="#">Alice In Wonderland Great Illustrated CL (Alice in Wonderland)</a>                                                                                                                      | Baronet Books                       | 4.7    |
| 0517147815 | 1995 | Lewis Carroll | <a href="#">Lewis Carroll: The Complete Illustrated Works : Alices Adventures in Wonderland, Through the Looking-Glass and What Alice Found There, the Hunting of the Snark (Literary Classics)</a> | Gramercy Books                      | 4.6    |
| 1590600843 | 1996 | Lewis Carroll | <a href="#">Alice in Wonderland (Illustrated Classic Editions)</a>                                                                                                                                  | Playmore/Waldman                    | 4.6    |
| 0721409679 | 1980 | Lewis Carroll | <a href="#">Alice in Wonderland (Ladybird Childrens Classics)</a>                                                                                                                                   | Penguin U S A                       | 4.5    |
| 2070513661 | 0    | Lewis Carroll | <a href="#">Alice Au Pays Des Merveilles</a>                                                                                                                                                        | Gallimard Jeunesse                  | 4.4    |
| 0141439769 | 2003 | Lewis Carroll | <a href="#">Alices Adventures in Wonderland and Through the Looking-Glass: And What Alice Found There (Penguin Classics)</a>                                                                        | Penguin Books                       | 4.4    |
| 1853261181 | 1999 | Lewis Carroll | <a href="#">Alice in Wonderland</a>                                                                                                                                                                 | NTC/Contemporary Publishing Company | 4.4    |
| 0787119784 | 1999 | Lewis Carroll | <a href="#">Alice in Wonderland: Including Alices Adventures in Wonderland and Through the Looking-Glass</a>                                                                                        | Dove Books                          | 4.3    |
| 0486408787 | 1999 | Lewis Carroll | <a href="#">Through the Looking-Glass: And What Alice Found There (Dover Thrift Editions)</a>                                                                                                       | Dover Publications                  | 4.1    |
| 0140367098 | 1996 | Lewis Carroll | <a href="#">Through the Looking Glass: And What Alice Found There (Puffin Classics)</a>                                                                                                             | Puffin Books                        | 4.1    |
| 155994806X | 1993 | Lewis Carroll | <a href="#">Alice in Wonderland and Through the Looking Glass</a>                                                                                                                                   | Harper Childrens Audio              | 4      |
| 8484034097 | 2004 | Lewis Carroll | <a href="#">Alicia En El Pais De Las Maravillas, Fantasmagoria, Y Un Cuento Enredado / Alice In Wonderland, Phantasmagoria, And, A Tangled Tale (Clasicos Seleccion)</a>                            | Edimat Libros                       | 3.8    |

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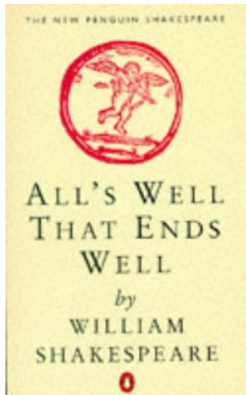
localhost/books.php?id=33351

Figure 3: Query result 1

| Literature & Fiction |      |                      |                                                                                                                                                                        |                                    |
|----------------------|------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| ISBN:                | Year | Author               | Title                                                                                                                                                                  | Publisher                          |
| 0142001007           | 2003 | William Dalrymple    | <a href="#">City of Djinns: A Year in Delhi</a>                                                                                                                        | Penguin Books                      |
| 0878771972           | 1995 | William G. Benham    | <a href="#">How to Choose Vocations from the Hand: The Essential Guide for Discovering Your Occupational Personality</a>                                               | Career Pr Inc                      |
| 3499225905           | 2000 | William S. Burroughs | <a href="#">Nova Express.</a>                                                                                                                                          | Rowohlt Tb.                        |
| 0140272801           | 1999 | William C. Klatte    | <a href="#">Live-Away Dads: Staying a Part of Your Childrens Lives When They Arent a Part of Your Home</a>                                                             | Penguin Books                      |
| 0684810522           | 1999 | William Ryan         | <a href="#">Noahs Flood : The New Scientific Discoveries About the Event that Changed History</a>                                                                      | Simon & Schuster                   |
| 0061057428           | 1997 | William Shatner      | <a href="#">Delta Search (Quest for Tomorrow)</a>                                                                                                                      | Eos                                |
| 0671441515           | 1981 | William Shakespeare  | <a href="#">Othello</a>                                                                                                                                                | Pocket Books                       |
| 0812035712           | 1985 | William Shakespeare  | <a href="#">Macbeth : Modern English Version Side-By-Side With Full Original Text (Shakespeare Made Easy)</a>                                                          | Barrons Educational Series         |
| 0887305938           | 1992 | William H. Davidow   | <a href="#">The Virtual Corporation: Structuring and Revitalizing the Corporation for the 21st Century</a>                                                             | Harpercollins                      |
| 1883642825           | 1999 | WILLIAM WEAVER       | <a href="#">Open City : Seven Writers in Postwar Rome : Ignazio Silone, Giorgio Bassani, Alberto Moravia, Elsa Morante, Natalia Ginzburg, Carlo Levi, Carlo Emilio</a> | Steerforth Italia                  |
| 0688168469           | 1999 | Karen Lynn William   | <a href="#">One Thing Im Good at</a>                                                                                                                                   | HarperCollins Publishers           |
| 0765116936           | 1999 | William Shakespeare  | <a href="#">The Tragedies (Shakespeare Series)</a>                                                                                                                     | Smithmark Publishers               |
| 0913589101           | 1984 | William K. Kruesi    | <a href="#">Sheep Raisers Manual</a>                                                                                                                                   | Williamson Publishing Company (VT) |
| 0385481918           | 1996 | William Elliott      | <a href="#">Tying Rocks to Clouds: Meetings and Conversations With Wise and Spiritual People</a>                                                                       | Image                              |
| 0441008089           | 2001 | William Nolan        | <a href="#">California Sorcery</a>                                                                                                                                     | Ace Books                          |

Figure 4: Query result 2

Arts, Film & Photography
ISBN:
Title:
Author: william
Year:
submit



ISBN 0140707204  
Title All's Well That Ends Well (New Penguin Shakespeare)  
Author William Shakespeare  
Year 1981  
Publisher Penguin Books  
Genre Arts Film & Photography

Please Login  
Rate: Submit  
Provider Price Hard/Soft

Figure 5: Book information