

Department of Computer Science and Engineering



POLITECNICO MILANO 1863

Design Document (DD)

Shelf Awareness e-Bookstore

-v1.0-

Website address: <http://polimi-hyp-2019-team-10594805.herokuapp.com>

Ana Pesko ana.pesko@mail.polimi.it

Laura Schiatti laura.schiatti@mial.polimi.it

Jefimija Zivkovic, *jefimija.zivkovic@mail.polimi.it*

July 4th, 2019

Abstract

The purpose of this document is to discuss aspects regarding the design and modelling decisions made to develop Shelf Awareness e-Book. It is focused specially on giving details about the Interactive Dialogue Model followed for designing interactive multimedia application. To do so there are provided graphical representation such as *C-IDM* and *L-IDM* schemas and *in-the-small specifications*.

Shelf Awareness is an online BOOK STORE containing paper-based and digital books, their authors and book signing events.

Graphical representations: C-IDM and L-IDM schemes

Textual Descriptions

- **Single Topic (or Topics)**
 1. Ordering and Shipping: general info about how to place orders, delivery process, etc.
 2. Contact Us: relevant contacts for this website
- **Multiple Topics (Kinds of Topic)**
 1. Book: the description of an available book
 2. Author: the description of an author, writer of one or more books
 3. Event: the description of the presentation event of a book
- **Relevant Relationships**
 1. Written-by?: Book-->Author [1-1]; if a book is the subject, you can switch to the corresponding author
 2. Writes?: Author-->Book Key [1-N]; if an author is the subject, you can switch to the books written by him
 3. Other similar books?: Book-->Book [1-N]; if a book is the subject, you can switch to the books that are similar to it
 4. Where is it presented?: Book-->Event [1-N]; if a book is the subject, you can switch to the events in which it will be presented
 5. Details on book presented here: Event--> Book [1-1]; if an event is the subject, you can switch to the book being presented on it
- **Multiple Groups**
 1. Books by theme: the set of books of the same theme T
 2. Books by literary genre: the set of books of the same genre G
- **Groups of Topics**
 1. Best sellers this month: those books that were sold the most in the current month
 2. Our favorite readings: those books that the bookstore considers the most interesting ones for the readers

3. All events this month: *the complete set of events taking place in the current month*
4. All themes (grouping all groups*): *the complete set of themes of books are available in the bookstore*
5. All literary genres (grouping all groups*): *the complete set of literary genres of books are available in the bookstore*
6. All authors: *the complete set of authors whose books are available in the bookstore*

C-IDM schema

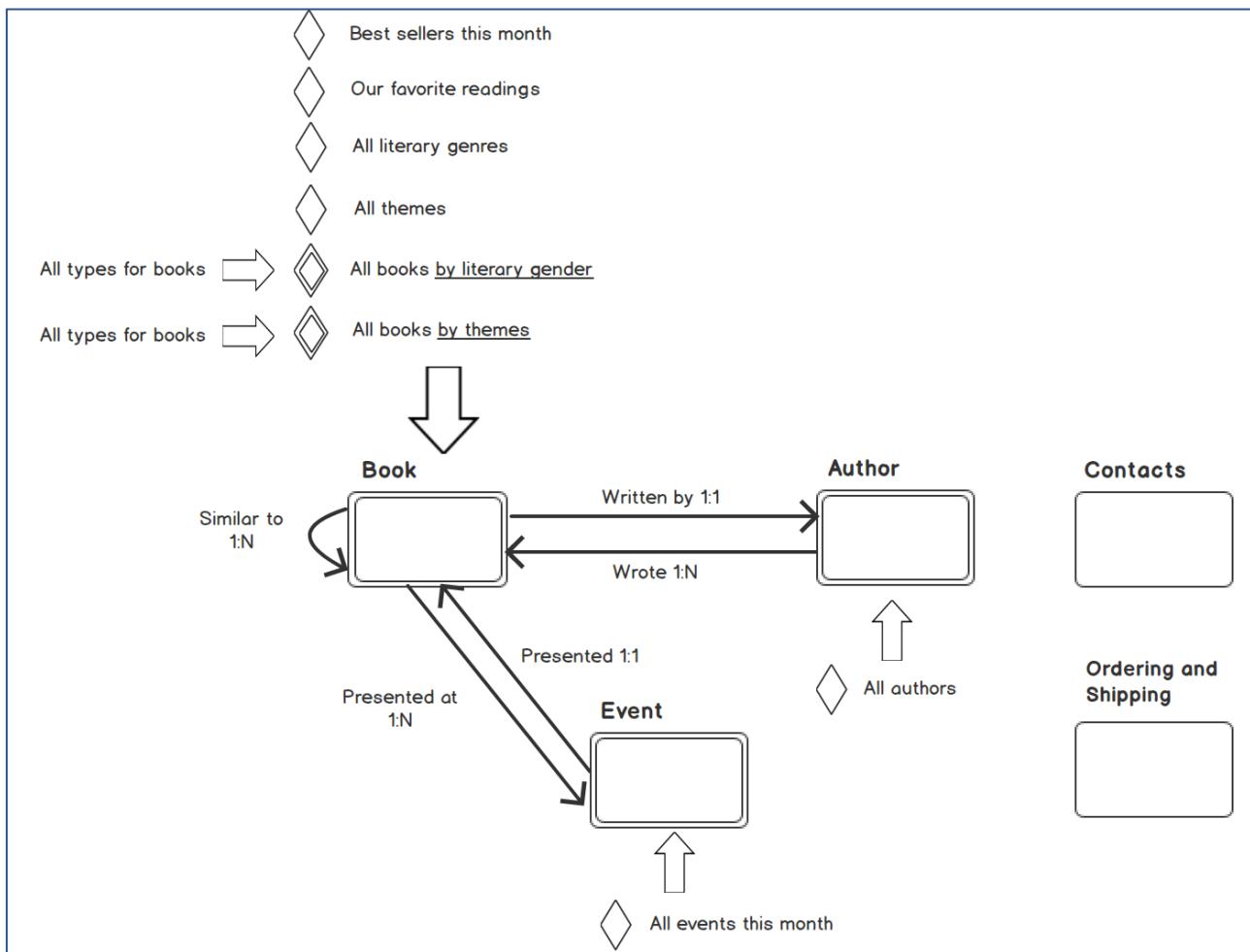


Figure 1. C-IDM schema for Shelf Awareness App

L-IDM schema

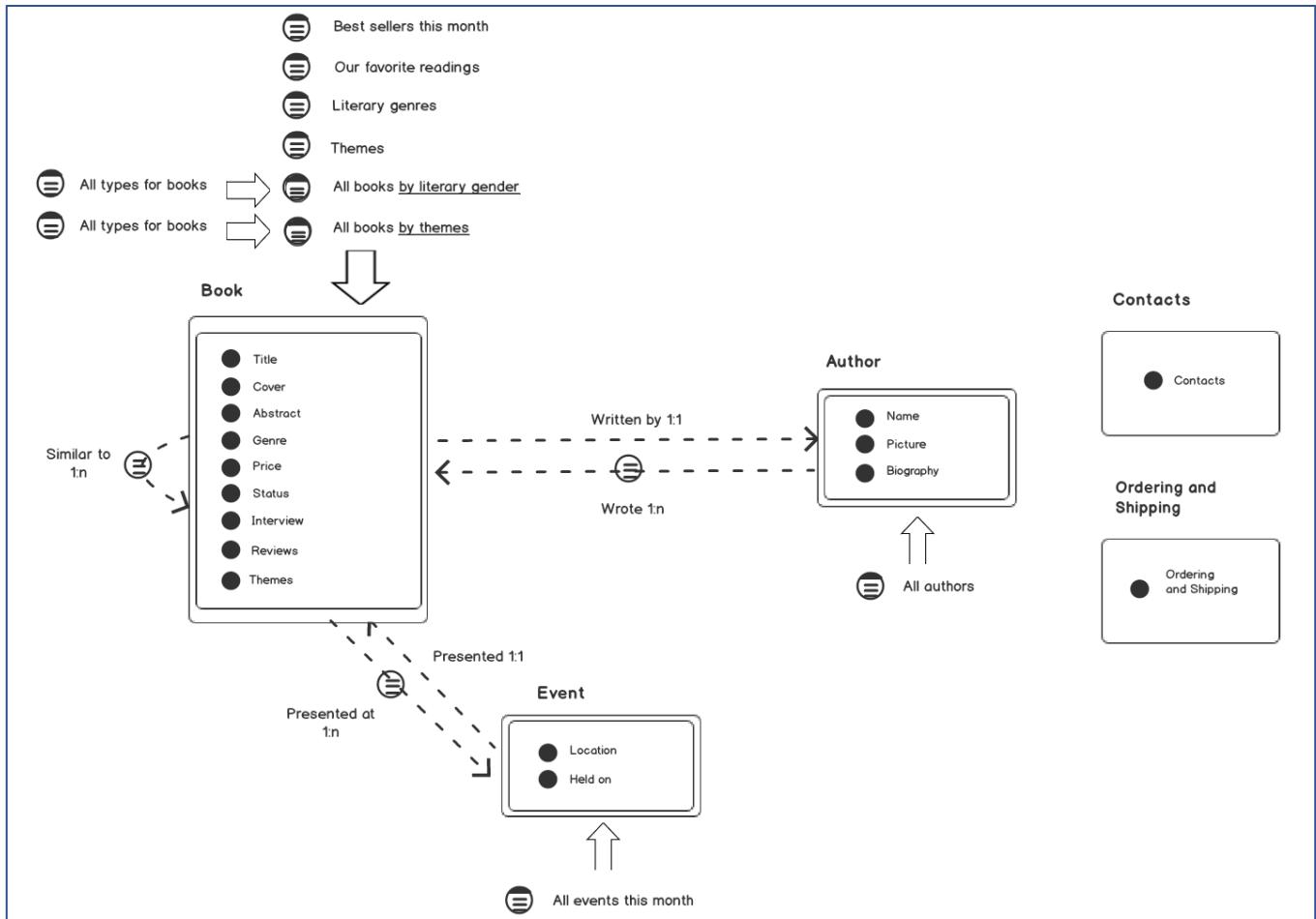
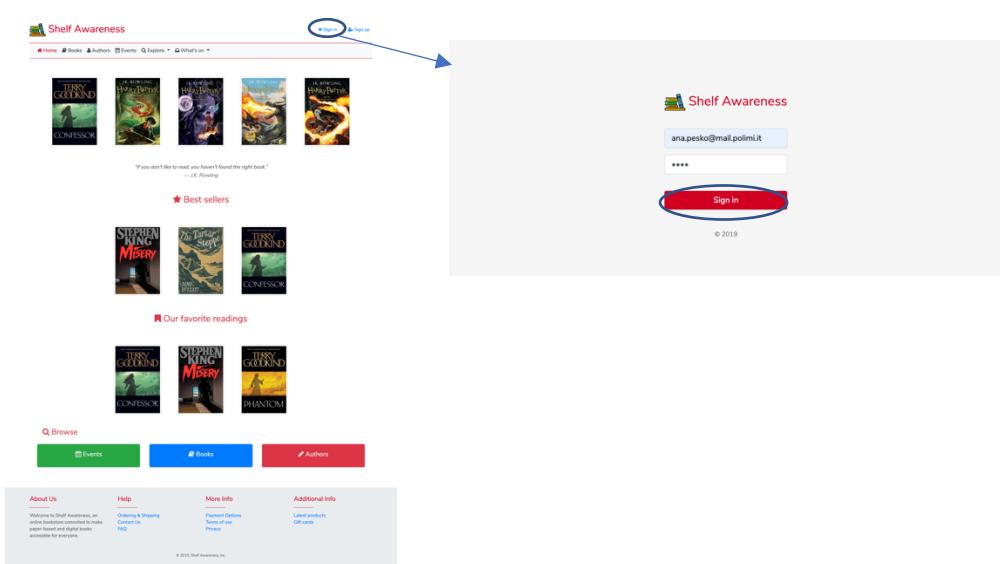


Figure 2. *L-IDM schema* for Shelf Awareness App

Scenarios

Scenario 1: Book Reservation

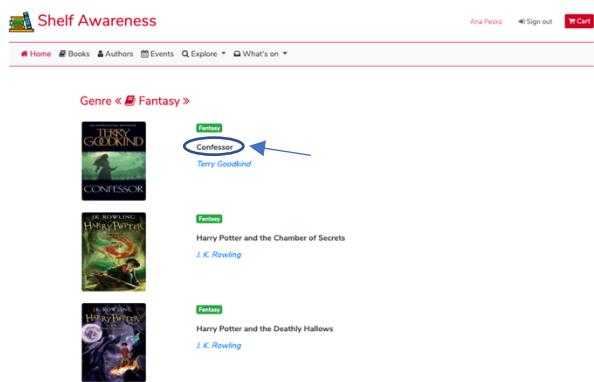
- **Description:** Andrea already registered on the website and wants to get a fantasy book among those available in the system.
- **Execution steps:** Andrea needs to
 1. Login into the system, access the form and fill it up.



2. Search book by literary genre (by means of “explore” landmark)



3. Select the book he prefers



4. Add the chosen book to his cart

Book <> Confessor >>
by Terry Goodkind
\$ 10.60 eur
AVAILABLE

Abstract
The final book in one of the greatest epic adventures of all time: The Sword of Truth, from bestselling fantasy author Terry Goodkind. Descending into darkness, about to be overwhelmed by evil, those people still free are powerless to stop it. Until there comes a silent voice whose hidden rule can change everything...
He must let it happen. Alone, he must bear the weight of a sin he dare not confess to the one person he loves...and has lost. Join Richard and Kahlan in the concluding novel of one of the most remarkable and memorable journeys ever written. It started with one rule, and will end with the rule of all rules: the rule unwritten, the rule unspoken since the dawn of history.

Genre
Fantasy

Interview

Quantity:
1 2
Add to cart

[Review this product](#)
Share your thoughts with other customers

5. Check his cart and purchase (functionality not implemented)

Book Reservation

Shopping cart

	Confessor by Terry Goodkind	Price: 10.60€
	Quantity: 1	

Overview

Cart subtotal: 10.60€

Purchase

About Us
Welcome to Shelf Awareness, an online bookstore committed to make paper-based and digital books accessible for everyone.

Help
Ordering & Shipping
Contact Us
FAQ

More Info
Payment Options
Terms of use
Privacy

Additional Info
Latest products
Gift cards

© 2018 Shelf Awareness, Inc.

Scenario 2: User Registration

- **Description:** Carlo wants to register into the system to have access to books available in the system.
- **Execution steps:** to do so, Carlo needs to

1. Access the website

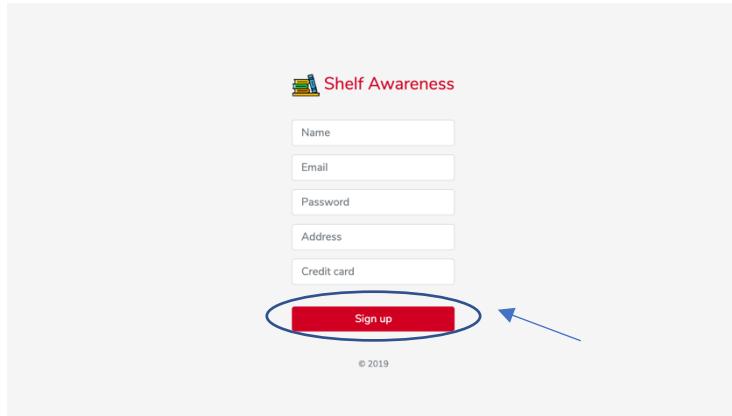
Shelf Awareness

[Sign in](#) [Sign up](#)

Books

If you don't like to read, you haven't found the right book.
— J.K. Rowling

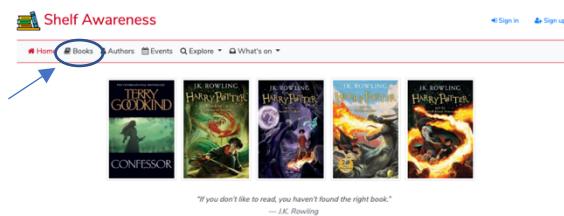
2. Submit the registration form



The image shows a registration form titled "Shelf Awareness". It includes fields for Name, Email, Password, Address, and Credit card. A red "Sign up" button is at the bottom, which is circled in red and has a blue arrow pointing to it from the right.

Scenario 3: Check events of a given book

- **Description:** Laura wants to check upcoming events regarding her favorite book, "*Harry Potter and the Deathly Hallows*"
- **Execution steps:** to do so, Laura needs to
 1. Access the list of books, she is not sure about the genre so she looks for it by means of "Books" landmark



2. Click on the read more button

 Shelf Awareness

[Sign in](#) [Sign up](#)

[Home](#) [Books](#) [Authors](#) [Events](#) [Explore](#) [What's on](#)

 Books



Fantasy
Confessor
by Terry Goodkind
[Read more](#)



Fantasy
Harry Potter and the Chamber of Secrets
by J. K. Rowling
[Read more](#)



Fantasy
Harry Potter and the Deathly Hallows
by J. K. Rowling
[Read more](#)

3. Scroll down to check the link of “book signing events”

 Shelf Awareness

[Sign in](#) [Sign up](#)

[Home](#) [Books](#) [Authors](#) [Events](#) [Explore](#) [What's on](#)

Book << Harry Potter and the Deathly Hallows >>
by J. K. Rowling
\$ 10.60 eur
AVAILABLE



Abstract
Harry Potter's days at number four Privet Drive are coming to a close, as his seventeenth birthday approaches. Harry will no longer be protected from Lord Voldemort's discovery by his mother's charm. The time for hiding is past. Harry, Ron and Hermione face a near-impossible mission set by Albus Dumbledore, they must hunt down and destroy the remaining Horcruxes but they have little to go on and in the face of hardship and loss, even the strongest friendships will be tested to their limit. There are riddles to be solved: What is the truth behind the fabled Deathly Hallows? How can a Dilluminator, a book of fairy tales and an old snitch be any use? And what is the meaning behind the prophecy that binds Voldemort and Harry together?

Genre
Fantasy

Interview

Quantity:

[Add to cart](#)

[Review this product](#)
Share your thoughts with other customers

No reviews

Related info
[Similar books to Harry Potter and the Deathly Hallows](#)  [All books by genre Fantasy](#)

See also
[Book signing events](#)

4. Check date, time and location of the upcoming book signing events of the book

Screenshot of the Shelf Awareness website showing a book signing event for "Harry Potter and the Deathly Hallows".

The page title is "Shelf Awareness". The top navigation bar includes links for "Sign in", "Sign up", "Home", "Books", "Authors", "Events", "Explore", and "What's on".

The main content area displays a book cover for "Harry Potter and the Deathly Hallows" by J.K. Rowling. Below the cover, event details are listed: "07. July 2019.", "La Feltrinelli Galleria Vittorio Emanuele", and "by J. K. Rowling". A blue bracket on the right side groups the date, location, and author.

A link "[Return to Harry Potter and the Deathly Hallows](#)" is located at the bottom left of the content area.

The footer contains four sections: "About Us", "Help", "More Info", and "Additional Info".

- About Us:** Welcome to Shelf Awareness, an online bookstore committed to make paper-based and digital books accessible for everyone.
- Help:** Ordering & Shipping, Contact Us, FAQ.
- More Info:** Payment Options, Terms of use, Privacy.
- Additional Info:** Latest products, Gift cards.

Copyright notice: © 2019, Shelf Awareness, Inc.

Design-in-the-Small

The complete list of all the pages in the P-IDM are listed next classified according to their type.

- **Page structure (in the small) for a Topic Page (Single Topics)**

In this category there are pages for ordering and shipping and contact us.

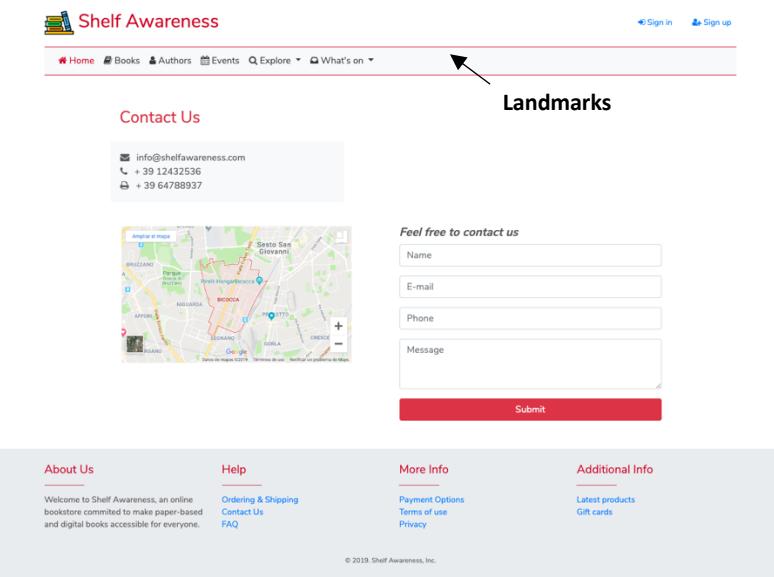


Figure 3. *contact_us.html* commented screenshot

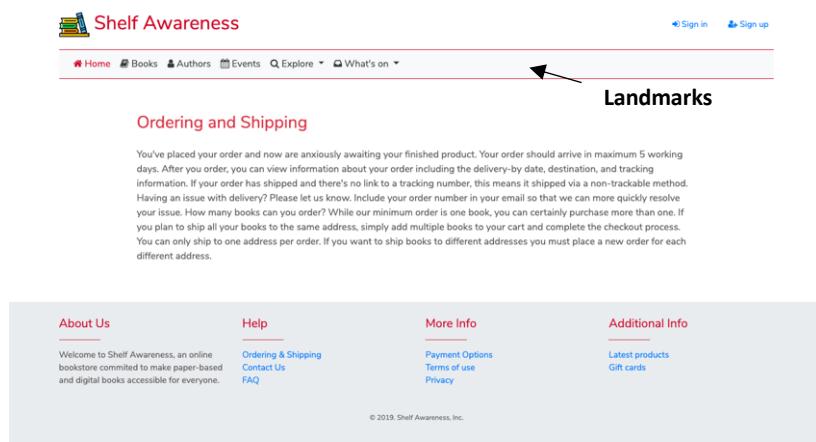


Figure 4. *ordering_and_shipping.html* commented screenshot

- **Page structure for a Kind of Topic Page (Multiple Topics)**

In this category there are pages for a given author, book and event.

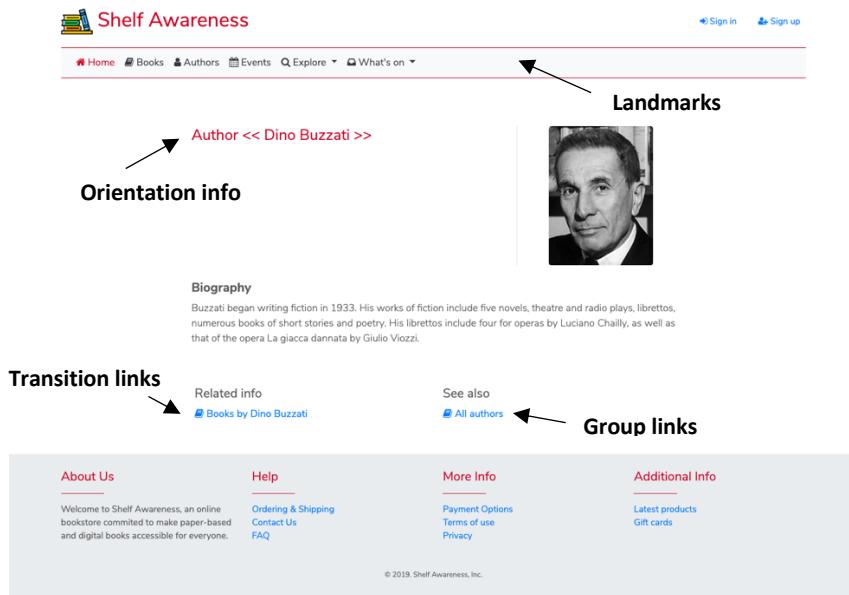


Figure 5. *author.html* commented screenshot

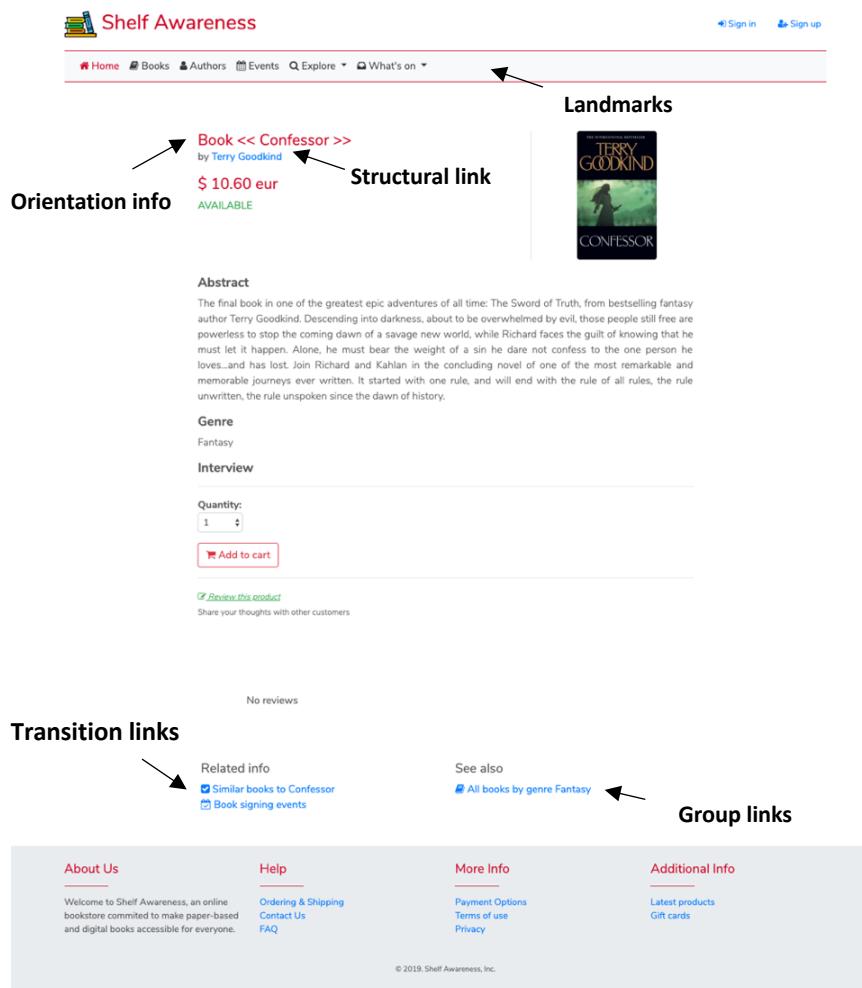


Figure 6. *book.html* commented screenshot

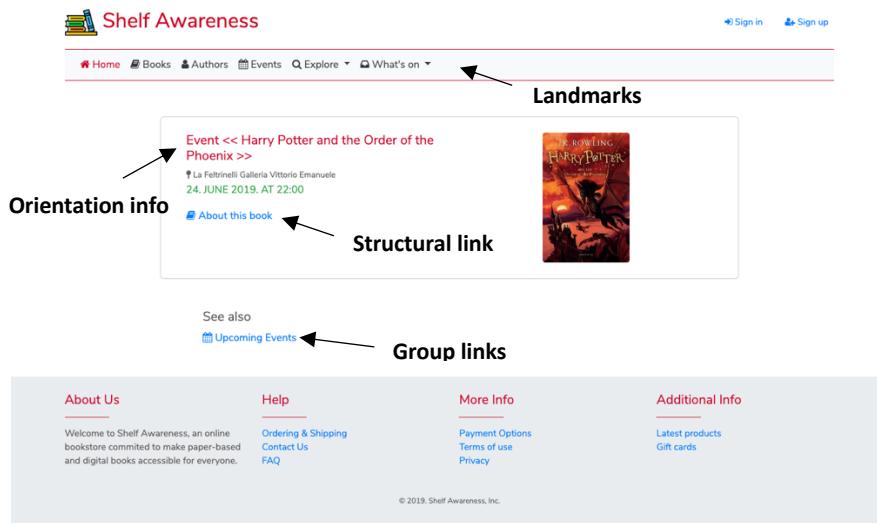


Figure 7. *event.html* commented screenshot

- **Page structure for a Transition Page (1:N Relevant Relationships)**

In this category there are pages for each 1-N relevant relationship, this means, for books of a given author, and similar books and events associated to a book

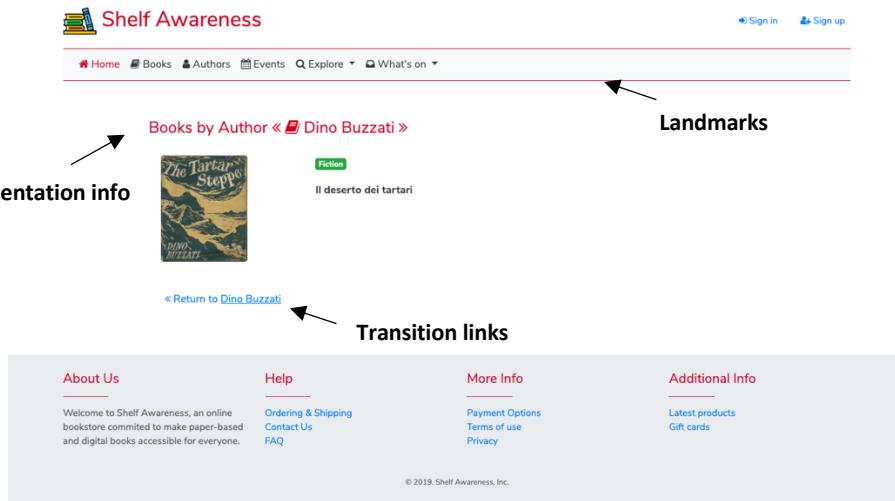


Figure 8. *books_by_author.html* commented screenshot

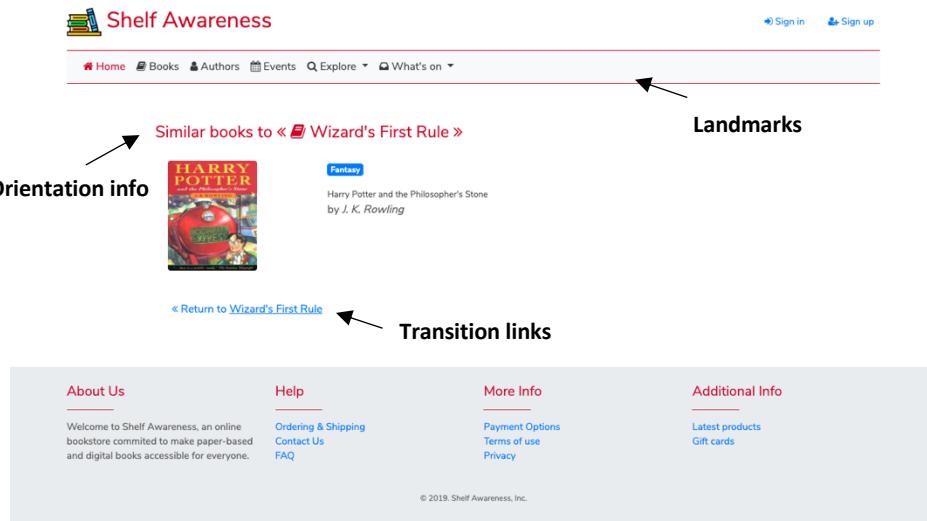


Figure 9. *similar_books.html* commented screenshot

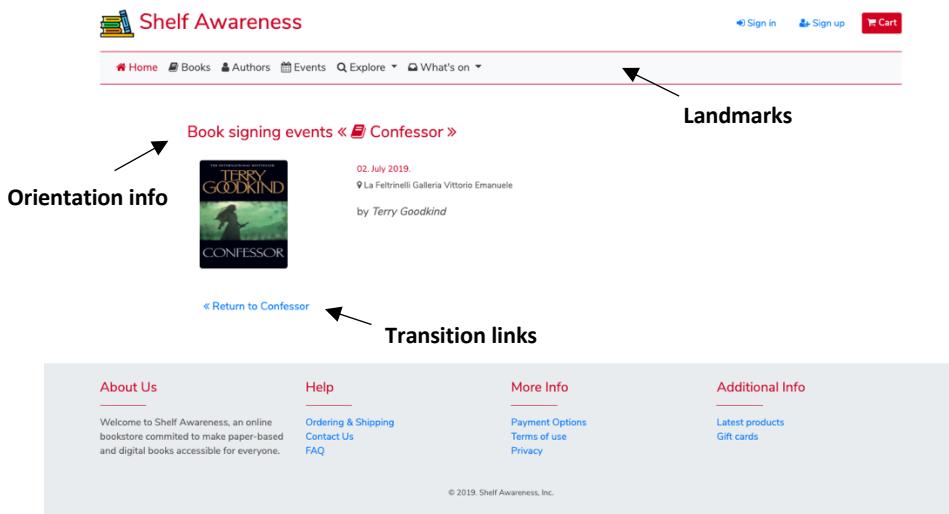


Figure 10. *events_by_book.html* commented screenshot

- **Page structure for a the Introductory Page (*Groups of Topics*)**

In this category there are pages regarding groups of topics, as best sellers, or all themes.

Landmarks

Group links

Figure 11. *best_sellers.html* commented screenshot

Landmarks

Group links

Figure 12. *favorite_readings.html* commented screenshot

Shelf Awareness

Home Books Authors Events Explore What's on

Events this month

Landmarks

Group links

About Us Help More Info Additional Info

© 2019 Shelf Awareness, Inc.

Figure 13.events_this_month.html commented screenshot

Shelf Awareness

Home Books Authors Events Explore What's on

Themes

Landmarks

Group links

About Us Help More Info Additional Info

© 2019 Shelf Awareness, Inc.

Figure 14.all_themes.html commented screenshot

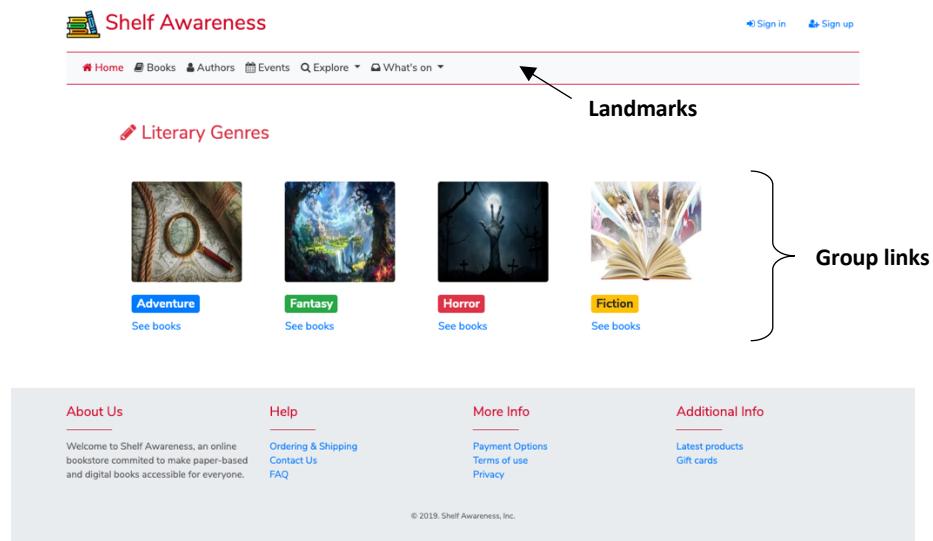


Figure 13.all_literary_genres.html commented screenshot

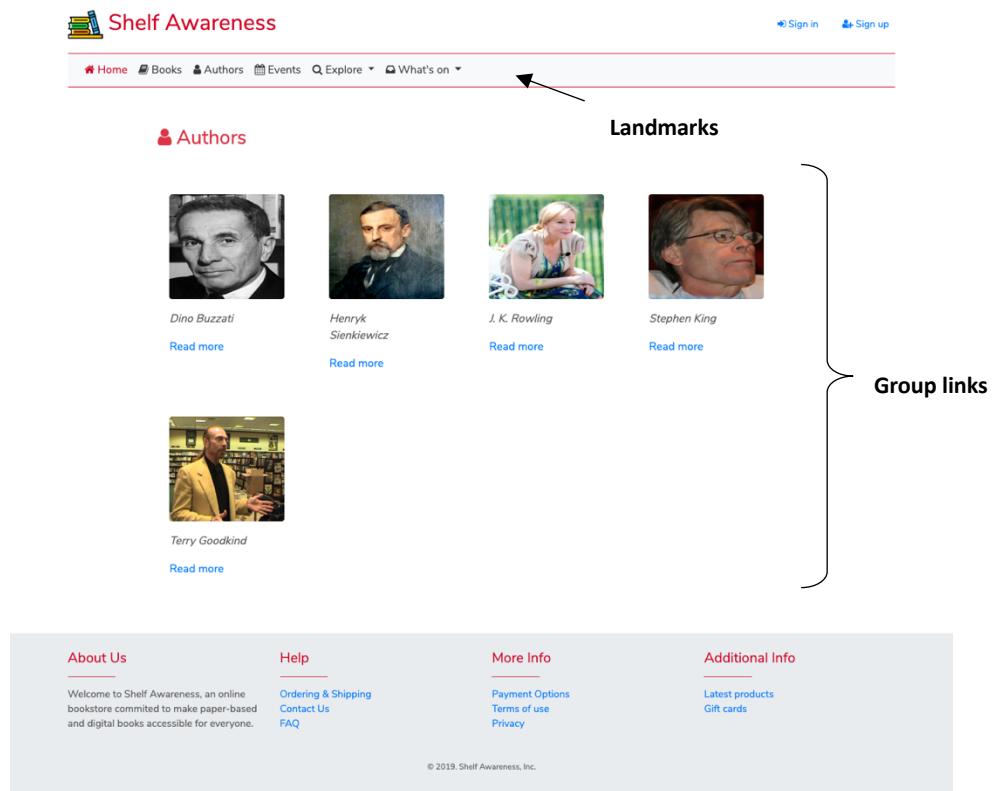


Figure 14.all_authors.html commented screenshot

- **Page structure for a the Introductory Page (*Multiple Groups of Topics*)**

In this category there are pages regarding groups of topics, as best sellers, or all themes.

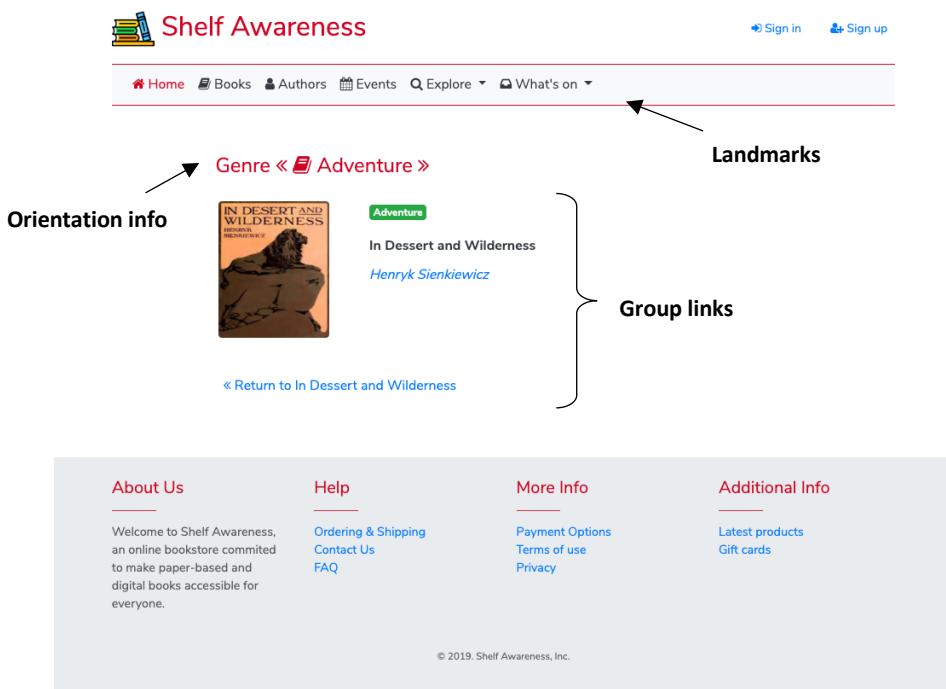


Figure 16. *all_books_by_genre.html* commented screenshot

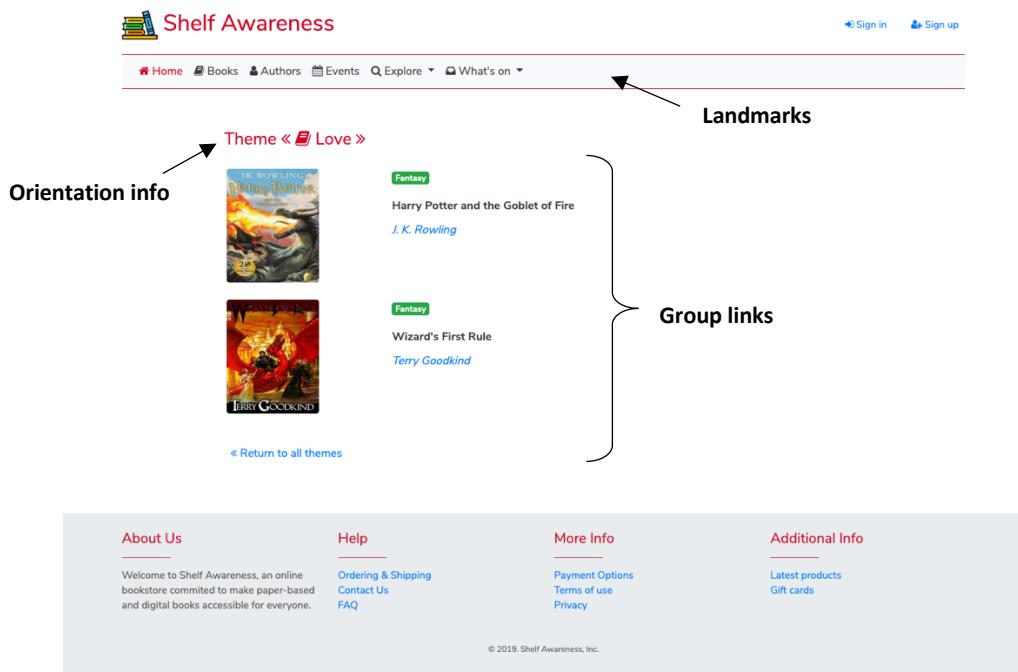


Figure 17. *all_books_by_theme.html* commented screenshot

DB Design

Highlights

- The E-R diagram contains the main entities considered in the app, these are books which are related to authors, events, reviews and similar books.
- There are also users that can access to reservation and reviews functionalities.
- The books a user adds to his cart are stored on an associated a table.
- Books can have several themes but only one genre, this is the reason why the genre is an attribute in the books table.

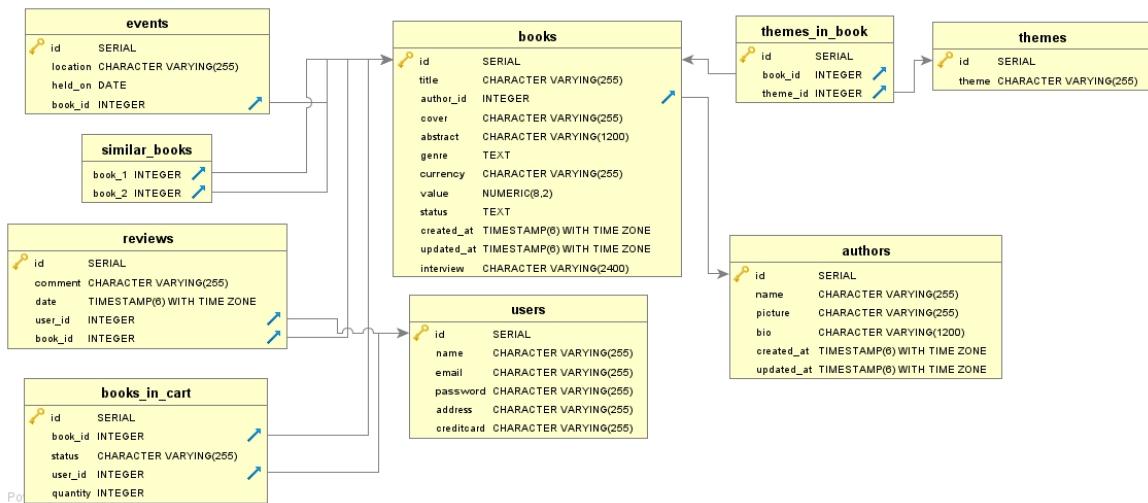


Figure 19. E-R diagram for Shelf Awareness App

Relational Tables for the main pages

Page	Relational Tables
Book - book.html	authors - books
Author - author.html	authors
Event - event.html	Authors – Books - Events

Writes - books_by_author.html	authors – books
Similar Books - similar_books.html	similar_books
Where it is presented? - events_by_book.html	books – authors - events

Best sellers this month <u>best_sellers.html</u>	books_in_cart – books - authors
Our favorite readings <u>favorite_readings.html</u>	authors – books
All Events this month <u>events_this_month.html</u>	books – authors - events
All Themes – <u>all_themes.html</u>	themes
All Literary Genre – <u>all_literary_genres.html</u>	authors – books
All Authors – <u>all_authors.html</u>	authors

All Books by Literary Genre X <u>all_books_by_genre.html</u>	authors - books
All Books by Theme X <u>all_books_by_theme.html</u>	authors – books – themes_in_book