

COMP 3005 Project Report (Fall 2022)

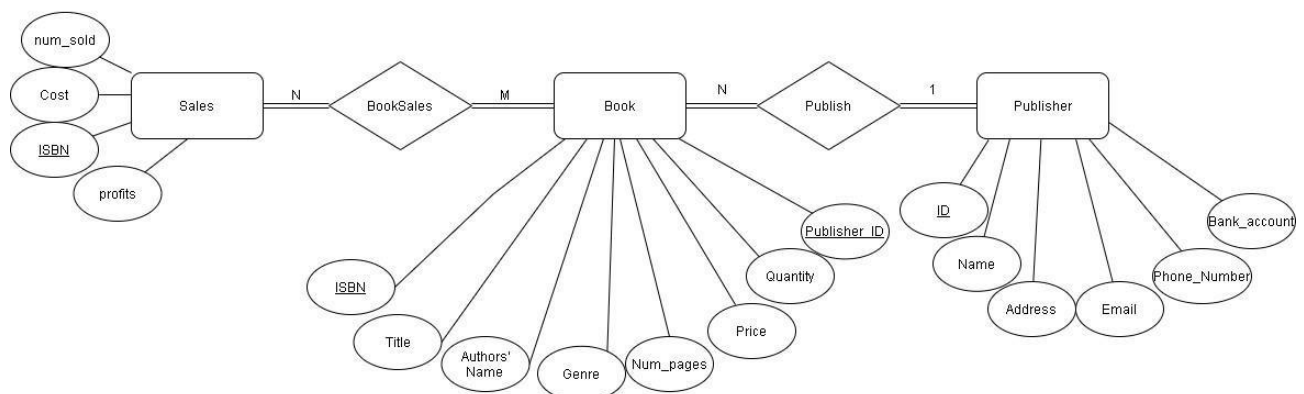
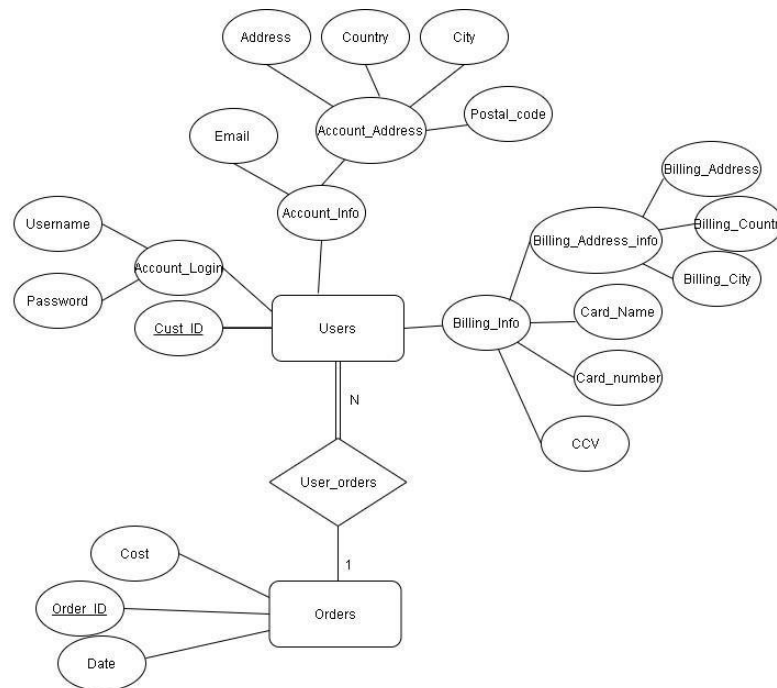
Group Members: Vashiran Vaitheeswaran (101183346), Fraser Rankin (101192297), Wei-Da Tseng (101196640)

Github Link: <https://github.com/fraser-ran/COMP-3005-Team-Project>

2. Project Report

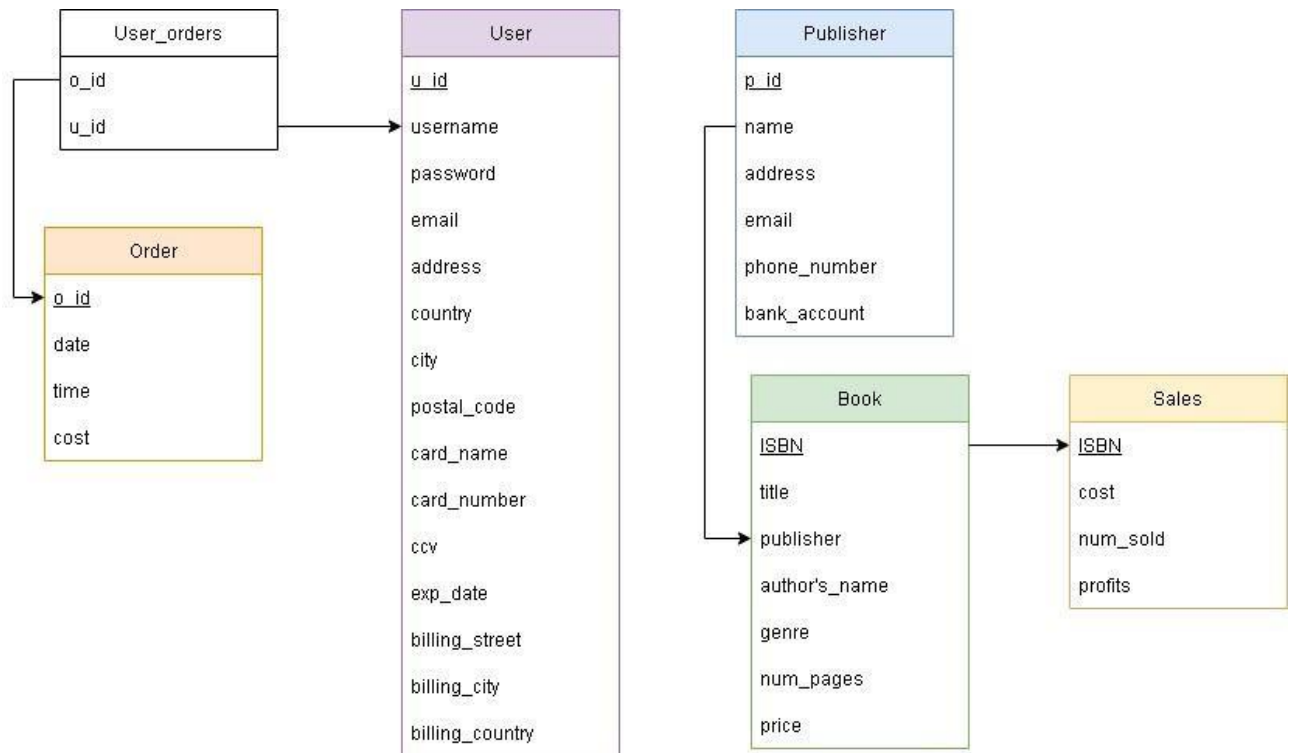
You need to submit one report file that contains the following sections. You can add other sections, but the following sections (except Bonus Features) **must be** in the report:

2.1. Conceptual Design (25%)



2.2. Reduction to Relation Schemas (15%)

Reduce your ER-diagram into relation schemas and list these in this section.



2.3 Normalization of Relation Schemas (20%)

Book(ISBN, title, publisher, author_name, genre, num_pages, price, quantity)
ISBN -> (title, publisher, author_name, genre, num_pages, price, quantity)
title -> (publisher, author_name, genre, num_pages, price, quantity)

User(Cust_ID, Account_login, Account_Info, Billing_Info)
Account_Info -> (Email, Account_address)
Account_address -> (Address, Country, City)

Account_login (Username, Password)
Billing_info -> (Billing_Address_info, Card_name, Card_number, CCV)
Billing_Address_info -> (Billing_Address, Billing_Country, Billing_City)

User_Order(O_ID, U_ID)
O_ID(U_ID)

Order(Order_ID, cost, date)
Order_ID -> (cost, date)

Sales(ISBN, cost, num_sold, profits)
ISBN -> (cost, num_sold, profits)

Publisher(p_id, name, address, email, phone_number, bank_account)
p_id -> (name, address, contact_info, bank_account)
contact_info -> (email, phone_number)

First normal form(1NF): All 5 table(Book, User, Order, Sales, Publisher, User_Order) satisfy the rules of the First normal form.

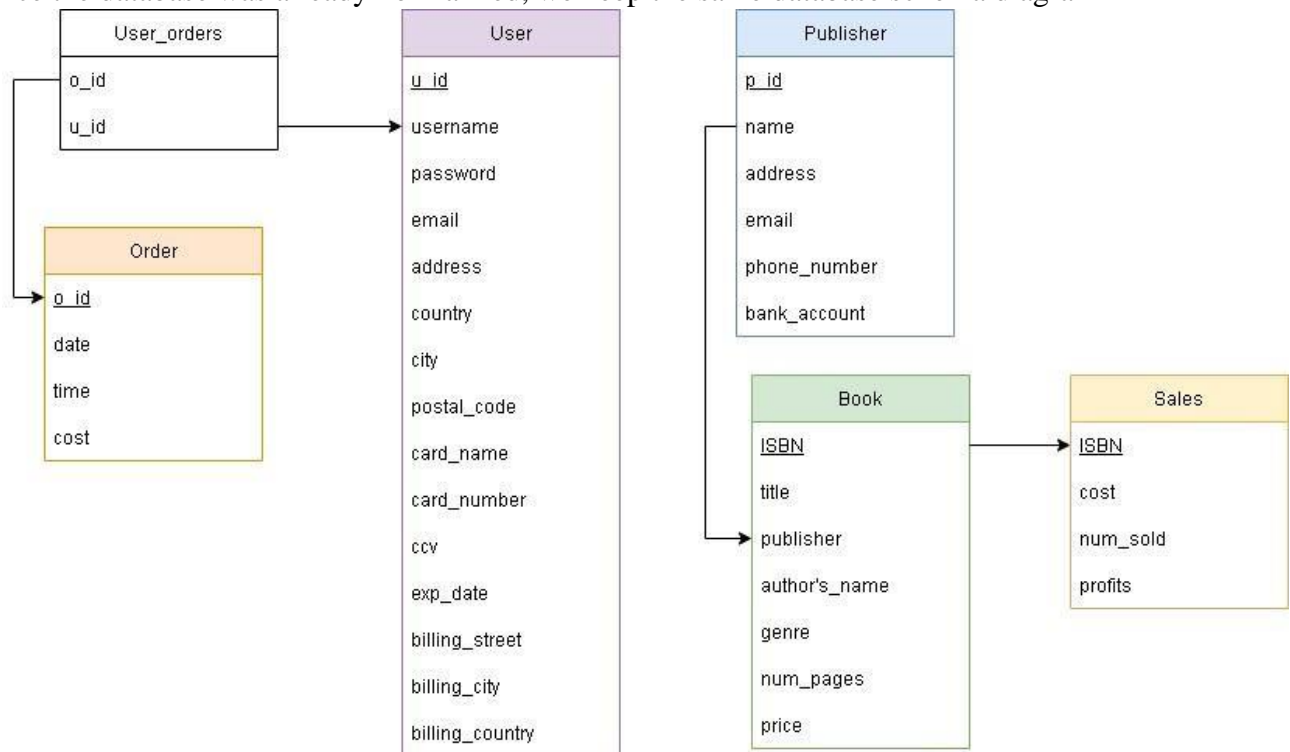
Second normal form(2NF): Since all table don't have a partial dependence and 1NF is satisfy thus, second normal form is satisfy.

Third normal form(3NF): All table doesn't have transitive dependency, and 2NF is satisfy, so third normal form is satisfy.

Boyce-Codd Normal form(BCNF): All the table doesn't have a non-prime attribute that can reference to prime attribute and third normal form is satisfy, thus all table are in BCNF.

2.4. Database Schema Diagram (10%)

Since the database was already normalized, we keep the same database schema diagram



2.5. Implementation (30%)

Any User (Logged in or out)

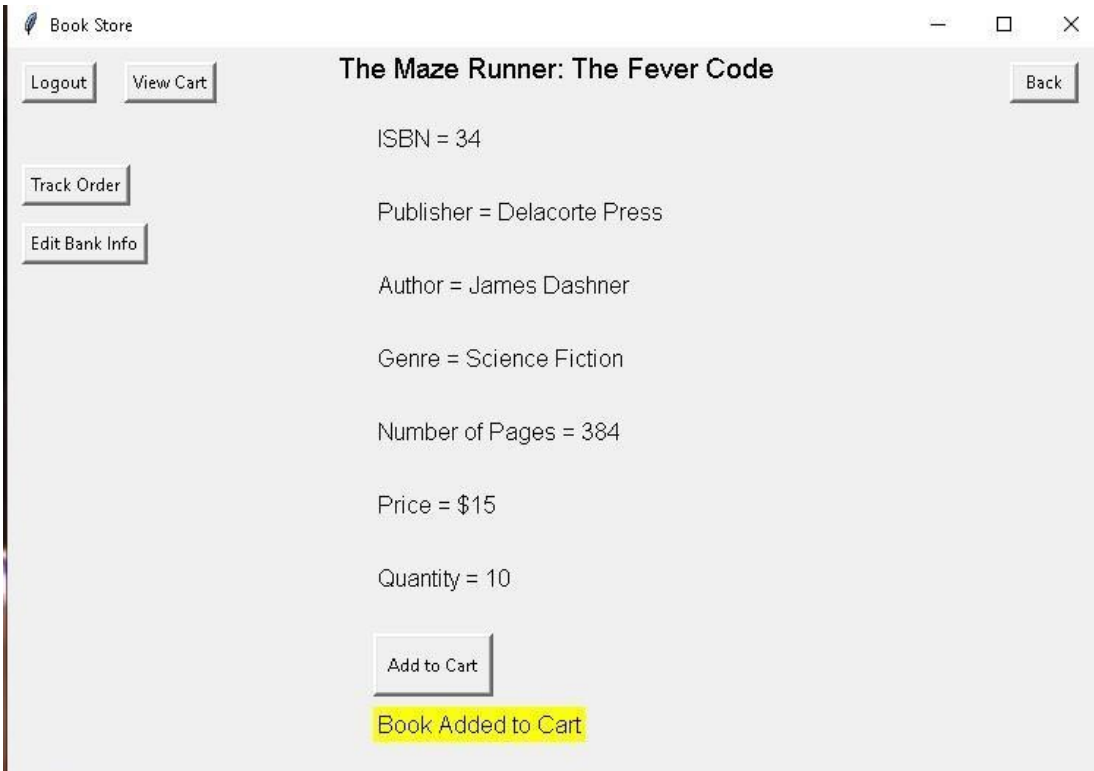
Track Order:



The screenshot shows a window titled "Book Store" with a "Track Order" sub-header. In the top right corner of the window are standard window controls (minimize, maximize, close) and a "Back" button. The main content area contains a form with the label "Enter Order #:" followed by a text input field containing the number "29". Below the input field is a "Track Order" button. At the bottom of the window, a status message reads: "admin's Order #29 is being shipped to adminCity, Canada in 10 days".

Regular User

Add Book to Cart:



The screenshot shows a window titled "Book Store" with a sub-header "The Maze Runner: The Fever Code". In the top right corner are window controls and a "Back" button. On the left side, there is a vertical sidebar containing four buttons: "Logout", "View Cart", "Track Order", and "Edit Bank Info". The main content area displays the following details for the book: "ISBN = 34", "Publisher = Delacorte Press", "Author = James Dashner", "Genre = Science Fiction", "Number of Pages = 384", "Price = \$15", and "Quantity = 10". At the bottom of the main area is an "Add to Cart" button. Below this button, a yellow highlighted message states "Book Added to Cart".

Checkout Books and Auto Re-Order Books:

Book Store

Back

Title: The Death Cure Author: James Dashner Price: \$15
Title: The Maze Runner Author: James Dashner Price: \$15
Title: The Maze Runner Author: James Dashner Price: \$15
Title: The Maze Runner Author: James Dashner Price: \$15
Title: The Maze Runner Author: James Dashner Price: \$15
Title: The Maze Runner Author: James Dashner Price: \$15
Title: The Maze Runner Author: James Dashner Price: \$15

Total = \$ 105

Check Out

Successfully Checked Out, Order Number: 30
Restocked on Books: The Maze Runner,

Edit Bank Information:

Book Store

Edit Bank Information

Back

Card Number: 5566778899112233

Card Name: Paul George

Expiry Date (YY/MM): 24 12

CCV: 453

Billing Street: 432 Jane Street

Billing City: Toronto

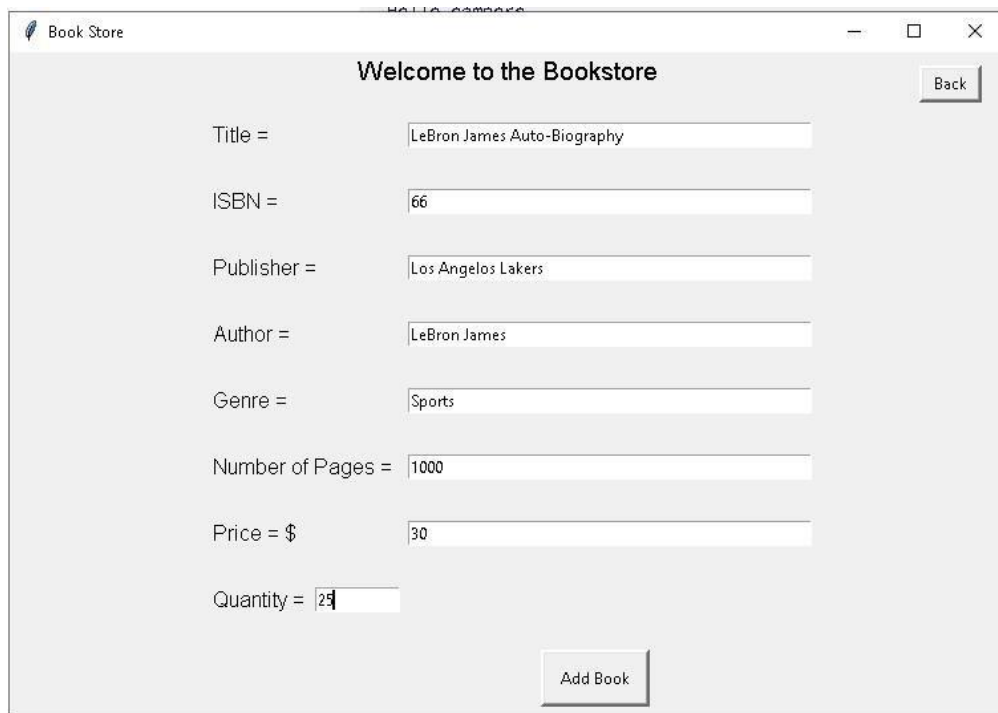
Billing Country: Canada

Confirm Changes

Successfully Edited Bank Account

Admin

Add Books:

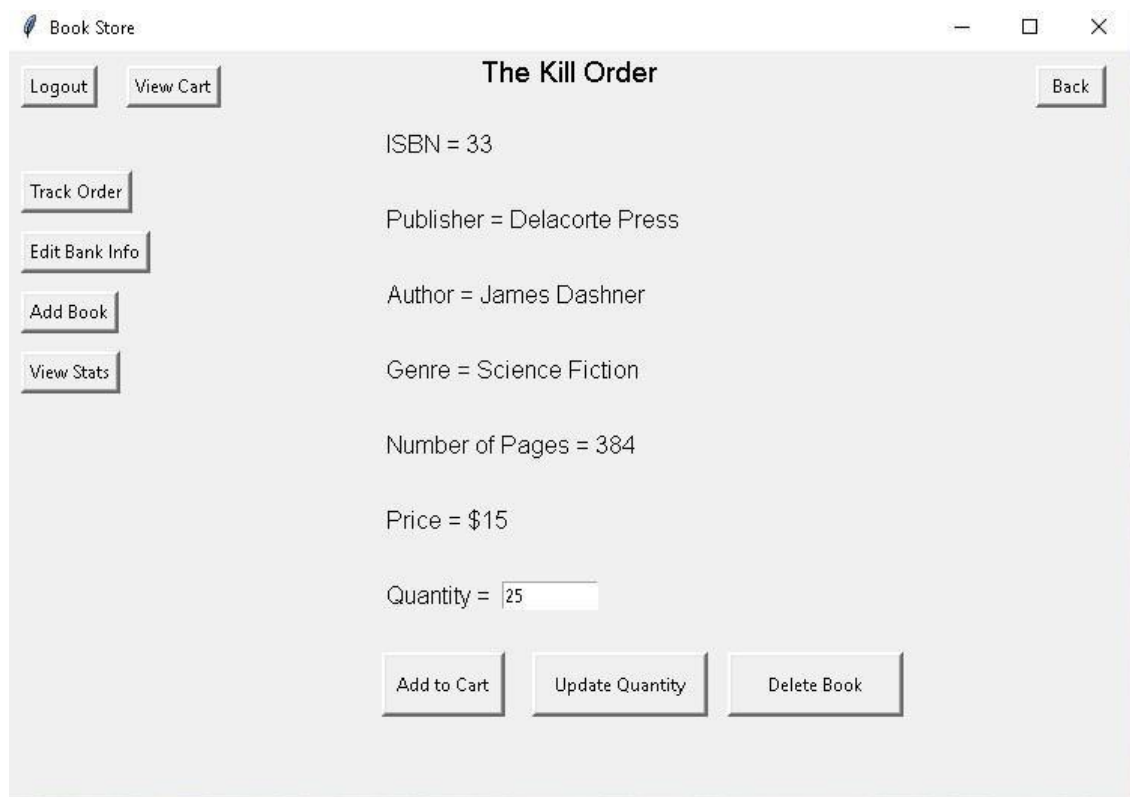


The screenshot shows a web application window titled "Book Store". The main heading is "Welcome to the Bookstore". There is a "Back" button in the top right corner. The form contains the following fields and values:

Field	Value
Title =	LeBron James Auto-Biography
ISBN =	66
Publisher =	Los Angeles Lakers
Author =	LeBron James
Genre =	Sports
Number of Pages =	1000
Price = \$	30
Quantity =	25

At the bottom center, there is an "Add Book" button.

Delete Books:



The screenshot shows a web application window titled "Book Store". The main heading is "The Kill Order". There is a "Back" button in the top right corner. On the left side, there is a sidebar with the following buttons: "Logout", "View Cart", "Track Order", "Edit Bank Info", "Add Book", and "View Stats". The main content area displays the following information:

Field	Value
ISBN =	33
Publisher =	Delacorte Press
Author =	James Dashner
Genre =	Science Fiction
Number of Pages =	384
Price =	\$15
Quantity =	25

At the bottom, there are three buttons: "Add to Cart", "Update Quantity", and "Delete Book".

Stats Reporting:

Book Store

Stats Page

Genre Science Fiction Search

Back

Profit = \$285

Copies Sold = 19

2.6. Bonus Features (Optional Section - Up to 15%) Bonus Features Implemented:

- Search by Keyword

Book Store

Welcome to the Bookstore

Register Login

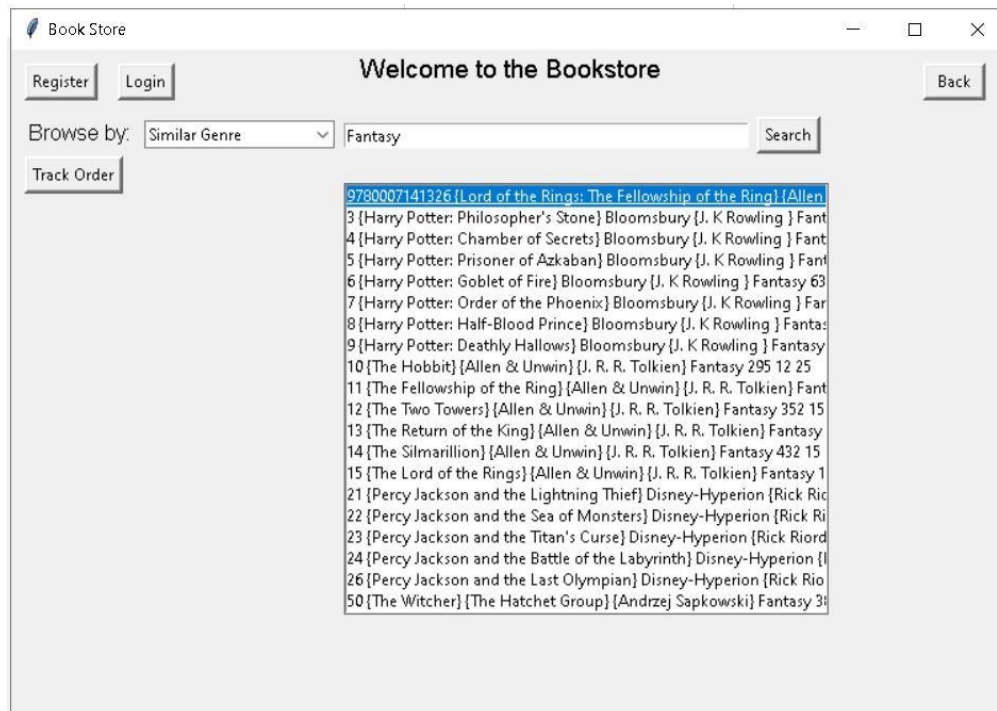
Browse by: Keyword Search

Track Order

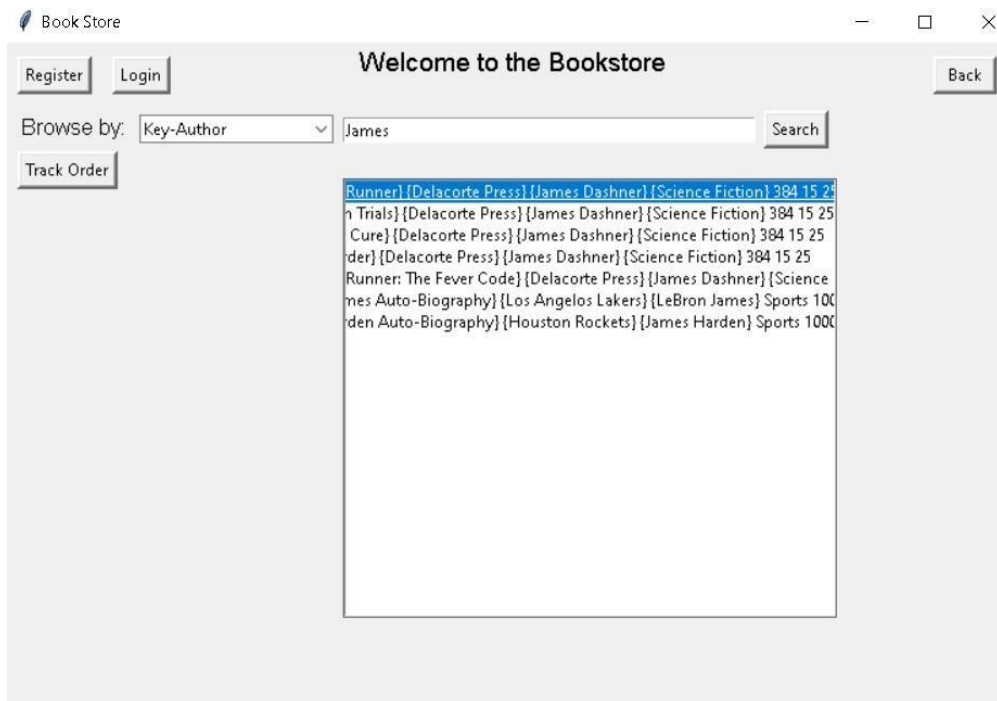
Back

3 [Harry Potter: Philosopher's Stone] Bloomsbury [J. K Rowling] Fantasy
4 [Harry Potter: Chamber of Secrets] Bloomsbury [J. K Rowling] Fantasy
5 [Harry Potter: Prisoner of Azkaban] Bloomsbury [J. K Rowling] Fantasy
6 [Harry Potter: Goblet of Fire] Bloomsbury [J. K Rowling] Fantasy 63
7 [Harry Potter: Order of the Phoenix] Bloomsbury [J. K Rowling] Fantasy
8 [Harry Potter: Half-Blood Prince] Bloomsbury [J. K Rowling] Fantasy
9 [Harry Potter: Deathly Hallows] Bloomsbury [J. K Rowling] Fantasy

- Search by Similar Genre



- Search by Similar Author Name



2.7. GitHub Repository <https://github.com/fraser-ran/COMP-3005-Team-Project>

2.8. Appendix I

12:20 pm, 1:20 pm, and 1:40 pm