COMP 3005 Project Report

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# Conceptual Design (25%)

A close up of a map

Description automatically generated

Assumptions about cardinality:

1. A user will only have 1 cart. (draw.io would not allow me to require total participation and have an arrow for cardinality)
2. A cart will belong to only 1 user. (Same issue with draw.io not allowing an arrow with total participation)
3. A purchase will only have 1 shipping address.

Assumptions about participation type:

1. Authors, publishers, and genres can be added before a book linked to them is added. For example, we could add JK Rowling before adding any of the books she’s written.
2. The bookstore only sells books, therefore each purchase must have 1..\* books.
3. A user may ship a purchase to an address that is not associated with a customer.

# Reduction to Relation Schemas (20%)

* author(a\_id, a\_name)
* genre(g\_id, g\_name)
* book(ISBN, title, p\_id, num\_pages, price, quantity, pub\_percent, year, summary)
* publisher(p\_id, p\_name, email, phone)
* address(a\_id, country, province, city, street\_name, street\_num, postal\_code)
* purchase(o\_id, tracking\_num, c\_id)
* customer(c\_id, username, password)
* cart(cart\_id, c\_id)
* writes(a\_id, ISBN)
* book\_genre(ISBN, g\_id)
* published(p\_id, ISBN)
* publisher\_addr(p\_id, a\_id)
* book\_purchased(ISBN, o\_id, quantity)
* customer\_order(c\_id, o\_id)
* customer\_shipping(c\_id, a\_id)
* customer\_billing(c\_id, a\_id)
* book\_in\_cart(cart\_id, ISBN, quantity)
* ships\_to(a\_id, o\_id)

# Normalization of Relation Schemas (20%)

[show each relation in bcnf]

# Database Schema Diagram (10%)

[final schema diagram]

# Implementation (25%)

[describe architecture, what modules there are and how they interact]

[architectural diagram, optional but encouraged]

# Bonus Features (up to 15%)

[list any bonus features implemented]

# GitHub Repo

[url to repo]