NashTech Software Development

Bookworm Assignment

1.0
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CMMIDEV/5

Microsoft GOLD CERTIFIED *Partner*

ISO ISO/IEC 27001:2013

ISTQB International Software Testing Qualifications Board

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1. Introduction

The client is asking you to develop a website for a bookstore that is called Bookworm. We need you to work individually to apply what you have learnt to complete this first assignment.

1.1 Purpose

With the Bookworm website, consumers do not need to blindly go to various places to find their books, but only in a computer connected to the Internet log on online Bookworm website, you can search book in various conditions such as author or category. This greatly facilitates every consumer, saving time and labour.

- The online bookstore's main users are divided into two categories, one is the front user, and one is the background user. Front-end users are mainly customers who consume online bookstores. Front-end users can query, join shopping cart, place orders and add reviews on any available book on the website.
- The other is for the administrator of the background function modules which allow adding, modifying, or deleting the book classification and information, also managing the order information and reply to the user's reviews.
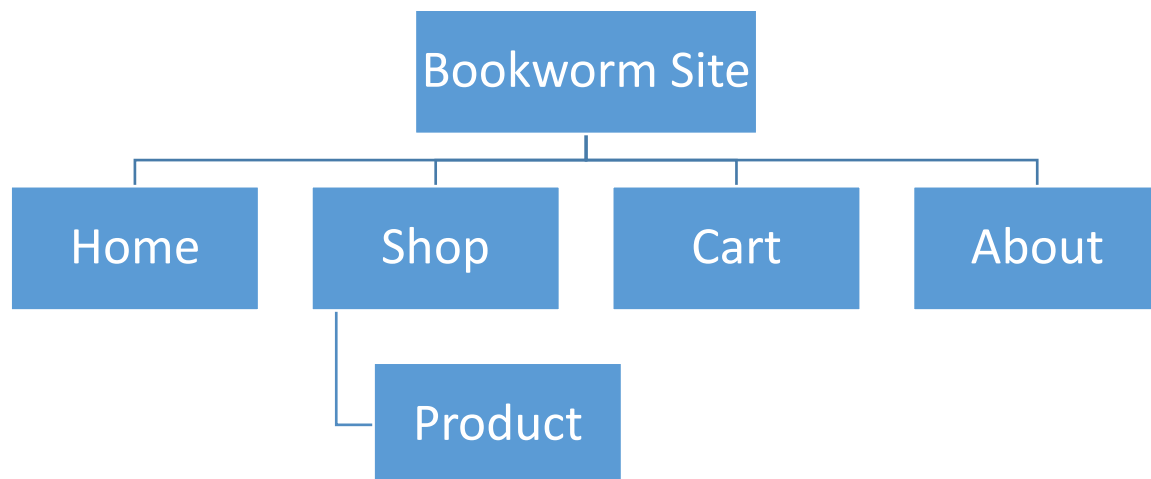
1.2 Scope

- Since the limited time of this assignment, we only need you to complete the main function for the front user.
- You have full responsibility for developing UI for the website base on the provided mock-ups, just make it clear and consistency.
- Besides using those technical requirements as mandatory, you might have selected others to complete this assignment.
- The Bookworm website uses dynamic data that is getting from a database. Even though we do not have the administrator site, we still can insert or update manually a database record to make it display on the website.
- There are 2 optional requirements which are _Customer reviews_ and _Submit review form_ at 5.1.3 Product page features. You can get bonus score if you complete them.

1.3 Technical Requirements

Make sure you use those techniques below to complete this assignment:

- Using the Laravel v8.0 framework to build a backend system that provides API endpoints
- Using the ReactJs v17.0 library to build a front-end system as a single page application (SPA) for the site.
- Using PostgreSQL for database.
- Using the Boostrap v4.0 framework to build responsive for the site.

2. Site Map

```
                    ┌─────────────────┐
                    │  Bookworm Site  │
                    └─────────────────┘
      ┌───────────┬────────┴────────┬───────────┐
  ┌───────┐   ┌───────┐        ┌───────┐    ┌───────┐
  │ Home  │   │ Shop  │        │ Cart  │    │ About │
  └───────┘   └───────┘        └───────┘    └───────┘
                  │
              ┌───────┐
              │Product│
              └───────┘
```
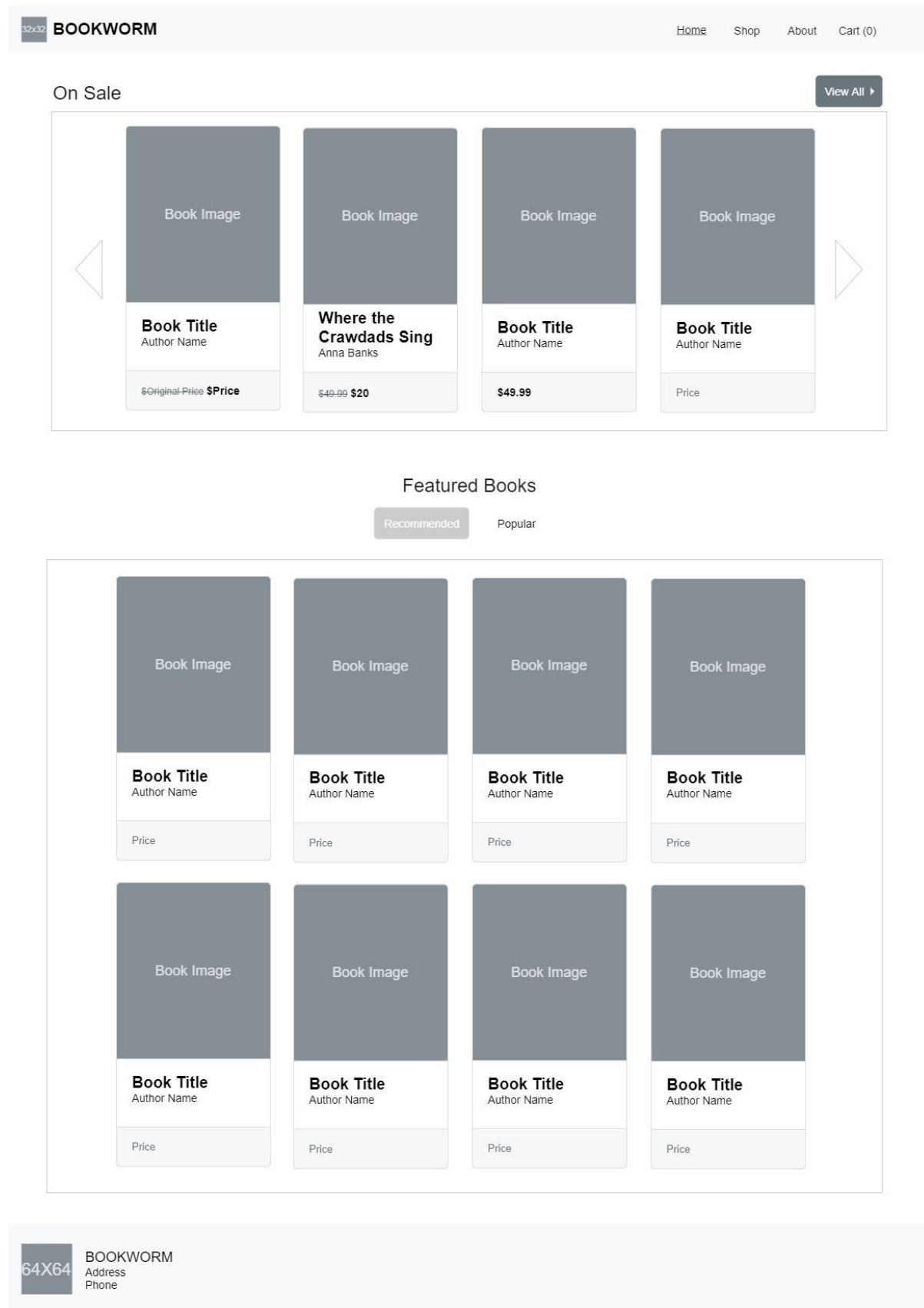
There are 5 main pages of the Bookworm site:

1. The home page is divided into 2 sections, on sale books and featured books.
2. The shop page is listing all books that support filtering and sorting
3. The product page contains 4 sections, details of a book, place an order to add cart, customer review and a form to submit review details.
4. Cart page displays all books that have been added and show the total amount of them.
5. About page provides essential information about the Bookworm Company.

3. Mock-ups

1.1 Home page

1.2 Shop page

Home   Shop   About   Cart (0)

Books (Filtered by Category #1)

Filter By

Showing 1–12 of 126 books

Sort by on sale ▼   Show 20 ▼

Sort by on sale
Sort by popularity
Sort by price: low to high
Sort by price: high to low

Category
category_name
Category #1
Category #2

Author
author_name
Author #1
Author #2

Rating Review
1 Star
2 Star
3 Star
4 Star
5 Star

Book Image

Book Title
Author Name

Price

Book Image

Book Title
Author Name

Price

Book Image

Book Title
Author Name

Price

Book Title
Author Name

Price

Book Image

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Book Image

Book Title
Author Name

Price

Book Image

Book Title
Author Name

Price

Previous 1 2 3 Next

64X64 **BOOKWORM**
Address
Phone

1.3 Product page

BOOKWORM   Home   Shop   About   Cart (0)

Category Name

Book Image

Book Title

Book description.
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eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut
enim ad minim veniam, quis nostrud exercitation ullamco laboris
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occaecat.

The multi-million copy bestseller
Soon to be a major film
A Number One New York Times Bestseller

By (author) **Anna Banks**

'Painfully beautiful' New York Times
'Unforgettable . . . as engrossing as it is moving' Daily Mail
'A rare achievement' The Times
'I can't even express how much I love this book!' Reese
Witherspoon/

~~$49.99~~ **$29.99**

Quantity

—   1   +

Add to cart

Customer Reviews (Filtered by 5 star)

4.6 Star

(3,134)   5 star (200) | 4 star (100) | 3 star (20) | 2 star (5) | 1 star (0)

Showing 1–12 of 3134 reviews   Sort by on sale ▼   Show 20 ▼

Sort by date: newest to oldest

Sort by date: oldest to newest

Review Title | 5 starts

Review content. Lorem ipsum dolor sit amet, consect
tempor incididunt ut labore et dolore magna aliqua.

Month Date, Year

Amazing Story! You will LOVE it | 5 starts

Such an incredibly complex story! I had to buy it because there was a waiting list of 30+ at the
local library for this book. Thrilled that I made the purchase

April 12, 2021

Amazing Story! You will LOVE it | 5 starts

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April 12, 2021

Previous 1 2 3 Next

Write a Review

Add a title

Details please! Your review helps other shoppers.

Select a rating star

1 Star   ⬍

Submit Review

64X64   **BOOKWORM**
         Address
         Phone

1.4   Cart page

32x32 **BOOKWORM**   Home   Shop   About   Cart (3)

Your cart: 3 items

Product		Price	Quantity	Total
Book Image	**Book Title** Author Name	$29.99 $49.99	− 2 +	**$59.98**
Book Image	**Book Title** Author Name	$39.99	− 1 +	**$39.99**

Cart Totals
$99.97
Place order

64X64 **BOOKWORM**
Address
Phone

1.5   About page

32x32 **BOOKWORM**   Home   Shop   About   Cart (3)

About Us

Welcome to Bookworm

"Bookworm is an independent New York bookstore and language school with locations in Manhattan and Brooklyn. We specialize in travel books and language classes."

Our Story

The name Bookworm was taken from the original name for New York International Airport, which was renamed JFK in December 1963.

Our Manhattan store has just moved to the West Village. Our new location is 170 7th Avenue South, at the corner of Perry Street.

From March 2008 through May 2016, the store was located in the Flatiron District.

Our Vision

One of the last travel bookstores in the country, our Manhattan store carries a range of guidebooks (all 10% off) to suit the needs and tastes of every traveler and budget.

We believe that a novel or travelogue can be just as valuable a key to a place as any guidebook, and our well-read, well-traveled staff is happy to make reading recommendations for any traveler, book lover, or gift giver.

64X64 **BOOKWORM**
Address
Phone

4. Common Functional Requirements

1.1 Layout

- The layout should be clear and common components should be consistent in both outline and colour tone or font style.
- Using the grid system of Bootstrap that contains the header and footer of the site, well support responsive is a plus point.

1.2 Pagination

- Allow user to choose how many items (5, 15, 20 and 25) can display on a page.
- Show a paging section that allow user to choose page index, move next or previous page.
- Display pagination information following pattern: Showing <start_item_index_of_page> - <end_item_index_of_page> of <number_of_total_item> <item_name>, for examples:
  - o In shop page, at the frist page and show 5 items per page: Showing 1-5 of 126 books
  - o In customer reviews list, at the second page and show 10 items per page: Showing 11-20 of 126 reviews

1.3 Book display

- There is 2 UI display of a book:
  - o The card UI displays on the listing page, only show a summary of a book such as a title, cover image, price and author name. For examples, the home and shop page mock-up.
  - o Full details UI display in product page, show full information of a book. For examples, the product page mock-up.
- If a book does not has a cover image, display a default image.

1.4 Price display

- Use the USD as the main currency - $ as the main currency symbol.
- There are 2 price types, book price (book_price@books table) and discount price (discount_price@discounts table).
- The discount price might have an expired date, if not it is unlimited time. It is only **available** when the current date is before its expired date or its expired date is null.
- If a book has **an available discount price**, display it as a **final price** and put the book price in front of it like the mock-up. Otherwise, only display the book price.

5. Page Functional Requirements

1.1 Home page features

a. On sale section

- Display as a slider of book card item like the carouse of Bootstrap with multiple items.
- Get top 10 books with the most discount which is calculating by this formula:
  - sub_price = book_price@books table – discount_price@discounts table
  - For examples: book A (book_price: 60$, discount_price:20$), book B (book_price: 30$, discount_price:10$) => book A has the most discount price since it is on sale 40$ while book B is only on sale 20$.
- Click on each book card item will open the product page of this book.
- Click on the View All button will open the shop page that automatically apply sort by on sale.

b. Featured books section

- Recommended: get top 8 books with most rating starts – check **the average number of rating star** and lowest final price[i]
- Popular: get top 8 books with **most reviews** - total number review of a book and lowest final price
- Lowest final price means in the case that there are more than 8 books with most rating starts or most reviews then only get 8 books with lowest final price

1.2 Shop page features

a. Listing

- Display a list following the mock-up with pagination feature.

b. Sorting

- Allow to sort by on sale: order by the most discount price[1] – check 4.5.1 with descending mode and final price with ascending mode. Set it as default sort of the list page.
- Allow to sort by popularity: order by the most reviews with descending mode and final price with ascending mode.
- Allow to sort by price: order by final price with both ascending and descending mode.

c. Filtering

- There are 3 conditional filter type as category – category_name, author – author_name and rating review – from 1 star o 5 star. They are sorted by alphabetical order
- Display each filter type section as an accordion behaviour
- Click on each item to apply filter on
  - Filter by Category: get all books belong to this selected category
  - Filter by Author: get all books belong to this selected author
  - Filter by Rating Review: get all books have **the average number of rating star[2]** equal or greater than the selected rating star.

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[1] Most discount price is defined at _Home page features_

[2] The average number of rating star is defined at _Product page features_

- If a filter is applied, display it after the title of this page following pattern: (Filtered by <conditional_name>), for examples "Filtered by Category #1".

1.3   Product page features

There are 4 sections on this page:

a. Book details

- Display full information of a book following the mock-up.

b. Add to cart

- If a book has an available discount price, display it as a final price and put the book price in front of it like the mock-up. Otherwise, only display the book price following the mock-up
- Provide a quantity input to allow user add the number of book they want to place order, maximum is 8 and minimum is 1.
- Click 'Add to cart' button to put the book with quantity to the cart, and increase the number item of card which is displayed in the navigation bar then show a successful message.
- In the navigation bar, display the same number item of card across the site.

c. Customer reviews

Listing:

- Display a list following the mock-up with pagination feature
- Display the average number of rating star, it is calculating following this formula:

  $$AR = (1*a+2*b+3*c+4*d+5*e) / (a+b+c+d+e)$$

  - Where AR is the average rating
  - a is the number of 1 star ratings
  - b is the number of 2 star ratings
  - c is the number of 3 star ratings
  - d is the number of 4 star ratings
  - e is the number of 5 star ratings
- Display total number of review.
- Display total number of review for each rating star. There are 5 rating star level.

Sorting:

- Allow to sort by date of review, in both ascending and descending mode.
- Set sort by date: newest to oldest as default sort

Filtering:

- Allow to filter by rating star level by click on level item
- Show all reviews by click on total number of review
- Only a filter is applied, display it after the title of this section following pattern: (Filtered by <rating_star_level_name>), for examples "Filtered by 5 star".

d. Submit review form

- A submit form allow to send a review of the book
  - Title input is mandatory field

- o Details input is optional field
- o Rating star dropdown list has 5 options (from 1 to 5 star), it is mandatory field
- After clicking submit review, show a successful message in 5 seconds and reload the customer reviews list

1.4 Cart page features

There are 2 sections on this page

a. Cart item list

- Show information of each item in the cart following the mock-up
- Can click to an item to open a product page in a new tab
- Allow updating the quantity of each item
- If it is set to 0 then remove this item from the cart
- Only allow a maximum of 8 quantity for each item

b. Cart total

- Automatically calculate the total amount of items in the cart
- After clicking place order button,
  - o If those items are still available then insert this order to database, then show a successful message in 10 seconds then redirect to home page
  - o Otherwise, show an unsuccessful message that notes which item is not available then automatically remove it from the cart.

1.5 About page features

Following the mock-up to display this page as a static page. Here is the static text:

a. Welcome part:

Bookworm is an independent New York bookstore and language school with locations in Manhattan and Brooklyn. We specialize in travel books and language classes.

b. Our story part:

The name Bookworm was taken from the original name for New York International Airport, which was renamed JFK in December 1963.

Our Manhattan store has just moved to the West Village. Our new location is 170 7th Avenue South, at the corner of Perry Street.
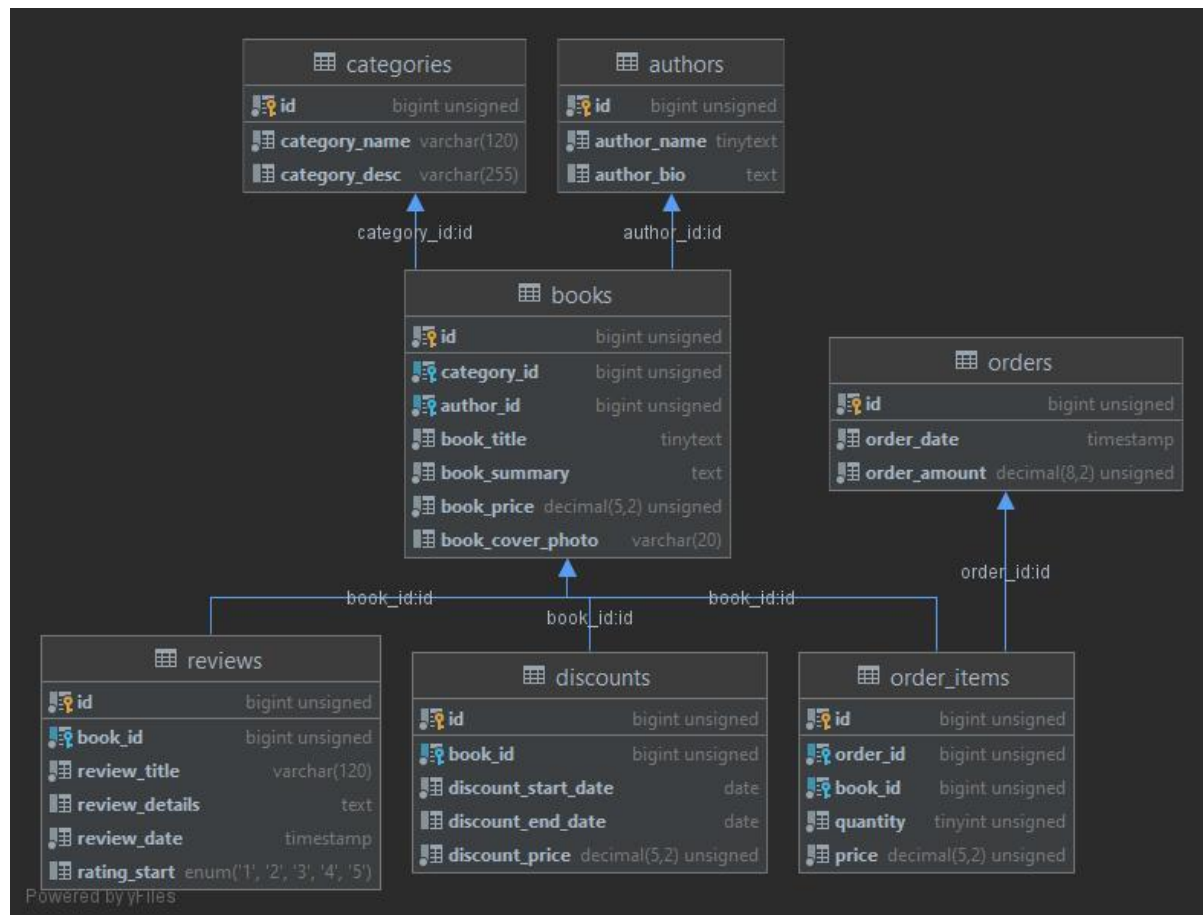
From March 2008 through May 2016, the store was located in the Flatiron District.

c. Our vision part:

One of the last travel bookstores in the country, our Manhattan store carries a range of guidebooks (all 10% off) to suit the needs and tastes of every traveller and budget.

We believe that a novel or travelogue can be just as valuable a key to a place as any guidebook, and our well-read, well-travelled staff is happy to make reading recommendations for any traveller, book lover, or gift giver.

6. Database Diagram

We are experts in technology, delivering smart solutions that solve business challenges and create value. Our award-winning teams apply deep expertise and passion to deliver complex IT projects globally.

@NashTechHN

NashTech Limited

For more details, please send your enquiry to info@nashtechglobal.com
or visit our website www.nashtechglobal.com

Nash Tech.