

CSCI 4050/6050

Software Engineering

Online Bookstore System

Deliverable 5: ORM

10/20/2020

Team # 4B

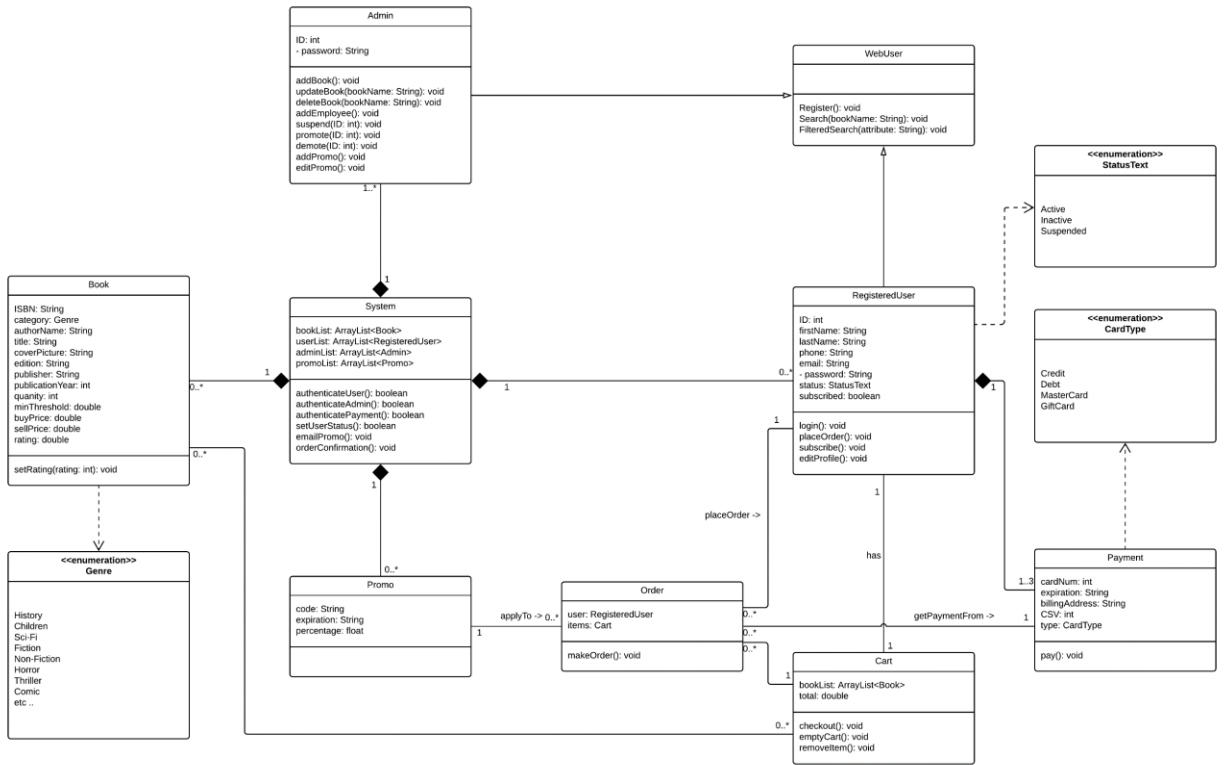
Team Members

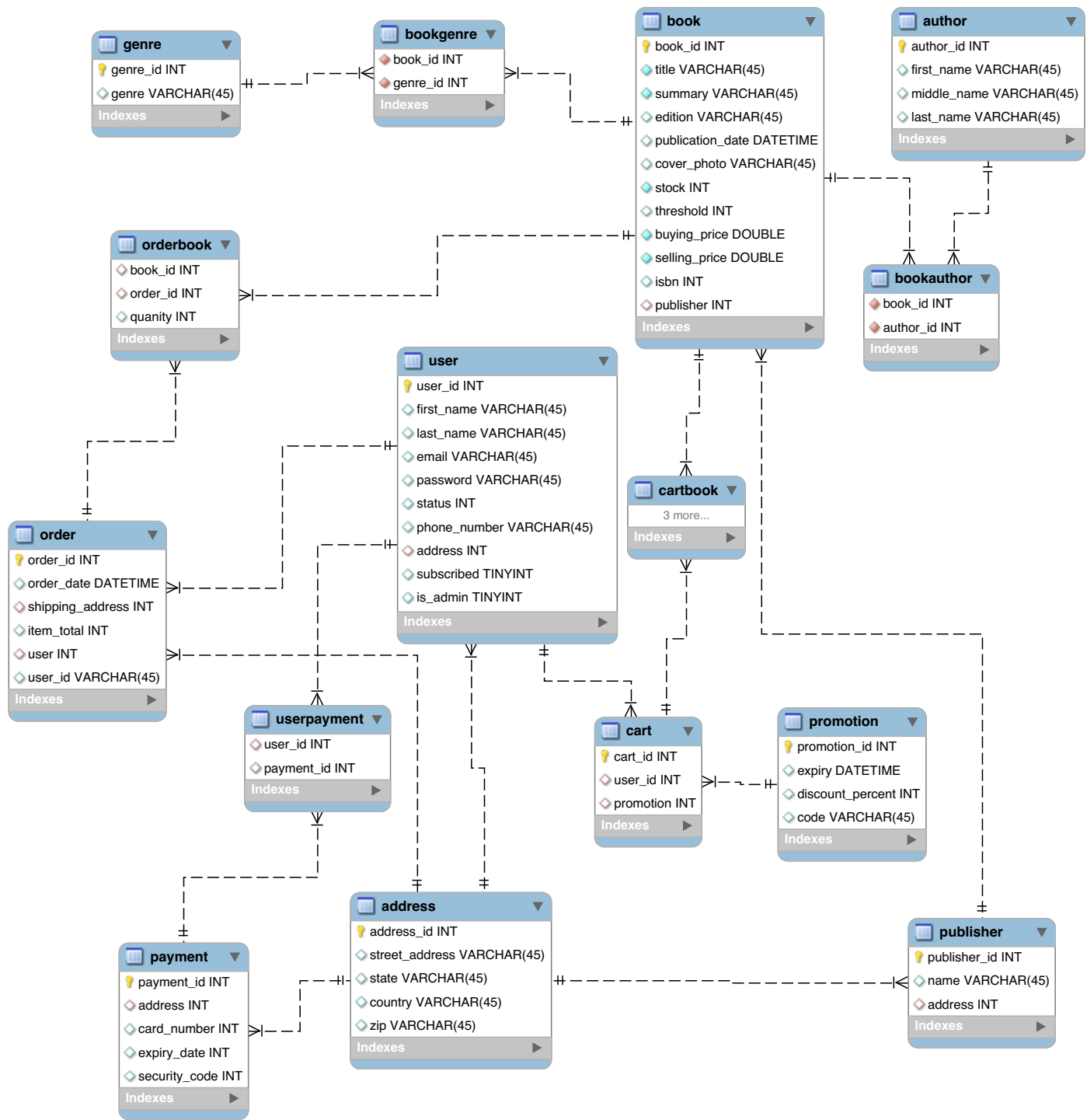
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Executive Summary:

Contained below is a copy of Team 4B's class diagram, ORM, and data dictionary. The class diagram was generated using Lucid, the ORM with MySQL Workbench and the data dictionary with pypMyAdmin.

The following documents give us, the programmers, guidelines for how the program should be developed before we begin our backend sprints. They allow us to spend less time thinking about design and more time implementing during these fast-paced sprints. This is beneficial to the development cycle because after presenting our sprints work design changes can be implemented without much cost.





bookstore

address

Column	Type	Null	Default	Comments
address_id (<i>Primary</i>)	int(11)	No		
street_address	varchar(45)	Yes	<i>NULL</i>	
state	varchar(45)	Yes	<i>NULL</i>	
country	varchar(45)	Yes	<i>NULL</i>	
zip	varchar(45)	Yes	<i>NULL</i>	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	address_id		A	No	

author

Column	Type	Null	Default	Comments
author_id (<i>Primary</i>)	int(11)	No		
first_name	varchar(45)	Yes	<i>NULL</i>	
middle_name	varchar(45)	Yes	<i>NULL</i>	
last_name	varchar(45)	Yes	<i>NULL</i>	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	author_id		A	No	

book

Column	Type	Null	Default	Comments
book_id (<i>Primary</i>)	int(11)	No		
title	varchar(45)	No		
summary	varchar(45)	No		
edition	varchar(45)	Yes	<i>NULL</i>	
publication_date	datetime	Yes	<i>NULL</i>	
cover_photo	varchar(45)	Yes	<i>NULL</i>	
stock	int(11)	No		
threshold	int(11)	Yes	<i>NULL</i>	

buying_price	double	No		
selling_price	double	No		
isbn	int(11)	Yes	<i>NULL</i>	
publisher	int(11)	Yes	<i>NULL</i>	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	book_id		A	No	
fk_publisher_id_idx	BTREE	No	No	publisher		A	Yes	

bookauthor

Column	Type	Null	Default	Comments
book_id	int(11)	No		
author_id	int(11)	No		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
fk_book_id_idx	BTREE	No	No	book_id		A	No	
fk_author_id_idx	BTREE	No	No	author_id		A	No	

bookgenre

Column	Type	Null	Default	Comments
book_id	int(11)	No		
genre_id	int(11)	No		

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
fk_genre_id_idx	BTREE	No	No	genre_id		A	No	
fk_book_id_idx	BTREE	No	No	book_id		A	No	

cart

Column	Type	Null	Default	Comments
cart_id (<i>Primary</i>)	int(11)	No		
user_id	int(11)	Yes	<i>NULL</i>	
promotion	int(11)	Yes	<i>NULL</i>	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	cart_id		A	No	
fk_user_id_idx	BTREE	No	No	user_id		A	Yes	
fk_promotion_id_idx	BTREE	No	No	promotion		A	Yes	

cartbook

Column	Type	Null	Default	Comments
cart_id	int(11)	Yes	NULL	
book_id	int(11)	Yes	NULL	
quantity	int(11)	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
fk_cart_id_idx	BTREE	No	No	cart_id		A	Yes	
fk_book_id_idx	BTREE	No	No	book_id		A	Yes	

genre

Column	Type	Null	Default	Comments
genre_id (<i>Primary</i>)	int(11)	No		
genre	varchar(45)	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	genre_id		A	No	

order

Column	Type	Null	Default	Comments
order_id (<i>Primary</i>)	int(11)	No		
order_date	datetime	Yes	NULL	
shipping_address	int(11)	Yes	NULL	
item_total	int(11)	Yes	NULL	
user	int(11)	Yes	NULL	
user_id	varchar(45)	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
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Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	order_id		A	No	
fk_shipping_address_id_idx	BTREE	No	No	shipping_address		A	Yes	
fk_order_user_id_idx	BTREE	No	No	user_id		A	Yes	
fk_orderuser_id_idx	BTREE	No	No	user		A	Yes	

orderbook

Column	Type	Null	Default	Comments
book_id	int(11)	Yes	NULL	
order_id	int(11)	Yes	NULL	
quantity	int(11)	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
fk_order_id_idx	BTREE	No	No	order_id		A	Yes	
fk_orderbook_id_idx	BTREE	No	No	book_id		A	Yes	

payment

Column	Type	Null	Default	Comments
payment_id (<i>Primary</i>)	int(11)	No		
address	int(11)	Yes	NULL	
card_number	int(11)	Yes	NULL	
expiry_date	int(11)	Yes	NULL	
security_code	int(11)	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	payment_id		A	No	
fk_billing_address_idx	BTREE	No	No	address		A	Yes	

promotion

Column	Type	Null	Default	Comments
promotion_id (<i>Primary</i>)	int(11)	No		
expiry	datetime	Yes	NULL	
discount_percent	int(11)	Yes	NULL	
code	varchar(45)	Yes	NULL	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	promotion_id		A	No	

publisher

Column	Type	Null	Default	Comments
publisher_id (<i>Primary</i>)	int(11)	No		
name	varchar(45)	Yes	<i>NULL</i>	
address	int(11)	Yes	<i>NULL</i>	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	publisher_id		A	No	
fk_publisher_address_id_idx	BTREE	No	No	address		A	Yes	

user

Column	Type	Null	Default	Comments
user_id (<i>Primary</i>)	int(11)	No		
first_name	varchar(45)	Yes	<i>NULL</i>	
last_name	varchar(45)	Yes	<i>NULL</i>	
email	varchar(45)	Yes	<i>NULL</i>	
password	varchar(45)	Yes	<i>NULL</i>	
status	int(11)	Yes	<i>NULL</i>	
phone_number	varchar(45)	Yes	<i>NULL</i>	
address	int(11)	Yes	<i>NULL</i>	
subscribed	tinyint(4)	Yes	1	
is_admin	tinyint(4)	Yes	0	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	user_id		A	No	
last_name_UNIQUE	BTREE	Yes	No	last_name		A	Yes	
fk_address_id_idx	BTREE	No	No	address		A	Yes	

userpayment

Column	Type	Null	Default	Comments

user_id	int(11)	Yes	<i>NULL</i>	
payment_id	int(11)	Yes	<i>NULL</i>	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
user_id_UNIQUE	BTREE	Yes	No	user_id		A	Yes	
payment_id_UNIQUE	BTREE	Yes	No	payment_id		A	Yes	