

Department of Computer Science and Engineering



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Design Document (DD)

Shelf Awareness e-Bookstore

-v1.0-

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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 where 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

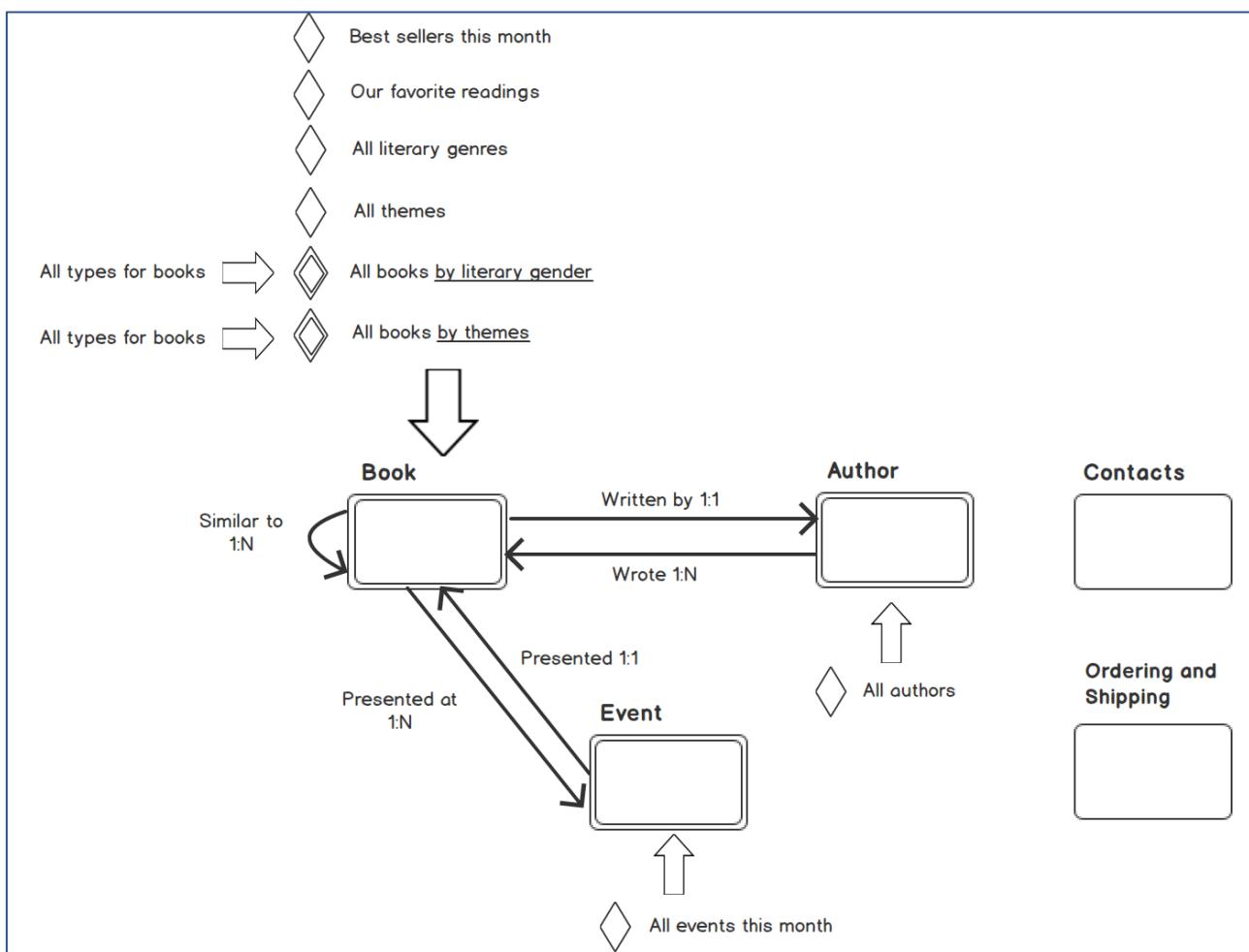


Figure 1. C-IDM schema for Shelf Awareness App

L-IDM schema

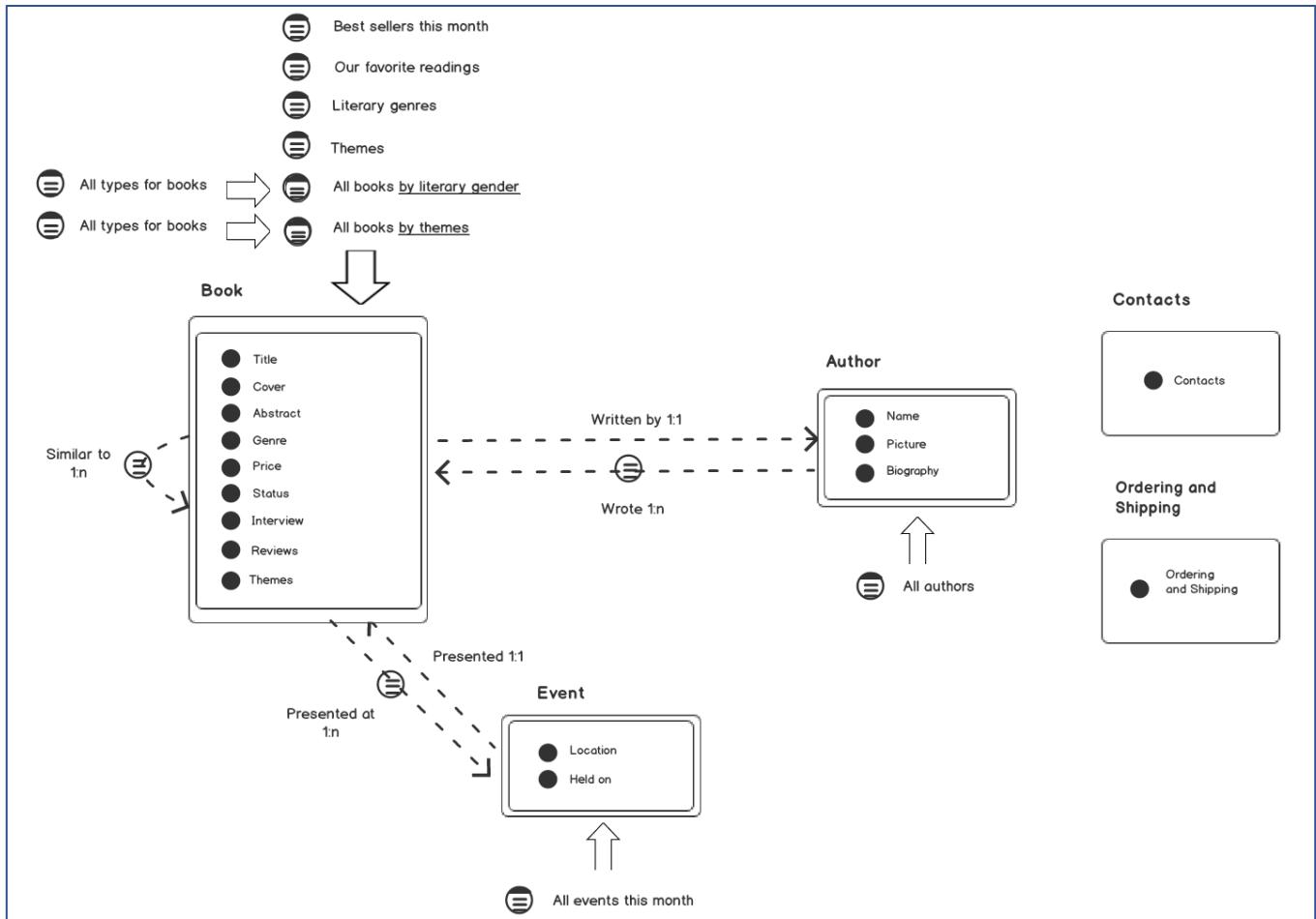


Figure 2. *L-IDM schema* for Shelf Awareness App

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.

The screenshot shows the Shelf Awareness homepage. At the top, there is a navigation bar with links for Home, Books, Authors, Events, Explore, and What's on. Below the navigation bar, there is a banner featuring five book covers: 'CONFESSOR' by Terry Goodkind, 'Harry Potter and the Chamber of Secrets' by J.K. Rowling, 'Harry Potter and the Prisoner of Azkaban' by J.K. Rowling, 'Harry Potter and the Goblet of Fire' by J.K. Rowling, and 'Harry Potter and the Order of the Phoenix' by J.K. Rowling. A quote from J.K. Rowling is displayed: "'If you don't like to read, you haven't found the right book.' — J.K. Rowling'. Below the banner, there is a search bar labeled 'Q Browse' and three buttons: 'Events' (green), 'Books' (blue), and 'Authors' (red). On the right side of the page, there is a 'Sign in' button. A blue arrow points from the 'Explore' link in the navigation bar to the 'Sign in' button.

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

The screenshot shows the Shelf Awareness website after a search for the 'Fantasy' genre. The navigation bar at the top includes a 'Explore' link, which is highlighted with a blue arrow. Below the navigation bar, there is a banner with the same five book covers as the previous screenshot. A quote from J.K. Rowling is visible: "'If you don't like to read, you haven't found the right book.' — J.K. Rowling'. Below the banner, there is a search bar labeled 'Q Browse' and three buttons: 'Events' (green), 'Books' (blue), and 'Authors' (red). On the right side, there is a user profile for 'Ana Pesko' with a 'Sign out' link. A blue arrow points from the 'Explore' link in the navigation bar to the 'Fantasy' genre section.

3. Select the book he prefers

The screenshot shows the Shelf Awareness website displaying the results for the 'Fantasy' genre. The navigation bar at the top includes a 'Explore' link, which is highlighted with a blue arrow. Below the navigation bar, there is a banner with the same five book covers as the previous screenshots. A quote from J.K. Rowling is visible: "'If you don't like to read, you haven't found the right book.' — J.K. Rowling". Below the banner, there is a search bar labeled 'Q Browse' and three buttons: 'Events' (green), 'Books' (blue), and 'Authors' (red). On the right side, there is a user profile for 'Ana Pesko' with a 'Sign out' link. The main content area shows a list of books under the 'Fantasy' genre, including 'CONFESSOR' by Terry Goodkind and 'Harry Potter and the Chamber of Secrets' by J.K. Rowling. A blue arrow points from the 'Fantasy' genre label to the book 'CONFESSOR' by Terry Goodkind.

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 says that if a man's sin is great enough, he must let it happen. Alone, it must bear the weight of a sin he dare not confess to the one person he loves...and has lost. Jon 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

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](#)

Browse

Events **Books** **Authors**

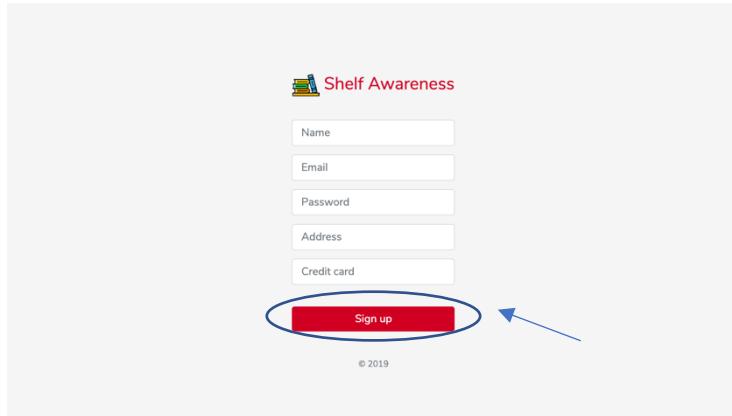
About Us
Welcome to Shelf Awareness, an online bookstore committed to make paper-based and digital books accessible for everyone.

Help
Ordering & Shipping
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Additional Info
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Gift cards

2. Submit the registration form



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

A screenshot of the Shelf Awareness homepage. At the top, there is a navigation bar with links for "Home", "Books" (which is highlighted with a blue circle and has a blue arrow pointing to it), "Authors", "Events", "Explore", and "What's on". Below the navigation bar, there is a grid of book covers. One book cover for "Harry Potter and the Deathly Hallows" is visible. A quote by J.K. Rowling is displayed below the books: "If you don't like to read, you haven't found the right book." — J.K. Rowling. At the bottom of the page, there are three buttons: "Events" (green), "Books" (blue, highlighted with a blue circle), and "Authors" (red). The footer contains sections for "About Us", "Help", "More Info", and "Additional Info", along with copyright information: "© 2019, Shelf Awareness, Inc."

2. Click on the read more button

 Shelf Awareness

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

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

 Books



Confessor
by Terry Goodkind
[Read more](#)



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



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](#)
[Book signing events](#)

See also

[About Us](#) [Help](#) [More Info](#) [Additional Info](#)

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 book cover, event details are listed:

- Date: 07. July 2019.
- Location: La Feltrinelli Galleria Vittorio Emanuele
- Author: by J. K. Rowling

A blue bracket on the right side groups the date and location information. A link "[Return to Harry Potter and the Deathly Hallows](#)" is located at the bottom left of the event details.

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.

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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.

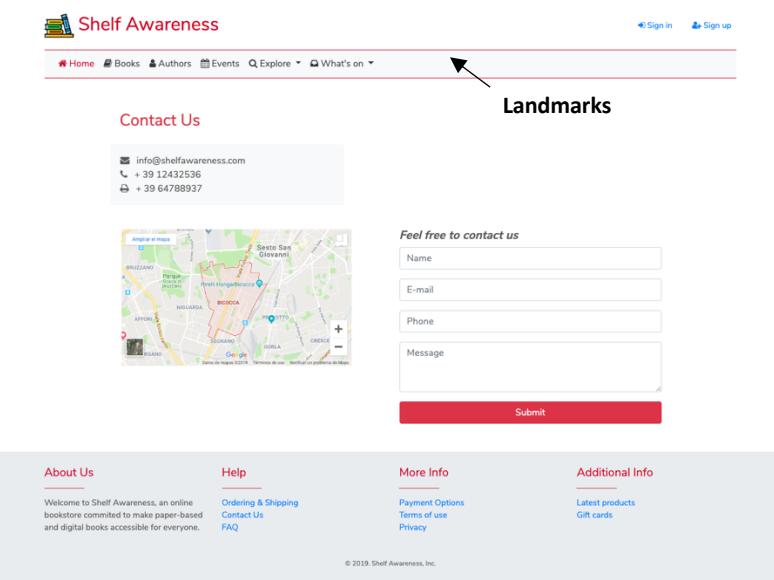


Figure 3. *contact_us.html* commented screenshot

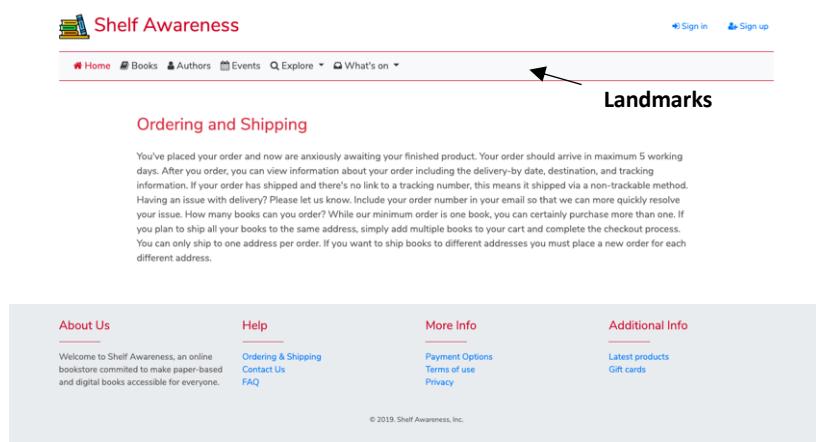


Figure 4. *ordering_and_shipping.html* commented screenshot

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

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

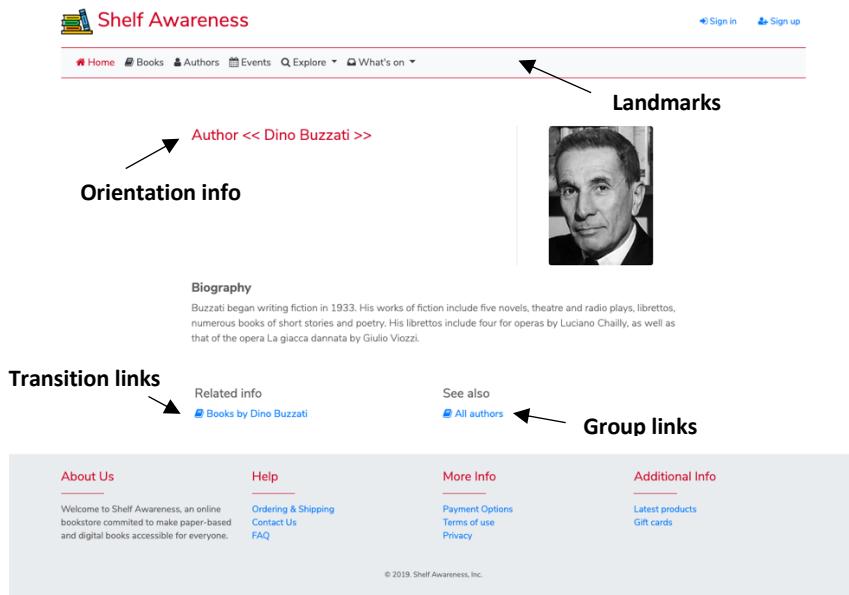


Figure 5. *author.html* commented screenshot

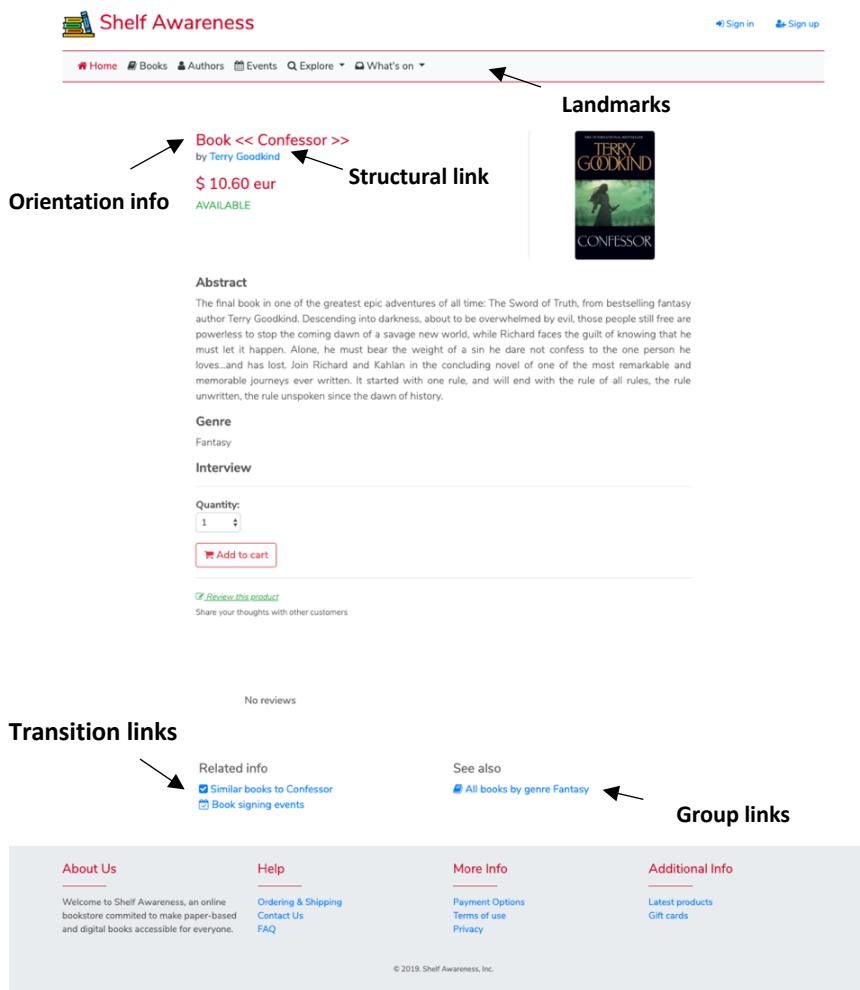


Figure 6. *book.html* commented screenshot

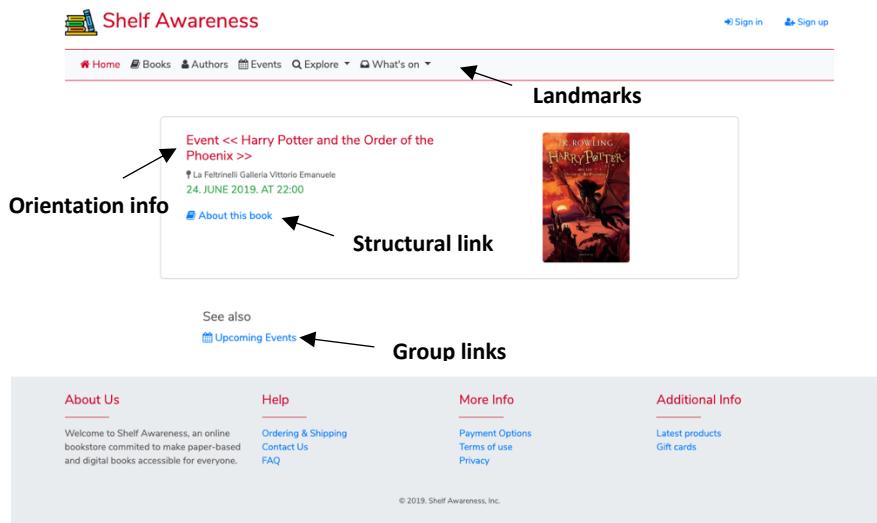


Figure 7. *event.html* commented screenshot

- **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

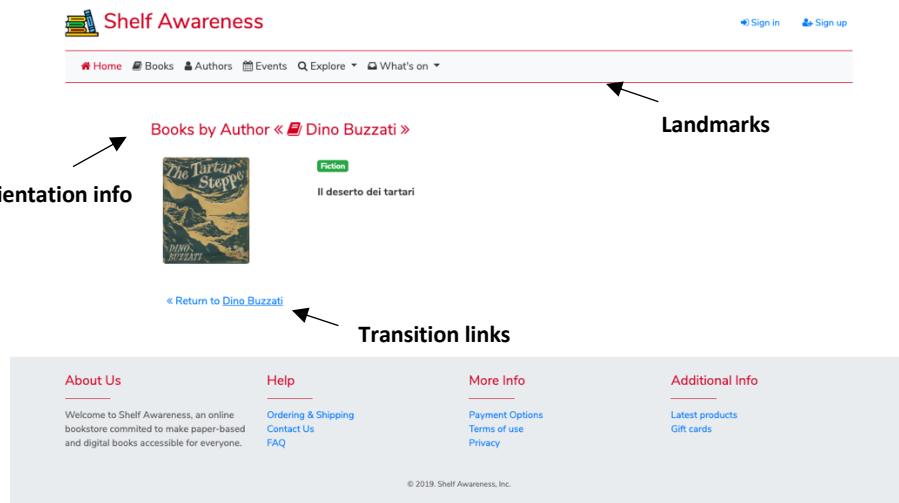


Figure 8. *books_by_author.html* commented screenshot

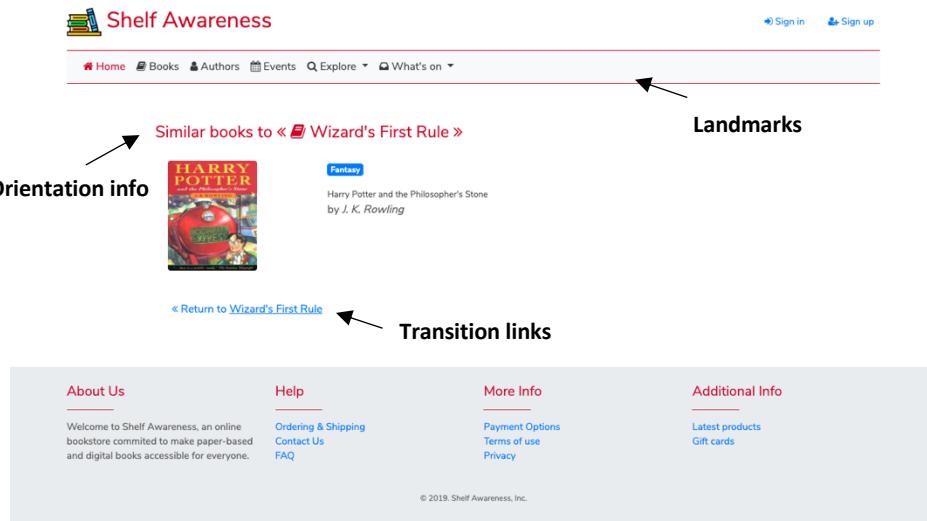


Figure 9. *similar_books.html* commented screenshot

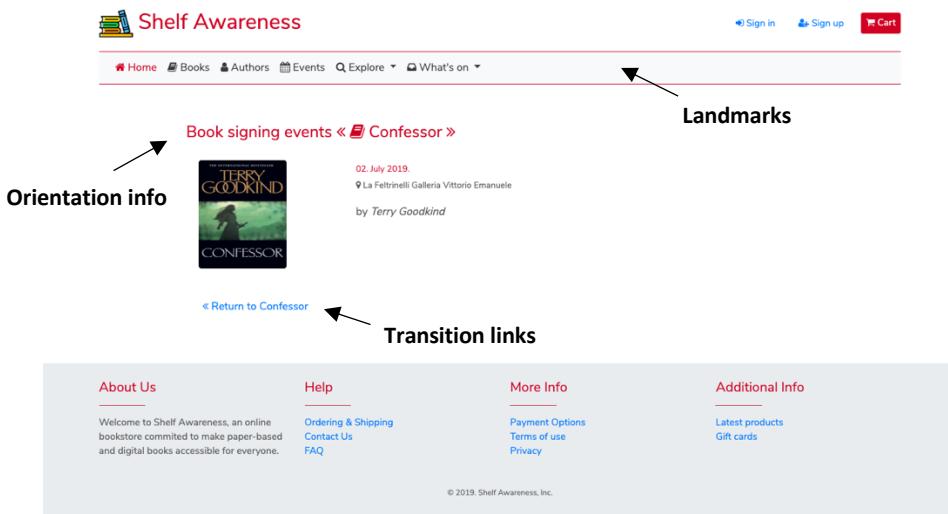


Figure 10. *events_by_book.html* commented screenshot

- **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.

The screenshot shows the 'Best sellers this month' section. It features two book entries: 'Misery' by Stephen King and 'Il deserto dei tartari' by Dino Buzzati. Each entry includes a small thumbnail image, the author's name, the title, and a 'Read more' link. A bracket on the right side groups these two entries under the heading 'Group links'. At the top right of the page, there are 'Sign in' and 'Sign up' buttons.

★ Best sellers this month

Stephen King
Misery
by Stephen King
Read more

Dino Buzzati
Il deserto dei tartari
by Dino Buzzati
Read more

About Us

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Figure 11. *best_sellers.html* commented screenshot

The screenshot shows the 'Our favorite readings' section. It features three book entries: 'Confessor' by Terry Goodkind, 'Misery' by Stephen King, and 'Phantom' by Terry Goodkind. Each entry includes a small thumbnail image, the author's name, the title, and a 'Read more' link. A bracket on the right side groups the first two entries under the heading 'Group links'. At the top right of the page, there are 'Sign in' and 'Sign up' buttons.

⚑ Our favorite readings

TERRY GOODKIND
CONFESSOR
by Terry Goodkind
Read more

STEPHEN KING
MISERY
by Stephen King
Read more

TERRY GOODKIND
PHANTOM
by Terry Goodkind
Read more

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

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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

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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

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Figure 14.all_themes.html commented screenshot

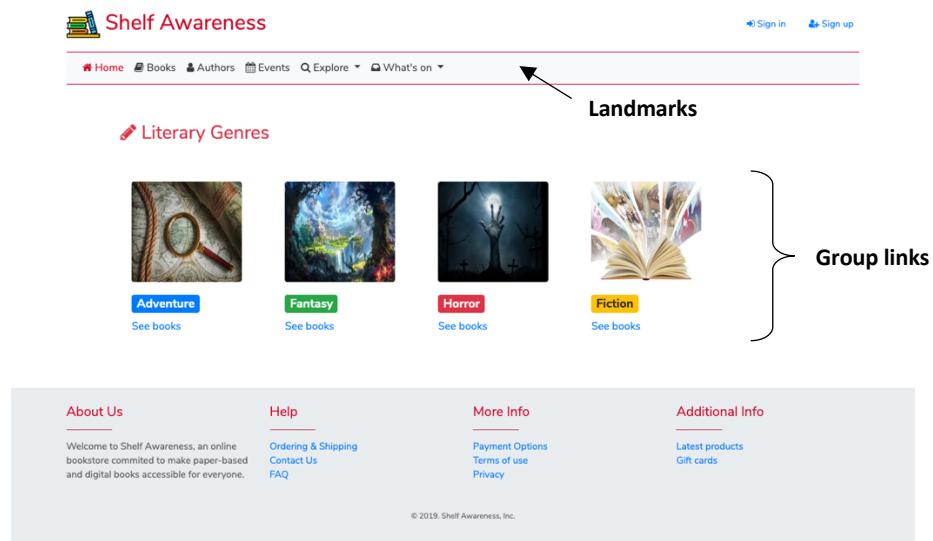


Figure 13.all_literary_genres.html commented screenshot

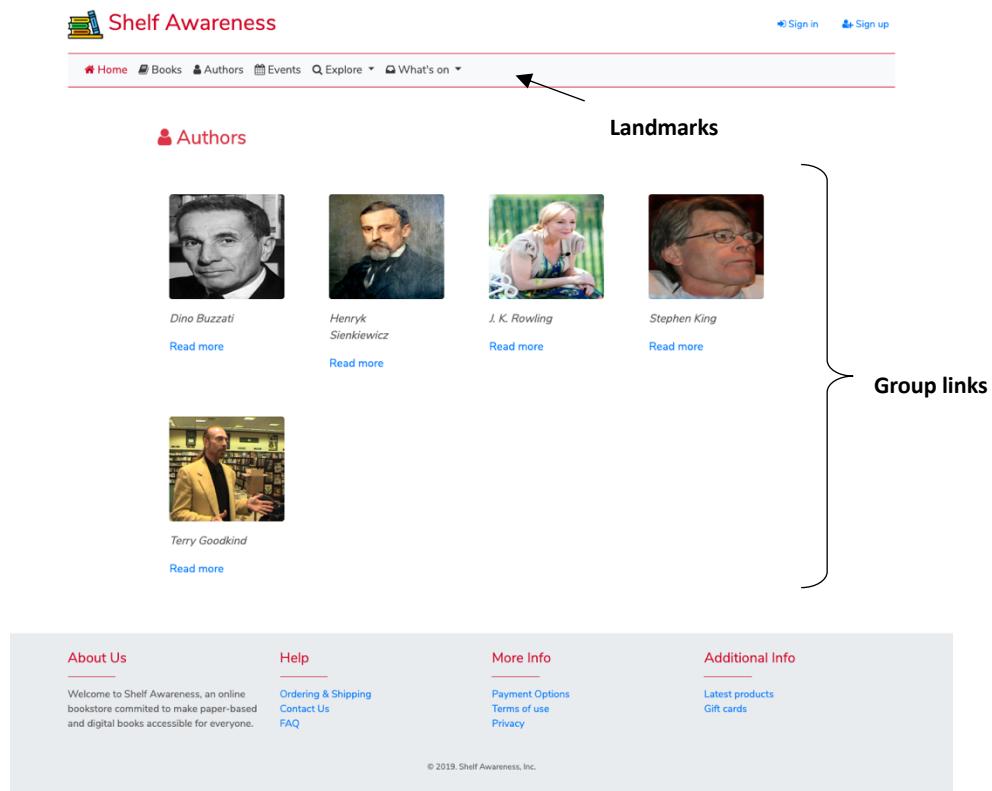


Figure 14.all_authors.html commented screenshot

- **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.

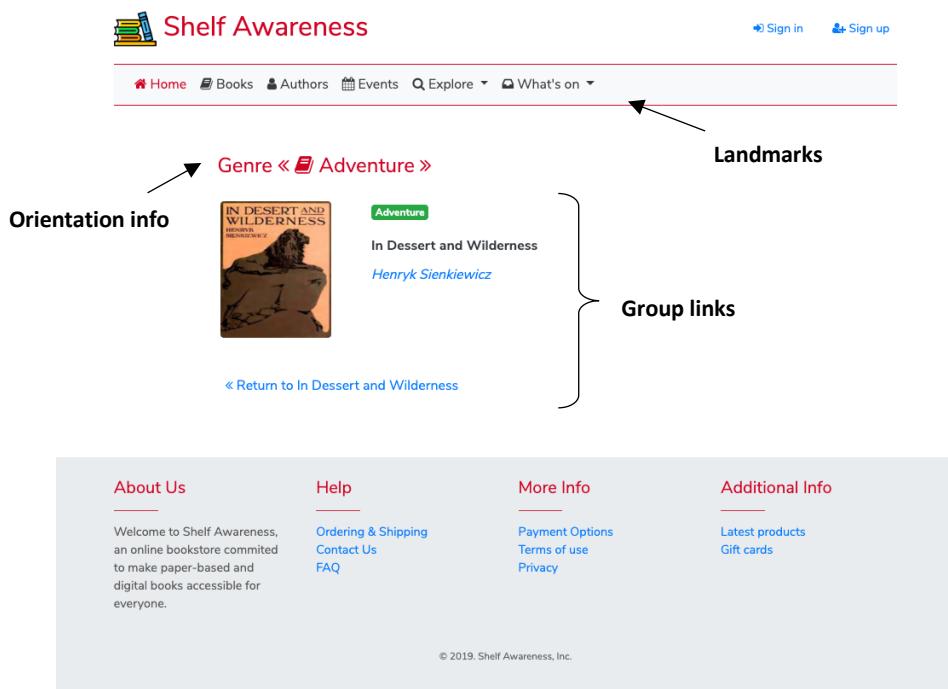


Figure 16. *all_books_by_genre.html* commented screenshot

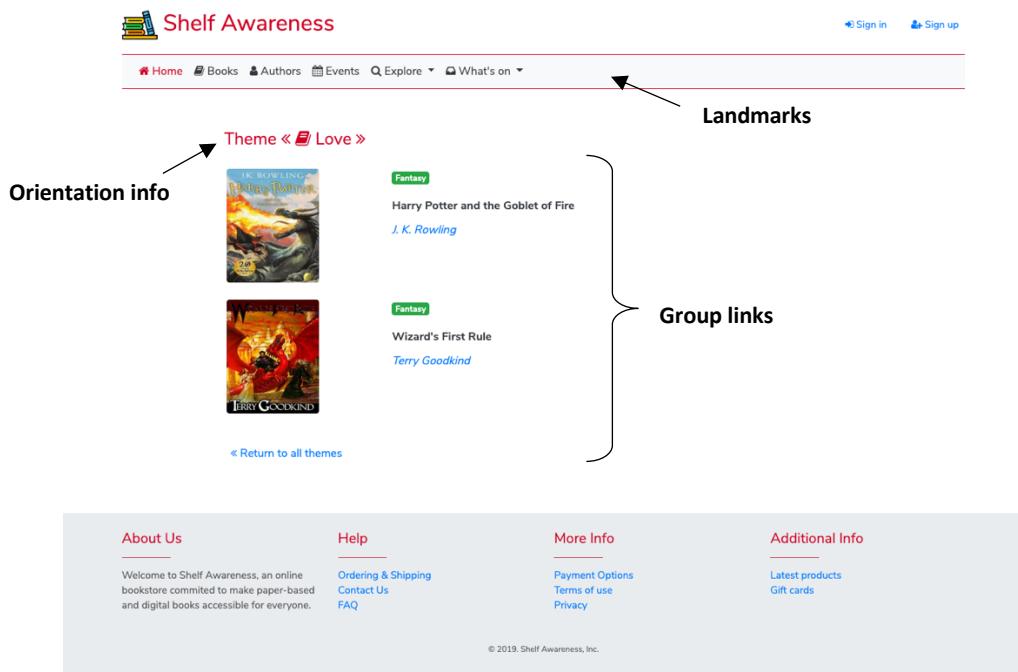


Figure 17. *all_books_by_theme.html* commented screenshot

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.

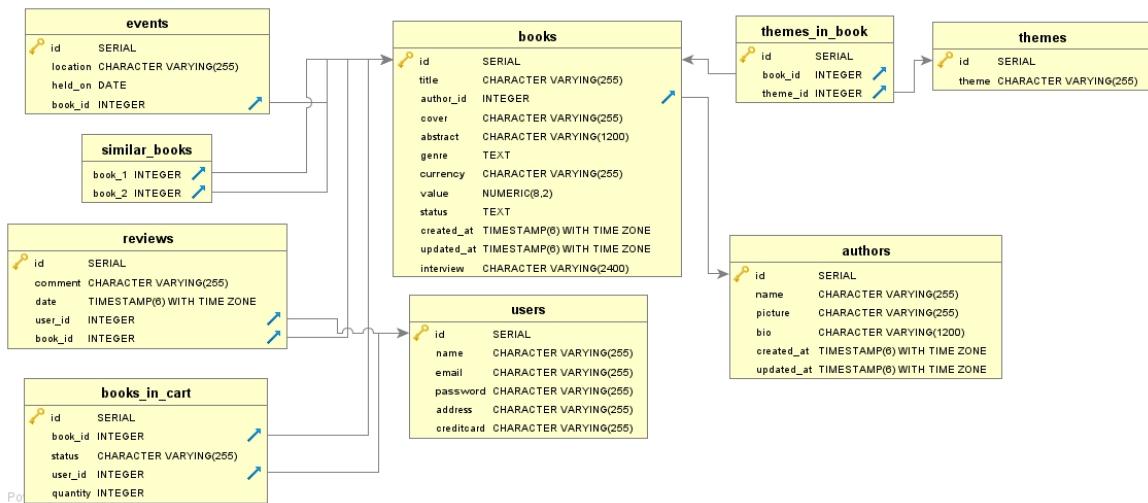


Figure 19. E-R diagram for Shelf Awareness App

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