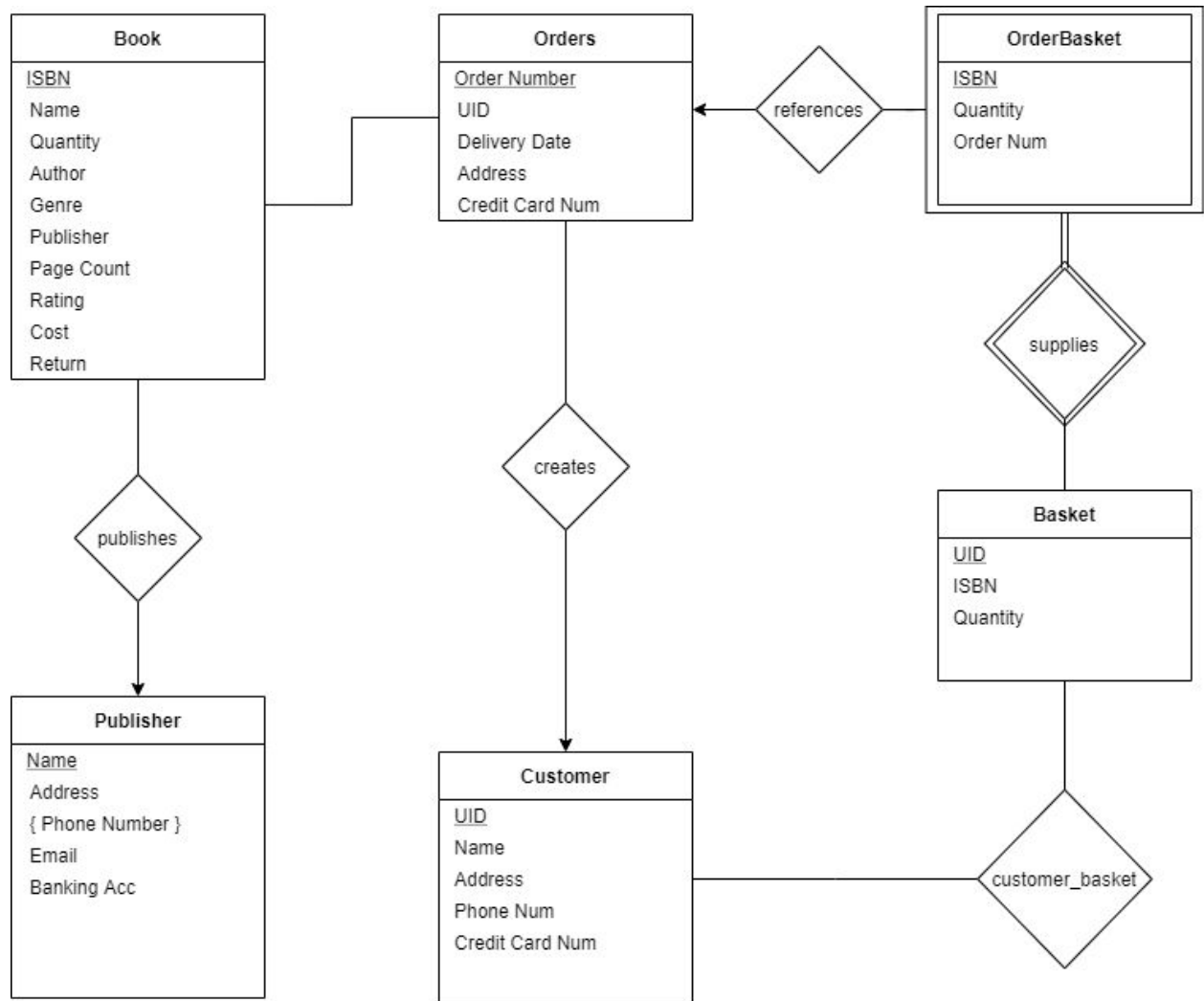


ER Diagram - Initial



This diagram is designed around the idea that there's 1 large database for holding all active items in a user's basket. That basket is then polled with user ID (UID) information to provide queries that return information only for the active user. Once the order is finalized, all records for the current user that are active in Basket are copied to OrderBasket and deleted from Basket. In addition, a single order record is created and stored in Orders. Orders and OrderBasket are kept as a table holding all details from previous customer purchases for purposes such as delivery date enquiries and administrative record collection.

Reduction of ER Diagram Into Relation Schemas

Entity Sets:

Book(ISBN, Name, Quantity, Author, Genre, Publisher, Page Count, Rating, Cost, Return)

Basket(UID, ISBN, Quantity)

Customer(UID, Name, Address, PhoneNum, CreditCardNum)

OrderBasket(ISBN, Quantity, OrderNum)

Orders(OrderNum, UID, DeliverDate, Address, CreditCardNum)

Publisher(Name, Address, Email, BankingAccount)

PublisherPhone(Name, PhoneNum)

Relationship Sets:

publishes(ISBN, Name)

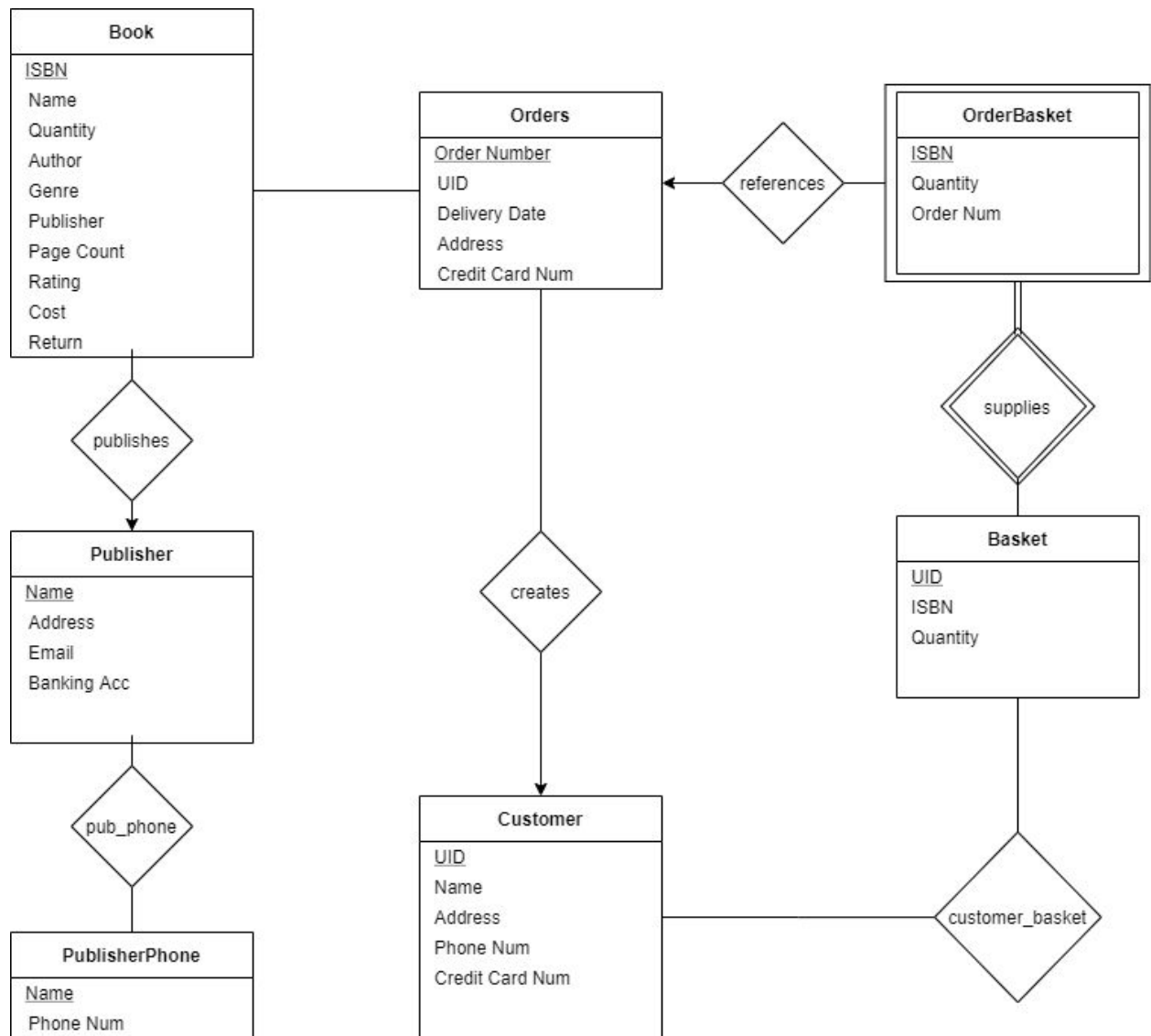
creates(UID, OrderNum)

references(OrderNum, ISBN, Quantity, OrderNum)

supplies(OrderNum, ISBN, Quantity, OrderNum, UID)

customer_basket(UID, ISBN)

ER Diagram - Final



This final version of the ER diagram includes the addition of PublisherPhone as a bridge table to allow individual publishers the ability to store more than one phone number. Aside from this change, the diagram remains relatively unchanged as the higher levels of decomposition provided little need for any additional changes.

Implementation

This application was written in Java using the NetBeans IDE.

```
run:
*****
* Welcome to Look Inna Book! *
*****

What would you like to do?
(1) Login
(2) Register
(3) Quit
Choice:
```

When you first launch the program, you're greeted with a pretty-printed menu asking you to log in or register. You must have an account in order to view books or shop, so the user is required to make an account or register under a new one.

```
Please enter your user ID
Choice: 11111
```

For now, I'll log in to my administrative account. All owner accounts are 5 digits in length while all customer accounts are 4.

```
Successfully logged in!
Welcome back Ben Campbell
*****
* Welcome to Look Inna Book! *
*****

What would you like to do Ben Campbell? (ADMIN)
(1) Reports
(2) Add Book
(3) Remove Book
(4) Logout
Choice: |
```

The login was successful and I'm greeted by the program knowing my name. From here, I have the administrator options to review reports, add books to the store, remove books from the store, or log out of the account.

```
Please enter the book's ISBN.
Choice: 1234567890

Please enter the book's name.
Choice: The Last Dataset: A Nerd Story
Please enter the number of books in stock.
Choice: 5
Please enter the book's author.
Choice: Ben Campbell
Please enter the book's genre.
Choice: Horror
Please enter the book's publisher.
Choice: Penguin
Please enter the book's page count.
Choice: 1500
Please enter the book's rating.
Choice: 5
Please enter the book's cost.
Choice: 10.99
Please enter the publisher's revenue cut for the book.
Choice: 1.23

Book added successfully!
```

I've selected to add a book to our store. I fill in each field as prompted and when I complete the last request I'm told that the book has been added to our database successfully. Radical!

```
*****
* Welcome to Look Inna Book! *
*****

What would you like to do Ben Campbell? (ADMIN)
(1) Reports
(2) Add Book
(3) Remove Book
(4) Logout
Choice: 4
*****
* Welcome to Look Inna Book! *
*****

What would you like to do?
(1) Login
(2) Register
(3) Quit
Choice:
```

After the book is added we're returned to our account's main menu. From here I opt to log out and am pushed back to the menu from earlier.

```
What would you like to do?  
(1) Login  
(2) Register  
(3) Quit  
Choice: 1  
Please enter your user ID  
Choice: 1001
```

This time I log in again, but as a standard customer.

```
Successfully logged in!  
Welcome back Slim Shady  
*****  
* Welcome to Look Inna Book! *  
*****  
  
What would you like to do Slim Shady?  
(1) Search Books  
(2) View Basket/Checkout  
(3) Delivery Lookup  
(4) Logout  
Choice:
```

I'm now presented with our customer menu. We can search for books, check our basket, check an existing delivery order, or log out of our account.

```
What would you like to search by?  
(1) Title  
(2) Author  
(3) Genre  
(4) ISBN  
(5) Exit  
Choice: |
```

Today I want to add a new book to my basket. First I need to find it. I select search and am given my choice of field to search by.

```
Choice: 3  
What would you like to search for?  
Choice: Horror
```

I choose "Genre" and look for horror.

(1) A Study in Scarlet By: Arthur Conan Doyle, Genre: Horror, ISBN: 7361692171, Pages: 278, Rating: 2, Cost: \$17.99
(2) The Tale of Peter Rabbit By: Beatrix Potter, Genre: Horror, ISBN: 6010716208, Pages: 277, Rating: 4, Cost: \$39.99
(3) On the origin of species By: Charles Darwin, Genre: Horror, ISBN: 5638904572, Pages: 225, Rating: 2, Cost: \$42.99
(4) Oliver Twist By: Charles Dickens, Genre: Horror, ISBN: 7290053550, Pages: 218, Rating: 1, Cost: \$9.99
(5) The Secret Garden By: Frances Hodgson Burnett, Genre: Horror, ISBN: 9047466486, Pages: 281, Rating: 5, Cost: \$33.99
(6) War and Peace By: Leo Tolstoy, Genre: Horror, ISBN: 8196122799, Pages: 610, Rating: 1, Cost: \$27.99
(7) The War of the Worlds By: H. G. Wells, Genre: Horror, ISBN: 6070690484, Pages: 327, Rating: 5, Cost: \$13.99
(8) Dubliners By: James Joyce, Genre: Horror, ISBN: 9773950513, Pages: 364, Rating: 2, Cost: \$68.99
(9) Persuasion By: Jane Austen, Genre: Horror, ISBN: 7658000923, Pages: 225, Rating: 2, Cost: \$26.99
(10) Anne of Green Gables By: L. M. Montgomery, Genre: Horror, ISBN: 9577264964, Pages: 383, Rating: 4, Cost: \$44.99
(11) The Picture of Dorian Gray By: Oscar Wilde, Genre: Horror, ISBN: 7110147531, Pages: 495, Rating: 5, Cost: \$66.99
(12) The Jungle Book By: Rudyard Kipling, Genre: Horror, ISBN: 6161301411, Pages: 275, Rating: 5, Cost: \$44.99
(13) The Last Dataset: A Nerd Story By: Ben Campbell, Genre: Horror, ISBN: 1234567890, Pages: 1500, Rating: 5, Cost: \$10.99

From here I'm given a list of all the books available that are under the horror genre. I can see the newly released book from earlier is available to purchase now. Awesome!

What would you like to do?

- (1) Search Again
- (2) Add Book From Search to Basket
- (3) Exit

Choice: 2

What book would you like to add? (by number)

Choice: 12

Book Added Successfully!

Today I'm choosing instead to pick a more mild horror title, The Jungle Book. I enter 2 to select the Add Book feature and enter 12 to add the appropriate book to my basket.